STATE *of* FLORIDA

ACTION PLAN FOR DISASTER RECOVERY

Submitted to the U.S. Department of Housing and Urban Development (HUD) in fulfillment of requirements for the Community Development Block Grant-Disaster Recovery (CDBG-DR) program for recovery from Hurricane Ian.

FLORIDACOMMERCE

Document Abstract

The State of Florida boasts the most miles of coastline in the contiguous United States. While these miles of coastline are a significant economic driver, they also mean the Sunshine State is more frequently impacted by hurricanes. The following 2023 State of Florida Action Plan for Disaster Recovery (the "Action Plan") outlines Florida's plan for expending Community Development Block Grant – Disaster Recovery (CDBG-DR) funds allocated by the U.S. Department of Housing and Urban Development (HUD). Through this Action Plan and the activities outlined within, the Florida Department of Commerce ("FloridaCommerce") strives to assist impacted communities across Florida with recovering from the losses suffered during Hurricane Ian (September 2022), as well as strengthening and preparing Florida's infrastructure, businesses, and most vulnerable populations and communities for future disasters. These CDBG-DR funds will mainly serve to address housing needs in communities impacted by Hurricane Ian, as well as increase resiliency by mitigating against future disasters.

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1.0 Executive Summary

1.1 Overview

In March 2023, the U.S. Department of Housing and Urban Development (HUD) announced that the State of Florida will receive $910,624,000 in funding to support long-term recovery efforts following Hurricane Ian through the Florida Department of Commerce's ("FloridaCommerce") Office of Long-Term Resiliency (OLTR). Community Development Block Grant-Disaster Recovery (CDBG-DR) funding is designed to address needs that remain after all other assistance has been exhausted. This Action Plan details how funds will be allocated to address remaining unmet need in the disaster-impacted areas across the State of Florida.

To meet disaster recovery needs, the statutes making CDBG-DR funds available have imposed additional requirements and authorized HUD to modify the rules that apply to the annual CDBG program to enhance flexibility and allow for a quicker recovery. HUD has allocated $910,624,000 in the CDBG-DR funds to the State of Florida in response to Hurricane Ian (FEMA 4673), through the publication of the Federal Register, Vol. 88, No. 96, May 18, 2023, hereafter referred to as the Allocation Announcement Notice (AAN), this allocation was made available through the Consolidated Appropriations Act, 2023 (Pub. L. 117–328) approved December 29, 2022.

Prioritizing the State of Florida's most vulnerable populations in the Most Impacted and Distressed (MID) areas impacted by Hurricane Ian is the central focus of the State of Florida's Action Plan for Disaster Recovery. As detailed in the unmet needs assessment, roughly 75 percent of the remaining Hurricane Ian unmet needs are in the housing sector ($1.8B); 14 percent in infrastructure ($356M); and 10 percent in the economy ($255M). These figures include only the 20 MID counties identified in this Action Plan. Based on these figures, it is clear that the current funding is insufficient to meet the total unmet needs for the state and that funds must be prioritized toward implementation of housing programs. However, should HUD make additional funding available in the future, FloridaCommerce may incorporate additional programs for remaining unmet needs.

As part of conducting the unmet needs assessment, our field research concluded that housing needs are consistently an urgent need in all areas of impact. From April through June 2023, FloridaCommerce leadership traveled to all 24 counties impacted by 2022 Hurricanes, including the four entitlement counties (Lee, Sarasota, Orange, and Volusia) which received a direct allocation from HUD. These site visits were held with county officials with the intention of strengthening existing relationships with local leadership and incorporating their initial feedback as part of this Action Plan. FloridaCommerce team members also held public citizen workshops, stakeholder workshops, and public hearings across impacted counties June through August of 2023 to hear directly from homeowners about their needs. In total, the FloridaCommerce team facilitated 40 in-person visits to Ian-impacted communities in 2023 to ensure all impacted constituents had an opportunity to provide input.

Triaging limited federal funds allocated across 20 counties toward the most urgent need—housing—is of paramount importance and is a moral obligation. As outlined in Table 2: Unmet Need and Proposed Allocation, the proposed allocation of $762,962,194.10 to address housing unmet needs would be distributed to three housing programs: the Housing Repair and Replacement Program (HRRP) ($542,962,194.10), the Multiple Impact Program (MIP) ($120,000,000), and the Workforce Affordable Housing Construction Program (WFAH) ($100,000,000). Additionally, the proposed allocation of $82,130,605.90 to address unmet infrastructure needs would be distributed through one program: the Hazard Mitigation Grant Match Program (HMGMP). See further details in Section 4.2.2 CDBG-DR Program Allocation.

The Disaster Relief Appropriations Act requires that the state or local government must expend the funds within six years of the executed agreement between HUD and the grantee (FloridaCommerce) unless an extension is granted by HUD. To ensure that the funds assist the most impacted areas, at least 80 percent must be expended on disaster recovery or mitigation activities in the HUD-identified MID areas.

FloridaCommerce may expend up to 20 percent of the funds on disaster recovery or mitigation activities in State-identified MID areas.

The administration of the CDBG-DR funds allocated in the AAN is subject to the guidance and requirements provided in Appendix B of Federal Register Vol. 88, No. 96, May 18, 2023 (the "Consolidated Notice").

1.2 Disaster Specific Overview

Hurricane Ian was one of the costliest weather disasters to strike the State of Florida.[1] Hurricane Ian brought heavy rainfall and flooding, causing damage to housing, businesses, and infrastructure across the State of Florida. On September 28, 2022, Hurricane Ian made landfall on Cayo Costa with sustained winds of 150mph and an estimated central pressure of 941 millibars, making it a category 5 hurricane, and the strongest hurricane to impact Southwest Florida since Hurricane Charley in 2004, which made landfall in the same location. Hurricane Ian made a secondary landfall just south of Punta Gorda with winds of 145mph. Hurricane Ian moved slowly across the state resulting in significant flooding across most of Central Florida, eventually downgrading to a tropical storm as it moved north-northeast off Florida's eastern coastline.

Hurricane Ian made landfall coinciding with astronomical tides; its unique approach angle to the coast combined with low waters from the Tampa Bay to the Paradise Coast and Everglades area facilitated a historic, devastating storm surge described as the highest in living memory throughout Southwest Florida. The storm surge brought destruction from Charlotte to Monroe Counties and likely completely submerged the barrier islands of Marco and Gasparilla, flooding thousands of homes and businesses that had never flooded before.[2]

Hurricane Ian brought torrential rain and freshwater flooding across Southwest, Central, and Northeast Florida, with the highest storm total rainfall of 26.95 inches in Grove City on the immediate north side of the storm's track.[3] "Widespread, life-threatening catastrophic flooding, with major to record river flooding" occurred along a 415-mile swath of Florida, and in some locations, the storm was estimated to have produced more than double the amount of rain expected in a 100-year storm.[4,5] In Southwest to Central Florida, including the counties of Charlotte, Sarasota, Hardee, Polk, DeSoto, and Manatee, record flooding occurred on the Peace River, Myakka River, Alafia River, and Horse Creek with rainfall totaling greater than 20 inches.

In Central and Eastern Florida, rainfall ranged from 10 to 20 inches and caused major flooding along the St. Johns River, Lake George, Crest Lake, the Little Wekiva River, and Dunns and Shingle Creeks in Seminole, Orange, Lake, Putnam, and Osceola Counties, with some locations exceeding previous historical crests by more than two feet. A maximum total of 31.52 inches of rainfall was measured in Ponce Inlet. Record flooding also occurred across Orlando in Orange County where many of the city's numerous lakes overflowed. New Smyrna Beach in Volusia County received close to 29 inches of rain within 27 hours.

Multiple news outlets and a report from the National Weather Service (NWS) specifically noted considerable damage in Collier County amounting to $2.2 billion in damages with $1.7 billion to residential properties and $492 million to commercial properties. A total of 33 buildings were destroyed and 3,515

[1] https://www.nbcmiami.com/news/local/ian-is-costliest-hurricane-in-florida-history-caused-112b-in-damage-in-us-noaa/3007223/

[2] https://yaleclimateconnections.org/2022/09/ian-smashes-into-southwest-florida-with-historic-force/

[3] https://www.nhc.noaa.gov/data/tcr/AL092022_Ian.pdf

[4] https://www.orlandosentinel.com/2022/09/29/now-tropical-storm-ian-bringing-catastrophic-flooding-to-central-florida/

[5] https://climatecenter.fsu.edu/images/docs/Hurricane_Ian_Report.pdf

suffered from major damage.[6,7] The study noted that an estimated 201,095 customers in Collier County were without power the day after the storm.

A study from the University of Florida estimates that Hurricane Ian caused $1.03 billion in agricultural losses in Florida.[8] This study identified Manatee, Hillsborough, Hardee, and Hendry Counties as some of the counties having suffered the greatest agricultural losses. Florida's lucrative citrus industry sustained more than $247 million in estimated losses.

Hurricane Ian's winds, storm surge, and excessive rainfall caused extensive damage across the impacted areas, damaging thousands of structures. Many homes sustained roof and siding damage, and reports indicate that more than 2.7 million customers lost power due to widespread downed trees and power lines.[9] Historic levels of storm surge impacts occurred from Key West to Naples to Fort Myers, with some areas seeing at least seven feet of water above dry land, where numerous structures were significantly damaged or destroyed.[10]

Due to the incoming storm surge, the extreme rainfall produced by Hurricane Ian had nowhere to drain, which resulted in widespread flash and river flooding. Numerous water rescues occurred in Collier County, with reports of flood damage to a hospital in North Naples and the loss of a fire station and all of its equipment to storm surge flooding.[11,12] Approximately 3,515 residential and commercial buildings suffered major damage from the combination of storm surge flooding and wind gusts in Collier County at an estimated cost of $1.7 billion.[13] Additional significant flooding occurred in many homes and structures across the region.

Due to intense flooding, numerous roads became impassable, and some roads and small bridges were washed out. Throughout Central Florida – namely in Brevard, Flagler, Orange, Osceola, Polk, Seminole, and Volusia Counties—an extensive number of roads and bridges were closed.[14] In Lee County, the 3-mile Sanibel Causeway, which connects mainland Florida to Sanibel Island, was damaged beyond repair.[15] In locations where damage to critical and natural infrastructure was not severe enough to require immediate repair, storm impacts may have weakened infrastructure, resulting in the need for repairs sooner than anticipated.

Following initial recovery efforts, including those led by State of Florida executive agencies, local governments, and Federal Emergency Management Agency (FEMA) operations, there is still persisting damage from Hurricane Ian. The impacted communities are experiencing lasting long-term impacts reflected in local economies as well as infrastructure and preparedness for future disasters.

It is worth noting that Hurricane Ian impacted several of the same counties impacted by Hurricane Irma in 2017, a Category 4 hurricane. The overlap between these two storms slowed recovery in these communities that experienced additional damage to already weakened infrastructure and housing.

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[6] https://www.fox4now.com/news/local-news/national-weather-service-releases-hurricane-ian-data-for-collier-hendry-and-glades

[7] https://www.naplesnews.com/story/weather/hurricanes/2022/10/11/hurricane-ian-damage-2-2-billion-collier-naples-marco-island/10466660002/

[8] "Estimated Agricultural Losses Resulting from Hurricane Ian" via https://fred.ifas.ufl.edu/media/fredifasufledu/economic-impact-analysis/reports/FRE-Final-Hurricane-Ian-Report.pdf.

[9] https://earthobservatory.nasa.gov/images/150431/power-outages-after-hurricane-ian#:~:text=According%20to%20unofficial%20estimates%2C%20roughly,2.7%20million%20on%20September%2029.

[10] https://www.washingtonpost.com/climate-environment/2022/10/18/hurricane-ian-storm-surge-damage/

[11] https://www.foxweather.com/weather-news/by-the-numbers-hurricane-ian-catastrophic-damage

[12] https://abc3340.com/news/nation-world/tracking-hurricane-ian-water-rescues-in-florida-caught-on-camera-extreme-weather-rain-wind-tropical-storm-naples-fire-department-surge-flooding-power-outages-property-damage-nws

[13] https://mesonet.agron.iastate.edu/wx/afos/p.php?pil=PSHMFL&e=202210141556

[14] https://www.clickorlando.com/traffic/2022/09/29/here-are-the-central-florida-road-bridge-closures-due-to-hurricane-ian/

[15] https://www.npr.org/2022/09/30/1126204141/sanibel-causeway-hurricane-ian

However, it should be noted that infrastructure located in the Hurricane Ian impacted area that was re-built or repaired using CDBG-DR funds through the Hurricane Irma Infrastructure Repair Program withstood Hurricane Ian's extreme impacts. Of the 108 projects served through the Hurricane Irma Infrastructure Repair Program, only one project, which was incomplete at the time of Hurricane Ian's impact, sustained damage from the storm. Similarly, in the housing sector, the construction methods, and hardening measures—which in some cases may include elevation, storm doors and windows, and hurricane clips—incorporated into homes served by the CDBG-DR funded Hurricane Irma Housing Repair and Replacement Program were better able to withstand the impacts of Hurricane Ian. A sample of homes repaired, replaced, or reconstructed prior to Hurricane Ian through the Hurricane Irma Housing Repair and Replacement Program and within the Hurricane Ian MID counties showed that only one of these homes was destroyed by Hurricane Ian and 239 homes had no damage at all.

Additionally, on November 10, 2022, just 43 days after Hurricane Ian, Hurricane Nicole arrived on Florida's shores, directly impacting many of the same communities as Hurricane Ian. This quick succession of storms left residents of the impacted areas with little time to repair damage from the previous disaster and mitigate future damage. The nearly consecutive nature and geographic overlap of these hurricanes compounded the already considerable shoreline erosion throughout the State of Florida. Hurricane Ian's historic flooding magnified weaknesses in the impacted region's infrastructure, and the subsequent impact of Hurricane Nicole brought additional flooding to already inundated inland communities and a particularly devastating storm surge to coastal regions, resulting in unprecedented foundational damage to multiple waterfront properties across the disaster impacted area and delaying the necessary responses needed to assist these communities. The additional impact of Hurricane Nicole following Hurricane Ian considerably worsened conditions.

As Florida continues its long-term recovery efforts from this Hurricane Ian, a focus on identifying impacts and addressing unmet needs is key. State and local government agencies, as well as civic organizations and community leaders, will continue to address the challenges from these events for years to come.

1.3 Summary

Section III.C.1. of the Consolidated Notice states: "The grantee's action plan must identify the use of all funds – including criteria for eligibility and how the uses address long-term recovery needs, restoration of infrastructure and housing, economic revitalization, and the incorporation of mitigation measures in the MID areas." In compliance with these requirements outlined in the Consolidated Notice and those in the AAN, FloridaCommerce has developed this Action Plan to describe how the allocated funding will be administered to address long-term recovery needs in Hurricane Ian's HUD-and State-identified MID areas in a way that is compliant with all federal, state, and local regulations.

The programs and funding outlined in this Action Plan were informed by the findings of the unmet needs assessment and risk assessment included in this document, along with the findings captured from the community outreach survey and other additional feedback methods that sought direct input from constituents in the areas impacted by Hurricane Ian. These sources helped determine the remaining unmet needs in these local communities, as required by HUD.

As outlined in the unmet needs assessment, the largest portion of unmet needs resulting from Hurricane Ian are related to housing. Table 5: Estimated Impact, Support and Unmet Needs incudes figures estimating the total amount of impact to Housing ($2,845,547,024), Infrastructure ($1,271,066,771), and the economy ($181,956,922) within the identified MID communities, as well as the estimated remaining unmet needs in each sector—$1,886,005,587, $356,895,566, and $255,882,538, respectively.

The predominate unmet need associated with housing is repair to single family homes. Table 8: FEMA IA Owner Occupied – Hurricane Ian (PDD4673)Table 8: FEMA IA Owner Occupied data shows that there were a total of 226,587 applicants for FEMA IA assistance to owner-occupied homes. Table 11: FEMA Real Property Damage Owner Occupied Units – Hurricane Ian (PDD4673)Table 11: FEMA Real Property Damage Owner Occupied Units displays FEMA Real Property Damage to owner-occupied units for each of the MID identified counties; the total number of owner-occupied units identified as having "FEMA Real

Property Damage" is 37,007. When factoring in rental units as well as owner-occupied (see Table 10: FEMA IA Applicants by Housing Type), there were a total of 454,204 applicants for FEMA IA assistance and (see Table 11: FEMA Real Property Damage Owner Occupied Units – Hurricane Ian (PDD4673) and Table 12: FEMA Personal Property Damage Rental Units – Hurricane Ian (PDD4673)) 52,479 structures noted having various levels of FEMA Real Property Damage. As informed by the unmet needs assessment, the allocation of CDBG-DR funds will primarily consider and address unmet housing needs.

There are also infrastructure needs following the destruction caused by Hurricane Ian; addressing these needs will increase the resiliency of neighborhoods and other areas within impacted communities in the future. Any economic revitalization and infrastructure activities approved by FloridaCommerce will have documented contributions to the long-term recovery and restoration of housing in the MID areas.

The primary objective of this Action Plan is to address unmet housing needs in the impacted communities and replace and repair damaged infrastructure to increase resiliency against future disasters that impact Florida.

Funds will be used for necessary expenses related to disaster relief, long-term recovery, restoration of housing, infrastructure, and economic revitalization resulting from Hurricane Ian and will contribute to mitigation and resiliency of these areas, to meet the requirements of the 15 percent mitigation set-aside, as specified in the AAN.

As specified in the AAN, 15 percent of the funds allocated to Florida through PL 117-328 must be used for mitigation activities informed by the mitigation risk-based assessment included in this Action Plan. These mitigation activities do not require a "tie-back" to Hurricane Ian but must increase resilience to disasters and reduce or eliminate the long-term risk of loss of life, injury, damage to and loss of property, and suffering and hardship by lessening the impact of future disasters. Mitigation activities must also address current and future risks identified in the mitigation risk-based assessment in the MID areas, must be CDBG-eligible under Title I of the Housing and Community Development Act of 1974 (HCDA) or a waiver or alternative requirement, and must meet a national objective, as defined by HUD.

In consideration of the unmet needs assessment and HUD requirements, and to prioritize limited funding in areas with the highest damage, FloridaCommerce will assist only those counties identified as a HUD or State MID county, as listed in Table 1: HUD and State-Identified Most Impacted and Distressed (MID) Counties.

Table 1: HUD and State-Identified Most Impacted and Distressed (MID) Counties

Hurricane Ian HUD Designated MID Counties		
Brevard	Charlotte	Collier
DeSoto	Hardee	Highlands
Hillsborough	Manatee	Monroe
Osceola	Pinellas	Polk
Putnam	Seminole	
Hurricane Ian State Designated MID Counties		
Flagler	Glades	Hendry
Lake	Okeechobee	St. Johns

FloridaCommerce has allocated funds based on the proportion of unmet needs reflected in the unmet needs assessment and shown in Table 2: Unmet Need and Proposed Allocation, with the majority of funds going toward addressing housing unmet needs and the remaining funds allocated to infrastructure unmet needs. In order to make the most meaningful impact with the limited funds available, FloridaCommerce has chosen to administer fewer programs and focus on the housing sector with some funding dedicated to addressing infrastructure needs by funding the required 25 percent local match for projects assisted through FEMA's Hazard Mitigation Grant Program (HMGP). HUD emphasizes a mission of supporting housing, and this current budget will prioritize housing by primarily addressing unmet needs

in the housing sector. The funds allocated to Infrastructure activities will serve to directly address infrastructure unmet needs in MID communities while dually supporting housing and economic development in the impacted communities. While remaining unmet needs have been identified in the economic sector, current budget limitations do not allow for the allocation of funds to economic revitalization programs. However, should HUD make additional funding available, FloridaCommerce may incorporate additional infrastructure and/or economic revitalization programs to address remaining unmet needs.

All projects and programs described in this Action Plan will primarily benefit low and moderate-income (LMI) households.

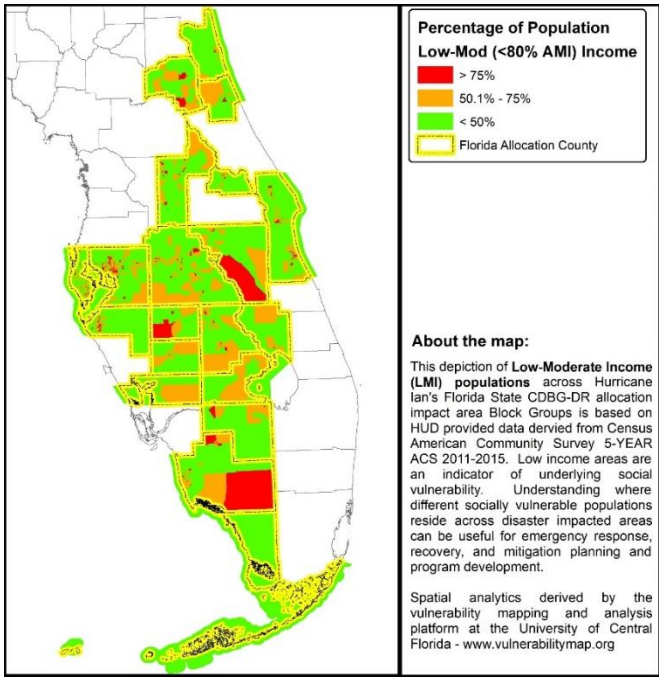

Figure 1: LMI Map for Hurricane Ian Impacted Counties

1.4 Unmet Need and Proposed Allocation

Table 2: Unmet Need and Proposed Allocation[16]

Category	Remaining Unmet Need	% of Unmet Need	Program Allocation Amount	% of Program Allocation
Administration	$0	N/A	$45,531,200	5%
Planning	$0	N/A	$20,000,000	2.2%
Housing	$1,886,005,587	75.48%	$762,962,194.10	83.8%
Infrastructure	$356,895,566	14.28%	$82,130,605.90	9%
Economic Revitalization	$255,882,538	10.24%	$0	0%
Public Services	$0	-%	$0	0%
Mitigation	$0	-%	$0	0%
Total	$2,498,783,691	100%	$910,624,000	100%

[16] FEMA IA PA data, SBA data, public housing programs, and other sources.

2.0 Unmet Needs Assessment

2.1 Overview

Florida is required by HUD to document the impacts and unmet needs resulting from Hurricane Ian for the state to receive federal CDBG-DR program funds. The unmet needs assessment identifies impacts and unmet needs in three sectors: Housing, Infrastructure, and Economic Revitalization to help guide recovery program development aimed at supporting successful recovery in the MID areas.

This unmet needs assessment covers Florida's housing, infrastructure, and economic damage and recovery efforts in the wake of Hurricane Ian. As Florida continues its long-term recovery efforts from this storm, a focus on identifying impacts and addressing unmet needs is critical. State and local government agencies, as well as civic organizations and community leaders, will continue to address the challenges from Hurricane Ian for years to come.

HUD uses the best available data to identify and calculate unmet needs for disaster relief, long-term recovery, restoration of infrastructure and housing, and economic revitalization. Based on this assessment, HUD notified Florida that it will receive an allocation of $910,624,000.

In accordance with the Consolidated Notice, FloridaCommerce may use up to five percent of the total grant award for grant administration and up to 15 percent of the grant award for planning expenditures. All planning activities will benefit the HUD-identified MID areas. The HUD-identified MID communities to receive at least 80 percent of the funds are Brevard, Charlotte, Collier, DeSoto, Hardee, Highlands, Hillsborough, Manatee, Monroe, Osceola, Pinellas, Polk, and Seminole Counties, and 32177 (Putnam County). When HUD designates a specific zip code as a MID community, FloridaCommerce intends to expand program operations and eligibility to the entire county. The remaining up to 20 percent may be spent in state-identified MID communities, which include Flagler, Glades, Hendry, Lake, Okeechobee, and St. Johns Counties. FloridaCommerce will ensure, as required and identified in the Federal Register Guidance, that at least 70 percent of the allocation of CDBG-DR funds will be used for activities benefiting LMI persons.

All of the allocated funds must be used for eligible activities to address unmet disaster needs or mitigation activities. To ensure that fraud, waste, and misuse of funds does not occur, effective controls will be in place and monitored for compliance.

This unmet needs assessment details the impacts to Florida caused by Hurricane Ian, beginning with a description of the hurricane's wind, rain, flooding, and storm surges and related impacts. From there, the report focuses on housing and infrastructure impacts, with an emphasis on particular vulnerabilities in the Hurricane Ian impacted areas, including LMI areas and persons. Though economic needs include uncertainties that are difficult to measure, the housing and infrastructure impacts led to substantial unmet needs, estimated to be approximately $2,242,901,153 and detailed in Section 1.4 Unmet Need and Proposed Allocation.

Housing accounts for more than 75 percent of unmet needs in the areas impacted by Hurricane Ian, and infrastructure accounts for roughly 14 percent of unmet needs, based on available data. This Action Plan aims to assist in the Hurricane Ian recovery planning and decision-making process by providing information to help identify the MID areas affected by Hurricane Ian.

2.1.1 Background and Process

HUD defines "unmet needs" as those resources necessary to recover from a disaster that are not likely to be addressed by other sources of funds. These needs are identified by accounting for the various forms of assistance available to, or likely to be available to, affected communities (e.g., projected FEMA funds) and individuals (e.g., estimated insurance). The most recent available data is used to estimate the portion of need unlikely to be addressed by insurance proceeds, other Federal assistance, or any other funding sources resulting in an estimate of unmet need. Unmet needs are calculated for each of the three

sectors (Housing, Infrastructure, and Economy) based on guidance provided by HUD in Federal Register Vol. 88, No. 96, (published May 18, 2023) on how to complete an impact and unmet needs assessment including appropriate data sources, methodological processes, and rebuilding costs for structures identified as having been impacted by Hurricane Ian.

Generally, an accounting of impacts to individuals and residences, businesses and economic sectors, and public infrastructure is measured against all available funds for recovery from FEMA, the Small Business Administration (SBA), Public Housing Programs, and other sources. Residual impacts, after accounting for all support, represent unmet needs. These unmet needs are eligible for CDBG-DR assistance. Specific methods utilized in this assessment are detailed in sections 2.2 Housing Unmet Need, 2.3 Fair Housing, Civil Rights Data, and Advancing Equity, 2.4 Infrastructure Unmet Need, and 2.5 Economic Revitalization Unmet Need.

2.1.2 Hurricane Ian's Impacts to Florida

Hurricane Ian made landfall in Cayo Costa, Florida on September 28, 2022, as a Category 4 hurricane with winds of 150mph and a minimum pressure of 941 millibars.[17] Devastation from the storm was widespread across the Florida peninsula, including catastrophic storm surge and extreme winds in Southwest Florida to strong winds, heavy rain, and widespread flooding across Central Florida. Hurricane Ian was later re-categorized as a Category 5 hurricane.

About 90 minutes after initial landfall, at 4:35PM (EDT) on Friday, September 28, 2022, Hurricane Ian made a second landfall near Punta Gorda, Florida, with estimated winds of 145mph and a minimum pressure of 945 millibars.[18] The storm weakened as it moved slowly northeastward across central Florida at a speed of eight to nine miles per hour. Prolonged hurricane conditions were widespread throughout the Florida peninsula, with hurricane-force winds and stronger gusts reported in New Smyrna Beach (up to 96mph), some 85 miles from the center of the storm early Saturday morning, September 29, 2022.[19] Ian emerged over the Atlantic Ocean near Cape Canaveral, Florida on Saturday, September 29, 2022, as a strong tropical storm with winds of 70mph. Hurricane Ian's tropical storm force winds of Hurricane Ian measured 290 miles in diameter as it crossed the state, arriving first in the Florida Keys on September 27, 2022, and spreading as far north as Islamorada and Dunedin, causing widespread damages and loss of electricity.[20]

Hurricane Ian followed a path remarkably similar to the path of Hurricane Charley in 2004; however, Hurricane Charley was a small, fast-moving hurricane whereas Hurricane Ian was a larger storm with significantly greater impacts throughout Southwest and Central Florida. Notably, Hurricane Ian is only the ninth tropical cyclone to have made direct landfall in Lee County, Florida throughout the period of reliable weather information dating to the mid-1800s, and its impacts draw analogy to those from Hurricane Donna in 1960 with similar Category 4 winds, slow movement, heavy rains, and extensive damage from storm surge and waves.[21] Yet, Hurricane Ian is the costliest hurricane to ever impact Florida, causing more than $110 billion in damages.[22]

Hurricane Ian was the costliest storm on record for Florida, the second deadliest hurricane in Florida history, and the third costliest hurricane in U.S. history, with damage to tens of thousands of structures and at least $110 billion in damages in Florida alone, including crop losses around $1.2 billion and total

[17] https://www.nhc.noaa.gov/data/tcr/AL092022_Ian.pdf

[18] https://www.nhc.noaa.gov/data/tcr/AL092022_Ian.pdf

[19] https://www.nhc.noaa.gov/data/tcr/AL092022_Ian.pdf p. 7.

[20] https://www.wunderground.com/article/storms/hurricane/news/2022-09-27-hurricane-ian-different-than-charley

[21] https://climatecenter.fsu.edu/images/docs/Hurricane_Ian_Report.pdf

[22] https://www.nhc.noaa.gov/data/tcr/AL092022_Ian.pdf p. 13.

losses to agriculture production and infrastructure of around $1.8 billion.[23,24] Descriptions of the impacts from Hurricane Ian by wind, storm surge, and precipitation flooding follow in section 2.1.2.2 Summary of Impact and Unmet Needs along with additional, detailed infrastructure impacts in section 2.4 Infrastructure Unmet Need.

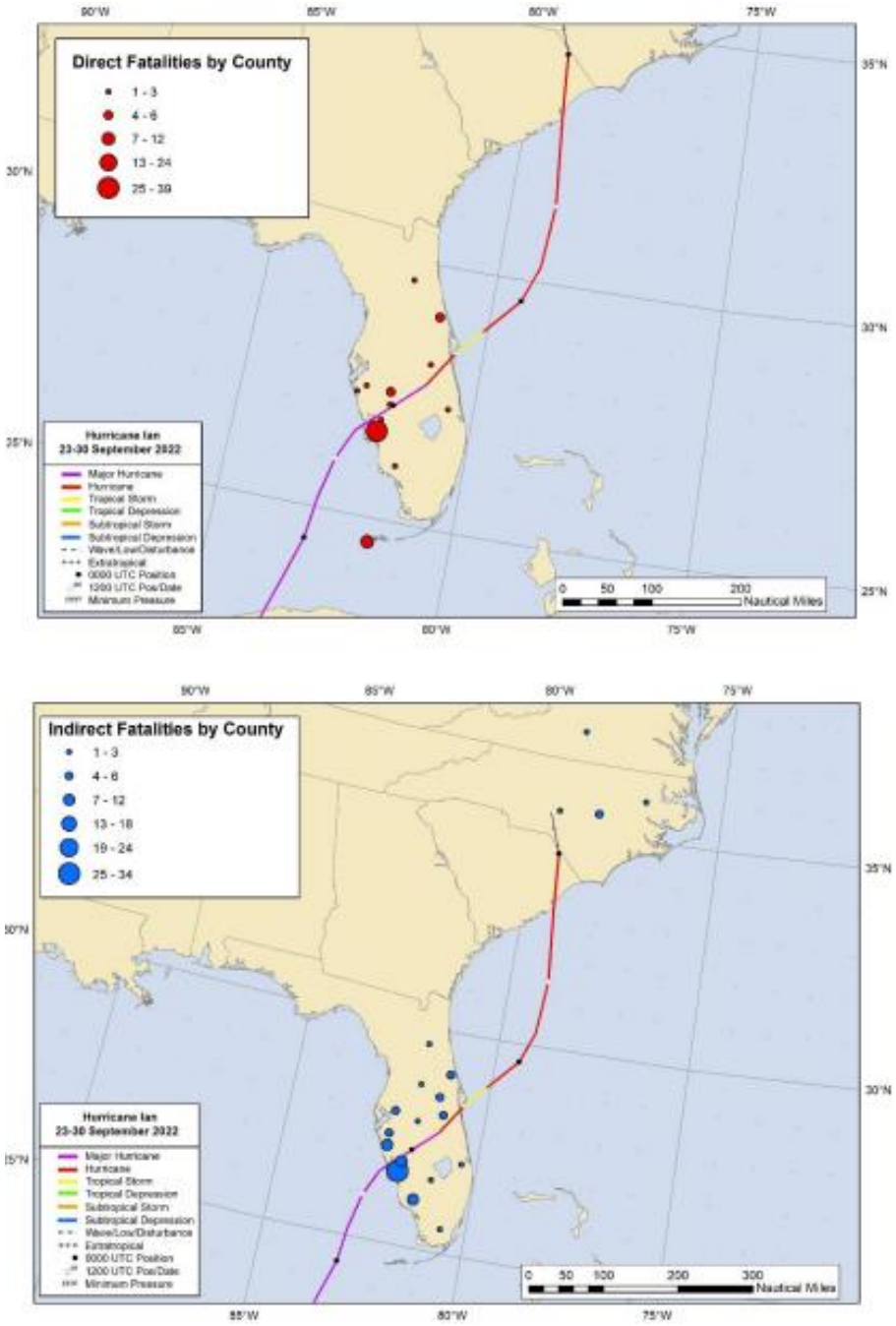

Figure 2: Direct and indirect casualties caused by Hurricane Ian between September 23-30, 2022[25]

Just 43 days after Hurricane Ian's impact, Hurricane Nicole made landfall just south of Vero Beach, Florida, as a Category 1 hurricane with winds of 75mph. Though a less intense storm, Hurricane Nicole

[23] https://www.nhc.noaa.gov/data/tcr/AL092022_Ian.pdf

[24] https://www.agri-pulse.com/ext/resources/pdfs/Hurricane-Ian-Damage-Report_FDACS.pdf

[25] Source: NHC

brought significant impacts to Southeast and Central Florida, exacerbating the impacts previously caused by Hurricane Ian.

2.1.2.1 Presidential Disaster Declaration for Hurricane Ian

As a result of the impacts of Hurricane Ian, Presidential Disaster Declaration DR-4673 was signed for the state of Florida on September 29, 2022. The devastation brought by the hurricane impacted an already tight housing supply, necessitating the availability of the FEMA IA program to provide support for residents impacted by Hurricane Ian. Table 3: Declared County list for Presidential Disaster Declaration 4673 (Hurricane Ian) sets out the counties where FEMA IA, FEMA public assistance (PA), or both were made available under the FEMA disaster declaration, and Figure 4: Declared counties for Presidential Disaster Declaration 4673 (Hurricane Ian) displays a map of the Florida counties receiving a disaster declaration. Figure 3: Hurricane Ian Most Impacted and Distressed (MID) Communities displays the HUD and state-identified MID counties eligible for assistance.

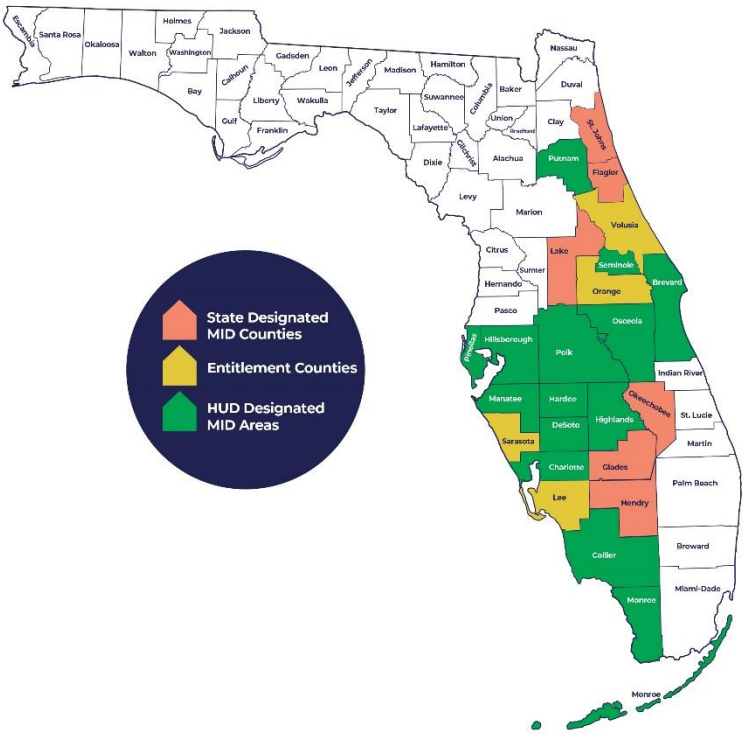

Figure 3: Hurricane Ian Most Impacted and Distressed (MID) Communities

Table 3: Declared County list for Presidential Disaster Declaration 4673 (Hurricane Ian)[26]

County	Declaration Type	County	Declaration Type	County	Declaration Type
Alachua	Public Assistance	**Hardee**	Individual Assistance and Public Assistance	**Okeechobee**	Individual Assistance and Public Assistance
Baker	Public Assistance	**Hendry**	Individual Assistance and Public Assistance	**Orange**	Individual Assistance and Public Assistance
Bay	Public Assistance	**Hernando**	Public Assistance	**Osceola**	Individual Assistance and Public Assistance

[26] https://www.FEMA.gov/disaster/4673

Bradford	Public Assistance	**Highlands**	Individual Assistance and Public Assistance	**Palm Beach**	Individual Assistance and Public Assistance
Brevard	Individual Assistance and Public Assistance	**Hillsborough**	Individual Assistance and Public Assistance	**Pasco**	Individual Assistance and Public Assistance
Broward	Public Assistance	**Holmes**	Public Assistance	**Pinellas**	Individual Assistance and Public Assistance
Calhoun	Public Assistance	**Indian River**	Public Assistance	**Polk**	Individual Assistance and Public Assistance
Charlotte	Individual Assistance and Public Assistance	**Jackson**	Public Assistance	**Putnam**	Individual Assistance and Public Assistance
Citrus	Public Assistance	**Jefferson**	Public Assistance	**Santa Rosa**	Public Assistance
Clay	Public Assistance	**Lafayette**	Public Assistance	**Sarasota**	Individual Assistance and Public Assistance
Collier	Individual Assistance and Public Assistance	**Lake**	Individual Assistance and Public Assistance	**Seminole**	Individual Assistance and Public Assistance
Columbia	Public Assistance	**Lee**	Individual Assistance and Public Assistance	**St. Johns**	Individual Assistance and Public Assistance
DeSoto	Individual Assistance and Public Assistance	**Leon**	Public Assistance	**St. Lucie**	Public Assistance
Dixie	Public Assistance	**Levy**	Public Assistance	**Sumter**	Public Assistance
Duval	Public Assistance	**Liberty**	Public Assistance	**Suwannee**	Public Assistance
Escambia	Public Assistance	**Madison**	Public Assistance	**Taylor**	Public Assistance
Flagler	Individual Assistance and Public Assistance	**Manatee**	Individual Assistance and Public Assistance	**Union**	Public Assistance
Franklin	Public Assistance	**Marion**	Public Assistance	**Volusia**	Individual Assistance and Public Assistance
Gadsden	Public Assistance	**Martin**	Public Assistance	**Wakulla**	Public Assistance
Gilchrist	Public Assistance	**Miami-Dade**	Public Assistance	**Walton**	Public Assistance
Glades	Individual Assistance and Public Assistance	**Monroe**	Individual Assistance and Public Assistance	**Washington**	Public Assistance
Gulf	Public Assistance	**Nassau**	Public Assistance		
Hamilton	Public Assistance	**Okaloosa**	Public Assistance		
Total	**26 Individual and Public Assistance and 41 Public Assistance Only**				

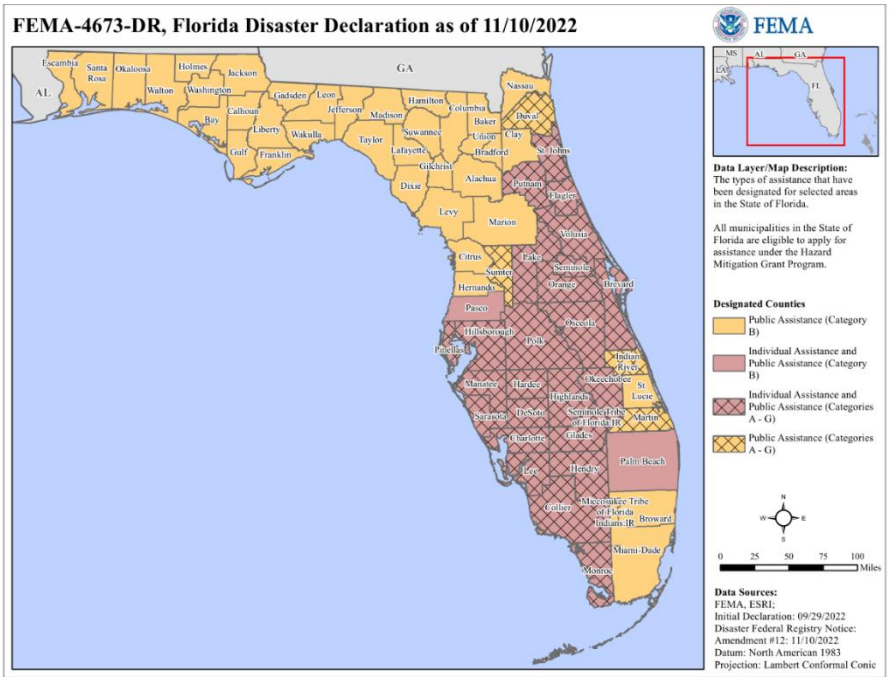

Figure 4: Declared counties for Presidential Disaster Declaration 4673 (Hurricane Ian)[27]

2.1.2.2 Summary of Impact and Unmet Needs

Florida's current unmet needs (for housing, infrastructure, and economic revitalization) across HUD's defined focus areas are detailed in sections 2.2 Housing Unmet Need, 2.4 Infrastructure Unmet Need, and 2.5 Economic Revitalization Unmet Need. Findings show that the most substantial unmet recovery needs are in the housing sector.

HUD requires grantees to assess community impacts and unmet needs, quantifying the need for additional recovery funding for impacted areas. This assessment follows the process described in detail in the Consolidated Notice and summarizes impacts and remaining needs across three sectors: (1) housing, (2) infrastructure, and (3) the economy. Results from the unmet needs assessment are used to determine "who" and "where" the highest impacts are across the impact area and form the basis from which targeted recovery programs are developed.

Assessments meeting these criteria have previously been prepared for Florida by the University of Central Florida, including CDBG-DR Impact and Unmet Needs Assessments for: Hurricanes Hermine and Matthew (2016), Hurricane Irma (2017), Hurricane Michael (2018), and Hurricane Sally (2020). These and similar assessments have identified impacts and unmet needs related to housing, infrastructure, and the economy utilizing HUD provided methods outlined in the associated Federal Register guidance; each assessment has been approved by HUD and implemented to support disaster recovery across the state. Data sources for this unmet needs assessment are outlined in Table 4: Data Sources Utilized in the Assessment of Impacts and Unmet Needs.

Table 4: Data Sources Utilized in the Assessment of Impacts and Unmet Needs

Data	Source
Hurricane Wind Speeds	NIST (Applied Research Associates)
Hurricane Surge Data	Hurrevac (National Hurricane Center)

[27] https://www.FEMA.gov/disaster/4564/designated-areas

Presidential Disaster Declaration Areas	OPEN FEMA Disaster Declaration Data
Housing Impact Data	FEMA Individual Assistance, Small Business Administration (SBA), National Flood Insurance Program (NFIP)
Infrastructure Data	Florida Division of Emergency Management (FDEM), FEMA Public Assistance (PA), FEMA Hazard Mitigation Grant Program (HMGP), Federal Highway Administration (FHWA)
Economic Data	U.S. Small Business Administration, Mergent Intellect
Most Impacted Counties and Zip Codes	Federal Register - Federal Register Vol. 88, No. 96 /Thursday, May 18, 2023
Socio-economic and demographics	U.S. Census Bureau (Decennial Census and American Community Survey), The Vulnerability Mapping Analysis Platform (VMAP) SoVI
Low-Moderate Income Breakdown by counties	HUD
Homelessness	Continuum of Care Point-in-Time Counts
Shelter Needs	

A FEMA-derived summary of impacts for the entire presidentially declared area and each county are provided on the following pages. Estimated housing impacts were calculated from FEMA applicant data based on guidance from the Federal Register Guidance for this CDBG-DR allocation and are detailed in Section 2.2 Housing Unmet Need. Recovery funds available represent the total provided by FEMA to disaster survivors for housing repair and replacement. Unmet needs are derived by subtracting funds available from estimated impact and accounting for resiliency costs – in this case, 30 percent in additional funds required to reduce risk in the MID areas and make structures more resilient to future disasters. Infrastructure impacts are estimated from FEMA's PA Program Funded Project Details. FEMA's PA program maintains a system of record for every federally approved PA project, which includes total project cost and federal obligations. FEMA's cost share percentage for Hurricane Ian is 75 percent for all categories of PA except categories A & B where FEMA covers 100 percent of the costs (see Section 2.4 Infrastructure Unmet Need), thereby requiring states and local governments to provide only a 25 percent match for funds. This remaining 25 percent of each project amount forms the basis for unmet disaster recovery need. Including an additional resilience measure (30 percent)—used to update outdated systems to current standards and account for increased costs of building supplies compared to previous costs (including lumber, concrete, and steel)—produces an estimated nearly $357 million in unmet infrastructure needs related to Hurricane Ian (Table 5: Estimated Impact, Support and Unmet Needs). Finally, economic sector losses were assessed by summarizing SBA assessment of real property (building) and operational (machinery, equipment, inventory, furniture, and fixtures) losses and associated loan approvals.

Table 5: Estimated Impact, Support and Unmet Needs[28]

Summary of Impacts/Support	Housing	Infrastructure	Economy	Total
Amount of Estimated Impact	$2,845,547,024	$1,271,066,771	$181,956,922	$4,298,570,717
Amount of Funds Available	$959,541,437	$914,171,205	$914,171,205	$1,942,380,005

[28] Source: Unmet needs summary data from sections 2.2, 2.4, and an assessment of SBA disaster loan data.

Unmet Needs (Impact - Available Funds) + Resiliency Costs	$1,886,005,587	$356,895,566	$113,289,560	$2,356,190,712
Percent of Total Unmet Needs	**80.04%**	**15.15%**	**4.81%**	**100.00%**

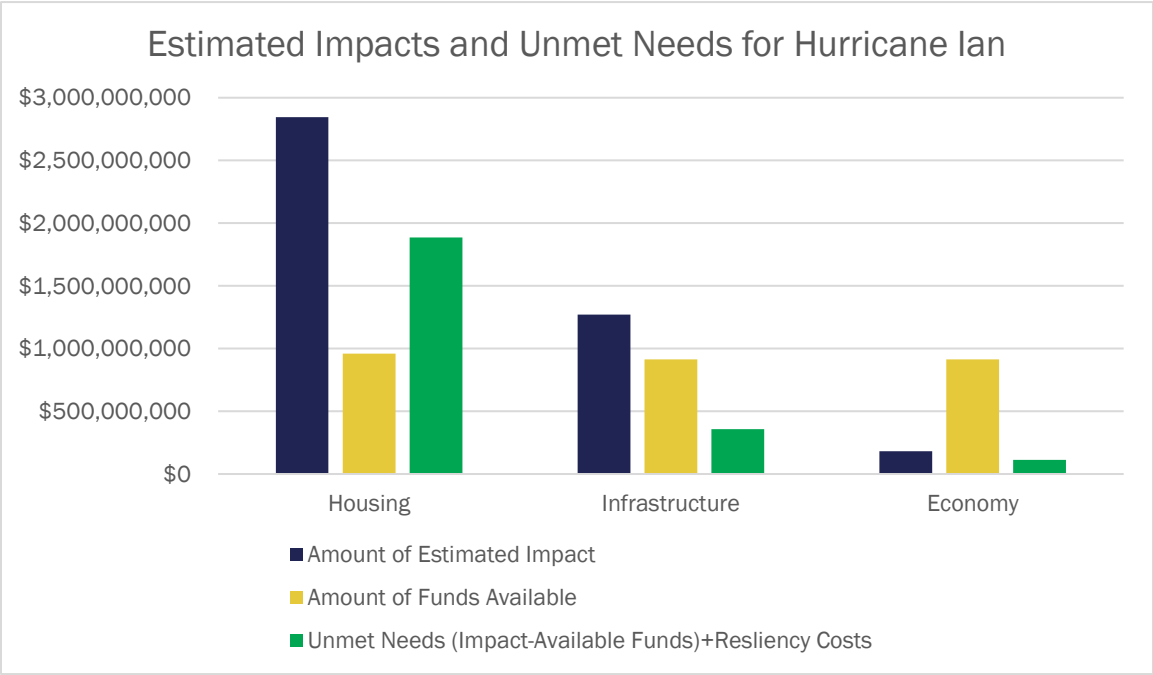

Figure 5: Estimated Impacts and Unmet Needs for Hurricane Ian

There are significant unmet needs remaining across the disaster impacted areas following Hurricane Ian. Although each of the counties noted in the presidentially declared disaster areas are still recovering, unmet needs remain, as demonstrated by FloridaCommerce's outreach and engagement with local stakeholders. In congruence with the findings highlighted by the unmet needs assessment, the overall sentiment of the community stakeholder survey suggests there are significant remaining unmet needs in the housing sector.

Wind Impacts

Based on maximum sustained winds, Hurricane Ian is tied as the fifth strongest hurricane to make landfall in the United States and the fourth strongest hurricane to make landfall in Florida.[29] The integrated kinetic energy of Hurricane Ian's wind field, approximately 47 terajoules, was estimated to be commensurate with Hurricane Michael (2018), a category 5 hurricane that made landfall in the Florida panhandle, and nearly seven times more than Hurricane Charley (2004).[30,31] As Hurricane Ian approached from the southern Gulf of Mexico, tropical storm force winds began impacting the Florida Keys and Dry Tortugas on September 27, with tropical storm force winds arriving to the outer barrier islands of Southwest Florida on Friday, September 28. Winds of 126mph were measured by hurricane hunter aircraft at Dry Tortugas on September 28, and maximum sustained winds of 150mph were estimated in Cayo Costa at landfall. Over mainland Southwest Florida, the National Hurricane Center estimated winds of 145mph, as no reliable measurements were made due to instrument failures.[32] Peak wind gusts of 140mph were

[29] https://climatecenter.fsu.edu/images/docs/Hurricane_Ian_Report.pdf

[30] https://twitter.com/RMS/status/1575126695790641152 (for scale reference, approximately 63 terajoules were released by the atomic bomb that exploded over Hiroshima, Japan in World War II.)

[31] https://yaleclimateconnections.org/2022/09/ian-smashes-into-southwest-florida-with-historic-force/

[32] https://www.nhc.noaa.gov/data/tcr/AL092022_Ian.pdf p. 6.

measured near Iona, Florida, and a peak gust of 111mph was measured near the Punta Gorda airport on September 28. Figure 6: Hurricane Ian estimated peak wind gusts based on anemometer observations displays estimate peak wind gusts throughout the state.

Intense winds in Port Charlotte led to the failure of a roof at HCF Florida Fawcett Hospital and cause an immediate need to evacuate and crowd ICU patients into safer floors of the hospital.[33] Hurricane force winds were also measured in Orlando (74mph), Daytona Beach (81mph), and New Smyrna Beach (85mph).[34] Because of the large radius of maximum winds extending from the center of the storm, hurricane force winds occurred well inland across the Florida peninsula and caused extreme damage to residential, commercial, and agricultural interests, with more than $32 million in timber damages, $230 million in damage to fruits and vegetables, $297 million in damage to horticultural crops, and nearly half a billion dollars lost among animal, animal products, aquaculture, and dairy.[35]

Approximately 112 structures were damaged in the western part of Hendry County and about 42 structures damaged in Glades County, including two homes severely damaged by a tornado in Moore Haven.[36] Fourteen tornadoes occurred in the outer rain bands of Hurricane Ian as it crossed the Florida peninsula, including an EF-2 tornado on September 28 in Palm Beach County and an EF-1 tornado on September 27 that caused an estimated $2 million in property damages to several buildings and aircraft at the North Perry Airport in Pembroke Pines.[37]

In the Florida Keys, as summarized from NWS Key West reports,[38] widespread tropical storm-to-hurricane force winds occurred September 27-28, with reliable observations of peak wind gusts between 75-85mph around Key West, resulting in widespread reports of tree damage including isolated cases of uprooted or snapped trees. The NWS in Key West reported cases of damage to fences, soffits, and siding, with damage to shingles and sheathing to numerous residential and commercial structures. For the lower Keys outside Key West, there were widespread peak wind gusts of 65 to 75mph, with a possible gust of near 90mph on Stock Island, resulting in reports of damage to trees and utilities, and a gas station canopy failure. Power outages were widespread, with about 10,000 people without power in the lower Keys. Peak gusts from Marathon to Long Key were in the range of 55-65mph, with damage primarily due to wind-blown loose objects and tree limbs. In the Upper Keys, winds were generally in the 45-50mph range and resulted in some tree limb and utility damage, with limited impacts to electric service.

A point in time calculation from September 29 estimated that 2.4 million Floridians were without power (Figure 7: Estimated power outages following Hurricane Ian), however, the peak of outages on September 29, more than 4 million customers in Florida lost power due to Hurricane Ian, and almost 400,000 customers remained without electricity by October 3.[39]

[33] https://apnews.com/article/floods-hurricanes-health-hurricane-ian-storms-feafd6741badece7e416d9f1bfb2db73

[34] https://www.weather.gov/mlb/ian_peak_winds

[35] https://www.agri-pulse.com/ext/resources/pdfs/Hurricane-Ian-Damage-Report_FDACS.pdf

[36] https://mesonet.agron.iastate.edu/wx/afos/p.php?pil=PSHMFL&e=202210141556

[37] https://www.nhc.noaa.gov/data/tcr/AL092022_Ian.pdf

[38] https://mesonet.agron.iastate.edu/wx/afos/p.php?pil=PSHKEY&e=202210141340

[39] https://www.reuters.com/world/us/over-million-customers-without-power-florida-hurricane-ian-2022-09-28/

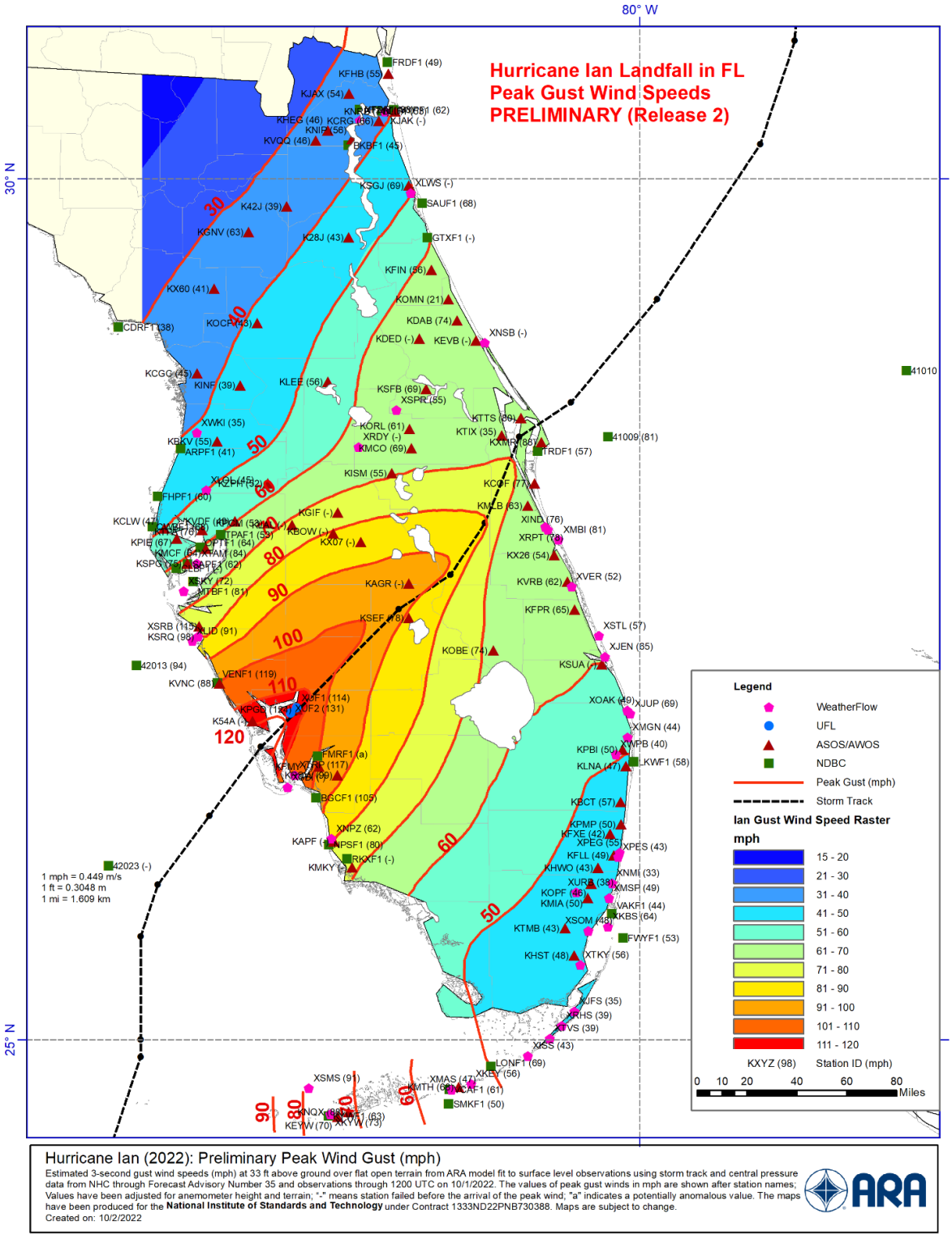

Figure 6: Hurricane Ian estimated peak wind gusts based on anemometer observations[40]

[40] Source: NIST, ARA.

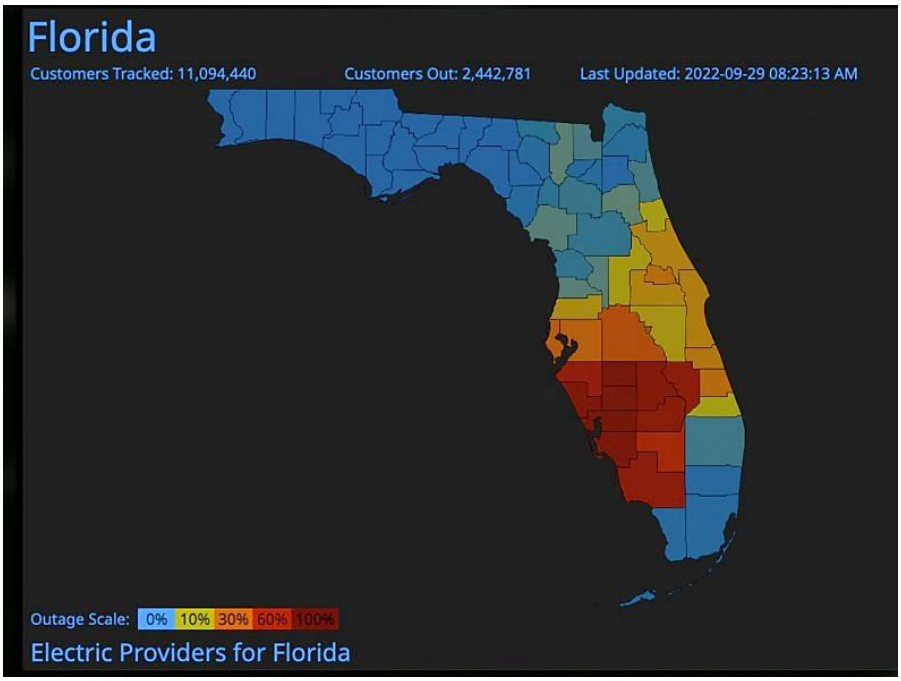

Figure 7: Estimated power outages following Hurricane Ian[41]

Storm Surge Impacts

Although Hurricane Ian made landfall coinciding with low tides, the unique approach angle to the coast along with relatively shallow bathymetry from the Sun Coast/Tampa area to the Paradise Coast and Everglades area facilitated the storm to produce a historic, devastating surge that brought destruction from Charlotte County to Monroe County. The levels of storm surge flooding are described as the highest in living memory throughout Southwest Florida, which likely resulted in the complete submersion of the barrier islands of Marco, Big Hickory, Estero, Captiva, North Captiva, Sanibel, Cayo Costa, Gasparilla, and Pine, flooding thousands of homes and businesses that had never before been flooded.[42] The National Hurricane Center verified its pre-landfall storm surge forecast estimates of 12 to 18 feet of surge flooding above ground, finding at least one high water mark in Lee County of 15 feet (Figure 9: Estimated storm surge inundation from Hurricane Ian).[43] Historic high water flooded through the barrier islands of Lee County, up the Caloosahatchee River, and into numerous inlets and bays that include Estero Bay, the Imperial River, and Naples Bay. Widespread measurements of 10 to 15 feet of storm surge flooding occurred in Fort Myers Beach (as seen in Figure 8: Images from a time lapse of storm surge inundation and damage in Fort Myers Beach), where sea level is approximately one foot higher than 100 years ago,[44] and, as the storm traversed central Florida and emerged over the Atlantic Ocean, significant storm surges were observed across northeast Florida, where three to five feet of surge flooding above ground level occurred from Volusia County to Flagler County.

Significant ecological and environmental damage occurred in Dry Tortugas and Southwest Florida impacting fishing and causing significant damage to artificial reefs as far as 30 miles offshore. The combination of increased turbidity of sediments caused by storm surge flooding, followed by large amounts of inland precipitation runoff into coastal areas (including an estimated 18 million gallons of wastewater overflow into the Gulf of Mexico[45]) causing concerns of potential ongoing harmful algal bloom

[41] www.poweroutage.us

[42] https://yaleclimateconnections.org/2022/09/ian-smashes-into-southwest-florida-with-historic-force/

[43] https://www.nhc.noaa.gov/data/tcr/AL092022_Ian.pdf

[44] https://yaleclimateconnections.org/2022/09/ian-smashes-into-southwest-florida-with-historic-force/

[45] https://www.sarasotamagazine.com/news-and-profiles/2022/10/hurricane-ian-red-tide

that may produce dangerous red tide conditions for much of Southwest Florida through 2022 and into 2023, possibly impeding waterfront tourism and other natural services in the area. Water samples taken in November 2022 revealed the presence of harmful red tide organisms, but as of June 2023, water samples have not reflected the presence of harmful algal blooms.[46,47,48,49,50]

The highest storm surge water depths occurred nearest to the centerline track of Hurricane Ian, with inundation levels of nine to 13 feet above ground level observed along Sanibel Island and additional inundation depths of six to nine feet above ground level up the Caloosahatchee River channel. In northern parts of Southwest Florida, a negative storm surge was observed at Tampa Bay, where offshore winds temporarily exposed the floor of the bay, leading emergency management officials to issue warnings to residents to avoid the area due to this unusual hazard.[51] Nearer to the Punta Gorda area, a measurement of 4.47 feet of storm surge above ground level was measured at Pirate Harbor, about 30 miles north of Sanibel Island. Along Pine Island and through Cape Coral, inundation levels were observed in the six to nine feet above ground range, and, moving further southward along the coastline, inundation levels of eight to 12 feet above ground were observed in Estero, Bonita Beach, Bonita Springs, and North Naples. Surges along Collier County ranged from six to nine feet above ground, with a tide gauge at Naples Pier measuring about 6.2 feet of surge. Although this measurement represents a new local record for surge flooding,[52] the observations at this location are incomplete due to wave action or and/debris destroying the instrument.[53]

Numerous water rescues occurred in Collier County, with reports of flood damage to a hospital in North Naples and the loss of a fire station and all of its equipment to storm surge flooding.[54] Approximately 3,515 residential and commercial buildings suffered major damage from the combination of storm surge flooding and wind gusts in Collier County at an estimated cost of $1.7 billion.[55] With reports of flooding at the Naples Airport, field investigation found evidence of flooding in the range of four to five feet, and a sensor at the Gordon River Bridge in Naples Bay measured 7.1 feet of surge. From Marco Island through Everglades City, storm surge inundation generally ranged from four to six feet, though some instruments collected evidence of six to seven feet of surge along the everglades. In the Florida Keys, storm surges measured two to four feet above ground level in parts of Key West and Dry Tortugas, with the third highest surge on record occurring at Key West at 2.46 feet above mean higher high water; however, surge levels for the central and eastern Keys generally ranged from one to three feet.[56] Minor tidal flooding occurred during high tides in Miami-Dade County.[57] Approximately 28 commercial and residential structures were destroyed by a fire that occurred during the storm's passage.[58]

Storm surge impacts occurred from the Space Coast northward to the First Coast. From the Florida-Georgia border southward through St. Johns County to Volusia County, maximum storm surge inundation levels of three to six feet were observed along with significant wave action that led to extensive beach

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[46] https://storymaps.arcgis.com/stories/2d5269a0866d436fb70677b0a3c1de3a

[47] https://myfwc.com/research/redtide/statewide/

[48] https://wusfnews.wusf.usf.edu/environment/2022-11-02/hurricane-ian-ruined-man-made-reefs-brought-algae-blooms-to-florida

[49] https://www.accuweather.com/en/hurricane/red-tide-reported-offshore-of-florida-counties-hit-hard-by-ian/1270479

[50] https://climatecenter.fsu.edu/images/docs/Hurricane_Ian_Report.pdf p. 17.

[51] https://twitter.com/TampaPD/status/1575188849604657154

[52] https://weather.com/storms/hurricane/news/2022-09-29-hurricane-ian-most-stunning-things-meteorologists-saw

[53] https://www.nhc.noaa.gov/data/tcr/AL092022_Ian.pdf

[54] https://mesonet.agron.iastate.edu/wx/afos/p.php?pil=LSRMFL&e=202209282101

[55] https://mesonet.agron.iastate.edu/wx/afos/p.php?pil=PSHMFL&e=202210141556

[56] https://www.nhc.noaa.gov/data/tcr/AL092022_Ian.pdf

[57] https://mesonet.agron.iastate.edu/wx/afos/p.php?pil=PSHMFL&e=202210141556

[58] https://mesonet.agron.iastate.edu/wx/afos/p.php?pil=PSHKEY&e=202210141340

erosion and damage to coastal structure. Surge levels along the St. Johns River ranged from two to four feet above ground, with the Buckman Bridge in downtown Jacksonville measuring 3.1 feet above mean higher high water. Storm surge levels further south in the Brevard County area generally ranged from two to four feet above ground level.[59]

Figure 8: Images from a time lapse of storm surge inundation and damage in Fort Myers Beach[60]

[59] https://www.nhc.noaa.gov/data/tcr/AL092022_Ian.pdf

[60] Source: Max Olson, NHC.

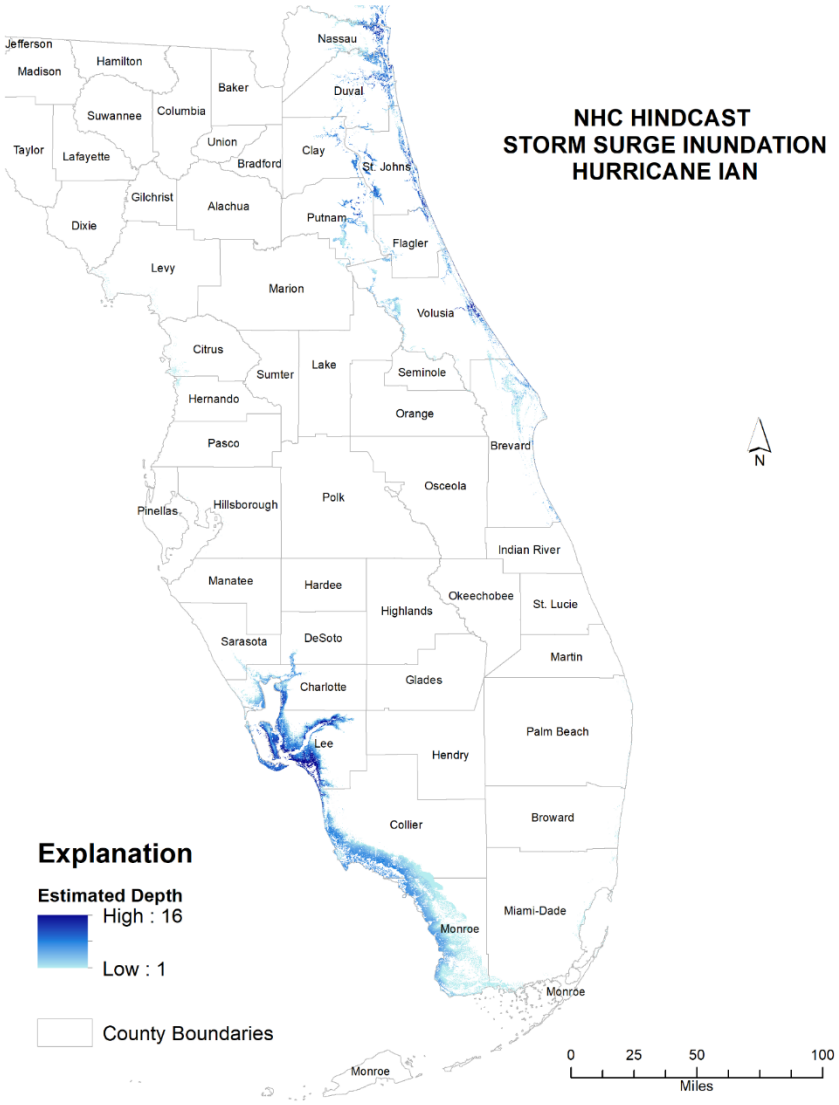

Figure 9: Estimated storm surge inundation from Hurricane Ian[61]

Rainfall and Flooding

The large size and slow northeastward movement of Hurricane Ian brought torrential rain and freshwater flooding across Southwest, Central, and Northeast Florida, with the storm's highest total rainfall of 26.95 inches in Grove City on the immediate north side of the storm's track.[62] "Widespread, life-threatening catastrophic flooding, with major to record river flooding" occurred along a 415-mile swath of Florida. In some locations the storm was estimated to have produced more than double the amount of rain expected

[61] Source: Hurrevac, National Hurricane Center hindcast estimate, map by UCF. *Note that estimated maximum storm surge inundation in Southwest Florida is up to 16 feet; estimated maximum storm surge inundation in Northeast Florida is up to 9 feet above ground level. Storm surge forecasters measured one high water mark in Lee County at approximately 15 feet of storm surge inundation.*

[62] https://www.nhc.noaa.gov/data/tcr/AL092022_Ian.pdf

in a 100-year storm.[63,64] Additionally, the impacts of climate warming were estimated to have contributed an additional 10 percent to the storm's total rainfall.[65]

In Southwest to Central Florida, including the counties of Charlotte, Sarasota, Hardee, Polk, DeSoto, and Manatee, record flooding occurred on the Peace River, Myakka River, Alafia River, and Horse Creek as rainfall totaled more than 20 inches. In Central and Eastern Florida, rainfall ranged from 10 to 20 inches and caused major flooding along the St. Johns River, Lake George, Crest Lake, the Little Wekiva River, and Dunns and Shingle Creeks in Seminole, Orange, Lake, Putnam, and Osceola Counties, with some locations exceeding previous historical crests by more than two feet.[66,67]

In Daytona Beach, about 21.49 inches of rain fell as the storm passed (Daytona Beach International Airport recorded its wettest September on record[68]), and more than nine inches was recorded in Broward County, with widespread street and roadway flooding in Martin and St. Lucie Counties. Both Orlando Sanford International and Orlando International Airports recorded their wettest Septembers on record, and Orlando International recorded the wettest month on record with 22.42 inches of rain.[69] Orlando broke its all-time 24-hour rainfall record, accumulating 12.49 inches between 8AM to 8AM, September 28-29, 2022.[70] Many areas in Central Florida observed more than 200 to 300 percent of normal precipitation during the period of September 27 to October 26, 2022 (Figure 11: Percent of normal precipitation September 27 to October 26, 2022), and parts of Orlando that typically do not flood were flooded, leading to evacuations of the Avante nursing home.[71,72] More than 15 inches of rain fell in Brevard County, and much of Orange County observed 10 to 15 inches of rain with a peak of 17.24 at the Union Park 3.5 SE rain gauge. Approximately 16.1 inches of rain was observed at the Sanford International Airport in Seminole County, and more than 21 inches of rain fell at New Smyrna Beach in Volusia County.[73] The extreme rainfall throughout the state and particularly in Central Florida is highlighted by Figure 10: Reported rainfall totals from Hurricane Ian (A) statewide and (B) across Central Florida.

Heavy precipitation and flooding also caused widespread agricultural losses, with heavy infrastructure losses to farm roads, dikes, water control structures, and retention areas. Forage crops were severely affected by flooding, resulting in significant pasture erosion and lost crops that required farmers to purchase supplemental feeds and other feeds to supply animals over the following winter months—more than 250 cattle were killed and approximately 257,194 calves were stressed and awaiting export to out-of-state feed lots. The stress caused to animal lives included animals losing weight and reduced milk production that was not estimated to recover for several months.[74]

Numerous roads and railways were also affected by damage from Ian's inland flooding, causing disruption to passenger rail service for several weeks.[75] Along many waterways in Central and Northeast Florida, homes, docks, boathouses and other structures were damaged by flooding, and the historical

[63] https://www.orlandosentinel.com/2022/09/29/now-tropical-storm-ian-bringing-catastrophic-flooding-to-central-florida/

[64] https://climatecenter.fsu.edu/images/docs/Hurricane_Ian_Report.pdf

[65] https://www.pbs.org/wnet/peril-and-promise/2023/02/recovery-after-hurricane-ian-begins-but-climate-change-looms/#:~:text=A%20rapid%20analysis%20released%20Thursday,Ian's%20rainfall%20by%2010%20percent.

[66] https://www.nhc.noaa.gov/data/tcr/AL092022_Ian.pdf

[67] https://storymaps.arcgis.com/stories/4a242bae868140a394c96bc2d9415e86

[68] https://storymaps.arcgis.com/stories/4a242bae868140a394c96bc2d9415e86

[69] https://storymaps.arcgis.com/stories/4a242bae868140a394c96bc2d9415e86

[70] https://weather.com/storms/hurricane/news/2022-09-29-hurricane-ian-most-stunning-things-meteorologists-saw

[71] https://climatecenter.fsu.edu/images/docs/Hurricane_Ian_Report.pdf

[72] https://apnews.com/article/floods-hurricanes-health-hurricane-ian-storms-feafd6741badece7e416d9f1bfb2db73

[73] https://www.weather.gov/mlb/ian_rainfall_totals

[74] https://www.agri-pulse.com/ext/resources/pdfs/Hurricane-Ian-Damage-Report_FDACS.pdf

[75] https://twitter.com/AmtrakAlerts/status/1578456869198131200

flooding along the St. Johns River took much of the month of October to recede.[76] State Highway 46 at the St. Johns River was impassable for several weeks following Hurricane Ian due to rainfall continuing to runoff upstream and drain through the area. On the St. Johns River above Harney, a new record of 12.7 feet of flooding was set on October 3, 2022, and the river was still at major flood stage by the end of October 2022. More than 1,200 homes were affected or damaged.[77,78] Many homes and businesses were flooded along the St. Johns River at Astor as heavy rainfall combined with already high water levels resulted in a new record flooding level of 4.71 feet, breaking the previous nearly 90-year-old record, and causing numerous local roads to become inaccessible—at this location, the river remained in moderate flood stage through the end of October 2022 as well, with more than 100 structures damaged.[79,80]

On the Little Wekiva River near Altamonte Springs, the river stage rose more than six feet in less than 24 hours, prompting a flash flood emergency: a historic crest of 31.09 feet occurred on September 29, with many homes flooded and roadways impassable for days.[81] Along Shingle Creek at Campbell, the NWS described a rapid rise in water stage due to more than eight to 10 inches of rainfall on September 28, reaching the 64.21 feet stage and breaking the flood record previously set by Hurricane Irma (2017) by almost two feet, making roads impassable and resulting in numerous homes flooding in Good Samaritan Village.[82]

Altogether, numerous flash flood emergencies caused by the excessive rainfall from Hurricane Ian occurred throughout Central and Northeast Florida, resulting in flooded homes and numerous water rescues through Thursday, September 29, 2022.

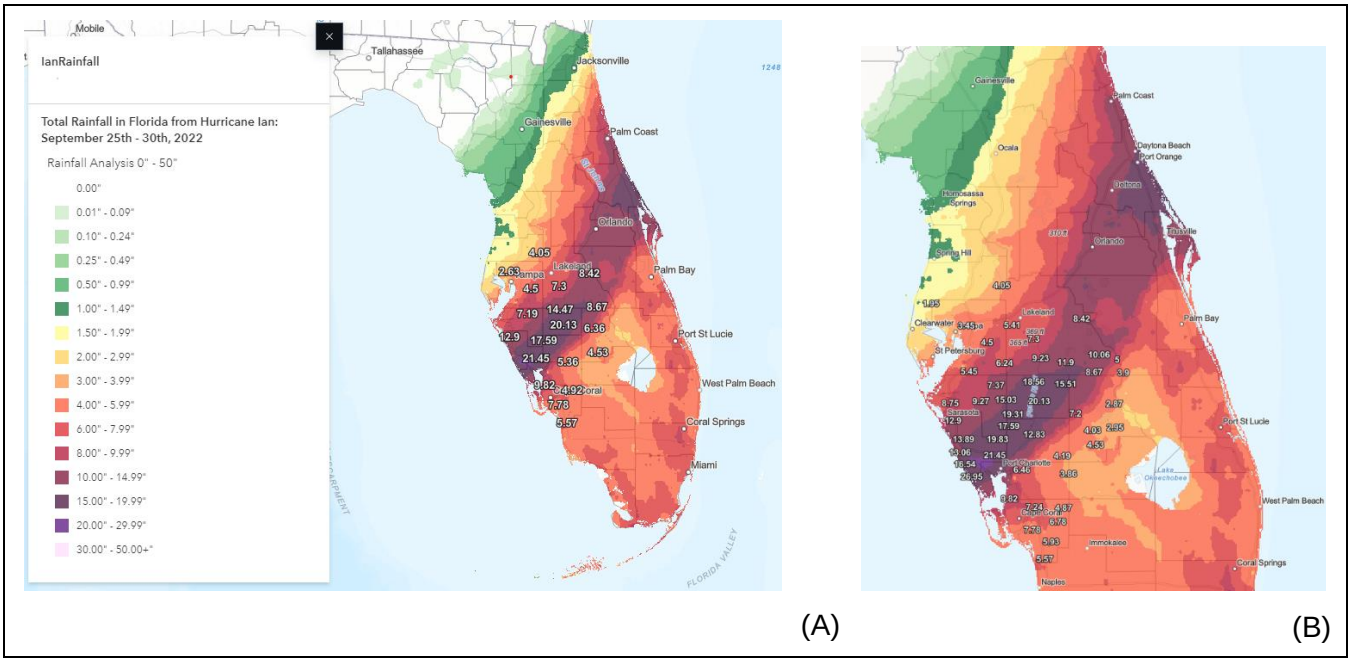

Figure 10: Reported rainfall totals from Hurricane Ian (A) statewide and (B) across Central Florida[83]

[76] https://storymaps.arcgis.com/stories/4a242bae868140a394c96bc2d9415e86

[77] https://storymaps.arcgis.com/stories/4a242bae868140a394c96bc2d9415e86

[78] https://web.archive.org/web/20221006195804/https://forecast.weather.gov/product.php?site=NWS&issuedby=MLB&product=PSH&format=CI&version=1&glossary=0

[79] https://storymaps.arcgis.com/stories/4a242bae868140a394c96bc2d9415e86

[80] https://web.archive.org/web/20221006195804/https://forecast.weather.gov/product.php?site=NWS&issuedby=MLB&product=PSH&format=CI&version=1&glossary=0

[81] https://storymaps.arcgis.com/stories/4a242bae868140a394c96bc2d9415e86

[82] https://storymaps.arcgis.com/stories/4a242bae868140a394c96bc2d9415e86

[83] https://storymaps.arcgis.com/stories/2d5269a0866d436fb70677b0a3c1de3a

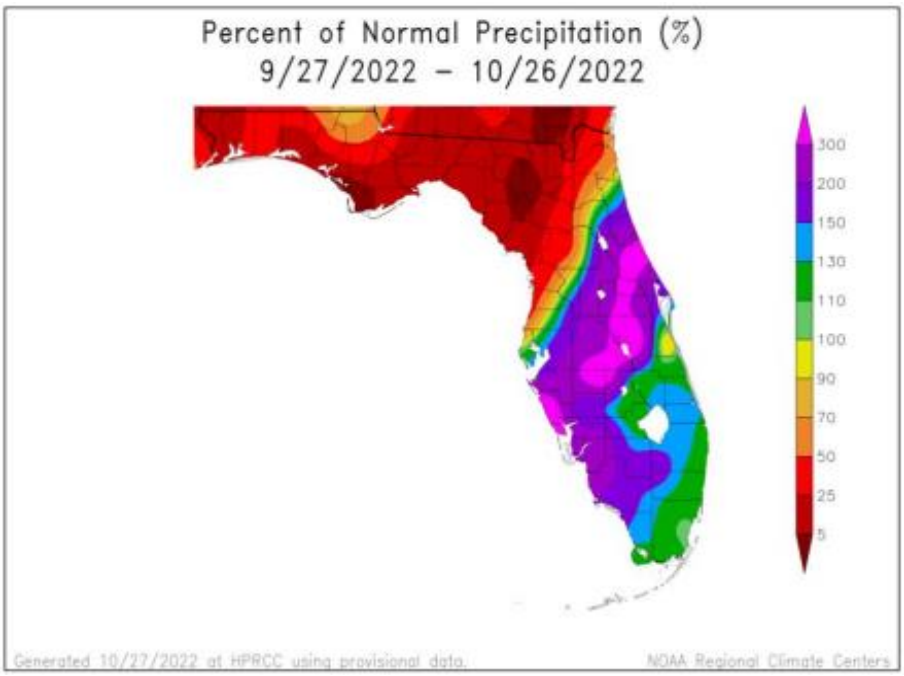

Figure 11: Percent of normal precipitation September 27 to October 26, 2022

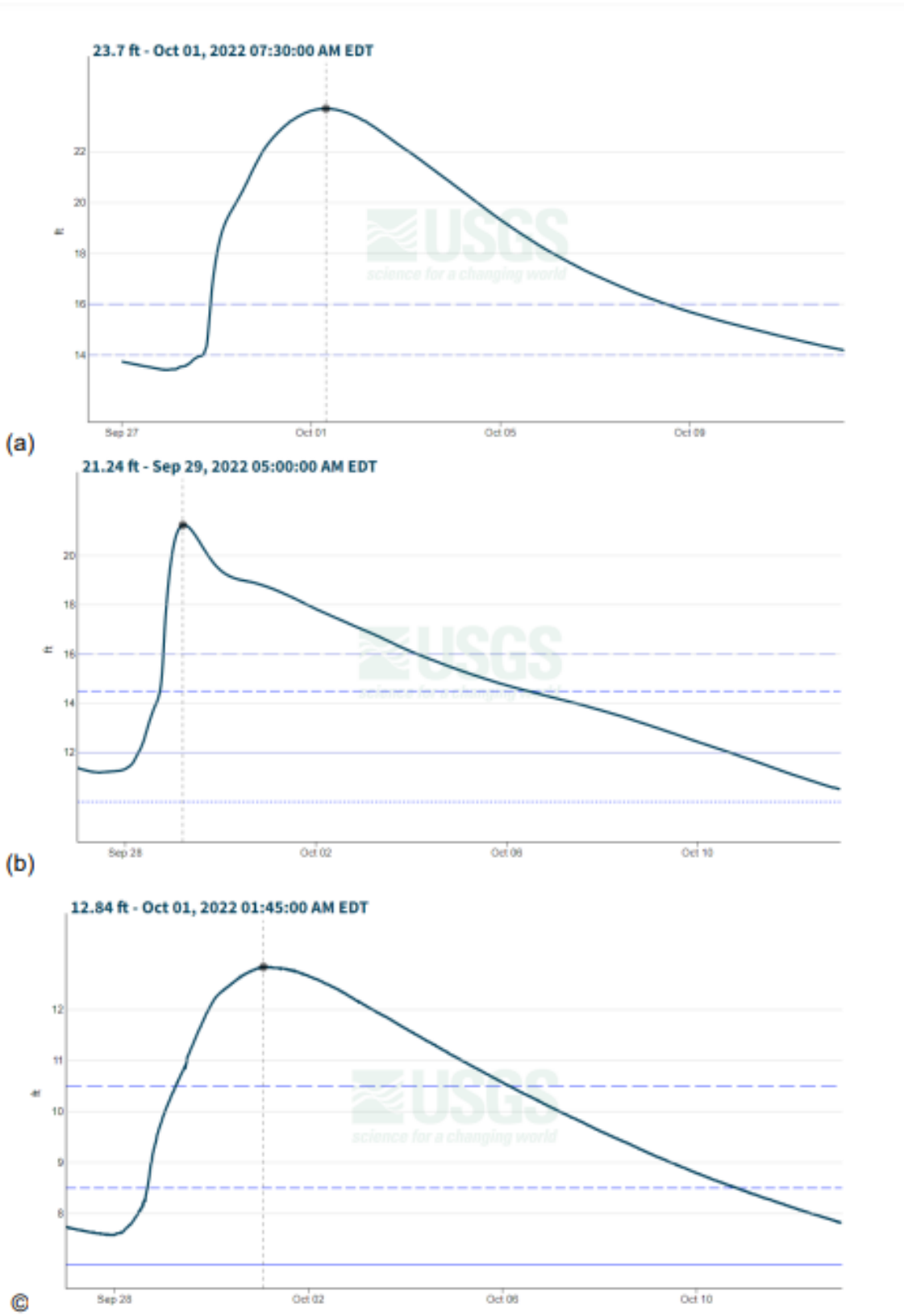

Figure 12: Hydrographs showing record flooding September 28 to October 12, 2022, at (A) Peace River at Arcadia, FL, (B) Horse Creek near Arcadia, FL, and (C) Myakka River near Sarasota, FL [84]

Figure 13: Flooding along the St. Johns River at Astor on October 3, 2022[85]

Figure 14: Flooding along Little Wekiva Road from Hurricane Ian as of September 30, 2022[86]

[84] Source: USGS, NHC.

[85] Source: NWS Melbourne.

[86] Source: NWS Melbourne

Figure 15: Shingle Creek Flooding in Osceola County[87]

Figure 16: Good Samaritan Village flooding from Shingle Creek in Osceola County[88]

[87] Source: NWS Melbourne

[88] Source: NWS Melbourne

Figure 17: Roadway damage and partial washout near the Myakka River in North Port, Florida[89]

Figure 18: Railway flooding and damage in DeSoto County along the Peace River[90]

[89] Source: NWS Tampa.

[90] Source: NWS Tampa.

Figure 19: Significant roadway damage in DeSoto County along the Peace River[91]

2.1.2.3 Impacts from Prior Disasters

Hurricane Irma, a Category 4 hurricane, made landfall on September 10, 2017, in the middle of the Florida Keys and then turned northward making a second landfall near Marco Island and progressing northward through the center of the state. Hurricane Irma capped an active hurricane season by impacting nearly the entire Florida peninsula with strong winds, rain, and storm surges. The State of Florida received $812,235,745 in CDBG-DR funds to administer programs contributing to long-term disaster recovery in the impacted areas. As of July 2023, CDBG-DR-funded Hurricane Irma recovery programs have awarded more than $55 million to subrecipients for the administration of infrastructure projects and $12 million for workforce recovery training programs. Of the funds awarded to the state for Hurricane Irma recovery, more than $684 million has been dedicated to addressing unmet housing needs through the implementation of three housing programs. As of July 2023, the Hurricane Irma Housing Repair and Replacement Program alone has served thousands of applicants and helped to repair, replace, or rebuild more than 3,173 homes; however, there are remaining unmet housing needs throughout the state; these unmet needs were exacerbated by Hurricane Ian.

2.2 Housing Unmet Need

To meet the requirements of the HUD CDBG-DR program, the following sections (2.2.1-2.2.3) describe the losses and unmet needs related to Hurricane Ian's impacts to housing in Florida, specifically in the HUD-identified MID areas, and in the State MID areas of Brevard County, Charlotte County, Collier County, DeSoto County, Flagler County, Glades County, Hardee County, Hendry County, Highlands County, Hillsborough County, Lake County, Manatee County, Monroe County, Okeechobee County, Osceola County, Pinellas County, Polk County, Putnam County, Seminole County, and St. Johns County. Specific references are made to housing damage and the challenges to recovery, building upon the damage and impact characterizations described in previous sections.

[91] Source: NWS Tampa

2.2.1 Disaster Damage and Impacts

Hurricane Ian caused extensive damage to housing, as documented in preliminary damage assessments and in post-event inspections through the FEMA assistance and insurance programs. Damage to roofs and siding from high winds was widespread throughout Florida, along with substantial damage from storm surge and inland flooding (See Section 2.1.2 Hurricane Ian's Impacts to Florida).

Figure 20: Median House Value shows the median home value in the Hurricane Ian-affected areas of Florida, and Figure 21: Renter Populations shows the spatial distribution of renters in the same area (both maps at the census tract scale). Table 6: Rental Units by Year Built provides information about the number of rental units by year built, highlighting both the aging housing stock and the overall numbers of rental units in the Hurricane Ian impacted area, which provides some insight into how more recent building and land use ordinances may reflect differential damages for areas that only recently required improvements to withstand and bounce back from hurricane damage.

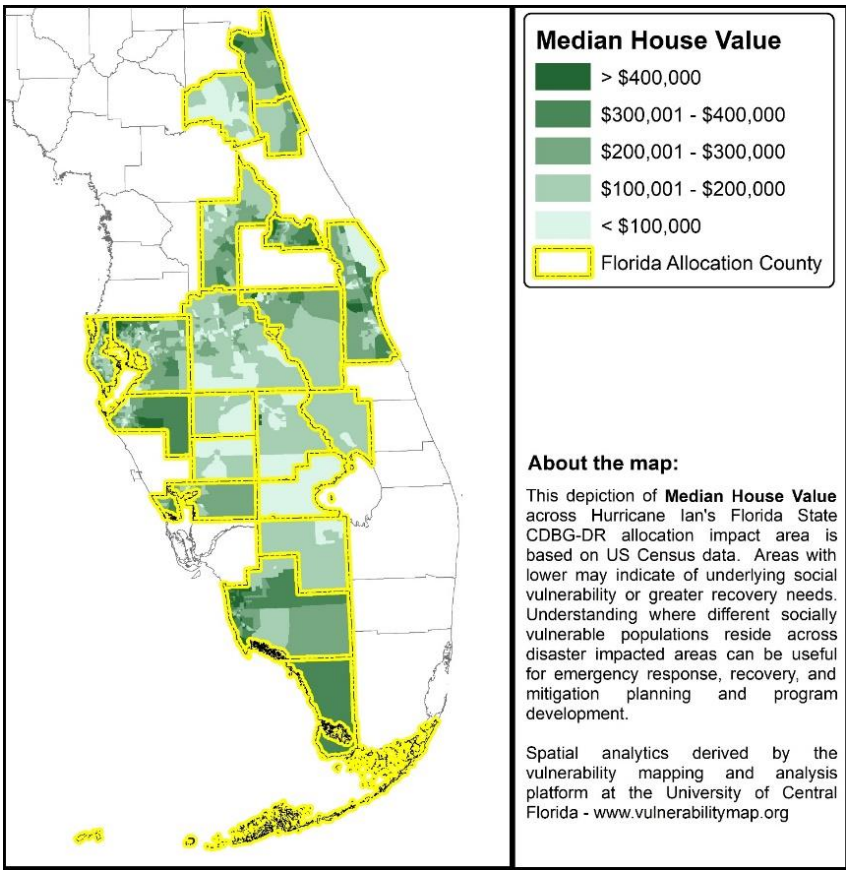

Figure 20: Median House Value

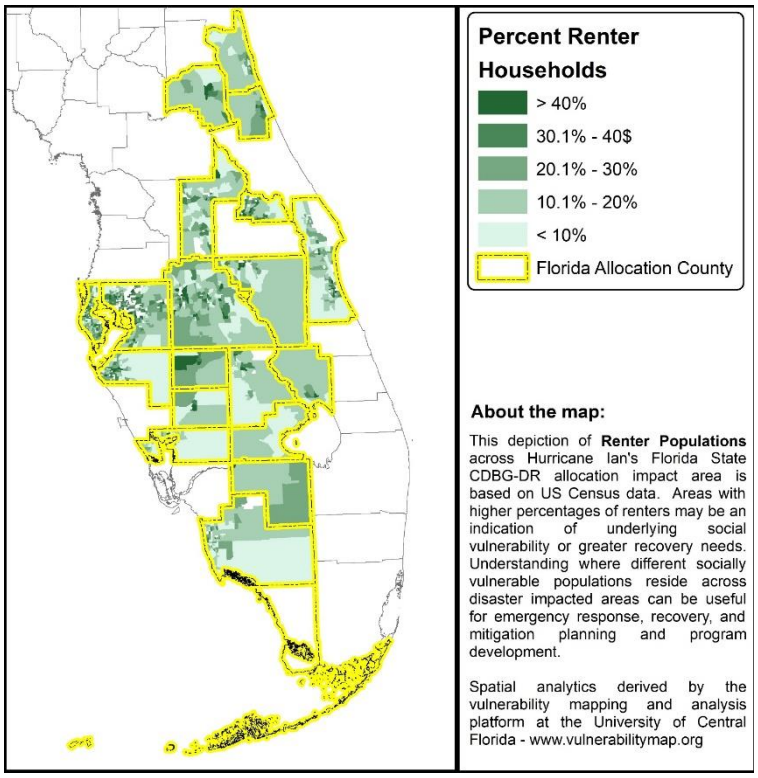

Figure 21: Renter Populations

Table 6: Rental Units by Year Built[92]

Year Built	Statewide			MID Counties		
	Number of Renter Occupied Units	Percentage of Rental Units	Percentage of All Units	Number of Renter Occupied Units	Percentage of Rental Units	Percentage of All Units
2020 or later	4,819	0.18%	0.06%	1,503	0.19%	0.06%
2000 to 2019	663,954	24.26%	8.14%	197,994	25.02%	7.64%
1980 to 1999	971,864	35.51%	11.91%	305,033	38.55%	11.76%
1960 to 1979	772,236	28.22%	9.47%	207,059	26.17%	7.99%
1940 to 1959	253,720	9.27%	3.11%	59,035	7.46%	2.28%
1939 or earlier	70,196	2.56%	0.86%	20,615	2.61%	0.80%
Total Rental Units	**2,736,789**	**100.00%**	**33.55%**	**791,239**	**100.00%**	**30.52%**
Total Housing Units	**8,157,420**			**2,592,716**		

[92] ACS 2012-2016, B25127 - VACANCY STATUS

2.2.2 Single Family v. Multi-Family Needs; Owner Occupied v. Tenant

FloridaCommerce, in accordance with HUD guidelines, defines affordable rent as the lesser of:

- The fair market rent for existing housing for comparable units in the area, as established by HUD under 24 CFR 888.111; or
- A rent that does not exceed 30 percent of the adjusted income of a family whose annual income equals 65 percent of the Area Median Income (AMI), as determined by HUD, with adjustments for number of bedrooms in the unit. The HUD HOME Investment Partnerships Program rent limits will include average occupancy per unit and adjusted income assumptions.

The minimum required affordability time periods are listed in Table 7: Minimum Affordability Periods below.

Table 7: Minimum Affordability Periods

Type of Project	Number of Units	Minimum Required Affordability
Multi-family	less than 8	5 years
	8 or more	15 years
Single Family	1 - 4	5 years

Affordability restrictions will be enforceable by deed restrictions, covenants, or other similar mechanisms and/or instruments.

FloridaCommerce will utilize the most current income rates set by HUD each year. At a minimum, 70 percent of program funds meet a LMI National Objective. Households with income higher than 120 percent of AMI will not be eligible for this program.

HUD calculates "unmet housing needs" as the number of housing units with unmet needs, times the estimated cost to repair those units, minus repair funds already provided. However, because complete data on impacts after major disaster events are difficult to obtain or do not exist comprehensively across a disaster area, HUD has stated that empirically-justified calculations may be used to determine the average cost to fully repair a home. Generally, this is accomplished by "using the average real property damage repair costs determined by the SBA for its disaster loan program for the subset of homes inspected by both SBA and FEMA. Because SBA is inspecting for full repair costs, it is presumed to reflect the full cost to repair the home, which is generally more than the FEMA estimates on the cost to make the home habitable."[93]

Previously approved impact assessment methodologies have utilized a combination of SBA estimates of damage and repair needs, FEMA IA Housing Assistance data, and National Flood Insurance Program (NFIP) claim and payment information to triangulate total impacts and unmet needs as opposed to relying only on FEMA-verified losses. Utilizing SBA damage estimates provides a more comprehensive look at recovery costs than looking only at FEMA inspected damage. SBA sends "construction specialists" trained to evaluate a more complete cost of repairing or replacing a damaged structure to each applicant, returning a more comprehensive estimate of recovery costs than the original estimates from FEMA. In addition, further accounting for under-representation of impacted populations stemming from FEMA ineligible applicants provides a more accurate picture of overall housing impact across a study area.

Homeowners across the Hurricane Ian impacted area experienced significant impacts from high winds, flooding, and storm surges, and Table 8: FEMA IA Owner Occupied sets out the distributions of owner-

[93] Federal Register Vol. 78, No. 43 /Tuesday, March 5, 2013 - https://www.govinfo.gov/content/pkg/FR-2018-02-09/pdf/2018-02693.pdf

occupied applicants to the FEMA IA program under the Hurricane Ian disaster declaration. The average FEMA verified loss for Hurricane Ian is approximately $10,293. Homeowners who have been unable to secure FEMA, SBA, or other assistance funding have been left with an overwhelming unmet recovery need.

Table 8: FEMA IA Owner Occupied – Hurricane Ian (PDD4673)

County	# of Applicants	# of Inspections	# Inspected with Damage	# Received Assistance	Total FEMA Verified Loss	Average FEMA Verified Loss
Brevard	6,325	2,508	675	566	$5,432,477	$8,048.11
Charlotte	42,518	13,335	9,873	4,794	$122,776,423	$12,435.57
Collier	17,840	5,528	3,631	3,170	$51,264,321	$14,118.51
DeSoto	5,477	2,553	1,935	1,511	$22,515,980	$11,636.17
Flagler	2,223	623	190	139	$1,250,384	$6,580.97
Glades	459	157	65	59	$460,858	$7,090.12
Hardee	2,910	1,434	893	709	$8,501,374	$9,520.02
Hendry	2,295	482	143	104	$755,978	$5,286.56
Highlands	4,963	1,394	741	608	$5,401,746	$7,289.81
Hillsborough	37,606	6,793	1,313	1,006	$8,482,371	$6,460.30
Lake	4,792	1,214	373	303	$2,391,985	$6,412.83
Manatee	13,943	2,683	1,050	821	$8,828,964	$8,408.54
Monroe	933	519	256	208	$3,999,241	$15,622.04
Okeechobee	1,238	462	170	141	$1,148,494	$6,755.85
Osceola	15,199	3,475	1,413	1,187	$9,966,968	$7,053.76
Pinellas	15,201	4,103	308	248	$1,949,175	$6,328.49
Polk	33,115	6,814	2,722	2,053	$17,405,922	$6,394.53
Putnam	1,835	645	222	180	$1,288,805	$5,805.43
Seminole	15,856	5,494	1,838	1,606	$13,109,566	$7,132.52
St. Johns	1,859	866	255	202	$1,950,939	$7,650.74
Total	**226,587**	**61,082**	**28,066**	**19,615**	**$288,881,970**	**$10,293**

Table 9: FEMA IA Tenant Applicants sets out the distribution of renter applicants to the FEMA IA program under the Hurricane Ian declarations. Approximately 97 percent of applicants did not receive assistance. This extremely high denial rate represents a very significant estimate of renters left with overwhelming unmet recovery needs. Furthermore, damage to these vital housing stocks leaves the state with a shortage of rental properties across the impacted area, increasing pressure on an already tight housing supply and increasing rents to unsustainable levels for lower income and more vulnerable populations. In summary, these high numbers of rental assistance recipients indicate a growing rental crisis across the impacted area.

Table 9: FEMA IA Tenant Applicants – Hurricane Ian (PDD4673)

County	# of Applicants	# of Inspections	#Inspected with Damage	#Received Assistance	Total FEMA Verified Loss	Average FEMA Verified Loss
Brevard	7,681	2,688	409	120	$859,777	$2,102.14
Charlotte	12,740	5,937	3,050	1,176	$10,091,621	$3,308.73
Collier	15,302	3,999	1,758	567	$7,249,620	$4,123.79
DeSoto	2,646	1,214	682	316	$2,208,627	$3,238.46
Flagler	2,130	867	83	26	$196,414	$2,366.43
Glades	248	60	17	6	$24,542	$1,443.64
Hardee	1,453	637	312	107	$823,879	$2,640.64
Hendry	1,659	339	96	22	$129,545	$1,349.43
Highlands	3,652	1,130	455	236	$1,230,867	$2,705.20
Hillsborough	62,590	12,685	1,896	358	$2,347,112	$1,237.93
Lake	5,684	1,820	181	44	$318,371	$1,758.96
Manatee	14,531	3,025	695	196	$1,237,818	$1,781.03
Monroe	1,602	620	226	84	$730,269	$3,231.28
Okeechobee	644	258	61	23	$103,166	$1,691.24
Osceola	18,096	4,425	1,422	672	$5,052,697	$3,553.23
Pinellas	25,390	6,299	658	184	$1,046,624	$1,590.61
Polk	29,667	7,384	2,144	619	$3,604,633	$1,681.27
Putnam	2,388	882	188	57	$311,478	$1,656.80
Seminole	16,163	4,116	959	297	$2,034,295	$2,121.27
St. Johns	2,692	1,611	100	37	$285,940	$2,859.40
Total	**226,958**	**59,996**	**15,392**	**5,147**	**39,887,296**	**$2,591.43**

Table 10: FEMA IA Applicants by Housing Type, shows the distribution of FEMA IA applications received by housing type.

Table 10: FEMA IA Applicants by Housing Type[94] – Hurricane Ian (PDD4673)

Residence Type	# of Applicants	% Owner Occupied	% Tenants	% Unknown	% Type
Apartment	87,918	0.05%	99.89%	0.06%	19.36%
Assisted Living Facility	295	0.00%	100.00%	0.00%	0.06%
Boat	518	78.76%	20.46%	0.77%	0.11%

[94] https://www.FEMA.gov/openfema-data-page/individuals-and-households-program-valid-registrations-v1

College Dorm	36	2.78%	97.22%	0.00%	0.01%
Condo	16,364	66.99%	32.76%	0.25%	3.60%
Correctional Facility	34	0.00%	100%	0.00%	0.01%
House/Duplex	271,312	61.55%	38.33%	0.12%	59.73%
Military Housing	82	0.00%	100%	0.00%	0.02%
Mobile Home	46,736	70.77%	28.93%	0.30%	10.29%
Other	17,080	44.20%	55.31%	0.49%	3.76%
Townhouse	10,261	49.86%	50.03%	0.11%	2.26%
Travel Trailer	3,568	68.27%	31.22%	0.50%	0.79%
Total	**454,204**	**49.89%**	**49.97%**	**0.15%**	**100.00%**

Table 11: FEMA Real Property Damage Owner Occupied Units reflects the distributions of impacts to homeowner units for the FEMA IA-declared counties.

Table 11: FEMA Real Property Damage Owner Occupied Units[95] – Hurricane Ian (PDD4673)

County	Units with Minor-Low	Units with Minor-High	Units with Major-Low	Units with Major-High	Units with Severe
Brevard	405	170	192	76	19
Charlotte	3,284	1,285	3,506	2,746	660
Collier	660	498	890	1,618	446
DeSoto	573	394	618	474	146
Flagler	165	70	52	27	2
Glades	41	22	23	7	0
Hardee	464	212	279	178	48
Hendry	136	60	30	8	1
Highlands	475	190	257	92	11
Hillsborough	1,532	376	360	103	21
Lake	270	138	111	25	4
Manatee	930	285	301	149	24
Monroe	55	79	74	34	53
Okeechobee	166	63	52	14	1
Osceola	1,125	391	429	246	20
Pinellas	483	93	89	28	6

[95] https://www.FEMA.gov/openfema-data-page/individuals-and-households-program-valid-registrations-v1

Polk	2,469	816	814	240	26
Putnam	180	78	57	22	2
Seminole	1,039	384	554	344	23
St. Johns	115	46	92	63	3
Total	14,567	5,650	8,780	6,494	1,516

Table 12: FEMA Personal Property Damage Rental Units – Hurricane Ian (PDD4673)shows the distribution of hurricane impact to rental units.

Table 12: FEMA Personal Property Damage Rental Units – Hurricane Ian (PDD4673)[96]

County	Units with Minor-Low	Units with Minor-High	Units with Major-Low	Units with Major-High	Units with Severe
Brevard	204	1	134	67	5
Charlotte	701	11	1,387	925	28
Collier	278	1	707	761	52
DeSoto	167	3	303	200	11
Flagler	36	0	27	20	0
Glades	11	0	5	1	0
Hardee	129	2	104	70	10
Hendry	64	0	30	2	0
Highlands	147	3	175	128	2
Hillsborough	1,371	4	276	244	3
Lake	100	1	53	27	0
Manatee	391	1	165	136	2
Monroe	25	0	163	40	1
Okeechobee	35	0	23	3	0
Osceola	376	2	531	480	44
Pinellas	411	9	132	103	4
Polk	1,268	7	552	314	3
Putnam	111	1	28	48	-
Seminole	482	5	280	194	7
St. Johns	28	1	54	20	1
Total	**6,335**	**52**	**5,129**	**3,783**	**173**

[96] **Note:** FEMA does not inspect rental units for real property damage so personal property damage is used as a proxy for unit damage. The monetary thresholds are defined in Appendix D.

Table 13: FEMA Applicants without Flood Insurance– Hurricane Ian (PDD4673)

Income Category	# without Flood Insurance	% without Flood Insurance
Brevard County		
No Income Stated	5,254	96.8%
<$15000	1,780	97.1%
$15000-$30000	2,743	98.2%
$30001-$60000	2,569	95.1%
$60001-$120000	940	90.0%
$120001-$175000	104	75.4%
>$175000	55	66.3%
All Income Levels	**13,445**	**95.9%**
Charlotte County		
No Income Stated	7,066	79.8%
<$15000	3,403	92.9%
$15000-$30000	8,171	88.4%
$30001-$60000	13,156	80.6%
$60001-$120000	8,965	69.5%
$120001-$175000	1,640	57.7%
>$175000	786	49.2%
All Income Levels	**43,187**	**77.9%**
Collier County		
No Income Stated	7,007	77.4%
<$15000	2,290	90.7%
$15000-$30000	5,070	86.2%
$30001-$60000	7,206	81.1%
$60001-$120000	3,305	70.8%
$120001-$175000	577	61.5%
>$175000	717	55.0%
All Income Levels	**26,172**	**78.7%**
DeSoto County		
No Income Stated	1,397	96.5%
<$15000	1,098	99.2%
$15000-$30000	1,798	98.1%
$30001-$60000	2,281	97.2%
$60001-$120000	1,086	93.5%
$120001-$175000	158	89.3%
>$175000	68	90.7%
All Income Levels	**7,886**	**96.8%**
Flagler County		
No Income Stated	1,364	95.3%
<$15000	329	92.2%
$15000-$30000	742	95.7%
$30001-$60000	1,085	93.7%
$60001-$120000	436	85.0%

$120001-$175000	57	73.1%
>$175000	27	58.7%
All Income Levels	**4,040**	**92.7%**
Glades County		
No Income Stated	134	97.8%
<$15000	131	97.8%
$15000-$30000	211	99.1%
$30001-$60000	153	94.4%
$60001-$120000	49	98.0%
$120001-$175000	10	90.9%
>$175000	1	33.3%
All Income Levels	**689**	**97.0%**
Hardee County		
No Income Stated	698	97.6%
<$15000	745	99.1%
$15000-$30000	1,112	98.6%
$30001-$60000	1,084	98.5%
$60001-$120000	545	93.8%
$120001-$175000	65	92.9%
>$175000	28	87.5%
All Income Levels	**4,277**	**97.7%**
Hendry County		
No Income Stated	1,064	96.5%
<$15000	620	98.4%
$15000-$30000	1,015	97.1%
$30001-$60000	870	95.7%
$60001-$120000	228	94.6%
$120001-$175000	16	84.2%
>$175000	9	100.0%
All Income Levels	**3,822**	**96.6%**
Highlands County		
No Income Stated	1,783	98.6%
<$15000	1,451	99.5%
$15000-$30000	2,333	99.1%
$30001-$60000	2,023	97.6%
$60001-$120000	779	95.6%
$120001-$175000	78	92.9%
>$175000	38	95.0%
All Income Levels	**8,485**	**98.3%**
Hillsborough County		
No Income Stated	25,582	95.2%
<$15000	11,967	97.6%
$15000-$30000	20,865	96.5%
$30001-$60000	26,714	94.7%

$60001-$120000	8,959	90.9%
$120001-$175000	863	86.0%
>$175000	387	81.1%
All Income Levels	**95,337**	**95.1%**
Lake County		
No Income Stated	3,405	98.0%
<$15000	1,061	97.9%
$15000-$30000	2,072	97.6%
$30001-$60000	2,454	96.9%
$60001-$120000	1,026	92.8%
$120001-$175000	106	96.4%
>$175000	45	88.2%
All Income Levels	**10,169**	**97.0%**
Manatee County		
No Income Stated	6,168	94.6%
<$15000	2,666	97.2%
$15000-$30000	5,682	96.6%
$30001-$60000	7,999	94.5%
$60001-$120000	3,460	88.6%
$120001-$175000	500	79.9%
>$175000	280	78.7%
All Income Levels	**26,755**	**93.9%**
Monroe County		
No Income Stated	798	83.8%
<$15000	244	93.8%
$15000-$30000	383	96.0%
$30001-$60000	485	87.2%
$60001-$120000	188	67.6%
$120001-$175000	25	39.1%
>$175000	8	23.5%
All Income Levels	**2,131**	**83.8%**
Okeechobee County		
No Income Stated	422	95.9%
<$15000	335	97.4%
$15000-$30000	434	96.0%
$30001-$60000	426	91.2%
$60001-$120000	137	85.1%
$120001-$175000	12	75.0%
>$175000	8	88.9%
All Income Levels	**1,774**	**93.9%**
Osceola County		
No Income Stated	8,967	95.7%
<$15000	3,362	97.3%
$15000-$30000	7,288	96.4%

$30001-$60000	8,725	94.2%
$60001-$120000	3,022	91.9%
$120001-$175000	219	85.5%
>$175000	119	89.5%
All Income Levels	**31,702**	**95.1%**
Pinellas County		
No Income Stated	10,533	95.3%
<$15000	4,791	97.7%
$15000-$30000	8,345	96.8%
$30001-$60000	11,145	94.7%
$60001-$120000	3,256	86.7%
$120001-$175000	268	77.9%
>$175000	108	65.5%
All Income Levels	**38,446**	**94.6%**
Polk County		
No Income Stated	13,611	97.7%
<$15000	8,506	98.5%
$15000-$30000	14,222	98.2%
$30001-$60000	17,140	96.6%
$60001-$120000	6,752	94.6%
$120001-$175000	599	94.3%
>$175000	242	91.0%
All Income Levels	**61,072**	**97.2%**
Putnam County		
No Income Stated	1,133	98.0%
<$15000	901	98.7%
$15000-$30000	1,055	98.9%
$30001-$60000	803	96.6%
$60001-$120000	206	86.2%
$120001-$175000	14	87.5%
>$175000	7	58.3%
All Income Levels	**4,119**	**97.3%**
Seminole County		
No Income Stated	7,019	96.5%
<$15000	2,643	97.8%
$15000-$30000	5,475	97.3%
$30001-$60000	10,328	96.3%
$60001-$120000	4,209	93.2%
$120001-$175000	687	87.3%
>$175000	330	78.8%
All Income Levels	**30,691**	**95.8%**
St. Johns County		
No Income Stated	2,246	93.0%
<$15000	272	94.1%

$15000-$30000	461	94.7%
$30001-$60000	696	88.9%
$60001-$120000	349	78.8%
$120001-$175000	46	53.5%
All Income Levels	**4,095**	**89.7%**

2.2.3 Public Housing and Affordable Housing

Table 14: Insurance Claims and Losses in Disaster Impacted Areas[97] sets out insured claims, claims resulting in losses, and the total direct incurred losses for Hurricane Ian.

Table 14: Insurance Claims and Losses in Disaster Impacted Areas

Claim Type	# of Claims	# of Claims Resulting in Loss
Residential Property	494,078	306,754
Homeowners	397,966	239,158
Dwelling	52,390	33,895
Mobile Homeowners	40,809	32,266
Commercial Residential	2,913	1,435
Commercial Property	32,869	10,570
Private Flood	4,852	3,135
Business Interruption	493	327
Other Lines of Business*	175,963	145,442
Total	**708,255**	**466,228**

Table 15: County Level Insurance Claims for selected county areas – Hurricane Ian displays the data for insurance claims in selected impacted counties. As of completion of the unmet needs assessment, data for the other MID areas (Flagler, Glades, Hendry, Monroe, Okeechobee, Putnam, and St. Johns Counties) is not available.

Table 15: County Level Insurance Claims for selected county areas – Hurricane Ian[98]

County	Number of Claims Reported	Number of Open Claims with Payment	Number of Open Claims without Payment	Number of Claims Closed with Payment	Number of Claims Closed without Payment	Percent of Claims Closed
Brevard	5,504	336	689	2,202	2,277	81.40%
Charlotte	101,490	18,889	6,286	62,832	13,483	75.20%
Collier	41,039	2,087	4,472	22,509	11,971	84.00%
DeSoto	6,526	767	529	4,259	971	80.10%
Hardee	2,823	302	329	1,661	531	77.60%

[97] https://www.floir.com/home/ian

[98] Source: https://www.floir.com/home/ian

Highlands	6,711	467	641	3,902	1,701	83.50%
Hillsborough	17,198	1,166	1,552	7,400	7,080	84.20%
Lake	4,622	266	479	1,912	1,965	83.90%
Manatee	13,404	1,007	1,262	6,052	5,083	83.10%
Osceola	11,760	962	1,297	4,718	4,783	80.80%
Pinellas	4,719	222	396	2,023	2,078	86.90%
Polk	27,304	2,076	2,882	13,844	8,502	81.80%
Seminole	11,844	677	1,001	4,868	5,298	85.80%
All Other Counties	41,089	3,331	4,165	21,439	12,154	81.80%
Total	**296,033**	**32,555**	**25,980**	**159,621**	**77,877**	**82%**

FloridaCommerce sought input from Public Housing Authorities (PHA) located in MID areas and agencies dedicated to serving vulnerable populations as part of the Plan development. A PHA as defined by HUD includes, "any state, county, municipality or other governmental entity or public body or agency or instrumentality of these entities that is authorized to engage or assist in the development or operation of low-income housing under the U.S. Housing Act of 1937." As part of this unmet needs assessment, FloridaCommerce identified and compiled a list of 43 housing authorities throughout the Hurricane Ian impacted area (Brevard, Charlotte, Collier, DeSoto, Flagler, Hendry, Highlands, Hillsborough, Lake, Manatee, Monroe, Osceola, Pinellas, Polk, Putnam, and Seminole Counties as well as Lee, Orange, Sarasota, and Volusia Counties) and made phone calls and sent emails to the identified PHAs requesting that each of them provide information about the number of housing units that sustained damage from Hurricane Ian and the level of damage sustained by each. Table 16: Public Housing Authorities Damaged summarizes, on a county level, the data received from the PHAs consulted. OLTR Constituent Management Services will continue to accept any responses from PHAs during the 30-day public comment period.

Table 16: Public Housing Authorities Damaged

County	Minor Damage	Major Damage	Destroyed	# of Units Damaged
Brevard	0	0	0	0
Charlotte	180	0	0	180
Collier	15	95	0	110
DeSoto	20	100	0	120
Flagler	-	-	-	-
Glades	-	-	-	-
Hardee	-	-	-	-
Hendry	-	-	-	-
Highlands	40	0	0	40
Hillsborough	0	0	0	0
Lake	-	-	-	-

Manatee	8	0	0	8
Monroe	29	66	0	95
Okeechobee	-	-	-	-
Osceola	-	-	-	-
Pinellas	unknown	unknown	unknown	20
Polk	0	0	0	0
Putnam	-	-	-	-
Seminole	1	0	0	1
St. Johns	-	-	-	-
Entitlement Counties				
Lee	-	-	-	-
Orange	-	-	-	-
Sarasota	64	4	0	68
Volusia	6	0	40	46
Total	**362**	**265**	**40**	**688**

2.3 Fair Housing, Civil Rights Data, and Advancing Equity

Title VII of the Civil Rights Act of 1968 (Fair Housing Act), as amended, prohibits discrimination in the sale, rental, and financing of dwellings, and in other housing-related transactions, on the basis of race, color, religion, sex, familial status, national origin, and disability. It also requires that all federally funded programs relating to housing and urban development be administered in a manner that affirmatively furthers fair housing.[99] Title VI of the Civil Rights Act of 1964 prohibits discrimination on the basis of race, color, and national origin in programs and activities receiving federal financial assistance.[100] Section 504 of the Rehabilitation Act of 1973 prohibits discrimination based on disability in any program or activity receiving federal financial assistance.[101] Executive Order 13166 requires recipients of federal funding to take steps to ensure that eligible persons with Limited English Proficiency (LEP) are provided meaningful access to all federally-assisted and federally-conducted programs and activities.[102]

FloridaCommerce's goal is to ensure that eligible persons from protected classes under federal fair housing and nondiscrimination laws,[103] and persons from historically distressed and underserved communities are provided with the opportunity to apply for assistance to rehabilitate their property if it sustained damage due to Hurricane Ian and its aftereffects. To ensure that protected classes, vulnerable populations, and other historically distressed and underserved communities have reasonable access to

[99] See 42 U.S.C. §§ 3601-19 https://www.HUD.gov/program_offices/fair_housing_equal_opp/fair_housing_and_related_law

[100] 42 U.S.C. § 2000d-1

[101] 29 U.S.C. § 794

[102] Executive Order 13166, issued on August 11, 2000, Improving Access to Services for Persons with Limited English Proficiency

[103] Protected classes include, race, color, national origin, religion, sex, familial status, disability, persons with limited English proficiency, persons with special needs, indigenous people, and other vulnerable populations. A vulnerable population is defined as a group or community whose circumstances present barriers to obtaining or understanding information or accessing resources. See Consolidated Notice (p. 32070)

recovery efforts, subrecipients will be asked to prioritize these persons in addition to at-risk and vulnerable populations with the greatest need.

To help ensure that vulnerable and historically underserved populations have reasonable access to recovery efforts, subrecipients will prioritize at-risk and vulnerable populations with the greatest needs. Households with one or more of the characteristics below will be prioritized by subrecipient housing programs:

- Households with seniors age 62 or older;
- Households with children under the age of 18; and
- Households with special needs or special accommodation requirements (disabled).

Furthermore, OLTR is committed to affirmatively furthering fair housing by providing the following information-based resources to landlords, managers, agents, and the general public:

1. Information Outreach: Request landlords, managers, and agents post or provide Fair Housing Notices in multiple languages.
2. Information for the General Public: Provides the general public with an overview of Fair Housing laws, and information regarding individual rights and responsibilities when buying and selling homes 24 CFR.50, 100.65, 100.80.

Florida is committed to providing all citizens with equal access to information about the disaster recovery program, including persons with disabilities and LEP. FloridaCommerce complies with Executive Order 13166, issued on August 11, 2000, Improving Access to Services for Persons With Limited English Proficiency, which is required of all recipients of federal financial assistance from federal agencies, including assistance from HUD, to provide meaningful access to their LEP applicants and beneficiaries. FloridaCommerce will also comply with the guidance regarding accessibility in the Consolidated Notice and will provide meaningful access to LEP persons and persons with disabilities.

FloridaCommerce will ensure that all citizens have equal access to information about the disaster recovery programs by providing program information in the languages most commonly spoken in the geographic area served by the jurisdiction.

To ensure meaningful access for individuals with disabilities or LEP, FloridaCommerce developed and implemented a Rebuild Florida Language Access and Accessibility Plan, which details how Florida will address these needs. The Language Access and Accessibility Plan is available in English, Spanish, and Haitian Creole on the OLTR website at www.FloridaJobs.org/CDBG-DR. Additional interpretive and translational services are available upon request.

FloridaCommerce will ensure that CDBG-DR funds are allocated in a way that strives to best serve LMI persons, vulnerable populations, and historically underserved communities. FloridaCommerce will meet or exceed the requirement that at least 70 percent of funds are used for activities that benefit LMI persons. In the interest of reducing barriers when enrolling in and accessing disaster recovery assistance, FloridaCommerce will ensure that all citizens have equal access to information about the programs, including persons with disabilities and those with LEP, and will ensure that program information is available in the appropriate languages for the geographic area served by the jurisdiction. For Hurricane Ian, all vital program documents will be translated into Spanish.

FloridaCommerce is committed to building a foundation for effective outreach throughout the program. FloridaCommerce will continue to make outreach efforts to potential beneficiaries, with targeted efforts to reach those who are elderly, disabled, at a low-to moderate income level, and minorities. This outreach includes establishing and preparing a network of stakeholders, including elected officials, non-profits, faith-based organizations, civic associations, and media outlets, to ensure well-coordinated and effective outreach. Upon request, FloridaCommerce will provide additional assistance to disabled and LEP individuals who require program documents in a form not already made accessible (i.e., languages in addition to English and Spanish, braille documents, etc.)

FloridaCommerce will engage in ongoing coordination with public service providers that work with vulnerable populations to ensure that any remaining or ongoing storm-related impact is brought to FloridaCommerce's attention to enable a coordinated approach. In addition, any vulnerable populations brought to FloridaCommerce's attention who are not served under current FloridaCommerce programs may be referred to specialized public service providers for assistance.

Table 17: Statewide Demographics and Disaster Impacted Populations represents demographic profiles for the State of Florida and the disaster-declared areas of the state for Hurricane Ian along with HUD-identified MID areas. These American Community Survey (ACS) data include estimates of populations by race for the declared counties and MID areas. Notably, White or Caucasian populations account for the majority of people in Florida, and broadly account for a supermajority of the population in the MID areas.

Table 17: Statewide Demographics and Disaster Impacted Populations[104]

Demographic	Total Population	Under 5 years	65 years and over	Population with a Disability	White or Caucasian	Black or African American	American Indian and Alaska Native	Asian	Native Hawaiian and Other Pacific Islander	Other
State Estimates	22,244,823	1,134,486	4,693,658	3,358,968	17,106,269	3,781,620	111,224	667,345	22,245	556,120
State Percent (of Total Population)	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
FEMA Disaster Declaration Estimate	12,529,066	609,795	2,816,376	1,919,404	9,960,881	1,769,705	69,600	408,061	15,038	305,781
FEMA Disaster Declaration Percent (of State Total)	56.32%	53.75%	60.00%	57.14%	58.23%	46.80%	62.58%	61.15%	67.60%	54.98%
MID Estimates and their relation to total State Estimates and FEMA Disaster Declaration Estimates										
MID Estimates	7,085,138	345,247	1,567,755	1,029,964	5,711,854	921,608	40,334	223,742	8,143	179,457
Percent of State Estimates in MID Areas	31.85%	30.43%	33.40%	30.66%	33.39%	24.37%	36.26%	33.53%	36.61%	32.27%

[104] https://www.census.gov/quickfacts/fact/table/US/PST045216

Percent of FEMA Disaster Declaration Estimate in MID Areas	56.55%	56.62%	55.67%	53.66%	57.34%	52.08%	57.95%	54.83%	54.15%	58.69%

Table 18: Demographics of MID Areas represent demographic profiles for the State of Florida and the Hurricane Ian MID areas. The American Community Survey (ACS) provided by the United States Census Bureau data includes a percentage breakdown of populations by race for the MID areas.

Table 18: Demographics of MID Areas

Demographic	Total Population	Percent under 5 years	Percent 65 years and over	Percent with a Disability	Percent White or Caucasian	Percent Black or African American	Percent American Indian and Alaska Native	Percent Asian	Percent Native Hawaiian and Other Pacific Islander	Percent Other
State Estimates	**22,244,823**	**5.1%**	**21.1%**	**8.7%**	**76.9%**	**17%**	**0.5%**	**3.0%**	**0.1%**	**2.5%**
MID Areas	**7,085,138**	**4.9%**	**22.1%**	**9.29%**	**80.6%**	**13.0%**	**0.6%**	**3.6%**	**0.1%**	**2.5%**
Brevard	630,693	4.4%	24.2%	11.2%	82.8%	11.0%	0.5%	2.7%	0.1%	3.0%
Charlotte	202,661	2.8%	40.5%	15.1%	90.3%	6.0%	0.4%	1.5%	0.1%	1.8%
Collier	397,994	4.1%	33.1%	5.8%	89.2%	7.3%	0.5%	1.6%	0.1%	1.3%
DeSoto	35,312	4.9%	22.6%	12.3%	83.9%	12.5%	1.2%	0.7%	0.2%	1.5%
Flagler	126,705	3.6%	31.1%	9.2%	83.8%	10.8%	0.5%	2.5%	0.1%	2.3%
Glades	12,454	2.8%	28.1%	11.8%	78.2%	13.9%	5.2%	0.8%	0.1%	1.7%
Hardee	25,645	6.5%	16.9%	8.2%	87.5%	7.8%	1.3%	1.2%	0.2%	2.0%
Hendry	41,339	7.0%	13.7%	8.7%	82.3%	12.1%	2.1%	1.1%	0.2%	2.2%
Highlands	105,618	4.1%	35.7%	13.1%	84.9%	10.8%	0.7%	1.6%	0.1%	1.9%
Hillsborough	1,513,301	5.7%	14.8%	7.9%	73.3%	18.4%	0.5%	4.6%	0.1%	3.0%
Lake	410,139	4.7%	26.5%	10.3%	82.4%	12.2%	0.6%	2.4%	0.2%	2.2%
Manatee	429,125	4.4%	28.4%	8.8%	85.7%	9.2%	0.6%	2.4%	0.1%	2.1%
Monroe	81,708	4.2%	23.7%	6.1%	88.6%	7.4%	0.5%	1.5%	0.2%	1.8%

Okeechobee	40,412	6.1%	20.0%	11.9%	86.5%	9.1%	1.6%	0.9%	0.2%	1.7%
Osceola	422,545	5.9%	13.4%	10.6%	78.0%	14.8%	0.9%	3.0%	0.2%	3.0%
Pinellas	961,739	4.0%	25.9%	10%	82.3%	11.1%	0.4%	3.7%	0.1%	2.4%
Polk	787,404	5.6%	19.8%	10.3%	78.0%	16.8%	0.7%	1.9%	0.1%	2.5%
Putnam	74,731	5.5%	23.7%	12.9%	80.1%	16.3%	0.8%	0.7%	0.1%	1.9%
Seminole	478,772	5.0%	16.4%	7.1%	77.8%	13.4%	0.5%	5.2%	0.1%	3.0%
St Johns	306,841	4.6%	20.5%	7%	88.0%	5.6%	0.3%	3.7%	0.1%	2.3%

Table 19: Population Below Poverty Line by Disability and Age displays the correlation between impoverished populations, age, and disability within the MID counties. Populations under 18 and over 65 and disabled persons are disproportionately affected by poverty. Within this table, the percentages within white cells are percentages of the total population that meet the specified demographic and are below the poverty line. For example, in Hardee County, 24.26 percent of the total population is below the poverty line; nearly half of this percentage is persons under 18 and below the poverty line (11.23 percent of the county's total population), and almost one tenth of the county's impoverished population is comprised of persons over 65 (2.18 percent of the county's total population). The percentage of the total population under 18 and below the poverty line in Hardee County is especially notable as it is more than three times higher than the state's and the overall MID area estimates. Several other rural counties such as DeSoto, Hendry, Okeechobee, and Putnam also exhibit substantially higher rates of poverty among persons 18 and younger when compared to the state and MID estimates.

Table 19: Population Below Poverty Line by Disability and Age

Demographic	Total Population	Per capita income	Population below poverty line	Percent of total population below poverty line	Percent of total population under 18 years and below poverty line	Percent of total population 65 years and over and below poverty line	Percent of total population Disabled Persons and below poverty line
State Estimates	**22,244,823**	**$36,196**	**1,042,235**	**4.69%**	**3.65%**	**2.19%**	**2.53%**
MID area Estimate	**7,085,138**	**$32,642**	**814,921**	**11.50%**	**3.48%**	**1.96%**	**2.54%**
Brevard	630,693	$36,278	63,094	10.00%	2.70%	1.72%	2.32%
Charlotte	202,661	$35,656	19,028	9.39%	2.17%	2.77%	2.91%
Collier	397,994	$51,296	39,172	9.84%	2.95%	2.17%	1.17%
DeSoto	35,312	$19,673	8,150	23.08%	7.16%	2.65%	Not Available
Flagler	126,705	$35,568	12,475	9.89%	2.92%	1.91%	1.97%
Glades	12,454	$21,645	2,139	17.18%	4.45%	3.09%	Not Available

Hardee	25,645	$22,377	6,222	24.26%	11.23%	2.18%	Not Available
Hendry	41,339	$20,473	10,064	24.35%	9.95%	2.36%	Not Available
Highlands	105,618	$28,519	15,861	15.02%	4.08%	3.37%	3.35%
Hillsborough	1,513,301	$35,954	199,682	13.20%	4.16%	1.73%	2.51%
Lake	410,139	$31,968	39,702	9.68%	3.25%	1.80%	2.29%
Manatee	429,125	$38,008	40,426	9.42%	2.94%	1.97%	1.84%
Monroe	81,708	$50,050	8,886	10.88%	2.54%	2.23%	1.81%
Okeechobee	40,412	$24,617	7,215	17.85%	7.34%	1.93%	N/A
Osceola	422,545	$25,491	51,044	12.08%	4.28%	1.75%	2.26%
Pinellas	961,739	$39,539	108,843	11.32%	2.42%	2.59%	3.04%
Polk	787,404	$27,909	101,886	12.94%	4.89%	2.11%	2.97%
Putnam	74,731	$22,814	17,014	22.77%	7.40%	3.01%	5.03%
Seminole	478,772	$38,429	43,895	9.17%	2.34%	1.29%	1.24%
St Johns	306,841	$46,583	20,123	6.56%	1.86%	0.94%	0.9%

Table 20: Income Demographics

Income/Economic Demographics	Statewide	Counties Impacted by Disaster	MIDs
Median Household Income	$63,062	$58,921	$57,484
Per Capita Income	$36,196	$33,848	$32,642
Income in the past 12 months below poverty level	2,744,612	1,435,547	814,921
Total for whom poverty is determined	8,157,420	11,671,552	6,584,232

Table 21: Income Demographics by County sets out the income demographics for the State of Florida, counties impacted by Hurricane Ian, and the HUD-identified MID areas.

Table 21: Income Demographics by County

Area	Median Household Income	Per Capita Income	Income in the past 12 months below poverty level	Total for whom poverty is determined
MID Areas	**$57,484**	**$32,642**	**814,921**	**6,584,232**
Brevard	$63,632	$36,278	63,094	595,483
Charlotte	$57,887	$35,656	19,028	180,969
Collier	$75,543	$51,296	39,172	369,517
DeSoto	$39,945	$19,673	8,150	32,191
Flagler	$62,305	$35,568	12,475	112,812
Glades	$38,088	$21,645	2,139	10,763
Hardee	$41,395	$22,377	6,222	23,725
Hendry	$38,843	$20,473	10,064	38,877
Highlands	$46,895	$28,519	15,861	99,815
Hillsborough	$64,164	$35,954	199,682	1,423,727
Lake	$60,013	$31,968	39,702	370,352
Manatee	$64,964	$38,008	40,426	390,383
Monroe	$73,153	$50,050	8,886	81,035
Okeechobee	$47,020	$24,617	7,215	36,490
Osceola	$58,513	$25,491	51,044	377,685
Pinellas	$60,451	$39,539	108,843	942,924
Polk	$55,099	$27,909	101,886	699,296
Putnam	$39,975	$22,814	17,014	71,787
Seminole	$73,002	$38,429	43,895	463,438

St. Johns	$88,794	$46,583	20,123	262,963
Counties Receiving Direct CDBG-DR Allocations				
Lee	$63,235	$37,550	89,578	743,628
Orange	$65,784	$33,498	191,485	1,377,713
Sarasota	$69,490	$48,265	34,486	423,516
Volusia	$56,786	$32,231	69,394	538,024

FloridaCommerce is aware that low-income communities as well as racial and ethnic minorities can be disproportionately impacted by disasters. A Racially or Ethnically Concentrated Area of Poverty (RECAP) is a geographic area with a significant concentration of poverty and minorities. Areas designated as RECAPs must have a non-white population of 50 percent or more and a poverty rate that exceeds 40 percent or is three or more times the average tract poverty rate for the metropolitan/micropolitan area, whichever threshold is lower.

Based on available census data[105] and RECAP data provided by HUD, there are 50 census tract(s) within the Hurricane Ian MID counties are designated as a RECAP.

Subrecipients should be aware of RECAP designations and other areas of minority concentration and poverty when implementing projects so as to avoid undue discriminatory effects on historically disadvantaged and underserved populations and to maximize the positive impact of these funds on protected classes. For example, subrecipients serving these and other similar areas may consider focusing on a rental housing rehabilitation program or new rental construction to best facilitate recovery in a community characterized by higher levels of renters than homeowners. Subrecipients may also consider extending outreach in areas characterized by minority and impoverished populations to determine what programs and projects would best facilitate recovery. Adequate consideration of such areas and populations, as well as targeted outreach, should be completed to reach minority and historically underserved communities and to prevent discrimination.

Table 22: Racially or Ethnically Concentrated Area of Poverty (RECAP) census tracts by County

County	Number of Census Tracts Defined as Racially or Ethnically Concentrated Areas of Poverty			
	As of 1990	**As of 2000**	**As of 2010**	**As of 2020**
Brevard	2	2	4	2
Charlotte	0	0	0	0
Collier	4	4	4	4
DeSoto	0	0	1	1
Flagler	0	0	0	0
Glades	0	0	0	0
Hardee	0	0	0	0
Hendry	0	0	1	0
Highlands	0	0	0	0
Hillsborough	10	7	13	21

[105] Source: ACS 5-year 2017-2021, Table 1701 and HUD via American Community Survey (ACS), 2009-2013; Decennial Census (2010); Brown Longitudinal Tract Database (LTDB) based on decennial census data, 1990, 2000 & 2010.

Lake	0	0	0	0
Manatee	0	1	2	3
Monroe	0	0	0	1
Okeechobee	0	0	0	1
Osceola	0	0	0	1
Pinellas	3	1	2	4
Polk	0	1	4	9
Putnam	0	0	0	2
Seminole	1	1	1	1
St. Johns	0	0	0	0
Total	**20**	**17**	**32**	**50**

Table 23: Percentage of Total Population Living in Poverty by Race/Ethnicity and County

County	White	Black	Native American	Asian	Hawaiian or Pacific Islander	Other Race	Two or more Races	Hispanic
Brevard	7.22%	1.70%	0.04%	0.23%	0.00%	0.47%	0.93%	1.80%
Charlotte	8.69%	0.82%	0.06%	0.08%	0.01%	0.37%	0.50%	1.75%
Collier	7.65%	0.95%	0.05%	0.12%	0.00%	0.57%	1.26%	4.79%
DeSoto	17.37%	4.64%	0.00%	0.06%	0.02%	1.09%	2.14%	10.35%
Flagler	7.52%	1.44%	0.01%	0.31%	0.00%	1.04%	0.74%	1.92%
Glades	13.99%	3.51%	1.43%	0.00%	0.00%	0.42%	0.52%	4.80%
Hardee	18.98%	1.43%	0.06%	0.03%	0.00%	3.66%	2.07%	16.23%
Hendry	16.98%	1.53%	0.95%	0.41%	0.00%	1.48%	4.54%	17.67%
Highlands	11.05%	2.33%	0.00%	0.26%	0.00%	1.36%	0.90%	4.94%
Hillsborough	7.19%	3.51%	0.09%	0.51%	0.00%	1.10%	1.62%	5.43%
Lake	8.28%	1.73%	0.01%	0.19%	0.01%	0.59%	1.23%	4.22%
Manatee	7.13%	1.43%	0.01%	0.43%	0.01%	0.55%	0.80%	3.11%
Monroe	7.50%	1.63%	0.03%	0.08%	0.12%	0.70%	0.92%	3.39%
Okeechobee	15.67%	1.83%	0.32%	0.31%	0.00%	1.11%	0.54%	7.47%
Osceola	7.67%	1.58%	0.03%	0.38%	0.04%	2.40%	1.41%	8.59%
Pinellas	7.63%	2.31%	0.04%	0.39%	0.02%	0.37%	0.79%	1.56%
Polk	8.63%	3.26%	0.09%	0.17%	0.02%	1.46%	0.93%	4.53%
Putnam	15.06%	6.13%	0.08%	0.15%	0.03%	0.32%	1.94%	3.05%
St. Johns	5.67%	0.59%	0.00%	0.21%	0.04%	0.60%	0.54%	1.32%
Seminole	5.57%	1.86%	0.06%	0.39%	0.00%	0.74%	0.85%	2.55%

Table 23: Percentage of Total Population Living in Poverty by Race/Ethnicity and County above identifies, for each MID-identified county, what percentage of each racial/ethnic group is living in poverty in the respective county. For example, in Hardee County,18.98 percent of the White population, 1.43 percent of the Black population, and 16.23 percent of the population identifying as Hispanic is living in poverty. Table 24: Percentage of Total Impoverished Population by Race/Ethnicity and County below displays the percentages of Impoverished people by race/ethnicity per county. For example, in Hardee County 72.37 percent of impoverished people are White, 5.46 percent of impoverished people are Black, and 61.88 percent identify as Hispanic. It should be noted that the term "Hispanic" identifies an ethnic group and not a racial group, therefore each county line may exceed 100 percent as the Hispanic population can be categorized among the listed racial categories.

In analyzing this data and its real-world implications, the total racial makeup of each county should be considered, as displayed in Table 18: Demographics of MID Areas. For example, in DeSoto County, 83.9 percent of the total population is White and 12.5 percent is Black. Comparing this to the racial breakdown relative to poverty, it is notable that, as seen in Table 24: Percentage of Total Impoverished Population by Race/Ethnicity and County, 18.32 percent of the impoverished population in DeSoto County is Black, indicating a higher rate of poverty among Black DeSoto County residents relative to the total Black population in the County.

Table 24: Percentage of Total Impoverished Population by Race/Ethnicity and County

County	White	Black	Native American	Asian	Hawaiian or Pacific Islander	Other Race	Two or more Races	Hispanic
Brevard	68.16%	16.00%	0.38%	2.22%	0.02%	4.40%	8.82%	17.01%
Charlotte	82.61%	7.81%	0.53%	0.77%	0.06%	3.47%	4.74%	16.60%
Collier	72.15%	8.96%	0.47%	1.11%	0.02%	5.37%	11.93%	45.14%
DeSoto	68.60%	18.32%	0.00%	0.23%	0.07%	4.32%	8.45%	40.90%
Flagler	67.96%	12.99%	0.13%	2.78%	0.00%	9.44%	6.69%	17.32%
Glades	70.41%	17.67%	7.20%	0.00%	0.00%	2.10%	2.62%	24.17%
Hardee	72.37%	5.46%	0.23%	0.10%	0.00%	13.95%	7.89%	61.88%
Hendry	65.61%	5.90%	3.67%	1.59%	0.00%	5.70%	17.53%	68.25%
Highlands	69.54%	14.64%	0.01%	1.63%	0.00%	8.54%	5.64%	31.10%
Hillsborough	51.29%	25.04%	0.66%	3.60%	0.01%	7.82%	11.57%	38.72%
Lake	68.76%	14.36%	0.09%	1.62%	0.04%	4.93%	10.20%	35.05%
Manatee	68.82%	13.79%	0.07%	4.12%	0.13%	5.36%	7.71%	30.02%
Monroe	68.38%	14.84%	0.25%	0.71%	1.06%	6.41%	8.35%	30.96%
Okeechobee	79.27%	9.24%	1.59%	1.55%	0.00%	5.61%	2.73%	37.78%
Osceola	56.78%	11.66%	0.26%	2.80%	0.29%	17.77%	10.45%	63.59%
Pinellas	66.09%	20.03%	0.35%	3.36%	0.15%	3.18%	6.84%	13.53%
Polk	59.26%	22.39%	0.62%	1.17%	0.14%	10.03%	6.39%	31.09%
Putnam	63.53%	25.84%	0.32%	0.65%	0.11%	1.34%	8.20%	12.88%
St. Johns	74.07%	7.77%	0.00%	2.69%	0.47%	7.89%	7.11%	17.24%
Seminole	58.80%	19.68%	0.64%	4.12%	0.00%	7.79%	8.98%	26.91%

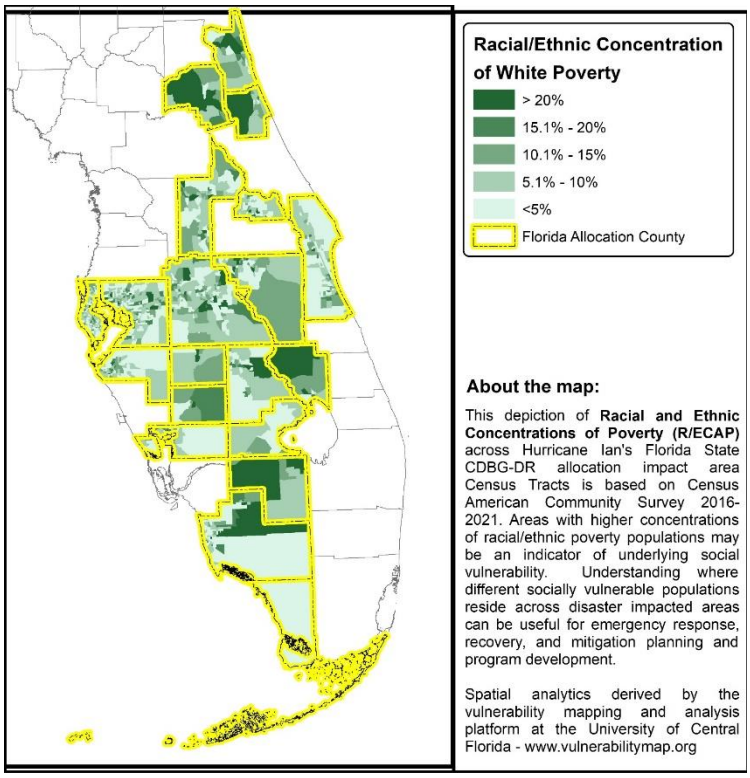

Figure 22: Hurricane Ian RECAP – Impoverished White Population Percentages by Census Tract

Visually, the pattern of RECAP can provide information that tables alone may not convey. Every racial group has impoverished populations which are often spatially concentrated. For example, higher percentages of impoverished White people can be found in every county and predominantly in more rural areas. Areas shaded dark green in Figure 22: Hurricane Ian RECAP – Impoverished White Population Percentages by Census Tract have at least 20 percent impoverished White populations. Similarly, but mainly in more urbanized areas, impoverished Black populations can be found in higher numbers in Hillsborough County, southern and central Pinellas County, across central Polk County, and in scattered census tracts in Lake, Putnam, Seminole, and Brevard Counties. Impoverished Black populations tend to decrease in their percentage (by census tract) moving through Manatee, across to Okeechobee and south toward Collier Counties with only few tracts with five percent – 15 percent Impoverished Black populations in Desoto, Glades, and Hendry Counties (Figure 23: Hurricane Ian RECAP – Impoverished Black Population Percentages by Census Tract)

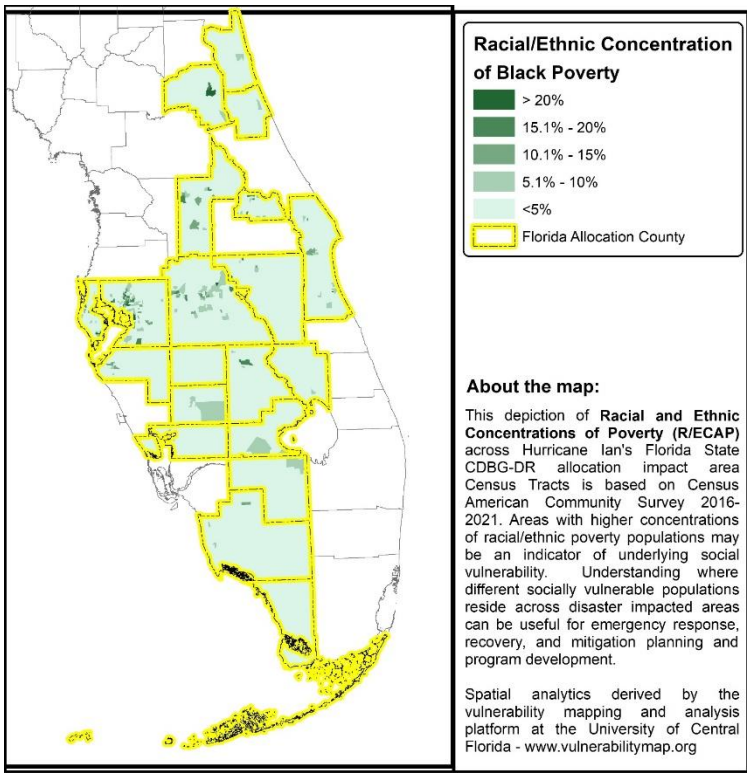

Figure 23: Hurricane Ian RECAP – Impoverished Black Population Percentages by Census Tract

Concentrations of impoverished Hispanic populations are more prevalent in the southern Hurricane Ian impacted counties, including Collier, Hendry, Hardee, and Okeechobee Counties; much of western and southern Hillsborough, northeastern Polk and northwestern Osceola; along with scattered areas of Lake, Seminole, Putnam, St. Johns, and Flagler Counties (Figure 24: Hurricane Ian RECAP – Impoverished Hispanic Population Percentages by Census Tract). Seemingly, lower levels of poverty among Hispanic populations are only observed in Charlotte County and Monroe County. However, even in these counties, some smaller census tracts (which contain higher populations) exhibit higher percentages of impoverished Hispanic populations.

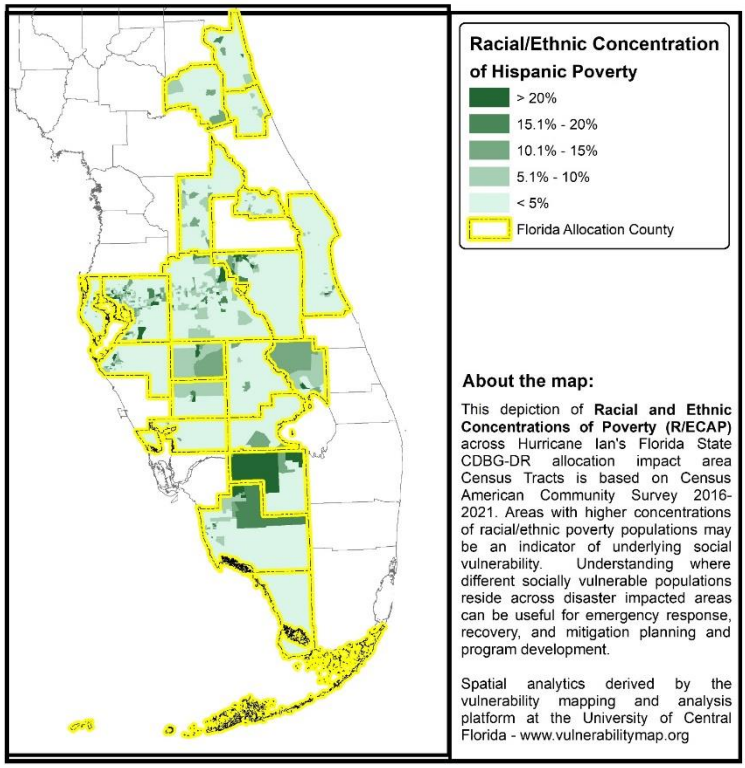

Figure 24: Hurricane Ian RECAP – Impoverished Hispanic Population Percentages by Census Tract

Pockets of impoverished Native American populations reside in western Hillsborough County, west-central Polk County, Glades County, and Hendry County. Some smaller census tracts with higher percentages appear somewhat sporadically across several other counties (Figure 25: Hurricane Ian RECAP – Impoverished Native American Population Percentages by Census Tract).

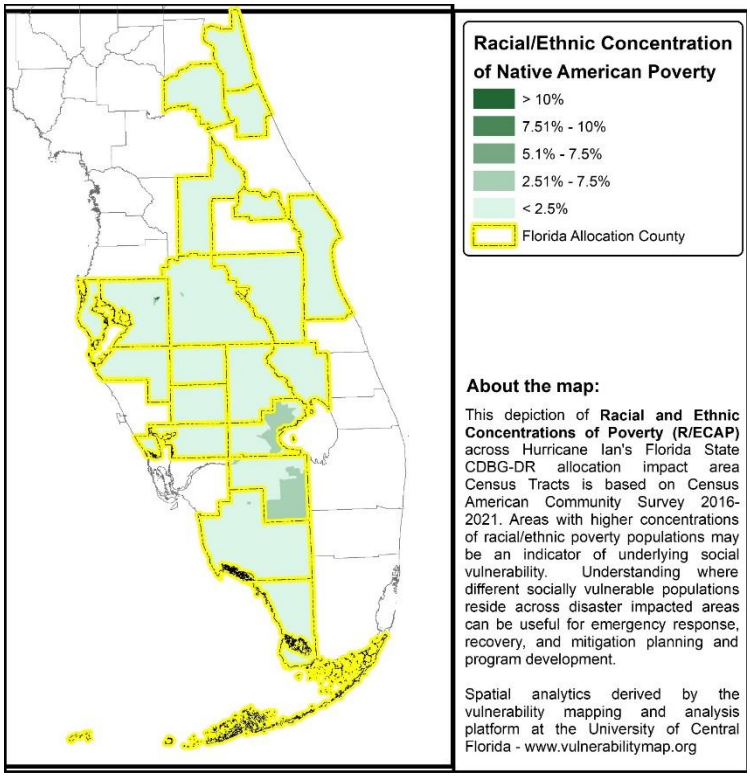

Figure 25: Hurricane Ian RECAP – Impoverished Native American Population Percentages by Census Tract

Impoverished Asian populations (Figure 26: Hurricane Ian RECAP – Impoverished Asian Population Percentages by Census Tract) reside in somewhat similar areas as impoverished Native Americans, with the addition of northern Osceola and scattered areas across northern Seminole, Lake, St. Johns and southern Brevard Counties.

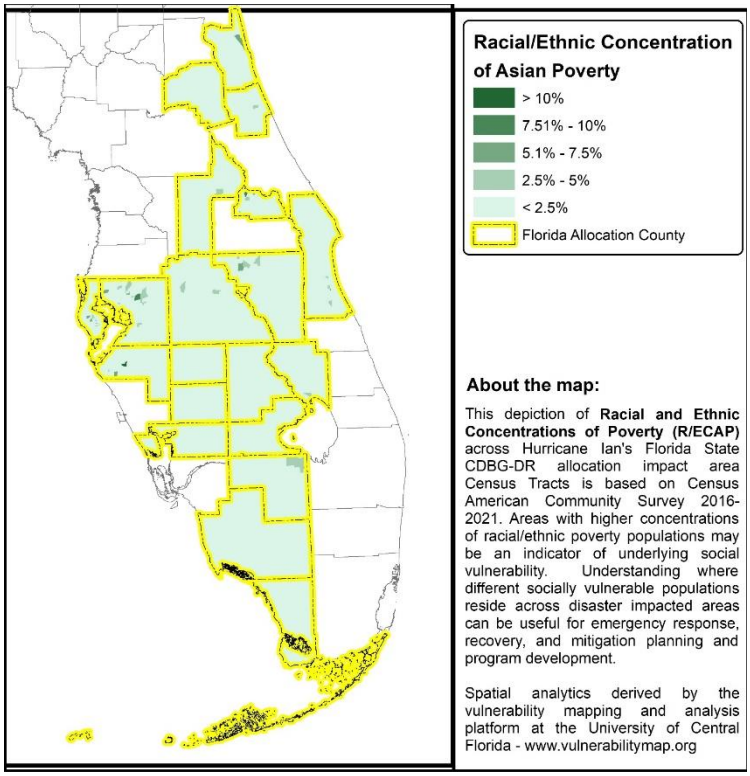

Figure 26: Hurricane Ian RECAP – Impoverished Asian Population Percentages by Census Tract

Finally, although not comprising large percentages of the total population, it is worth noting that several pockets of impoverished Native Hawaiian/Pacific Islanders can be found across the Hurricane Ian impacted counties (Figure 27: Hurricane Ian RECAP – Impoverished Hawaiian or Pacific Islander Population Percentages by Census Tract). Southern Lake, St. Johns, eastern Polk, and western Osceola Counties each contain census tracts with higher-than-average percentages of impoverished Hawaiian/Pacific Islanders.

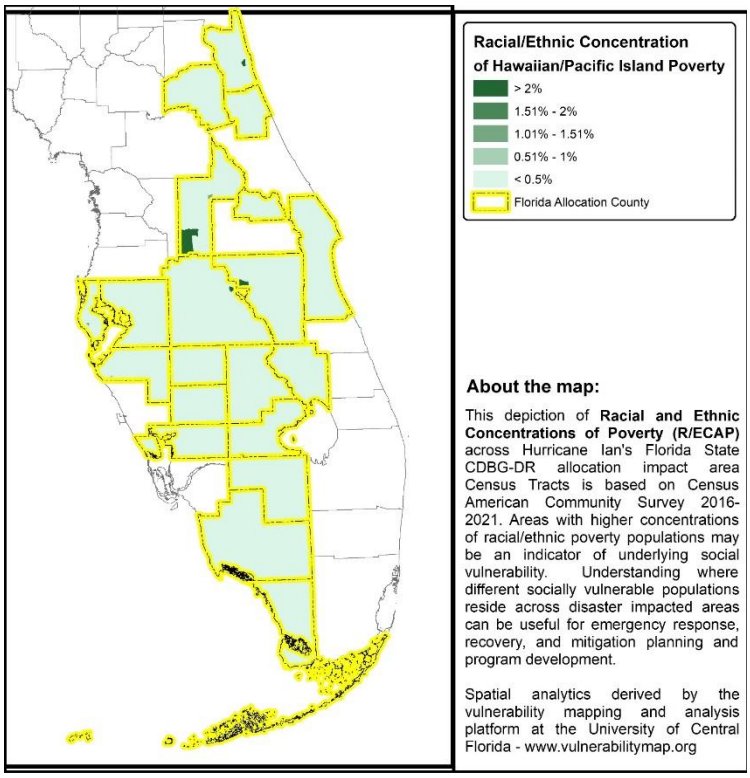

Figure 27: Hurricane Ian RECAP – Impoverished Hawaiian or Pacific Islander Population Percentages by Census Tract

Figure 22 through Figure 27 display a pattern of concentrations of impoverished minority populations in more densely populated small census tracts while poverty among White populations is prevalent in large swaths of counties, noted by less densely populated census tracts. Unlike other races/ethnicities, impoverished White populations are found in every Hurricane Ian impacted county, particularly in rural areas.

While FloridaCommerce does not prioritize applicants based on race, ethnicity, or national origin, FloridaCommerce has a history of disaster recovery work that has documented correlations between adverse impacts, household income levels, and certain protected classes.

For example, Figure 28 shows the percentage of applicants served through FloridaCommerce's CDBG-DR Hurricane Irma Housing Repair and Replacement Program ("Hurricane Irma HRRP").

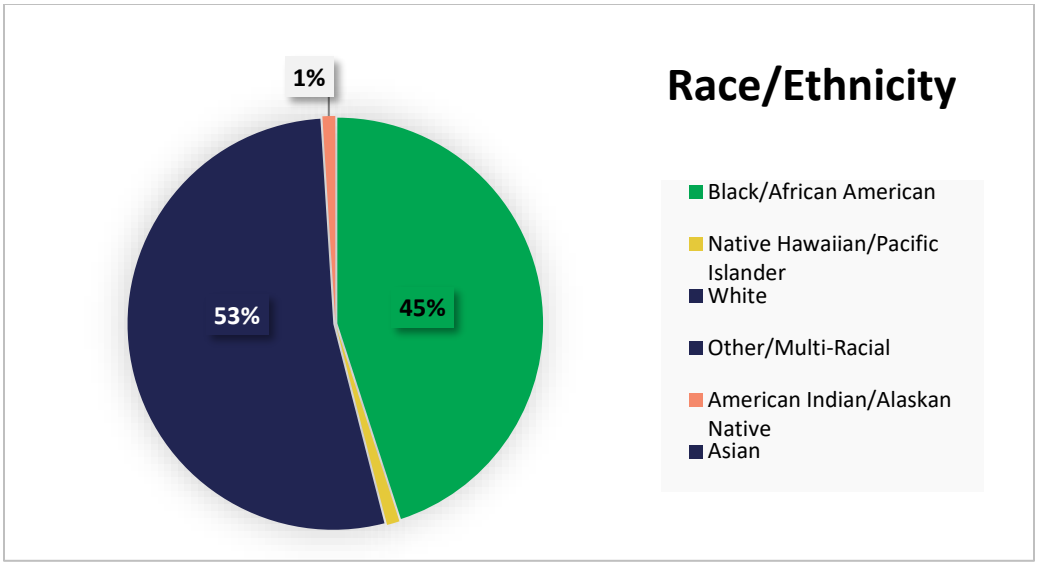

Figure 28: Hurricane Irma HRRP Applicants by Race/Ethnicity

In prioritizing both disaster risk mitigation and benefit to LMI households, FloridaCommerce reasonably anticipates that program areas outlined in this Action Plan will have a significant positive impact on protected class populations.

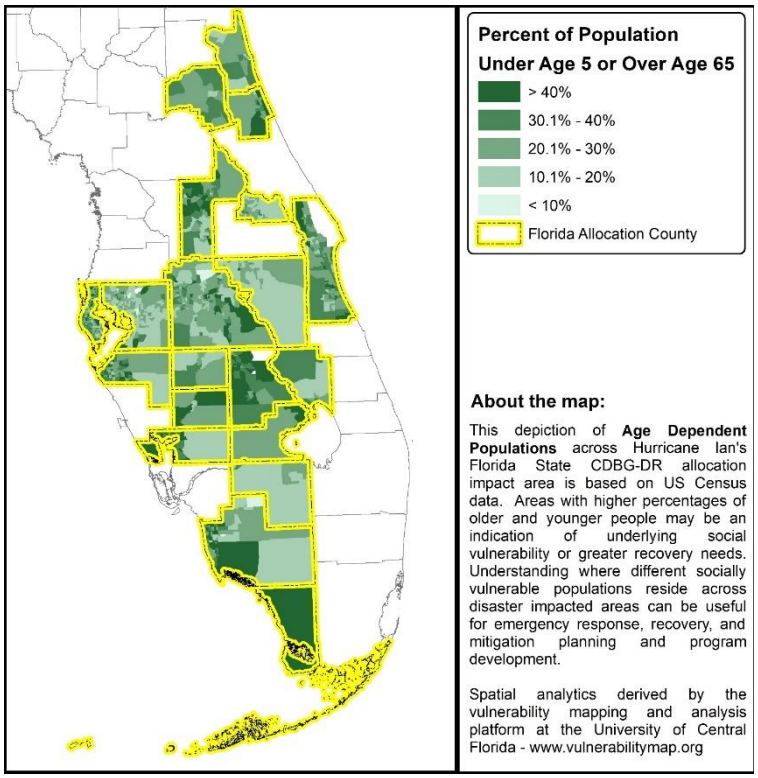

Figure 29: Age dependent (< 5 Years or > 65 Years) populations by tract

Figure 29: Age dependent (< 5 Years or > 65 Years) populations by tract sets out the spatial distributions of vulnerable populations of ages under 5 years or over 65 years. Table 25: Education Demographics of Population 25 and Over establishes the education demographics for the State of Florida, the FEMA IA-declared counties, and the HUD-identified MID areas impacted by Hurricane Ian.

Table 25: Education Demographics of Population 25 and Over

Education	State Estimates	State Percent	Disaster Declaration Estimate	Disaster Declaration Percent	MID Estimates	MID Percent
Population 25 and over	**15,762,122**	**100%**	**8,809,658**	**100%**	**4,927,688**	**100%**
Less than high school graduate	1,608,543	10.21%	801,300	9.10%	437,740	8.88%
High School graduate or equivalency	4,363,466	27.68%	2,398,309	27.22%	1,368,759	27.78%
Some college, associate degree	4,563,267	28.95%	2,590,647	29.41%	1,454,708	29.52%
Bachelor's degree or higher	5,226,846	33.16%	3,019,402	34.27%	1,666,481	33.82%

Figure 30: Percent of tract non-English-speaking population shows the spatial distribution in the FEMA IA-declared counties of percentages of people speaking English “less than well” as designated by Census ACS.

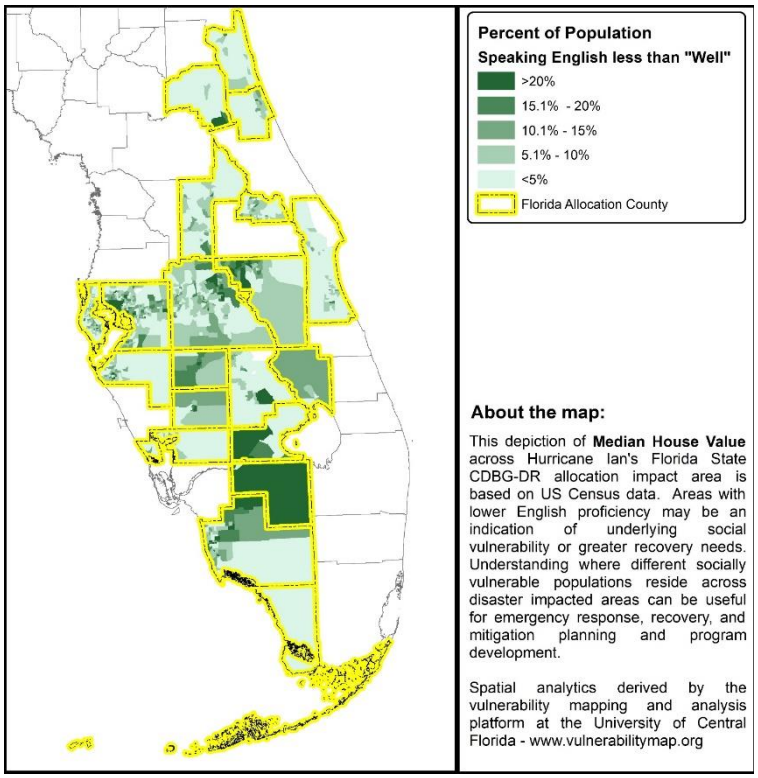

Figure 30: Percent of tract non-English-speaking population

Table 26: Limited English Proficiency Breakdown provides estimates of the populations with LEP based on Census ACS demographic data. People who cannot understand/communicate in English have a more difficult time preparing for, responding to, and rebounding from disasters due to a decreased ability to

understand informational resources, apply for programs, and access government documents (applications, information, forms), mitigation, and recovery materials. Across the Hurricane Ian impacted area, several counties have high percentages of people who speak Spanish as their primary language and who also speak English less than very well. This is particularly true across Collier, Glades, Hardee, Hendry, Hillsborough, Okeechobee, and Osceola where populations will need to access recovery program information and other resources in a language other than English.

Table 26: Limited English Proficiency Breakdown

County	Estimate Speak English Less than 'Very Well'	Percent Speak English Less than 'Very Well'	Percent of the population that speak Spanish as their primary language
Brevard	18,973	3.30%	6.44%
Charlotte	6,149	3.43%	5.23%
Collier	47,282	13.25%	24.43%
DeSoto	3,818	11.80%	24.15%
Flagler	7,513	6.85%	6.88%
Glades	1,335	11.39%	19.12%
Hardee	3,723	15.56%	35.75%
Hendry	7,895	21.58%	47.21%
Highlands	6,036	6.24%	17.91%
Hillsborough	156,024	11.49%	23.19%
Lake	17,690	4.95%	11.95%
Manatee	25,413	6.74%	12.85%
Monroe	8,040	10.23%	17.13%
Okeechobee	3,296	8.83%	21.11%
Osceola	73,555	20.61%	46.60%
Pinellas	47,948	5.22%	6.76%
Polk	57,556	8.56%	19.79%
Putnam	3,047	4.42%	7.36%
Seminole	30,573	6.90%	16.26%
St. Johns	6,885	2.72%	4.43%

Table 27: LMI Analysis Statewide provides a low-to-moderate income breakdown, Table 28: LMI Analysis-Federally Declared Disaster Areas provides a more detailed breakdown of LMI persons in the disaster declared areas on a county level, and Table 29: LMI Population Counts for the Hurricane Ian Impacted Area provides estimated LMI population counts for the Hurricane Ian impacted counties.

Table 27: LMI Analysis Statewide[106]

Category	Total Persons	Total Population	Percent LMI
Low (<50% AMI)	5,002,046	19,215,360	26.03%
Low Mod (80% AMI)	8,432,781	19,215,360	43.89%
LMMI (< 120% AMI)	11,998,073	19,215,360	62.44%

Table 28: LMI Analysis-Federally Declared Disaster Areas[107]

County	MID-Total Population	MID-Total LMI Persons	MID-Percentage LMI
Brevard	547,145	223,200	40.79%
Charlotte	162,330	63,520	39.13%
Collier	336,890	146,700	43.55%
DeSoto	31,250	15,675	50.16%
Flagler	100,265	37,445	37.35%
Glades	11,920	5,715	47.94%
Hardee	25,340	13,055	51.52%
Hendry	36,070	16,370	45.38%
Highlands	96,640	40,670	42.08%
Hillsborough	1,281,720	522,750	40.79%
Lake	306,685	122,250	39.86%
Manatee	339,170	148,005	43.64%
Monroe	73,600	36,465	49.54%
Okeechobee	36,095	18,770	52.00%
Osceola	298,335	145,325	48.71%
Pinellas	914,090	364,510	39.88%
Polk	612,500	239,750	39.14%
Putnam	71,105	34,560	48.60%
Seminole	433,315	143,525	33.12%
St. Johns	207,905	60,885	29.29%
Total	5,922,370	2,399,145	40.51%

Nearly 25 percent of the population within the Hurricane Ian impacted area is considered low income, meaning that they earn less than 50 percent of the AMI (Table 29: LMI Population Counts for the

[106] https://www.HUDexchange.info/programs/acs-low-mod-summary-data/acs-low-mod-summary-data-block-groups-places/

[107] Source: https://www.HUDexchange.info/programs/acs-low-mod-summary-data/acs-low-mod-summary-data-block-groups-places/

Hurricane Ian Impacted Area). More than 40 percent of the area's population is considered low-moderate (Low-Mod) meaning that they earn less than 80 percent of the AMI. Overall, these values indicate that many people do not have the funds necessary to prepare for, respond to, or rebound from disasters. These individuals would likely benefit from recovery programs offering financial assistance to help reduce unmet needs across the impacted area.

Table 29: LMI Population Counts for the Hurricane Ian Impacted Area

Category	Total MID Population	Total Low/Mod Income Persons	Percent LMI
Low (<50% AMI)	10,483,285	2,496,171	23.81%
Low Mod (80% AMI)	10,483,285	4,345,073	41.45%
LMMI (< 120% AMI)	10,483,285	6,285,153	59.95%

Table 30: LMI Population Counts for Hurricane Ian Impacted Counties represents the breakdown between the total population numbers of the disaster-declared areas applicants and the total number of disaster-declared areas applicants that fall under the definition of an LMI person. This data provides a county-specific view of the percentage of LMI population across the Hurricane Ian impacted area.

Table 30: LMI Population Counts for Hurricane Ian Impacted Counties[108]

County	Total Population (of Disaster Applicants)	Total LMI Disaster Applicant Household Composition	Percentage LMI	Possible Additional LMI Persons	Possible Additional Percentage LMI
Brevard	11,099	3,635	32.75%	5,881	52.99%
Charlotte	85,857	15,511	18.07%	37,563	43.75%
Collier	37,770	14,871	39.37%	17,676	46.80%
DeSoto	11,818	3,189	26.98%	5,651	47.82%
Flagler	4,550	1,197	26.31%	2,291	50.35%
Glades	948	380	40.08%	410	43.25%
Hardee	6,517	2,303	35.34%	2,740	42.04%
Hendry	5,010	1,819	36.31%	2,637	52.63%
Highlands	10,543	3,585	34.00%	4,944	46.89%
Hillsborough	79,233	27,317	34.48%	40,136	50.66%
Lake	9,931	3,703	37.29%	4,823	48.57%
Manatee	28,840	9,951	34.50%	13,941	48.34%
Monroe	1,677	542	32.32%	904	53.91%
Okeechobee	2,407	895	37.18%	1,131	46.99%
Osceola	36,351	14,377	39.55%	18,141	49.91%
Pinellas	26,466	8,135	30.74%	14,100	53.28%
Polk	75,820	20,549	27.10%	38,720	51.07%
Putnam	3,461	1,467	42.39%	1,559	45.04%

[108] https://www.HUDexchange.info/programs/acs-low-mod-summary-data/acs-low-mod-summary-data-block-groups-places/

Seminole	30,878	7,649	24.77%	15,871	51.40%
St. Johns	3,121	827	26.50%	1,568	50.24%
Total	472,297	141,902	30.05%	230,687	48.84%

In Figure 31: LMI Map for Hurricane Ian Impacted Counties, although large census tracts (with limited population totals) appear to have a large percentage of LMI populations, there are also many small census tracts in Hillsborough, Putnam, Polk, Lake, Manatee and Brevard Counties with more than 75 percent of their population classified as Low-Mod. Furthermore, higher percentages of impoverished populations (according to the US Census) can be seen in every county across the Hurricane Ian impacted area (Figure 32: Percent of population living below poverty line by tract). Here, very few tracts have fewer than 5 percent of their population living below poverty, and most have at least 10 percent.

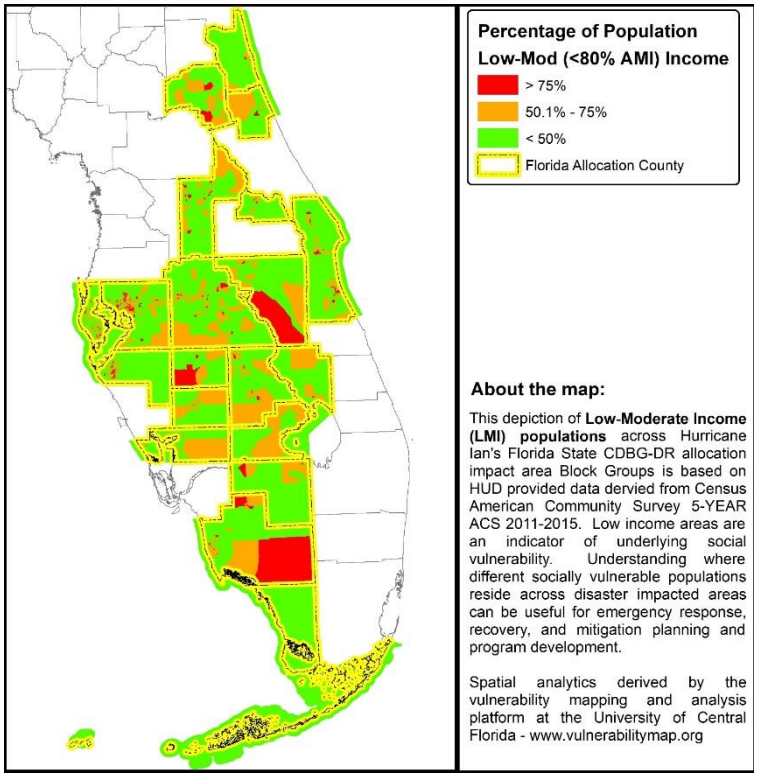

Figure 31: LMI Map for Hurricane Ian Impacted Counties

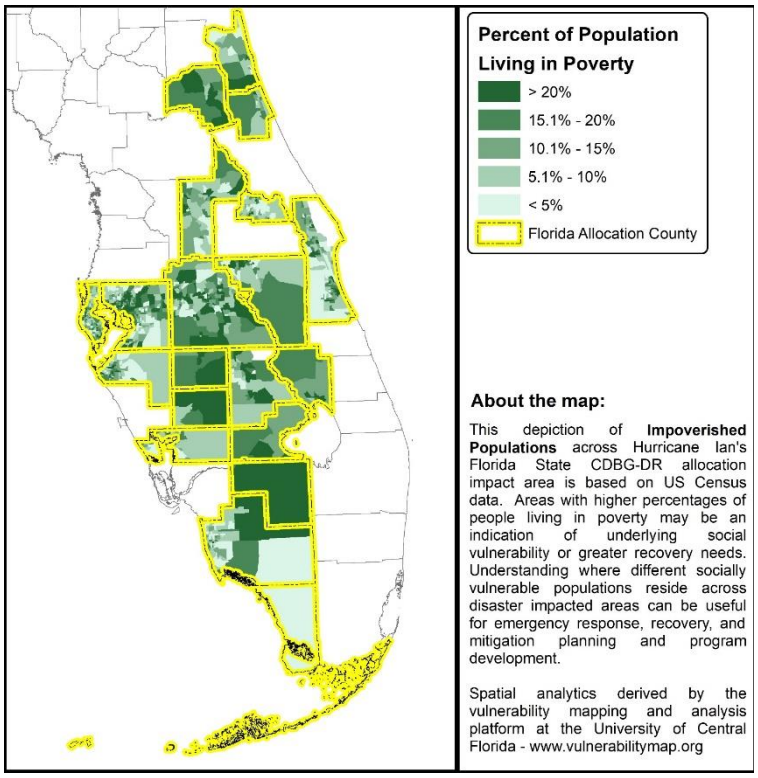

Figure 32: Percent of population living below poverty line by tract

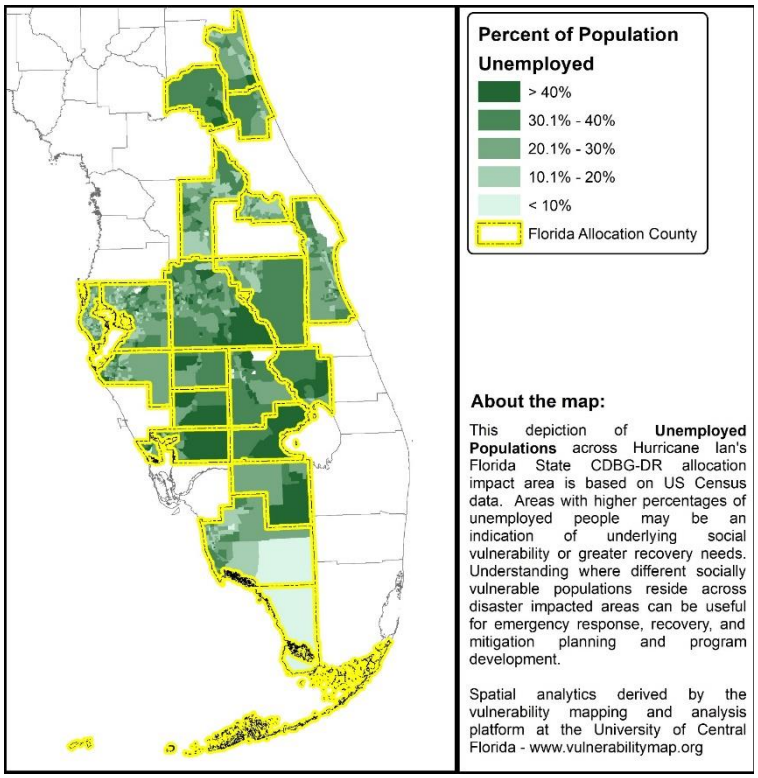

Figure 33: Percent unemployment by tract

Although unemployment in Florida hit a near record low in Feb 2023 (2.6 percent)[109], US Census data shows census tracts in the Hurricane Ian area of impact characterized by an unemployment rate greater than 40 percent. Higher rates of unemployment seem to be more prevalent in the central and southern Hurricane Ian impacted counties and slightly lower rates visible across much of the I-4 corridor through Lake and Seminole Counties (Figure 33: Percent unemployment by tract). Areas with higher unemployment tend to have a more difficult time preparing for, responding to, and rebounding from disaster events such as Hurricane Ian.

Table 31: Mobile Housing Units Impacted by Hurricane Ian

County	Total Number of Mobile Housing Units	Number of Units Impacted	% of Total Impacted Units
Brevard	20,917	935	4.47%
Charlotte	12,128	6,139	50.62%
Collier	10,869	2,763	25.42%
DeSoto	4,802	2,495	51.96%
Flagler	2,407	312	12.96%
Glades	2,982	351	11.77%
Hardee	2,361	1,028	43.54%
Hendry	5,517	1,424	25.81%
Highlands	13,416	1,403	10.46%
Hillsborough	39,469	7,653	19.39%
Lake	29,552	1,188	4.02%
Manatee	29,563	3,515	11.89%
Monroe	5,052	289	5.72%
Okeechobee	6,782	649	9.57%
Osceola	11,149	2,678	24.02%
Pinellas	46,576	1,891	4.06%
Polk	64,631	9,546	14.77%
Putnam	15,316	1,187	7.75%
Seminole	4,710	934	19.83%
St. Johns	7,425	356	4.80%
Total	**333,595**	**46,736**	**13.93%**

Table 31: Mobile Housing Units Impacted by Hurricane Ian provides an estimate of the number of mobile housing units impacted by Hurricane Ian in the FEMA IA counties. Figure 34: Percent mobile home populations by tract provides a spatial distribution of the percentage of homes that are mobile homes in the FEMA IA-declared counties impacted by Hurricane Ian.

[109] https://fred.stlouisfed.org/series/FLUR

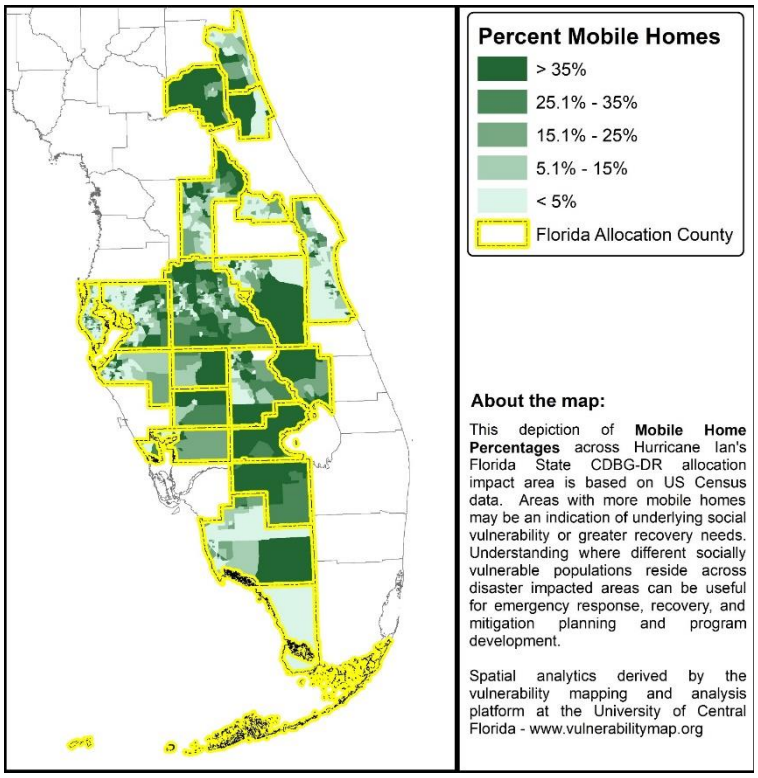

Figure 34: Percent mobile home populations by tract

Hurricanes affect housing options for homeless populations particularly hard. In Table 32: Affected Continuum of Care Entities and Table 33: Point-In-Time Count - Type of Shelter data from Florida's homeless survey, collected at Continuum of Care (CoC) areas consisting of multiple counties, shows that homelessness in the affected areas is significant and these vulnerable individuals remain a potential unmet needs population, requiring recovery support in order to halt the downward spiral. Table 32: Affected Continuum of Care Entities provides an estimated count of homeless population by State CoC Areas. Central Gulf Coast Counties (including Sarasota, Manatee, Hillsborough, and Pinellas Counties) along with Central Florida Counties (Orange, Osceola, and Seminole Counties) had the highest homelessness, with 2,258 people counted in the most recent reporting. Hendry County reports the lowest number of homeless persons across the Ian impacted counties with four total homeless at the last assessment.[110]

Table 32: Affected Continuum of Care Entities

CoC Number	CoC Entity	Impacted County	Homeless Count
FL-500	Suncoast Partnership to End Homelessness	Manatee	739
		Sarasota	411
FL-501	Tampa Hillsborough Homeless Initiative	Hillsborough	2,040
FL-502	The Homeless Leadership Alliance of Pinellas	Pinellas	2,144
FL-503	Homeless Coalition of Polk County	Polk	607
FL-504	Volusia/Flagler County Coalition for the Homeless	Flagler	61
		Volusia	992

[110] https://www.hudexchange.info/programs/hdx/pit-hic/

FL-507	Homeless Services Network of Central Florida	Orange	1,626
		Osceola	358
		Seminole	274
FL-512	Flagler Hospital – St Augustine	St. Johns	435
FL-513	Brevard Homeless Coalition	Brevard	1,052
FL-517	Heartland Coalition for the Homeless	DeSoto	57
		Glades	18
		Hendry	4
		Hardee	494
		Highlands	402
		Okeechobee	30
FL-520	Mid FL Homeless Coalition	Lake	228
FL-602	Gulf Coast Partnership	Charlotte	427
FL-603	Lee County Human & Veteran Services	Lee	857
FL-604	Monroe County Homeless Services CoC	Monroe	493
FL-606	Hunger & Homeless Coalition of Collier County	Collier	703
Source: https://www.myflfamilies.com/sites/default/files/2023-07/Florida%27s%20Council%20On%20Homelessness%20Annual%20Report%202023.pdf			

Table 33: Point-In-Time Count - Type of Shelter also reveals the estimated counts of homelessness by shelter type in the disaster-impacted areas.

Table 33: Point-In-Time Count - Type of Shelter[111]

Scale of Data	Emergency Shelter (2022)	Transitional Housing (2022)	Total Known Homeless (2022)	Unsheltered Homeless (2023)	Total Known Homeless (2023)
Statewide	10,040	4,041	25,959	15,706	30,809
FEMA Declared	5,089	2,218	12,514	7,091	14,452
MID Areas	4,930	2,218	11,954	5,978*	10,566
**Note: Due to overlapping service areas of CoCs, the total for Unsheltered Homeless in the MID Areas also includes the figures for the entitlement counties of Orange, Sarasota, and Volusia*					

2.4 Infrastructure Unmet Need

To meet the requirements of the HUD CDBG-DR program, the following paragraphs describe the losses and unmet needs related to Hurricane Ian's impacts to infrastructure in Florida. Specific references are made to infrastructure damage and challenges to recovery, building upon the introductory damage and

[111] Source: https://www.myflfamilies.com/sites/default/files/2023-07/Florida%27s%20Council%20On%20Homelessness%20Annual%20Report%202023.pdf and https://www.hudexchange.info/resource/3031/pit-and-hic-data-since-2007/

impact characterizations in prior sections, with particular emphasis on PA program costs represented by FEMA data.

2.4.1 Disaster Damage and Impacts

The coastal flooding and intense rainfall flooding from Hurricane Ian caused damage or complete destruction to dozens of roads, intersections, causeways, and bridges throughout Central and Southwest Florida, resulting in an initial "quick release" of $50 million in funding from the Federal Highway Administration to perform emergency repairs for at least 20 critical intersections that carry essential traffic in many locations.[112] Inspections carried out by the Florida Department of Transportation assessed wind and flood impacts cleared, more than 4,746 miles of roadways in the state and inspected more than 2,507 bridges for structural integrity.[113] In addition to numerous road closures throughout the Florida peninsula, many roads were scoured and washed out from Flagler to Seminole and Brevard Counties. Emergency managers in Seminole County estimated that more than one million cubic yards of debris needed to be cleared from roads throughout the County.[114,115]

Total debris from Hurricane Ian was estimated to fill more than 22 Empire State Buildings[116]—millions of cubic yards of debris that, in many cases, took months to remove. For example, Manatee County cleared all debris within about three months of the Hurricane Ian,[117] but by December 2022 there was still an estimated eight million cubic yards of debris yet to be cleared in other counties.[118] In Hardee County, a portion of the Highway 64 bridge near Pioneer Park collapsed due to highwater flooding (Figure 35), with portions of nearby Hollandtown Road washed out (Figure 36).[119] More than 1.3 million vehicles travel to Sanibel and Captiva Islands each year, with major impacts to regional tourism expected due to the washout of the Sanibel Causeway.[120] Airports throughout the Florida peninsula were closed for extended periods of time following Hurricane Ian's disruption of air traffic, business, and tourism throughout the state. Hurricane Ian caused extensive damage to railways resulting in prolonged closures of commercial and passenger rail— such as the Seminole Gulf Railway, which sustained significant damage.[121,122]

Tens of millions of dollars in roadway and neighborhood stormwater drainage damage occurred throughout the state and was quite pronounced in St. Johns County, where sections of State Highway A1A were completely washed out by dune erosion and storm surge flooding when Hurricane Ian was at its weakest intensity over the state.[123]

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112 https://www.transportation.gov/briefing-room/us-department-transportation-providing-florida-50-million-quick-release-emergency

113 https://www.fdot.gov/info/co/news/2022/10022022-2

114 https://www.clickorlando.com/traffic/2022/09/29/here-are-the-central-florida-road-bridge-closures-due-to-hurricane-ian/

115 https://www.clickorlando.com/news/local/2022/09/29/seminole-county-leaders-respond-to-flooding-damage-caused-by-ian/

116 https://www.washingtonpost.com/climate-environment/2022/11/25/florida-hurricane-ian-debris/

117 https://www.bradenton.com/news/local/article270329352.html

118 https://wusfnews.wusf.usf.edu/weather/2022-12-06/hurricane-ian-debris-pile-lingered-spread-joy

119 https://wusfnews.wusf.usf.edu/weather/2022-10-12/central-florida-counties-survey-road-damage-floodwater-hurricane-ian-recedes

120 https://www.politico.com/news/2022/09/29/billions-likely-needed-for-roads-and-bridges-hurricane-ian-00059565

121 https://www.politico.com/news/2022/09/29/billions-likely-needed-for-roads-and-bridges-hurricane-ian-00059565

122 https://www.fdot.gov/info/co/news/2022/10022022-2

123 https://www.jacksonville.com/story/weather/hurricane/2022/10/07/st-johns-county-st-augustine-left-60-million-damages-after-tropical-storm-ian/8175353001/

Figure 35: A portion of the Highway 64 bridge near Pioneer Park in Hardee County collapsed due to Hurricane Ian

Figure 36: Hollandtown Road in Hardee County washed out by Hurricane Ian

Hurricane Ian also caused significant damage and impacts to other infrastructure throughout the Florida peninsula. Prior to and during the storm, roads and bridges were closed throughout Central and Southwest Florida as Hurricane Ian's winds made bridges unsafe and flooding closed both coastal and inland roadways.

Power outages affected more than 2.7 million customers across numerous electric supply companies; Duke Energy Florida, for example, reported an annual System Average Interruption Duration Index (SAIDI) that was 41 percent above the five-year average, with Hurricane Ian accounting for an average of 733.68 minutes (12.23 hours) of electric interruptions for its customer base from September 28 to

October 3, 2022.[124] Restoration of electricity was a primary task and costs to do so were high; in March 2023, Florida Power & Light (FPL) requested permission from the Public Service Commission to recover about $1.3 billion in restoration costs from its customers, due to both Hurricanes Ian and Nicole, which would result in customers paying a temporary, 12-month storm surcharge in electricity rates of about eight percent for customers in Northwest Florida and about 10 percent for customers throughout the peninsula.[125] FPL highlighted that these recovery costs would help to harden the electric grid, increase resilience, and keep customers' bills under the national average, but these are significant costs to both the company and to everyday customers who are already experiencing financial hardship due to Hurricane Ian's impacts. Restoration costs following Hurricane Irma (2017) resulted in a more resilient electric grid, speeding the restoration of electricity following Hurricane Ian; more than 75 percent of non-commercial customers regained power within two days of Hurricane Ian's landfall and almost all customers had electricity restored within 10 days, with exceptions for destroyed structures.[126]

Commercial electricity restoration took longer in many locations, creating challenges for telecommunications infrastructure repair and restoration.[127] Verizon reported significant wind damage to antennae, radios, cabinets, and cables throughout Southwest Florida along with more than a 70 percent increase in network traffic due to the influx of emergency responders, with more than 100 locations across Lee, Hardee, Charlotte, Collier, DeSoto, and Sarasota Counties running on diesel backup generators through October 10, 2022.[128] AT&T deployed high water vehicles and thousands of fixed generators to cell sites, and Verizon deployed more than 170 mobile assets to improve disruptions to connectivity throughout Southwest Florida that included portable cell towers, satellite connections, drones, tactical vehicles, and portable generators, pushing more than 560 terabytes of data through satellite communications during the response and initial recovery.[129,130]

High winds and water stranded many individuals throughout Southwest and Central Florida; the National Guard rescued more than 2,000 people and dozens of pets through search and rescue operations, and more than 250 Red Cross shelters housed evacuees as a result of Hurricane Ian.[131,132] Inundated water infrastructure also led to more than 165 boil water notices throughout Central and Southwest Florida.[133] Accordingly, state emergency managers distributed more than 829,000 Meals Ready-to-Eat (MREs) and more than 3.8 million bottles of water in the first few days of recovery.[134]

In addition to the over-wash and scouring conditions that damaged roadways, coastal beach and dune erosion from Hurricane Ian caused extensive natural infrastructure losses, damage to thousands of feet of structural flood protection and armoring systems, significant deposits of sand on roads, and significant need for beach and dune renourishment to restore natural protective habitats and ecosystems throughout Southwest Florida and the Atlantic seaboard. The churn of Ian's storm surge also led to a significant

[124] https://www.floridapsc.com/pscfiles/website-files/pdf/Utilities/Electricgas/DistributionReliabilityReports/2022/2022%20Duke%20Energy%20Florida,%20Inc.%20Distribution%20Reliability%20Report.pdf#search=ian

[125] https://newsroom.fpl.com/2023-01-23-FPL-proposes-plan-to-recover-costs-of-increased-fuel-prices-and-hurricane-responses

[126] https://www.wsj.com/articles/floridas-strengthened-electric-grid-mostly-withstood-hurricane-ian-11664793604

[127] https://fdotwww.blob.core.windows.net/sitefinity/docs/default-source/traffic/newsletters/2023/disseminator_1_jan_feb_2023_final.pdf?sfvrsn=976b5a1b_2

[128] https://www.verizon.com/about/news/verizon-responds-hurricane-ian

[129] https://www.verizon.com/about/news/verizon-responds-hurricane-ian

[130] https://www.protocol.com/newsletters/climate/hurricane-ian-electricity-grid-infrastructure

[131] https://www.verizon.com/about/news/verizon-responds-hurricane-ian

[132] https://www.defense.gov/News/News-Stories/Article/Article/3194085/national-guard-provides-lifesaving-response-to-hurricane-ian/

[133] https://www.verizon.com/about/news/verizon-responds-hurricane-ian

[134] https://www.fdot.gov/info/co/news/2022/10022022-2

increase in *Vibrio vulnificus* cases in Southwest Florida, causing significant health impacts following the storm.[135]

Major ecological and environmental damage occurred in Dry Tortugas and Southwest Florida impacting fishing and causing significant damage to artificial reefs as far as 30 miles offshore. The combination of increased turbidity of sediments caused by storm surge flooding, followed by large amounts of inland precipitation runoff into coastal areas (including an estimated 18 million gallons of wastewater overflow into the Gulf of Mexico[136]) caused concerns of potential ongoing harmful algal bloom that may produce dangerous red tide conditions for much of Southwest Florida through 2022 and into 2023, possibly impeding waterfront tourism and other natural services in the area. Water samples taken in November 2022 revealed the presence of harmful red tide organisms, but as of June 2023, water samples have not reflected the presence of harmful algal blooms.[137,138,139,140,141]

On both the Gulf of Mexico and Atlantic Ocean coasts, tens of thousands of cubic yards of beach sands were eroded, washed out, or otherwise displaced, leading to an immediate and ongoing need to replenish these natural protective systems to restore resilience before future storms occur. The Florida Department of Environmental Protection conducted surveys of the coastal damage caused by Hurricane Ian, finding myriad cases of damage ranging from minimal (Type I) to complete destruction (Type IV) on both the east and west coasts of Florida as depicted in the following maps (Figure 38, Figure 39, Figure 40, Figure 41, Figure 42, Figure 43, Figure 44, Figure 45, Figure 46).[142]

[135] https://www.floridahealth.gov/diseases-and-conditions/vibrio-infections/vibrio-vulnificus/index.html

[136] https://www.sarasotamagazine.com/news-and-profiles/2022/10/hurricane-ian-red-tide

[137] https://storymaps.arcgis.com/stories/2d5269a0866d436fb70677b0a3c1de3a

[138] https://myfwc.com/research/redtide/statewide/

[139] https://wusfnews.wusf.usf.edu/environment/2022-11-02/hurricane-ian-ruined-man-made-reefs-brought-algae-blooms-to-florida

[140] https://www.accuweather.com/en/hurricane/red-tide-reported-offshore-of-florida-counties-hit-hard-by-ian/1270479

[141] https://climatecenter.fsu.edu/images/docs/Hurricane_Ian_Report.pdf p. 17.

[142] https://floridadep.gov/sites/default/files/Preliminary%20Hurricane%20Ian%20and%20Nicole%20Report_Dec%202022.pdf (Please note that DEP conducted damages assessments for both Hurricanes Ian and Nicole, and the maps included depict composite impacts to the counties surveyed. For more specific impacts from both storms in these counties, please consult the DEP's preliminary impact assessment linked in this footnote.)

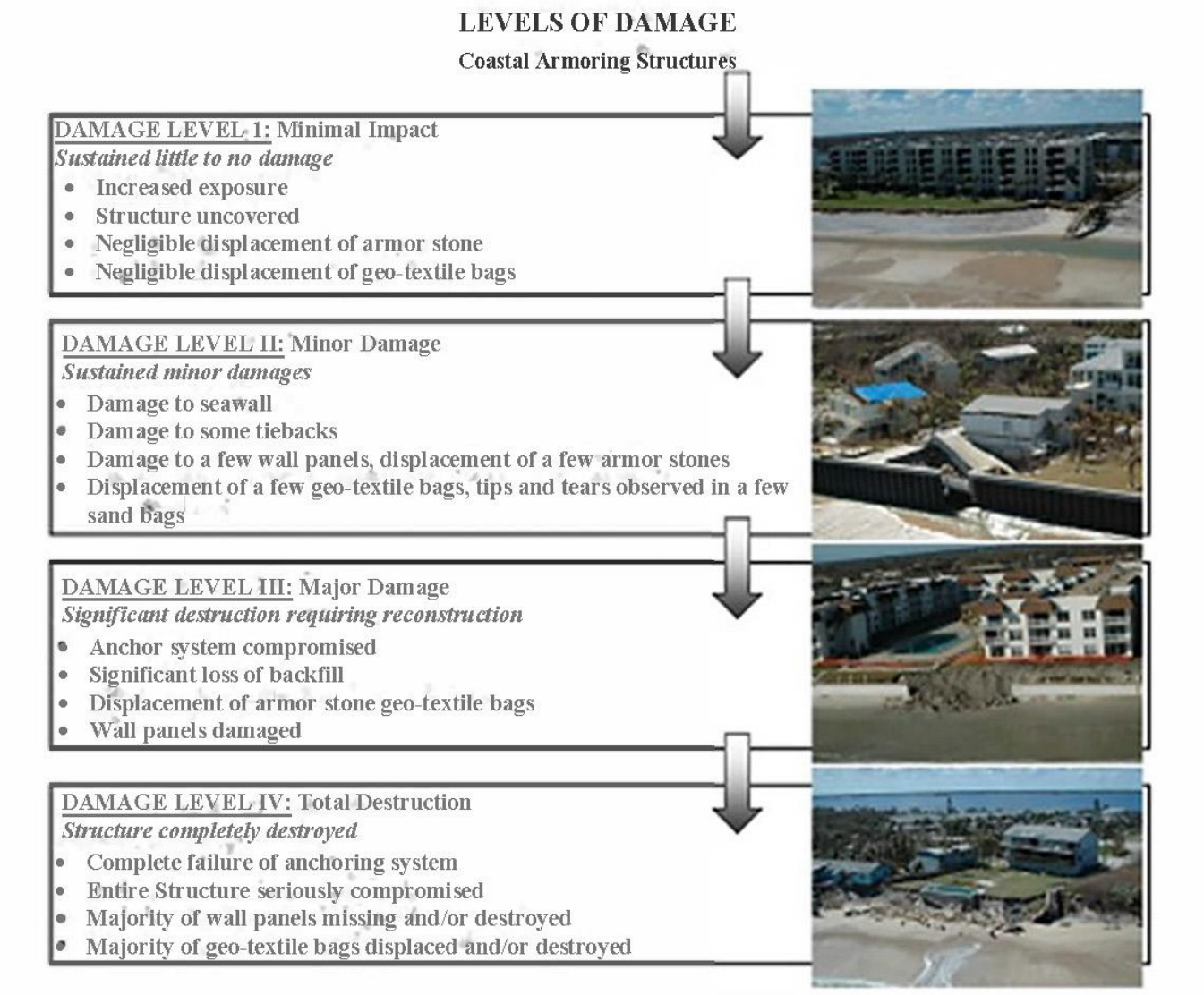

Figure 37: FLDEP's coastal engineering graphic describing damage levels to coastal armoring structures

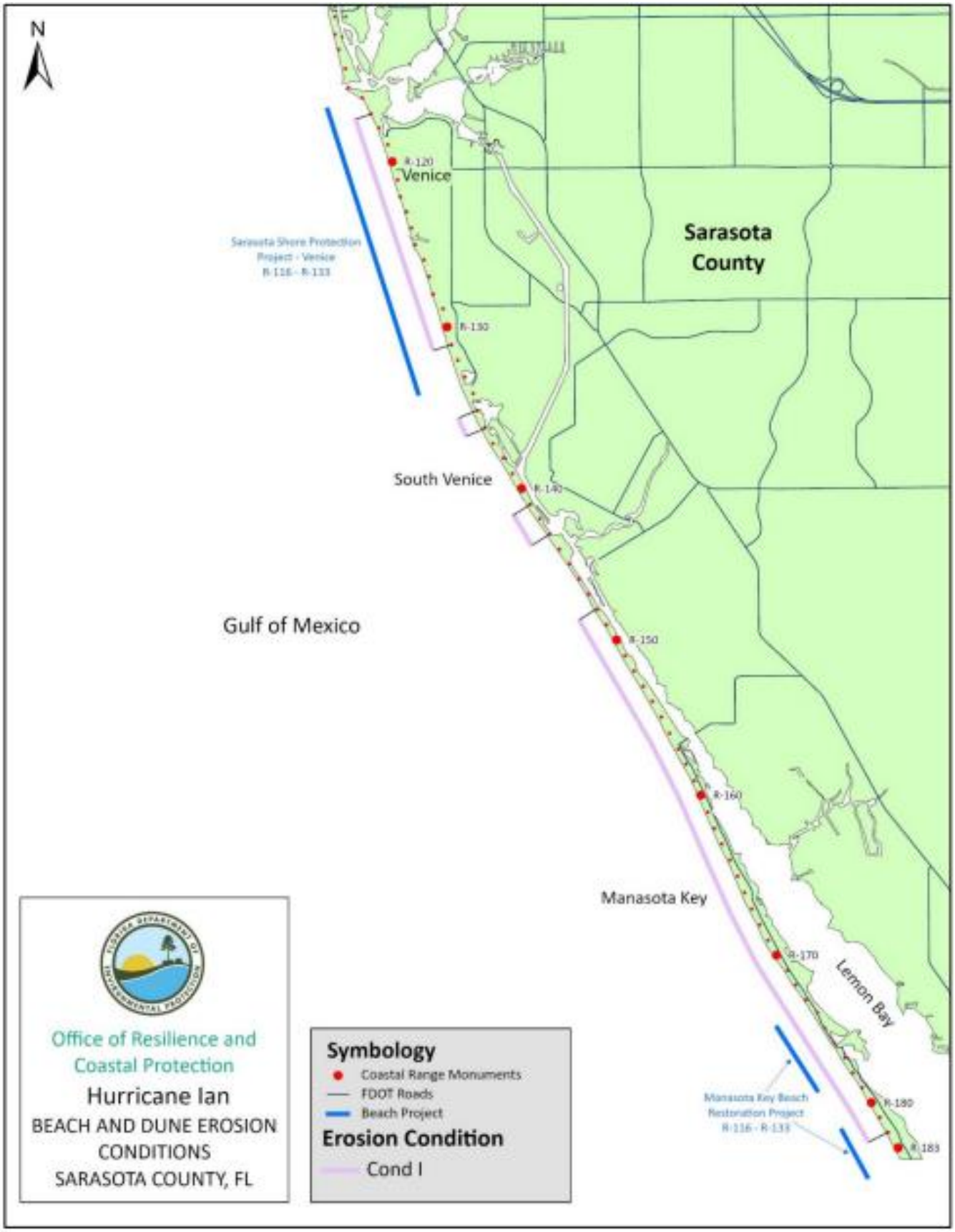

Figure 38: Impacts to beaches and dunes in Sarasota County from Hurricane Ian

Figure 39: Impacts to beaches and dunes in Charlotte County due to Hurricane Ian

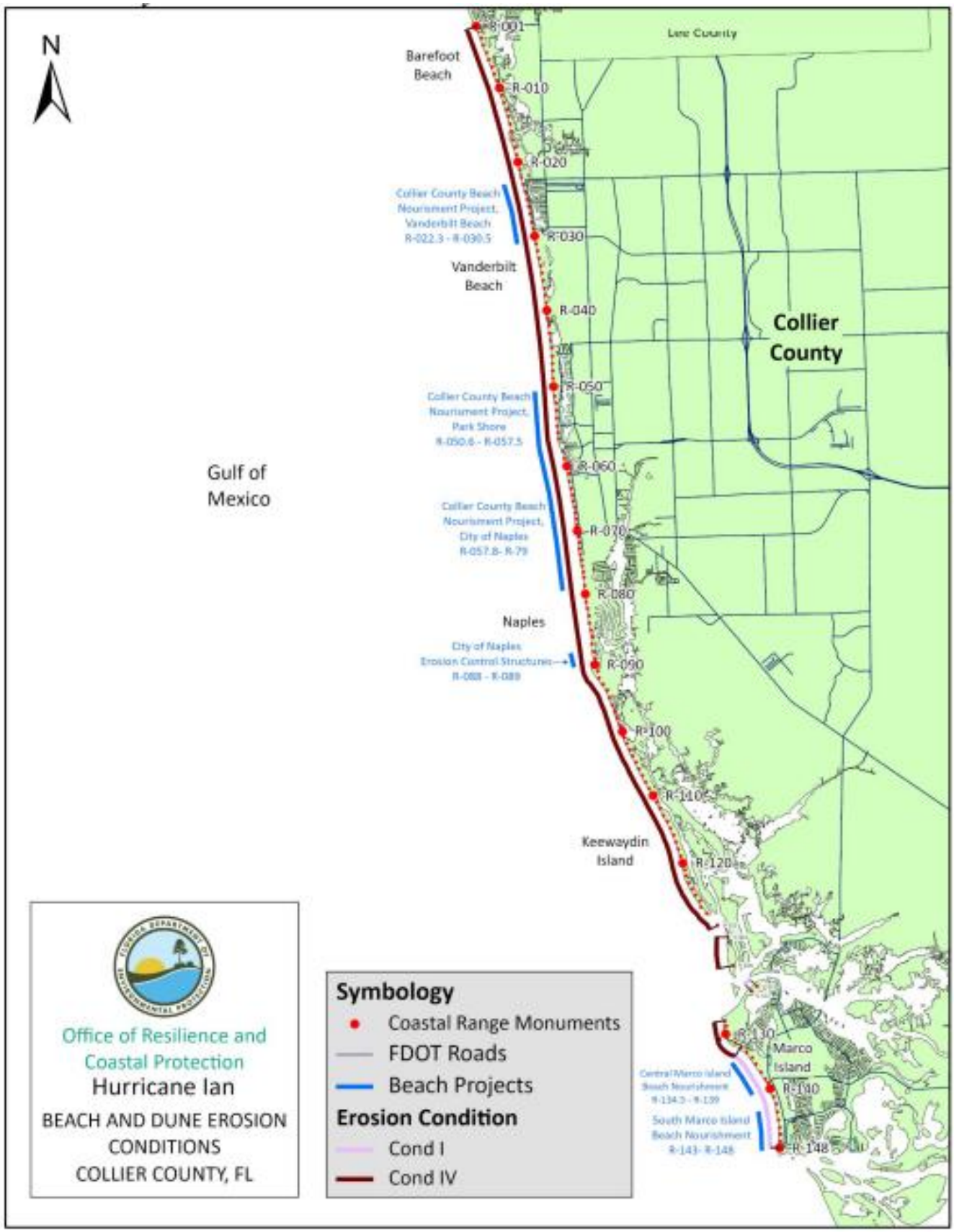

Figure 40: Impacts to beaches and dunes in Collier County due to Hurricane Ian

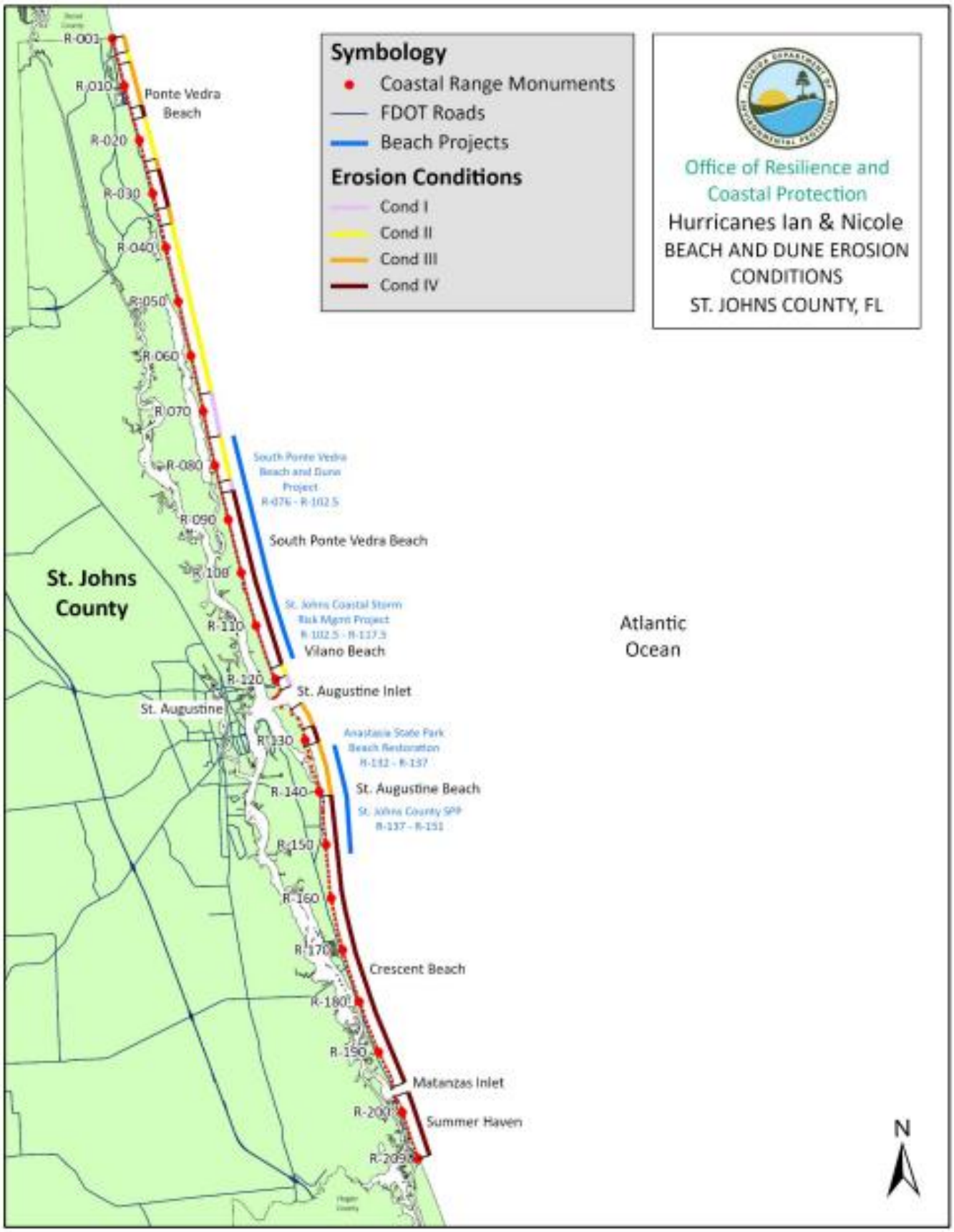

Figure 41: Impacts to beaches and dunes in St. Johns County due to Hurricane Ian

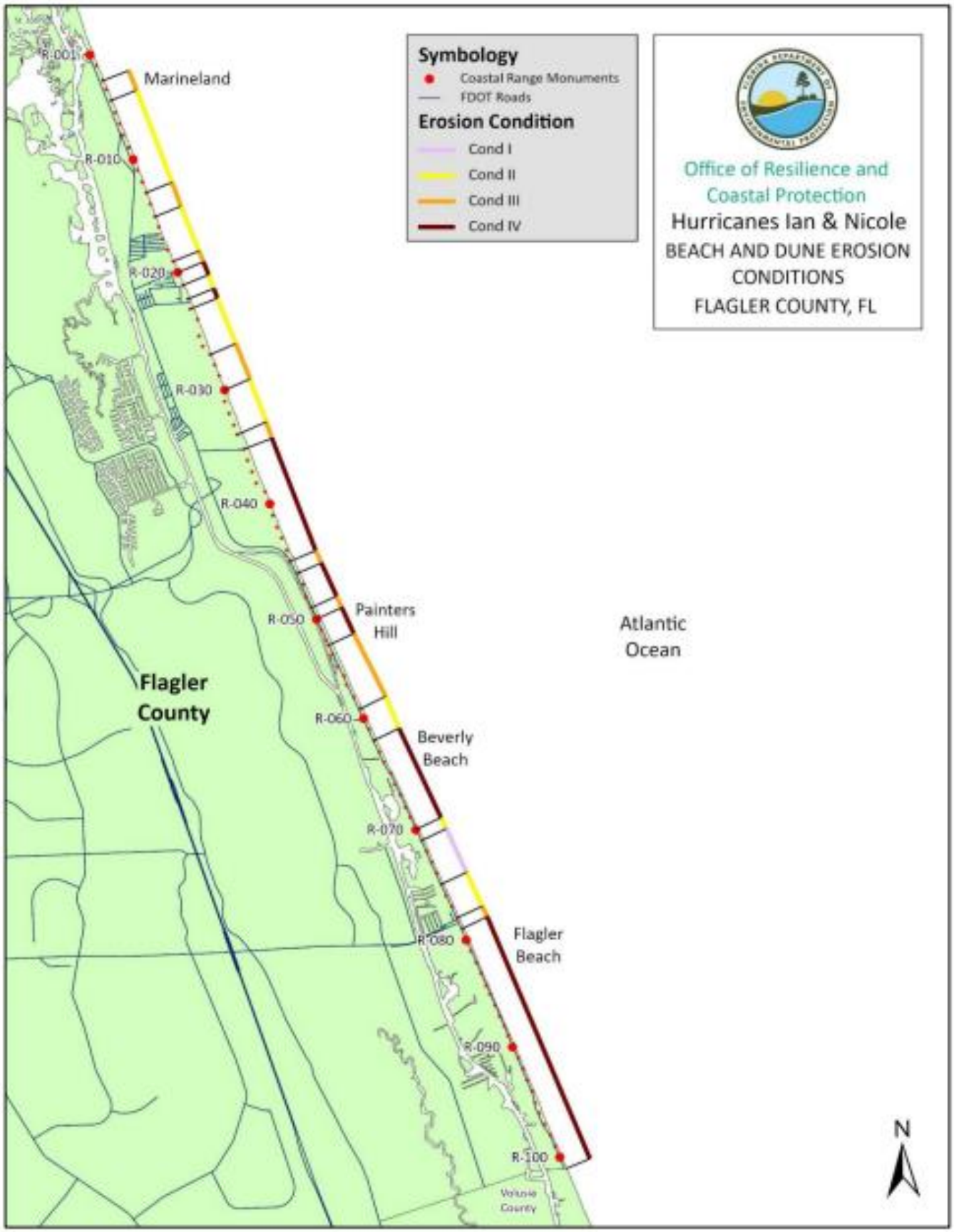

Figure 42: Impacts to beaches and dunes in Flagler County due to Hurricane Ian

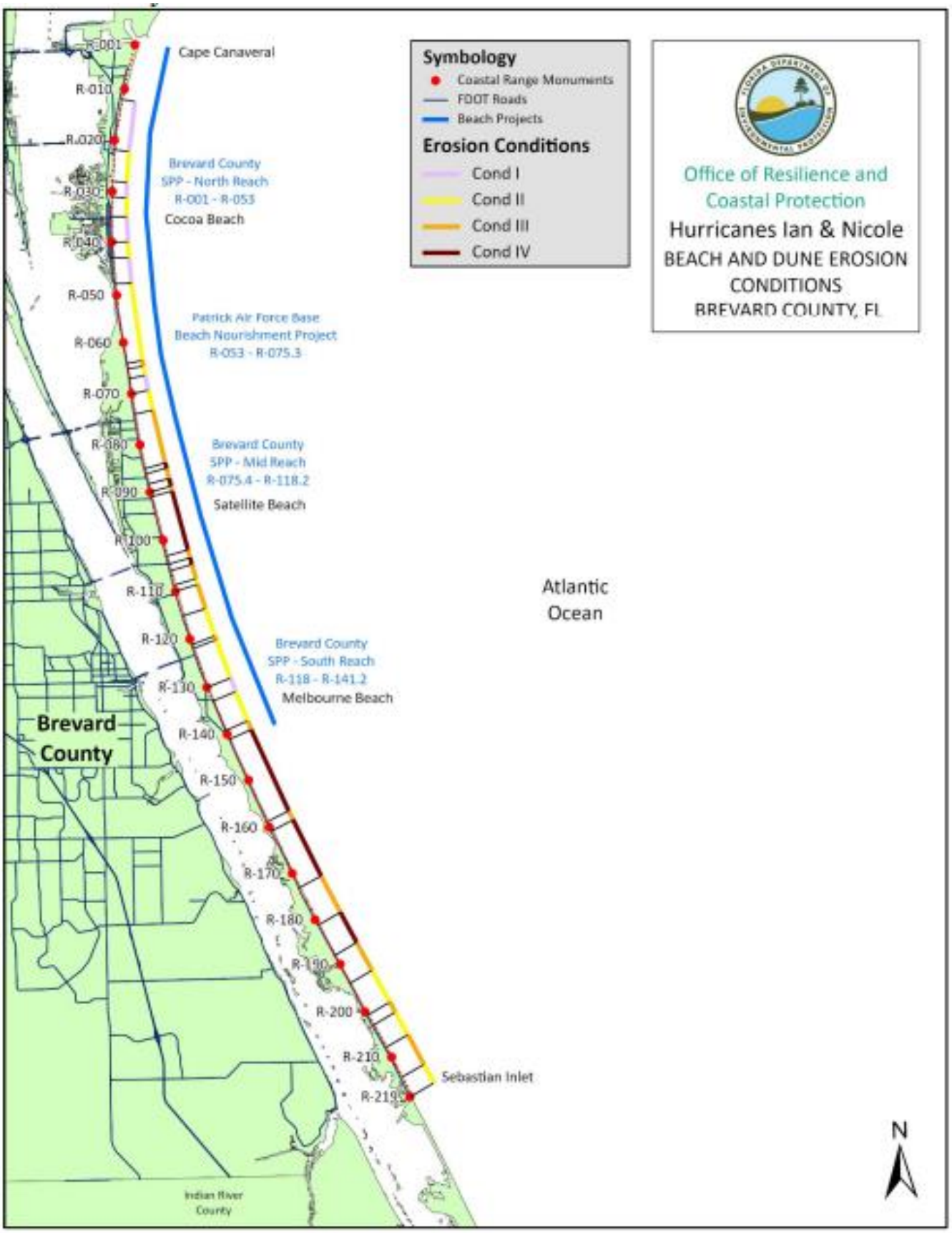

Figure 43: Impacts to beaches and dunes in Brevard County due to Hurricane Ian

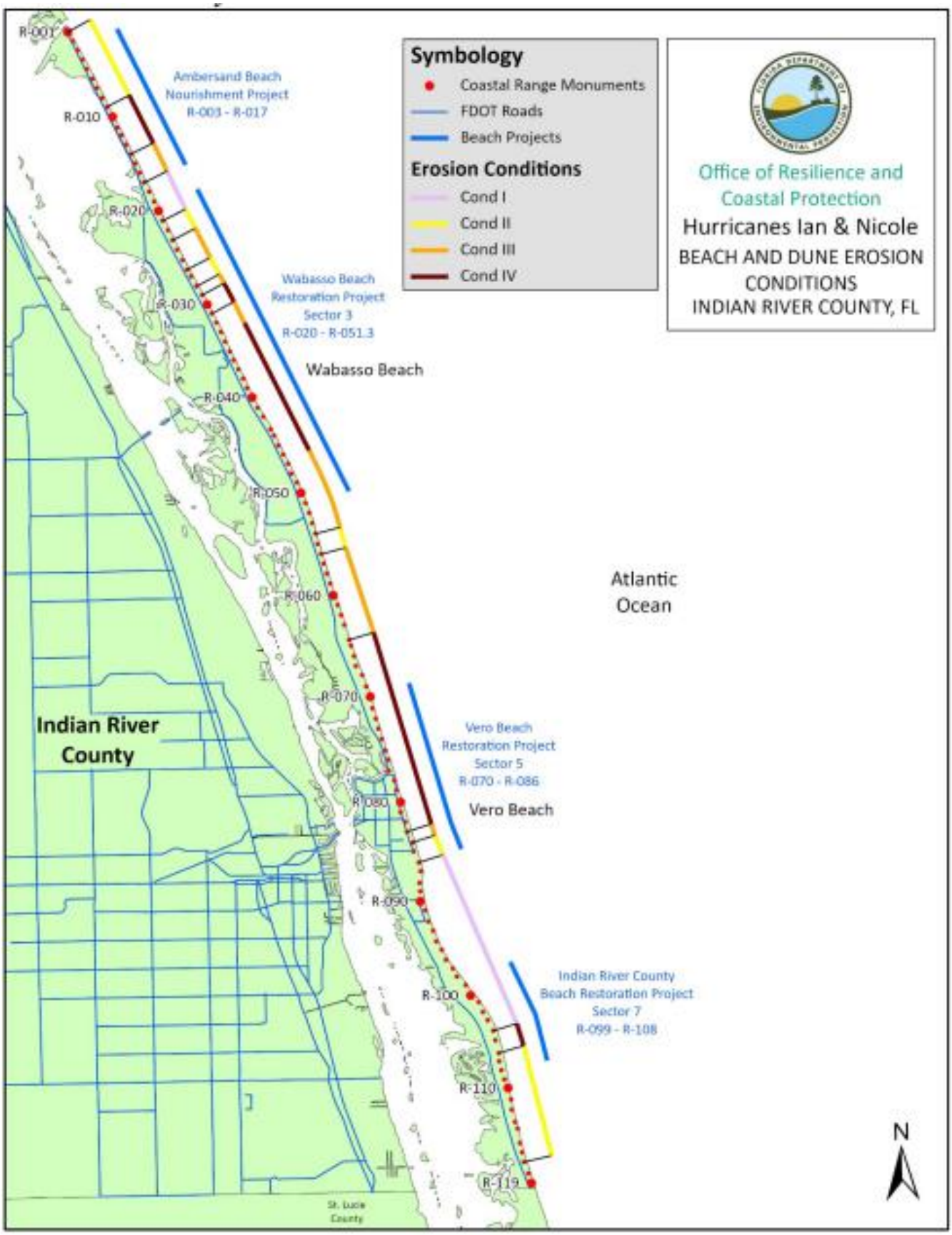

Figure 44: Impacts to beaches and dunes in Indian River County due to Hurricane Ian

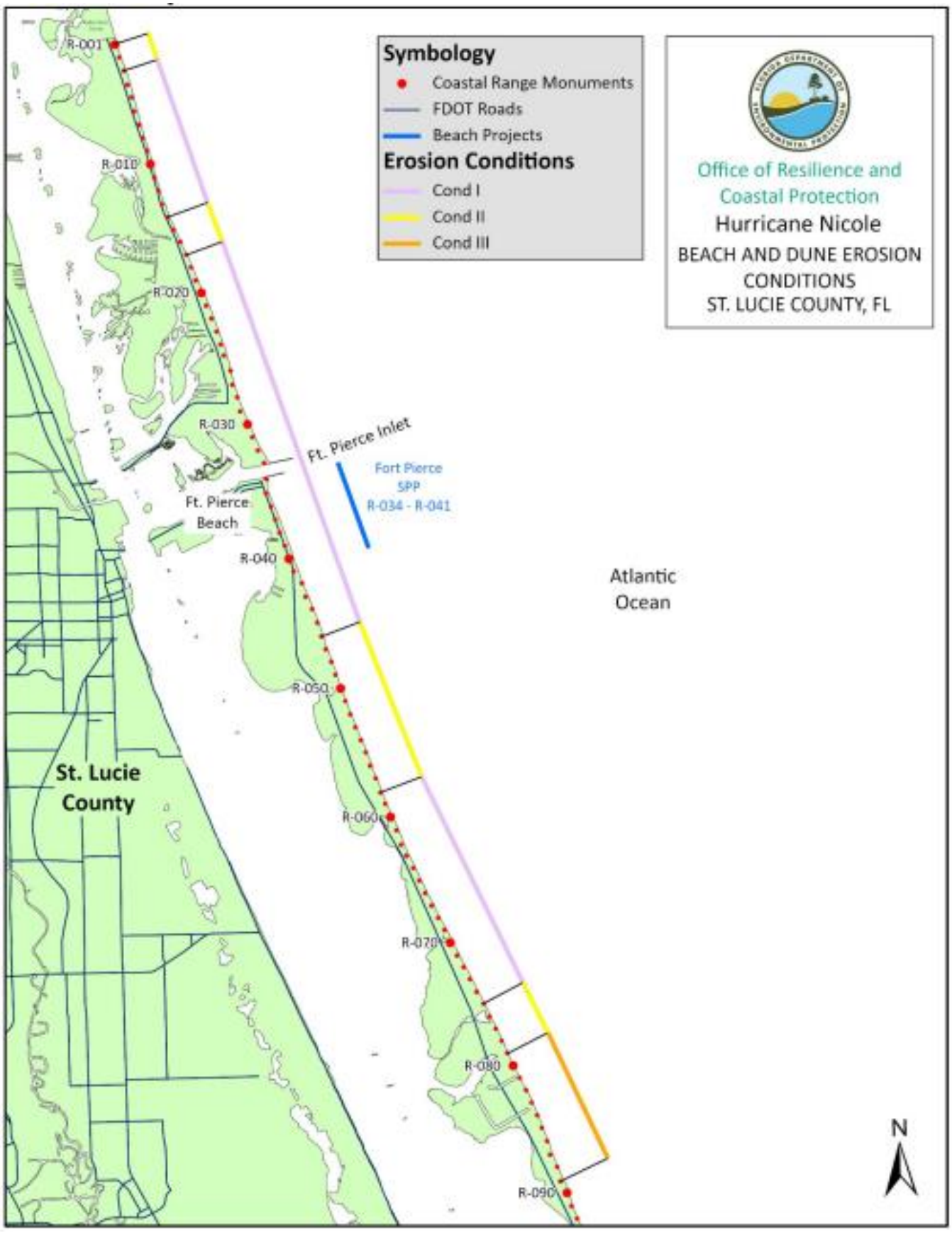

Figure 45: Impacts to beaches and dunes in St. Lucie County due to Hurricane Ian

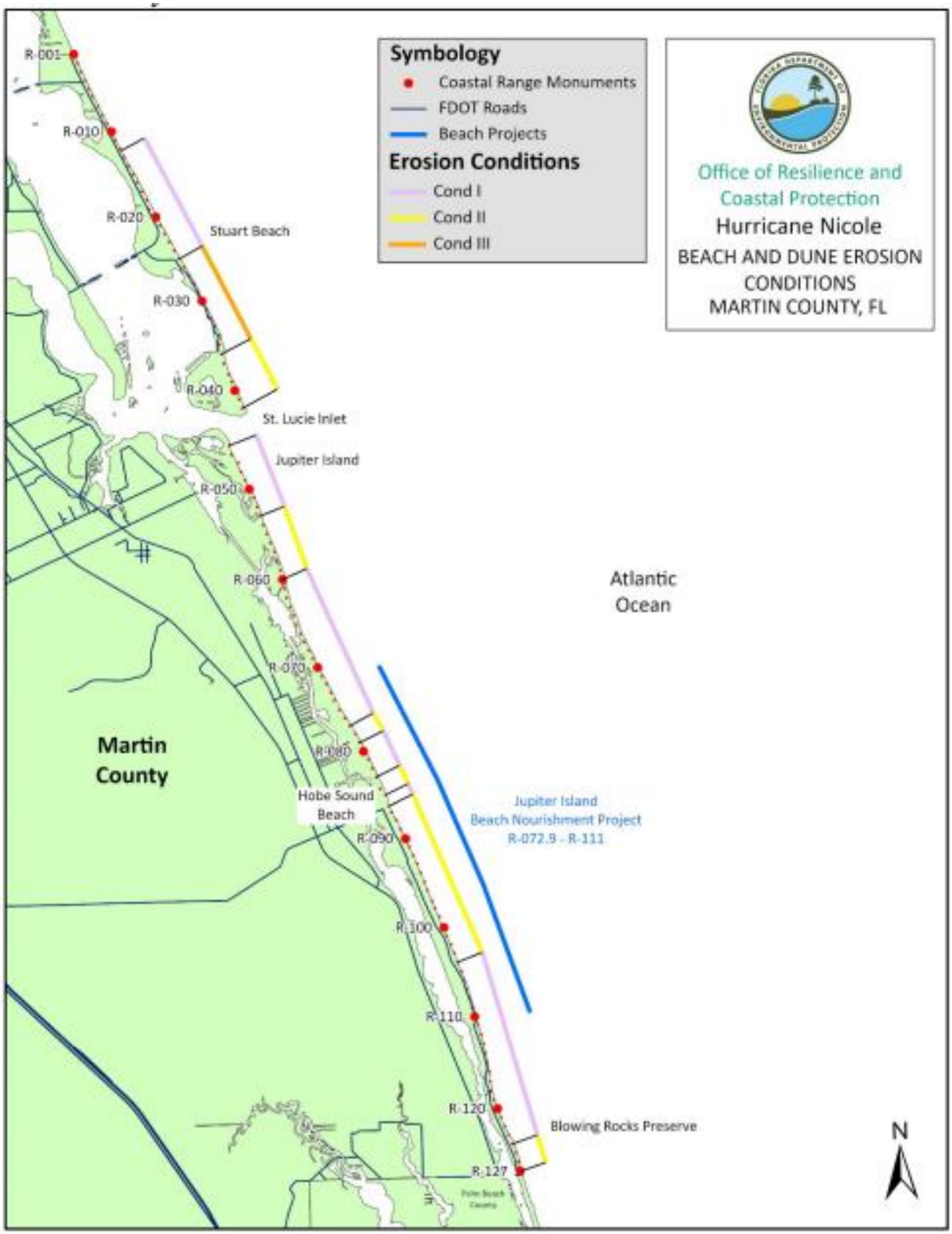

Figure 46: Impacts to beaches and dunes in Martin County due to Hurricane Ian

During and after emergency responses to hurricanes, FEMA issues a variety of declarations about the types of federal assistance available to individuals and local-to-state governments.

Table 34: FEMA Public Assistance Program is a breakdown of FEMA PA sites and costs distributed among the declared counties impacted by Hurricane Ian.

Table 34: FEMA Public Assistance Program

PA Category	# Damaged Sites	Sum of Approx. Cost	Sum of Federal Share	Sum of Non-Federal Share
A - Debris	282	$265,926,751.20	$216,494,526.80	$49,432,224.33
B - Emergency Measures	402	$212,259,007.20	$169,498,383.30	$42,760,623.84
C - Roads and Bridges	282	$116,500,952.90	$87,375,714.89	$29,125,237.99
D - Water Control Facilities	66	$93,426,913.50	$70,070,185.16	$23,356,728.34
E - Building and Equipment	709	$212,766,658.20	$159,574,994.20	$53,191,663.99
F - Utilities	134	$38,901,203.40	$29,175,902.70	$9,725,300.70
G - Other	402	$331,285,284.30	$248,463,963.40	$82,821,320.88
All Categories	**2,277**	**$1,271,066,771**	**$980,653,670**	**$290,413,100**
TOTAL - without A and B	**1,593**	**$792,881,012**	**$594,660,760**	**$198,220,252**

Table 35: Estimated Total Cost and Need by PA Category provides a breakdown of disbursements of FEMA PA by category and cost share provisions.

Table 35: Estimated Total Cost and Need by PA Category

PA Category	Estimated PA Cost	30% Resiliency	25% Local Match (Total Unmet Need)
A - Debris	$265,926,751	N/A	N/A
B - Emergency Measures	$212,259,007	N/A	N/A
C - Roads and Bridges	$116,500,953	$151,451,239	$37,862,810
D - Water Control Facilities	$93,426,914	$121,454,988	$30,363,747
E - Building and Equipment	$212,766,658	$276,596,656	$69,149,164
F - Utilities	$38,901,203	$50,571,564	$12,642,891
G - Other	$331,285,284	$430,670,870	$107,667,717
Total	**$1,271,066,771**	**$1,030,745,316**	**$257,686,329**

Table 36: Estimated Total Cost and Need by PA Category (including Inflation)

PA Category	Estimated PA Cost	30% Resiliency	32% Increased Cost of Building Materials	25% Local Match (Total Unmet Need
A - Debris	$265,926,751	$0	$0	$0
B - Emergency Measures	$212,259,007	$0	$0	$0
C - Roads and Bridges	$116,500,953	$151,451,239	$45,435,372	$49,221,653
D - Water Control Facilities	$93,426,914	$121,454,988	$36,436,496	$39,472,871
E - Building and Equipment	$212,766,658	$276,596,656	$82,978,997	$89,893,913
F - Utilities	$38,901,203	$50,571,564	$15,171,469	$16,435,758
G - Other	$331,285,284	$430,670,870	$129,201,261	$139,968,033
Total	**$1,271,066,771**	**$1,030,745,316**	**$309,223,595**	**$334,992,228**

FloridaCommerce requires all rebuilding activities to integrate preparedness and mitigation measures into the project design. For all activities to construct, reconstruct, or rehabilitate residential or non-residential structures with CDBG-DR funds, FloridaCommerce will develop program guidelines that integrate quantifiable mitigation measures. Unlike standard CDBG-DR funded activities, activities funded by the CDBG-DR mitigation set-aside do not require a "tie-back" to an impact of Hurricane Ian. Instead, all activities funded by the CDBG-DR mitigation set-aside must:

1. Meet the definition of mitigation activities as defined in AAN (p. 32055);
2. Address the current and future risks as identified in FloridaCommerce's mitigation needs assessment in the MID areas;
3. Be CDBG-eligible activities under Title I of the HCDA or otherwise eligible pursuant to a waiver or alternative requirement; and
4. Meet a national objective.

To meet the mitigation set-aside requirements, FloridaCommerce will:

- Document how those activities and the incorporated mitigation measures will meet the definition of mitigation; and
- Report those activities as a "MIT" activity type in DRGR.

Mitigation activities are defined as those activities that increase resilience to disasters and reduce or eliminate the long-term risk of loss of life, injury, damage to and loss of property, and suffering and hardship, by lessening the impact of future disasters.

To ensure that mitigation and resiliency measures are promoted across the impacted communities, FloridaCommerce will leverage the Florida Community Planning Act for Adaptation Action Areas,[143]

[143] Title XI. County Organizations and Intergovernmental Relations; Chapter 163 Intergovernmental Programs; Part II Growth Policy, County and Municipal Planning, Land Development Regulation; http://www.leg.state.fl.us/statutes/index.cfm?App_mode=Display_Statute&URL=0100-0199/0163/0163PartIIContentsIndex.html&StatuteYear=2021&Title=%2D%3E2021%2D%3EChapter%20163%2D%3EPart%20II

adopted in 2011. Adaptation Action Areas provide a flexible and optional framework that can be applied to the entire state through individual local action. At the request of coastal communities, FloridaCommerce created this guidance to assist communities in understanding how they can use Adaptation Action Areas to adapt to coastal flooding. Florida requires each local government authority to create, adopt, and maintain a comprehensive land use plan.[144] The local comprehensive plan is a key driver of development and redevelopment because it outlines legally enforceable guidelines and strategies, directly influencing the decision-making process. Comprehensive plans can be amended to create strategies for merging growth with resilience.

Coordination and collaboration during Action Plan and Substantial Amendment development is critical to align planned CDBG-DR and mitigation activities with other federal, state, and local mitigation projects, planning processes, and capital improvement efforts. For this reason, FloridaCommerce conducts specific coordination efforts with various agencies to ensure all data, planning resources, and programs are considered for the unmet needs assessment. In addition, FloridaCommerce coordinates with partners that manage other funding sources, such as FEMA and the U.S. Army Corps of Engineers (USACE), for the Action Plan and Substantial Amendment process. To maintain engagement and coordination efforts with statewide partners through the life of the allocations, FloridaCommerce also participates in quarterly meetings held by Mitigate Florida, Multi-Agency Resilience Coordination (MARC) meetings, and events like the annual Governor's Hurricane Conference.

Mitigate Florida is a statewide interagency mitigation workgroup that includes federal, state, and local voices, including but not limited to, Florida Division of Emergency Management (FDEM), Department of Environmental Protection, Department of Revenue, Department of State, Department of Education, Agency for Persons with Disabilities, Department of Business and Professional Regulation, county-specific representatives, Water Management Districts, Florida Ports Council, The Nature Conservancy, Florida Atlantic University, FEMA, and USACE. The workgroup meets quarterly to discuss ongoing mitigation and resilience projects, new opportunities, funding sources, and other issues. FloridaCommerce will continue to coordinate with mitigation funding partners through the quarterly Mitigate Florida meetings.

Most notably, FloridaCommerce maintains a strong relationship with FDEM, engaging them in several components of the mitigation planning process. FDEM's 2018 Enhanced State Hazard Mitigation Plan and FEMA PA program data were a key source of information for the Mitigation Needs Assessment.

FloridaCommerce and FDEM also collaborate regularly to leverage FEMA and HUD disaster recovery and mitigation dollars throughout the state. CDBG-DR dollars are eligible to be used as local match for FEMA Hazard Mitigation Grant Program funds.

Among the eligible activities anticipated under this program, FloridaCommerce will invite communities to restore infrastructure damaged by Hurricane Ian, such as storm water management systems. Repairs and improvements to sewer, drainage, and flood mitigation systems represent a critical investment as they protect not just one of the seven community lifelines, but often all of them, and tend to be among the most cost-effective solutions for community resilience, especially in coastal areas.

FloridaCommerce also expects to undertake repair and restoration of streets and bridges, renourishment of coastal dune systems and state beaches that act as a buffer against storm surge and flooding associated with hurricanes and tropical storms, and repair of damaged buildings that are essential to the protection of one or more community lifelines, such as police stations, fire stations, parks and recreational centers, community and senior centers, hospitals, clinics, homeless shelters, schools and educational facilities, and other public properties, including properties serving as emergency shelters.

FloridaCommerce will ensure that mitigation measures undertaken using CDBG-DR funds will address problems that are either repetitive or pose significant risk to public health and safety. Mitigation measures will be implemented after being determined the most cost-effective option to mitigate against future

[144] Chapter 163, Florida Statutes.

disasters and will have a cost that is lower than the anticipated cost of repairing potential damage, and its subsequent negative impacts, that may result from future disasters.

2.5 Economic Revitalization Unmet Need

2.5.1 Disaster Damage and Impacts

2.5.1.1 Pre-Impact Business Composition

The Hurricane Ian impacted area, one of the most populous areas of the State of Florida, is home to more than 1,150,124 businesses with a majority classified as small, both in terms of revenue (98 percent make less than $1,000,000 annually) (Table 37: Count of Businesses by Business Size) and number of employees (96 percent have 10 or fewer) (Table 38: Count of Businesses by Number of Employees). Most of these businesses (96 percent) are single location establishments, which means that these business owners do not have corporate support to prepare for, respond to, or rebound from disasters (Table 39: Count of Businesses by Location Type for Hurricane Ian Impacted Counties).

Table 37: Count of Businesses by Business Size

County	Total	< 1 $million	1 - 5 million	5-10 million	10 - 50 million	50 - 500 million	> $500 million
Brevard	106,846	104,682	1,614	239	237	58	16
Charlotte	31,639	31,167	386	35	38	9	5
Collier	80,272	78,476	1,334	223	194	28	17
DeSoto	3,759	3,693	49	7	7	2	1
Flagler	17,622	17,417	161	15	18	9	2
Glades	579	567	8	-	4	-	-
Hardee	2,922	2,847	55	6	12	2	-
Hendry	4,575	4,487	67	10	9	2	-
Highlands	20,920	20,665	203	27	16	6	4
Hillsborough	250,174	250,147	23	-	4	6	-
Lake	55,542	54,620	692	103	105	17	6
Manatee	63,057	61,673	994	178	164	34	14
Monroe	22,129	21,662	380	43	31	11	3
Okeechobee	5,783	5,678	81	12	8	3	1
Osceola	56,680	56,051	489	69	56	10	7
Pinellas	193,730	188,888	3,450	555	621	87,725	56
Polk	91,272	89,389	1,364	210	228	42,773	22
Putnam	8,599	8,466	103	14	12	4,171	1
Seminole	90,896	88,642	1,635	276	258	65	20
St. Johns	43,128	42,137	728	122	103	28	11
Total	**1,150,124**	**1,131,354**	**13,816**	**2,144**	**2,125**	**134,959**	**186**

Table 38: Count of Businesses by Number of Employees

County	Total	< 4	5-10	11-49	50-99	100-499	500-999	> 1,000
Brevard	106,846	61,671	39,971	4,448	414	296	27	19
Charlotte	31,639	19,479	10,909	1,102	98	44	6	1
Collier	80,272	45,288	31,071	3,390	331	174	8	10
DeSoto	3,759	2,269	1,260	199	27	4	-	-
Flagler	17,622	11,095	5,870	569	55	30	2	1
Glades	579	360	181	34	4	-	-	-
Hardee	2,922	1,729	1,006	155	17	15	-	-
Hendry	4,575	2,748	1,543	239	33	10	1	1
Highlands	20,920	14,190	5,977	674	52	25	1	1
Hillsborough	250,174	161,374	81,844	5,862	600	446	27	21
Lake	55,542	34,975	18,116	2,130	216	91	8	6
Manatee	63,057	38,207	21,660	2,695	306	174	7	8
Monroe	22,129	13,012	7,817	1,157	95	43	4	1
Okeechobee	5,783	3,572	1,899	269	30	13	-	-
Osceola	56,680	34,227	20,230	1,911	174	116	15	7
Pinellas	193,730	113,959	69,424	8,683	969	607	49	39
Polk	91,272	56,018	30,667	3,910	395	248	24	10
Putnam	8,599	5,405	2,731	387	53	23	-	-
Seminole	90,896	54,723	31,595	3,863	449	239	16	11
St. Johns	43,128	25,769	15,210	1,857	182	93	9	8
Total	**1,150,124**	**700,070**	**398,981**	**43,534**	**4,500**	**2,691**	**204**	**144**

Table 39: Count of Businesses by Location Type for Hurricane Ian Impacted Counties

County	Total	Single Location	Branch	Headquarters
Brevard	106,846	102,187	3,813	846
Charlotte	31,639	30,418	1,027	194
Collier	80,272	77,226	2,406	640
DeSoto	3,759	3,533	191	35
Flagler	17,622	16,995	512	115
Glades	579	519	49	11
Hardee	2,922	2,734	152	36
Hendry	4,575	4,276	257	42
Highlands	20,920	20,229	593	98

Hillsborough	250,174	237,397	10,274	2,503
Lake	55,542	53,233	1,901	408
Manatee	63,057	60,143	2,337	577
Monroe	22,129	21,080	853	196
Okeechobee	5,783	5,471	279	33
Osceola	56,680	54,687	1,687	306
Pinellas	193,730	185,560	6,287	1,883
Polk	91,272	86,884	3,673	715
Putnam	8,599	8,139	406	54
Seminole	90,896	86,951	3,170	775
St. Johns	43,128	41,217	1,419	492
Total	**1,150,124**	**1,098,879**	**41,286**	**9,959**

Furthermore, damage to a single location resulting in closures has a ripple effect on employees and future business success. Single location store closures (for any reason) can lead to loss of revenue and significant impacts to future business prospects. This can be further exacerbated by lack of insurance or underinsurance. Minority business owners can have additional difficulty preparing for and rebounding from disasters. (Table 40: Count of Businesses by Minority and Woman Owned Status).

Table 40: Count of Businesses by Minority and Woman Owned Status

County	Total	Minority Owned	Woman Owned	Minority Woman Owned
Brevard	106,846	687	2,644	304
Charlotte	31,639	71	730	29
Collier	80,272	238	1,705	90
DeSoto	3,759	21	79	4
Flagler	17,622	79	351	37
Glades	579	3	13	3
Hardee	2,922	10	87	
Hendry	4,575	38	115	17
Highlands	20,920	51	359	23
Hillsborough	250,174	3,161	6,068	1,440
Lake	55,542	337	1,281	154
Manatee	63,057	243	1,302	118
Monroe	22,129	76	526	25
Okeechobee	5,783	31	130	10
Osceola	56,680	442	1,079	171

Pinellas	193,730	1,002	4,093	483
Polk	91,272	664	2,091	312
Putnam	8,599	28	202	12
Seminole	90,896	801	2,061	383
St. Johns	43,128	232	1,041	109
Total	**1,150,124**	**8,215**	**25,957**	**3,728**

2.5.1.2 Business Impacts and Potential Unmet Needs

Table 41: Summarized SBA Losses to Businesses[145]

County	Total SBA Verified Losses	Total SBA Verified Property Losses	Total SBA Verified Contents Losses
Brevard	$3,873,997	$2,431,315	$3,873,997
Charlotte	$98,744,624	$86,853,829	$98,744,624
Collier	$75,692,644	$55,522,520	$75,692,644
DeSoto	$18,624,385	$15,260,677	$18,624,385
Flagler	$1,573,276	$1,322,345	$1,573,276
Glades	$68,922	$20,367	$68,922
Hardee	$3,860,376	$3,325,661	$3,860,376
Hendry	$328,070	$97,548	$328,070
Highlands	$4,128,778	$3,566,510	$4,128,778
Hillsborough	$17,616,594	$12,152,709	$17,616,594
Lake	$1,173,597	$904,218	$1,173,597
Manatee	$14,846,220	$11,020,063	$14,846,220
Monroe	$5,535,842	$4,295,648	$5,535,842
Okeechobee	$223,070	$174,079	$223,070
Osceola	$13,229,060	$9,175,555	$13,229,060
Pinellas	$2,977,481	$1,632,727	$2,977,481
Polk	$11,796,828	$9,338,865	$11,796,828
Putnam	$588,060	$470,418	$588,060
Seminole	$15,170,994	$11,687,812	$15,170,994
St. Johns	$2,530,168	$2,016,613	$2,530,168
Total	**$292,582,984**	**$231,269,479**	**$292,582,984**

[145] Source: SBA Disaster Loan Database

Table 42: Summarized SBA Support to Businesses

County	Total SBA Approved Loan Amount	Total SBA Real Property Loan Amount	Total SBA Contents Loan Amount	Total SBA EIDL Loan Amount
Brevard	$1,284,700	$269,500	$654,200	$361,000
Charlotte	$24,747,555	$18,984,005	$1,946,450	$3,817,100
Collier	$31,157,695	$18,927,900	$4,957,295	$7,272,500
DeSoto	$3,699,600	$2,213,400	$548,100	$938,100
Flagler	$624,700	$529,900	$67,200	$27,600
Glades	$31,800	$0	$6,800	$25,000
Hardee	$1,011,900	$902,900	$69,600	$39,400
Hendry	$112,200	$0	$7,400	$104,800
Highlands	$897,800	$290,000	$100,600	$507,200
Hillsborough	$5,108,500	$2,493,500	$890,800	$1,724,200
Lake	$256,600	$60,700	$89,400	$106,500
Manatee	$3,708,800	$1,761,300	$694,800	$1,252,700
Monroe	$1,178,400	$582,500	$203,700	$392,200
Okeechobee	$3,700	$3,700	$0	$0
Osceola	$4,614,170	$2,599,700	$1,075,450	$939,020
Pinellas	$1,619,300	$108,100	$200,300	$1,310,900
Polk	$3,849,213	$1,516,433	$307,080	$2,025,700
Putnam	$103,400	$50,600	$39,500	$13,300
Seminole	$7,341,600	$4,481,000	$1,057,300	$1,803,300
St. Johns	$389,900	$183,200	$115,600	$91,100
Total	**$91,741,533**	**$55,958,338**	**$13,031,575**	**$22,751,620**

2.6 Mitigation Only Activities

2.6.1 Risk-Based Assessment Methodology

2.6.1.1 Conducting a Risk-Based Assessment

This section provides definitions of frequently used terms, describes data sources and hazards analyzed, and outlines the analytical steps of the risk-based assessment. A risk assessment forms the empirical basis for the identification and justification of mitigation actions by highlighting the most significant risks and overall vulnerability of an area (i.e., its capabilities to mitigate, prepare for, respond to, and recover from events).

A risk assessment includes:

- A description of past, and future, hazards affecting a county;

- Identification of community assets (e.g., population, community lifelines, critical infrastructure);
- Determination of exposure (e.g., at risk infrastructure and population); and
- Estimation of possible adverse impacts and consequences.

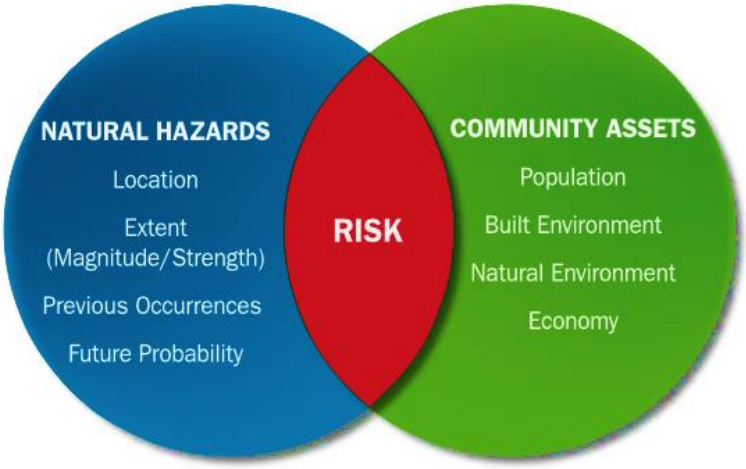

Figure 47: Elements of a risk assessment (FEMA 2013)

In this Assessment*, Risk* is calculated for each hazard as a product of the *Hazard Threat (THR)*, *Vulnerability (VUL),* and *Severity of Consequence (SOC).* All calculations are completed at the unit of analysis which, in this Action Plan, is a 0.25-mile hexagon.

Equation 1: Hazard Risk Equation Utilized in this Assessment

$$RISK_{HAZ} = (THR_{HAZ})(VUL)(SOC_{HAZ})$$

THR, the areal representation of areas exposed to each of 17 hazard types, will be discussed in detail below. However, it is important to note that risk is derived from the combination of a hazard, assets, and people exposed to that hazard, and high enough severity of consequences that there is a realized impact to lives and livelihoods. Places where each of these three is not present will not have a risk or will have a very low risk. For example, an area with high vulnerability (many people, many socially vulnerable people, and high numbers of lifeline elements) may appear to be a good target for mitigation, but if this place does not experience the hazard threats with the SOC, it will not be classified as high risk for that given hazard threat.

2.6.2 Hazard Threat Areal/Frequency Assessment

2.6.2.1 Building on the Existing Research

The analysis in this assessment considers hazards with the potential to occur across any of the Hurricane Ian impacted counties. Additionally, updated data reflecting hazards currently assessed by the FDEM 2018 Mitigation Plan Update[146] and Local Mitigation Strategies for each of the Hurricane Ian IA counties is included to ensure comprehensiveness and connection with current regional and county level hazard mitigation priorities.

The hazard frequency assessment implements cutting edge hazard threat assessment techniques, which broaden the perspective on hazard threat, vulnerability, and consequence modeling for Florida by analyzing a total of 17 hazard events common in U.S. risk assessments and likely across the Hurricane Ian impacted counties. The results provide a more robust understanding of potential risks and an increased understanding of the types of hazards that may pose threat to the area's communities and citizens.

[146] https://www.floridadisaster.org/dem/mitigation/statemitigationstrategy/state-hazard-mitigation-plan/

2.6.2.2 Employing an Empirically Driven Risk-Based Hazard Frequency Assessment

A complete risk assessment requires four basic steps: hazard identification, profiling of hazard events, inventory of assets, and an estimate of potential human and economic losses based on exposure and vulnerability of people, buildings, and infrastructure.

This Hurricane Ian impact area risk-based assessment utilizes the Department of Homeland Security (DHS) extended risk definition.[147] In this definition, risk is the potential for an adverse outcome assessed as a function of threats, vulnerabilities, and consequences associated with an incident, event, or occurrence. The Hazard Analysis and coupled Risk-Based Assessment portion of this document are partitioned into four distinct sections strictly following DHS guidance: Threat Assessment, Vulnerability Assessment, Severity of Consequences Assessment, and the combination of these three resulting in Risk Assessment. A focus first on SOC introduces the hazards being identified and enables a straightforward transition into hazard identification/frequency analysis, and the combination of SOC and hazard threats to ascertain hazard risks for the Hurricane Ian impacted area.

An emphasis on utilizing the most appropriate data, methods, and analytic tools to meet rapid turn-around mitigation timelines, provides the basis from which sound planning and mitigation decisions can be made. This Action Plan is intended for mitigation risk-based assessment informational and planning purposes only. A rigorous geospatial approach and a deep understanding of hazards' geography are utilized in the following analytics and associated results. Connecting empirically based hazard assessments with vulnerability, community lifelines information, and severity of consequences data, provides a more holistic view of risks across the Hurricane Ian impacted area.

2.6.2.3 Methodology

Hazard Threat Analysis

Many hazard analysis techniques and spatial-analytic processes utilized in this assessment are adapted from previous risk assessment procedures in several federal,[148] state,[149-150] and regional[151] mitigation planning documents. Data specific to Hurricane Ian's impacted area for each hazard analyzed herein (Table 43: Hazards Included in this Risk Assessment, in order of Priority Of Analysis) has been carefully reviewed to ensure data quality in several respects. These include:

- Spatial – does the data adequately reflect the entire Hurricane Ian impacted area?
- Temporal – does the data provide an appropriate timeframe for understanding current and future risks?; and
- Numerical – Is the data free from incomplete or inconsistent records?

The results of this analysis have been mapped using geographic information system (GIS) tools that allow for visualization of complex spatial data as one of the following data types:

- Point data –a defined point on a map;
- Grid data – a network of evenly spaced horizontal and vertical lines used to identify locations on a map; and

[147]Department of Homeland Security. DHS Risk Lexicon. September 2008. Accessed at: https://www.dhs.gov/xlibrary/assets/dhs_risk_lexicon.pdf.

[148]Creating a Nationwide Composite Hazard Index Using Empirically Based Threat Assessment Approaches Applied to Open Geospatial Data https://www.mdpi.com/2071-1050/14/5/2685

[149]State of South Carolina. *South Carolina Hazard Mitigation Plan*. October 2018 Update. Accessed at: https://www.scemd.org/media/1391/sc-hazard-mitigation-plan-2018-update.pdf

[150]State of Florida. *Enhanced State Hazard Mitigation Plan*. 2018. Accessed at: https://www.floridadisaster.org/globalassets/dem/mitigation/mitigate-fl--shmp/shmp-2018-full_final_approved.6.11.2018.pdf

[151]State of South Carolina. *An All Natural Hazard Risk Assessment and Hazard Mitigation Plan for the Central Midlands Region of South Carolina*. 2010 Update. Accessed at: https://centralmidlands.org/freedocs/HMPforadoption-WithRevisions.pdf

- Polygon data – the depiction of data by drawing an outline shape for a spatial feature.

Table 43: Hazards Included in this Risk Assessment, in order of Priority Of Analysis[152]

Hazard	Data Type	Time Period Accessed	Temporal/ Spatial Resolution	Methods	Dataset and/or Source*
Flood (100 year)	Polygon	-	Time independent	Modeled inundation of 100-year flood	FEMA
Flash Flood	Polygon	2002-2021	Yearly	Average number of times per year an area can expect to be under a flash flood warning	Iowa State University's Environmental Mesonet
Hurricane Winds	Point	1851-2021	6-hourly	Average times per year an area can expect to experience hurricane-force winds (34 kt.)	HURDAT, CIRA, CSU
Storm Surge	Grid	-	Time independent/ 30 m	Modeled inundation of storm surge from a Category-1 hurricane	SLOSH, NOAA
Severe Storm	Polygon	2002-2021	Yearly	Average number of times per year an area can expect to be under a severe thunderstorm warning	Iowa State University's Environmental Mesonet
Wind	Point	1991-2019	Daily	Average number of days per year with winds above 30 knots	GHCN, NCEI, NOAA
Fog	Point	1991-2021	Daily	Average number of fog days per year using weather station interpolation	GHCN, NCEI, NOAA
Hail	Point	1996-2019	Yearly	Average number of reported hail events per year	SPC, NOAA
High Temperature	Point	1991-2021	Daily	Average number of days where the daily maximum is above 100° F	GHCN, NCEI, NOAA
Low Temperature	Point	1991-2021	Daily	Average annual frequency of days where the daily minimum is below 32 ° F	GHCN, NCEI, NOAA

[152]Priority of analysis determined by The Hurricane Sally AOI Hazard Mitigation Plan - https://recovery.pr/en/document-library

Winter Weather	Point	1991-2021	Daily	Average annual frequency of days an area can expect to experience winter weather	GHCN, NCEI, NOAA
Tornado	Polygon	2002-2021	Yearly	Average number of times per year an area can expect to be under a tornado warning	Iowa State University's Environmental Mesonet
Sinkholes	Point	Early 1960's - Present	Time independent	Sinkhole Occurrence Dataset	Florida Department of Environmental Protection
Drought	Polygon	2000-2021	Weekly	Average number of weeks in drought per year	USDM
Wildfires	Polygon	1994-2020	Yearly	Probability of an acre or more burning, if ignited	Florida Fish and Wildlife Conservation Commission
Lightning	Grid	1991-2021	Yearly/4 km	Average number of cloud-to-ground lightning flashes per year	NCEI, NOAA
Sea-Level Rise	Grid		Time independent	Water depth above ground for 4 ft Sea-Level Rise	NOAA

*CIRA, CSU = Cooperative Institute for Research in the Atmosphere - Colorado State University; GHCN = Global Historical Climatology Network; HURDAT = The Hurricane Database; NCEI = National Centers for Environmental Information; NOAA = National Oceanic and Atmospheric Administration; SLOSH = Sea Lake and Overland Surge from Hurricanes; SPC = Storm Prediction Center; USDM = U. S. Drought Monitor; USGS = U. S. Geological Survey

Hazard Threat Representation

The hazard source data identified above is available in a variety of different geospatial formats, including GIS Vector (points, lines, and polygons) types and GIS Raster (grid) data types. Assessing hazard threats using these native GIS data types, without first standardizing the data to a common spatial scale and reference would result in a set of outputs with very low utility to planners and decision makers. Overcoming the complexities inherent in this massive quantity of input and analytic data requires several steps be taken for results to be locally relevant and understandable to the general public. Each dataset was converted to a common geography (hex grid) with an appropriate scale to assess each hazard at a level suitable to meet HUD mitigation requirements, namely "Description of the impacts geographically by type at the lowest level practicable (e.g., county level or lower if available, and neighborhood or census tract level for cities)."

A 0.25-square-mile hexagonal grid is used in this assessment because it provides the best coverage for small spatial areas while providing an ability to visualize spatial differences across the Hurricane Ian impacted area. Summarizing underlying spatial data to the 0.25-square-mile grid cell provides a grid-

specific set of information that is fine enough to see patterns at a sub-county level and coarse enough to study each hazard threat across the entire Hurricane Ian impacted area.

Hexagonal (hex) grids represent a simplified method to display complex geospatial information[153] in an approachable way that also allows for aggregation of the data.[154] Using regular spatial bins (hexagons) serves three primary goals. First, visual binning with hex grids simplifies data sets and aids in visual communication of complex data. If done correctly, visual binning can enable readers to make reasonable count or density estimates that would otherwise be impossible because of the complexity of underlying data. Second, spatial binning shows a smooth surface of aggregated values across larger areas. Finally, a standardized regular gridded framework, such as the hexagonal grids used here, enables analysis and evaluation within and between datasets that would normally be difficult (or impossible) to compare visually, statistically, or spatially. An example of the difference between complex geography and the simplicity provided by aggregating to the hex grid can be seen in part A of Figure 48: Example Transformation of Complex Data to Hexagonal Grid

where the complex road network across the Hurricane Ian AOI does not lend itself well to summarizing in meaningful ways and understanding where "more" roads are located. However, once summarized at the hex grid level (part B of Figure 48: Example Transformation of Complex Data to Hexagonal Grid

) the formerly complex and confusing geography gives way to a standardized representation across the impacted area. This process was repeated for every dataset in this assessment. Doing so enables a streamlined and understandable way to combine the vast amount of data used in this assessment in a meaningful way.

[153]Tableau. *Data Map Discovery: How to use spatial binning for complex point distribution maps*. Accessed at: https://www.tableau.com/about/blog/2017/11/data-map-discovery-78603

[154]ResearchGate. *Shapes on a plane: evaluating the impact of projection distortion on spatial binning*. Accessed at: https://www.researchgate.net/publication/303290602_Shapes_on_a_plane_evaluating_the_impact_of_projection_distortion_on_spatial_binning

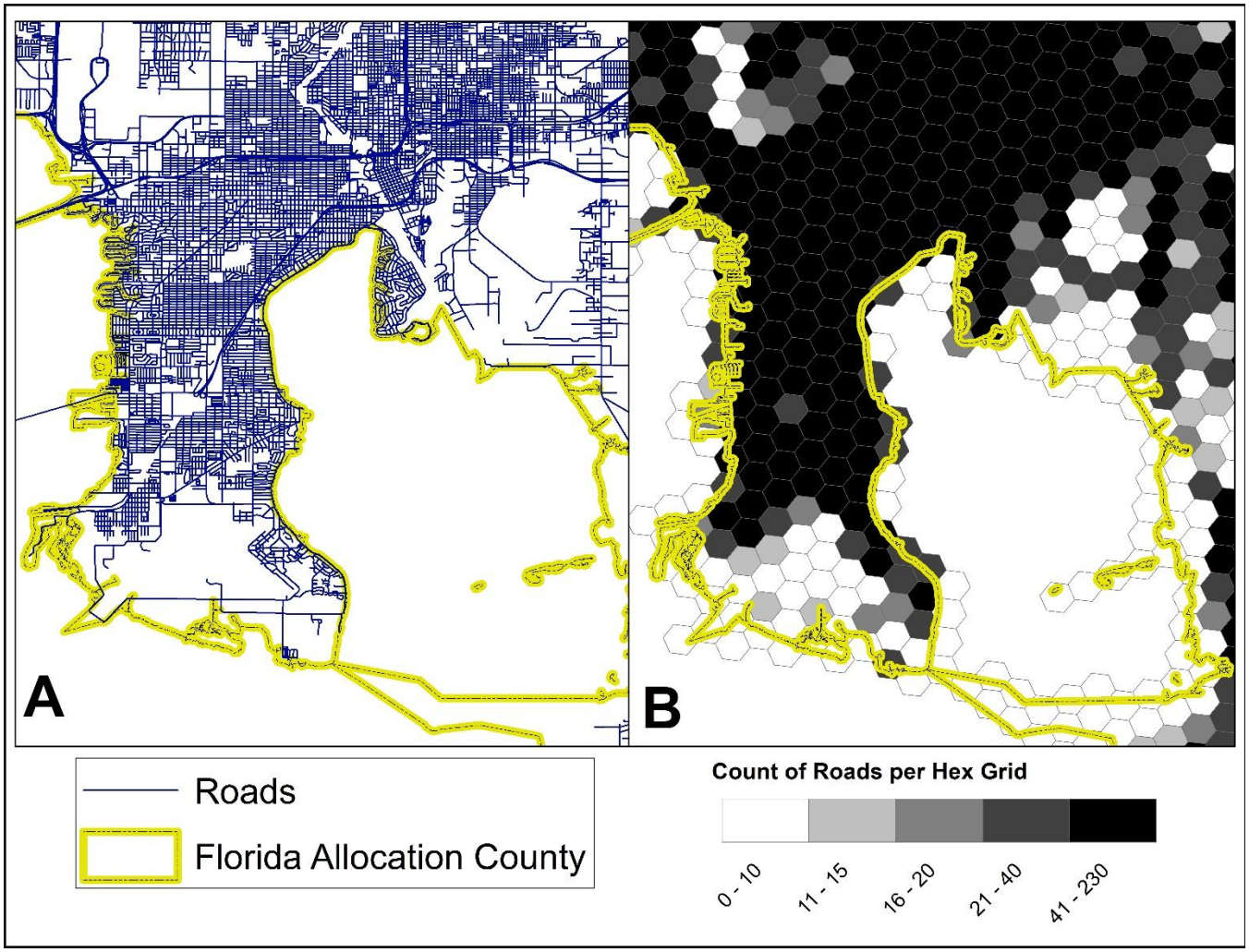

Figure 48: Example Transformation of Complex Data to Hexagonal Grid

Vulnerability Analysis

Vulnerability (i.e., a locality's pre-existing characteristics) remains static for each hazard and is calculated as the average min/max standardized (Xsc=(X−Xmin)/(Xmax−Xmin) sum of *population density, social vulnerability, and lifeline density scaled (Low 1 – to High 5).*

Equation 2: Vulnerability portion of the Hazard Risk Equation Utilized in this Assessment

$$VUL = MinMax\ standarized \sum \begin{matrix} Population\ Density\ Vulnerability\ Class, \\ Social\ Vulnerability\ Class, \\ Lifeline\ Density\ Class \end{matrix}$$

Lifeline density vulnerability was determined by developing a GIS inventory of FEMA's community lifelines,[155] a census block group representation of population density, and an area (tract) measure of social vulnerability. Community lifelines and critical infrastructure assets include transportation facilities, communication facilities, water and wastewater facilities, and power facilities among others described in Section 2.6.2.4 Vulnerability Data and Analysis. Socially vulnerable populations were identified by applying the Social Vulnerability Index first developed by Cutter (2003)[156] and later refined by scholars at

[155] FEMA Community Lifeline Data. Accessed at: https://www.FEMA.gov/lifelines

[156] Social Vulnerability Index publication. Accessed at: https://onlinelibrary.wiley.com/doi/abs/10.1111/1540-6237.8402002

the University of Central Florida.[157] Population density vulnerability was calculated using US Decennial Census 2020 Block level demographic and housing characteristics.[158] Each vulnerability variable was then transformed into classes zero (1) to five (5). The variable classes were then summed and divided by three to develop a composite vulnerability score from zero (0) to five (5) (Equation 2: Vulnerability portion of the Hazard Risk Equation Utilized in this Assessment).

2.6.2.4 Vulnerability Data and Analysis

Population Density

The map below (Figure 49: The Hurricane Ian AOI's Population Distribution) is based on the population data collected from the 2020 Block level Decennial census products and geo-processed with the ESRI ArcGIS Pro Create Random Points tool to randomly distribute the population across each census block. Like critical infrastructure, this population data was geo-processed with the ESRI ArcGIS Pro-Summarize Within tool, to generate a count of points within each 0.25-square-mile hex grid. The population per hex grid was classified on a quasi-exponential classification scale, showing areas with higher populations across the Hurricane Ian AOI (Figure 49: The Hurricane Ian AOI's Population Distribution).

Box 1: Population Vulnerability Mitigation Takeaway

Mitigation Takeaway: Several different approaches to mitigation can help identify the most appropriate areas to utilize scarce funds for the highest effect. One approach, the Utilitarian method, would utilize this population specific vulnerability measure to identify where the most people are living and putting funds towards these "most populated places". This method would likely produce positive mitigation outcomes in these places. However, without accounting for socially vulnerable populations, lifeline locations, threat areas, or severity of consequences, using population density alone to make decisions on mitigation spending is probably not the most logical or effective path toward holistic, community level mitigation success.

[157] UCF's Vulnerability Mapping and Analysis Platform. Accessed at: www.vulnerabilitymap.org

[158] US Census, 2020 Decennial Census, Table P1 – Total Population

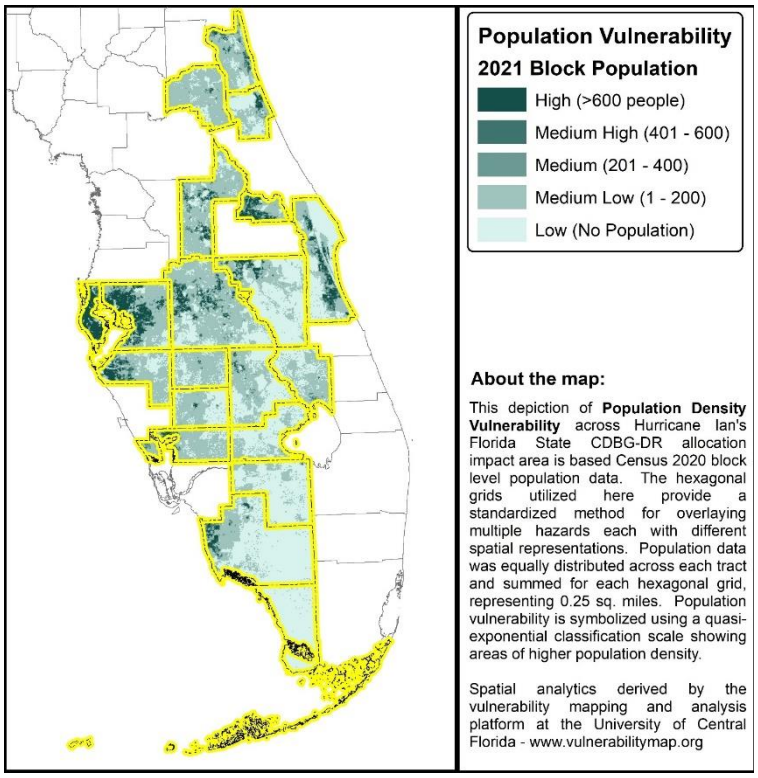

Figure 49: The Hurricane Ian AOI's Population Distribution

Table 44: Population Density Vulnerability Hex Area Summary

Ian Area of Interest	Total (0.25 sq. mile) Hex Grids	Population Vulnerability Category									
		Low		Medium Low		Medium		Medium High		High	
		Total Hex Grids	% of Hex Grids	Total Hex Grids	% of Hex Grids	Total Hex Grids	% of Hex Grids	Total Hex Grids	% of Hex Grids	Total Hex Grids	% of Hex Grids
All Counties	75,923	31,688	41.74%	35,064	46.18%	3,146	4.14%	2,211	2.91%	3,814	5.02%
Brevard	4,290	1,819	42.40%	1,554	36.22%	290	6.76%	263	6.13%	364	8.48%
Charlotte	3,163	626	19.79%	2,192	69.30%	177	5.60%	117	3.70%	51	1.61%
Collier	8,669	6,145	70.88%	1,975	22.78%	227	2.62%	148	1.71%	174	2.01%
DeSoto	2,677	1,317	49.20%	1,318	49.23%	24	0.90%	9	0.34%	9	0.34%
Flagler	2,153	1,071	49.74%	887	41.20%	86	3.99%	49	2.28%	60	2.79%
Glades	3,459	2,268	65.57%	1,178	34.06%	9	0.26%	3	0.09%	1	0.03%
Hardee	2,676	933	34.87%	1,715	64.09%	18	0.67%	3	0.11%	7	0.26%
Hendry	4,861	3,693	75.97%	1,118	23.00%	22	0.45%	16	0.33%	12	0.25%
Highlands	4,287	2,177	50.78%	1,968	45.91%	80	1.87%	45	1.05%	17	0.40%
Hillsborough	4,459	471	10.56%	2,293	51.42%	427	9.58%	327	7.33%	941	21.10%
Lake	4,858	904	18.61%	3,343	68.81%	293	6.03%	165	3.40%	153	3.15%
Manatee	3,358	813	24.21%	1,965	58.52%	225	6.70%	132	3.93%	223	6.64%
Monroe	1,786	1,041	58.29%	626	35.05%	75	4.20%	22	1.23%	22	1.23%
Okeechobee	3,311	1,538	46.45%	1,718	51.89%	36	1.09%	18	0.54%	1	0.03%
Osceola	6,271	4,056	64.68%	1,683	26.84%	160	2.55%	130	2.07%	242	3.86%

Pinellas	1,516	170	11.21%	302	19.92%	137	9.04%	165	10.88%	742	48.94%
Polk	8,263	2,363	28.60%	4,768	57.70%	459	5.55%	321	3.88%	352	4.26%
Putnam	3,472	686	19.76%	2,736	78.80%	32	0.92%	9	0.26%	9	0.26%
Seminole	1,492	125	8.38%	698	46.78%	159	10.66%	160	10.72%	350	23.46%
St. Johns	2,731	535	19.59%	1,723	63.09%	246	9.01%	128	4.69%	99	3.63%

Social Vulnerability

Social vulnerability describes an area's capacity to prepare for, respond to, and rebound from disaster events,[159] and has a long conceptual and theoretical history in social and disaster science fields.[160] Socially vulnerable populations have fewer resources to aid in preparation for disasters, and often bear the brunt of disaster impacts and take longer to bounce back from disaster events. Empirical measures of social vulnerability enable decision makers and emergency managers to understand where vulnerable populations reside and how that vulnerability manifests across a landscape. The 29 criteria utilized for this analysis are described in Table 45: Social Vulnerability Index Input Variables.[161]

Table 45: Social Vulnerability Index Input Variables

Variable	Description	Pillar
1	Percent Civilian Unemployment	Employment Structure
2	Percent Employment in Extractive Industries	Employment Structure
3	Percent Employment in Service Industry	Employment Structure
4	Percent Female Participation in Labor Force	Employment Structure
5	Percent Renters	Housing
6	Percent Mobile Homes	Housing
7	Percent Unoccupied Housing Units	Housing
8	Percent Population under 5 years or 65 and over*	Population structure
9	Percent of Children Living in 2-parent families	Population structure
10	Median Age	Population structure
11	Percent Female*	Population structure
12	Percent Female Headed Households*	Population structure
13	People per Unit	Population structure
14	Percent Asian*	Race/Ethnicity
15	Percent Black*	Race/Ethnicity
16	Percent Hispanic*	Race/Ethnicity
17	Percent Native American*	Race/Ethnicity
18	Percent Poverty	Socioeconomic Status

[159] Cutter, Susan L., Emrich, Christopher T. *Moral Hazard, Social Catastrophe: The Changing Face of Vulnerability along the Hurricane Coasts*. The ANNALS of the American Academy of Political and Social Science. March 1, 2006. Accessed at: https://doi.org/10.1177/0002716205285515

[160] Birkmann, Jörn. *Measuring Vulnerability to Natural Hazards: Towards Disaster Resilient Societies Second Edition*. United National University Press. December 2013. Accessed at: https://unu.edu/publications/books/measuring-vulnerability-to-natural-hazards-towards-disaster-resilient-societies-second-edition.html#overview

[161] Additional information about SoVI criteria can be found at www.vulnerabilitymap.org

19	Percent Households Earning over $200,000 annually	Socioeconomic Status
20	Per Capita Income	Socioeconomic Status
21	Percent with Less than 12th Grade Education	Socioeconomic Status
22	Median Housing Value	Socioeconomic Status
23	Median Gross Rent	Socioeconomic Status
24	Percent of households spending more than 40 percent of their income on rent or mortgage	Socioeconomic Status
25	Percent Households Receiving Social Security Benefits*	Special Needs
26	Percent Speaking English as a Second Language with Limited English Proficiency	Special Needs
27	Nursing Home Residents Per Capita	Special Needs
28	Percent of population without health insurance	Special Needs
29	Percent of Housing Units with No Car	Special Needs
**Indicates a characteristic tied to a protected class under The Civil Rights Act of 1991 (Pub. L. 102-166)*[162]		

These indicators of social vulnerability were used to create a Social Vulnerability Index (SoVI) for the Hurricane Ian area of interest (AOI). The 29 input variables were processed using SoVI methods originally established at the University of South Carolina's Hazards & Vulnerability Research Institute (HVRI) by Dr. Susan Cutter.[163] Outputs of the social vulnerability process produced 7 main components representing the main drivers of social vulnerability across the Hurricane Ian AOI – each representing a different set of baseline conditions leading to lower individual and community capacity to prepare for, respond to, and rebound from shocks and stresses like Hurricane Ian. Here, social vulnerability is mainly derived from combinations of variables described in Figure 50: Social Vulnerability Index Factors including 1. Aging populations and those dependent on the government support; 2. Those with a lack of wealth (not necessarily impoverished); 3. People who do not have access to automobiles, spend more than 40 percent of their income on housing costs, or are renting; 4. Hispanic populations, People with limited English proficiency, and those without health insurance; 5. Unemployed individuals and those living in areas with higher home vacancy rates; 6. Places with higher female employment rates and working families; and 7. Native American populations and those working in primary sector employment. It is important to note that social vulnerability manifests itself dynamically in every census tract and that what makes one place socially vulnerable may not be the same thing that makes another place, community, family, or individual vulnerable to adverse disaster outcomes.

[162] In addition to considering protected class individuals in the SoVI analysis, PRDOH will also consider during implementation how assistance impacts beneficiaries that are classified as a protected class and shall consider HUD resources on racially and ethnically concentrated areas of poverty as published here: https://HUDgis-HUD.opendata.arcgis.com/datasets/56de4edea8264fe5a344da9811ef5d6e_0?geometry=-68.905%2C17.630%2C-64.845%2C18.544

[163] http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.1002.1623&rep=rep1&type=pdf

Factor	Vulnerability Influence	Description	% Variance Explained	Dominant Variables	Component Loading
1	↑	Age	14.7251	Median Age (MEDAGE)	0.8888
				Age Dependent Populations (QAGEDEP)	0.8775
				Social Security Beneficiaries (QSSBEN)	0.8089
2	↓	Wealth	13.4280	House Value (MDHSEVAL)	0.9029
				Wealth (PERCAP)	0.8168
				Wealth (QRICH200K)	0.8052
3	↑	Access Barrier and Housing Tenure	12.7189	No Auto Access (QNOAUTO)	0.7802
				Renters (QRENTER)	0.7524
				High Housing Cost Burden (QHSEBURDEN)	0.7488
4	↑	Access Barrier and Ethnicity	9.0301	English Language Proficiency (QESL)	0.8517
				Ethnicity (Hispanic) (QHISP)	0.8207
				Populations without Health Insurance (QUNINSURED)	0.4855
5	↑	Employment and Race	6.7073	Unemployment (QCVLUN)	0.6046
				Low % Asian Populations (QASIAN)	-0.5233
				Vacant Homes (QUNOCCHU)	0.4562
6	↑	Gendered Employment and Gender	6.5085	Gendered (Female) Employment (QFEMLBR)	0.8139
				Gender (Female) (QFEMALE)	0.8010
				Working Families (QCVLUN)	-0.3262
7	↑	Race and Employment Type	5.5460	Race (Native American) (QNATAM)	0.8638
				Employment (Primary Sector) (QEXTRCT)	0.7489
				Populations without Health Insurance (QUNINSURED)	0.3183
		Total Variance Explained	68.664		

Figure 50: Social Vulnerability Index Factors

SoVI scores, derived from a combination of the components in Figure 50: Social Vulnerability Index Factors, were categorized (0 – no data to 5 – high social vulnerability) using a standard deviation classification scheme and mapped for all areas of the Hurricane Ian AOI (Figure 51: The Hurricane Ian AOI's Social Vulnerability Index). Here, one can easily see the broad swaths of high and medium-high social vulnerability in the more rural portions of the AOI in each county. However, the entire south central Ian impact area, including Hendry, Desoto, and portions of Polk County top the other counties in terms of amount of area characterized by medium-high to high social vulnerability with nearly 60 percent (Figure 51: The Hurricane Ian AOI's Social Vulnerability Index).

Box 2: Social Vulnerability Mitigation Takeaway

Mitigation Takeaway: Socially vulnerable people often have less ability to prepare for, respond to, and rebound from disasters. People living in these medium-high to high social vulnerability areas would benefit from any mitigation measures that decrease community vulnerability, protect lifelines, or decrease the severity of impacts from the many hazards threatening the area.

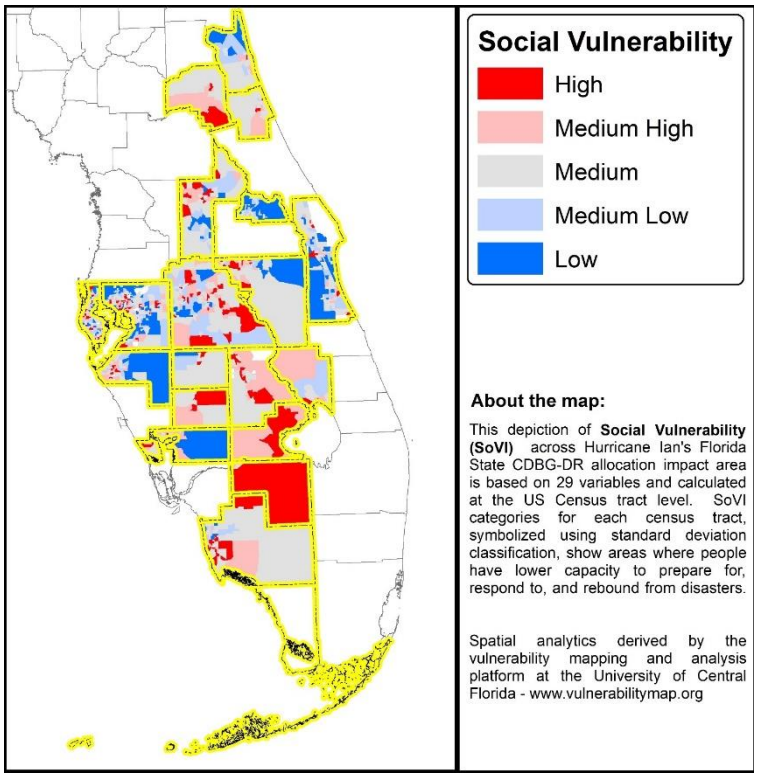

Figure 51: The Hurricane Ian AOI's Social Vulnerability Index[164]

Table 46: Social Vulnerability Hex Area Summary

Ian Area of Interest	Total (0.25 sq. mile) Hex Grids	Social Vulnerability Category									
		Low		Medium Low		Medium		Medium High		High	
		Total Hex Grids	% of Hex Grids	Total Hex Grids	% of Hex Grids	Total Hex Grids	% of Hex Grids	Total Hex Grids	% of Hex Grids	Total Hex Grids	% of Hex Grids
All Counties	75,923	9,874	13.01%	7,150	9.42%	31,113	40.98%	14,406	18.97%	13,380	17.62%
Brevard	4,290	1,624	37.86%	467	10.89%	1,775	41.38%	261	6.08%	163	3.80%
Charlotte	3,163	1,732	54.76%	1	0.03%	511	16.16%	749	23.68%	170	5.37%
Collier	8,669	38	0.44%	129	1.49%	5,819	67.12%	1,489	17.18%	1,194	13.77%
DeSoto	2,677	-	0.00%	-	0.00%	1,172	43.78%	758	28.32%	747	27.90%
Flagler	2,153	-	0.00%	4	0.19%	1,464	68.00%	616	28.61%	69	3.20%
Glades	3,459	-	0.00%	-	0.00%	-	0.00%	2,131	61.61%	1,328	38.39%
Hardee	2,676	164	6.13%	352	13.15%	1,945	72.68%	26	0.97%	189	7.06%
Hendry	4,861	-	0.00%	-	0.00%	33	0.68%	103	2.12%	4,725	97.20%
Highlands	4,287	-	0.00%	38	0.89%	1,733	40.42%	1,881	43.88%	635	14.81%
Hillsborough	4,459	968	21.71%	900	20.18%	1,650	37.00%	509	11.42%	432	9.69%
Lake	4,858	286	5.89%	713	14.68%	2,752	56.65%	462	9.51%	645	13.28%
Manatee	3,358	2,034	60.57%	185	5.51%	688	20.49%	316	9.41%	135	4.02%
Monroe	1,786	6	0.34%	442	24.75%	1,033	57.84%	224	12.54%	81	4.54%

[164] Created from www.vulnerabilitymap.org

Okeechobee	3,311	-	0.00%	877	26.49%	342	10.33%	1,870	56.48%	222	6.70%
Osceola	6,271	1,159	18.48%	102	1.63%	4,219	67.28%	363	5.79%	428	6.83%
Pinellas	1,516	130	8.58%	221	14.58%	687	45.32%	235	15.50%	243	16.03%
Polk	8,263	304	3.68%	1,955	23.66%	2,605	31.53%	1,653	20.00%	1,746	21.13%
Putnam	3,472	-	0.00%	-	0.00%	1,663	47.90%	1,076	30.99%	733	21.11%
Seminole	1,492	931	62.40%	161	10.79%	362	24.26%	23	1.54%	15	1.01%
St. Johns	2,731	556	20.36%	676	24.75%	1,342	49.14%	140	5.13%	17	0.62%

Community Lifelines and Critical Infrastructure

Following the 2017 Hurricane Season, FEMA produced an After-Action Report[165] utilizing a relatively new construct for disaster planning and response that centers on the stability of critical infrastructure lifelines enabling the continuous operation of critical government and business functions essential to human health and safety or economic security.

Here, FEMA sees lifelines as the integrated network of assets, services, and capabilities used day-to-day to support the recurring needs of the community. FEMA's community lifelines construct establishes a national standard for disaster response, recovery, and preparedness, including mitigation. The lifelines construct recognizes that communities depend on a network of interdependent systems that involve public and private entities including everything from utilities to hospitals to supermarkets. At any point along the lifeline, a failure can result in a cascading set of negative outcomes (or failures) in other directions.

Figure 52: FEMA Community Lifelines utilized in this assessment

[165] FEMA. *2017 Hurricane Season FEMA After-Action Report*. July 12, 2018. Accessed at: https://www.FEMA.gov/sites/default/files/2020-08/fema_hurricane-season-after-action-report_2017.pdf

These concepts are considered in this assessment with specific emphasis on links between community lifelines as part of the vulnerability equation. Stabilizing and protecting community lifelines in catastrophic incidents is vital and requires improved coordination and response structures, reinforced through long-term permanent solutions that mitigate the impact of disaster events.

Data on community lifelines and critical infrastructure assets (Table 47: Data sources for community lifelines and critical assets) were collected based on FEMA's Community Lifelines[166] with the understanding that:

- Lifelines enable the continuous operation of critical government and business functions and are essential to human health and safety or economic security.
- Lifelines are the most fundamental services in the community that, when stabilized, enable all other aspects of society to function.
- FEMA has developed a construct for objectives-based response that prioritizes the rapid stabilization of Community Lifelines after a disaster.
- The integrated network of assets, services, and capabilities that provide lifeline services are used day-to-day to support the recurring needs of the community and enable all other aspects of society to function.
- When disrupted, decisive intervention (e.g., rapid re-establishment or employment of contingency response solutions) is required to stabilize the incident.

Data originated from the state and federal sources identified in Table 47: Data sources for community lifelines and critical assets.

Table 47: Data sources for community lifelines and critical assets

FEMA Lifeline	Variable	Source	Critical
Safety and Security	Law Enforcement	https://www.arcgis.com/home/item.html?id=0d79b978d71b4654bddb6ca0f4b7f830	Yes
	Prisons	https://www.arcgis.com/home/item.html?id=2d6109d4127d458eaf0958e4c5296b67	
	Fire Stations	https://ucfonline.maps.arcgis.com/home/item.html?id=0ccaf0c53b794eb8ac3d3de6afdb3286	Yes
	Govt Services - Courthouses	https://www.arcgis.com/home/item.html?id=7d121358b28042fe863d10a0c3c46709	
	Local EOCs	https://www.arcgis.com/home/item.html?id=874798faedc74358bac9bbe1867af3c7	Yes
	Convention Centers/ Fairgrounds	https://www.arcgis.com/home/item.html?id=86c323b5d44748228ef10bc8b452d9f7	
	Public Schools	https://www.arcgis.com/home/item.html?id=87376bdb0cb3490cbda39935626f6604	
	Private Schools	https://www.arcgis.com/home/item.html?id=0dfe37d2a68545a699b999804354dacf	
	Colleges and Universities	https://www.arcgis.com/home/item.html?id=0d7bedf9d582472e9ff7a6874589b545	

[166] https://www.FEMA.gov/lifelines

FEMA Lifeline	Variable	Source	Critical
	Mobile Home Parks	https://www.arcgis.com/home/item.html?id=4cdbccc5c538452aa91ceee277c460f9	
	Places of Worship	https://www.arcgis.com/home/item.html?id=97603afcff00443f874acbe03c9e794a	
	Nursing Homes	https://www.arcgis.com/home/item.html?id=78c58035fb3942ba82af991bb4476f13	
	Military Installations	https://www.arcgis.com/home/item.html?id=5f55bf4a45e7447d8d695e05c0d1ff89 Data also provided by FDEM	
Food, Water, Shelter	Food Stores	https://www.arcgis.com/home/item.html?id=6c8c635b1ea94001a52bf28179d1e32b	
	School Lunch Program Sites	https://ucfonline.maps.arcgis.com/home/item.html?id=887bd27ddfbf41bb8a37e31444931696	
	Water Treatment and Water Supply	Water Intake Facilities – Shapefile provided by FDEM	Yes
	Shelter	https://www.arcgis.com/home/item.html?id=bcaf5fdb3db24c78afee52d4c8a02748	
Health & Medical	Medical Care	https://www.arcgis.com/home/item.html?id=6c8c635b1ea94001a52bf28179d1e32b	Yes
	Emergency Medical Service Facilities	https://www.arcgis.com/home/item.html?id=3afdb0478d6940e7ace338976833925d	Yes
	Hospitals	https://ucfonline.maps.arcgis.com/home/item.html?id=75079bdea94743bcaca7b6e833692639	Yes
Energy	Electric Production and Supply Facilities	https://www.arcgis.com/home/item.html?id=2676f3670201469e95d7f488878c00a5 https://www.arcgis.com/home/item.html?id=13b4728b7403404cb72b52b5367a1ad6	Yes
	Substations	https://www.arcgis.com/home/item.html?id=755e8c8ae15a4c9abfceca7b2e95fb9a	Yes
	Fuel Stations	https://www.arcgis.com/home/item.html?id=6c8c635b1ea94001a52bf28179d1e32b	
Communications & Finance	Infrastructure	Cell Towers - https://www.arcgis.com/home/item.html?id=15dabb4108254481b591018be2598f3c	
	Banks and Finance	https://www.arcgis.com/home/item.html?id=6c8c635b1ea94001a52bf28179d1e32b ,	

FEMA Lifeline	Variable	Source	Critical
Transportation	Roadways	https://ucfonline.maps.arcgis.com/home/item.html?id=ef89ed40fe6d46b19301391bfb99ceca	
	Bridges	https://www.arcgis.com/home/item.html?id=a0fa29a39fe444ac97d4337c569b9801	
	Bus Terminals and Freight Terminals	https://www.arcgis.com/home/item.html?id=2740a1adadb7418d8ab175e4c42e45e9	
	Railway	https://www.arcgis.com/home/item.html?id=d209f26edc86485a9c631311e50d9940	
	Ports	https://www.arcgis.com/home/item.html?id=a8311108e2964dcba4a7c1fedb5763ff	
	Marinas	https://geodata.dep.state.fl.us/datasets/FDEP::clean-marinas/about	
	Aviation	https://www.arcgis.com/home/item.html?id=e747ab91a11045e8b3f8a3efd093d3b5	Yes
Hazardous Materials	Toxic Release Inventory Sites	https://ucfonline.maps.arcgis.com/home/item.html?id=76e9a521bc4245388c0d734be62bfb51	
	Superfund Sites	https://www.arcgis.com/home/item.html?id=c2b7cdff579c41bbba4898400aa38815	
	Sewer Treatment	https://www.arcgis.com/home/item.html?id=b56483ed6e8e4154ba57a429fdb12f97	Yes
	Solid Waste	https://www.arcgis.com/home/item.html?id=155761d340764921ab7fb2e88257bd97	Yes

Community Lifeline locations are captured and mapped using either point features (individual locations) or line features (sets of point features) depending on the infrastructure asset. For example, electric generation facilities are represented by a point, while electrical transmission lines are represented as line features inside a GIS system. For this assessment, line feature classes representing critical infrastructure were converted to point feature classes using the ESRI ArcGIS Pro Generate Points Along Lines tool generating a point at each end point and every 0.1 mile (528 feet) along the line feature. Critical infrastructure point data and point data generated from the line features was then merged to create one complete point feature representation of community lifelines across the Hurricane Ian impacted areas and summarized to generate a count of points within each 0.25-mile hex grid. Here, critical lifelines (Table 47: Data sources for community lifelines and critical assets) representing assets that are either lacking redundancy [Emergency Operations Centers (EOC), substations, wastewater, airports or those that are essential for response and recovery from disasters (hospitals, police/fire/emergency medical services)] were weighted three times more heavily in the community lifeline vulnerability portion of this assessment than other community lifelines in order to reflect their critical importance across the area. Community lifeline counts were then classified using an equal interval classifications scheme and mapped using the same output hex grid as the hazard threat maps.

Critical Lifeline Infrastructure Density

As described above, critical lifeline infrastructure locations are captured and mapped using either point features (individual locations) or line features (sets of point features) depending on the infrastructure

asset. For this assessment, line feature classes representing critical infrastructure were converted to point feature classes using the ESRI ArcGIS Pro Generate Points Along Lines tool generating a point at each endpoint and every 200 meters along the line feature. Critical infrastructure point data and point data generated from the line features were then merged to create one complete point feature representation of critical infrastructure. This point data was then geo-processed with the ESRI ArcGIS Pro Summarize Within tool to generate a count of points within each 0.25-square-mile hex grid. Critical lifeline infrastructure counts were then classified using an equal interval classifications scheme and mapped using the same output hex grid as the hazard threat maps (Figure 53: The Hurricane Ian AOI's Critical Infrastructure Elements gathered using FEMA's lifeline guidance).

Box 3: Lifeline Vulnerability Mitigation Takeaway

Mitigation Takeaway: Community Lifelines identify the core pillars for supporting community resilience in a way that is common to all phases of the emergency management cycle. As one might assume, places with more people tend to have more lifelines, however, this is not always the case. As such, understanding where the most lifeline elements are located across the AOI represents a second tier of awareness for mitigation decision making. Protecting the areas characterized as "high" here would provide a benefit to society, yet doing so without hazard awareness may lead to protecting assets that are not threatened over other assets in lower categories that may fall inside of high hazard threat zones.

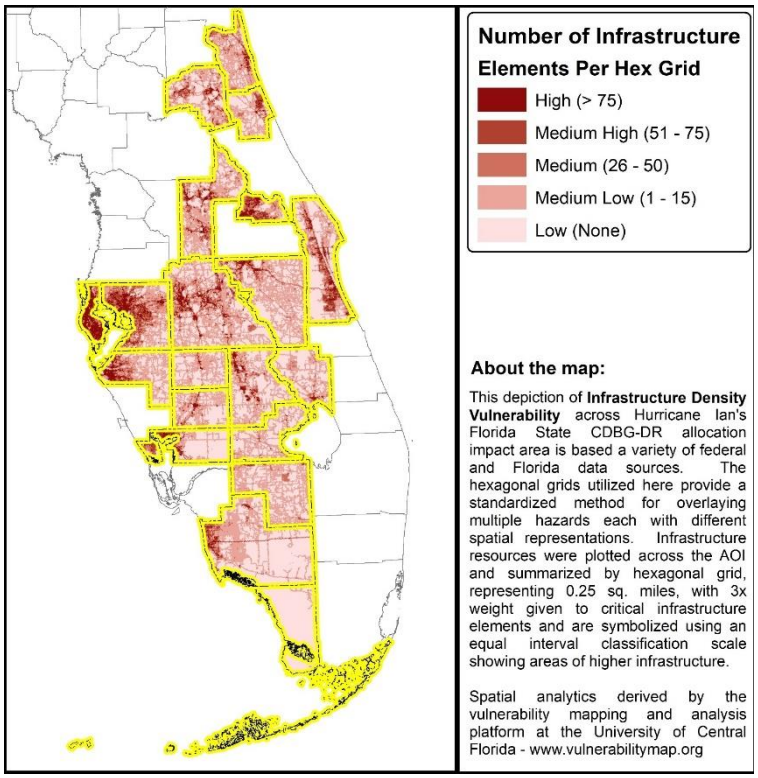

Figure 53: The Hurricane Ian AOI's Critical Infrastructure Elements gathered using FEMA's lifeline guidance

Table 48: Lifeline Vulnerability Hex Area Summary

Ian Area of Interest	Total (0.25 sq. mile) Hex Grids	Lifeline Vulnerability Category									
		Low		Medium Low		Medium		Medium High		High	
		Total Hex Grids	% of Hex Grids	Total Hex Grids	% of Hex Grids	Total Hex Grids	% of Hex Grids	Total Hex Grids	% of Hex Grids	Total Hex Grids	% of Hex Grids
All Counties	82,336	37,745	45.84%	31,374	38.10%	6,477	7.87%	3,565	4.33%	3,175	3.85%

Brevard	5,422	2,616	48.25%	1,607	29.64%	564	10.40%	421	7.76%	214	.38%
Charlotte	3,163	1,862	58.87%	631	19.95%	232	7.33%	258	8.16%	180	.21%
Collier	8,680	5,328	61.38%	2,633	30.33%	405	4.67%	205	2.36%	109	%
DeSoto	2,677	1,244	46.47%	1,194	44.60%	166	6.20%	39	1.46%	34	%
Flagler	2,153	943	43.80%	878	40.78%	191	8.87%	108	5.02%	33	%
Glades	3,470	1,753	50.52%	1,558	44.90%	112	3.23%	28	0.81%	19	%
Hardee	2,676	1,255	46.90%	1,335	49.89%	51	1.91%	19	0.71%	16	%
Hendry	4,863	1,994	41.00%	2,577	52.99%	207	4.26%	56	1.15%	29	%
Highlands	4,624	2,044	44.20%	2,047	44.27%	264	5.71%	132	2.85%	137	%
Hillsborough	4,577	934	20.41%	1,755	38.34%	868	18.96%	546	11.93%	474	%
Lake	4,866	1,686	34.65%	2,329	47.86%	469	9.64%	209	4.30%	173	%
Manatee	3,374	1,228	36.40%	1,444	42.80%	315	9.34%	183	5.42%	204	%
Monroe	6,372	5,515	86.55%	596	9.35%	116	1.82%	64	1.00%	81	%
Okeechobee	3,311	1,792	54.12%	1,317	39.78%	150	4.53%	30	0.91%	22	%
Osceola	6,272	2,596	41.39%	2,980	47.51%	380	6.06%	172	2.74%	144	%
Pinellas	1,524	182	11.94%	285	18.70%	215	14.11%	232	15.22%	610	%
Polk	8,310	3,144	37.83%	3,604	43.37%	822	9.89%	392	4.72%	348	%
Putnam	3,481	1,350	38.78%	1,524	43.78%	394	11.32%	146	4.19%	67	%
Seminole	1,492	325	21.78%	455	30.50%	265	17.76%	223	14.95%	224	%
St. Johns	2,858	818	28.62%	1,441	50.42%	389	13.61%	130	4.55%	80	%

2.6.2.5 Composite Hazard Vulnerability

Each vulnerability variable (Critical Infrastructure Density, Social Vulnerability, and Population Density) was classified from zero (0) to five (5). The variables were then summed and min/max standardized to develop a composite vulnerability score from zero (0) to five (5).

Box 4: Composite Vulnerability Mitigation Takeaway

Mitigation Takeaway: This composite vulnerability map provides a balance between the utilitarian approach of "the greatest good for the greatest number" and the Rawlsian approach of "helping those who most need assistance" provided by the social vulnerability index. In concert, one can more easily identify where people, lifelines, and socially vulnerable populations are highest. Here, Hillsborough County, Pinellas County, and Seminole County have the most area in the highest category. Yet, without intel on hazards and severity of consequences this depiction can only provide us part of mitigation needs across the AOI.

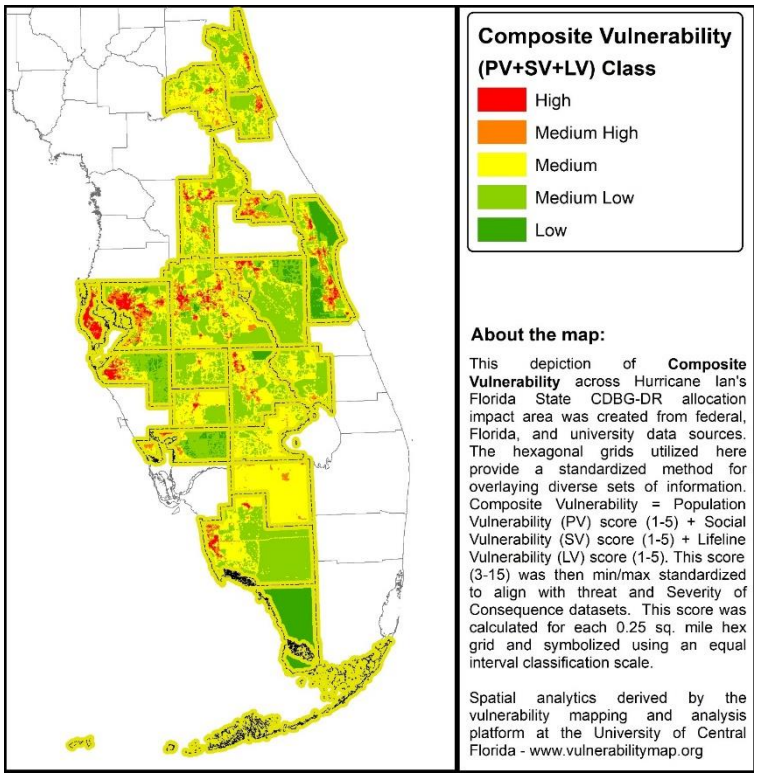

Figure 54: The Hurricane Ian AOI's Composite Hazard Vulnerability

Table 49: Lifeline Vulnerability Hex Area Summary

Ian Area of Interest	Total (0.25 sq. mile) Hex Grids	Composite Vulnerability Category									
		Low		Medium Low		Medium		Medium High		High	
		Total Hex Grids	% of Hex Grids	Total Hex Grids	% of Hex Grids	Total Hex Grids	% of Hex Grids	Total Hex Grids	% of Hex Grids	Total Hex Grids	% of Hex Grids
All Counties	82,336	8,801	10.69%	33,823	41.08%	31,470	38.22%	5,607	6.81%	2,635	3.20%
Brevard	5,422	2,172	40.06%	1,567	28.90%	973	17.95%	513	9.46%	197	3.63%
Charlotte	3,163	349	11.03%	1,690	53.43%	650	20.55%	378	11.95%	96	3.04%
Collier	8,680	10	0.12%	5,696	65.62%	2,485	28.63%	328	3.78%	161	1.85%
DeSoto	2,677	-	0.00%	997	37.24%	1,566	58.50%	95	3.55%	19	0.71%
Flagler	2,153	-	0.00%	1,105	51.32%	868	40.32%	142	6.60%	38	1.76%
Glades	3,470	11	0.32%	707	20.37%	2,662	76.71%	87	2.51%	3	0.09%
Hardee	2,676	41	1.53%	1,629	60.87%	967	36.14%	29	1.08%	10	0.37%
Hendry	4,863	2	0.04%	3	0.06%	4,622	95.04%	216	4.44%	20	0.41%
Highlands	4,624	337	7.29%	1,813	39.21%	2,155	46.60%	255	5.51%	64	1.38%
Hillsborough	4,577	136	2.97%	1,646	35.96%	1,589	34.72%	753	16.45%	453	9.90%
Lake	4,866	33	0.68%	2,197	45.15%	2,122	43.61%	378	7.77%	136	2.79%
Manatee	3,374	326	9.66%	1,997	59.19%	604	17.90%	270	8.00%	177	5.25%
Monroe	6,372	4,586	71.97%	1,195	18.75%	458	7.19%	101	1.59%	32	0.50%
Okeechobee	3,311	-	0.00%	1,752	52.91%	1,489	44.97%	64	1.93%	6	0.18%
Osceola	6,272	461	7.35%	4,024	64.16%	1,307	20.84%	316	5.04%	164	2.61%

Pinellas	1,524	26	1.71%	259	16.99%	322	21.13%	327	21.46%	590	38.71%
Polk	8,310	108	1.30%	3,252	39.13%	3,889	46.80%	749	9.01%	312	3.75%
Putnam	3,481	9	0.26%	829	23.81%	2,417	69.43%	208	5.98%	18	0.52%
Seminole	1,492	67	4.49%	708	47.45%	284	19.03%	318	21.31%	115	7.71%
St. Johns	2,858	160	5.60%	1,482	51.85%	1,026	35.90%	148	5.18%	42	1.47%

2.6.3 Severity of Consequences

Each single hazard event and event type (flooding, hurricane, etc.) has a different severity of consequence. Creating a universal understanding of hazard risk for the Hurricane Ian AOI required a robust accounting of consequences from historical losses as well as the ability to project future scenarios. To assess the risk, this Action Plan had to address possible climate sensitivities, current high priority hazards, and those likely to cause continued losses if not mitigated. Consequently, this assessment calculates Severity of Consequences (Equation 3: Severity of Consequences Calculation) using equal parts Historical Consequence, Climate Sensitivity, a measure of probability versus consequence, and a measure of future impacts (or high priority hazards for the Hurricane Ian AOI) derived from the current Hazard Mitigation Plans from AOI counties.

Equation 3: Severity of Consequences Calculation

$$SOC_{HAZ} = (HISTCON_{HAZ}) + (CLIMSENS_{HAZ}) + \left(\frac{FREQUENCY_{HAZ}}{SEVERITY_{HAZ}}\right) + (PRIORITY_{HAZ})$$

HAZ= 17 hazard types identified in Table 43: Hazards Included in this Risk Assessment, in order of Priority Of Analysis

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2.6.3.1 Historical Consequence

A hazard's historical consequence score is the sum of historical frequency, economic impacts, fatalities, and injuries from past disaster events (as outlined in Equation 4: Historical Consequence Calculation).

Equation 4: Historical Consequence Calculation

$$HISTCON_{HAZ} = Historical\ Frequency\ Score + Historical\ Economic\ Impacts\ Score + Historical\ Fatality\ Score + Historical\ Injury\ Score$$

Where:

- Historical Frequency Score: A Min/Max standardized (1-5) indicator of recorded[167] frequency of occurrence for past loss causing Hazard (HAZ) events.
- Historical Economic Impacts Score: A Min/Max standardized (1-5) indicator of recorded damage from past loss causing Hazard (HAZ) events.
- Historical Fatality Score: A Min/Max standardized (1-5) indicator of recorded fatalities from past loss causing Hazard (HAZ) events.
- Historical Injury Score: A Min/Max standardized (1-5) indicator of recorded injuries from past loss causing Hazard (HAZ) events.
- An empirical measure of historical consequences was created for each county and sorted (highest to lowest) based on a review of each county's Severity of Consequence Scores/ranks for each hazard (Table 71: Overall Severity of Consequence Scores/Ranks by Hazard Type). Across the AOI, the top 6 hazards were Hurricanes/Tropical Storms, Severe Storms/Thunderstorms, Wildfire, Flooding, Coastal/Sea-Level Rise, and Lightning. These hazards will be the primary focus of this

[167] https://www.ncdc.noaa.gov/stormevents/

Risk-Based Assessment since the lower SOC for the remaining 11 hazards will result in lower overall risk scores.

Table 50: Brevard County Historical Consequence Scores by Hazard Threat (Sorted by Highest SOC Score from Table 71: Overall Severity of Consequence Scores/Ranks by Hazard Type through Table 69: St. Johns County Historical Consequence Scores by Hazard Threat (Sorted by Highest SOC Score from provide county-specific Historical Consequence scores by hazard threat and highlight the hazards with the highest overall Hazard Threat.

Table 50: Brevard County Historical Consequence Scores by Hazard Threat (Sorted by Highest SOC Score from Table 71: Overall Severity of Consequence Scores/Ranks by Hazard Type

Hazard	Historical Frequency Score (1-5)	Historical Economic Impact Score (1-5)	Historical Fatality Score (1-5)	Historical Injury Score (1-5)	Historical Score (1-5)
Hurricane / Tropical Storm	1.70	5.00	1.41	2.52	4.44
Severe Storm / Thunderstorm	4.68	1.07	1.23	1.53	3.34
Wildfire	1.09	2.67	1.00	1.98	2.42
Flooding	1.67	1.74	1.13	1.00	1.80
Coastal	2.17	1.08	5.00	1.15	3.80
Lightning	3.74	1.05	4.34	2.57	5.00
Drought	1.00	1.00	1.00	1.00	1.00
Heat	1.00	1.00	1.00	1.00	1.00
Wind	5.00	1.08	1.76	1.54	3.79
Tornado	3.92	1.34	1.43	5.00	4.99
Hail	1.41	1.04	1.02	1.01	1.25
Winter Weather	1.26	1.04	1.05	1.00	1.18
Low Temperatures	1.00	1.00	1.00	1.00	1.00
Sinkholes	1.00	1.00	1.00	1.00	1.00
Earthquake	1.00	1.00	1.00	1.00	1.00
Landslide	1.00	1.00	1.00	1.00	1.00
Fog	1.00	1.00	1.00	1.00	1.00

Table 51: Charlotte County Historical Consequence Scores by Hazard Threat (Sorted by Highest SOC Score from Table 71: Overall Severity of Consequence Scores/Ranks by Hazard Type)

Hazard	Historical Frequency Score (1-5)	Historical Economic Impact Score (1-5)	Historical Fatality Score (1-5)	Historical Injury Score (1-5)	Historical Score (1-5)
Hurricane / Tropical Storm	2.52	5.00	4.43	5.00	5.00
Severe Storm / Thunderstorm	4.90	1.01	1.12	1.01	2.25
Wildfire	1.20	1.00	1.00	1.02	1.07
Flooding	2.47	1.04	1.67	1.00	1.67

Coastal	1.10	1.01	1.74	1.00	1.26
Lightning	3.13	1.00	5.00	1.11	2.93
Drought	1.00	1.00	1.00	1.00	1.00
Heat	1.00	1.00	1.00	1.00	1.00
Wind	5.00	1.01	1.10	1.01	2.27
Tornado	3.53	1.01	2.43	1.05	2.24
Hail	1.30	1.01	1.08	1.00	1.12
Winter Weather	1.76	1.01	1.24	1.00	1.31
Low Temperatures	1.00	1.00	1.00	1.00	1.00
Sinkholes	1.00	1.00	1.00	1.00	1.00
Earthquake	1.00	1.00	1.00	1.00	1.00
Landslide	1.00	1.00	1.00	1.00	1.00
Fog	1.00	1.00	1.00	1.00	1.00

Table 52: Collier County Historical Consequence Scores by Hazard Threat (Sorted by Highest SOC Score from Table 71: Overall Severity of Consequence Scores/Ranks by Hazard Type)

Hazard	Historical Frequency Score (1-5)	Historical Economic Impact Score (1-5)	Historical Fatality Score (1-5)	Historical Injury Score (1-5)	Historical Score (1-5)
Hurricane / Tropical Storm	2.56	5.00	3.95	5.00	5.00
Severe Storm / Thunderstorm	4.75	1.00	1.09	1.41	2.36
Wildfire	1.69	1.00	1.00	1.44	1.36
Flooding	2.25	1.01	1.00	1.00	1.40
Coastal	1.31	1.00	3.06	1.49	1.91
Lightning	4.44	1.00	5.00	4.14	4.38
Drought	1.00	1.00	1.00	1.00	1.00
Heat	1.00	1.00	1.00	1.00	1.00
Wind	5.00	1.01	1.18	1.13	2.38
Tornado	3.88	1.00	1.57	2.12	2.46
Hail	1.44	1.00	1.06	1.00	1.16
Winter Weather	2.06	1.02	1.18	1.00	1.40
Low Temperatures	1.00	1.00	1.00	1.00	1.00
Sinkholes	1.00	1.00	1.00	1.00	1.00
Earthquake	1.00	1.00	1.00	1.00	1.00
Landslide	1.00	1.00	1.00	1.00	1.00
Fog	1.00	1.00	1.00	1.00	1.00

Table 53: DeSoto County Historical Consequence Scores by Hazard Threat (Sorted by Highest SOC Score from Table 71: Overall Severity of Consequence Scores/Ranks by Hazard Type)

Hazard	Historical Frequency Score (1-5)	Historical Economic Impact Score (1-5)	Historical Fatality Score (1-5)	Historical Injury Score (1-5)	Historical Score (1-5)
Hurricane / Tropical Storm	3.30	5.00	2.90	5.00	5.00
Severe Storm / Thunderstorm	4.57	1.06	2.18	1.01	2.58
Wildfire	1.09	1.03	1.00	1.09	1.07
Flooding	4.06	1.14	2.00	1.00	2.38
Coastal	1.09	1.05	1.12	1.00	1.08
Lightning	1.85	1.00	5.00	1.17	2.65
Drought	1.00	1.00	1.00	1.00	1.00
Heat	1.00	1.00	1.00	1.00	1.00
Wind	5.00	1.05	1.16	1.02	2.39
Tornado	3.72	1.06	1.15	1.42	2.10
Hail	1.26	1.05	1.12	1.00	1.14
Winter Weather	2.11	1.06	1.36	1.00	1.50
Low Temperatures	1.00	1.00	1.00	1.00	1.00
Sinkholes	1.00	1.00	1.00	1.00	1.00
Earthquake	1.00	1.00	1.00	1.00	1.00
Landslide	1.00	1.00	1.00	1.00	1.00
Fog	1.00	1.00	1.00	1.00	1.00

Table 54: Flagler County Historical Consequence Scores by Hazard Threat (Sorted by Highest SOC Score from Table 71: Overall Severity of Consequence Scores/Ranks by Hazard Type)

Hazard	Historical Frequency Score (1-5)	Historical Economic Impact Score (1-5)	Historical Fatality Score (1-5)	Historical Injury Score (1-5)	Historical Score (1-5)
Hurricane / Tropical Storm	1.42	5.00	1.89	5.00	5.00
Severe Storm / Thunderstorm	4.03	1.25	1.39	1.07	2.61
Wildfire	1.05	1.13	1.00	1.37	1.24
Flooding	1.58	1.18	1.00	1.00	1.32
Coastal	1.26	1.21	5.00	3.79	4.12
Lightning	2.05	1.01	1.00	2.23	1.98
Drought	1.00	1.00	1.00	1.00	1.00
Heat	1.00	1.00	1.00	1.00	1.00
Wind	5.00	1.31	1.37	1.07	3.04

Tornado	1.50	1.38	1.19	1.02	1.47
Hail	1.13	1.22	1.15	1.01	1.22
Winter Weather	1.21	1.23	1.46	1.09	1.42
Low Temperatures	1.00	1.00	1.00	1.00	1.00
Sinkholes	1.00	1.00	1.00	1.00	1.00
Earthquake	1.00	1.00	1.00	1.00	1.00
Landslide	1.00	1.00	1.00	1.00	1.00
Fog	1.00	1.00	1.00	1.00	1.00

Table 55: Glades County Historical Consequence Scores by Hazard Threat (Sorted by Highest SOC Score from Table 71: Overall Severity of Consequence Scores/Ranks by Hazard Type)

Hazard	Historical Frequency Score (1-5)	Historical Economic Impact Score (1-5)	Historical Fatality Score (1-5)	Historical Injury Score (1-5)	Historical Score (1-5)
Hurricane / Tropical Storm	3.52	5.00	2.67	5.00	5.00
Severe Storm / Thunderstorm	3.67	1.62	1.33	1.02	2.20
Wildfire	2.04	1.37	1.00	1.16	1.51
Flooding	2.04	1.17	1.00	1.00	1.40
Coastal	1.15	1.58	1.22	1.00	1.31
Lightning	2.04	1.00	2.85	1.15	2.00
Drought	1.00	1.00	1.00	1.00	1.00
Heat	1.00	1.00	1.00	1.00	1.00
Wind	5.00	1.63	5.00	1.03	3.84
Tornado	3.52	1.63	1.27	1.30	2.22
Hail	1.44	1.58	1.22	1.00	1.41
Winter Weather	2.33	3.26	1.66	1.00	2.40
Low Temperatures	1.00	1.00	1.00	1.00	1.00
Sinkholes	1.00	1.00	1.00	1.00	1.00
Earthquake	1.00	1.00	1.00	1.00	1.00
Landslide	1.00	1.00	1.00	1.00	1.00
Fog	1.00	1.00	1.00	1.00	1.00

Table 56: Hardee County Historical Consequence Scores by Hazard Threat (Sorted by Highest SOC Score from Table 71: Overall Severity of Consequence Scores/Ranks by Hazard Type)

Hazard	Historical Frequency Score (1-5)	Historical Economic Impact Score (1-5)	Historical Fatality Score (1-5)	Historical Injury Score (1-5)	Historical Score (1-5)
Hurricane / Tropical Storm	2.67	1.64	3.47	5.00	3.79

Severe Storm / Thunderstorm	4.93	1.13	3.71	1.32	3.26
Wildfire	1.07	1.07	1.00	1.19	1.10
Flooding	2.27	1.12	1.00	1.00	1.44
Coastal	1.07	1.11	1.31	1.00	1.16
Lightning	1.80	1.00	1.00	1.17	1.31
Drought	1.00	1.00	1.00	1.00	1.00
Heat	1.00	1.00	1.00	1.00	1.00
Wind	5.00	5.00	5.00	1.57	5.00
Tornado	2.27	1.13	1.39	1.03	1.58
Hail	1.53	1.11	2.21	1.00	1.59
Winter Weather	2.00	1.13	3.30	1.00	2.09
Low Temperatures	1.00	1.00	1.00	1.00	1.00
Sinkholes	1.00	1.00	1.00	1.00	1.00
Earthquake	1.00	1.00	1.00	1.00	1.00
Landslide	1.00	1.00	1.00	1.00	1.00
Fog	1.07	1.00	1.00	1.00	1.02

Table 57: Hendry County Historical Consequence Scores by Hazard Threat (Sorted by Highest SOC Score from Table 71: Overall Severity of Consequence Scores/Ranks by Hazard Type)

Hazard	Historical Frequency Score (1-5)	Historical Economic Impact Score (1-5)	Historical Fatality Score (1-5)	Historical Injury Score (1-5)	Historical Score (1-5)
Hurricane / Tropical Storm	3.22	5.00	1.84	5.00	5.00
Severe Storm / Thunderstorm	4.33	1.68	1.08	1.09	2.51
Wildfire	1.44	1.42	1.00	1.23	1.40
Flooding	1.56	1.20	1.00	1.00	1.27
Coastal	1.11	1.64	1.05	1.00	1.29
Lightning	2.67	1.00	5.00	1.56	3.25
Drought	1.00	1.00	1.00	1.00	1.00
Heat	1.00	1.00	1.00	1.00	1.00
Wind	5.00	1.70	1.51	1.59	3.10
Tornado	3.44	1.73	1.95	2.49	3.03
Hail	1.67	1.64	1.05	1.00	1.49
Winter Weather	2.44	3.48	1.16	1.00	2.47
Low Temperatures	1.00	1.00	1.00	1.00	1.00
Sinkholes	1.00	1.00	1.00	1.00	1.00
Earthquake	1.00	1.00	1.00	1.00	1.00

Landslide	1.00	1.00	1.00	1.00	1.00
Fog	1.00	1.00	1.00	1.00	1.00

Table 58: Highlands County Historical Consequence Scores by Hazard Threat (Sorted by Highest SOC Score from Table 71: Overall Severity of Consequence Scores/Ranks by Hazard Type)

Hazard	Historical Frequency Score (1-5)	Historical Economic Impact Score (1-5)	Historical Fatality Score (1-5)	Historical Injury Score (1-5)	Historical Score (1-5)
Hurricane / Tropical Storm	2.02	3.14	1.45	5.00	4.72
Severe Storm / Thunderstorm	4.82	1.04	1.12	1.07	2.98
Wildfire	1.04	1.02	1.00	1.19	1.12
Flooding	1.67	1.02	1.00	1.00	1.34
Coastal	1.04	1.04	1.08	1.00	1.08
Lightning	2.60	1.01	5.00	2.26	4.36
Drought	1.00	1.00	1.00	1.00	1.00
Heat	1.00	1.00	1.00	1.00	1.00
Wind	5.00	5.00	1.10	1.07	5.00
Tornado	2.82	1.07	3.10	2.53	3.70
Hail	1.31	1.04	1.08	1.00	1.21
Winter Weather	1.58	1.04	1.24	1.00	1.42
Low Temperatures	1.00	1.00	1.00	1.00	1.00
Sinkholes	1.00	1.00	1.00	1.00	1.00
Earthquake	1.00	1.00	1.00	1.00	1.00
Landslide	1.00	1.00	1.00	1.00	1.00
Fog	1.00	1.00	1.00	1.00	1.00

Table 59: Hillsborough County Historical Consequence Scores by Hazard Threat (Sorted by Highest SOC Score from Table 71: Overall Severity of Consequence Scores/Ranks by Hazard Type)

Hazards	Historical Frequency Score (1-5)	Historical Economic Impact Score (1-5)	Historical Fatality Score (1-5)	Historical Injury Score (1-5)	Historical Score (1-5)
Hurricane / Tropical Storm	1.47	5.00	1.12	2.08	3.55
Severe Storm / Thunderstorm	4.90	1.26	1.32	1.58	3.28
Wildfire	1.02	1.06	1.00	1.09	1.08
Flooding	1.80	1.63	1.26	1.04	1.78
Coastal	1.04	1.10	1.40	1.00	1.24
Lightning	3.04	1.12	5.00	3.71	5.00
Drought	1.00	1.00	1.00	1.00	1.00

Heat	1.02	1.00	1.25	1.00	1.13
Wind	5.00	1.24	1.32	1.93	3.47
Tornado	2.47	1.50	1.47	5.00	3.90
Hail	1.37	1.13	1.01	1.02	1.24
Winter Weather	1.25	1.16	1.17	1.00	1.26
Low Temperatures	1.00	1.00	1.00	1.00	1.00
Sinkholes	1.00	1.00	1.00	1.00	1.00
Earthquake	1.00	1.00	1.00	1.00	1.00
Landslide	1.00	1.00	1.00	1.00	1.00
Fog	1.01	1.00	1.00	1.00	1.01

Table 60: Lake County Historical Consequence Scores by Hazard Threat (Sorted by Highest SOC Score from Table 71: Overall Severity of Consequence Scores/Ranks by Hazard Type)

Hazard	Historical Frequency Score (1-5)	Historical Economic Impact Score (1-5)	Historical Fatality Score (1-5)	Historical Injury Score (1-5)	Historical Score (1-5)
Hurricane / Tropical Storm	1.39	1.85	1.11	2.86	1.92
Severe Storm / Thunderstorm	4.46	1.38	1.55	1.32	2.34
Wildfire	1.04	1.12	1.00	1.09	1.07
Flooding	1.27	1.12	1.00	1.00	1.11
Coastal	1.04	1.20	1.02	1.00	1.07
Lightning	2.94	1.02	3.25	2.50	2.63
Drought	1.00	1.00	1.00	1.00	1.00
Heat	1.00	1.00	1.00	1.00	1.00
Wind	5.00	3.98	2.09	1.42	3.43
Tornado	2.98	5.00	5.00	5.00	5.00
Hail	1.50	1.24	1.02	1.03	1.23
Winter Weather	1.35	1.20	1.06	1.00	1.17
Low Temperatures	1.00	1.00	1.00	1.00	1.00
Sinkholes	1.00	1.00	1.00	1.00	1.00
Earthquake	1.00	1.00	1.00	1.00	1.00
Landslide	1.08	1.00	1.00	1.00	1.02
Fog	1.00	1.00	1.00	1.00	1.00

Table 61: Manatee County Historical Consequence Scores by Hazard Threat (Sorted by Highest SOC Score from Table 71: Overall Severity of Consequence Scores/Ranks by Hazard Type)

Hazard	Historical Frequency Score (1-5)	Historical Economic Impact Score (1-5)	Historical Fatality Score (1-5)	Historical Injury Score (1-5)	Historical Score (1-5)

Hurricane / Tropical Storm	2.06	5.00	1.70	5.00	4.74
Severe Storm / Thunderstorm	5.00	1.39	1.25	1.25	2.87
Wildfire	1.09	1.18	1.00	1.17	1.17
Flooding	2.64	2.70	2.30	1.00	2.78
Coastal	1.12	1.28	2.50	1.15	1.78
Lightning	3.12	1.49	5.00	4.82	5.00
Drought	1.00	1.00	1.00	1.00	1.00
Heat	1.00	1.00	1.00	1.00	1.00
Wind	4.94	1.37	1.24	1.58	2.97
Tornado	3.39	1.49	1.78	2.65	3.04
Hail	1.30	1.28	1.04	1.07	1.27
Winter Weather	1.42	1.32	1.13	1.00	1.33
Low Temperatures	1.00	1.00	1.00	1.00	1.00
Sinkholes	1.00	1.00	1.00	1.00	1.00
Earthquake	1.00	1.00	1.00	1.00	1.00
Landslide	1.00	1.00	1.00	1.00	1.00
Fog	1.03	1.01	1.00	1.00	1.01

Table 62: Monroe County Historical Consequence Scores by Hazard Threat (Sorted by Highest SOC Score from Table 71: Overall Severity of Consequence Scores/Ranks by Hazard Type)

Hazard	Historical Frequency Score (1-5)	Historical Economic Impact Score (1-5)	Historical Fatality Score (1-5)	Historical Injury Score (1-5)	Historical Score (1-5)
Hurricane / Tropical Storm	4.93	5.00	5.00	5.00	5.00
Severe Storm / Thunderstorm	4.15	1.00	1.38	1.01	1.89
Wildfire	1.07	1.00	1.00	1.08	1.04
Flooding	2.25	1.00	1.17	1.04	1.37
Coastal	1.20	1.00	1.02	1.00	1.06
Lightning	2.64	1.00	2.05	1.39	1.77
Drought	1.00	1.00	1.00	1.00	1.00
Heat	1.00	1.00	1.00	1.00	1.00
Wind	5.00	1.00	1.59	1.05	2.16
Tornado	4.93	1.03	1.03	3.52	2.63
Hail	1.33	1.00	1.02	1.00	1.09
Winter Weather	1.39	1.00	1.06	1.00	1.12
Low Temperatures	1.00	1.00	1.00	1.00	1.00

Sinkholes	1.00	1.00	1.00	1.00	1.00
Earthquake	1.00	1.00	1.00	1.00	1.00
Landslide	1.00	1.00	1.00	1.00	1.00
Fog	1.00	1.00	1.00	1.00	1.00

Table 63: Okeechobee County Historical Consequence Scores by Hazard Threat (Sorted by Highest SOC Score from Table 71: Overall Severity of Consequence Scores/Ranks by Hazard Type)

Hazard	Historical Frequency Score (1-5)	Historical Economic Impact Score (1-5)	Historical Fatality Score (1-5)	Historical Injury Score (1-5)	Historical Score (1-5)
Hurricane / Tropical Storm	1.98	5.00	5.00	5.00	5.00
Severe Storm / Thunderstorm	4.51	1.17	1.11	1.11	2.20
Wildfire	1.16	1.09	1.00	1.19	1.14
Flooding	1.49	1.01	1.00	1.00	1.16
Coastal	1.08	1.15	1.07	1.00	1.09
Lightning	1.49	1.00	1.00	1.59	1.33
Drought	1.00	1.00	1.00	1.00	1.00
Heat	1.00	1.00	1.00	1.00	1.00
Wind	5.00	1.61	4.69	4.45	4.62
Tornado	2.55	1.37	2.29	3.12	2.64
Hail	1.41	1.15	1.07	1.00	1.19
Winter Weather	1.65	1.15	1.21	1.00	1.31
Low Temperatures	1.00	1.00	1.00	1.00	1.00
Sinkholes	1.00	1.00	1.00	1.00	1.00
Earthquake	1.00	1.00	1.00	1.00	1.00
Landslide	1.00	1.00	1.00	1.00	1.00
Fog	1.00	1.00	1.00	1.00	1.00

Table 64: Osceola County Historical Consequence Scores by Hazard Threat (Sorted by Highest SOC Score from Table 71: Overall Severity of Consequence Scores/Ranks by Hazard Type)

Hazard	Historical Frequency Score (1-5)	Historical Economic Impact Score (1-5)	Historical Fatality Score (1-5)	Historical Injury Score (1-5)	Historical Score (1-5)
Hurricane / Tropical Storm	1.90	2.42	1.21	1.70	2.17
Severe Storm / Thunderstorm	4.66	1.09	1.03	1.08	2.40
Wildfire	1.07	1.03	1.00	1.03	1.05
Flooding	2.03	1.08	1.00	1.00	1.40
Coastal	1.07	1.05	1.02	1.00	1.05

Lightning	1.97	1.03	1.73	1.07	1.65
Drought	1.00	1.00	1.00	1.00	1.00
Heat	1.00	1.00	1.00	1.00	1.00
Wind	5.00	5.00	1.17	1.05	3.98
Tornado	3.21	1.81	5.00	5.00	5.00
Hail	1.48	1.05	1.02	1.00	1.20
Winter Weather	1.55	1.05	1.05	1.00	1.24
Low Temperatures	1.00	1.00	1.00	1.00	1.00
Sinkholes	1.00	1.00	1.00	1.00	1.00
Earthquake	1.00	1.00	1.00	1.00	1.00
Landslide	1.00	1.00	1.00	1.00	1.00
Fog	1.07	1.00	1.00	1.00	1.03

Table 65: Pinellas Beach County Historical Consequence Scores by Hazard Threat (Sorted by Highest SOC Score from Table 71: Overall Severity of Consequence Scores/Ranks by Hazard Type)

Hazard	Historical Frequency Score (1-5)	Historical Economic Impact Score (1-5)	Historical Fatality Score (1-5)	Historical Injury Score (1-5)	Historical Score (1-5)
Hurricane / Tropical Storm	1.58	5.00	1.16	1.56	3.16
Severe Storm / Thunderstorm	4.71	1.06	1.70	1.16	2.89
Wildfire	1.04	1.02	1.00	1.03	1.03
Flooding	1.83	1.14	1.10	1.02	1.44
Coastal	1.36	1.04	3.46	1.18	2.24
Lightning	5.00	1.08	5.00	2.73	5.00
Drought	1.00	1.00	1.00	1.00	1.00
Heat	1.00	1.00	1.00	1.00	1.00
Wind	4.86	1.08	1.89	1.29	3.09
Tornado	3.27	1.34	2.86	5.00	4.45
Hail	1.43	1.04	1.02	1.01	1.20
Winter Weather	1.13	1.04	1.06	1.00	1.09
Low Temperatures	1.00	1.00	1.00	1.00	1.00
Sinkholes	1.00	1.00	1.00	1.00	1.00
Earthquake	1.00	1.00	1.00	1.00	1.00
Landslide	1.00	1.00	1.00	1.00	1.00
Fog	1.02	1.00	1.17	1.34	1.22

Table 66: Polk County Historical Consequence Scores by Hazard Threat (Sorted by Highest SOC Score from Table 71: Overall Severity of Consequence Scores/Ranks by Hazard Type)

Hazard	Historical Frequency Score (1-5)	Historical Economic Impact Score (1-5)	Historical Fatality Score (1-5)	Historical Injury Score (1-5)	Historical Score (1-5)
Hurricane / Tropical Storm	1.38	1.28	1.10	2.03	1.83
Severe Storm / Thunderstorm	5.00	1.05	1.18	1.28	3.08
Wildfire	1.13	1.02	1.00	1.11	1.12
Flooding	1.43	1.03	1.00	1.00	1.21
Coastal	1.02	1.02	1.02	1.00	1.03
Lightning	2.38	1.01	5.00	2.72	4.28
Drought	1.00	1.00	1.00	1.00	1.00
Heat	1.02	1.00	1.16	1.00	1.08
Wind	4.92	5.00	1.28	1.47	5.00
Tornado	3.21	1.20	1.53	5.00	4.20
Hail	1.48	1.04	1.02	1.04	1.27
Winter Weather	1.22	1.02	1.06	1.00	1.14
Low Temperatures	1.00	1.00	1.00	1.00	1.00
Sinkholes	1.00	1.00	1.00	1.00	1.00
Earthquake	1.00	1.00	1.00	1.00	1.00
Landslide	1.00	1.00	1.00	1.00	1.00
Fog	1.05	1.00	1.31	1.00	1.17

Table 67: Putnam County Historical Consequence Scores by Hazard Threat (Sorted by Highest SOC Score from Table 71: Overall Severity of Consequence Scores/Ranks by Hazard Type)

Hazard	Historical Frequency Score (1-5)	Historical Economic Impact Score (1-5)	Historical Fatality Score (1-5)	Historical Injury Score (1-5)	Historical Score (1-5)
Hurricane / Tropical Storm	1.37	5.00	2.69	5.00	5.00
Severe Storm / Thunderstorm	4.90	1.55	1.78	1.13	3.13
Wildfire	1.17	1.31	1.00	2.07	1.62
Flooding	1.44	1.20	1.10	1.00	1.29
Coastal	1.03	1.48	1.12	1.00	1.25
Lightning	2.12	1.08	5.00	2.54	3.68
Drought	1.00	1.00	1.00	1.00	1.00
Heat	1.00	1.00	1.00	1.00	1.00
Wind	5.00	1.54	1.66	1.17	3.13

Tornado	2.12	1.80	3.15	2.63	3.26
Hail	1.41	1.51	1.12	1.06	1.44
Winter Weather	1.20	1.48	1.36	1.00	1.42
Low Temperatures	1.00	1.00	1.00	1.00	1.00
Sinkholes	1.00	1.00	1.00	1.00	1.00
Earthquake	1.00	1.00	1.00	1.00	1.00
Landslide	1.00	1.00	1.00	1.00	1.00
Fog	1.03	1.01	3.00	1.61	2.05

Table 68: Seminole County Historical Consequence Scores by Hazard Threat (Sorted by Highest SOC Score from Table 71: Overall Severity of Consequence Scores/Ranks by Hazard Type)

Hazard	Historical Frequency Score (1-5)	Historical Economic Impact Score (1-5)	Historical Fatality Score (1-5)	Historical Injury Score (1-5)	Historical Score (1-5)
Hurricane / Tropical Storm	1.68	5.00	1.55	3.87	4.24
Severe Storm / Thunderstorm	4.58	1.09	1.22	1.23	2.65
Wildfire	1.10	1.33	1.00	1.26	1.28
Flooding	1.52	1.04	1.33	1.00	1.36
Coastal	1.05	1.05	1.04	1.00	1.05
Lightning	2.82	1.02	2.32	2.68	2.93
Drought	1.00	1.00	1.00	1.00	1.00
Heat	1.00	1.00	1.00	1.00	1.00
Wind	5.00	1.57	1.92	1.44	3.37
Tornado	2.61	1.38	5.00	5.00	5.00
Hail	1.73	1.07	1.04	1.12	1.39
Winter Weather	1.47	1.05	1.12	1.00	1.25
Low Temperatures	1.00	1.00	1.00	1.00	1.00
Sinkholes	1.00	1.00	1.00	1.00	1.00
Earthquake	1.00	1.00	1.00	1.00	1.00
Landslide	1.00	1.00	1.00	1.00	1.00
Fog	1.00	1.00	1.00	1.00	1.00

Table 69: St. Johns County Historical Consequence Scores by Hazard Threat (Sorted by Highest SOC Score from Table 71: Overall Severity of Consequence Scores/Ranks by Hazard Type)

Hazard	Historical Frequency Score (1-5)	Historical Economic Impact Score (1-5)	Historical Fatality Score (1-5)	Historical Injury Score (1-5)	Historical Score (1-5)
Hurricane / Tropical Storm	1.43	5.00	1.12	5.00	5.00

Severe Storm / Thunderstorm	4.47	1.02	1.07	1.16	2.74
Wildfire	1.07	1.01	1.00	1.28	1.17
Flooding	1.83	1.01	1.02	1.00	1.40
Coastal	1.86	1.01	5.00	1.17	3.36
Lightning	3.12	1.00	3.53	2.41	3.83
Drought	1.00	1.00	1.00	1.00	1.00
Heat	1.00	1.00	1.00	1.00	1.00
Wind	5.00	1.02	1.23	1.77	3.35
Tornado	2.19	1.02	1.03	1.41	1.77
Hail	1.30	1.01	1.02	1.01	1.16
Winter Weather	1.26	1.01	1.06	1.00	1.16
Low Temperatures	1.00	1.00	1.00	1.00	1.00
Sinkholes	1.00	1.00	1.00	1.00	1.00
Earthquake	1.00	1.00	1.00	1.00	1.00
Landslide	1.00	1.00	1.00	1.00	1.00
Fog	1.00	1.00	1.00	1.00	1.00

Climate Sensitivity

A hazards climate sensitivity score provides a means of accounting for the influence of climate on a hazard's future occurrence. Hazards such as flooding and hurricanes are considered highly climate sensitive because they will occur more frequently and will be more impactful in a future climate that is warmer than our current condition. Each hazard in this assessment was appraised for its climate sensitivity through a literature review, for which the sources and respective climate sensitivity scores are listed in (Table 70: Climate Sensitivity by Hazard Type). Each hazard was classified on a scale of 1 to 5 based on its climate sensitivity, or its connection to current and future weather. If a hazard's root cause is meteorological (floods, hurricanes, heat, hail, etc.) it is climate sensitive and is scored between a two (2) and five (5). Hazards that are less climate sensitive (tsunami, extreme cold, sinkholes) in this AOI are scored with a one (1).

Table 70: Climate Sensitivity by Hazard Type

Hazard	Climate Sensitivity Score (1-5)	Reference
Coastal Flood/ Sea Level Rise	5	https://www.ipcc.ch/site/assets/uploads/2018/02/WG1AR5_Chapter13_FINAL.pdf
Drought	5	Abatzoglou, J.T. and A.P. Williams, 2016: Impact of anthropogenic climate change on wildfire across western US forests. Proceedings of the National Academy of Sciences of the United States of America, 113 (42), 11770-11775. http://dx.doi.org/10.1073/pnas.1607171113
Earthquake	3	https://climate.nasa.gov/news/2926/can-climate-affect-earthquakes-or-are-the-connections-shaky/
Extreme Cold	1	IPCC, 2013: Climate Change 2013: The Physical Science Basis. Contribution of Working Group I to the Fifth Assessment Report of the

		Intergovernmental Panel on Climate Change. Stocker, T.F., D. Qin, G.-K. Plattner, M. Tignor, S.K. Allen, J. Boschung, A. Nauels, Y. Xia, V. Bex, and P.M. Midgley, Eds. Cambridge University Press, Cambridge, UK and New York, NY, 1535 pp. http://www.climatechange2013.org/report/
Flash Flood	5	Mitsch, W.J. and J.G. Gosselink, 2007: Wetlands, 4th ed. Wiley, New York, 600 pp.
Flooding	5	Sweet, W.V. and J.J. Marra, 2016: 2015 State of U.S. Nuisance Tidal Flooding. Supplement to State of the Climate: National Overview for May 2016. National Oceanic and Atmospheric Administration, National Centers for Environmental Information, 5 pp. http://www.ncdc.noaa.gov/monitoring-content/sotc/national/2016/may/sweet-marra-nuisanceflooding-2015.pdf
Fog	1	https://aaqr.org/articles/aaqr-15-05-oa-0353
Hail	3	Mitsch, W.J. and J.G. Gosselink, 2007: Wetlands, 4th ed. Wiley, New York, 600 pp.
Heat	5	Allen, C.D., D.D. Breshears, and N.G. McDowell, 2015: On underestimation of global vulnerability to tree mortality and forest die-off from hotter drought in the Anthropocene. Ecosphere, 6 (8), 1-55. http://dx.doi.org/10.1890/ES15-00203.1
Hurricane/ Tropical Storm	5	Smith, T. J., Robblee, M. B., Wanless, H. R., & Doyle, T. W. (1994). Mangroves, hurricanes, and lightning strikes. BioScience, 44(4), 256-262. http://dx.doi.org/10.2307/1312230. Doyle, T. W., Smith III, T. J., & Robblee, M. B. (1995). Wind damage effects of Hurricane Andrew on mangrove communities along the southwest coast of Florida, USA. Journal of Coastal Research, 159-168. http://www.jstor.org/stable/25736006
Lightning	3	Mitsch, W.J. and J.G. Gosselink, 2007: Wetlands, 4th ed. Wiley, New York, 600 pp.
Severe Storm/ Thunder Storm	5	Mitsch, W.J. and J.G. Gosselink, 2007: Wetlands, 4th ed. Wiley, New York, 600 pp.
Sinkholes	1	https://nhess.copernicus.org/preprints/nhess-2018-18/nhess-2018-18-SC1-supplement.pdf
Tornado	3	Mitsch, W.J. and J.G. Gosselink, 2007: Wetlands, 4th ed. Wiley, New York, 600 pp.
Wildfire	5	Abatzoglou, J.T. and A.P. Williams, 2016: Impact of anthropogenic climate change on wildfire across western US forests. Proceedings of the National Academy of Sciences of the United States of America, 113 (42), 11770-11775. http://dx.doi.org/10.1073/pnas.1607171113
Wind	3	Dale, V. H., Joyce, L. A., McNulty, S., Neilson, R. P., Ayres, M. P., Flannigan, M. D., ... & Wotton, B. M. (2001). Climate change and forest disturbances: climate change can affect forests by altering the frequency, intensity, duration, and timing of fire, drought, introduced species, insect and pathogen outbreaks, hurricanes, windstorms, ice storms, or landslides. BioScience, 51(9), 723-734. http://dx.doi.org/10.1641/0006-3568(2001)051[0723:ccafd]2.0.co;2
Winter Weather	1	IPCC, 2013: Climate Change 2013: The Physical Science Basis. Contribution of Working Group I to the Fifth Assessment Report of the

		Intergovernmental Panel on Climate Change. Stocker, T.F., D. Qin, G.-K. Plattner, M. Tignor, S.K. Allen, J. Boschung, A. Nauels, Y. Xia, V. Bex, and P.M. Midgley, Eds. Cambridge University Press, Cambridge, UK and New York, NY, 1535 pp. http://www.climatechange2013.org/report/

Frequency/Severity

Generally, hazards fall into two specific types in terms of their frequency versus their severity. Low probability/high consequence disasters (earthquakes, hurricanes) generally occur less frequently and have a much higher consequence when they do occur. Conversely, high probability/low consequence events (lightning, heat, hail) occur more often but cause less damage and impact. Each hazard event type was appraised on its frequency/severity by dividing the total loss by the total number of events and then standardizing/normalizing the resulting values on a (1-5) scale where 1 indicates hazard threats with less loss per hazard incidence and 5 indicates hazard threats with more loss per hazard incidence.

Future Consequence

Each hazard included in this assessment has either impacted the Hurricane Ian AOI in the past or has the potential to cause future impacts. Previous county hazard mitigation plans have prioritized hazards for mitigation funding and planning based on their own assessment of each hazard. Including individual county prioritization of hazards provides a connection between this plan and previous planning efforts and moves these assessments towards becoming living documents that have impact/influence on the current assessment. Like the historical score, climate sensitivity, and severity/frequency scores, the hazard priority score ranges from low to high (1-5) for each hazard threat.

2.6.3.2 Resulting Severity of Consequences (SOC) Score

Applying Severity of Consequences (Equation 3: Severity of Consequences Calculation) to historical consequences, climate sensitivity, probability/consequence, and future consequences results in a standardized value for the SOC for each hazard analyzed in this assessment. In this case, hurricane winds and storm surges, and flooding hazards pose the highest overall severity of consequences across most counties assessed. However, because each SOC score is built from county specific information, the scores vary from county to county across the Hurricane Ian AOI.

Box 5: Severity of Consequence Mitigation Takeaway

Mitigation Takeaway: Across the AOI, the top 6 hazards were Hurricanes/Tropical Storms, Severe Storms/Thunderstorms, Wildfire, Flooding, Coastal/Sea-Level Rise, and Lightning. These hazards will be the primary focus of this assessment since the lower SOC for the remaining 11 hazards will result in lower overall risk scores. Focusing on mitigating the highest SOC hazards will result in the largest benefit to society.

Table 71: Overall Severity of Consequence Scores/Ranks by Hazard Type

Hazard Severity of Consequence Ranks																	
County	Coastal	Drought	Earthquake	Flooding	Fog	Hail	Heat	Hurricane	Landslide	Lightning	Low Temperatures	Severe Storm	Sinkholes	Tornado	Wildfire	Wind	Winter Weather
Brevard	6	7	13	5	13	9	7	1	13	4	13	3	13	10	2	11	12
Charlotte	6	7	14	4	15	13	3	1	15	10	12	9	15	8	2	5	11
Collier	8	6	14	4	16	11	6	1	16	2	13	3	15	9	5	10	12
Desoto	10	5	13	3	13	8	11	1	13	6	13	2	13	9	4	7	12

Flagler	2	9	16	5	17	10	11	1	15	7	13	4	14	7	3	6	12
Glades	3	7	14	9	14	8	12	1	14	10	13	2	14	5	6	4	11
Hardee	1	7	12	11	13	8	4	5	14	10	14	6	16	9	3	2	17
Hendry	4	6	14	8	17	12	6	1	14	11	13	2	14	9	3	5	10
Highlands	6	7	16	5	16	11	7	1	13	7	13	3	13	10	2	4	12
Hillsborough	6	9	13	3	15	11	8	1	15	10	13	2	15	7	5	4	12
Lake	6	8	16	5	16	11	8	2	15	7	13	3	13	1	4	10	12
Manatee	4	7	15	2	15	12	10	1	15	8	13	3	14	6	5	9	11
Monroe	7	8	13	2	13	10	5	1	13	9	13	3	13	4	5	11	12
Okeechobee	5	8	16	7	16	10	8	1	14	11	13	3	14	6	4	2	12
Osceola	7	10	15	5	14	9	10	1	15	8	15	4	12	2	3	6	13
Pinellas	8	6	14	4	12	9	6	1	14	2	14	3	14	10	5	11	13
Polk	10	7	14	4	12	8	6	3	14	2	14	1	14	11	5	9	13
Putnam	9	6	14	4	12	8	6	1	14	3	14	2	14	10	5	11	13
Seminole	10	6	13	3	13	8	6	1	13	5	13	2	13	9	4	11	12
St. Johns	5	7	13	4	13	9	7	1	13	3	13	2	13	11	6	10	12
Number of Top 6	12	5	0	16	0	0	9	20	0	8	0	18	0	6	20	9	0
Rank of Highest SOC	5	7	16	4	17	11	8	1	16	6	13	2	14	10	3	9	12

Table 72: Brevard County Severity of Consequence Scoring by Hazard (Sorted by Highest SOC Score)

Hazard	Historical Score (1-5)	Climate Sensitive (1-5)	Frequency/ Severity (1-5)	Priority/Future Consequence Planning (1-5)	Composite SOC Score (5-20)	Severity of Consequences Score (0-5)
Hurricane / Tropical Storm	4.44	5	2.19	5	16.64	5
Severe Storm / Thunderstorm	3.34	5	1.00	5	14.35	4.28
Wildfire	2.42	5	5.00	4	16.42	4.93
Flooding	1.80	5	1.23	5	13.03	3.86
Coastal	3.80	5	1.01	2	11.82	3.47
Lightning	5.00	3	1.00	5	14.00	4.17
Drought	1.00	5	1.00	4	11.00	3.22
Heat	1.00	5	1.00	4	11.00	3.22
Wind	3.79	3	1.00	1	8.80	2.52
Tornado	4.99	3	1.02	1	10.01	2.9
Hail	1.25	3	1.02	5	10.27	2.98
Winter Weather	1.18	1	1.03	1	4.21	1.07
Low Temperatures	1.00	1	1.00	1	4.00	1
Sinkholes	1.00	1	1.00	1	4.00	1

Earthquake	1.00	1	1.00	1	4.00	1
Landslide	1.00	1	1.00	1	4.00	1
Fog	1.00	1	1.00	1	4.00	1

Table 73: Charlotte County Severity of Consequence Scoring by Hazard (Sorted by Highest SOC Score)

Hazard	Historical Score (1-5)	Climate Sensitive (1-5)	Frequency/ Severity (1-5)	Priority/Future Consequence Planning (1-5)	Composite SOC Score (5-20)	Severity of Consequences Score (0-5)
Hurricane / Tropical Storm	5.00	5	5.00	3.67	18.67	5
Severe Storm / Thunderstorm	2.25	5	1.00	1	9.25	2.43
Wildfire	1.07	5	1.03	5	12.10	3.21
Flooding	1.67	5	1.04	3.67	11.38	3.01
Coastal	1.26	5	1.10	3.67	11.04	2.92
Lightning	2.93	3	1.00	1	7.93	2.07
Drought	1.00	5	1.00	3.67	10.67	2.82
Heat	1.00	5	1.00	5	12.00	3.18
Wind	2.27	3	1.00	5	11.28	2.98
Tornado	2.24	3	1.01	3.67	9.92	2.61
Hail	1.12	3	1.03	1	6.15	1.59
Winter Weather	1.31	1	1.02	3.67	7.00	1.82
Low Temperatures	1.00	1	1.00	3.67	6.67	1.73
Sinkholes	1.00	1	1.00	1	4.00	1
Earthquake	1.00	1	1.00	2.33	5.33	1.36
Landslide	1.00	1	1.00	1	4.00	1
Fog	1.00	1	1.00	1	4.00	1

Table 74: Collier County Severity of Consequence Scoring by Hazard (Sorted by Highest SOC Score)

Hazard	Historical Score (1-5)	Climate Sensitive (1-5)	Frequency/ Severity (1-5)	Priority/Future Consequence Planning (1-5)	Composite SOC Score (5-20)	Severity of Consequences Score (0-5)
Hurricane / Tropical Storm	5.00	5	5.00	5	20.00	5
Severe Storm / Thunderstorm	2.36	5	1.00	5	13.36	3.34
Wildfire	1.36	5	1.01	5	12.37	3.09
Flooding	1.40	5	1.01	5	12.41	3.1
Coastal	1.91	5	1.01	3.67	11.60	2.9
Lightning	4.38	3	1.00	5	13.38	3.35
Drought	1.00	5	1.00	5	12.00	3
Heat	1.00	5	1.00	5	12.00	3

Wind	2.38	3	1.00	5	11.39	2.85
Tornado	2.46	3	1.00	5	11.46	2.87
Hail	1.16	3	1.01	5	10.17	2.54
Winter Weather	1.40	1	1.03	5	8.43	2.11
Low Temperatures	1.00	1	1.00	5	8.00	2
Sinkholes	1.00	1	1.00	2.33	5.33	1.33
Earthquake	1.00	1	1.00	3.67	6.67	1.67
Landslide	1.00	1	1.00	1	4.00	1
Fog	1.00	1	1.00	1	4.00	1

Table 75: DeSoto County Severity of Consequence Scoring by Hazard (Sorted by Highest SOC Score)

Hazard	Historical Score (1-5)	Climate Sensitive (1-5)	Frequency/ Severity (1-5)	Priority/Future Consequence Planning (1-5)	Composite SOC Score (5-20)	Severity of Consequences Score (0-5)
Hurricane / Tropical Storm	5.00	5	5.00	5	20.00	5
Severe Storm / Thunderstorm	2.58	5	1.04	5	13.62	3.4
Wildfire	1.07	5	1.86	5	12.92	3.23
Flooding	2.38	5	1.10	5	13.48	3.37
Coastal	1.08	5	2.36	1	9.44	2.36
Lightning	2.65	3	1.00	5	11.65	2.91
Drought	1.00	5	1.00	5	12.00	3
Heat	1.00	5	1.00	1	8.00	2
Wind	2.39	3	1.03	5	11.42	2.85
Tornado	2.10	3	1.05	3.67	9.82	2.45
Hail	1.14	3	1.45	5	10.59	2.65
Winter Weather	1.50	1	1.12	1	4.62	1.15
Low Temperatures	1.00	1	1.00	1	4.00	1
Sinkholes	1.00	1	1.00	1	4.00	1
Earthquake	1.00	1	1.00	1	4.00	1
Landslide	1.00	1	1.00	1	4.00	1
Fog	1.00	1	1.00	1	4.00	1

Table 76: Flagler County Severity of Consequence Scoring by Hazard (Sorted by Highest SOC Score)

Hazard	Historical Score (1-5)	Climate Sensitive (1-5)	Frequency/ Severity (1-5)	Priority/Future Consequence Planning (1-5)	Composite SOC Score (5-20)	Severity of Consequences Score (0-5)
Hurricane / Tropical Storm	5.00	5	5.00	4.67	19.67	5
Severe Storm / Thunderstorm	2.61	5	1.03	3.9	12.54	3.18

Wildfire	1.24	5	2.05	4.72	13.01	3.3
Flooding	1.32	5	1.13	4.07	11.52	2.92
Coastal	4.12	5	1.34	2.99	13.45	3.41
Lightning	1.98	3	1.00	3.9	9.89	2.5
Drought	1.00	5	1.00	2.71	9.71	2.46
Heat	1.00	5	1.00	2.05	9.05	2.29
Wind	3.04	3	1.03	3.33	10.40	2.63
Tornado	1.47	3	1.32	4.1	9.89	2.5
Hail	1.22	3	1.70	3.37	9.29	2.35
Winter Weather	1.42	1	1.45	2.81	6.68	1.68
Low Temperatures	1.00	1	1.00	2.56	5.56	1.4
Sinkholes	1.00	1	1.00	2.03	5.03	1.26
Earthquake	1.00	1	1.00	1.33	4.33	1.08
Landslide	1.00	1	1.00	1.78	4.78	1.2
Fog	1.00	1	1.00	1	4.00	1

Table 77: Glades County Severity of Consequence Scoring by Hazard (Sorted by Highest SOC Score)

Hazard	Historical Score (1-5)	Climate Sensitive (1-5)	Frequency/ Severity (1-5)	Priority/Future Consequence Planning (1-5)	Composite SOC Score (5-20)	Severity of Consequences Score (0-5)
Hurricane / Tropical Storm	5.00	5	2.62	5	17.62	5
Severe Storm / Thunderstorm	2.20	5	1.24	4	12.43	3.48
Wildfire	1.51	5	1.37	3.27	11.15	3.1
Flooding	1.40	5	1.16	2.91	10.47	2.9
Coastal	1.31	5	5.00	1	12.31	3.44
Lightning	2.00	3	1.00	4	10.00	2.76
Drought	1.00	5	1.00	4	11.00	3.06
Heat	1.00	5	1.00	1	8.00	2.18
Wind	3.84	3	1.16	4	12.00	3.35
Tornado	2.22	3	1.26	5	11.48	3.2
Hail	1.41	3	2.33	4	10.74	2.98
Winter Weather	2.40	1	2.73	3.18	9.31	2.56
Low Temperatures	1.00	1	1.00	3.18	6.18	1.64
Sinkholes	1.00	1	1.00	1	4.00	1
Earthquake	1.00	1	1.00	1	4.00	1
Landslide	1.00	1	1.00	1	4.00	1
Fog	1.00	1	1.00	1	4.00	1

Table 78: Hardee County Severity of Consequence Scoring by Hazard (Sorted by Highest SOC Score)

Hazard	Historical Score (1-5)	Climate Sensitive (1-5)	Frequency/ Severity (1-5)	Priority/Future Consequence Planning (1-5)	Composite SOC Score (5-20)	Severity of Consequences Score (0-5)
Hurricane / Tropical Storm	3.79	5	1.93	1	11.72	4.76
Severe Storm / Thunderstorm	3.26	5	1.08	1.9	11.23	4.01
Wildfire	1.10	5	3.53	5	14.63	3.93
Flooding	1.44	5	1.22	1	8.66	3.53
Coastal	1.16	5	5.00	5	16.16	3.59
Lightning	1.31	3	1.01	3.61	8.93	2.68
Drought	1.00	5	1.00	3.61	10.61	3.12
Heat	1.00	5	1.00	5	12.00	3.12
Wind	5.00	3	3.44	3.61	15.05	5
Tornado	1.58	3	1.25	3.45	9.28	2.44
Hail	1.59	3	1.50	3.61	9.70	2.94
Winter Weather	2.09	1	1.31	1	5.40	2.26
Low Temperatures	1.00	1	1.00	4.02	7.02	1.8
Sinkholes	1.00	1	1.00	3.04	6.04	1.27
Earthquake	1.00	1	1.00	4.27	7.27	1
Landslide	1.00	1	1.00	4.02	7.02	1
Fog	1.02	1	1.00	4.02	7.04	1.01

Table 79: Hendry County Severity of Consequence Scoring by Hazard (Sorted by Highest SOC Score)

Hazard	Historical Score (1-5)	Climate Sensitive (1-5)	Frequency/ Severity (1-5)	Priority/Future Consequence Planning (1-5)	Composite SOC Score (5-20)	Severity of Consequences Score (0-5)
Hurricane / Tropical Storm	5.00	5	2.26	5	17.26	5
Severe Storm / Thunderstorm	2.51	5	1.14	5	13.66	3.91
Wildfire	1.40	5	1.67	5	13.06	3.73
Flooding	1.27	5	1.25	3.67	11.19	3.17
Coastal	1.29	5	5.00	1	12.29	3.5
Lightning	3.25	3	1.00	1	8.25	2.28
Drought	1.00	5	1.00	5	12.00	3.41
Heat	1.00	5	1.00	5	12.00	3.41
Wind	3.10	3	1.12	5	12.22	3.48
Tornado	3.03	3	1.21	3.67	10.91	3.08
Hail	1.49	3	1.67	1	7.16	1.95

Winter Weather	2.47	1	2.20	3.67	9.34	2.61
Low Temperatures	1.00	1	1.00	3.67	6.67	1.81
Sinkholes	1.00	1	1.00	2.33	5.33	1.4
Earthquake	1.00	1	1.00	2.33	5.33	1.4
Landslide	1.00	1	1.00	2.33	5.33	1.4
Fog	1.00	1	1.00	1	4.00	1

Table 80: Highlands County Severity of Consequence Scoring by Hazard (Sorted by Highest SOC Score)

Hazard	Historical Score (1-5)	Climate Sensitive (1-5)	Frequency/ Severity (1-5)	Priority/Future Consequence Planning (1-5)	Composite SOC Score (5-20)	Severity of Consequences Score (0-5)
Hurricane / Tropical Storm	4.72	5	5.00	5	19.72	5
Severe Storm / Thunderstorm	2.98	5	1.02	3.67	12.67	3.21
Wildfire	1.12	5	2.01	5	13.14	3.32
Flooding	1.34	5	1.05	4.11	11.50	2.91
Coastal	1.08	5	2.60	1	9.68	2.45
Lightning	4.36	3	1.01	1	9.36	2.36
Drought	1.00	5	1.00	2.33	9.33	2.36
Heat	1.00	5	1.00	2.33	9.33	2.36
Wind	5.00	3	2.91	1	11.91	3.01
Tornado	3.70	3	1.07	1	8.77	2.21
Hail	1.21	3	1.23	1	6.44	1.62
Winter Weather	1.42	1	1.14	2.33	5.89	1.48
Low Temperatures	1.00	1	1.00	2.33	5.33	1.34
Sinkholes	1.00	1	1.00	2.33	5.33	1.34
Earthquake	1.00	1	1.00	1	4.00	1
Landslide	1.00	1	1.00	2.33	5.33	1.34
Fog	1.00	1	1.00	1	4.00	1

Table 81: Hillsborough County Severity of Consequence Scoring by Hazard (Sorted by Highest SOC Score)

Hazard	Historical Score (1-5)	Climate Sensitive (1-5)	Frequency/ Severity (1-5)	Priority/Future Consequence Planning (1-5)	Composite SOC Score (5-20)	Severity of Consequences Score (0-5)
Hurricane / Tropical Storm	3.55	5	5.00	5	18.55	5
Severe Storm / Thunderstorm	3.28	5	1.03	5	14.31	3.83
Wildfire	1.08	5	2.20	4	12.28	3.27
Flooding	1.78	5	1.38	5	13.16	3.52
Coastal	1.24	5	2.26	3.33	11.83	3.15

Lightning	5.00	3	1.03	1	10.03	2.66
Drought	1.00	5	1.00	3.67	10.67	2.83
Heat	1.13	5	1.00	3.67	10.80	2.87
Wind	3.47	3	1.03	5	12.50	3.34
Tornado	3.90	3	1.16	3.67	11.73	3.12
Hail	1.24	3	1.16	1	6.40	1.66
Winter Weather	1.26	1	1.31	2.33	5.91	1.52
Low Temperatures	1.00	1	1.00	2.33	5.33	1.37
Sinkholes	1.00	1	1.00	1	4.00	1
Earthquake	1.00	1	1.00	2.33	5.33	1.37
Landslide	1.00	1	1.00	1	4.00	1
Fog	1.01	1	1.00	1	4.01	1

Table 82: Lake County Severity of Consequence Scoring by Hazard (Sorted by Highest SOC Score)

Hazard	Historical Score (1-5)	Climate Sensitive (1-5)	Frequency/ Severity (1-5)	Priority/Future Consequence Planning (1-5)	Composite SOC Score (5-20)	Severity of Consequences Score (0-5)
Hurricane / Tropical Storm	1.92	5	2.74	3.93	13.59	4.94
Severe Storm / Thunderstorm	2.34	5	1.09	5	13.43	4.87
Wildfire	1.07	5	3.53	3.13	12.73	4.59
Flooding	1.11	5	1.35	5	12.46	4.48
Coastal	1.07	5	5.00	1	12.07	4.32
Lightning	2.63	3	1.01	5	11.64	4.14
Drought	1.00	5	1.00	3.13	10.13	3.52
Heat	1.00	5	1.00	3.13	10.13	3.52
Wind	3.43	3	1.59	1	9.02	3.06
Tornado	5.00	3	2.61	3.13	13.74	5
Hail	1.23	3	1.37	2.87	8.47	2.84
Winter Weather	1.17	1	1.44	3.13	6.75	2.13
Low Temperatures	1.00	1	1.00	2.33	5.33	1.55
Sinkholes	1.00	1	1.00	2.33	5.33	1.55
Earthquake	1.00	1	1.00	1	4.00	1
Landslide	1.02	1	1.00	1	4.02	1.01
Fog	1.00	1	1.00	1	4.00	1

Table 83: Manatee County Severity of Consequence Scoring by Hazard (Sorted by Highest SOC Score)

Hazard	Historical Score (1-5)	Climate Sensitive (1-5)	Frequency/ Severity (1-5)	Priority/Future Consequence	Composite SOC Score (5-20)	Severity of Consequences Score

				Planning (1-5)		(0-5)
Hurricane / Tropical Storm	4.74	5	5.00	5	19.74	5
Severe Storm / Thunderstorm	2.87	5	1.10	5	13.98	3.53
Wildfire	1.17	5	3.13	2.71	12.00	3.03
Flooding	2.78	5	2.10	5	14.88	3.76
Coastal	1.78	5	3.43	3.67	13.88	3.51
Lightning	5.00	3	1.25	1	10.25	2.59
Drought	1.00	5	1.00	3.67	10.67	2.69
Heat	1.00	5	1.00	1	8.00	2.02
Wind	2.97	3	1.10	1	8.07	2.03
Tornado	3.04	3	1.22	3.67	10.93	2.76
Hail	1.27	3	1.98	1	7.25	1.83
Winter Weather	1.33	1	1.79	3.67	7.80	1.97
Low Temperatures	1.00	1	1.00	3.67	6.67	1.68
Sinkholes	1.00	1	1.00	1.57	4.57	1.14
Earthquake	1.00	1	1.00	1	4.00	1
Landslide	1.00	1	1.00	1	4.00	1
Fog	1.01	1	1.00	1	4.01	1

Table 84: Monroe County Severity of Consequence Scoring by Hazard (Sorted by Highest SOC Score)

Hazard	Historical Score (1-5)	Climate Sensitive (1-5)	Frequency/ Severity (1-5)	Priority/Future Consequence Planning (1-5)	Composite SOC Score (5-20)	Severity of Consequences Score (0-5)
Hurricane / Tropical Storm	5.00	5	5.00	4.68	19.68	5
Severe Storm / Thunderstorm	1.89	5	1.00	4.36	12.25	3.11
Wildfire	1.04	5	1.09	3.56	10.69	2.71
Flooding	1.37	5	1.00	5	12.37	3.14
Coastal	1.06	5	1.05	3.4	10.51	2.66
Lightning	1.77	3	1.00	2.92	8.69	2.2
Drought	1.00	5	1.00	3.4	10.40	2.63
Heat	1.00	5	1.00	3.72	10.72	2.71
Wind	2.16	3	1.00	1	7.17	1.81
Tornado	2.63	3	1.03	4.2	10.86	2.75
Hail	1.09	3	1.03	3.24	8.36	2.11
Winter Weather	1.12	1	1.02	1	4.14	1.04
Low Temperatures	1.00	1	1.00	1	4.00	1

Sinkholes	1.00	1	1.00	1	4.00	1
Earthquake	1.00	1	1.00	1	4.00	1
Landslide	1.00	1	1.00	1	4.00	1
Fog	1.00	1	1.00	1	4.00	1

Table 85: Okeechobee County Severity of Consequence Scoring by Hazard (Sorted by Highest SOC Score)

Hazard	Historical Score (1-5)	Climate Sensitive (1-5)	Frequency/ Severity (1-5)	Priority/Future Consequence Planning (1-5)	Composite SOC Score (5-20)	Severity of Consequences Score (0-5)
Hurricane / Tropical Storm	5.00	5	5.00	5	20.00	5
Severe Storm / Thunderstorm	2.20	5	1.05	3.44	11.69	2.92
Wildfire	1.14	5	1.57	3.78	11.48	2.87
Flooding	1.16	5	1.03	2.67	9.86	2.46
Coastal	1.09	5	2.79	1.83	10.71	2.68
Lightning	1.33	3	1.00	3.44	8.77	2.19
Drought	1.00	5	1.00	2.56	9.56	2.39
Heat	1.00	5	1.00	2.56	9.56	2.39
Wind	4.62	3	1.15	3.44	12.21	3.05
Tornado	2.64	3	1.24	3.44	10.32	2.58
Hail	1.19	3	1.36	3.44	8.99	2.25
Winter Weather	1.31	1	1.22	2.83	6.37	1.59
Low Temperatures	1.00	1	1.00	2.83	5.83	1.46
Sinkholes	1.00	1	1.00	1.83	4.83	1.21
Earthquake	1.00	1	1.00	1	4.00	1
Landslide	1.00	1	1.00	1.83	4.83	1.21
Fog	1.00	1	1.00	1	4.00	1

Table 86: Osceola County Severity of Consequence Scoring by Hazard (Sorted by Highest SOC Score)

Hazard	Historical Score (1-5)	Climate Sensitive (1-5)	Frequency/ Severity (1-5)	Priority/Future Consequence Planning (1-5)	Composite SOC Score (5-20)	Severity of Consequences Score (0-5)
Hurricane / Tropical Storm	2.17	5	5.00	5	17.17	5
Severe Storm / Thunderstorm	2.40	5	1.06	4.14	12.60	3.61
Wildfire	1.05	5	2.22	4.43	12.70	3.64
Flooding	1.40	5	1.19	4.71	12.30	3.52
Coastal	1.05	5	2.93	1	9.98	2.82
Lightning	1.65	3	1.08	4.14	9.88	2.78
Drought	1.00	5	1.00	1	8.00	2.21

Heat	1.00	5	1.00	1	8.00	2.21
Wind	3.98	3	3.52	1	11.50	3.28
Tornado	5.00	3	1.93	4.43	14.36	4.15
Hail	1.20	3	1.28	4.14	9.62	2.71
Winter Weather	1.24	1	1.24	1	4.48	1.15
Low Temperatures	1.00	1	1.00	1	4.00	1
Sinkholes	1.00	1	1.00	2.9	5.90	1.58
Earthquake	1.00	1	1.00	1	4.00	1
Landslide	1.00	1	1.00	1	4.00	1
Fog	1.03	1	1.00	1	4.03	1.01

Table 87: Pinellas County Severity of Consequence Scoring by Hazard (Sorted by Highest SOC Score)

Hazard	Historical Score (1-5)	Climate Sensitive (1-5)	Frequency/ Severity (1-5)	Priority/Future Consequence Planning (1-5)	Composite SOC Score (5-20)	Severity of Consequences Score (0-5)
Hurricane / Tropical Storm	3.16	5	1.86	5	15.02	5
Severe Storm / Thunderstorm	2.89	5	1.00	5	13.89	4.59
Wildfire	1.03	5	1.08	4	11.11	3.58
Flooding	1.44	5	1.02	5	12.46	4.07
Coastal	2.24	5	1.01	2	10.25	3.27
Lightning	5.00	3	1.00	5	14.00	4.63
Drought	1.00	5	1.00	4	11.00	3.54
Heat	1.00	5	1.00	4	11.00	3.54
Wind	3.09	3	1.00	1	8.09	2.49
Tornado	4.45	3	1.02	1	9.47	2.99
Hail	1.20	3	1.01	5	10.21	3.26
Winter Weather	1.09	1	1.04	1	4.13	1.05
Low Temperatures	1.00	1	1.00	1	4.00	1
Sinkholes	1.00	1	1.00	1	4.00	1
Earthquake	1.00	1	1.00	1	4.00	1
Landslide	1.00	1	1.00	1	4.00	1
Fog	1.22	1	1.00	1	4.22	1.08

Table 88: Polk County Severity of Consequence Scoring by Hazard (Sorted by Highest SOC Score)

Hazard	Historical Score (1-5)	Climate Sensitive (1-5)	Frequency/ Severity (1-5)	Priority/Future Consequence Planning (1-5)	Composite SOC Score (5-20)	Severity of Consequences Score (0-5)
Hurricane / Tropical Storm	1.83	5	1.14	5	12.97	4.56

Severe Storm / Thunderstorm	3.08	5	1.00	5	14.09	5
Wildfire	1.12	5	1.03	4	11.15	3.83
Flooding	1.21	5	1.01	5	12.22	4.26
Coastal	1.03	5	1.25	2	9.28	3.09
Lightning	4.28	3	1.00	5	13.28	4.68
Drought	1.00	5	1.00	4	11.00	3.78
Heat	1.08	5	1.00	4	11.08	3.81
Wind	5.00	3	1.20	1	10.20	3.46
Tornado	4.20	3	1.02	1	9.22	3.07
Hail	1.27	3	1.02	5	10.29	3.49
Winter Weather	1.14	1	1.02	1	4.16	1.06
Low Temperatures	1.00	1	1.00	1	4.00	1
Sinkholes	1.00	1	1.00	1	4.00	1
Earthquake	1.00	1	1.00	1	4.00	1
Landslide	1.00	1	1.00	1	4.00	1
Fog	1.17	1	1.00	1	4.17	1.07

Table 89: Putnam County Severity of Consequence Scoring by Hazard (Sorted by Highest SOC Score)

Hazard	Historical Score (1-5)	Climate Sensitive (1-5)	Frequency/ Severity (1-5)	Priority/Future Consequence Planning (1-5)	Composite SOC Score (5-20)	Severity of Consequences Score (0-5)
Hurricane / Tropical Storm	5.00	5	1.19	5	16.19	5
Severe Storm / Thunderstorm	3.13	5	1.00	5	14.13	4.32
Wildfire	1.62	5	1.03	4	11.65	3.51
Flooding	1.29	5	1.01	5	12.30	3.72
Coastal	1.25	5	1.25	2	9.50	2.81
Lightning	3.68	3	1.00	5	12.68	3.85
Drought	1.00	5	1.00	4	11.00	3.3
Heat	1.00	5	1.00	4	11.00	3.3
Wind	3.13	3	1.00	1	8.14	2.36
Tornado	3.26	3	1.01	1	8.28	2.4
Hail	1.44	3	1.02	5	10.46	3.12
Winter Weather	1.42	1	1.04	1	4.46	1.15
Low Temperatures	1.00	1	1.00	1	4.00	1
Sinkholes	1.00	1	1.00	1	4.00	1
Earthquake	1.00	1	1.00	1	4.00	1
Landslide	1.00	1	1.00	1	4.00	1

Fog	2.05	1	1.00	1	5.05	1.35

Table 90: Seminole County Severity of Consequence Scoring by Hazard (Sorted by Highest SOC Score)

Hazard	Historical Score (1-5)	Climate Sensitive (1-5)	Frequency/ Severity (1-5)	Priority/Future Consequence Planning (1-5)	Composite SOC Score (5-20)	Severity of Consequences Score (0-5)
Hurricane / Tropical Storm	4.24	5	2.70	5	16.94	5
Severe Storm / Thunderstorm	2.65	5	1.01	5	13.66	3.99
Wildfire	1.28	5	1.92	4	12.20	3.53
Flooding	1.36	5	1.02	5	12.38	3.59
Coastal	1.05	5	1.25	2	9.30	2.64
Lightning	2.93	3	1.00	5	11.94	3.45
Drought	1.00	5	1.00	4	11.00	3.16
Heat	1.00	5	1.00	4	11.00	3.16
Wind	3.37	3	1.04	1	8.41	2.36
Tornado	5.00	3	1.07	1	10.07	2.88
Hail	1.39	3	1.03	5	10.42	2.98
Winter Weather	1.25	1	1.03	1	4.28	1.09
Low Temperatures	1.00	1	1.00	1	4.00	1
Sinkholes	1.00	1	1.00	1	4.00	1
Earthquake	1.00	1	1.00	1	4.00	1
Landslide	1.00	1	1.00	1	4.00	1
Fog	1.00	1	1.00	1	4.00	1

Table 91: St Johns County Severity of Consequence Scoring by Hazard (Sorted by Highest SOC Score)

Hazard	Historical Score (1-5)	Climate Sensitive (1-5)	Frequency/ Severity (1-5)	Priority/Future Consequence Planning (1-5)	Composite SOC Score (5-20)	Severity of Consequences Score (0-5)
Hurricane / Tropical Storm	5.00	5	6.90	5	21.90	5
Severe Storm / Thunderstorm	2.74	5	1.00	5	13.74	3.18
Wildfire	1.17	5	1.08	4	11.25	2.62
Flooding	1.40	5	1.01	5	12.41	2.88
Coastal	3.36	5	1.01	2	11.37	2.65
Lightning	3.83	3	1.00	5	12.84	2.97
Drought	1.00	5	1.00	4	11.00	2.56
Heat	1.00	5	1.00	4	11.00	2.56
Wind	3.35	3	1.00	1	8.35	1.97
Tornado	1.77	3	1.01	1	6.78	1.62

Hail	1.16	3	1.03	5	10.19	2.38
Winter Weather	1.16	1	1.03	1	4.19	1.04
Low Temperatures	1.00	1	1.00	1	4.00	1
Sinkholes	1.00	1	1.00	1	4.00	1
Earthquake	1.00	1	1.00	1	4.00	1
Landslide	1.00	1	1.00	1	4.00	1
Fog	1.00	1	1.00	1	4.00	1

Assessment Report Format

The analysis and associated outputs of this assessment are not intended to replace more detailed, multi-year risk assessment processes such as updating FEMA-required risk assessments and mitigation plans. A geospatial analytics focus on hazard geographies forms the basis of the current assessment. As such, each hazard section provides the following standardized information:

1. **Overview of Hazard**. Where applicable, background material on hazards is adapted from Hurricane Ian impacted county current Hazard Mitigation Plans. A brief background is provided if a hazard has not been cataloged in applicable regional and county plans.
2. **Data and Methods**. General descriptions of data and methods are provided for reference.
3. **Hazard Frequency Analysis Results**. An overview of hazard frequency across Hurricane Ian impacted area including:
    A. Maps of hazard zones. Hazard categories for each hazard type are provided showing frequency of occurrence or other hazard zone/category information for each county.
    B. Tables and other associated charts/graphs summarizing threat exposures across the AOI.

2.6.4 Hazard Threat and Risk Assessment

2.6.4.1 Greatest Severity of Consequence Hazard Threats

Based on the Severity of Consequence analysis performed in Section 2.6.3 Severity of Consequences of this assessment, eight hazards pose the greatest threat to Floridians' lives and property. Hurricane winds, hurricane storm surges, severe storms, wildfires, 100-years flooding, and flash flooding are identified in the top six hazards for each Hurricane Ian AOI county, with hurricanes toping each county's SOC list. Coastal hazards/sea-level rise and lightning were among the top eight hazard threats in several counties in terms of the summary of severity of consequences Table 71: Overall Severity of Consequence Scores/Ranks by Hazard Type. These eight hazard threat types are recognized as high SOC based on their past frequency, historical impact to lives and property, climate sensitivity, frequency/severity ratio, and current priority within county hazard risk assessments and will be highlighted throughout this section to ascertain their overall pattern of risk across the AOI.

This section addresses quantitative and qualitative descriptions of these hazards and their projected current and future risk across all the Hurricane Ian AOI counties. Each hazard profile includes a description of the hazard and a discussion of the extent of the hazard threat across the AOI. Quantitatively combining threat with vulnerability (Vulnerability Analysis) and severity of consequences (2.6.3 Severity of Consequences) produces a visual and tabular representation of risk for each hazard threat.

Because tropical cyclones, severe storms, wildfires, and flooding (riverine and flash floods) present high severity of consequence across the Hurricane Ian AOI, causing great damage to physical assets, they are prioritized in Sections 2.6.4.2 Hurricane Winds, 2.6.4.3 Hurricane Storm Surges, 2.6.4.4 Severe Storms, 2.6.4.5 Wildfire, and 2.6.4.6 100-year Flooding and Flash Flooding.

2.6.4.2 Hurricane Winds

Hazard Overview

Hurricanes are tropical weather systems with a higher intensity of sustained winds at 74mph or higher. They develop over warm waters and are caused by the instability created by the collision of warm and cool air. A hurricane is a type of tropical cyclone. Tropical cyclones are classified according to the intensity of their sustained winds, namely:

1. Tropical Depression: An organized system of clouds with a defined circulation and maximum sustained winds which are less than 39mph. These types of storms are considered a tropical cyclone in the formative stage.
2. Tropical Storm: An organized system of clouds with a defined circulation and maximum sustained winds that range between 39 and 73mph.
3. Hurricane: A maximum intensity tropical cyclone at which the maximum sustained winds reach or exceed 74mph. Hurricanes have a definitive center with a very low barometric pressure in it. Hurricanes are classified into categories ranging from one to five, with winds in Category 5 hurricanes exceeding 155mph.

Hurricanes are dangerous because of their potential for destruction, their ability to affect large areas, and their unpredictable movement. Hurricanes are often accompanied by high tides, storm surges, and heavy rains that can cause landslides and flooding by swollen rivers.

As an emerging hurricane develops, barometric pressure at its center falls and winds increase. If the atmospheric and oceanic conditions are favorable, it can intensify into a tropical depression. When maximum sustained winds reach or exceed 39mph, the system is designated a tropical storm, given a name, and closely monitored by the National Hurricane Center (NHC) in Miami, Florida. When sustained winds reach or exceed 74mph, the storm is deemed a hurricane. Hurricane intensity is further classified by the Saffir-Simpson Scale, which rates hurricane intensity on a scale of one (1) to five (5), with five (5) being the most intense. The Saffir-Simpson hurricane wind scale[168] categorizes hurricane intensity linearly based upon maximum sustained winds, barometric pressure, and storm surge potential, which are combined to estimate potential damage.

Category	Sustained Winds	Types of Damage Due to Hurricane Winds
1	74-95 mph 64-82 kt 119-153 km/h	**Very dangerous winds will produce some damage:** Well-constructed frame homes could have damage to roof, shingles, vinyl siding and gutters. Large branches of trees will snap and shallowly rooted trees may be toppled. Extensive damage to power lines and poles likely will result in power outages that could last a few to several days.
2	96-110 mph 83-95 kt 154-177 km/h	**Extremely dangerous winds will cause extensive damage:** Well-constructed frame homes could sustain major roof and siding damage. Many shallowly rooted trees will be snapped or uprooted and block numerous roads. Near-total power loss is expected with outages that could last from several days to weeks.
3 (major)	111-129 mph 96-112 kt 178-208 km/h	**Devastating damage will occur:** Well-built framed homes may incur major damage or removal of roof decking and gable ends. Many trees will be snapped or uprooted, blocking numerous roads. Electricity and water will be unavailable for several days to weeks after the storm passes.
4 (major)	130-156 mph 113-136 kt 209-251 km/h	**Catastrophic damage will occur:** Well-built framed homes can sustain severe damage with loss of most of the roof structure and/or some exterior walls. Most trees will be snapped or uprooted and power poles downed. Fallen trees and power poles will isolate residential areas. Power outages will last weeks to possibly months. Most of the area will be uninhabitable for weeks or months.
5 (major)	157 mph or higher 137 kt or higher 252 km/h or higher	**Catastrophic damage will occur:** A high percentage of framed homes will be destroyed, with total roof failure and wall collapse. Fallen trees and power poles will isolate residential areas. Power outages will last for weeks to possibly months. Most of the area will be uninhabitable for weeks or months.

Figure 55: Saffir-Simpson Hurricane Wind Scale[169]

Hurricanes designated Category 3-5 are considered "major hurricanes." While hurricanes within this range comprise only 20 percent of U.S. total tropical cyclone landfalls, they account for more than 70 percent of U.S. hurricane damage. Since 1926, 18 notable Category 3-5 hurricanes have impacted

[168] United States, NOAA. *National Hurricane Center and Central Pacific Hurricane Center*. Accessed at: https://www.nhc.noaa.gov/aboutsshws.php.

[169] Source: NOAA

Florida.[170] Additional hurricane damage may also result from the secondary spawning of tornadoes and inland flooding caused by the heavy rainfall that usually accompanies hurricanes. Table 92: Historical Frequency of Occurrence for Hurricane Hazards (Wind and Storm Surge) contains data on the historical frequency of wind and storm surge, as hurricane hazards, within the Hurricane Ian AOI.

Table 92: Historical Frequency of Occurrence for Hurricane Hazards (Wind and Storm Surge)[171]

County	Number of Events (1960-2020)	Property Loss (2019 USD)	Fatalities	Injuries
Brevard	24	$829,328,561	3	89
Charlotte	30	$4,254,321,845	5	748
Collier	25	$12,008,984,179	6	57
DeSoto	27	$577,867,261	2	98
Flagler	16	$139,663,327	1	46
Glades	17	$49,816,803	1	57
Hardee	25	$42,190,929	1	48
Hendry	20	$45,553,140	2	57
Highlands	23	$416,200,280	1	48
Hillsborough	38	$291,107,590	1	50
Lake	10	$31,516,160	1	46
Manatee	35	$104,629,326	2	54
Monroe	60	$12,196,312,679	23	113
Okeechobee	12	$194,919,193	7	48
Osceola	13	$195,031,331	1	48
Pinellas	32	$791,822,154	1	49
Polk	24	$100,009,604	1	48
Putnam	11	$59,807,170	2	46
Seminole	13	$639,950,311	2	46
St. Johns	13	$2,219,386,950	1	46

Data and Methods

Gaining perspective on historical frequencies of sustained hurricane-force wind speeds across the AOI required a multi-step geospatial process. First, the Extended Best Track (EBT) data was downloaded for all Atlantic tropical cyclones from the NHC.[172] The NHC has maintained a climatology of all Atlantic tropical cyclones since 1851, called HURDAT.[173] For each storm, HURDAT contains estimates of the latitude, longitude, one-minute maximum sustained surface winds, minimum sea-level pressure, and an indicator of whether the system was purely tropical, subtropical, or extra-tropical,[174] at six-hour intervals.

[170] https://climatecenter.fsu.edu/topics/hurricanes

[171] Sources: www.sheldus.org, summarized from Section 2.6.3.1 Historical Consequence; National Centers for Environmental Information Severe Storms Database https://www.ncdc.noaa.gov/stormevents/choosedates.jsp?statefips=12%2CFLORIDA#

[172] United States. Department of Commerce. Extended Best Track Dataset. Accessed at http://rammb.cira.colostate.edu/research/tropical_cyclones/tc_extended_best_track_dataset/

[173] HURDAT is a commonly used acronym that stands for the North Atlantic Hurricane Dataset

[174] https://www.weather.gov/source/zhu/ZHU_Training_Page/tropical_stuff/sub_extra_tropical/subtropical.htm

However, HURDAT lacks any information about storm structure. By supplementing HURDAT with additional storm parameters determined by NHC, the "extended" best track file (EBT) was created. This EBT data was subset for the AOI, resulting in a set of specific storms between the years 1851 – 2022 that came close enough to impact the AOI with winds. A buffer of 50 miles was added to each hurricane near the AOI to establish the potential area of impact. Each of the wind fields is then summarized to recreate a specific wind zone polygon for each hurricane event so that each storm is only counted once in the analytic process. Finally, a sum of the number of hurricanes that impacted the AOI between 1851 – 2022 is generated for each hex grid and summarized by county.

Hurricane Hazard Frequency Analysis Results

Interestingly, coastal counties within the Hurricane Ian AOI have a lower hurricane threat than inland counties. This pattern stems from the fact that landlocked central Florida counties face hurricane threats from the east, west, and south, whereas coastal counties tend to be spared by most storms making initial landfall on Florida's west coast. All of Okeechobee County, and nearly all of Hendry, Highlands, Lake and Polk Counties are in the highest category for hurricane wind hazards, experiencing more than 24 instances of hurricane force wind events since 1851. Hurricane wind frequency decreases from the center of the AOI to the east with Brevard, Pinellas, Manatee, Desoto, and Charlotte Counties experiencing the least number of events (< 7.1) (Figure 56: Hurricane Wind Hazard Areas). However, most AOI counties have a large percentage of their land area in medium-high to high hurricane threat zones (Table 93: Hurricane Wind Hazard Threat Area Summary).

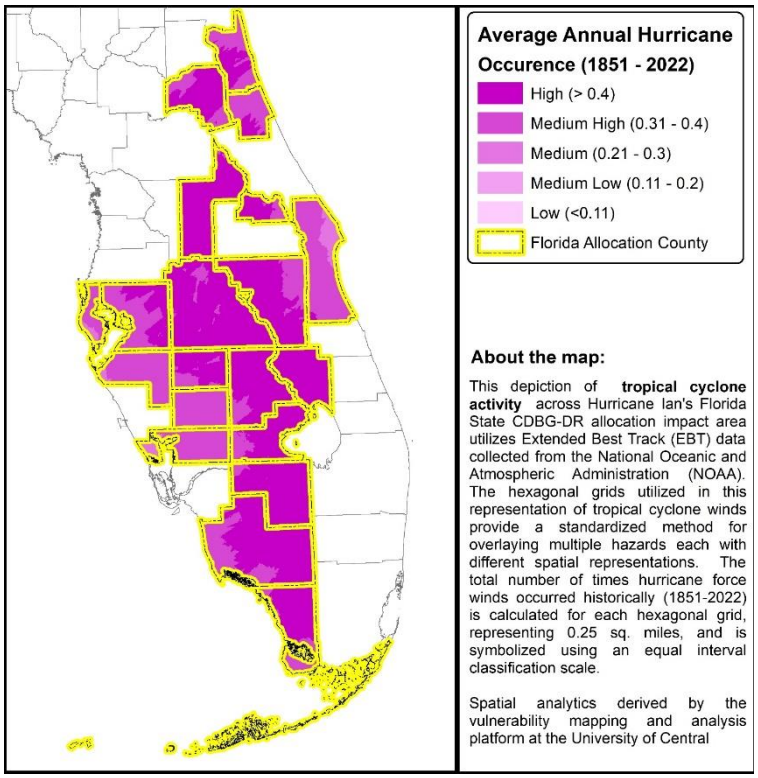

Figure 56: Hurricane Wind Hazard Areas

Table 93: Hurricane Wind Hazard Threat Area Summary

Ian Area of Interest	Total (0.25 sq. mile) Hex Grids	Hazard Threat Category									
		Low		Medium Low		Medium		Medium High		High	
		Total Hex Grids	% of Hex Grids	Total Hex Grids	% of Hex Grids	Total Hex Grids	% of Hex Grids	Total Hex Grids	% of Hex Grids	Total Hex Grids	% of Hex Grids
All Counties	82,336	98	0.12%	258	0.31%	3,411	4.14%	29,757	36.14%	48,812	59.28%

Brevard	5,422	-	0.00%	-	0.00%	907	16.73%	4,381	80.80%	134	2.47%
Charlotte	3,163	-	0.00%	-	0.00%	576	18.21%	2,587	81.79%	-	0.00%
Collier	8,680	-	0.00%	-	0.00%	-	0.00%	2,642	30.44%	6,038	69.56%
DeSoto	2,677	-	0.00%	-	0.00%	-	0.00%	2,671	99.78%	6	0.22%
Flagler	2,153	-	0.00%	-	0.00%	-	0.00%	1,633	75.85%	520	24.15%
Glades	3,470	-	0.00%	-	0.00%	-	0.00%	696	20.06%	2,774	79.94%
Hardee	2,676	-	0.00%	-	0.00%	-	0.00%	745	27.84%	1,931	72.16%
Hendry	4,863	-	0.00%	-	0.00%	-	0.00%	288	5.92%	4,575	94.08%
Highlands	4,624	-	0.00%	-	0.00%	-	0.00%	578	12.50%	4,046	87.50%
Hillsborough	4,577	-	0.00%	-	0.00%	11	0.24%	2,665	58.23%	1,901	41.53%
Lake	4,866	-	0.00%	-	0.00%	-	0.00%	112	2.30%	4,754	97.70%
Manatee	3,374	-	0.00%	-	0.00%	243	7.20%	3,101	91.91%	30	0.89%
Monroe	6,372	6,372	100.00%	-	0.00%	-	0.00%	-	0.00%	-	0.00%
Okeechobee	3,311	-	0.00%	-	0.00%	-	0.00%	-	0.00%	3,311	100.00%
Osceola	6,272	-	0.00%	-	0.00%	-	0.00%	1,385	22.08%	4,887	77.92%
Pinellas	1,524	-	0.00%	-	0.00%	336	22.05%	1,188	77.95%	-	0.00%
Polk	8,310	-	0.00%	-	0.00%	-	0.00%	373	4.49%	7,937	95.51%
Putnam	3,481	-	0.00%	-	0.00%	-	0.00%	1,085	31.17%	2,396	68.83%
Seminole	1,492	-	0.00%	-	0.00%	-	0.00%	470	31.50%	1,022	68.50%
St. Johns	2,858	-	0.00%	-	0.00%	-	0.00%	1,782	62.35%	1,076	37.65%

Hurricane Hazard Risk Analysis Results

Accounting for vulnerability and severity of consequences in the creation of a composite hurricane wind risk measure provides a more complete view of how hurricane winds can impact the AOI. Here, when overlaying the hurricane wind threat zones with vulnerabilities and accounting for the fact that hurricanes have the highest severity of consequences, pockets of high risk emerge in all counties except Brevard, Charlotte, Desoto, Flagler, Monroe, and Pinellas Counties due to the fact that these places had lower overall threat scores for hurricane wind. Hillsborough and Pinellas Counties had the highest amount of land area in the 'medium-high' risk category for hurricane wind making them ideal locations for large scale hurricane mitigation interventions.

Box 6: Hurricane Wind Hazard Mitigation Takeaway

Mitigation Takeaway: Hurricane winds have the potential to reach far inland and their duration (before, during, and after actual landfall) make them a high-level threat for residents in these counties. Mitigation activities aimed at providing residents with opportunities to fortify or strengthen their foundation-roof connection would provide an enormous benefit to homes that were not severely damaged by Hurricane Ian. Programs such as My Safe Florida Home could be leveraged to increase hurricane mitigation in these areas. However, places where homes were destroyed by Hurricane Ian's wind would benefit from larger infrastructure investments aimed at supporting community development from the ground-up through sound building practices for homes and businesses alike.

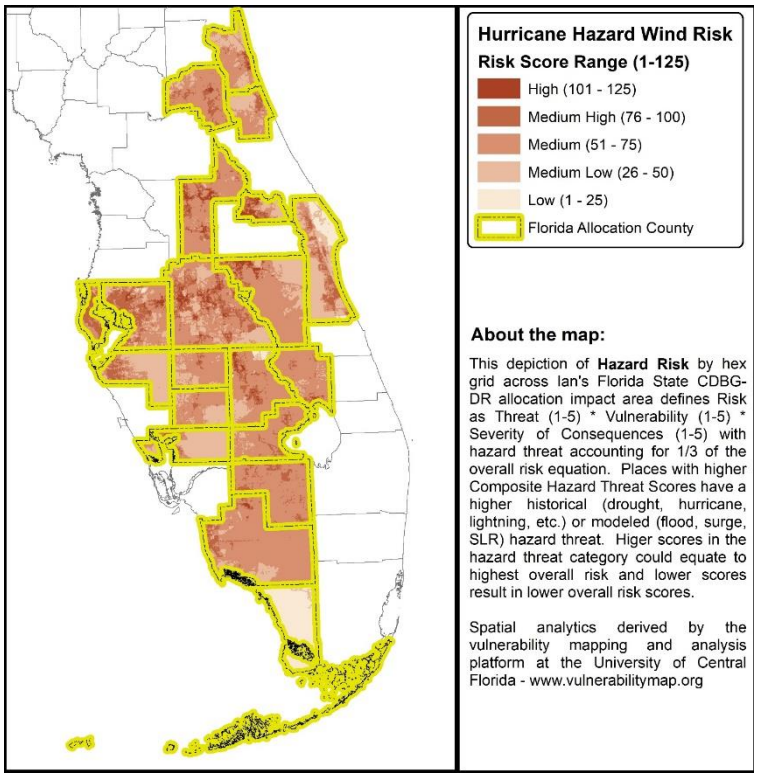

Figure 57: Hurricane Wind Composite Risk

Table 94: Hurricane Wind Zone Hazard Risk Area Summary

Ian Area of Interest	Total (0.25 sq. mile) Hex Grids	Hazard Risk Category									
		Low		Medium Low		Medium		Medium High		High	
		Total Hex Grids	% of Hex Grids	Total Hex Grids	% of Hex Grids	Total Hex Grids	% of Hex Grids	Total Hex Grids	% of Hex Grids	Total Hex Grids	% of Hex Grids
All Counties	82,336	6,042	7.34%	20,023	24.32%	46,352	56.30%	8,561	10.40%	1,358	1.65%
Brevard	5,422	989	18.24%	2,803	51.70%	1,120	20.66%	510	9.41%	-	0.00%
Charlotte	3,163	-	0.00%	2,256	71.32%	693	21.91%	214	6.77%	-	0.00%
Collier	8,680	4	0.05%	1,239	14.27%	6,904	79.54%	508	5.85%	25	0.29%
DeSoto	2,677	-	0.00%	997	37.24%	1,625	60.70%	55	2.05%	-	0.00%
Flagler	2,153	-	0.00%	793	36.83%	1,228	57.04%	132	6.13%	-	0.00%
Glades	3,470	11	0.32%	172	4.96%	2,952	85.07%	320	9.22%	15	0.43%
Hardee	2,676	-	0.00%	706	26.38%	1,863	69.62%	97	3.62%	10	0.37%
Hendry	4,863	2	0.04%	2	0.04%	4,100	84.31%	738	15.18%	21	0.43%
Highlands	4,624	184	3.98%	636	13.75%	3,194	69.07%	497	10.75%	113	2.44%
Hillsborough	4,577	65	1.42%	907	19.82%	2,458	53.70%	1,055	23.05%	92	2.01%
Lake	4,866	3	0.06%	179	3.68%	3,785	77.78%	681	14.00%	218	4.48%
Manatee	3,374	15	0.44%	2,393	70.92%	685	20.30%	281	8.33%	-	0.00%
Monroe	6,372	4,587	71.99%	1,570	24.64%	215	3.37%	-	0.00%	-	0.00%
Okeechobee	3,311	-	0.00%	191	5.77%	2,896	87.47%	207	6.25%	17	0.51%
Osceola	6,272	1	0.02%	1,500	23.92%	4,067	64.84%	434	6.92%	270	4.30%
Pinellas	1,524	1	0.07%	362	23.75%	495	32.48%	666	43.70%	-	0.00%
Polk	8,310	47	0.57%	1,819	21.89%	4,635	55.78%	1,493	17.97%	316	3.80%

Putnam	3,481	9	0.26%	240	6.89%	2,826	81.18%	376	10.80%	30	0.86%
Seminole	1,492	-	0.00%	565	37.87%	398	26.68%	302	20.24%	227	15.21%
St. Johns	2,858	124	4.34%	1,034	36.18%	1,524	53.32%	145	5.07%	31	1.08%

2.6.4.3 Hurricane Storm Surges

Hazard Overview

A storm surge is an elevated water level that is pushed towards the shore by the force of strong winds that result in the piling up of water along the shoreline. The advancing surge combines with the normal tides, which in extreme cases can increase the normal water height over 20 feet. Storm surge arrives ahead of a storm's actual landfall—the more intense the hurricane is, the sooner the surge arrives. Water rise can occur rapidly and move far inland, posing a serious threat to those who have not yet evacuated flood-prone areas. Debris carried by the waves can also contribute to the devastation. As the storm approaches the shore, the greatest storm surge will be to the northeast of the hurricane eye, in the right-front quadrant of the direction in which the hurricane is moving. A surge of high water topped by waves driven by hurricane force winds can be devastating to coastal regions, causing severe beach erosion and property damage along the immediate coast. Storm surge heights, and associated waves, are impacted by the shape of the continental shelf (narrow or wide) and the depth of the ocean bottom (bathymetry). A narrow shelf, or one that drops steeply from the shoreline and subsequently produces deep water close to the shoreline, tends to produce a lower surge, but higher and more powerful storm waves. While disassociated with the Saffir-Simpson Scale, storm surge remains the leading cause of mortality (or loss of life) of residents along the immediate coastal areas.[175].

Data and Methods

This assessment utilized Sea, Lake and Overland Surges from Hurricanes (SLOSH) datasets to map storm surge inundation for the conterminous U.S. provided by NOAA National Storm Surge Hazard Maps.[176] SLOSH is a computerized model that estimates storm surge heights from tropical cyclones using pressure, size, forward speed, and track data to create a model of the wind field which pushes water. In each SLOSH basin or grid, tens of thousands of hypothetical tropical cyclones are simulated, and the potential storm surges are calculated. The model is best used for defining the potential flooding from storm surge for a location from a threatening hurricane, rather than as a predictor of the specific areas that will be inundated during a particular event. In some coastal and island regions, such as Florida, NOAA has coupled the SLOSH model and the Simulating Waves Nearshore (SWAN) third-generation wave model, developed at Delft University of Technology, to model storm surge and create Maximum of the Maximum Envelope of High Water (referred to as MEOW or MOM) products. For this assessment, average Water MOM provides a worst-case snapshot for a particular storm category under "perfect" storm conditions. Each MOM considers combinations of forward speed, trajectory, and initial tide level. These products are compiled when a SLOSH basin is developed or updated. It should be noted that no single hurricane will produce the regional flooding depicted in the MOMs. Instead, MOMs are intended to capture the worst-case high-water value at a particular location for hurricane evacuation planning. For this assessment, MOM water depth associated with each hurricane category was calculated for each hex-grid.

Hurricane Storm Surge Hazard Frequency Analysis Results

Hurricane storm surges, a uniquely coastal phenomena, show differential hazardousness across the Hurricane Ian AOI. As such, several counties in this assessment do not have storm surge hazard threat potential, including Highlands, Lake, Okeechobee, Osceola, Polk, and Seminole. However, some inland counties, especially in areas adjacent to bay and inland waterways connected to the open ocean do have

[175] Adapted from *South Carolina Hazard Mitigation Plan*. Accessed at: https://www.scemd.org/media/1391/sc-hazard-mitigation-plan-2018-update.pdf

[176] United States. NOAA. *National Storm Surge Hazard Maps – Version 2*. Accessed at: https://www.nhc.noaa.gov/nationalsurge

(albeit small) threat from surges, while others (such as Charlotte, Collier, Monroe, and Pinellas) all have greater than 50 percent of their land area in 100 'high' storm surge zone (Figure 58: Hurricane Category 5 Storm Surge Hazard Areas Table 95: Hurricane Storm Surge Hazard Threat Area Summary).

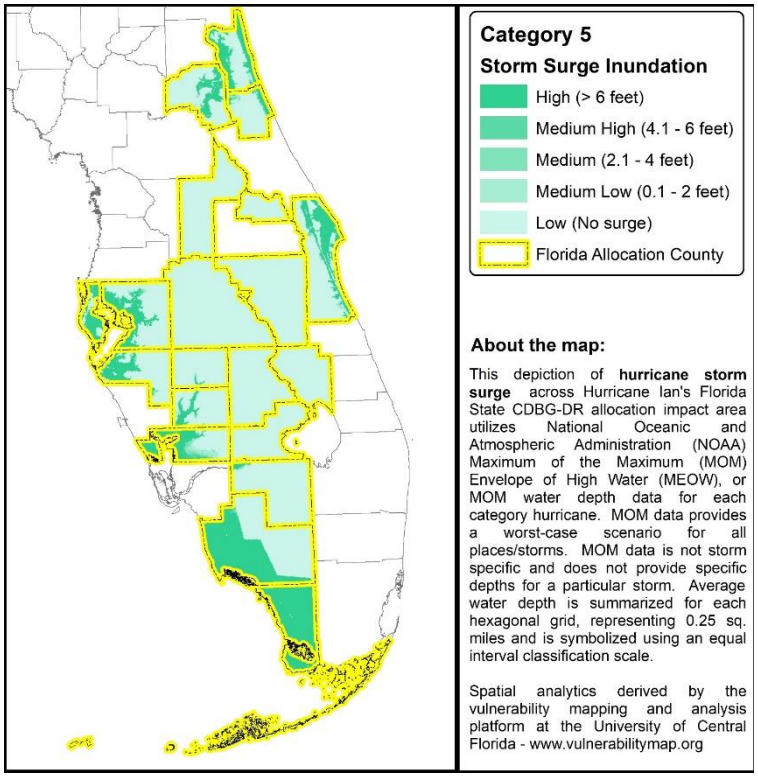

Figure 58: Hurricane Category 5 Storm Surge Hazard Areas

Table 95: Hurricane Storm Surge Hazard Threat Area Summary

Ian Area of Interest	Total (0.25 sq. mile) Hex Grids	Hazard Threat Category									
		Low		Medium Low		Medium		Medium High		High	
		Total Hex Grids	% of Hex Grids	Total Hex Grids	% of Hex Grids	Total Hex Grids	% of Hex Grids	Total Hex Grids	% of Hex Grids	Total Hex Grids	% of Hex Grids
All Counties	82,336	60,568	73.56%	704	0.86%	565	0.69%	633	0.77%	19,866	24.13%
Brevard	5,422	3,483	64.24%	68	1.25%	52	0.96%	38	0.70%	1,781	32.85%
Charlotte	3,163	1,068	33.77%	204	6.45%	146	4.62%	162	5.12%	1,583	50.05%
Collier	8,680	4,248	48.94%	8	0.09%	15	0.17%	43	0.50%	4,366	50.30%
DeSoto	2,677	2,165	80.87%	53	1.98%	44	1.64%	56	2.09%	359	13.41%
Flagler	2,153	1,619	75.20%	88	4.09%	53	2.46%	40	1.86%	353	16.40%
Glades	3,470	3,447	99.34%	3	0.09%	7	0.20%	1	0.03%	12	0.35%
Hardee	2,676	2,622	97.98%	8	0.30%	7	0.26%	12	0.45%	27	1.01%
Hendry	4,863	4,641	95.43%	35	0.72%	32	0.66%	19	0.39%	136	2.80%
Highlands	4,624	4,624	100.00%	-	0.00%	-	0.00%	-	0.00%	-	0.00%
Hillsborough	4,577	2,890	63.14%	40	0.87%	44	0.96%	63	1.38%	1,540	33.65%
Lake	4,866	4,866	100.00%	-	0.00%	-	0.00%	-	0.00%	-	0.00%
Manatee	3,374	2,273	67.37%	41	1.22%	49	1.45%	62	1.84%	949	28.13%
Monroe	6,372	758	11.90%	-	0.00%	-	0.00%	-	0.00%	5,614	88.10%
Okeechobee	3,311	3,311	100.00%	-	0.00%	-	0.00%	-	0.00%	-	0.00%
Osceola	6,272	6,272	100.00%	-	0.00%	-	0.00%	-	0.00%	-	0.00%

Pinellas	1,524	224	14.70%	5	0.33%	4	0.26%	6	0.39%	1,285	84.32%
Polk	8,310	8,310	100.00%	-	0.00%	-	0.00%	-	0.00%	-	0.00%
Putnam	3,481	2,651	76.16%	55	1.58%	44	1.26%	51	1.47%	680	19.53%
Seminole	1,492	1,492	100.00%	-	0.00%	-	0.00%	-	0.00%	-	0.00%
St. Johns	2,858	1,167	40.83%	105	3.67%	86	3.01%	88	3.08%	1,412	49.41%

Hurricane Storm Surge Hazard Risk Analysis Results

Accounting for vulnerabilities and severity of consequences from hurricane storm surges helps to pinpoint areas along the coast where people and community lifelines intersect with surge hazard threats. Here, portions of all coastal counties have increased risk (Figure 59: Hurricane Category 5 Storm Surge Composite Risk). However, several counties, including Charlotte, Hillsborough, Manatee, and Pinellas have at least 5 percent of their land area in a high surge risk zone with Pinellas topping out in this category with 36.4 percent of its land area at high storm surge risk (Table 96: Hurricane Storm Surge Hazard Risk Area Summary).

Box 7: Hurricane Storm Surge Hazard Mitigation Takeaway

Mitigation Takeaway: Strategic investments in storm surge protective infrastructure such as sea-walls, water retention systems, and better storm runoff systems along with wet-flood proofing, building above current free-board requirements, and consideration of managed retreat all have a place in storm surge mitigation. Additionally, expending green infrastructure investment that can absorb storm surges such as dunes, mangroves, and oyster reefs will also serve to protect inland areas for commercial and residential development.

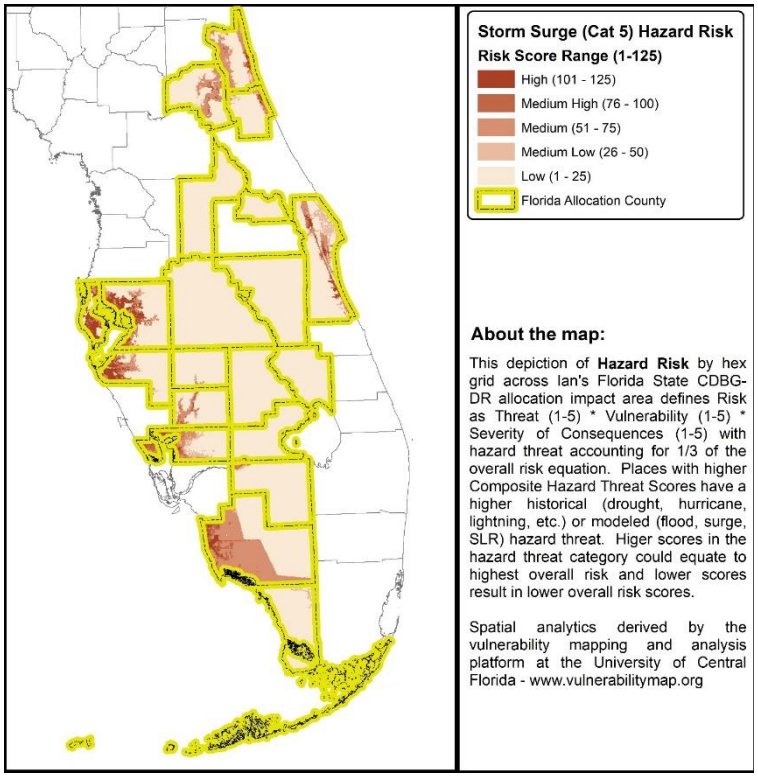

Figure 59: Hurricane Category 5 Storm Surge Composite Risk

Table 96: Hurricane Storm Surge Hazard Risk Area Summary

Ian Area of Interest	Total (0.25 sq. mile) Hex Grids	Hazard Risk Category									
		Low		Medium Low		Medium		Medium High		High	
		Total Hex Grids	% of Hex Grids	Total Hex Grids	% of Hex Grids	Total Hex Grids	% of Hex Grids	Total Hex Grids	% of Hex Grids	Total Hex Grids	% of Hex Grids
All Counties	82,336	65,390	79.42%	2,408	2.92%	9,973	12.11%	2,640	3.21%	1,925	2.34%
Brevard	5,422	3,797	70.03%	638	11.77%	607	11.20%	211	3.89%	169	3.12%
Charlotte	3,163	1,309	41.38%	372	11.76%	846	26.75%	447	14.13%	189	5.98%
Collier	8,680	4,252	48.99%	50	0.58%	3,699	42.62%	472	5.44%	207	2.38%
DeSoto	2,677	2,176	81.29%	100	3.74%	304	11.36%	90	3.36%	7	0.26%
Flagler	2,153	1,671	77.61%	97	4.51%	273	12.68%	86	3.99%	26	1.21%
Glades	3,470	3,447	99.34%	10	0.29%	5	0.14%	6	0.17%	2	0.06%
Hardee	2,676	2,628	98.21%	19	0.71%	29	1.08%	-	0.00%	-	0.00%
Hendry	4,863	4,641	95.43%	63	1.30%	89	1.83%	55	1.13%	15	0.31%
Highlands	4,624	4,624	100.00%	-	0.00%	-	0.00%	-	0.00%	-	0.00%
Hillsborough	4,577	2,950	64.45%	167	3.65%	633	13.83%	422	9.22%	405	8.85%
Lake	4,866	4,866	100.00%	-	0.00%	-	0.00%	-	0.00%	-	0.00%
Manatee	3,374	2,305	68.32%	137	4.06%	460	13.63%	244	7.23%	228	6.76%
Monroe	6,372	4,772	74.89%	352	5.52%	1,048	16.45%	149	2.34%	51	0.80%
Okeechobee	3,311	3,311	100.00%	-	0.00%	-	0.00%	-	0.00%	-	0.00%
Osceola	6,272	6,272	100.00%	-	0.00%	-	0.00%	-	0.00%	-	0.00%
Pinellas	1,524	224	14.70%	75	4.92%	406	26.64%	264	17.32%	555	36.42%
Polk	8,310	8,310	100.00%	-	0.00%	-	0.00%	-	0.00%	-	0.00%
Putnam	3,481	2,676	76.87%	95	2.73%	625	17.95%	75	2.15%	10	0.29%
Seminole	1,492	1,492	100.00%	-	0.00%	-	0.00%	-	0.00%	-	0.00%
St. Johns	2,858	1,233	43.14%	265	9.27%	1,149	40.20%	145	5.07%	66	2.31%

2.6.4.4 Severe Storms

Hazard Overview

Severe thunderstorms are defined by NWS as storms that have wind speeds at 58mph or higher, produce hail at least 0.75-inch in diameter, or produce tornadoes. Thunderstorms simply require moisture to form clouds and rain, coupled with an unstable mass of warm air that can rise rapidly. Thunderstorms affect relatively small areas when compared with hurricanes and winter storms, as the average storm is 15 miles in diameter and lasts an average of 30 minutes. Nearly 1,800 thunderstorms are occurring at any moment around the world. However, of the estimated 100,000 thunderstorms that occur each year in the U.S., only about 10 percent are classified as severe. Thunderstorms are most likely to happen in the spring and summer months and during the afternoon and evening hours but can occur year-round and at all hours. Despite their generally small size compared to hurricanes, all thunderstorms are dangerous and capable of threatening life and property in localized areas. Every thunderstorm produces lightning, which results from the buildup and discharge of electrical energy between positively and negatively charged areas. Each year across the U.S., lightning causes more deaths than tornadoes. Each year lightning is responsible for an average of 93 deaths, 300 injuries, and several hundred million dollars in damage to property and forests.

Thunderstorms can also produce large, damaging hail, which causes nearly $1 billion in damage to property and crops annually. Straight-line winds, which in extreme cases have the potential to exceed

100mph, are responsible for most thunderstorm wind damage. One type of straight-line wind, the downburst, can cause damage equivalent to a strong tornado and can be extremely dangerous to aviation. Thunderstorms are also capable of producing tornados and heavy rain that can lead to flash flooding.

Table 97: Historical Frequency of Occurrence for Severe Storm Hazards, below, provides statistics on the historical frequency of severe storm hazards in the Hurricane Ian AOI.

Table 97: Historical Frequency of Occurrence for Severe Storm Hazards[177]

County	Number of Events (1960-2021)	Property Loss (2021 USD)	Fatalities	Injuries
Brevard	126	$14,283,349	2	31
Charlotte	77	$9,111,122	0	2
Collier	60	$8,175,958	0	6
DeSoto	42	$7,983,032	1	0
Flagler	116	$8,673,998	0	1
Glades	18	$7,779,982	0	0
Hardee	59	$8,432,185	1	4
Hendry	30	$7,753,001	0	1
Highlands	86	$8,657,956	0	1
Hillsborough	313	$18,580,390	3	27
Lake	89	$13,956,613	3	8
Manatee	132	$10,163,021	1	3
Monroe	48	$9,157,434	2	0
Okeechobee	43	$8,195,996	0	1
Osceola	53	$11,938,977	0	5
Pinellas	206	$12,502,697	4	14
Polk	250	$18,058,421	1	13
Putnam	115	$8,197,472	1	1
Seminole	69	$14,823,941	1	4
St. Johns	105	$9,326,351	0	2

Data and Methods

Severe storm warnings are issued by NWS Forecast Offices within and near the Hurricane Ian AOI. Severe thunderstorm warnings include where the storm is located, what towns will be affected by the severe thunderstorm, and the primary threat associated with the severe thunderstorm warning.[178] Severe storm warnings are collected and archived by Iowa State University's Environmental Mesonet.[179] Annually across the Hurricane Ian AOI, there have been hundreds of severe storm warnings issued between 2002 and 2022. When these overlap each other across the AOI they represent a higher severe storm threat. Each hexagonal grid was appraised based on the average number of severe storm warnings touching it over the period of record. This summation was then divided by the number of years in the record to develop an average annual number of severe storms and mapped.

[177] Source: www.sheldus.org, summarized from Section 2.6.3 Severity of Consequences

[178] United States. NOAA. *Severe Weather Definitions*. Accessed at: https://www.weather.gov/bgm/severedefinitions

[179] Iowa State University. *Iowa Environmental Mesonet*. Accessed at: https://mesonet.agron.iastate.edu/

Severe Storm Hazard Frequency Analysis Results

Figure 60: Severe Storm Hazard Frequency Areas highlights several eastern AOI counties with a majority of their land area shaded in dark green indicating high numbers of severe storm warnings on average, with Pinellas and western Hillsborough Counties having higher threats. As shown in this figure, Flagler, Putnam, Seminole, and St. Johns Counties have the highest threat in terms of land area in the places with the most severe storm warnings (Table 98: Severe Storm Hazard Threat Area Summary). Interestingly, southern counties tend to have many fewer severe storm warnings than their northern neighbors.

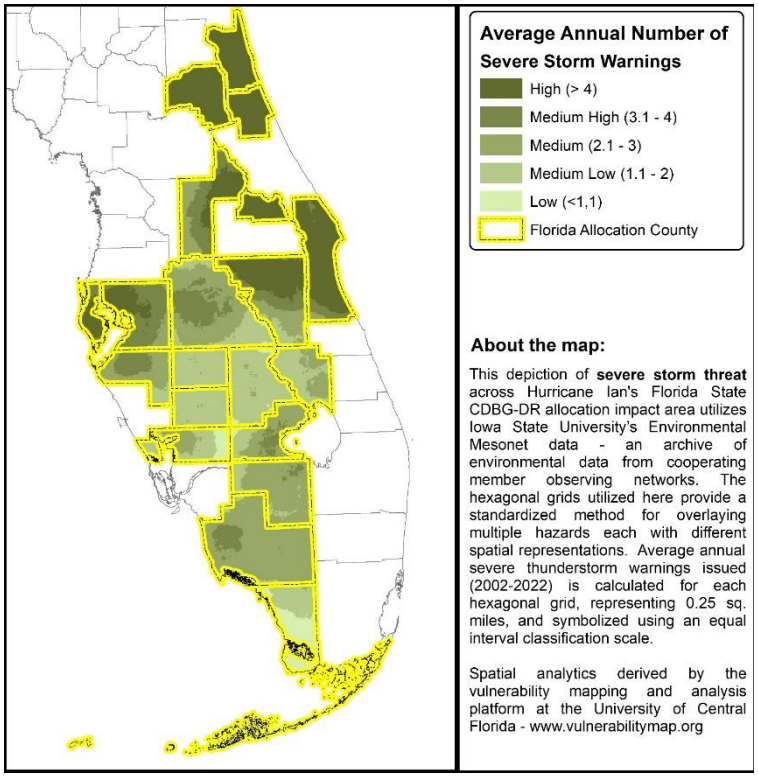

Figure 60: Severe Storm Hazard Frequency Areas

Table 98: Severe Storm Hazard Threat Area Summary

Ian Area of Interest	Total (0.25 sq. mile) Hex Grids	Hazard Threat Category									
		Low		Medium Low		Medium		Medium High		High	
		Total Hex Grids	% of Hex Grids	Total Hex Grids	% of Hex Grids	Total Hex Grids	% of Hex Grids	Total Hex Grids	% of Hex Grids	Total Hex Grids	% of Hex Grids
All Counties	82,336	7,131	8.66%	19,293	23.43%	24,147	29.33%	11,076	13.45%	20,689	25.13%
Brevard	5,422	-	0.00%	25	0.46%	278	5.13%	668	12.32%	4,451	82.09%
Charlotte	3,163	884	27.95%	1,554	49.13%	725	22.92%	-	0.00%	-	0.00%
Collier	8,680	93	1.07%	755	8.70%	7,096	81.75%	736	8.48%	-	0.00%
DeSoto	2,677	92	3.44%	2,555	95.44%	30	1.12%	-	0.00%	-	0.00%
Flagler	2,153	-	0.00%	-	0.00%	-	0.00%	7	0.33%	2,146	99.67%
Glades	3,470	213	6.14%	767	22.10%	2,007	57.84%	483	13.92%	-	0.00%
Hardee	2,676	68	2.54%	2,596	97.01%	12	0.45%	-	0.00%	-	0.00%
Hendry	4,863	21	0.43%	861	17.71%	3,845	79.07%	136	2.80%	-	0.00%
Highlands	4,624	482	10.42%	3,933	85.06%	209	4.52%	-	0.00%	-	0.00%
Hillsborough	4,577	1	0.02%	87	1.90%	902	19.71%	2,491	54.42%	1,096	23.95%

Lake	4,866	4	0.08%	1,259	25.87%	1,880	38.64%	1,723	35.41%	-	0.00%
Manatee	3,374	3	0.09%	795	23.56%	1,667	49.41%	909	26.94%	-	0.00%
Monroe	6,372	5,067	79.52%	1,254	19.68%	51	0.80%	-	0.00%	-	0.00%
Okeechobee	3,311	117	3.53%	2,024	61.13%	1,170	35.34%	-	0.00%	-	0.00%
Osceola	6,272	5	0.08%	717	11.43%	1,245	19.85%	1,388	22.13%	2,917	46.51%
Pinellas	1,524	-	0.00%	40	2.62%	92	6.04%	625	41.01%	767	50.33%
Polk	8,074	2,022	25.04%	4,112	50.93%	1,884	23.33%	56	0.69%	-	0.00%
Putnam	3,481	-	0.00%	-	0.00%	-	0.00%	37	1.06%	3,444	98.94%
Seminole	1,492	-	0.00%	-	0.00%	-	0.00%	3	0.20%	1,489	99.80%
St. Johns	2,858	-	0.00%	-	0.00%	-	0.00%	-	0.00%	2,858	100.00%

Severe Storm Hazard Risk Analysis Results

Accounting for the severity of consequences and vulnerabilities across the AOI produces a different perspective for severe storm risk (Figure 61: Severe Storm Hazard Composite Risk). Here, Pinellas County rises to one of the most at risk in terms of severe storms, with portions of Hillsborough, Polk, Lake, Putnam, and Brevard Counties (moving from east to west across the peninsula) showing areas with higher risk. Brevard, Hillsborough, Pinellas, and Seminole Counties all have at least 10 percent of their land area in a medium-high severe storm category with Pinellas showing an additional 27.5 percent in the high-risk category for this threat.

Box 8: Severe Storm Hazard Mitigation Takeaway

Mitigation Takeaway: Clearly a hazard threat with more influence on the northern counties over the southern counties, severe storms pose a threat to homes and businesses alike. In many urban/suburban areas, a transition to mixed-use buildings means that potentially the best way to mitigate against the impacts from severe storms is to ensure that building codes are kept updated/enforced and that infrastructure is brought up to current international building code standards. This means that significant opportunity exists to support upgrades to infrastructure in terms of increased-cost of compliance and supporting development of stronger building codes and practices.

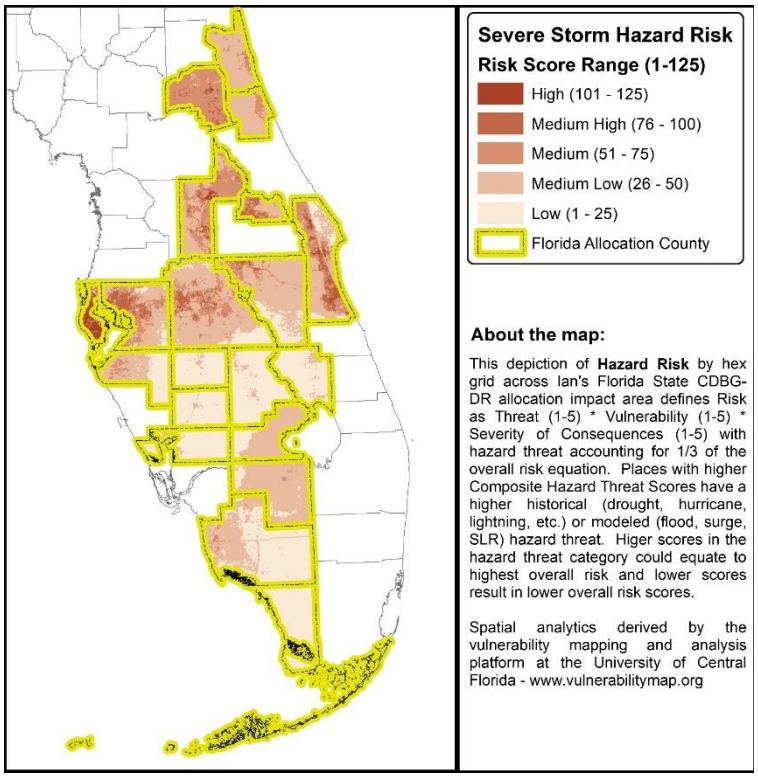

Figure 61: Severe Storm Hazard Composite Risk

Table 99: Severe Storm Hazard Risk Area Summary

Ian Area of Interest	Total (0.25 sq. mile) Hex Grids	Hazard Risk Category									
		Low		Medium Low		Medium		Medium High		High	
		Total Hex Grids	% of Hex Grids	Total Hex Grids	% of Hex Grids	Total Hex Grids	% of Hex Grids	Total Hex Grids	% of Hex Grids	Total Hex Grids	% of Hex Grids
All Counties	82,336	34,450	41.84%	32,701	39.72%	11,670	14.17%	2,946	3.58%	569	0.69%
Brevard	5,422	847	15.62%	2,380	43.90%	1,494	27.55%	635	11.71%	66	1.22%
Charlotte	3,163	2,921	92.35%	242	7.65%	-	0.00%	-	0.00%	-	0.00%
Collier	8,680	5,733	66.05%	2,851	32.85%	96	1.11%	-	0.00%	-	0.00%
DeSoto	2,677	2,584	96.53%	93	3.47%	-	0.00%	-	0.00%	-	0.00%
Flagler	2,153	-	0.00%	1,850	85.93%	303	14.07%	-	0.00%	-	0.00%
Glades	3,470	966	27.84%	2,499	72.02%	5	0.14%	-	0.00%	-	0.00%
Hardee	2,676	2,515	93.98%	161	6.02%	-	0.00%	-	0.00%	-	0.00%
Hendry	4,863	690	14.19%	4,129	84.91%	44	0.90%	-	0.00%	-	0.00%
Highlands	4,624	4,304	93.08%	320	6.92%	-	0.00%	-	0.00%	-	0.00%
Hillsborough	4,577	492	10.75%	2,399	52.41%	1,180	25.78%	506	11.06%	-	0.00%
Lake	4,866	5	0.10%	2,012	41.35%	2,481	50.99%	307	6.31%	61	1.25%
Manatee	3,374	1,739	51.54%	1,472	43.63%	163	4.83%	-	0.00%	-	0.00%
Monroe	6,372	4,772	74.89%	352	5.52%	1,048	16.45%	149	2.34%	51	0.80%
Okeechobee	3,311	3,053	92.21%	258	7.79%	-	0.00%	-	0.00%	-	0.00%
Osceola	6,272	1,366	21.78%	4,070	64.89%	670	10.68%	153	2.44%	13	0.21%
Pinellas	1,524	45	2.95%	343	22.51%	271	17.78%	445	29.20%	420	27.56%
Polk	8,310	1,393	16.76%	5,172	62.24%	1,344	16.17%	387	4.66%	14	0.17%

Putnam	3,481	9	0.26%	180	5.17%	3,068	88.14%	215	6.18%	9	0.26%
Seminole	1,492	-	0.00%	765	51.27%	400	26.81%	327	21.92%	-	0.00%
St. Johns	2,858	160	5.60%	2,370	82.93%	325	11.37%	3	0.10%	-	0.00%

2.6.4.5 Wildfire

Hazard Overview

A wildfire is any type of forest, grass, brush, or outdoor fire that is not controlled or supervised. While wildfire occurrence and extent are generally controlled by climate, wildfires are also controlled by local factors such as ignition source, topography, local weather patterns, variations in fuel characteristics (type and condition), land-use practices, and overall management practices. The amount of storm debris including downed trees left behind can vary depending on the hurricane. Following Hurricane Ian's impact on forestry, small stands of trees that were destroyed could increase fire risk if not removed properly. Across much of Florida, wildfires tend to occur mainly in grasslands, croplands, or dry forest areas. Time of day, climate, and land cover have been the most significant drivers of wildfire across the Hurricane Ian AOI. Irrespective of how they start or how they spread, wildfires pose a modest threat to lives and livelihoods across the Hurricane Ian AOI – especially in the urban/wildland interface. Table 100: Historical Frequency of Occurrence for Wildfire Hazards, below, provides statistics on the historical frequency of severe storm hazards in the Hurricane Ian AOI.

Table 100: Historical Frequency of Occurrence for Wildfire Hazards[180]

County	Number of Events (1960-2020)	Property Loss (2019 USD)	Fatalities	Injuries
Brevard	3	$347,128,945	0	57
Charlotte	4	$4,672,674	0	3
Collier	11	$11,146,662	0	6
DeSoto	1	$4,579,671	0	2
Flagler	2	$4,579,671	0	4
Glades	7	$4,663,461	0	2
Hardee	1	$4,579,671	0	2
Hendry	4	$4,821,953	0	3
Highlands	1	$4,579,671	0	2
Hillsborough	2	$4,579,671	0	4
Lake	1	$4,579,671	0	2
Manatee	3	$4,767,488	0	2
Monroe	1	$4,579,671	0	2
Okeechobee	2	$4,590,224	0	2
Osceola	1	$4,579,671	0	2
Pinellas	2	$4,587,314	0	2
Polk	8	$6,430,343	0	5
Putnam	5	$4,701,933	0	12
Seminole	2	$53,027,764	0	4
St. Johns	2	$4,579,671	0	3

[180] Source: www.sheldus.org, summarized from Section 2.6.3 Severity of Consequences

Data and Methods

Like several other hazards in this assessment, wildfire extent data is either not readily available for the Hurricane Ian AOI from a national assessment—such as the Monitoring Trends in Burn Severity (MTBS) database[181] or the USGS Geospatial Multi-Agency Coordination (GeoMAC), or the National Interagency Fire Center[182]— or available data is not comprehensive and complete for the AOI. For this assessment, Florida specific data on wildfire occurrences (1994-2000) was collected from the Florida Fish and Wildlife Conservation Commission's Florida Wildfire Occurrence Dataset[183]. The average annual number of wildfire events (1994 – 2000) for each hex grid was calculated for the Hurricane Ian AOI to create a representation of areal wildfire hazard threat.

Wildfire Hazard Frequency Analysis Results

Wildfire threat is greatest in Glades and Hendry Counties, although Charlotte, Polk, and Okeechobee Counties also appear to have some medium-high threat areas (Figure 62: Wildfire Hazard Frequency Areas) and, while most of the wildfire threat across the AOI falls into the medium low threat category in terms of land area (Table 101: Wildfire Hazard Threat Area Summary), each county has at least some land classified by high or medium-high wildfire threat.

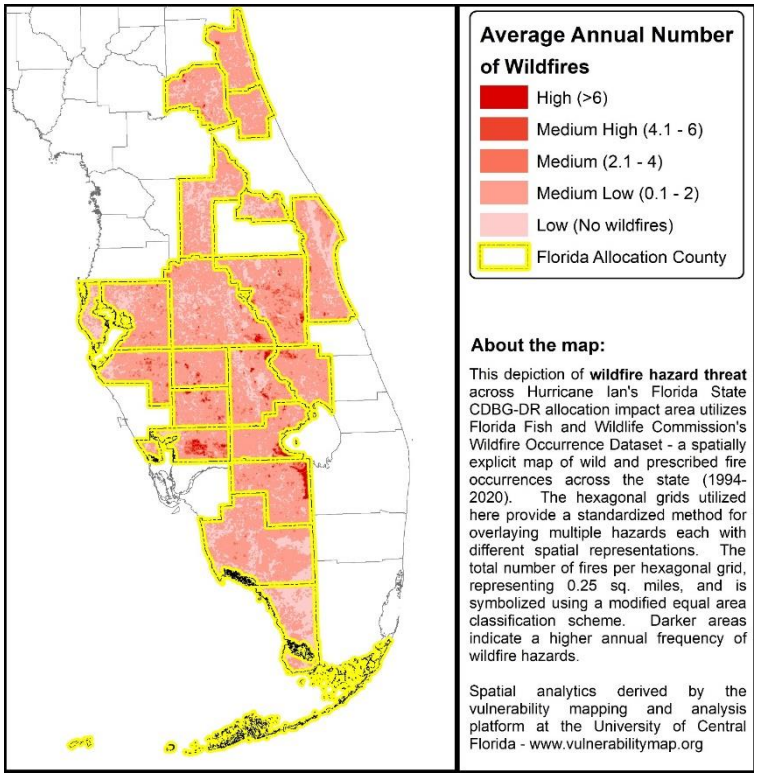

Figure 62: Wildfire Hazard Frequency Areas

[181] Monitoring Trends in Burn Severity. *Wildfire Data*. Accessed at: https://www.mtbs.gov/

[182] National Interagency Fire Center. Accessed at: https://www.nifc.gov/

[183] https://myfwc.com/research/gis/regional-projects/florida-fire/

Table 101: Wildfire Hazard Threat Area Summary

Ian Area of Interest	Total (0.25 sq. mile) Hex Grids	Hazard Threat Category									
		Low		Medium Low		Medium		Medium High		High	
		Total Hex Grids	% of Hex Grids	Total Hex Grids	% of Hex Grids	Total Hex Grids	% of Hex Grids	Total Hex Grids	% of Hex Grids	Total Hex Grids	% of Hex Grids
All Counties	82,336	21,611	26.25%	56,095	68.13%	3,029	3.68%	758	0.92%	843	1.02%
Brevard	5,422	1,711	31.56%	3,540	65.29%	139	2.56%	23	0.42%	9	0.17%
Charlotte	3,163	716	22.64%	1,834	57.98%	367	11.60%	164	5.18%	82	2.59%
Collier	8,680	3,029	34.90%	5,593	64.44%	56	0.65%	2	0.02%	-	0.00%
DeSoto	2,677	248	9.26%	2,164	80.84%	186	6.95%	41	1.53%	38	1.42%
Flagler	2,153	413	19.18%	1,739	80.77%	1	0.05%	-	0.00%	-	0.00%
Glades	3,470	248	7.15%	2,850	82.13%	119	3.43%	52	1.50%	201	5.79%
Hardee	2,676	175	6.54%	2,312	86.40%	137	5.12%	35	1.31%	17	0.64%
Hendry	4,863	434	8.92%	3,803	78.20%	217	4.46%	84	1.73%	325	6.68%
Highlands	4,624	836	18.08%	3,396	73.44%	273	5.90%	54	1.17%	65	1.41%
Hillsborough	4,577	983	21.48%	3,445	75.27%	129	2.82%	16	0.35%	4	0.09%
Lake	4,866	1,490	30.62%	3,321	68.25%	46	0.95%	7	0.14%	2	0.04%
Manatee	3,374	498	14.76%	2,573	76.26%	253	7.50%	43	1.27%	7	0.21%
Monroe	6,372	4,923	77.26%	1,449	22.74%	-	0.00%	-	0.00%	-	0.00%
Okeechobee	3,006	2,798	93.08%	161	5.36%	38	1.26%	9	0.30%	-	0.00%
Osceola	6,272	780	12.44%	4,715	75.18%	618	9.85%	123	1.96%	36	0.57%
Pinellas	1,524	1,067	70.01%	457	29.99%	-	0.00%	-	0.00%	-	0.00%
Polk	8,310	1,815	21.84%	6,052	72.83%	328	3.95%	74	0.89%	41	0.49%
Putnam	3,481	820	23.56%	2,581	74.15%	58	1.67%	8	0.23%	14	0.40%
Seminole	1,492	648	43.43%	838	56.17%	5	0.34%	-	0.00%	1	0.07%
St. Johns	2,858	762	26.66%	2,058	72.01%	22	0.77%	5	0.17%	11	0.38%

Wildfire Hazard Risk Analysis Results

Wildfire has a moderate to high SOC score across all counties in the AOI, ranging from 2.62 in Charlotte to a 4.59 in St. Johns (on a scale of 1-5) resulting in modest risks across the AOI (Figure 63: Wildfire Hazard Composite Risk). Most land area across the AOI is classified as medium-low or medium. However, nine counties including Brevard, Glades, Hardee, Hendry, Hillsborough, Lake, Osceola, and Polk each have a small amount of land area in the medium wildfire threat zone (Table 102: Wildfire Hazard Risk Area Summary).

Box 9: Wildfire Hazard Mitigation Takeaway

Mitigation Takeaway: Wildfire, due to its very nature tends to occur outside of heavily populated places. As such, although it can cause severe damage to homes and businesses at the urban-wildland interface, wildfires generally impact more rural areas making the overall risk from this hazard event lower than others in this assessment. However, mitigating wildfire can be achieved through a focus on building critical infrastructure capable of supporting water and conveying emergency vehicles to threatened areas more quickly.

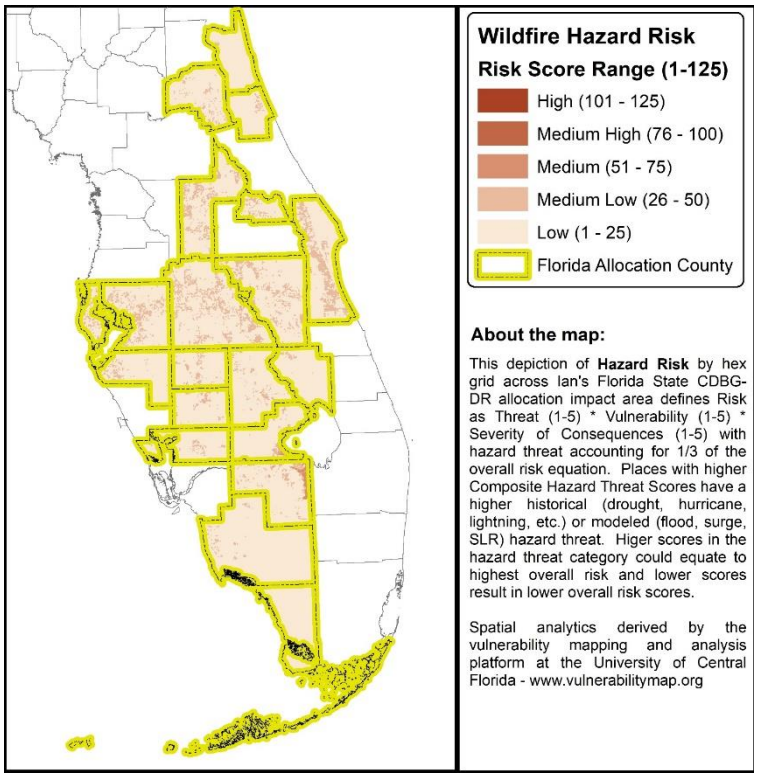

Figure 63: Wildfire Hazard Composite Risk

Table 102: Wildfire Hazard Risk Area Summary

Ian Area of Interest	Total (0.25 sq. mile) Hex Grids	Hazard Risk Category									
		Low		Medium Low		Medium		Medium High		High	
		Total Hex Grids	% of Hex Grids	Total Hex Grids	% of Hex Grids	Total Hex Grids	% of Hex Grids	Total Hex Grids	% of Hex Grids	Total Hex Grids	% of Hex Grids
All Counties	82,336	74,278	90.21%	7,662	9.31%	396	0.48%	-	0.00%	-	0.00%
Brevard	5,422	4,321	79.69%	1,097	20.23%	4	0.07%	-	0.00%	-	0.00%
Charlotte	3,163	3,018	95.42%	145	4.58%	-	0.00%	-	0.00%	-	0.00%
Collier	136	136	100.00%	-	0.00%	-	0.00%	-	0.00%	-	0.00%
DeSoto	2,677	2,477	92.53%	197	7.36%	3	0.11%	-	0.00%	-	0.00%
Flagler	2,153	2,075	96.38%	78	3.62%	-	0.00%	-	0.00%	-	0.00%
Glades	3,470	3,090	89.05%	326	9.39%	54	1.56%	-	0.00%	-	0.00%
Hardee	2,676	2,388	89.24%	286	10.69%	2	0.07%	-	0.00%	-	0.00%
Hendry	4,863	4,069	83.67%	462	9.50%	332	6.83%	-	0.00%	-	0.00%
Highlands	4,624	4,407	95.31%	214	4.63%	3	0.06%	-	0.00%	-	0.00%
Hillsborough	4,577	3,942	86.13%	634	13.85%	1	0.02%	-	0.00%	-	0.00%
Lake	4,866	3,934	80.85%	929	19.09%	3	0.06%	-	0.00%	-	0.00%
Manatee	3,374	3,208	95.08%	166	4.92%	-	0.00%	-	0.00%	-	0.00%
Monroe	6,372	6,370	99.97%	2	0.03%	-	0.00%	-	0.00%	-	0.00%
Okeechobee	3,311	3,241	97.89%	70	2.11%	-	0.00%	-	0.00%	-	0.00%
Osceola	6,272	5,291	84.36%	980	15.63%	1	0.02%	-	0.00%	-	0.00%
Pinellas	1,524	1,265	83.01%	259	16.99%	-	0.00%	-	0.00%	-	0.00%
Polk	8,310	6,831	82.20%	1,468	17.67%	11	0.13%	-	0.00%	-	0.00%

Putnam	3,481	3,271	93.97%	210	6.03%	-	0.00%	-	0.00%	-	0.00%
Seminole	1,492	1,303	87.33%	189	12.67%	-	0.00%	-	0.00%	-	0.00%
St. Johns	2,858	2,843	99.48%	15	0.52%	-	0.00%	-	0.00%	-	0.00%

2.6.4.6 100-year Flooding and Flash Flooding

Hazard Overview

Flooding is the most frequent and costly natural hazard in the United States. Floods are generally the result of excessive precipitation and can be classified under two categories: (1) flash floods, the product of heavy localized precipitation in a short period over a given location; and (2) general floods, caused by precipitation over a longer period and over a given river basin. The severity of a flooding event is determined by a combination of stream and river basin topography and physiography, precipitation and weather patterns, recent soil moisture conditions, and the degree of vegetative clearing.

Flash flooding events usually occur within minutes or hours of heavy amounts of rainfall or from a dam or levee failure. Most flash flooding is caused by slow-moving thunderstorms in a local area or by heavy rains associated with hurricanes and tropical storms. Although flash flooding in often associated with mountain streams—which are not present in Florida—it is also common in urbanized areas where much of the ground is covered by impervious surfaces.

General floods are usually longer-term events and may last for several days. The primary types of general flooding include riverine flooding, coastal flooding, and urban flooding. Riverine flooding is a function of excessive precipitation levels and water runoff volumes within the watershed of a stream or river. Coastal flooding is typically a result of storm surge, wind-driven waves, and heavy rainfall produced by hurricanes, tropical storms, and other large coastal storms. Urban flooding occurs where man-made development has obstructed the natural flow of water and/or decreased the ability of natural groundcover to absorb and retain surface water runoff.

Table 103: Historical Frequency of Occurrence for Loss Causing Flooding and Flash Flooding Hazards provides statistics on flood events in the Hurricane Ian AOI from 1960 to 2020.

Table 103: Historical Frequency of Occurrence for Loss Causing Flooding and Flash Flooding Hazards[184]

County	Number of Events (1960-2020)	Property Loss (2019 USD)	Fatalities	Injuries
Brevard	23	$152,688,046	1	0
Charlotte	29	$39,299,438	1	0
Collier	20	$15,868,044	0	0
DeSoto	36	$19,934,024	1	0
Flagler	22	$6,205,845	0	0
Glades	7	$2,057,693	0	0
Hardee	19	$7,723,203	0	0
Hendry	5	$2,252,092	0	0
Highlands	15	$3,495,624	0	0
Hillsborough	64	$46,195,066	2	2
Lake	7	$4,459,175	0	0
Manatee	54	$44,431,040	4	0

[184] Source: www.sheldus.org, summarized from Section 2.6.3 (severity of consequences)

Monroe	19	$4,381,065	1	1
Okeechobee	6	$728,215	0	0
Osceola	15	$10,706,855	0	0
Pinellas	46	$27,024,091	1	2
Polk	27	$9,758,856	0	0
Putnam	13	$2,952,972	0	0
Seminole	10	$6,127,981	1	0
St. Johns	25	$5,363,867	0	0

Data and Methods

100-Year Flood Hazard Areas

FEMA provides a national flood hazard dataset for the U.S. through an online Map Service Center (MSC). Accordingly, this assessment utilized FEMA's Special Flood Hazard Area (SFHA) dataset, representing flood hazards with a 0.01 probability of occurrence in any given year, commonly referred to as a 100-year flood zone, or the one percent annual chance of flooding. Though additional flood zones exist for many locations in the U.S., depicting the 0.002 chance (500-year) of flooding or areas that may experience high velocity floodwater flows, this assessment utilized only the 100-year SFHA data in our composite hazard analysis as the 100-year flood zone is recognized as regulatory whereas the 500-year flood zone is non-regulatory. In the case of Hurricane Ian impacted area, current effective 100-year Flood Zones accessed from FEMA's map service center were spatially intersected with a 0.25-square-mile hexagonal grid for the Hurricane Ian impacted area to produce a spatial representation of flood hazard across the AOI.

Flash Flooding

Flash flood warnings are issued by the NOAA's National Severe Storm's Laboratory (NSSL)[185] which aggregates NWS Flash Flood Warning Polygons including where the storm modeled to produce flooding is located and what towns will be affected by the flash flood. Each hexagonal grid was appraised based on the average number of flash flood warning polygons intersecting (touching it) over the period of record. This summation was then divided by the number of years in the record (21) to develop an average annual number of severe storms and mapped.

Flood Hazard Frequency Analysis Results

100-year flood hazard threat potential is present in every county but is significantly more pronounced along the tributaries of the St. Johns River and in low lying coastal and inland areas across the entire AOI. The following 100-Year Flood Zone map (Figure 64: 100-Year Flood Zone Hazard Areas) categorizes each 0.25-square-mile hex grid based on the amount of land area inside the FEMA Preliminary 100-Year Flood Zone using equal interval classification. Unlike simply using the flood zone perimeter, this map allows for areal comparison across the AOI.

Counties to the east, especially Brevard, Lake, and Osceola, appear to have relatively more land area in flood prone areas than most of the western AOI counties. However, as Table 104: 100-Year Flood Zone Hazard Threat Area Summary summarizes, several southern counties have nearly 100 percent of their land area in a 100-year flood zone. More than 92 percent of Collier County's land area and more than 86 percent of Monroe County's land area is classified as high flood zone. Many other counties have greater than 20 percent of their land area in high flood threat areas.

In terms of flash flooding, Brevard County has historically had the most flash flood warnings with some areas seeing more than 5 warnings per year over the period of record (Figure 65: Flash Flood Hazard Areas). This high flash flood threat stems from Brevard County's relatively higher levels of impervious

[185] https://inside.nssl.noaa.gov/flash/database/

surface that other counties in the AOI, a pattern you can see repeating in St. Johns, Pinellas, Charlotte, Collier Counties and portions of Glades County near lake Okeechobee. Only Brevard, Glades, Osceola, Seminole, and St. Johns Counties have any land area in the highest flash flood threat category (Table 105: Flash Flood Hazard Threat Area Summary, however most other counties have a majority of their land area in medium-low and low flash flood threat categories.

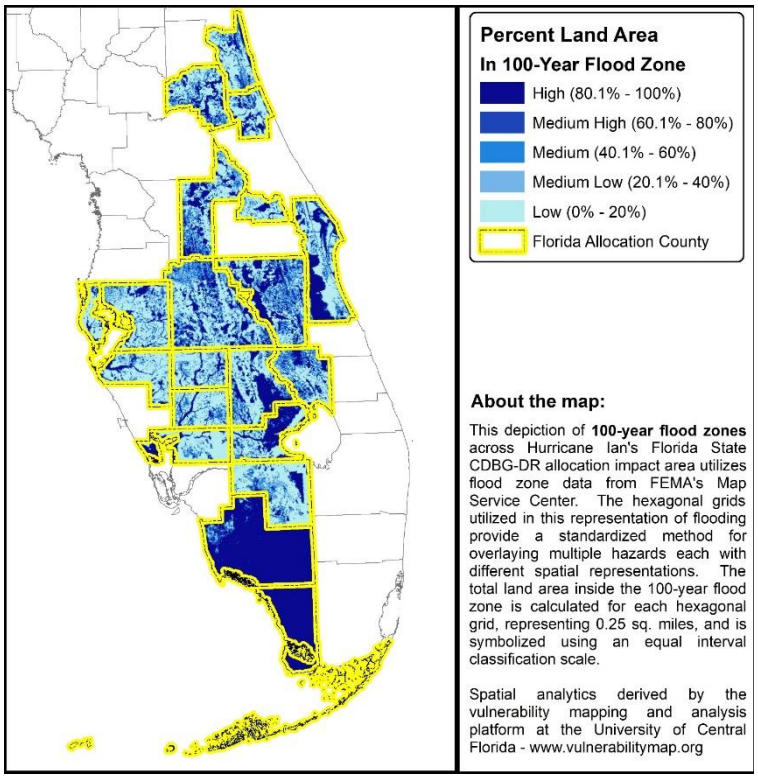

Figure 64: 100-Year Flood Zone Hazard Areas

Table 104: 100-Year Flood Zone Hazard Threat Area Summary

Ian Area of Interest	Total (0.25 sq. mile) Hex Grids	Hazard Threat Category									
		Low		Medium Low		Medium		Medium High		High	
		Total Hex Grids	% of Hex Grids	Total Hex Grids	% of Hex Grids	Total Hex Grids	% of Hex Grids	Total Hex Grids	% of Hex Grids	Total Hex Grids	% of Hex Grids
All Counties	82,336	8,283	10.06%	21,888	26.58%	13,909	16.89%	9,280	11.27%	28,976	35.19%
Brevard	5,422	981	18.09%	1,024	18.89%	798	14.72%	617	11.38%	2,002	36.92%
Charlotte	3,163	1,080	34.14%	808	25.55%	303	9.58%	209	6.61%	763	24.12%
Collier	8,680	7	0.08%	107	1.23%	215	2.48%	362	4.17%	7,989	92.04%
DeSoto	2,677	87	3.25%	1,392	52.00%	680	25.40%	282	10.53%	236	8.82%
Flagler	2,153	497	23.08%	523	24.29%	343	15.93%	302	14.03%	488	22.67%
Glades	3,470	503	14.50%	682	19.65%	461	13.29%	318	9.16%	1,506	43.40%
Hardee	2,676	283	10.58%	1,358	50.75%	589	22.01%	229	8.56%	217	8.11%
Hendry	4,863	758	15.59%	2,269	46.66%	876	18.01%	422	8.68%	538	11.06%
Highlands	4,624	201	4.35%	1,588	34.34%	785	16.98%	573	12.39%	1,477	31.94%
Hillsborough	4,577	593	12.96%	1,753	38.30%	1,015	22.18%	480	10.49%	736	16.08%

Lake	4,866	333	6.84%	1,369	28.13%	1,100	22.61%	801	16.46%	1,263	25.96%
Manatee	3,374	414	12.27%	1,751	51.90%	510	15.12%	295	8.74%	404	11.97%
Monroe	6,372	217	3.41%	151	2.37%	228	3.58%	264	4.14%	5,512	86.50%
Okeechobee	3,311	255	7.70%	778	23.50%	803	24.25%	579	17.49%	896	27.06%
Osceola	6,272	367	5.85%	1,357	21.64%	1,536	24.49%	1,122	17.89%	1,890	30.13%
Pinellas	1,524	315	20.67%	368	24.15%	217	14.24%	157	10.30%	467	30.64%
Polk	8,310	380	4.57%	2,699	32.48%	2,132	25.66%	1,459	17.56%	1,640	19.74%
Putnam	3,481	376	10.80%	1,029	29.56%	793	22.78%	502	14.42%	781	22.44%
Seminole	1,492	188	12.60%	623	41.76%	245	16.42%	116	7.77%	320	21.45%
St. Johns	2,858	549	19.21%	782	27.36%	605	21.17%	423	14.80%	499	17.46%

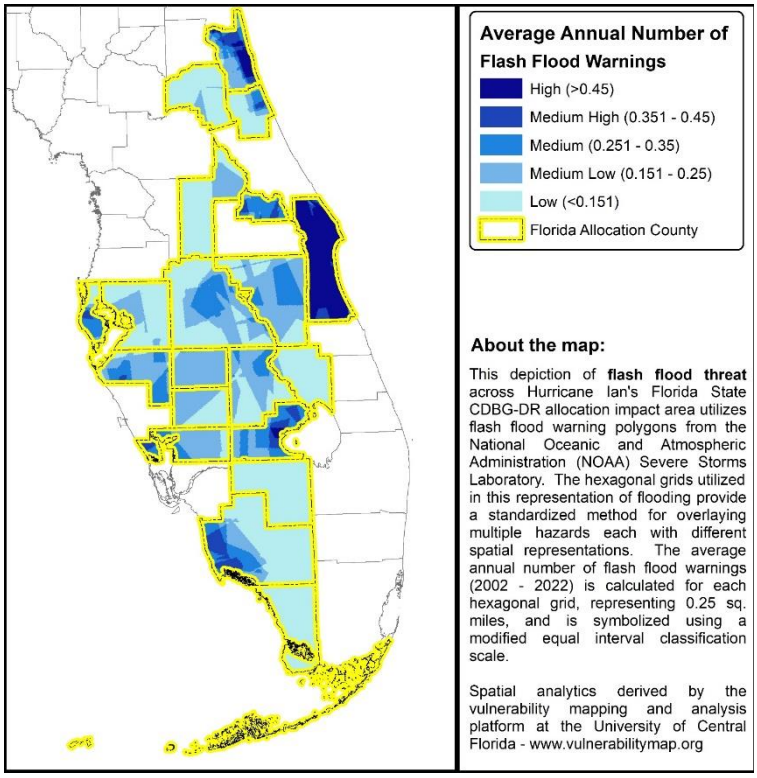

Figure 65: Flash Flood Hazard Areas

Table 105: Flash Flood Hazard Threat Area Summary

Ian Area of Interest	Total (0.25 sq. mile) Hex Grids	Hazard Threat Category									
		Low		Medium Low		Medium		Medium High		High	
		Total Hex Grids	% of Hex Grids	Total Hex Grids	% of Hex Grids	Total Hex Grids	% of Hex Grids	Total Hex Grids	% of Hex Grids	Total Hex Grids	% of Hex Grids
All Counties	82,336	41,667	50.61%	21,577	26.21%	10,468	12.71%	3,160	3.84%	5,464	6.64%
Brevard	5,422	3	0.06%	59	1.09%	152	2.80%	473	8.72%	4,735	87.33%
Charlotte	3,163	459	14.51%	1,609	50.87%	900	28.45%	195	6.17%	-	0.00%
Collier	8,680	5,476	63.09%	1,167	13.44%	1,226	14.12%	811	9.34%	-	0.00%
DeSoto	2,677	1,247	46.58%	1,424	53.19%	6	0.22%	-	0.00%	-	0.00%

Flagler	2,153	1,430	66.42%	363	16.86%	301	13.98%	59	2.74%	-	0.00%
Glades	3,470	403	11.61%	1,029	29.65%	1,367	39.39%	544	15.68%	127	3.66%
Hardee	2,676	216	8.07%	2,416	90.28%	44	1.64%	-	0.00%	-	0.00%
Hendry	4,863	4,858	99.90%	5	0.10%	-	0.00%	-	0.00%	-	0.00%
Highlands	4,624	1,950	42.17%	2,114	45.72%	560	12.11%	-	0.00%	-	0.00%
Hillsborough	4,577	3,528	77.08%	1,049	22.92%	-	0.00%	-	0.00%	-	0.00%
Lake	4,866	3,568	73.33%	1,292	26.55%	5	0.10%	1	0.02%	-	0.00%
Manatee	3,374	490	14.52%	1,676	49.67%	1,142	33.85%	66	1.96%	-	0.00%
Monroe	6,372	6,372	100.00%	-	0.00%	-	0.00%	-	0.00%	-	0.00%
Okeechobee	3,311	3,056	92.30%	219	6.61%	33	1.00%	3	0.09%	-	0.00%
Osceola	6,272	1,551	24.73%	3,291	52.47%	1,318	21.01%	35	0.56%	77	1.23%
Pinellas	1,524	610	40.03%	196	12.86%	620	40.68%	98	6.43%	-	0.00%
Polk	8,310	4,085	49.16%	2,830	34.06%	1,392	16.75%	3	0.04%	-	0.00%
Putnam	3,481	3,184	91.47%	297	8.53%	-	0.00%	-	0.00%	-	0.00%
Seminole	1,492	-	0.00%	180	12.06%	1,015	68.03%	287	19.24%	10	0.67%
St. Johns	2,858	204	7.14%	928	32.47%	545	19.07%	609	21.31%	572	20.01%

Flood Hazard Risk Analysis Results

100-Year flood risk accounting for vulnerabilities (social, population, and lifelines) and severity of consequences provides a more nuanced appreciation of flooding threat for the AOI. In this regard, only Pinellas and Polk have any land area in the high flood risk categories (Table 108: 100-Year Flood Zone Hazard Risk Area Summary) one can easily see increased flood risk across much of Collier, Polk, and Lake Counties (Figure 66: 100-Year Flood Zone Composite Risk).

A different pattern emerges when accounting for flash flooding. Here, although large portions of Brevard County fall into the higher risk categories in terms of flash flooding, clusters of higher flash flood risk appear in nearly every county across the AOI (Figure 69: Flash Flood Composite Risk). Here, Brevard County has nearly 20 percent of its land area in at least a medium flash flood risk category and Pinellas County (although not too easily identified via the map) has more than 30 percent of its land area in medium or greater flash flood risk categories.

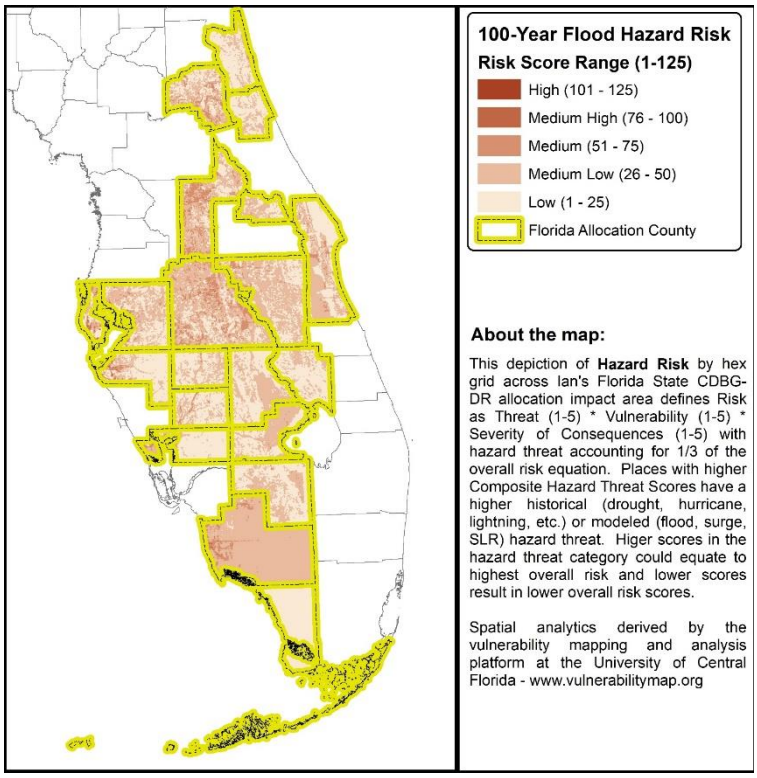

Figure 66: 100-Year Flood Zone Composite Risk

Box 10: Flood Hazard Mitigation Takeaway

Mitigation Takeaway: Flooding and flash flooding are two hazards whose impacts can be made insignificant through the proper infrastructure investments. Building basic infrastructure above the floodplain, constructing storm water conveyance systems that are capable of moving massive quantities of rainfall before it can pond and cause flash flooding in urban areas, and strengthening free-board (building up) requirements for new construction can all have a positive impact. Potentially, a mitigation program focused on supporting increased cost-of compliance for rebuilding would help alleviate future flood related impacts to Florida Communities.

Table 106: 100-Year Flood Zone Hazard Threat Area Summary

Ian Area of Interest	Total (0.25 sq. mile) Hex Grids	Hazard Threat Category									
		Low		Medium Low		Medium		Medium High		High	
		Total Hex Grids	% of Hex Grids	Total Hex Grids	% of Hex Grids	Total Hex Grids	% of Hex Grids	Total Hex Grids	% of Hex Grids	Total Hex Grids	% of Hex Grids
All Counties	82,336	8,283	10.06%	21,888	26.58%	13,909	16.89%	9,280	11.27%	28,976	35.19%
Brevard	5,422	981	18.09%	1,024	18.89%	798	14.72%	617	11.38%	2,002	36.92%
Charlotte	3,163	1,080	34.14%	808	25.55%	303	9.58%	209	6.61%	763	24.12%
Collier	8,680	7	0.08%	107	1.23%	215	2.48%	362	4.17%	7,989	92.04%
DeSoto	2,677	87	3.25%	1,392	52.00%	680	25.40%	282	10.53%	236	8.82%
Flagler	2,153	497	23.08%	523	24.29%	343	15.93%	302	14.03%	488	22.67%
Glades	3,470	503	14.50%	682	19.65%	461	13.29%	318	9.16%	1,506	43.40%
Hardee	2,676	283	10.58%	1,358	50.75%	589	22.01%	229	8.56%	217	8.11%
Hendry	4,863	758	15.59%	2,269	46.66%	876	18.01%	422	8.68%	538	11.06%
Highlands	4,624	201	4.35%	1,588	34.34%	785	16.98%	573	12.39%	1,477	31.94%

Hillsborough	4,577	593	12.96%	1,753	38.30%	1,015	22.18%	480	10.49%	736	16.08%
Lake	4,866	333	6.84%	1,369	28.13%	1,100	22.61%	801	16.46%	1,263	25.96%
Manatee	3,374	414	12.27%	1,751	51.90%	510	15.12%	295	8.74%	404	11.97%
Monroe	6,372	217	3.41%	151	2.37%	228	3.58%	264	4.14%	5,512	86.50%
Okeechobee	3,311	255	7.70%	778	23.50%	803	24.25%	579	17.49%	896	27.06%
Osceola	6,272	367	5.85%	1,357	21.64%	1,536	24.49%	1,122	17.89%	1,890	30.13%
Pinellas	1,524	315	20.67%	368	24.15%	217	14.24%	157	10.30%	467	30.64%
Polk	8,310	380	4.57%	2,699	32.48%	2,132	25.66%	1,459	17.56%	1,640	19.74%
Putnam	3,481	376	10.80%	1,029	29.56%	793	22.78%	502	14.42%	781	22.44%
Seminole	1,492	188	12.60%	623	41.76%	245	16.42%	116	7.77%	320	21.45%
St. Johns	2,858	549	19.21%	782	27.36%	605	21.17%	423	14.80%	499	17.46%

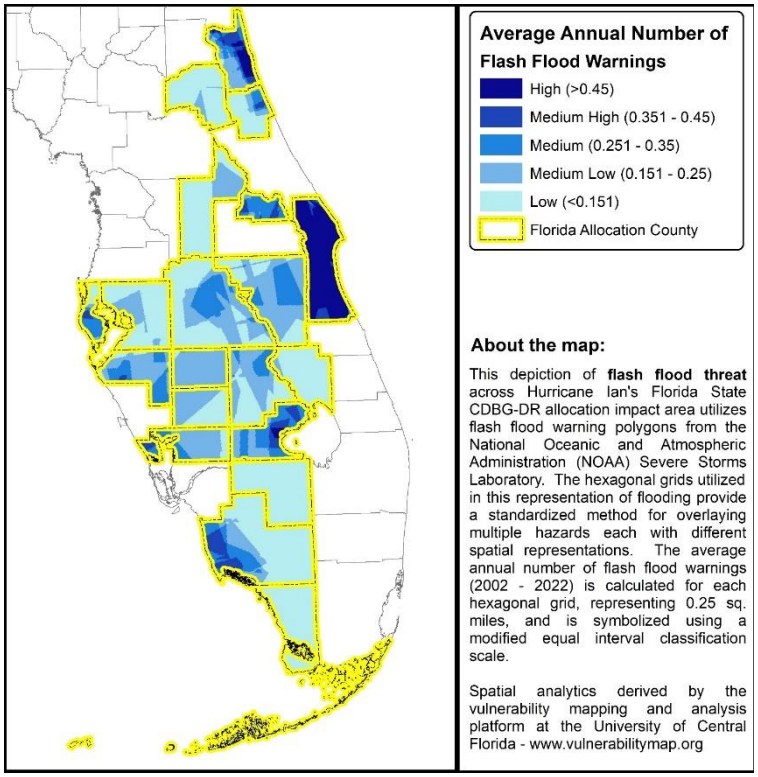

Figure 67: Flash Flood Hazard Areas

Table 107: Flash Flood Hazard Threat Area Summary

Ian Area of Interest	Total (0.25 sq. mile) Hex Grids	Hazard Threat Category									
		Low		Medium Low		Medium		Medium High		High	
		Total Hex Grids	% of Hex Grids	Total Hex Grids	% of Hex Grids	Total Hex Grids	% of Hex Grids	Total Hex Grids	% of Hex Grids	Total Hex Grids	% of Hex Grids
All Counties	82,336	41,667	50.61%	21,577	26.21%	10,468	12.71%	3,160	3.84%	5,464	6.64%
Brevard	5,422	3	0.06%	59	1.09%	152	2.80%	473	8.72%	4,735	87.33%
Charlotte	3,163	459	14.51%	1,609	50.87%	900	28.45%	195	6.17%	-	0.00%
Collier	8,680	5,476	63.09%	1,167	13.44%	1,226	14.12%	811	9.34%	-	0.00%
DeSoto	2,677	1,247	46.58%	1,424	53.19%	6	0.22%	-	0.00%	-	0.00%
Flagler	2,153	1,430	66.42%	363	16.86%	301	13.98%	59	2.74%	-	0.00%
Glades	3,470	403	11.61%	1,029	29.65%	1,367	39.39%	544	15.68%	127	3.66%

Hardee	2,676	216	8.07%	2,416	90.28%	44	1.64%	-	0.00%	-	0.00%
Hendry	4,863	4,858	99.90%	5	0.10%	-	0.00%	-	0.00%	-	0.00%
Highlands	4,624	1,950	42.17%	2,114	45.72%	560	12.11%	-	0.00%	-	0.00%
Hillsborough	4,577	3,528	77.08%	1,049	22.92%	-	0.00%	-	0.00%	-	0.00%
Lake	4,866	3,568	73.33%	1,292	26.55%	5	0.10%	1	0.02%	-	0.00%
Manatee	3,374	490	14.52%	1,676	49.67%	1,142	33.85%	66	1.96%	-	0.00%
Monroe	6,372	6,372	100.00%	-	0.00%	-	0.00%	-	0.00%	-	0.00%
Okeechobee	3,311	3,056	92.30%	219	6.61%	33	1.00%	3	0.09%	-	0.00%
Osceola	6,272	1,551	24.73%	3,291	52.47%	1,318	21.01%	35	0.56%	77	1.23%
Pinellas	1,524	610	40.03%	196	12.86%	620	40.68%	98	6.43%	-	0.00%
Polk	8,310	4,085	49.16%	2,830	34.06%	1,392	16.75%	3	0.04%	-	0.00%
Putnam	3,481	3,184	91.47%	297	8.53%	-	0.00%	-	0.00%	-	0.00%
Seminole	1,492	-	0.00%	180	12.06%	1,015	68.03%	287	19.24%	10	0.67%
St. Johns	2,858	204	7.14%	928	32.47%	545	19.07%	609	21.31%	572	20.01%

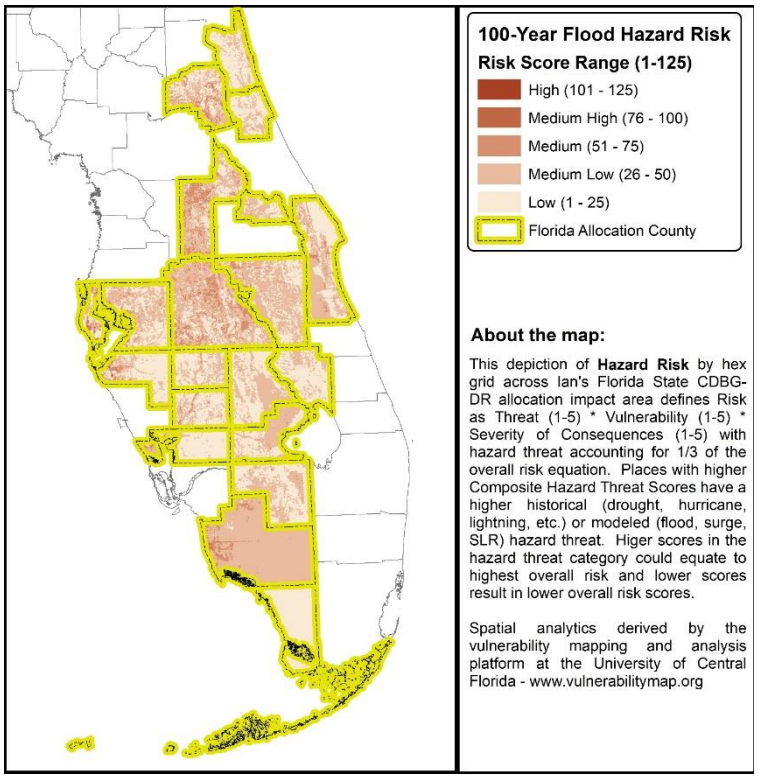

Figure 68: 100-Year Flood Zone Composite Risk

Table 108: 100-Year Flood Zone Hazard Risk Area Summary

Ian Area of Interest	Total (0.25 sq. mile) Hex Grids	Hazard Risk Category									
		Low		Medium Low		Medium		Medium High		High	
		Total Hex Grids	% of Hex Grids	Total Hex Grids	% of Hex Grids	Total Hex Grids	% of Hex Grids	Total Hex Grids	% of Hex Grids	Total Hex Grids	% of Hex Grids
All Counties	82,336	37,181	45.16%	39,204	47.61%	5,659	6.87%	282	0.34%	10	0.01%
Brevard	5,422	2,559	47.20%	2,582	47.62%	281	5.18%	-	0.00%	-	0.00%
Charlotte	3,163	2,234	70.63%	722	22.83%	204	6.45%	3	0.09%	-	0.00%
Collier	8,680	146	1.68%	7,931	91.37%	584	6.73%	19	0.22%	-	0.00%

DeSoto	2,677	1,754	65.52%	843	31.49%	80	2.99%	-	0.00%	-	0.00%
Flagler	2,153	1,373	63.77%	753	34.97%	27	1.25%	-	0.00%	-	0.00%
Glades	3,470	1,502	43.29%	1,950	56.20%	18	0.52%	-	0.00%	-	0.00%
Hardee	2,676	1,755	65.58%	899	33.59%	22	0.82%	-	0.00%	-	0.00%
Hendry	4,863	3,008	61.85%	1,802	37.06%	53	1.09%	-	0.00%	-	0.00%
Highlands	4,624	2,561	55.38%	2,047	44.27%	16	0.35%	-	0.00%	-	0.00%
Hillsborough	4,577	1,997	43.63%	2,237	48.87%	311	6.79%	32	0.70%	-	0.00%
Lake	4,866	1,117	22.96%	2,624	53.93%	1,116	22.93%	9	0.18%	-	0.00%
Manatee	3,374	2,300	68.17%	825	24.45%	216	6.40%	33	0.98%	-	0.00%
Monroe	6,372	4,940	77.53%	1,267	19.88%	165	2.59%	-	0.00%	-	0.00%
Okeechobee	3,311	2,158	65.18%	1,150	34.73%	3	0.09%	-	0.00%	-	0.00%
Osceola	6,272	2,225	35.48%	3,741	59.65%	295	4.70%	11	0.18%	-	0.00%
Pinellas	1,524	416	27.30%	589	38.65%	354	23.23%	158	10.37%	7	0.46%
Polk	8,310	1,868	22.48%	4,866	58.56%	1,548	18.63%	25	0.30%	3	0.04%
Putnam	3,481	1,327	38.12%	1,630	46.83%	524	15.05%	-	0.00%	-	0.00%
Seminole	1,492	592	39.68%	874	58.58%	25	1.68%	1	0.07%	-	0.00%
St. Johns	2,858	1,982	69.35%	848	29.67%	28	0.98%	-	0.00%	-	0.00%

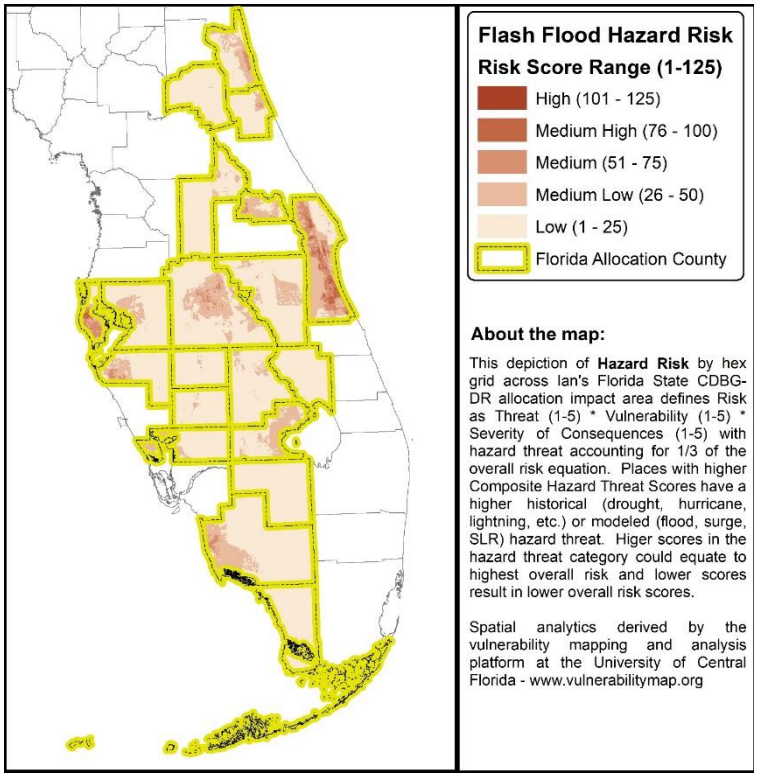

Figure 69: Flash Flood Composite Risk

Table 109: Flash Flood Zone Hazard Risk Area Summary

Ian Area of Interest	Total (0.25 sq. mile) Hex Grids	Hazard Risk Category									
		Low		Medium Low		Medium		Medium High		High	
		Total Hex Grids	% of Hex Grids	Total Hex Grids	% of Hex Grids	Total Hex Grids	% of Hex Grids	Total Hex Grids	% of Hex Grids	Total Hex Grids	% of Hex Grids
All Counties	82,336	66,759	81.08%	12,799	15.54%	2,366	2.87%	412	0.50%	-	0.00%

Brevard	5,422	1,327	24.47%	3,023	55.75%	1,059	19.53%	13	0.24%	-	0.00%
Charlotte	3,163	1,386	43.82%	1,520	48.06%	254	8.03%	3	0.09%	-	0.00%
Collier	8,680	10	0.12%	8,014	92.33%	637	7.34%	19	0.22%	-	0.00%
DeSoto	2,677	-	0.00%	2,544	95.03%	133	4.97%	-	0.00%	-	0.00%
Flagler	2,153	293	13.61%	1,797	83.46%	63	2.93%	-	0.00%	-	0.00%
Glades	3,470	11	0.32%	3,437	99.05%	22	0.63%	-	0.00%	-	0.00%
Hardee	2,676	41	1.53%	2,549	95.25%	85	3.18%	1	0.04%	-	0.00%
Hendry	4,863	2	0.04%	4,776	98.21%	85	1.75%	-	0.00%	-	0.00%
Highlands	4,624	681	14.73%	3,848	83.22%	95	2.05%	-	0.00%	-	0.00%
Hillsborough	4,577	4,011	87.63%	566	12.37%	-	0.00%	-	0.00%	-	0.00%
Lake	4,866	4,624	95.03%	242	4.97%	-	0.00%	-	0.00%	-	0.00%
Manatee	3,374	2,779	82.37%	489	14.49%	106	3.14%	-	0.00%	-	0.00%
Monroe	6,372	6,372	100.00%	-	0.00%	-	0.00%	-	0.00%	-	0.00%
Okeechobee	3,311	3,301	99.70%	10	0.30%	-	0.00%	-	0.00%	-	0.00%
Osceola	6,272	294	4.69%	5,241	83.56%	716	11.42%	21	0.33%	-	0.00%
Pinellas	1,524	700	45.93%	356	23.36%	419	27.49%	49	3.22%	-	0.00%
Polk	8,310	5,901	71.01%	2,221	26.73%	188	2.26%	-	0.00%	-	0.00%
Putnam	3,481	3,475	99.83%	6	0.17%	-	0.00%	-	0.00%	-	0.00%
Seminole	1,492	567	38.00%	844	56.57%	81	5.43%	-	0.00%	-	0.00%
St. Johns	2,858	1,845	64.56%	880	30.79%	133	4.65%	-	0.00%	-	0.00%

2.6.4.7 Coastal Hazards (including Sea-Level Rise)

Hazard Overview

Sea level rise is an increase in the level of the world's oceans due to the effects of global warming and land subsidence. As ocean water becomes warmer, it expands. This results in ocean levels rising worldwide.[186] Global Sea level has been rising over the past century, and the rate of rise has increased in recent decades. In 2014, the global sea level was 2.6 inches above the 1993 average—the highest annual average in the satellite record (1993-present). Sea level continues to rise at a rate of about one-eighth (1/8) of an inch per year.[187] Sea level rise poses a significant threat to people living and working in coastal areas. Table 110: Historical Frequency of Occurrence for Coastal Hazards displays data regarding the historical frequency of tornado hazards in the Hurricane Ian AOI.

Table 110: Historical Frequency of Occurrence for Coastal Hazards[188]

County	Number of Events (1960-2020)	Property Loss (2019 USD)	Fatalities	Injuries
Brevard	40	$16,305,114	31	9
Charlotte	2	$7,250,519	1	0

[186] National Geographic. Seal Level Rise. Accessed at: https://www.nationalgeographic.org/encyclopedia/sea-level-rise/

[187] US Department of Commerce. National Ocean Service. Is seal level rising? Accessed at: https://oceanservice.noaa.gov/facts/sealevel.html

[188] Source: www.sheldus.org, summarized from Section 2.6.3 Severity of Consequences

Note that "coastal" events are sometimes associated with inland counties because of the manner in which NCDC Storm data collects and ascribes damage. Learn more here: https://cemhs.asu.edu/sheldus/faq under "Why do losses in my county include coastal hazards when my county is not a coastal county?"

Collier	5	$7,250,519	4	7
DeSoto	1	$7,250,519	0	0
Flagler	10	$7,418,142	3	32
Glades	1	$7,250,519	0	0
Hardee	1	$7,250,519	0	0
Hendry	1	$7,250,519	0	0
Highlands	1	$7,250,519	0	0
Hillsborough	3	$7,250,519	3	0
Lake	1	$7,250,519	0	0
Manatee	4	$7,250,519	4	2
Monroe	3	$7,729,441	0	0
Okeechobee	1	$7,250,519	0	0
Osceola	1	$7,250,519	0	0
Pinellas	20	$7,250,519	14	16
Polk	1	$7,250,519	0	0
Putnam	1	$7,250,519	0	0
Seminole	1	$7,250,519	0	0
St. Johns	26	$7,784,929	22	2

Data and Methods

NOAA produces various future sea-level rise scenarios. A moderate scenario [four (4) feet] of sea level rise above mean Higher High-water levels[189] was utilized in this assessment as a more conservative level of future coastal conditions. Like the flooding hazard, the percentage of land area spatially inside NOAA SLR zones was calculated for each 0.25-mile hex grid across the Hurricane Ian AOI. These were classified using an equal interval classifications scheme allowing users to clearly see where sea-level rise threatens the coastline.

Coastal Hazard Frequency Analysis Results

Like hurricane storm surges, sea level rise impacts are largely a coastal phenomenon with the AOI's bay and inland waterways seeing the heaviest potential impacts (Figure 70: Coastal Hazard (SLR) Threat Areas). However, impacts on all coastal areas are clearly evident and although a relatively small proportion of total land area is in medium to high threat zones, these areas will see stark impacts should this level of sea-level rise occur without mitigation. The percent of each county's total island-wide land area will also change for different sea level rise scenarios. However, Monroe leads all other counties in the amount of land area in the 4-foot SLR category. Sea-level rise category with several other counties tallying greater than 20 percent in the high category (Table 111: Sea-Level Rise Hazard Threat Area Summary).

[189] US Department of Commerce. National Ocean Service. Tidal Datums. Accessed at: https://tidesandcurrents.noaa.gov/datum_options.html

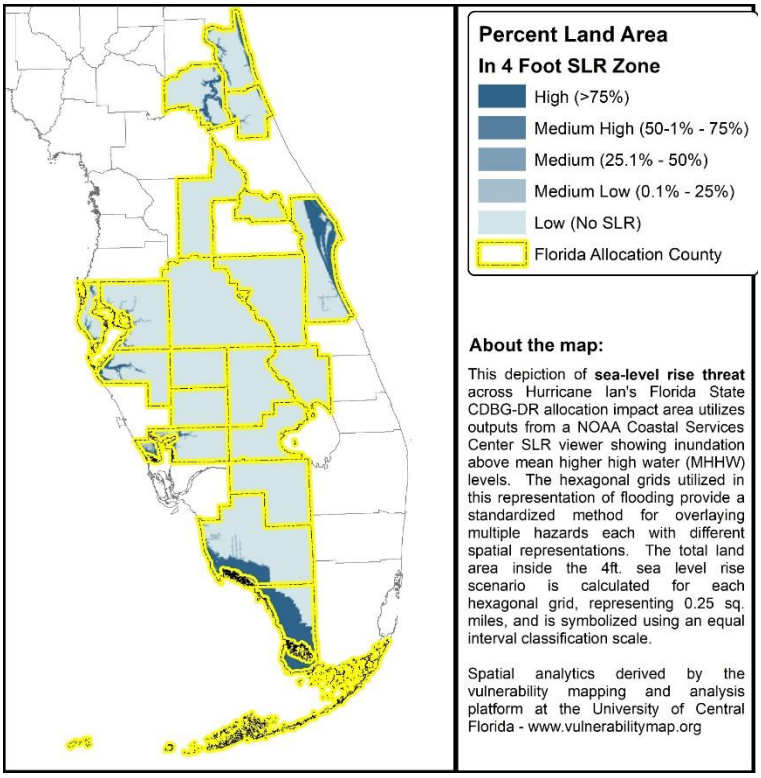

Figure 70: Coastal Hazard (SLR) Threat Areas

Table 111: Sea-Level Rise Hazard Threat Area Summary

Ian Area of Interest	Total (0.25 sq. mile) Hex Grids	Hazard Threat Category									
		Low		Medium Low		Medium		Medium High		High	
		Total Hex Grids	% of Hex Grids	Total Hex Grids	% of Hex Grids	Total Hex Grids	% of Hex Grids	Total Hex Grids	% of Hex Grids	Total Hex Grids	% of Hex Grids
All Counties	82,336	67,856	82.41%	2,026	2.46%	906	1.10%	1,078	1.31%	10,470	12.72%
Brevard	5,422	3,384	62.41%	321	5.92%	158	2.91%	174	3.21%	1,385	25.54%
Charlotte	3,163	2,166	68.48%	254	8.03%	90	2.85%	116	3.67%	537	16.98%
Collier	8,680	6,748	77.74%	274	3.16%	78	0.90%	105	1.21%	1,475	16.99%
DeSoto	2,677	2,671	99.78%	4	0.15%	-	0.00%	-	0.00%	2	0.07%
Flagler	2,153	1,773	82.35%	123	5.71%	43	2.00%	53	2.46%	161	7.48%
Glades	3,470	3,470	100.00%	-	0.00%	-	0.00%	-	0.00%	-	0.00%
Hardee	2,676	2,676	100.00%	-	0.00%	-	0.00%	-	0.00%	-	0.00%
Hendry	4,863	4,860	99.94%	3	0.06%	-	0.00%	-	0.00%	-	0.00%
Highlands	4,624	4,624	100.00%	-	0.00%	-	0.00%	-	0.00%	-	0.00%
Hillsborough	4,577	3,952	86.34%	230	5.03%	89	1.94%	73	1.59%	233	5.09%
Lake	4,866	4,758	97.78%	36	0.74%	18	0.37%	24	0.49%	30	0.62%
Manatee	3,374	2,804	83.11%	122	3.62%	51	1.51%	54	1.60%	343	10.17%
Monroe	6,372	1,182	18.55%	42	0.66%	42	0.66%	95	1.49%	5,011	78.64%
Okeechobee	3,311	3,311	100.00%	-	0.00%	-	0.00%	-	0.00%	-	0.00%
Osceola	6,272	6,272	100.00%	-	0.00%	-	0.00%	-	0.00%	-	0.00%
Pinellas	1,524	704	46.19%	197	12.93%	97	6.36%	126	8.27%	400	26.25%
Polk	8,310	8,310	100.00%	-	0.00%	-	0.00%	-	0.00%	-	0.00%

Putnam	3,481	2,699	77.54%	180	5.17%	87	2.50%	93	2.67%	422	12.12%
Seminole	1,492	1,377	92.29%	40	2.68%	30	2.01%	20	1.34%	25	1.68%
St. Johns	2,858	1,818	63.61%	219	7.66%	130	4.55%	153	5.35%	538	18.82%

Coastal (Sea-Level Rise) Hazard Risk Analysis Results

Incorporating vulnerabilities and SOC scores to create a measure of sea level rise risk depicts a similar spatial pattern to the threat itself (Figure 71: Sea-Level Rise Hazard Composite Risk) indicating that the threat zones intersect vulnerable areas. Notably, portions of Collier, Manatee, Brevard, and Putnam Counties all stand out in the Sea-Level Rise risk map. These places appear to have substantial amount of land area in elevated risk zones (Table 111: Sea-Level Rise Hazard Threat Area Summary). Although the percentage of land area is relatively small, the fact that this sea level rise is a coastal phenomenon means that most parts of the county will have a lower risk, but these areas are suitable for additional scrutiny, and mitigation planning. These areas adjacent to the shoreline have higher risk because they contain more people, higher vulnerability areas, and more lifeline infrastructure.

Box 11: Sea-Level Rise Hazard Mitigation Takeaway

Mitigation Takeaway: Like a storm surge that never recedes, sea-level rise is a threat that will need considerable mitigation focused on infrastructure first. Some places in Florida have already begun to see the effects of higher global mean tides and with oceans continuing to warm, all coastal areas should be prepared to take drastic action in terms of adapting to and mitigating critical infrastructure elements that can support homes and businesses in the years/decades to come.

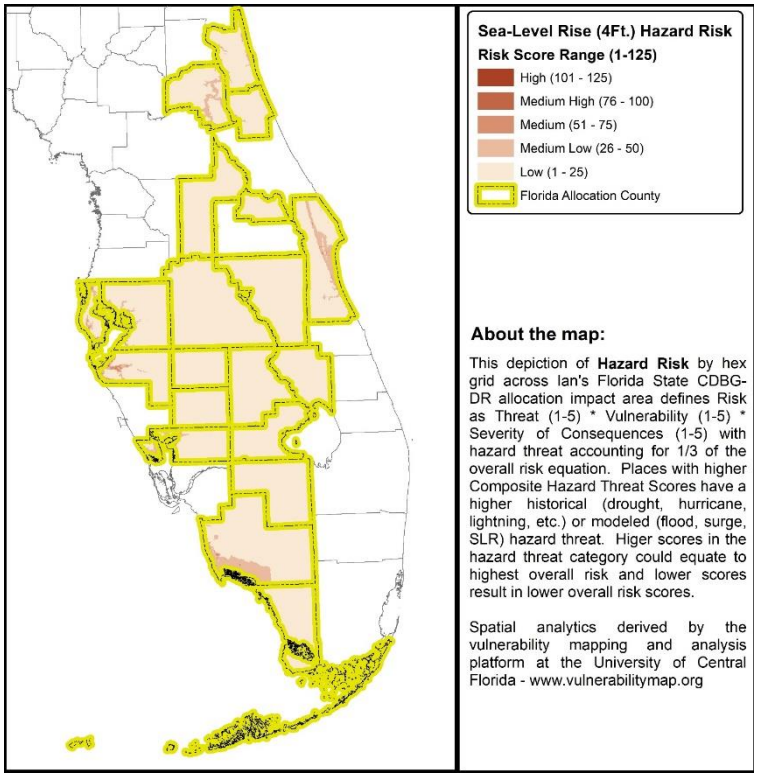

Figure 71: Sea-Level Rise Hazard Composite Risk

Table 112: Sea-Level Rise Hazard Risk Area Summary

Ian Area of Interest	Total (0.25 sq. mile) Hex Grids	Hazard Risk Category									
		Low		Medium Low		Medium		Medium High		High	
		Total Hex Grids	% of Hex Grids	Total Hex Grids	% of Hex Grids	Total Hex Grids	% of Hex Grids	Total Hex Grids	% of Hex Grids	Total Hex Grids	% of Hex Grids
All Counties	82,336	74,463	90.44%	7,311	8.88%	550	0.67%	12	0.01%	-	0.00%
Brevard	5,422	4,422	81.56%	950	17.52%	50	0.92%	-	0.00%	-	0.00%
Charlotte	3,163	2,404	76.00%	700	22.13%	59	1.87%	-	0.00%	-	0.00%
Collier	8,680	7,017	80.84%	1,627	18.74%	36	0.41%	-	0.00%	-	0.00%
DeSoto	2,677	2,675	99.93%	2	0.07%	-	0.00%	-	0.00%	-	0.00%
Flagler	2,153	1,894	87.97%	229	10.64%	30	1.39%	-	0.00%	-	0.00%
Glades	3,470	3,470	100.00%	-	0.00%	-	0.00%	-	0.00%	-	0.00%
Hardee	2,676	2,676	100.00%	-	0.00%	-	0.00%	-	0.00%	-	0.00%
Hendry	4,863	4,863	100.00%	-	0.00%	-	0.00%	-	0.00%	-	0.00%
Highlands	4,624	4,624	100.00%	-	0.00%	-	0.00%	-	0.00%	-	0.00%
Hillsborough	4,577	4,157	90.82%	392	8.56%	28	0.61%	-	0.00%	-	0.00%
Lake	4,866	4,791	98.46%	58	1.19%	17	0.35%	-	0.00%	-	0.00%
Manatee	3,374	2,890	85.66%	339	10.05%	137	4.06%	8	0.24%	-	0.00%
Monroe	6,372	4,923	77.26%	1,401	21.99%	48	0.75%	-	0.00%	-	0.00%
Okeechobee	3,311	3,311	100.00%	-	0.00%	-	0.00%	-	0.00%	-	0.00%
Osceola	6,272	6,272	100.00%	-	0.00%	-	0.00%	-	0.00%	-	0.00%
Pinellas	1,524	757	49.67%	627	41.14%	136	8.92%	4	0.26%	-	0.00%
Polk	8,310	8,310	100.00%	-	0.00%	-	0.00%	-	0.00%	-	0.00%
Putnam	3,481	2,914	83.71%	563	16.17%	4	0.11%	-	0.00%	-	0.00%
Seminole	1,492	1,473	98.73%	19	1.27%	-	0.00%	-	0.00%	-	0.00%
St. Johns	2,858	2,345	82.05%	503	17.60%	10	0.35%	-	0.00%	-	0.00%

2.6.4.8 Lightning

Hazard Overview

All thunderstorms produce lightning, a spark of static electricity, that results from the buildup of electrical energy between positively and negatively charged areas. Whenever thunder is audible, there is the risk of a lightning strike. The only safe place during a thunderstorm is inside. Lightning has also occurred in volcanic eruptions, intense forest fires, surface nuclear detonations, heavy snowstorms, and in large hurricanes. There are four types of lightning: cloud to ground, intra-cloud, cloud-to-cloud, and cloud to air. The term “heat lightning” is a misnomer and is not related to high temperatures. Heat lightning is lightning that is simply too far away for the thunder to be audible. Cloud-to-ground lightning is responsible for most fatalities, injuries, and property damage. Table 113: Historical Frequency of Occurrence for Lightning Hazards displays data regarding the historical frequency of lightning hazards in the Hurricane Ian AOI.

Table 113: Historical Frequency of Occurrence for Lightning Hazards[190]

County	Number of Events (1960-2020)	Property Loss (2019 USD)	Fatalities	Injuries
Brevard	94	$9,764,319	26	92
Charlotte	42	$1,915,000	6	20
Collier	55	$5,721,942	8	45
DeSoto	10	$39,375	4	4
Flagler	40	$361,395	0	14
Glades	7	$46,595	1	2
Hardee	12	$176,047	0	2
Hendry	15	$8,694	9	8
Highlands	36	$1,372,056	6	15
Hillsborough	164	$8,907,942	32	126
Lake	50	$911,229	13	37
Manatee	70	$12,817,436	11	52
Monroe	25	$97,038	6	11
Okeechobee	6	$12,635	0	7
Osceola	14	$4,360,807	5	5
Pinellas	222	$15,480,472	23	151
Polk	86	$4,490,237	26	80
Putnam	33	$1,163,713	4	18
Seminole	35	$3,412,861	4	27
St. Johns	64	$2,395,351	14	16

Data and Methods

Lightning data for this assessment was obtained from NOAA's National Centers for Environmental Information (NCEI), National Lightning Detection Network (NLDN) which consists of over 100 remote, ground-based sensing stations located across the United States that instantaneously detect the electromagnetic signals given off when lightning strikes the earth's surface. Within seconds of a lightning strike, the location, time, and polarity, are communicated to NOAA where they are aggregated to a raster grid. This lightning raster was spatially overlapped with the 0.25 sq. mile hex grid and a summary of strikes and average annual strikes was calculated for each hex grid across the AOI.

Lightning Hazard Frequency Analysis Results

Although lightning can occur anywhere in the AOI, central portions of the AOI have a higher lightning strike frequency than other areas of the AOI, with the exception of Collier County, and portions of Charlotte County (Figure 72: Costal Hazard (SLR) Threat Areas). Eleven counties across the AOI have at least some land area in the high lightning threat category and every county except for Okeechobee, Putnam, and St. Johns have at least some land area in the medium high threat level (Table 114: Lightning Hazard Threat Area Summary).

[190] Source: www.sheldus.org, summarized from Section 2.6.3 Severity of Consequences

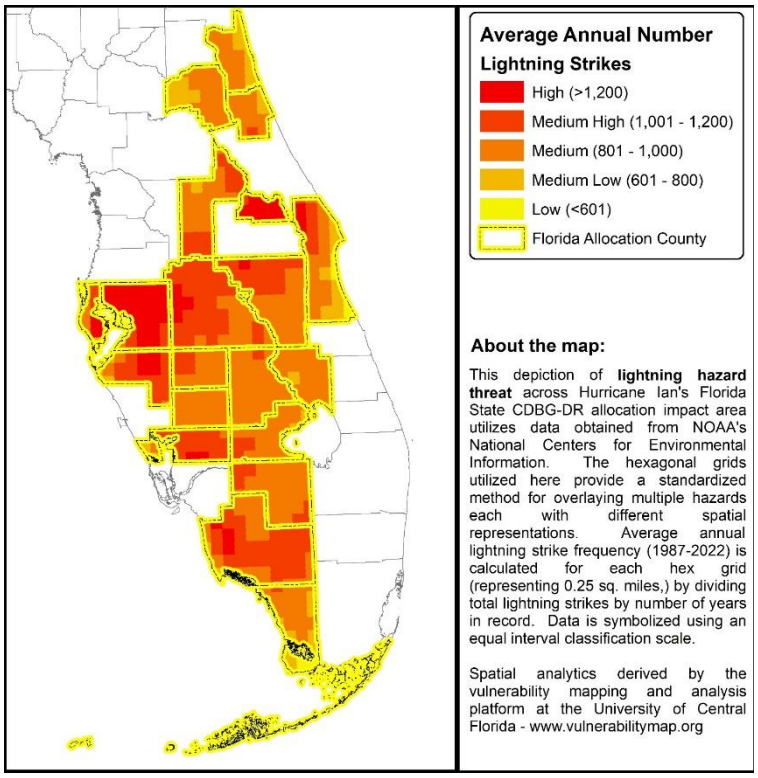

Figure 72: Costal Hazard (SLR) Threat Areas

Table 114: Lightning Hazard Threat Area Summary

Ian Area of Interest	Total (0.25 sq. mile) Hex Grids	Hazard Threat Category									
		Low		Medium Low		Medium		Medium High		High	
		Total Hex Grids	% of Hex Grids	Total Hex Grids	% of Hex Grids	Total Hex Grids	% of Hex Grids	Total Hex Grids	% of Hex Grids	Total Hex Grids	% of Hex Grids
All Counties	82,336	3,291	4.00%	6,863	8.34%	40,699	49.43%	23,575	28.63%	7,908	9.60%
Brevard	5,422	424	7.82%	1,320	24.35%	2,331	42.99%	846	15.60%	501	9.24%
Charlotte	3,163	53	1.68%	278	8.79%	400	12.65%	2,146	67.85%	286	9.04%
Collier	8,680	6	0.07%	423	4.87%	3,115	35.89%	4,664	53.73%	472	5.44%
DeSoto	2,677	-	0.00%	-	0.00%	2,494	93.16%	183	6.84%	-	0.00%
Flagler	2,153	18	0.84%	362	16.81%	1,622	75.34%	151	7.01%	-	0.00%
Glades	3,470	-	0.00%	221	6.37%	2,703	77.90%	546	15.73%	-	0.00%
Hardee	2,676	-	0.00%	-	0.00%	1,943	72.61%	733	27.39%	-	0.00%
Hendry	4,863	-	0.00%	-	0.00%	3,802	78.18%	1,061	21.82%	-	0.00%
Highlands	4,624	-	0.00%	6	0.13%	4,449	96.22%	169	3.65%	-	0.00%
Hillsborough	4,577	8	0.17%	6	0.13%	173	3.78%	898	19.62%	3,492	76.29%
Lake	4,866	-	0.00%	165	3.39%	2,687	55.22%	2,012	41.35%	2	0.04%
Manatee	3,374	27	0.80%	293	8.68%	412	12.21%	1,963	58.18%	679	20.12%
Monroe	6,372	2,688	42.18%	1,355	21.26%	2,231	35.01%	98	1.54%	-	0.00%
Okeechobee	3,311	-	0.00%	194	5.86%	3,117	94.14%	-	0.00%	-	0.00%
Osceola	6,272	-	0.00%	-	0.00%	3,423	54.58%	2,673	42.62%	176	2.81%
Pinellas	1,524	7	0.46%	282	18.50%	425	27.89%	483	31.69%	327	21.46%
Polk	8,310	-	0.00%	-	0.00%	2,248	27.05%	5,333	64.18%	729	8.77%

Putnam	3,481	-	0.00%	1,009	28.99%	2,472	71.01%	-	0.00%	-	0.00%
Seminole	1,492	-	0.00%	-	0.00%	-	0.00%	150	10.05%	1,342	89.95%
St. Johns	2,858	67	2.34%	974	34.08%	1,817	63.58%	-	0.00%	-	0.00%

Lightning Hazard Risk Analysis Results

Figure 73: Lightning Hazard Composite Risk shows that the western and central AOI counties (Polk, Hillsborough, and Pinellas) appear to have the highest accounting for vulnerabilities (social, population, and lifeline) and severity of consequences for lightning hazard that provides a different representation of lightning risk where only three counties have high risk and an additional five counties have only limited medium-high lightning risk (Table 115: Lightning Hazard Risk Area Summary). Because of the generally lower SOC scores for lightning, most AOI land area is located in low to medium-low lightning risk areas.

Box 12: Lightning Hazard Mitigation Takeaway

Mitigation Takeaway: Lighting hazard, although somewhat ubiquitous across the AOI, is a hazard that is generally impactful at the household level. Hence, mitigation for lightning can mainly only take place through incentive programs to homeowners/businesses who want to install lighting surge protection. However, larger infrastructure projects aimed at protecting community assets and power supply may have larger and more holistic societal benefit.

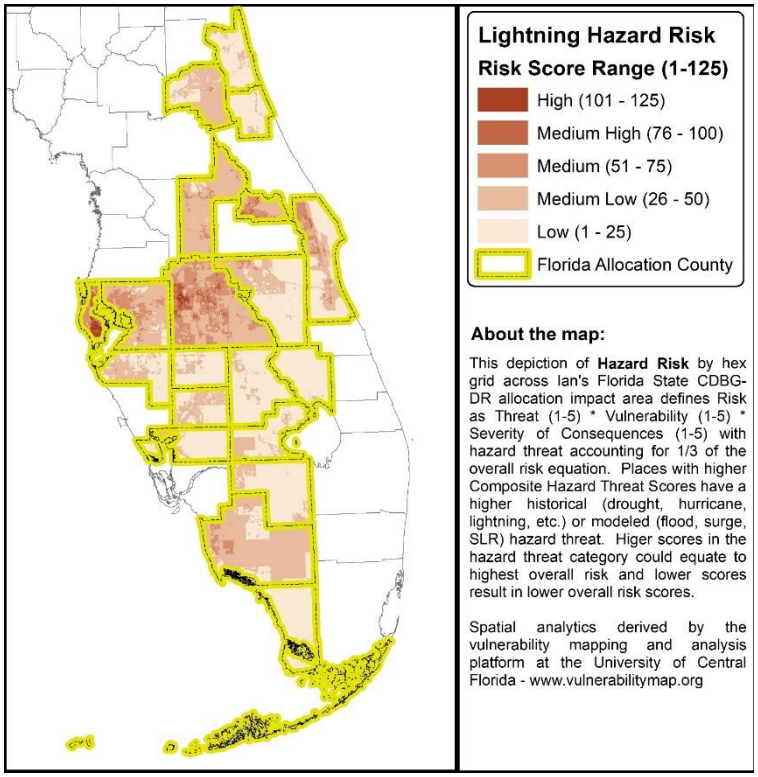

Figure 73: Lightning Hazard Composite Risk

Table 115: Lightning Hazard Risk Area Summary

Ian Area of Interest	Total (0.25 sq. mile) Hex Grids	Hazard Risk Category									
		Low		Medium Low		Medium		Medium High		High	
		Total Hex Grids	% of Hex Grids	Total Hex Grids	% of Hex Grids	Total Hex Grids	% of Hex Grids	Total Hex Grids	% of Hex Grids	Total Hex Grids	% of Hex Grids
All Counties	82,336	44,317	53.82%	30,182	36.66%	6,572	7.98%	1,000	1.21%	265	0.32%
Brevard	5,422	3,085	56.90%	1,597	29.45%	713	13.15%	27	0.50%	-	0.00%

Charlotte	3,163	2,606	82.39%	557	17.61%	-	0.00%	-	0.00%	-	0.00%
Collier	8,680	2,253	25.96%	6,070	69.93%	356	4.10%	1	0.01%	-	0.00%
DeSoto	2,677	1,499	56.00%	1,178	44.00%	-	0.00%	-	0.00%	-	0.00%
Flagler	2,153	1,969	91.45%	184	8.55%	-	0.00%	-	0.00%	-	0.00%
Glades	3,470	2,606	75.10%	864	24.90%	-	0.00%	-	0.00%	-	0.00%
Hardee	2,676	2,236	83.56%	420	15.70%	20	0.75%	-	0.00%	-	0.00%
Hendry	4,863	3,903	80.26%	960	19.74%	-	0.00%	-	0.00%	-	0.00%
Highlands	4,624	4,220	91.26%	402	8.69%	2	0.04%	-	0.00%	-	0.00%
Hillsborough	4,577	650	14.20%	2,998	65.50%	915	19.99%	13	0.28%	1	0.02%
Lake	4,866	177	3.64%	4,374	89.89%	313	6.43%	2	0.04%	-	0.00%
Manatee	3,374	2,285	67.72%	1,083	32.10%	6	0.18%	-	0.00%	-	0.00%
Monroe	6,372	6,356	99.75%	16	0.25%	-	0.00%	-	0.00%	-	0.00%
Okeechobee	3,311	3,267	98.67%	44	1.33%	-	0.00%	-	0.00%	-	0.00%
Osceola	6,272	4,188	66.77%	1,866	29.75%	196	3.13%	22	0.35%	-	0.00%
Pinellas	1,524	117	7.68%	445	29.20%	504	33.07%	284	18.64%	174	11.42%
Polk	8,310	47	0.57%	4,362	52.49%	3,233	38.90%	577	6.94%	91	1.10%
Putnam	3,481	1,018	29.24%	2,445	70.24%	18	0.52%	-	0.00%	-	0.00%
Seminole	1,492	1	0.07%	899	60.25%	481	32.24%	111	7.44%	-	0.00%
St. Johns	2,858	2,525	88.35%	333	11.65%	-	0.00%	-	0.00%	-	0.00%

2.6.4.9 Lower Severity of Consequence Hazard Threats

Drought Hazard Risk Analysis Results

Table 116: Drought Hazard Risk Area Summary

Ian Area of Interest	Total (0.25 sq. mile) Hex Grids	Hazard Risk Category									
		Low		Medium Low		Medium		Medium High		High	
		Total Hex Grids	% of Hex Grids	Total Hex Grids	% of Hex Grids	Total Hex Grids	% of Hex Grids	Total Hex Grids	% of Hex Grids	Total Hex Grids	% of Hex Grids
All Counties	82,336	38,729	47.04%	41,680	50.62%	1,884	2.29%	43	0.05%	-	0.00%
Brevard	5,422	3,125	57.64%	1,986	36.63%	311	5.74%	-	0.00%	-	0.00%
Charlotte	3,163	2,339	73.95%	824	26.05%	-	0.00%	-	0.00%	-	0.00%
Collier	8,680	5,641	64.99%	3,005	34.62%	34	0.39%	-	0.00%	-	0.00%
DeSoto	2,677	1,146	42.81%	1,527	57.04%	4	0.15%	-	0.00%	-	0.00%
Flagler	2,153	1,853	86.07%	300	13.93%	-	0.00%	-	0.00%	-	0.00%
Glades	3,470	11	0.32%	3,292	94.87%	167	4.81%	-	0.00%	-	0.00%
Hardee	2,676	337	12.59%	2,322	86.77%	17	0.64%	-	0.00%	-	0.00%
Hendry	4,863	2	0.04%	4,768	98.05%	93	1.91%	-	0.00%	-	0.00%
Highlands	4,624	1,684	36.42%	2,934	63.45%	6	0.13%	-	0.00%	-	0.00%
Hillsborough	4,577	1,934	42.25%	2,633	57.53%	10	0.22%	-	0.00%	-	0.00%
Lake	4,866	768	15.78%	4,076	83.76%	22	0.45%	-	0.00%	-	0.00%
Manatee	3,374	2,714	80.44%	657	19.47%	3	0.09%	-	0.00%	-	0.00%
Monroe	6,372	6,372	100.00%	-	0.00%	-	0.00%	-	0.00%	-	0.00%
Okeechobee	3,311	1,609	48.60%	1,690	51.04%	12	0.36%	-	0.00%	-	0.00%
Osceola	6,272	5,636	89.86%	620	9.89%	16	0.26%	-	0.00%	-	0.00%
Pinellas	1,524	270	17.72%	960	62.99%	294	19.29%	-	0.00%	-	0.00%

Polk	8,310	339	4.08%	7,025	84.54%	903	10.87%	43	0.52%	-	0.00%
Putnam	3,481	398	11.43%	3,046	87.50%	37	1.06%	-	0.00%	-	0.00%
Seminole	1,492	765	51.27%	727	48.73%	-	0.00%	-	0.00%	-	0.00%
St. Johns	2,858	2,209	77.29%	649	22.71%	-	0.00%	-	0.00%	-	0.00%

High Temperatures Hazard Risk Analysis Results

Table 117: Heat Hazard Risk Area Summary

Ian Area of Interest	Total (0.25 sq. mile) Hex Grids	Hazard Risk Category									
		Low		Medium Low		Medium		Medium High		High	
		Total Hex Grids	% of Hex Grids	Total Hex Grids	% of Hex Grids	Total Hex Grids	% of Hex Grids	Total Hex Grids	% of Hex Grids	Total Hex Grids	% of Hex Grids
All Counties	82,336	39,017	47.39%	38,556	46.83%	4,558	5.54%	205	0.25%	-	0.00%
Brevard	5,422	4,769	87.96%	653	12.04%	-	0.00%	-	0.00%	-	0.00%
Charlotte	3,163	1,594	50.40%	1,432	45.27%	137	4.33%	-	0.00%	-	0.00%
Collier	8,680	13	0.15%	8,432	97.14%	235	2.71%	-	0.00%	-	0.00%
DeSoto	2,677	2,199	82.14%	476	17.78%	2	0.07%	-	0.00%	-	0.00%
Flagler	2,153	1,991	92.48%	162	7.52%	-	0.00%	-	0.00%	-	0.00%
Glades	3,470	2,171	62.56%	1,293	37.26%	6	0.17%	-	0.00%	-	0.00%
Hardee	2,676	321	12.00%	2,326	86.92%	29	1.08%	-	0.00%	-	0.00%
Hendry	4,863	2	0.04%	3,435	70.64%	1,426	29.32%	-	0.00%	-	0.00%
Highlands	4,624	2,126	45.98%	2,496	53.98%	2	0.04%	-	0.00%	-	0.00%
Hillsborough	4,577	2,237	48.87%	2,307	50.40%	33	0.72%	-	0.00%	-	0.00%
Lake	4,866	61	1.25%	4,292	88.20%	513	10.54%	-	0.00%	-	0.00%
Manatee	3,374	-	-	3,101	91.91%	273	8.09%	-	0.00%	-	0.00%
Monroe	6,372	6,284	98.62%	88	1.38%	-	0.00%	-	0.00%	-	0.00%
Okeechobee	3,311	3,090	93.33%	221	6.67%	-	0.00%	-	0.00%	-	0.00%
Osceola	6,272	5,205	82.99%	1,003	15.99%	62	0.99%	2	0.03%	-	0.00%
Pinellas	1,524	502	32.94%	1,004	65.88%	18	1.18%	-	0.00%	-	0.00%
Polk	8,310	104	1.25%	5,948	71.58%	2,053	24.71%	205	2.47%	-	0.00%
Putnam	3,481	551	15.83%	2,924	84.00%	6	0.17%	-	0.00%	-	0.00%
Seminole	1,492	681	45.64%	598	40.08%	213	14.28%	-	0.00%	-	0.00%
St. Johns	2,858	2,537	88.77%	321	11.23%	-	0.00%	-	0.00%	-	0.00%

Wind Hazard Risk Analysis Results

Table 118: Wind Hazard Risk Area Summary

Ian Area of Interest	Total (0.25 sq. mile) Hex Grids	Hazard Risk Category									
		Low		Medium Low		Medium		Medium High		High	
		Total Hex Grids	% of Hex Grids	Total Hex Grids	% of Hex Grids	Total Hex Grids	% of Hex Grids	Total Hex Grids	% of Hex Grids	Total Hex Grids	% of Hex Grids
All Counties	82,336	82,021	99.62%	271	0.33%	36	0.04%	7	0.01%	1	0.00%
Brevard	5,422	5,407	99.72%	15	0.28%	-	0.00%	-	0.00%	-	0.00%
Charlotte	3,163	3,157	99.81%	4	0.13%	2	0.06%	-	0.00%	-	0.00%
Collier	8,680	8,665	99.83%	13	0.15%	2	0.02%	-	0.00%	-	0.00%
DeSoto	2,677	2,675	99.93%	1	0.04%	1	0.04%	-	0.00%	-	0.00%

Flagler	2,153	2,147	99.72%	3	0.14%	3	0.14%	-	0.00%	-	0.00%
Glades	3,470	3,465	99.86%	5	0.14%	-	0.00%	-	0.00%	-	0.00%
Hardee	2,676	2,651	99.07%	23	0.86%	1	0.04%	-	0.00%	1	0.04%
Hendry	4,863	4,854	99.81%	7	0.14%	2	0.04%	-	0.00%	-	0.00%
Highlands	4,624	4,614	99.78%	7	0.15%	3	0.06%	-	0.00%	-	0.00%
Hillsborough	4,577	4,477	97.82%	91	1.99%	7	0.15%	2	0.04%	-	0.00%
Lake	4,866	4,848	99.63%	18	0.37%	-	0.00%	-	0.00%	-	0.00%
Manatee	3,374	3,371	99.91%	2	0.06%	1	0.03%	-	0.00%	-	0.00%
Monroe	6,372	6,371	99.98%	1	0.02%	-	0.00%	-	0.00%	-	0.00%
Okeechobee	3,311	3,309	99.94%	1	0.03%	1	0.03%	-	0.00%	-	0.00%
Osceola	6,272	6,260	99.81%	10	0.16%	-	0.00%	2	0.03%	-	0.00%
Pinellas	1,524	1,513	99.28%	7	0.46%	4	0.26%	-	0.00%	-	0.00%
Polk	8,310	8,251	99.29%	50	0.60%	6	0.07%	3	0.04%	-	0.00%
Putnam	3,481	3,470	99.68%	9	0.26%	2	0.06%	-	0.00%	-	0.00%
Seminole	1,492	1,486	99.60%	5	0.34%	1	0.07%	-	0.00%	-	0.00%
St. Johns	2,858	2,854	99.86%	4	0.14%	-	0.00%	-	0.00%	-	0.00%

Tornado Hazard Risk Analysis Results

Table 119: Tornado Hazard Risk Area Summary

Ian Area of Interest	Total (0.25 sq. mile) Hex Grids	Hazard Risk Category									
		Low		Medium Low		Medium		Medium High		High	
		Total Hex Grids	% of Hex Grids	Total Hex Grids	% of Hex Grids	Total Hex Grids	% of Hex Grids	Total Hex Grids	% of Hex Grids	Total Hex Grids	% of Hex Grids
All Counties	82,336	56,368	68.46%	22,451	27.27%	3,141	3.81%	364	0.44%	12	0.01%
Brevard	5,422	2,664	49.13%	2,252	41.53%	506	9.33%	-	0.00%	-	0.00%
Charlotte	3,163	2,815	89.00%	348	11.00%	-	0.00%	-	0.00%	-	0.00%
Collier	8,680	7,075	81.51%	1,605	18.49%	-	0.00%	-	0.00%	-	0.00%
DeSoto	2,677	2,541	94.92%	136	5.08%	-	0.00%	-	0.00%	-	0.00%
Flagler	2,153	1,064	49.42%	1,073	49.84%	16	0.74%	-	0.00%	-	0.00%
Glades	3,470	3,079	88.73%	391	11.27%	-	0.00%	-	0.00%	-	0.00%
Hardee	2,676	2,186	81.69%	488	18.24%	2	0.07%	-	0.00%	-	0.00%
Hendry	4,863	4,050	83.28%	813	16.72%	-	0.00%	-	0.00%	-	0.00%
Highlands	4,624	4,436	95.93%	188	4.07%	-	0.00%	-	0.00%	-	0.00%
Hillsborough	4,577	2,656	58.03%	1,847	40.35%	74	1.62%	-	0.00%	-	0.00%
Lake	4,866	-	-	377	7.75%	1,645	33.81%	290	5.96%	9	0.18%
Manatee	3,374	2,887	85.57%	487	14.43%	-	0.00%	-	0.00%	-	0.00%
Monroe	6,372	6,282	98.59%	90	1.41%	-	0.00%	-	0.00%	-	0.00%
Okeechobee	3,311	2,697	81.46%	603	18.21%	11	0.33%	-	0.00%	-	0.00%
Osceola	5,609	5,243	93.47%	289	5.15%	74	1.32%	3	0.05%	-	0.00%
Pinellas	1,524	275	18.04%	836	54.86%	413	27.10%	-	0.00%	-	0.00%
Polk	8,310	5,687	68.44%	2,569	30.91%	54	0.65%	-	0.00%	-	0.00%
Putnam	3,481	3,212	92.27%	269	7.73%	-	0.00%	-	0.00%	-	0.00%
Seminole	1,492	421	28.22%	910	60.99%	161	10.79%	-	0.00%	-	0.00%
St. Johns	2,858	2,604	91.11%	254	8.89%	-	0.00%	-	0.00%	-	0.00%

Hail Hazard Risk Analysis Results

Table 120: Hail Hazard Risk Area Summary

Ian Area of Interest	Total (0.25 sq. mile) Hex Grids	Hazard Risk Category									
		Low		Medium Low		Medium		Medium High		High	
		Total Hex Grids	% of Hex Grids	Total Hex Grids	% of Hex Grids	Total Hex Grids	% of Hex Grids	Total Hex Grids	% of Hex Grids	Total Hex Grids	% of Hex Grids
All Counties	82,336	82,171	99.80%	160	0.19%	5	0.01%	-	0.00%	-	0.00%
Brevard	5,422	5,401	99.61%	21	0.39%	-	0.00%	-	0.00%	-	0.00%
Charlotte	3,163	3,163	100.00%	-	0.00%	-	0.00%	-	0.00%	-	0.00%
Collier	8,680	8,679	99.99%	1	0.01%	-	0.00%	-	0.00%	-	0.00%
DeSoto	2,677	2,677	100.00%	-	0.00%	-	0.00%	-	0.00%	-	0.00%
Flagler	2,153	2,152	99.95%	1	0.05%	-	0.00%	-	0.00%	-	0.00%
Glades	3,470	3,470	100.00%	-	0.00%	-	0.00%	-	0.00%	-	0.00%
Hardee	2,676	2,673	99.89%	3	0.11%	-	0.00%	-	0.00%	-	0.00%
Hendry	4,863	4,863	100.00%	-	0.00%	-	0.00%	-	0.00%	-	0.00%
Highlands	4,624	4,624	100.00%	-	0.00%	-	0.00%	-	0.00%	-	0.00%
Hillsborough	4,577	4,575	99.96%	2	0.04%	-	0.00%	-	0.00%	-	0.00%
Lake	4,866	4,853	99.73%	13	0.27%	-	0.00%	-	0.00%	-	0.00%
Manatee	3,374	3,374	100.00%	-	0.00%	-	0.00%	-	0.00%	-	0.00%
Monroe	6,372	6,372	100.00%	-	0.00%	-	0.00%	-	0.00%	-	0.00%
Okeechobee	3,311	3,310	99.97%	1	0.03%	-	0.00%	-	0.00%	-	0.00%
Osceola	6,272	6,267	99.92%	4	0.06%	1	0.02%	-	0.00%	-	0.00%
Pinellas	1,524	1,485	97.44%	38	2.49%	1	0.07%	-	0.00%	-	0.00%
Polk	8,310	8,261	99.41%	47	0.57%	2	0.02%	-	0.00%	-	0.00%
Putnam	3,481	3,472	99.74%	8	0.23%	1	0.03%	-	0.00%	-	0.00%
Seminole	1,492	1,471	98.59%	21	1.41%	-	0.00%	-	0.00%	-	0.00%
St. Johns	2,858	2,858	100.00%	-	0.00%	-	0.00%	-	0.00%	-	0.00%

Winter Hazard Risk Analysis Results

Table 121: Winter Weather Hazard Risk Area Summary

Ian Area of Interest	Total (0.25 sq. mile) Hex Grids	Hazard Risk Category									
		Low		Medium Low		Medium		Medium High		High	
		Total Hex Grids	% of Hex Grids	Total Hex Grids	% of Hex Grids	Total Hex Grids	% of Hex Grids	Total Hex Grids	% of Hex Grids	Total Hex Grids	% of Hex Grids
All Counties	82,336	79,859	96.99%	2,440	2.96%	37	0.04%	-	0.00%	-	0.00%
Brevard	5,422	5,422	100.00%	-	0.00%	-	0.00%	-	0.00%	-	0.00%
Charlotte	3,163	2,853	90.20%	310	9.80%	-	0.00%	-	0.00%	-	0.00%
Collier	8,680	8,156	93.96%	494	5.69%	30	0.35%	-	0.00%	-	0.00%
DeSoto	2,677	2,670	99.74%	7	0.26%	-	0.00%	-	0.00%	-	0.00%
Flagler	2,153	2,140	99.40%	13	0.60%	-	0.00%	-	0.00%	-	0.00%
Glades	3,470	3,100	89.34%	370	10.66%	-	0.00%	-	0.00%	-	0.00%
Hardee	2,676	2,676	100.00%	-	0.00%	-	0.00%	-	0.00%	-	0.00%
Hendry	4,863	3,824	78.63%	1,032	21.22%	7	0.14%	-	0.00%	-	0.00%
Highlands	4,624	4,624	100.00%	-	0.00%	-	0.00%	-	0.00%	-	0.00%

Hillsborough	4,577	4,357	95.19%	220	4.81%	-	0.00%	-	0.00%	-	0.00%
Lake	4,866	4,866	100.00%	-	0.00%	-	0.00%	-	0.00%	-	0.00%
Manatee	3,374	3,374	100.00%	-	0.00%	-	0.00%	-	0.00%	-	0.00%
Monroe	6,372	6,372	100.00%	-	0.00%	-	0.00%	-	0.00%	-	0.00%
Okeechobee	3,311	3,311	100.00%	-	0.00%	-	0.00%	-	0.00%	-	0.00%
Osceola	6,272	6,222	99.20%	50	0.80%	-	0.00%	-	0.00%	-	0.00%
Pinellas	1,524	1,524	100.00%	-	0.00%	-	0.00%	-	0.00%	-	0.00%
Polk	8,310	8,310	100.00%	-	0.00%	-	0.00%	-	0.00%	-	0.00%
Putnam	3,481	3,481	100.00%	-	0.00%	-	0.00%	-	0.00%	-	0.00%
Seminole	1,492	1,492	100.00%	-	0.00%	-	0.00%	-	0.00%	-	0.00%
St. Johns	2,858	2,858	100.00%	-	0.00%	-	0.00%	-	0.00%	-	0.00%

Low Temperatures Hazard Risk Analysis Results

Table 122: Low Temperature Risk Area Summary

Ian Area of Interest	Total (0.25 sq. mile) Hex Grids	Hazard Risk Category									
		Low		Medium Low		Medium		Medium High		High	
		Total Hex Grids	% of Hex Grids	Total Hex Grids	% of Hex Grids	Total Hex Grids	% of Hex Grids	Total Hex Grids	% of Hex Grids	Total Hex Grids	% of Hex Grids
All Counties	82,336	82,332	100.00%	4	0.00%	-	0.00%	-	0.00%	-	0.00%
Brevard	5,422	5,422	100.00%	-	0.00%	-	0.00%	-	0.00%	-	0.00%
Charlotte	3,163	3,163	100.00%	-	0.00%	-	0.00%	-	0.00%	-	0.00%
Collier	8,680	8,680	100.00%	-	0.00%	-	0.00%	-	0.00%	-	0.00%
DeSoto	2,677	2,677	100.00%	-	0.00%	-	0.00%	-	0.00%	-	0.00%
Flagler	2,153	2,153	100.00%	-	0.00%	-	0.00%	-	0.00%	-	0.00%
Glades	3,470	3,470	100.00%	-	0.00%	-	0.00%	-	0.00%	-	0.00%
Hardee	2,676	2,676	100.00%	-	0.00%	-	0.00%	-	0.00%	-	0.00%
Hendry	4,863	4,863	100.00%	-	0.00%	-	0.00%	-	0.00%	-	0.00%
Highlands	4,624	4,622	99.96%	2	0.04%	-	0.00%	-	0.00%	-	0.00%
Hillsborough	4,577	4,577	100.00%	-	0.00%	-	0.00%	-	0.00%	-	0.00%
Lake	4,866	4,864	99.96%	2	0.04%	-	0.00%	-	0.00%	-	0.00%
Manatee	3,374	3,374	100.00%	-	0.00%	-	0.00%	-	0.00%	-	0.00%
Monroe	6,372	6,372	100.00%	-	0.00%	-	0.00%	-	0.00%	-	0.00%
Okeechobee	3,311	3,311	100.00%	-	0.00%	-	0.00%	-	0.00%	-	0.00%
Osceola	6,272	6,272	100.00%	-	0.00%	-	0.00%	-	0.00%	-	0.00%
Pinellas	1,524	1,524	100.00%	-	0.00%	-	0.00%	-	0.00%	-	0.00%
Polk	8,310	8,310	100.00%	-	0.00%	-	0.00%	-	0.00%	-	0.00%
Putnam	3,481	3,481	100.00%	-	0.00%	-	0.00%	-	0.00%	-	0.00%
Seminole	1,492	1,492	100.00%	-	0.00%	-	0.00%	-	0.00%	-	0.00%
St. Johns	2,858	2,858	100.00%	-	0.00%	-	0.00%	-	0.00%	-	0.00%

Sinkhole Hazard Risk Analysis Results

Table 123: Sinkhole Hazard Risk Area Summary

Ian Area of Interest	Total (0.25 sq.	Hazard Risk Category				
		Low	Medium Low	Medium	Medium High	High

	mile) Hex Grids	Total Hex Grids	% of Hex Grids	Total Hex Grids	% of Hex Grids	Total Hex Grids	% of Hex Grids	Total Hex Grids	% of Hex Grids	Total Hex Grids	% of Hex Grids
All Counties	82,336	82,315	99.97%	21	0.03%	-	0.00%	-	0.00%	-	0.00%
Brevard	5,422	5,422	100.00%	-	0.00%	-	0.00%	-	0.00%	-	0.00%
Charlotte	3,163	3,163	100.00%	-	0.00%	-	0.00%	-	0.00%	-	0.00%
Collier	8,680	8,680	100.00%	-	0.00%	-	0.00%	-	0.00%	-	0.00%
DeSoto	2,677	2,677	100.00%	-	0.00%	-	0.00%	-	0.00%	-	0.00%
Flagler	2,153	2,153	100.00%	-	0.00%	-	0.00%	-	0.00%	-	0.00%
Glades	3,470	3,470	100.00%	-	0.00%	-	0.00%	-	0.00%	-	0.00%
Hardee	2,676	2,676	100.00%	-	0.00%	-	0.00%	-	0.00%	-	0.00%
Hendry	2,676	2,676	100.00%	-	0.00%	-	0.00%	-	0.00%	-	0.00%
Highlands	4,624	4,623	99.98%	1	0.02%	-	0.00%	-	0.00%	-	0.00%
Hillsborough	4,577	4,577	100.00%	-	0.00%	-	0.00%	-	0.00%	-	0.00%
Lake	4,866	4,847	99.61%	19	0.39%	-	0.00%	-	0.00%	-	0.00%
Manatee	3,374	3,374	100.00%	-	0.00%	-	0.00%	-	0.00%	-	0.00%
Monroe	6,372	6,372	100.00%	-	0.00%	-	0.00%	-	0.00%	-	0.00%
Okeechobee	3,311	3,311	100.00%	-	0.00%	-	0.00%	-	0.00%	-	0.00%
Osceola	6,272	6,271	99.98%	1	0.02%	-	0.00%	-	0.00%	-	0.00%
Pinellas	1,524	1,524	100.00%	-	0.00%	-	0.00%	-	0.00%	-	0.00%
Polk	8,310	8,310	100.00%	-	0.00%	-	0.00%	-	0.00%	-	0.00%
Putnam	3,481	3,481	100.00%	-	0.00%	-	0.00%	-	0.00%	-	0.00%
Seminole	1,492	1,492	100.00%	-	0.00%	-	0.00%	-	0.00%	-	0.00%
St. Johns	2,858	2,858	100.00%	-	0.00%	-	0.00%	-	0.00%	-	0.00%

Fog Hazard Risk Analysis Results

Table 124: Fog Hazard Risk Area Summary

Ian Area of Interest	Total (0.25 sq. mile) Hex Grids	Hazard Risk Category									
		Low		Medium Low		Medium		Medium High		High	
		Total Hex Grids	% of Hex Grids	Total Hex Grids	% of Hex Grids	Total Hex Grids	% of Hex Grids	Total Hex Grids	% of Hex Grids	Total Hex Grids	% of Hex Grids
All Counties	82,336	82,242	99.89%	94	0.11%	-	0.00%	-	0.00%	-	0.00%
Brevard	5,422	5,422	100.00%	-	0.00%	-	0.00%	-	0.00%	-	0.00%
Charlotte	3,163	3,163	100.00%	-	0.00%	-	0.00%	-	0.00%	-	0.00%
Collier	8,680	8,680	100.00%	-	0.00%	-	0.00%	-	0.00%	-	0.00%
DeSoto	2,677	2,677	100.00%	-	0.00%	-	0.00%	-	0.00%	-	0.00%
Flagler	2,153	2,153	100.00%	-	0.00%	-	0.00%	-	0.00%	-	0.00%
Glades	3,470	3,470	100.00%	-	0.00%	-	0.00%	-	0.00%	-	0.00%
Hardee	2,676	2,676	100.00%	-	0.00%	-	0.00%	-	0.00%	-	0.00%
Hendry	4,863	4,863	100.00%	-	0.00%	-	0.00%	-	0.00%	-	0.00%
Highlands	4,624	4,624	100.00%	-	0.00%	-	0.00%	-	0.00%	-	0.00%
Hillsborough	4,577	4,577	100.00%	-	0.00%	-	0.00%	-	0.00%	-	0.00%
Lake	4,866	4,866	100.00%	-	0.00%	-	0.00%	-	0.00%	-	0.00%
Manatee	3,374	3,374	100.00%	-	0.00%	-	0.00%	-	0.00%	-	0.00%
Monroe	6,372	6,372	100.00%	-	0.00%	-	0.00%	-	0.00%	-	0.00%

Okeechobee	3,311	3,311	100.00%	-	0.00%	-	0.00%	-	0.00%	-	0.00%
Osceola	6,272	6,272	100.00%	-	0.00%	-	0.00%	-	0.00%	-	0.00%
Pinellas	1,524	1,524	100.00%	-	0.00%	-	0.00%	-	0.00%	-	0.00%
Polk	8,310	8,310	100.00%	-	0.00%	-	0.00%	-	0.00%	-	0.00%
Putnam	3,481	3,387	97.30%	94	2.70%	-	0.00%	-	0.00%	-	0.00%
Seminole	1,492	1,492	100.00%	-	0.00%	-	0.00%	-	0.00%	-	0.00%
St. Johns	2,858	2,858	100.00%	-	0.00%	-	0.00%	-	0.00%	-	0.00%

2.6.5 Composite Threats and Risks

Understanding individual risks (2.6.4 Hazard Threat and Risk Assessment) can provide necessary details when attempting to build specific programs aimed at mitigating individual threats. However, oftentimes, a wholistic representation of threats covering vulnerability of people and infrastructure (Section 2.6.2.4 Vulnerability Data and Analysis), severity of consequences (Section 2.6.3 Severity of Consequences), and area of potential impact (Section 2.6.4 Hazard Threat and Risk Assessment) can aid in broad planning and mitigation program development. The present assessment spans such a large area that some details related to composite hazard cannot be easily seen in Figure 74: Composite Hazard Threat, however, areas of higher composite risk tend to be present in most counties. Several pockets of higher risk appear across the Hurricane Ian AOI, including (from north to south) St. Johns County (less than 1 percent land area in a 'high' risk zone), Brevard County (just over 1 percent land area in a 'high' risk zone), and Hillsborough County (only a few cells classified as high risk) (Table 125: Composite Hazard Threat Area Summary). Additionally, all counties except Hardee, Hendry, Highlands, Monroe, and Okeechobee have land area classified as 'medium-high' composite threat, making these some of the more heavily impacted counties, historically.

Box 13: Composite Threats Hazard Mitigation Takeaway

Mitigation Takeaway: Utilizing composite risk to help inform decisions about mitigation can provide a broad view of the places likely to see hazard exposure. Although a clear distinction exists between areas with medium-high or high threat and areas with lower levels of threat across the AOI, this only indicates one aspect of risk—threat. Only through the inclusion of severity of consequences and vulnerability does this picture of threat come into focus.

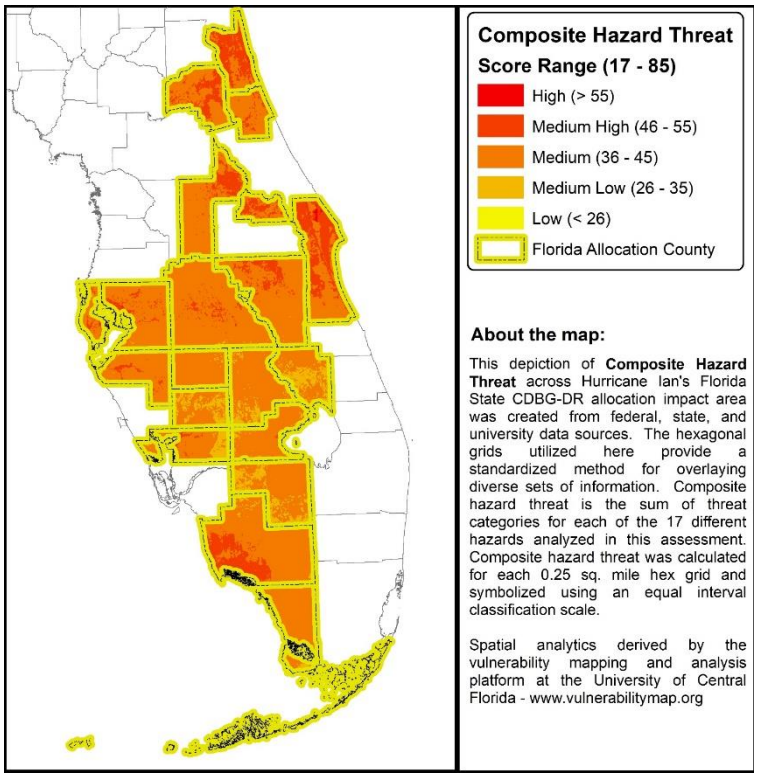

Figure 74: Composite Hazard Threat

Table 125: Composite Hazard Threat Area Summary

Ian Area of Interest	Total (0.25 sq. mile) Hex Grids	Hazard Threat Category									
		Low		Medium Low		Medium		Medium High		High	
		Total Hex Grids	% of Hex Grids	Total Hex Grids	% of Hex Grids	Total Hex Grids	% of Hex Grids	Total Hex Grids	% of Hex Grids	Total Hex Grids	% of Hex Grids
All Counties	82,336	191	0.23%	7,484	9.09%	62,086	75.41%	12,491	15.17%	84	0.10%
Brevard	5,422	-	0.00%	11	0.20%	2,531	46.68%	2,820	52.01%	60	1.11%
Charlotte	3,163	-	0.00%	624	19.73%	2,244	70.95%	295	9.33%	-	0.00%
Collier	8,680	-	0.00%	291	3.35%	6,566	75.65%	1,823	21.00%	-	0.00%
DeSoto	2,677	-	0.00%	901	33.66%	1,770	66.12%	6	0.22%	-	0.00%
Flagler	2,153	-	0.00%	-	0.00%	1,659	77.06%	494	22.94%	-	0.00%
Glades	3,470	-	0.00%	314	9.05%	3,077	88.67%	79	2.28%	-	0.00%
Hardee	2,676	-	0.00%	99	3.70%	2,577	96.30%	-	0.00%	-	0.00%
Hendry	4,863	-	0.00%	1,342	27.60%	3,521	72.40%	-	0.00%	-	0.00%
Highlands	4,624	-	0.00%	575	12.44%	4,049	87.56%	-	0.00%	-	0.00%
Hillsborough	4,577	-	0.00%	19	0.42%	3,924	85.73%	633	13.83%	1	0.02%
Lake	4,866	-	0.00%	-	0.00%	3,833	78.77%	1,033	21.23%	-	0.00%
Manatee	3,374	-	0.00%	111	3.29%	3,088	91.52%	175	5.19%	-	0.00%
Monroe	6,372	191	3.00%	2,123	33.32%	4,058	63.68%	-	0.00%	-	0.00%
Okeechobee	3,311	-	0.00%	1,099	33.19%	2,212	66.81%	-	0.00%	-	0.00%
Osceola	6,272	-	0.00%	9	0.14%	5,431	86.59%	832	13.27%	-	0.00%
Pinellas	1,524	-	0.00%	28	1.84%	1,108	72.70%	388	25.46%	-	0.00%
Polk	8,310	-	0.00%	111	1.34%	7,885	94.89%	314	3.78%	-	0.00%
Putnam	3,481	-	0.00%	-	0.00%	2,439	70.07%	1,042	29.93%	-	0.00%

Seminole	1,492	-	0.00%	-	0.00%	729	48.86%	763	51.14%	-	0.00%
St. Johns	2,858	-	0.00%	-	0.00%	902	31.56%	1,933	67.63%	23	0.80%

Moving from composite threat to composite risk provides the most comprehensive view of the intersection of threats, vulnerabilities, and severity of consequences. The risk from each hazard was derived for each 0.25-square-mile hex grid by summing each hazard's risk.

Equation 5: Total Risk Calculation

$$M\ RISK\ = \sum_{n=1}^{18} RISK_{HAZ_n}$$

Figure 75: The Hurricane Ian AOI's Aggregate Risk shows the aggregate risk in the R2C AOI at the hex grid level. As shown in this figure, several counties appear to have either swaths of higher risk or, in the case of Pinellas County, higher risk across the whole county. Due to the lack of coastal type hazard influences (storm surge and sea-level rise) the south-central inland counties do not have as much land area in higher risk categories as counties to the north and the coastal counties. However, when looking at Table 126: Aggregate Hazard Risk Area Summary, it is clear that every county has at least some land area classified as a 'high' composite risk area. Pinellas County tops the list with nearly 70 percent of its land area classified as 'high' and several others—including Brevard, Hillsborough, Lake, Polk, and Seminole Counties—each have more than 10 percent land area in the 'high' risk classification.

Box 14: Composite Risk Hazard Mitigation Takeaway

Mitigation Takeaway: A holistic view of risk across hazard threats can provide a good starting point from which to address risk comprehensively. Although mitigation measures put in place to combat one hazard threat may not help protect against all threats, larger investments in infrastructure can often provide protection against a variety of hazard threat types. Using this composite risk surface as a screening tool provides a logical approach to project selection where mitigation activities in 'high' risk areas would have priority, followed by those in medium high, medium, medium low, and low. This type of approach ensures that decisions on mitigation are based on empirically defined risk parameters and protects against individual bias.

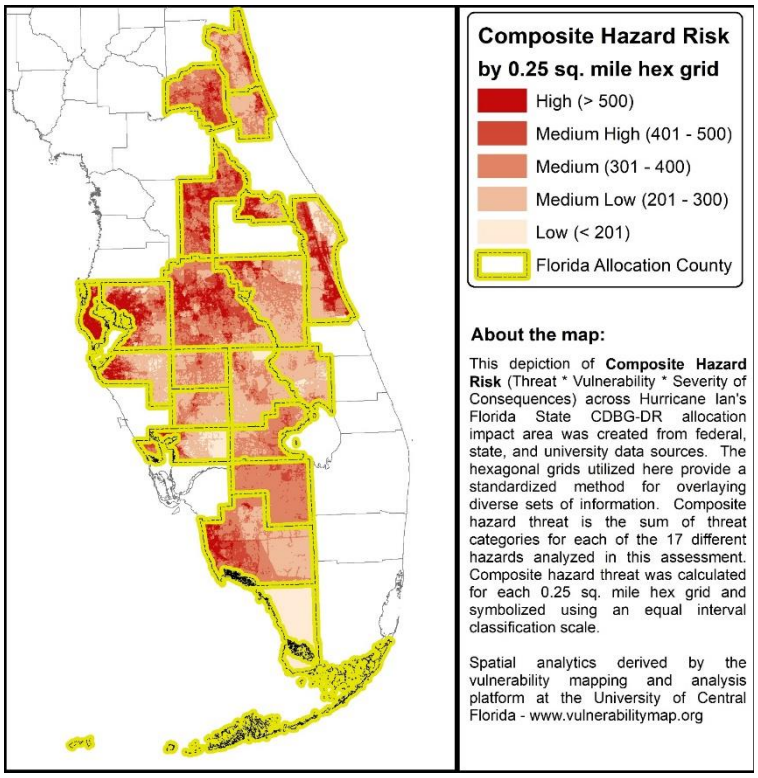

Figure 75: The Hurricane Ian AOI's Aggregate Risk

Table 126: Aggregate Hazard Risk Area Summary

Ian Area of Interest	Total (0.25 sq. mile) Hex Grids	Hazard Risk Category									
		Low		Medium Low		Medium		Medium High		High	
		Total Hex Grids	% of Hex Grids	Total Hex Grids	% of Hex Grids	Total Hex Grids	% of Hex Grids	Total Hex Grids	% of Hex Grids	Total Hex Grids	% of Hex Grids
All Counties	82,336	8,266	10.04%	26,403	32.07%	28,822	35.01%	12,059	14.65%	6,786	8.24%
Brevard	5,422	648	11.95%	1,971	36.35%	1,027	18.94%	874	16.12%	902	16.64%
Charlotte	3,163	917	28.99%	1,034	32.69%	547	17.29%	456	14.42%	209	6.61%
Collier	8,680	10	0.12%	3,319	38.24%	3,523	40.59%	1,261	14.53%	567	6.53%
DeSoto	2,677	36	1.34%	1,721	64.29%	805	30.07%	110	4.11%	5	0.19%
Flagler	2,153	-	0.00%	1,066	49.51%	807	37.48%	210	9.75%	70	3.25%
Glades	3,470	11	0.32%	771	22.22%	2,303	66.37%	370	10.66%	15	0.43%
Hardee	2,676	41	1.53%	1,198	44.77%	1,323	49.44%	98	3.66%	16	0.60%
Hendry	4,863	2	0.04%	28	0.58%	4,150	85.34%	633	13.02%	50	1.03%
Highlands	4,624	375	8.11%	2,860	61.85%	1,249	27.01%	135	2.92%	5	0.11%
Hillsborough	4,577	117	2.56%	1,293	28.25%	1,513	33.06%	818	17.87%	836	18.27%
Lake	4,866	3	0.06%	58	1.19%	1,925	39.56%	2,055	42.23%	825	16.95%
Manatee	3,374	371	11.00%	1,936	57.38%	495	14.67%	281	8.33%	291	8.62%
Monroe	6,372	5,083	79.77%	962	15.10%	274	4.30%	53	0.83%	-	0.00%
Okeechobee	3,311	283	8.55%	2,534	76.53%	473	14.29%	20	0.60%	1	0.03%
Osceola	6,272	164	2.61%	3,154	50.29%	2,129	33.94%	506	8.07%	319	5.09%
Pinellas	1,524	3	0.20%	90	5.91%	204	13.39%	235	15.42%	992	65.09%
Polk	8,310	47	0.57%	1,178	14.18%	3,506	42.19%	2,460	29.60%	1,119	13.47%

Putnam	3,481	9	0.26%	142	4.08%	1,898	54.52%	1,287	36.97%	145	4.17%
Seminole	1,492	2	0.13%	487	32.64%	341	22.86%	272	18.23%	390	26.14%
St. Johns	2,858	149	5.21%	1,085	37.96%	1,237	43.28%	268	9.38%	119	4.16%

Identifying the highest risk for each 0.25-mile hex grid provides another useful perspective on AOI risks. Figure 76: Hurricane Ian's Highest Risk Hazards by Hexagonal Grid pinpoints (for each hex grid) which threat culminates the highest risk. A majority of the AOI's risk comes from hurricane threats. However, 10 other hazard threats, including storm surge, severe storms, lightning, tornadoes, 100-year flooding, heat, sea-level rise, wildfire, flash flooding, and wind are also part of the risk profile for the AOI (Table 127: Highest Hazard Risk Area Summary (Top 5 Hazard Risks) and Table 128: Highest Hazard Risk Area Summary (Top 6 – 10 Hazard Risks)).

Box 15: Top Hazard Risk Mitigation Takeaway

Mitigation Takeaway: Often, a county or municipality may recognize that residents are exposed to different threats based on location of residence. When empirically defined and mapped, one can see that Hurricane wind hazard dominates the AOI. However, this view of risk also identifies that some counties have up to three (or more) different hazards impact various parts of their jurisdictions. Using this map to understand the greatest risk should provide a rational jumping off point for mitigation projects where decision makers focus on the highest risk hazards for a given area and build mitigation programs and infrastructure investments to protect against the highest risk hazards first.

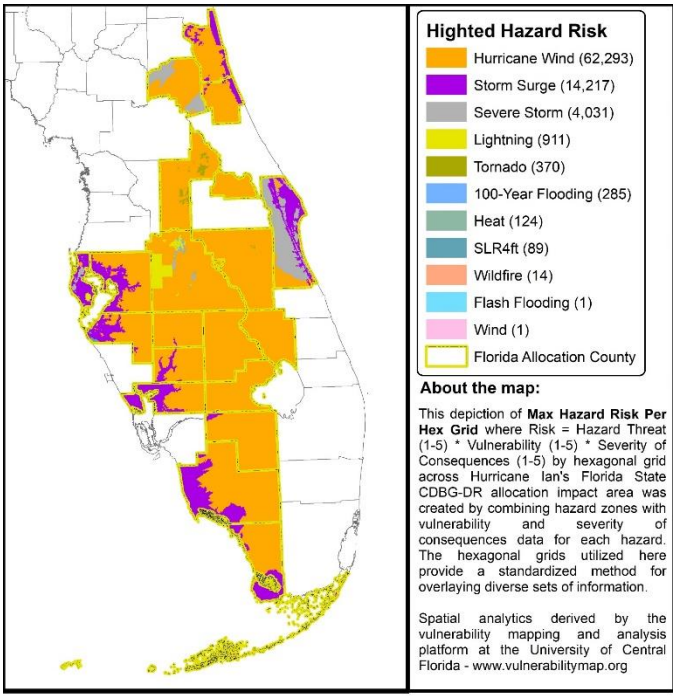

Figure 76: Hurricane Ian's Highest Risk Hazards by Hexagonal Grid

Table 127: Highest Hazard Risk Area Summary (Top 5 Hazard Risks)

Ian Area of Interest	Total (0.25 sq. mile) Hex Grids	Hazard Risk Category									
		Hurricane Wind		Storm Surge		Severe Storm		Lightning		Tornado	
		Total Hex Grids	% of Hex Grids	Total Hex Grids	% of Hex Grids	Total Hex Grids	% of Hex Grids	Total Hex Grids	% of Hex Grids	Total Hex Grids	% of Hex Grids
All Counties	82,336	62,293	75.66%	14,217	17.27%	4,031	4.90%	911	1.11%	370	0.45%
Brevard	3,641	874	24.00%	-	0.00%	2,749	75.50%	8	0.22%	-	0.00%

Charlotte	3,163	1,578	49.89%	1,583	50.05%	-	0.00%	-	0.00%	-	0.00%
Collier	8,680	6,146	70.81%	2,534	29.19%	-	0.00%	-	0.00%	-	0.00%
DeSoto	2,677	2,318	86.59%	359	13.41%	-	0.00%	-	0.00%	-	0.00%
Flagler	2,153	1,768	82.12%	353	16.40%	32	1.49%	-	0.00%	-	0.00%
Glades	3,470	3,458	99.65%	12	0.35%	-	0.00%	-	0.00%	-	0.00%
Hardee	2,676	2,651	99.07%	19	0.71%	-	0.00%	-	0.00%	-	0.00%
Hendry	4,863	4,729	97.24%	134	2.76%	-	0.00%	-	0.00%	-	0.00%
Highlands	4,624	4,624	100.00%	-	0.00%	-	0.00%	-	0.00%	-	0.00%
Hillsborough	4,577	3,081	67.31%	1,495	32.66%	-	0.00%	-	0.00%	-	0.00%
Lake	4,866	4,461	91.68%	-	0.00%	4	0.08%	-	0.00%	359	7.38%
Manatee	3,374	2,357	69.86%	-	0.00%	949	28.13%	-	0.00%	-	0.00%
Monroe	6,372	3,142	49.31%	2,956	46.39%	-	0.00%	-	0.00%	-	0.00%
Okeechobee	3,311	3,311	100.00%	-	0.00%	-	0.00%	-	0.00%	-	0.00%
Osceola	6,272	6,221	99.19%	-	0.00%	40	0.64%	-	0.00%	11	0.18%
Pinellas	1,524	32	2.10%	1,287	84.45%	132	8.66%	55	3.61%	-	0.00%
Polk	8,310	7,275	87.55%	-	0.00%	94	1.13%	848	10.20%	-	0.00%
Putnam	3,481	2,429	69.78%	-	0.00%	1,052	30.22%	-	0.00%	-	0.00%
Seminole	1,492	1,492	100.00%	-	0.00%	1	0.07%	-	0.00%	-	0.00%
St. Johns	2,858	2,858	0.00%	914	31.98%	1	0.03%	-	0.00%	-	0.00%

Table 128: Highest Hazard Risk Area Summary (Top 6 – 10 Hazard Risks)[191]

Ian Area of Interest	Total (0.25 sq. mile) Hex Grids	Hazard Risk Category									
		Riverine Flooding		Excessive Heat		Sea-Level Rise		Wildfire		Flash Flooding	
		Total Hex Grids	% of Hex Grids	Total Hex Grids	% of Hex Grids	Total Hex Grids	% of Hex Grids	Total Hex Grids	% of Hex Grids	Total Hex Grids	% of Hex Grids
All Counties	82,336	285	0.35%	124	0.15%	89	0.11%	14	0.02%	1	0.00%
Brevard	5,422	-	0.00%	-	0.00%	-	0.00%	9	0.17%	1	0.02%
Charlotte	3,163	2	0.06%	-	0.00%	-	0.00%	-	0.00%	-	0.00%
Collier	8,680	-	0.00%	-	0.00%	-	0.00%	-	0.00%	-	0.00%
DeSoto	2,677	-	0.00%	-	0.00%	-	0.00%	-	0.00%	-	0.00%
Flagler	2,153	-	0.00%	-	0.00%	-	0.00%	-	0.00%	-	0.00%
Glades	3,470	-	0.00%	-	0.00%	-	0.00%	-	0.00%	-	0.00%
Hardee	2,676	-	0.00%	-	0.00%	-	0.00%	5	0.19%	-	0.00%
Hendry	4,863	-	0.00%	-	0.00%	-	0.00%	-	0.00%	-	0.00%
Highlands	4,624	-	0.00%	-	0.00%	-	0.00%	-	0.00%	-	0.00%
Hillsborough	4,577	-	0.00%	-	0.00%	1	0.02%	-	0.00%	-	0.00%
Lake	4,866	42	0.86%	-	0.00%	-	0.00%	-	0.00%	-	0.00%
Manatee	3,374	-	0.00%	-	0.00%	68	2.02%	-	0.00%	-	0.00%
Monroe	3,230	157	4.86%	98	3.03%	19	0.59%	-	0.00%	-	0.00%
Okeechobee	3,311	-	0.00%	-	0.00%	-	0.00%	-	0.00%	-	0.00%
Osceola	6,272	-	0.00%	-	0.00%	-	0.00%	-	0.00%	-	0.00%

[191] Not pictured is wind risk which was highest for one hex grid in Hardee County.

Pinellas	1,524	17	1.12%	-	0.00%	1	0.07%	-	0.00%	-	0.00%
Polk	8,310	67	0.81%	26	0.31%	-	0.00%	-	0.00%	-	0.00%
Putnam	3,481	-	0.00%	-	0.00%	-	0.00%		0.00%	-	0.00%
Seminole	1,492	-	0.00%	-	0.00%	-	0.00%		0.00%	-	0.00%
St. Johns	2,858	-	0.00%	-	0.00%	-	0.00%		0.00%	-	0.00%

2.6.6 Mitigation and Resilience Efforts aimed at Future Protection

Florida's mitigation and resilience efforts have seen success over the past several years and the state regularly stands as one of the most active FEMA mitigation partners across the nation. Earlier programs such as Florida's My Safe Florida Home Program[192], whose mission was to offer eligible homeowners free wind inspections from qualified hurricane mitigation inspectors to help Floridians learn how to harden their homes to better protect themselves and their families from windstorm damage, have paved the way for current programs aimed at reducing losses and protecting lives in the face of future hazards, including the recently inaugurated Resilient Florida Program.[193]

2.6.6.1 Hazard Mitigation Programs

Following the state's most devastating set of hurricanes (Charley, Francis, Ivan, and Jeanne) in 2004, Florida quickly implemented mitigation measures. Florida turned the recovery from these events into an opportunity to mitigate properties and proceeded to complete more than 10,000 mitigation projects in 2004 alone with another 3,500 in 2005 and 2006 (Figure 78: Total FEMA Hazard Mitigated Properties for Florida (1992-2022)). Although Florida has been largely successful in FEMA's Hazard Mitigation Grant Program (HMGP), it has also seen success in mitigation projects from FEMA's Flood Mitigation Assistance (FMA) Program, the Legislative Pre-Disaster Mitigation Grant Program (LPDM), the Pre-Disaster Mitigation (PDM) Program, the Repetitive Flood Claims (RFC) Grant Program, and the Severe repetitive Loss (SRL) Grant Program (Figure 77: Total FEMA Hazard Mitigation Assistance Projects by Program for Florida (1992 – 2022)) – all part of the overarching FEMA Hazard Mitigation Assistance (HMA) program.

[192] http://www.floridabuilding.org/fbc/committees/product_approval/mysafefloridahome.pdf

[193] https://floridadep.gov/rcp/resilient-florida-program

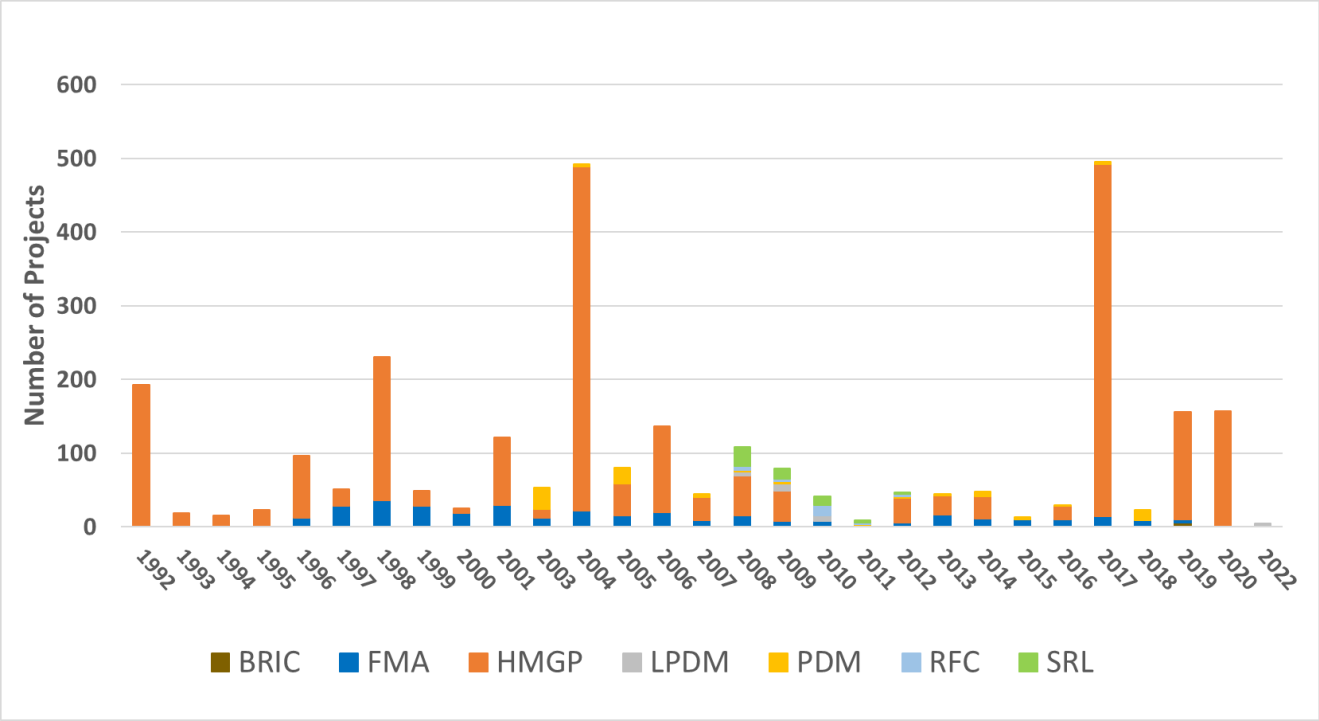

Figure 77: Total FEMA Hazard Mitigation Assistance Projects by Program for Florida (1992 – 2022)

This mitigation activity has resulted in distribution of more than $2.6 billion in mitigation across Florida alone (Table 129: Summary of FEMA Hazard Mitigation Grant Program Activity for Florida) with $441 million (18.3 percent) of this spending occurring across the Hurricane Ian AOI (Table 130: Summary of FEMA Hazard Mitigation Grant Program Activity for Hurricane Ian Counties). Among the Hurricane Ian AOI counties, Monroe County has received the most FEMA mitigation spending ($152 million), followed by Pinellas ($65 million) and Brevard ($48 million) (Table 131: Summary of FEMA Hazard Mitigation Grant Program Activity Spending for Hurricane Ian Counties and Figure 78: Total FEMA Hazard Mitigated Properties for Florida (1992-2022)). These current and previous successes in mitigation spending demonstrate both a capacity to implement and a willingness (at county and individual levels) to see mitigation as a suitable solution to the growing hazard risks facing the area.

Table 129: Summary of FEMA Hazard Mitigation Grant Program Activity for Florida

Hazard Mitigation Program Category	Total Properties	Percent of Total Properties (Nationwide)	Total Project Amount	Percent of Total (Nationwide)
BRIC	12	0.70%	$10,062,048	0.38%
FMA	412	24.11%	$125,803,374	4.77%
HMGP	20,285	1186.95%	$2,361,330,154	89.54%
LPDM	24	1.40%	$45,746,217	1.73%
PDM	93	5.44%	$66,076,415	2.51%
RFC	33	1.93%	$8,707,778	0.33%
SRL	64	3.74%	$19,466,370	0.74%
Total	**20,923**	1224.28%	**$2,637,192,356**	100.00%

Table 130: Summary of FEMA Hazard Mitigation Grant Program Activity for Hurricane Ian Counties

Hazard Mitigation Program Category	Total Properties	Percent of Total Properties (Statewide)	Total Project Amount	Percent of Total (Statewide)

BRIC	0	0.00%	$5,956,460	0.73%
FMA	186	11.45%	$41,252,693	5.02%
HMGP	1,408	86.65%	$749,353,752	91.22%
LPDM	14	0.86%	$16,786,505	2.04%
PDM	3	0.18%	$3,143,035	0.38%
RFC	2	0.12%	$658,832	0.08%
SRL	12	0.74%	$4,361,784	0.53%
Total	**1,625**	**100.00%**	**$821,513,063**	**100.00%**

Table 131: Summary of FEMA Hazard Mitigation Grant Program Activity Spending for Hurricane Ian Counties

County	BRIC	FMA	HMGP	LPDM	PDM	RFC	SRL	Total
Brevard			$47,081,967		$1,502,722		$350,000	$48,934,689
Charlotte			$17,539,792				$153,153	$17,692,945
Collier			$27,834,589				$234,000	$28,068,589
DeSoto			$2,337,256					$2,337,256
Flagler		$31,862	$14,283,504		$111,435			$14,426,801
Glades			$2,578,744					$2,578,744
Hardee			$1,361,982					$1,361,982
Hendry			$1,537,585					$1,537,585
Highlands			$2,765,998	$667,475				$3,433,473
Hillsborough		$822,730	$33,921,102				$175,585	$34,919,417
Lake			$7,282,849					$7,282,849
Manatee		$2,705,924	$2,386,345		$59,960		$2,553,959	$7,706,188
Monroe	$5,956,460	$1,303,444	$132,628,906	$11,928,373	$441,717		$405,737	$152,664,638
Okeechobee			$4,436,878					$4,436,878
Osceola			$12,854,146					$12,854,146
Pinellas		$17,758,672	$42,192,298	$3,461,742	$1,027,201	$405,000	$489,350	$65,334,264
Polk			$23,979,301					$23,979,301
Putnam			$9,069,548	$728,915				$9,798,463
Seminole		$471,980	$20,664,248			$253,832		$21,390,060
St. Johns		$6,325,000	$24,397,553					$30,722,553

2.6.6.2 Mitigated Properties

Florida is one of the more active states in terms of its desire to mitigate properties and undertake larger HMGP projects aimed at decreasing future impacts. An assessment of available data from FEMA shows that Florida's ability to mitigate properties hit a stride following 2004's devastating set of hurricane impacts (Hurricanes Charley, Francis, Ivan, and Jeanne). Florida turned the recovery from these events into an opportunity to mitigate properties and completed more than 10,000 mitigation projects in 2004 alone with another 3,500 in 2005, and 2006 (Figure 78: Total FEMA Hazard Mitigated Properties for Florida (1992-2022)).

To date, Florida has mitigated 18,442 properties, ranking the state second in most properties mitigated, following Oklahoma (21,683 properties mitigated) and leading Texas (12,805 properties mitigated).[194] When focusing on Florida counties alone (Figure 79: FEMA Hazard Mitigation Assistance Mitigated Property Summary for the Hurricane Ian AOI Table 132: Summary of FEMA Mitigated Properties for

[194] https://www.FEMA.gov/openfema-data-page/hazard-mitigation-assistance-mitigated-properties-v2

Florida Counties (1992-2022)) a different pattern emerges. Table 132: Summary of FEMA Mitigated Properties for Florida Counties (1992-2022), Escambia shows a clear prevalence of mitigated properties (11,558) and the Hurricane Ian Counties (highlighted in green) show a range of mitigation success – from Monroe County's 209 properties to Hendry County's three.

Some of the successful mitigation projects across Florida include enhanced wind resiliency on Miami Beach's Mount Sinai Medical Center in 2005, and a drainage project in Oakland Park in 2015. Both projects' increased resiliency was proven during Hurricane Irma (2017), when no significant wind or flooding damage occurred to the mitigated sites, though they were previously highly impacted by similar events prior to the implementation of mitigation measures.[195]

As of July 2023, 4,149 homes have been completed by the Rebuild Florida Housing Repair and Replacement Programs—3,173 through the Hurricane Irma Housing Repair and Replacement Program and 976 through the Hurricane Michael Housing Repair and Replacement Program—which incorporate mitigation measures such as elevation and/or Resilient Home Construction Standards (including hurricane windows and doors, and hurricane clips) where necessary and feasible.

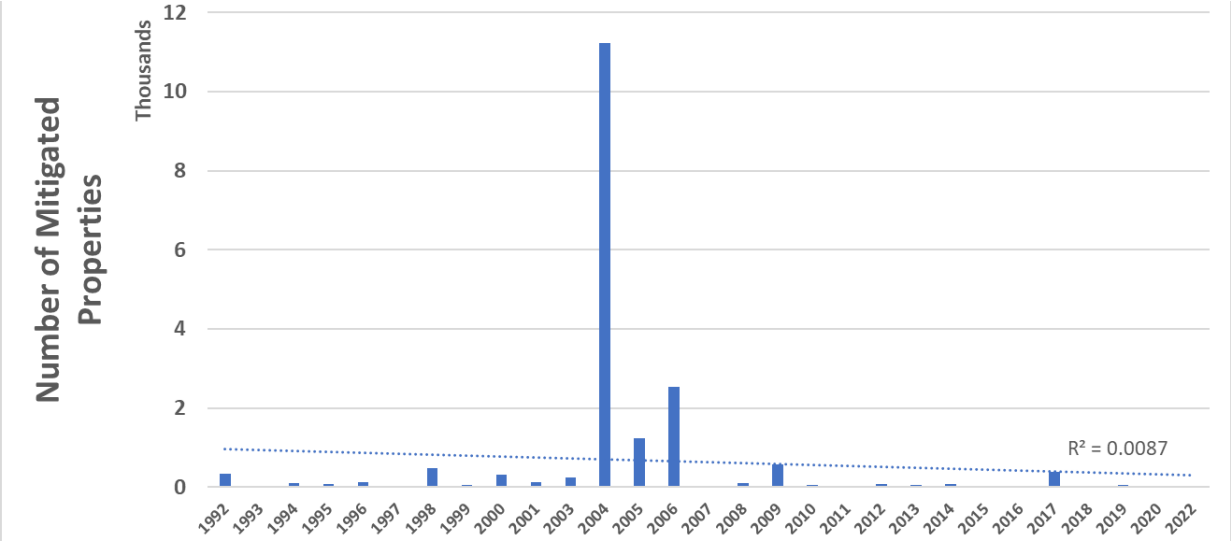

Figure 78: Total FEMA Hazard Mitigated Properties for Florida (1992-2022)

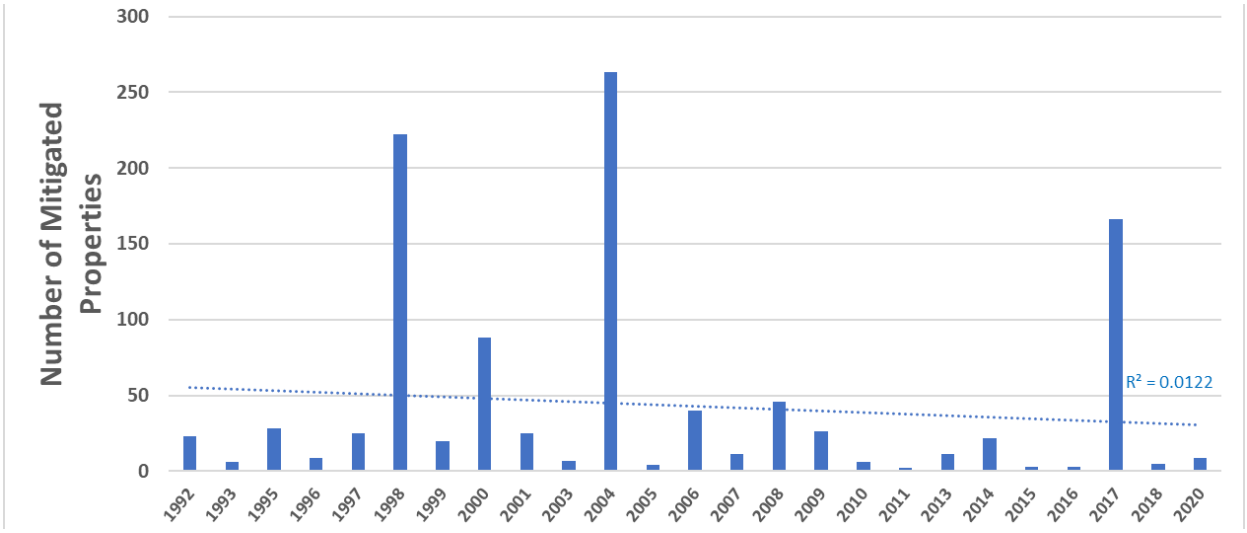

Figure 79: FEMA Hazard Mitigation Assistance Mitigated Property Summary for the Hurricane Ian AOI (1992-2022)

[195] https://www.FEMA.gov/press-release/20220302/florida-mitigation-projects-prove-successful

Table 132: Summary of FEMA Mitigated Properties for Florida Counties (1992-2022)

County	Number of Mitigated Properties	County	Number of Mitigated Properties	County	Number of Mitigated Properties
Escambia	11,558	**Walton**	47	**Indian River**	15
Santa Rosa	3,073	**Sarasota**	45	**Madison**	14
Miami-Dade	616	**Lee**	44	**Putnam**	14
Broward	216	**Marion**	42	**DeSoto**	13
Monroe	209	**Washington**	39	**Jackson**	12
Volusia	207	**Citrus**	36	**Highlands**	10
Duval	179	**Okaloosa**	36	**Levy**	10
Pinellas	156	**Gulf**	34	**Dixie**	9
Brevard	148	**Osceola**	34	**Gadsden**	8
Bay	121	**Seminole**	34	**Liberty**	8
Pasco	120	**Hernando**	33	**Taylor**	8
Leon	117	**Columbia**	32	**Glades**	7
Orange	105	**Lake**	31	**Hardee**	7
Dade	93	**Calhoun**	27	**Okeechobee**	7
Palm Beach	85	**Clay**	27	**Bradford**	6
Polk	82	**Unknown County**	25	**Hamilton**	5
St. Lucie	79	**Alachua**	22	**Nassau**	5
Manatee	77	**Wakulla**	22	**Suwannee**	4
Charlotte	70	**Flagler**	21	**Baker**	3
Collier	69	**Franklin**	19	**Hendry**	3
Martin	64	**Sumter**	18	**Lafayette**	3
Hillsborough	61	**St. Johns**	17	**Union**	3
Holmes	61	**Gilchrist**	16	**Jefferson**	1

3.0 General Requirements

3.1 Citizen Participation

FloridaCommerce's Citizen Participation Plan (CPP) provides a reasonable opportunity of at least 30 days for citizen comment and ongoing citizen access to information about the use of grant funds. FloridaCommerce is committed to helping Florida's communities recover from the devastating impacts of Hurricane Ian. The primary goal of the CPP is to provide Floridians with definitive opportunities to involve themselves in the recovery process as it pertains to CDBG-DR funds. Florida values citizen and stakeholder engagement and to facilitate citizen involvement, FloridaCommerce has laid out target actions to encourage citizen participation and allow equal access to information about the program. FloridaCommerce intends to focus outreach efforts to facilitate participation from LMI individuals living in areas identified for recovery, non-English speaking persons, and other disadvantaged populations.

3.1.1 Outreach and Engagement

In the development of this Action Plan, FloridaCommerce consulted with disaster-affected citizens, stakeholders, local governments, PHAs, and other affected parties in the surrounding geographic area to ensure consistency of disaster impacts identified in the Action Plan, and that the Action Plan and planning process was comprehensive and inclusive. FloridaCommerce traveled to all 24 counties impacted by Hurricane Ian and consulted with key stakeholders such as elected and appointed officials, including county managers, commission board members, and emergency management personnel, to understand unmet needs and to get feedback on crafting programs to best meet the needs of the impacted communities as efficiently and effectively as possible. Consultation with key local stakeholders helped these stakeholders understand what to expect from CDBG-DR program funding and allowed them to play a key role in shaping the outcomes of this Action Plan.

FloridaCommerce recognizes that affected stakeholders are the center of, and partners in, the development and implementation of this Action Plan. Opportunities for citizen input were provided throughout the planning process through a survey, which was sent to stakeholders to assist in determining the unmet needs in the affected areas, as well as outbound phone calls and in-person visits to community leaders to request feedback regarding unmet needs in their local communities. FloridaCommerce conducted outreach to citizens in the form of community workshops, social media posts, and various methods of advertisement distribution. Additionally, FloridaCommerce held public citizen and stakeholder workshops in Brevard, Putnam, Manatee, Pinellas, Polk, Collier, Highlands, and Charlotte Counties to hear directly from Floridians about their unmet disaster recovery needs following Hurricane Ian. (Additional details provided in 3.1.1.2 Community Workshops).

In addition to the activities above, FloridaCommerce initially published this Action Plan on www.FloridaJobs.org/CDBG-DR/Hurricane-Ian for a 30-day public comment period on July 12, 2023. Citizens were notified through electronic mailings, press releases, statements by public officials, media advertisements, and social media. FloridaCommerce will ensure that all citizens have equal access to information, including persons with disabilities (including vision and hearing impaired) and those with Limited English Proficiency (LEP).

A summary of citizen comments on this Action Plan, along with FloridaCommerce's responses is in Appendix C: Summary and Response of Public Comments of this document.

For more information, citizens can refer to FloridaCommerce's CPP, that can be found at www.FloridaJobs.org/CDBG-DR/Hurricane-Ian. This Action Plan and all subsequent amendments will be posted to FloridaCommerce's website at www.FloridaJobs.org/CDBG-DR/Hurricane-Ian, in both English and Spanish. This website has embedded technology to provide accessibility to the visually impaired. Alternative translations of the Action Plan are available upon request.

FloridaCommerce consulted the "Final Guidance to Federal Financial Assistance Recipients Regarding Title VI, Prohibition Against National Origin Discrimination Affecting Limited English Proficient Persons," published on January 22, 2007, in the Federal Register Vol. 72, No. 13 (p. 2732) and 24 CFR 8.6, to comply with citizen participation requirements.

During the 30-day public comment period, FloridaCommerce held two in-person public hearings to solicit feedback, discuss the draft Action Plan, ask questions live, and leave comments for consideration. After the 30-day public comment period concluded, the State Action Plan was revised, and the feedback received was incorporated into the final version of the document submitted to HUD. The two public hearings conducted by FloridaCommerce on August 3, 2023, and August 4, 2023 were also streamed live.

3.1.1.1 Stakeholder Survey

The unmet needs assessment summarizes Hurricane Ian impacts and the remaining recovery needs for housing, infrastructure, and economic development by compiling, analyzing, and interpreting more than 20 state and federal government data sources. In addition, FloridaCommerce developed a stakeholder survey to capture feedback from communities within the HUD and state-identified MID areas and to allow for additional input from communities.

Stakeholders were provided several methods to complete the survey including online or completing it by phone with a FloridaCommerce Constituent Management Services (CMS) team member who provided them with information on the Hurricane Ian Action Plan and requested feedback regarding their lingering unmet needs following the impacts of Hurricane Ian.

Survey respondents were asked to identify barriers to implementing disaster recovery projects that were listed in the stakeholder survey. In addition, respondents were also given the opportunity to rank remaining unmet needs in their local communities from most important to least important, as well as additional activities that have been identified as needed but not implemented.

The survey was launched on June 9, and respondents were requested to provide feedback. The survey will remain open during the 30-day public comment to allow stakeholders ample time to participate in the development of the Action Plan. The community stakeholder survey results from the seventeen respondents are displayed in Figure 80: Barriers to Implementing Disaster Recovery Projects, Figure 81: Ranking of Unmet Needs in Local Communities, and Figure 82: Activities identified as most needed but not implemented.

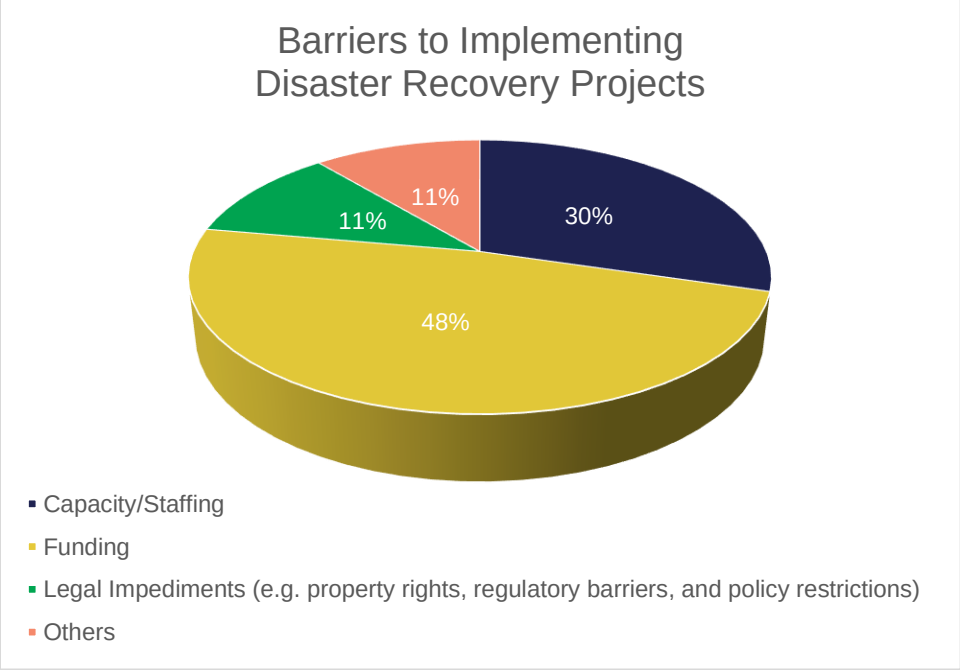

Figure 80: Barriers to Implementing Disaster Recovery Projects

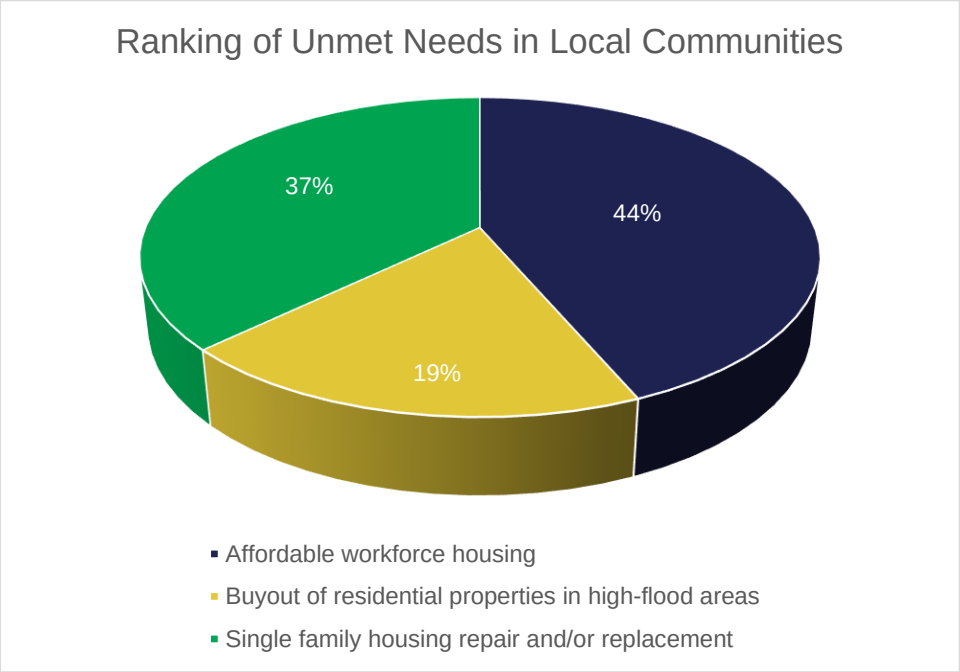

Figure 81: Ranking of Unmet Needs in Local Communities

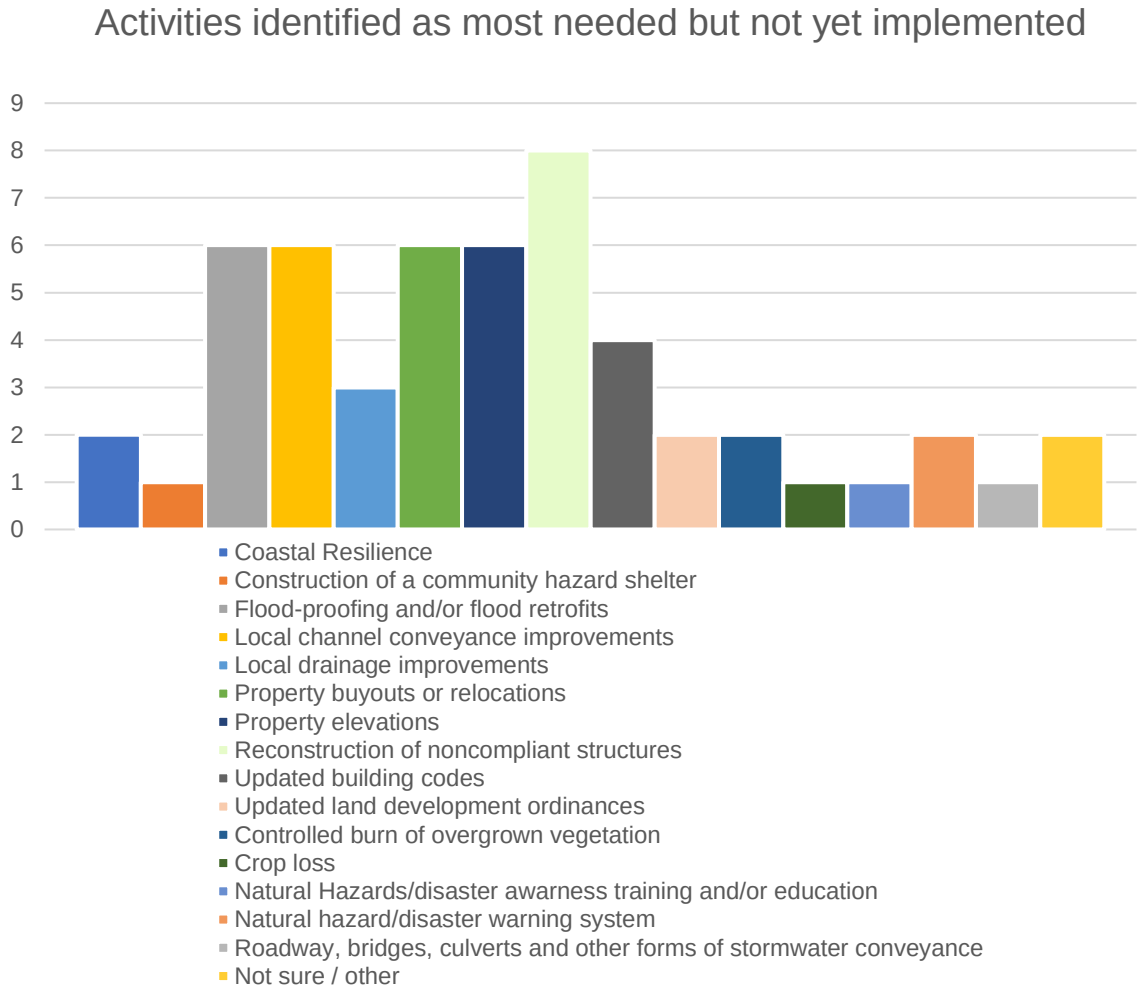

Figure 82: Activities identified as most needed but not implemented

The results of the survey highlighted the overall sentiment by stakeholders that the biggest impediment to implementing disaster recovery projects is the lack of funding needed to realize these projects (48 percent). Survey respondents also identified capacity and/or staffing issues (30 percent) and legal impediments (11 percent) as ongoing hinderances to the implementation of disaster recovery projects needed in these communities. As displayed in the preceding figure, stakeholders expressed through the stakeholder survey that the remaining unmet needs in their local communities were lack of affordable workforce housing (44 percent), the need for single family repair and replacement (37 percent), and buyouts of residential properties in high flood risk areas (19 percent).

In addition, the stakeholder survey asked respondents to highlight which activities had been identified as most needed but not yet implemented in their respective community. Stakeholders who completed the survey significantly identified reconstruction of noncompliant structures as the most needed. In addition, property elevations, property buyouts or relocations, flood-proofing and/or flood retrofits, and Local channel conveyance improvements were also identified as activities most needed but not yet implemented, as shown in Figure 82: Activities identified as most needed but not implemented.

3.1.1.2 Community Workshops

FloridaCommerce traveled around the state to HUD and State-identified MID areas where citizen and stakeholder workshops were held. At these workshops, participants were given a brief overview of the program with an opportunity to ask questions of staff. Most of the meetings were open dialogue with local government staff and community members asking questions and FloridaCommerce staff providing responses. In addition to serving as an outreach platform, these meetings provided FloridaCommerce an opportunity to focus on regionally specific issues and challenges.

Prior to the community workshops, social media posts and mass emails were sent to inform participants of the upcoming dates. These community workshops were held on different specified dates and locations and times to be accessible to all participants. FloridaCommerce saw an attendance of over 100 participants to these workshops. Citizen and stakeholder workshops were conducted separately to ensure appropriate and relevant information was delivered to the correct audience.

Stakeholder Workshops

The goal of FloridaCommerce's Stakeholder Workshops was to provide an opportunity to hear directly from local community leaders representing those who were impacted by Hurricane Ian as to what needs remain unserved in their communities in order for Florida to become more resilient to future disasters. In these workshops, local government staff offered suggestions under the categories of housing, economic revitalization, and infrastructure. Prior to each workshop, FloridaCommerce completed phone calls, sent out emails, and made social media posts notifying stakeholders of the upcoming meetings. The stakeholder workshops were held at the following times and locations:

Table 133: Stakeholder Workshops Times and Locations

County	Workshop Location	Date	Time
Brevard	Brevard County Government Center Building C, First Floor 2725 Judge Fran Jamieson Way Viera, FL 32940	June 22, 2023	1:30 p.m. – 3:30 p.m.
Putnam	Putnam County Government Complex Suite 100 2509 Crill Avenue Palatka, FL 32177	June 23, 2023	9:00 a.m. – 10:30 a.m.

Manatee	Administration Building BOCC Chambers 1112 Manatee Ave West Bradenton, FL 34205	June 28, 2023	4:00 p.m. – 5:00 p.m.
Pinellas	Pinellas Communications Building Palm Room 333 Chestnut Street Clearwater, FL 33756	June 29, 2023	10:00 a.m. – 11:00 a.m.
Polk	Polk State College – Winter Haven Room WST-126 999 Avenue H Northeast Winter Haven, FL 33881	June 29, 2023	5:00 p.m. – 6:00 p.m.
Collier	Collier County South Regional Library 8065 Lely Cultural Parkway #9005 Naples, FL 34113	July 10, 2023	3:00 p.m. – 5:00 p.m.

In addition to workshops in the impacted areas, FloridaCommerce leadership met individually with various local governmental officials and received input through the submission of Long-Term Recovery Plans and any other documentation that was available from the local governments. These meetings were held across the HUD and State-identified MID areas of Glades, Brevard, Charlotte, Collier, DeSoto, Flagler, Hardee, Hendry, Highlands, Hillsborough, Lake, Manatee, Okeechobee, Osceola, Pinellas, Polk, Putnam, Seminole, and St Johns Counties, with FloridaCommerce additionally visiting the four entitlement counties of Lee, Orange, Sarasota, and Volusia. In these meetings, local leaders expressed the unique challenges that their communities face, communicated their remaining unmet needs, and requested more information on how the proposed funds will be used to rebuild following Hurricane Ian and mitigate against future disasters. Throughout these counties, recurring topics of discussion included affordable housing, infrastructure repair, and local match assistance for FEMA's HMGP.

Citizen Workshops

The goal of FloridaCommerce is to provide an opportunity to hear directly from those impacted by Hurricane Ian as to what needs remain in their communities in order for Florida to become more resilient to future disasters. At the Citizen Workshops, community members offered suggestions under the categories of housing, economic revitalization, and infrastructure. Citizen Workshops were held at following specified dates and locations:

Table 134: Citizen Workshops Times and Locations

County	Workshop Location	Date	Time
Brevard	Brevard County Government Center Building C, First Floor 2725 Judge Fran Jamieson Way Viera, FL 32940	June 22, 2023	11:00 a.m. – 1:00 p.m.
Putnam	Putnam County Government Complex Suite 100 2509 Crill Avenue Palatka, FL 32177	June 23, 2023	11:00 a.m. – 1:00 p.m.
Manatee	Administration Building BOCC Chambers 1112 Manatee Ave West Bradenton, FL 34205	June 28, 2023	5:00 p.m. – 7:00 p.m.

Pinellas	Pinellas Communications Building Palm Room 333 Chestnut Street Clearwater, FL 33756	June 29, 2023	11:00 a.m. – 1:00 p.m.
Polk	Polk State College – Winter Haven Room WST-126 999 Avenue H Northeast Winter Haven, FL 33881	June 29, 2023	6:00 p.m. – 8:00 p.m.
Collier	Collier County South Regional Library 8065 Lely Cultural Parkway #9005 Naples, FL 34113	July 10, 2023	12:30 p.m. – 2:30 p.m.
Highlands	Highlands County Administration BOCC Chambers 600 South Commerce Avenue Sebring, FL 33870	July 11, 2023	12:00 p.m. – 2:00 p.m.
Charlotte	Charlotte Harbor Event & Conference Center 75 Taylor Street Punta Gorda, FL 33950	July 12, 2023	10:00 a.m. – 12:00 p.m.

3.1.1.3 Additional Outreach

In addition to the outreach above, FloridaCommerce's executive leadership met with communities impacted by Hurricane Ian to discuss long-term recovery efforts. The input that was provided by these communities during listening sessions helped inform the use CDBG-DR funds made available by HUD. To date, FloridaCommerce has visited and facilitated listening sessions in 24 counties: Brevard, Charlotte, Collier, DeSoto, Flagler, Glades, Hardee, Hendry, Highlands, Hillsborough, Lake, Lee, Orange Manatee, Monroe, Okeechobee, Osceola, Pinellas, Polk, Putnam, Sarasota, Seminole, St. Johns, and Volusia.

During these visits to the various counties, FloridaCommerce's executive leadership attended several community meetings including Lee County's Task Force meeting to coordinate state and county efforts and to learn more about how FloridaCommerce can provide support to the county through the ongoing recovery efforts. These visits included meetings with counties that received direct allocations from HUD, to demonstrate the state of Florida's ongoing effort to a cohesive effort on disaster recovery.

Common areas of discussion during these listening sessions centered around the need for affected communities to increase resilience and mitigate the impacts of future storms including flood mitigation and housing resilience. The need for workforce housing and affordable housing was also a common topic of interest to many community leaders.

FloridaCommerce also had many discussions with stakeholders and community leaders over the phone and sent out emails with reminders to complete the stakeholder survey and request information regarding additional events FloridaCommerce could participate and become involved in. Completion of the survey provided additional information regarding any unmet needs in their communities.

FloridaCommerce will continue to conduct outreach with communities throughout the implementation of this Action Plan to ensure that stakeholders and citizens are aware of the opportunities that exist and can provide feedback along the way.

3.1.1.4 Receipt of Comments

FloridaCommerce will provide a 30-day timeframe for receiving public comments to the Action Plan and will obtain comments through an email address published on the disaster recovery website.

Upon subsequent publication of Substantial Amendments, FloridaCommerce will provide a reasonable opportunity of at least 30 days for public comment.

FloridaCommerce will receive comments via mail or email at:

Attention: Rebuild Florida Constituent Management Services

Florida Department of Commerce

Office of Long-Term Resiliency

107 East Madison Street

The Caldwell Building, MSC 420

Tallahassee, Florida 32399-2100

HurricaneIan@RebuildFlorida.gov

3.1.1.5 Housing Assessment

Individuals in Hurricane Ian impacted communities will be invited to complete a brief assessment as a prerequisite for applying for program assistance through the Housing Repair and Replacement Program. Survey respondents will be asked a series of questions relating to the type and location of the property damaged, the demographic makeup of the applicant(s) and their property, and if any repairs to the property have been completed. The responses obtained by FloridaCommerce will assist in evaluating each respondent's potential eligibility for receiving assistance through the program, as well as help identify the outstanding needs of homeowners impacted by Hurricane Ian.[196]

3.1.2 Public Hearings

The Consolidated Notice requires that FloridaCommerce convene at least two public hearings to solicit public comments on the proposed Action Plan after it is published on FloridaCommerce's website at www.FloridaJobs.org/CDBG-DR/Hurricane-Ian and before submittal of the Action Plan to HUD.

Seeking input from stakeholders and communities around the state is a very important part of the planning process. FloridaCommerce used a variety of methods to understand unmet needs and to get feedback on how to design programs that will meet the needs of communities as quickly as possible. In addition to gaining feedback, the public hearings helped citizens and local stakeholders understand what to expect from CDBG-DR funding and allowed them to play a key role in shaping the outcomes of this Action Plan.

During the Public Comment period (July 13, 2023 - August 12, 2023) FloridaCommerce held two public hearings on Thursday August 3, 2023, and Friday August 4, 2023, in Seminole County and Hillsborough County respectively. A live-stream option wasprovided for those unable to attend in person and comments were allowed to be submitted in advance via email and/or mail. The purpose of these public hearings was to provide participants a brief overview of the proposed programs and activities as well as the opportunity to participate in a question-and-answer session and offer feedback to the state. In addition to serving as an outreach platform, these meetings provided FloridaCommerce with an opportunity to focus on regionally specific issues and challenges. In the interest of having greater participation from the public, FloridaCommerce published notices of the public hearings in regionally significant newspapers across the affected area in both English and Spanish prior to the public hearing date. After the 30-day public comment period concluded, the State Action Plan was updated to reflect feedback received.

3.1.2.1 Guidance for Virtual Public Hearings

Although FloridaCommerce anticipates ensuring that all required public hearings are held in person, FloridaCommerce may convene public hearings virtually in the future if the need arises. Virtual public hearings may be used during the public comment period required for any substantial amendments of the

[196] FloridaCommerce launched the Housing Assessment in August 2023 and will continue collecting responses in advance of launching the Housing Repair and Replacement Program, projected to begin in 2024.

Action Plan or if an additional allocation of funding is provided. In accordance with the guidance provided in the Consolidated Notice (p. 32073), FloridaCommerce's procedures for virtual hearings are as follows:

- FloridaCommerce will provide at least seven days' notice for any virtual public hearing, as practical.
- FloridaCommerce will post a public notice announcement on its website at: www.FloridaJobs.org/CDBG-DR/Hurricane-Ian.
- FloridaCommerce will email the public notice announcement to the list of members of local government, community leaders, and community members who have expressed interest in the program.
    - For members of local government and community leaders, the signup form for this list is publicly accessible at: https://cloud.communications.deo.myflorida.com/Ian2
    - For community members, the signup form for this list is publicly accessible on FloridaCommerce's website at: www.FloridaJobs.org/RebuildFlorida/Rebuild-Florida-newsletters.
- A registration link and instructions will be provided in all public notices for virtual public hearings.
- Hearings will be held at times convenient to potential and actual beneficiaries with accommodation for persons with disabilities and appropriate auxiliary aids and services to ensure effective communication.
- During all virtual and public hearings, FloridaCommerce will provide participants an opportunity to ask questions in real time, with answers coming directly from the grantee representatives to all attendees.
- Transcripts for all virtual hearings will be translated into Spanish and will be made available at www.FloridaJobs.org/CDBG-DR/Hurricane-Ian. Transcripts will be made available in other languages upon request.
- All virtual public hearings will be recorded and a link to the recording will be published at www.FloridaJobs.org/CDBG-DR/Hurricane-Ian. Subtitles will be included in the recordings.
- Auxiliary aids and services are available upon request to individuals with disabilities. All voice telephone numbers on this and all other Department documents may be reached by persons using TTY/TTD equipment via the Florida Relay Service at 711.
- All questions submitted during virtual public hearings will be collected and summarized along with responses and posted with the accompanying public hearing link on the website at www.FloridaJobs.org/CDBG-DR/Hurricane-Ian.

3.1.3 Complaints

Complaints alleging violation of fair housing laws will be directed to HUD for immediate review. Complaints regarding fraud, waste, or abuse of funds will be forwarded to the HUD OIG Fraud Hotline (phone: 1-800-347-3735 or email: hotline@HUDOIG.gov). FloridaCommerce will make available to HUD detailed Fraud, Waste, and Abuse Policies and Procedures on www.FloridaJobs.org/CDBG-DR to demonstrate adequate procedures are in place to prevent fraud, waste, and abuse. Fair Housing Complaints, Anti-Fraud, Waste, and Abuse, and FloridaCommerce's Complaint Process are further detailed below.

3.1.3.1 Fair Housing Complaints

FloridaCommerce is committed to affirmatively furthering fair housing by ensuring that eligible persons from protected classes under federal fair housing and nondiscrimination laws, and persons from historically distressed and underserved communities, are provided with the opportunity to apply for assistance to rehabilitate their property that sustained damage due to Hurricane Ian and its aftereffects.

FloridaCommerce operates in accordance with The Fair Housing Amendments Act of 1988. Anyone who feels that he or she has been discriminated against may file a complaint of housing discrimination: 1-800-669-9777 (Toll Free) or www.HUD.gov/fairhousing.

3.1.3.2 Anti-Fraud, Waste, and Abuse (AFWA)

All suspected cases of fraud will be taken seriously, and complaints will be reported to FloridaCommerce's Office of Inspector General (OIG) at OIG@Commerce.FL.gov. If FloridaCommerce determines that it is appropriate, it will coordinate its investigation with agencies such as the Florida OIG, the Florida Office of the Attorney General, or the Florida Department of Business and Professional Regulation.

Complaints regarding fraud, waste, or abuse of government funds will be forwarded to HUD's Office of the Inspector General (OIG) Fraud Hotline (phone: 1–800–347–3735 or email: hotline@HUDOIG.gov).

For more information regarding FloridaCommerce's Anti-Fraud, Waste, and Abuse Policy please see www.FloridaJobs.org/CDBG-DR.

3.1.3.3 FloridaCommerce Citizen Complaint Process

FloridaCommerce will handle citizen complaints received by the state, its subrecipients, vendors, and/or other program sources by:

- Conducting investigations, as necessary;
- Finding a resolution; or
- Conducting follow-up actions.

The goal of the state is to provide an opportunity to resolve complaints in a timely manner and to provide the right to participate in the process and appeal a decision when there is reason for an applicant to believe their application was not handled according to program policies. Complainants will be provided a written response within 15 business days, as expected by HUD, and will be resolved, if practicable, during the same 15-day period. All applications, guidelines, and websites will include details on the right to file a complaint or appeal and the process for filing a complaint or beginning an appeal.

Applicants can appeal program decisions related to one of the following activities:

- A program eligibility determination;
- A program assistance award calculation; and
- A program decision concerning housing unit damage and the resulting program outcome.

Citizens may file a formal complaint via the Rebuild Florida formal complaint form located at www.FloridaJobs.org/RebuildFlorida/Rebuild-Florida-homeowner-complaint-form.

Citizens may also file a written complaint or appeal through the Disaster Recovery email at HurricaneIan@RebuildFlorida.gov or submit by postal mail to the following address:

Attention: Rebuild Florida Constituent Management Services

Florida Department of Commerce

Office of Long-Term Resiliency

107 East Madison Street

The Caldwell Building, MSC 420

Tallahassee, Florida 32399

If the complainant is not satisfied by FloridaCommerce's determination or response, the complainant may file a written appeal by following the instructions issued in the letter of response. If, after the appeals process, the complainant has not been satisfied with the response, a formal complaint may then be addressed directly to the regional HUD office at:

Department of Housing & Urban Development

Charles E. Bennett Federal Building

400 West Bay Street, Suite 1015

Jacksonville, FL 32202

More information regarding citizen complaints and appeals can be found in the CPP located at www.FloridaJobs.org/CDBG-DR/Hurricane-Ian.

3.1.3.4 Recordkeeping of Complaints

Every complaint and inquiry will be included in a tracking system. FloridaCommerce's CMS staff and/or its authorized third-party vendor will maintain electronic files that include:

- Name of the complainant and contact information;
- Date the complaint was received;
- Description of the complaint;
- Name of each person contacted in relation to the complaint;
- A summary of the result and the date of the response to complainant; and
- Explanation of the resolution of the file.

FloridaCommerce's CMS staff will review these complaints and inquiries at least monthly to determine if there is a pattern developing and, if so, determine if the issue warrants a policy change or further training.

Subrecipients will be required by FloridaCommerce to develop policies and procedures regarding citizen complaints. FloridaCommerce will require its subrecipients to maintain files that include the following:

- Name of the complainant and contact information;
- Date the complaint was received;
- Description of the complaint;
- Name of each person contacted in relation to the complaint;
- A summary of the result and the date of the response to complainant; and
- Explanation of the resolution of the file.

3.2 Public Website

FloridaCommerce will maintain a public website that provides information accounting for how all grant funds are used, managed, and administered, including links to all disaster recovery action plans, action plan amendments, program policies and procedures, performance reports, citizen participation requirements, activity and program information described in this Action Plan, and details of all contracts and ongoing procurement processes.

These items are made available through www.FloridaJobs.org/CDBG-DR/. Specifically, FloridaCommerce will make the following items available: the Action Plan created DRGR (including all amendments); each Quarterly Performance Report (QPR) (as created using the DRGR system); CPP; procurement policies and procedures; all executed contracts that will be paid with CDBG-DR funds as defined in 2 CFR 200.22 (including subrecipients' contracts); and a summary including the description and status of services or goods currently being procured by the grantee or the subrecipient (e.g., phase of the procurement, requirements for proposals, etc.). Contracts and procurement actions that do not exceed the micro-purchase threshold, as defined in 2 CFR 200.1, are not required to be posted to a grantee's website.

In addition, FloridaCommerce will maintain a comprehensive website regarding all disaster recovery activities assisted with these funds.

The website will be updated in a timely manner to reflect the most up-to date information about the use of funds and any changes in policies and procedures, as necessary. At a minimum, updates will be made monthly.

3.2.1 Rebuild Florida Website

FloridaCommerce posts important information regarding the CDBG-DR program on its website at www.FloridaJobs.org/CDBG-DR. This includes links to the Hurricane Ian webpage as well as FloridaCommerce's policies and procedures such as OLTR's Anti-Fraud Waste and Abuse Policy, Language Access Plan, and Uniform Relocation Assistance Guide, as well as additional resources for subrecipients and applicants.

The Hurricane Ian program website can be located at www.FloridaJobs.org/CDBG-DR/Hurricane-Ian and provides links to the Action Plan and any additional amendments, QPRs, projected expenditures, the Hurricane Ian Policy Manual, FloridaCommerce's CPP, Purchasing and Contracting Guidelines, Purchasing Policy, Hurricane Ian Contracts, OLTR Active Procurements, and applicable Federal Register(s). FloridaCommerce also provides short summaries, overviews, and webinar recordings for individuals who could not participate or may want a refresher on the program.

Subrecipient Policies and Procedures, Program Guidelines and other program specific documents can be found on the applicable program page located at www.FloridaJobs.org/CDBG-DR/Hurricane-Ian.

3.2.2 Accessibility

Florida is committed to providing all citizens with equal access to information about the disaster recovery program, including persons with disabilities or LEP. Florida follows HUD's regulation, 24 CFR Part 1, "Nondiscrimination in Federally Assisted Programs of the Department of Housing and Urban Development—Effectuation of Title VI of the Civil Rights Act of 1964," which requires all recipients of federal financial assistance from HUD to provide meaningful access to LEP persons and persons with disabilities.

FloridaCommerce will ensure that all citizens have equal access to information about the programs, including persons with disabilities (including vision or hearing impaired) and LEP, and will ensure that program information is available in the appropriate languages for the geographic area served by the jurisdiction.

To ensure meaningful access for individuals with disabilities or LEP, FloridaCommerce developed and implemented a Rebuild Florida Language Access and Accessibility Plan, which details how Florida will address these needs. The Language Access and Accessibility Plan is available on the OLTR website at www.FloridaJobs.org/CDBG-DR.

The Action Plan, subsequent amendments, and other vital documents are made available in English and Spanish and are posted on FloridaCommerce's website, which has embedded technology to provide accessibility to the visually impaired and those with LEP. FloridaCommerce's website includes an Interpretive Translation Notice informing citizens in 15 different languages that translation services are available upon request.

For more detailed information regarding FloridaCommerce's LEP and accessibility policies and practices, refer to the CPP found at www.FloridaJobs.org/CDBG-DR/Hurricane-Ian.

3.3 Amendments

Over time, recovery needs will change. Thus, FloridaCommerce will amend this Action Plan as often as necessary to best address our long-term recovery needs and goals. This Action Plan describes proposed programs and activities. As programs and activities develop over time, an amendment may not be triggered if the program or activity is consistent with the descriptions provided in this Action Plan.

All amendments, substantial and non-substantial, will be noted in the applicable consolidated Action Plan by an Amendment chart in the Amendments section at the beginning of the document. This chart will note the previous page number, current page number, section containing the change, and a description of the changes made as well as the reason for the change.

All amendments will be numbered sequentially and posted to FloridaCommerce's website into one consolidated Action Plan as well as individually at www.FloridaJobs.org/CDBG-DR/Hurricane-Ian.

3.3.1 Substantial Amendment

A change to this Action Plan is considered to be a substantial amendment if it meets the following criteria:

- A change in program benefit or eligibility criteria;
- The addition or deletion of an activity;
- A proposed reduction in the overall benefit requirement; or
- The allocation or reallocation of more than 25 percent of the total allocation from HUD.

When FloridaCommerce pursues the substantial amendment process, the amendment will be posted here at www.FloridaJobs.org/CDBG-DR/Hurricane-Ian for a 30-day public comment period. The amendment will be posted in adherence with Americans with Disabilities Act (ADA) and LEP requirements. FloridaCommerce will review and respond to all public comments received and submit to HUD for approval.

To provide comment and feedback, interested constituents may follow the procedures detailed in 3.1.1.4 Receipt of Comments.

3.3.2 Non-Substantial Amendment

A non-substantial amendment is an amendment to the Action Plan that includes technical corrections and clarifications and budget changes that do not meet the monetary threshold for substantial amendments to the Action Plan and do not require posting for public comment. FloridaCommerce will notify HUD five business days before the change is effective.

All amendments will be numbered sequentially and posted to the FloridaCommerce website into one final, consolidated plan as well as individually at www.FloridaJobs.org/CDBG-DR/Hurricane-Ian.

3.4 Displacement of Persons and Other Entities

To minimize the displacement of persons and other entities that may be affected by the activities outlined in this Action Plan, FloridaCommerce will coordinate with Brevard, Charlotte, Collier, DeSoto, Flagler, Glades, Hardee, Hendry, Highlands, Hillsborough, Lake, Manatee, Monroe, Okeechobee, Osceola, Pinellas, Polk, Putnam, Seminole, and St. Johns Counties to minimize displacement. Should any proposed projects or activities cause the displacement of people, the following policy has been adopted to ensure the requirements of Uniform Relocation Assistance and Real Property Acquisition Act of 1970 (URA), as amended are met.

3.4.1 Policy to Minimize Displacement

FloridaCommerce and its subrecipients plan to minimize displacement of persons or entities and assist persons or entities displaced as a result of implementing a project with CDBG-DR funds. FloridaCommerce and its funded activities will not seek to use the power of eminent domain. However, should any project cause displacement, FloridaCommerce will follow the URA and the Real Property Acquisition Policies Act to ensure tenants are relocated to decent, safe, and sanitary locations. The state's Uniform Relocation Assistance Guide and Residential Anti Displacement and Relocation Assistance Plan (RARAP) is located on the OLTR page at www.FloridaJobs.org/CDBG-DR. This Action Plan, which will be amended as needed to reflect Hurricane Ian activities, will ensure FloridaCommerce and its subrecipients minimize displacement.

In the event of a voluntary buyout, when homeowners or tenants are in a floodplain, to prevent future loss, FloridaCommerce will require subrecipients to develop policies and procedures to make sure this population is relocated into areas outside of a floodplain and that eligible beneficiaries receive full benefits as stated in the URA. Homeowners who participate in voluntary buyout are not eligible for URA benefits, however, the URA provides certain displaced persons, including displaced tenants, with the right to benefits for moving expenses, housing counseling services, rental assistance payments, and/or housing replacement costs depending upon the nature of the circumstances requiring relocation.

FloridaCommerce will require its subrecipients to develop appropriate budgets for relocation activities based on applicant needs. FloridaCommerce has established a budget of a maximum of $20,000 per project served through the HRRP which require relocation assistance.

If CDBG-DR funds are matched with any other HUD funding sources, the supplemental funds will be subject to standard URA or Section 104(d) of the HCDA requirements.

3.4.2 Policy on Relocation Assistance

As applicable, and in compliance with the URA and FloridaCommerce policies and procedures, all displaced persons and non-displaced tenants who are required to relocate temporarily will receive advisory services, reasonable and eligible moving expenses, and replacement housing assistance or non-residential relocation assistance.

Additionally, as outlined in a waiver established in the Consolidated Notice, grantees receiving CDBG-DR funds may establish optional relocation policies or permit their subrecipients to establish separate optional relocation policies. This waiver is intended to provide states with maximum flexibility in developing optional relocation policies with CDBG–DR funds.

3.4.3 Steps to Minimize Displacement

Consistent with the goals and objectives of activities assisted under the HCDA of 1974, FloridaCommerce will take steps to minimize the direct and indirect displacement of persons from their homes. FloridaCommerce will determine the full list of actions it will take based on local needs and priorities and will amend the URA and RARAP in accordance with the HUD Handbook 1378: Tenant Assistance, Relocation and Real Property Acquisition. A list of possible steps can be found in the section titled “Steps to Minimize Displacement” in FloridaCommerce’s URA and RARAP, which is available on FloridaCommerce’s website at www.FloridaJobs.org/CDBG-DR. Applicability of items on this checklist is dependent upon the project objectives and related feasibility of each action.

3.4.4 Applicable Waivers

3.4.4.1 Section 104(d) Relocation Assistance

The relocation assistance requirements at section 104(d)(2)(A)(iii) and (B) of the HCDA and 24 CFR 42.350, are waived to the extent that an eligible displaced person, as defined under 24 CFR 42.305 of the Section 104(d) implementing regulations, may choose to receive either assistance under the URA and implementing regulations at 49 CFR Part 24, or assistance under Section 104(d) and implementing regulations at 24 CFR 42.350. This waiver does not impact a person’s eligibility as a displaced person under Section 104(d), it merely limits the amounts and types of relocation assistance that a Section 104(d) eligible displaced person is eligible to receive. A Section 104(d) eligible displaced person is eligible to receive the amounts and types of assistance for displaced persons under the URA, as may be modified by the waivers and alternative requirements in this notice for activities related to disaster recovery. Without this waiver, disparities exist in relocation assistance associated with activities typically funded by HUD and FEMA (e.g., buyouts and relocation). Both FEMA and CDBG-DR funds are subject to the requirements of the URA; however, CDBG-DR funds are subject to Section 104(d), while FEMA funds are not. This limited waiver of the Section 104(d) relocation assistance requirements assures uniform and equitable treatment for individuals eligible to receive benefits under Section 104(d) by establishing

that all forms of relocation assistance to those individuals must be in the amounts and for the types of assistance provided to displaced persons under URA requirements.

3.4.4.2 Section 104(d) one-for-one replacement of lower-income dwelling units

One-for-one replacement requirements at section 104(d)(2)(A)(i) and (ii) and 104(d)(3) of the HCDA and 24 CFR 42.375 are waived for owner-occupied lower-income dwelling units that are damaged by the disaster and not suitable for rehabilitation. The section 104(d) one-for-one replacement housing requirements apply to occupied and vacant occupiable lower-income dwelling units demolished or converted in connection with a CDBG assisted activity. This waiver exempts all disaster-damaged owner-occupied lower-income dwelling units that meet the grantee's definition of "not suitable for rehabilitation," from the one-for-one replacement housing requirements of 24 CFR 42.375.

FloridaCommerce defines not suitable for rehabilitation as one of the two following definitions:

- Residential properties that have experienced repetitive losses under FEMA's NFIP; or
- Dwellings that are considered substandard and do not meet the program's housing rehabilitation standards and/or federal, state, or local code requirements shall not be deemed suitable for rehabilitation, as determined by the program and consistent with program guidelines. A structure is not suitable for rehabilitation if the cost of repair is unreasonable based on program standards as specified in the Hurricane Ian HRRP Guidelines.

Tenant occupied and vacant occupiable lower income dwelling units demolished or converted to another use other than lower income housing in connection with a CDBG-DR assisted activity are generally subject to one-for-one replacement requirements at 24 CFR 42.375 and that these provisions are not waived.

3.5 Protection of People and Property

The primary focus of FloridaCommerce's CDBG-DR recovery program is to provide relief for those affected by disasters while complying with all CDBG-DR requirements and addressing recognized impediments to fair housing choice as required under the Fair Housing Act. Assistance may be provided by FloridaCommerce or its subrecipient(s), as applicable to eligible applicants under a variety of housing option activities including acquisition, rehabilitation, reconstruction, new construction, demolition, elevation, hazard mitigation, down payment assistance, reimbursement, and storm hardening of homeowner and rental housing units, as allowable. All CDBG-DR-funded housing activities should consider the following objectives:

- Provide high quality, durable, resilient, mold resistant, energy efficient, decent, safe, and sanitary housing that meets Green Building Standards, and mitigates impact from future disasters.
    - Resilient measures may include elevation, breakaway walls, reinforced roofs, and storm shutters, etc.
    - Rental units will also follow decent, safe, and sanitary requirements in the impacted areas identified in this HUD-approved Action Plan.
- Prioritize at risk and vulnerable populations with the greatest need while affirmatively furthering fair housing.
- Emphasize housing choices and designs to reduce maintenance and insurance costs, as well as provide the provision of independent living options.
- Improvements made to reduce the possibility of property damage, personal and commercial hardship, as well as long lasting monetary burdens.

Physically disabled homeowners or homeowners with a disabled household member may be entitled to additional construction considerations which may include roll-in showers, lowered countertops, pedestal sinks, bathroom grab bars, widened doorways, accessible toilets, or other accessibility features that will assist with the disabled individual's functional needs. FloridaCommerce will assess eligibility for these

features on a case-by-case basis during the application intake period. Homeowners will be asked if they have any accessibility needs during their meetings with the case managers and those items will be documented and may be included in the Estimated Cost of Repair (ECR) or reconstruction plans/specifications.

FloridaCommerce will define "demonstrable hardship" as exceptions to program policies for applicants who demonstrate undue hardship. Undue hardship may include, but is not limited to, excessive amounts of debt due to a natural disaster, disability, etc.

Subrecipients will be required to develop policies to review applicants in situations of demonstrable hardship on a case-by-case basis to determine whether assistance is required to alleviate such hardship. Subrecipients must, in these policies and procedures, provide examples of undue hardship that may lead to program exceptions.

FloridaCommerce will make efforts to, and will support and encourage its subrecipients to, mitigate hazard risks due to sea level rise, high winds, storm surge, and flooding, where applicable. During project application, subrecipients will submit explanations of both current and future planned codes to mitigate hazard risks. FloridaCommerce will provide technical guidance on hazard mitigation code examples.

FloridaCommerce will, and will require its subrecipients to, demonstrate that projects address problems that are either repetitive or pose significant risk to public health and safety, where applicable. Projects must also cost less than the anticipated cost of repairing potential damage, and subsequent negative impacts, from future disasters. FloridaCommerce and its subrecipients must determine that proposed projects are the most practical, effective, and environmentally sound option, after consideration of a range of options. Projects will contribute to a long-term solution to the problem FloridaCommerce or its subrecipient intends to address, consider long-term changes to the areas and entities it protects, and have manageable future maintenance and modification requirements.

In addition, Adaptation Action Areas can provide a flexible and optional framework that can be applied to the entire state through individual local action. Coastal communities can use Adaptation Action Areas to adapt to coastal flooding.

This Action Plan details how this funding will be allocated to reduce the effects of natural disasters and eliminate long-term risks to Floridians. The goal of the CDBG-DR-funded mitigation activities outlined in this Action Plan is to reduce risks and vulnerabilities of people in hazard-prone areas through current technology; reduce the potential impact of natural disasters on new and existing properties, infrastructure, and local economies; and promote education, outreach, and research and development programs to improve the knowledge and awareness among citizens and local industries about potential hazards and mitigation alternatives that can reduce vulnerabilities.

FloridaCommerce and its subrecipients will ensure rehabilitation, reconstruction, and new construction work is designed to incorporate principles of sustainability, including water and energy efficiency, resilience, and mitigation against the impact of future disasters. FloridaCommerce will, and will encourage its subrecipients to, use rebuilding activities. The encouragement and incorporation of these activities will help to ensure that communities build back safer and stronger than before Hurricane Ian and reduce costs in recovering from future disasters.

3.5.1 Elevation Standards

3.5.1.1 Elevation of Residential Structures

For new construction, repair of substantially damaged, or substantial improvement structures principally for residential use and located in the 1 percent annual (or 100-year) floodplain must be elevated with the lowest flood, including the basement, at least two feet above the 1 percent annual floodplain elevation.

Mixed-use structures with no dwelling units and no residents must be elevated or floodproofed up to at least two feet above base flood elevation (BFE).

If a structure is located in a 500-year floodplain, the structure must be elevated three feet above the 100-year floodplain.

FloridaCommerce will comply with state and local building code design standards for all structures designed principally for residential use and located in the 100-year (or one percent annual chance) floodplain that receive assistance for new construction, reconstruction, and rehabilitation of substantial damage, or rehabilitation resulting in substantial improvement, as defined at 24 CFR 55.2(b)(10). FloridaCommerce will require elevation of these structures such that the lowest floor, including the basement, is at least two feet above the BFE which is the minimum height requirement set forth in the Consolidated Notice.

Nationally, the average cost to elevate a home is between $30,000 and $100,000. The average cost to elevate a home is dependent upon several factors including, but not limited to, the size of the home, the number of feet it must be elevated, type of foundation, and the location of the home. Based on preliminary research, the average cost to elevate a home in Florida is anywhere between $35,000 and $115,000. However, the cost to elevate can be more or less depending on the value of the home and the factors mentioned above. The cost to elevate a home should not exceed 49 percent of the home's pre-storm value. Any building that has a total cost of repairs more than 50 percent is considered substantially damaged and will require the entire home to be brought into code compliance.

3.5.1.2 Elevation of Non-Residential Structures

Nonresidential structures, including infrastructure, assisted with CDBG–DR funds must be elevated to the standards described in II.C.2 of the Consolidated Notice, or floodproofed, in accordance with FEMA floodproofing standards at 44 CFR 60.3(c)(3)(ii) or successor standard, up to at least two feet above the 100-year (or one percent annual chance) floodplain.

If critical action, as defined at 24 CFR 55.2(b)(3), is located in a 500-year floodplain, the structure must be elevated three feet above the 100-year floodplain elevation or the 500-year floodplain elevation, whichever is higher.

Subrecipients may elevate to up to three feet above the BFE for the subject property so that it qualifies for NFIP flood insurance premium discounts when it is cost reasonable to do so and when it does not create other conflicts. FloridaCommerce will, and will require its subrecipients to, comply with local building codes where higher elevation standards are required.

3.5.2 Flood Insurance Requirements

Assisted property owners must comply with all flood insurance requirements. HUD-assisted homeowners with a property located in an SFHA must obtain and maintain flood insurance in the amount and duration prescribed by FEMA's NFIP. FloridaCommerce may not provide disaster assistance for the repair, replacement, or restoration of a property to a person who has received federal flood disaster assistance that was conditioned on obtaining flood insurance and then that person failed to obtain or allowed their flood insurance to lapse for the property. FloridaCommerce is prohibited by HUD from providing CDBG-DR assistance for the rehabilitation or reconstruction of a house if:

- The combined household income is greater than 120 percent AMI or the national median,
- The property was located in a floodplain at the time of the disaster, and
- The property owner did not maintain flood insurance on the damaged property.

To ensure adequate recovery resources are available, LMI homeowners who reside in a floodplain but who are unlikely to be able to afford flood insurance may receive CDBG-DR assistance if:

- The homeowner had flood insurance at the time of the qualifying disaster and still has unmet recovery needs, or
- The household earns less than 120 percent AMI or the national median and has unmet recovery needs.

Property owners assisted through a CDBG-DR program will be required to acquire and maintain flood insurance in perpetuity if their properties are located in a FEMA-designated special flood hazard area, or the 100-year floodplain. This requirement is mandated to protect the safety of residents and their property and the investment of federal dollars. Florida will ensure adherence to Section 582 of the National Flood Insurance Reform Act regarding the responsibility to inform property owners receiving disaster assistance triggering the flood insurance purchase requirement that they have a statutory responsibility to notify any transferee of the requirement to obtain and maintain flood insurance, and that the transferring owner may be liable if he or she fails to notify. Additional Florida State Building Code requirements may apply in addition to local codes, as applicable.

3.5.3 Construction Standards

FloridaCommerce will require quality inspections and code compliance inspections on all projects, and places an emphasis on high-quality, durable, sustainable, and energy efficient construction methods and materials. Site inspections will be required on all projects to ensure quality and compliance with building codes.

All reconstruction, or new construction will meet an industry-recognized standard that has achieved certification under at least one of the following programs:

- ENERGY STAR (Certified Homes or Multifamily High Risk)
- Enterprise Green Communities
- LEED (New Construction, Homes, Midrise, Existing Building Operations and Maintenance or Neighborhood Development)
- ICC-700 National Green Building Standards
- EPA Indoor AirPlus
- Any other equivalent comprehensive green building standard program acceptable to HUD

FloridaCommerce will use the Florida Building Code (FBC) for the proposed programs or activities.

For rehabilitation of non-substantially damaged residential buildings, FloridaCommerce will follow the guidelines to the extent applicable as specified in the HUD CPD Green Building Retrofit Checklist. When older or obsolete products are replaced as part of rehabilitation work, the rehabilitation is required to use ENERGY STAR-labeled, WaterSense-labeled, or Federal Energy Management Program (FEMP)-designed products and appliances.

For infrastructure projects FloridaCommerce will encourage, to the extent practicable implementation of Florida Building Code.

As stated in the Consolidated Notice, CDBG-DR funds are prohibited from being used to enlarge a dam or levee beyond the original footprint of the structure that existed prior to the disaster event, without obtaining pre-approval from HUD and any federal agencies that HUD determines are necessary based on their involvement or potential involvement with the levee or dam. FloridaCommerce will ensure that if subrecipients use CDBG-DR funds for levees and/or dams, the subrecipient will follow the following guidance, as outlined by HUD in the Consolidated Notice (p. 32064): (1) register and maintain entries regarding such structures with the USACE National Levee Database or National Inventory of Dams; (2) ensure that the structure is admitted in the USACE PL 84–99 Program (Levee Rehabilitation and Inspection Program); (3) ensure the structure is accredited under the FEMA NFIP. FloridaCommerce will upload into the DRGR system the exact location of the structure and the area served and protected by the structure and maintain file documentation demonstrating that the grantee has conducted a risk-based assessment prior to funding the flood control structure and document that the investment includes risk reduction measures.

FloridaCommerce and its subrecipients will be required to adhere to, at minimum, the procurement laws at 2 CFR Part 200, in addition, subrecipients are required to follow all applicable federal, state, and local procurement laws.

3.5.3.1 Construction Standards for Direct Implementation

FloridaCommerce will implement construction methods that emphasize high quality, durability, energy efficiency, sustainability, and mold resistance, as required in the Consolidated Notice (p. 32071). All rehabilitation, reconstruction, and new construction will be designed to incorporate principles of sustainability, including water and energy efficiency, resilience, and mitigation against the impact of future disasters. FloridaCommerce will implement and monitor construction results to ensure the safety of residents and the quality of homes assisted through the program. All housing units repaired or replaced must comply with program standards. These include the following minimum standards:

1. Construction standards will be based on the FBC and must meet or exceed applicable requirements.
2. Mobile/Manufactured Housing Units (MHU) are built to the specifications required in the Manufactured Home Construction and Safety Standards Act of 1974, 42 U.S.C. 70 § 5401 et seq. MHUs display a red certification label on the exterior of each transportable section. Manufactured homes are built in the controlled environment of a manufacturing plant and are transported in one or more sections on a permanent chassis.
    A. A modular home is built in sections in a factory to meet federal, state, and/or local building codes. Once assembled, the modular unit becomes permanently fixed to one site. For purposes of assessing the feasibility of rehabilitation or reconstruction, the program will treat modular homes as traditional, site, or stick-built construction.
3. Construction will comply with the Florida Green Building Standard for all new construction of residential buildings and for all reconstruction of substantially damaged residential buildings (as defined at 44 CFR 59.1).
4. For rehabilitation construction, FloridaCommerce will follow the Green Building Retrofit Checklist to the extent applicable to the rehabilitation work undertaken, including the use of mold resistant products when replacing surfaces such as drywall. When older or obsolete products are replaced as part of the rehabilitation work, rehabilitation is required to use ENERGY STAR-labeled, WaterSense-labeled, or FEMP-designated products and appliances, or other equivalent.
5. Housing units assisted with CDBG-DR funds must meet all applicable federal, local, and state codes, repair standards, ordinances, and zoning ordinances at the time of project completion. All deficiencies identified in the final inspection must be corrected before final payment is released.

3.5.3.2 Construction Standards for Subrecipient Administration

For subrecipient-administered projects, FloridaCommerce will require implementation of FBC.

FloridaCommerce will require its subrecipients to implement construction methods that emphasize high quality, durability, energy efficiency, sustainability, and mold resistance, as required in the Consolidated Notice (p. 32071). All rehabilitation, reconstruction, and new construction should be designed to incorporate principles of sustainability, including water and energy efficiency, resilience, and mitigation against the impact of future disasters. FloridaCommerce and its subrecipients will implement and monitor construction results to ensure the safety of residents and the quality of homes assisted through the program.

3.5.4 Contractors Standards

Contractors selected under FloridaCommerce will make every effort to provide opportunities to low and very-low-income persons by providing resources and information to notify Section 3 individuals and businesses of opportunities in their community. FloridaCommerce will report Section 3 accomplishments in the DRGR system.

Contractors will comply with Section 3 of the Housing and Urban Development Act of 1968 (12. U.S.C. 1700lu) and implementing regulations at 24 CFR Part 75. Contractors selected by FloridaCommerce or its subrecipients will ensure, to the greatest extent feasible, that employment and other economic

opportunities are directed to low-and very low-income persons, particularly local residents and businesses that meet the qualifications of the project. Contractors will make every effort to recruit, target, and direct opportunities to Section 3 residents and businesses as well as notifying Section 3 residents about training opportunities. FloridaCommerce or its subrecipients will provide contractors with helpful resources to maximize these efforts including, but not limited to, a Section 3 Business Registry, and examples of training and employment opportunities. Contractor procurement procedures will be monitored by FloridaCommerce.

FloridaCommerce's Purchasing Guidelines contain a section on Equity in Contracting; this section contains language on promoting the participation of, and outreach to businesses, including minority-, women-, and veteran-owned businesses. The long-term focus of FloridaCommerce is to encourage business with all minorities and women-owned businesses.[197]

FloridaCommerce and its subrecipients will require a warranty period post-construction for housing work performed by the contractor to be guaranteed for a period of one year. In addition to this 1-year general warranty for repairs to the home, the following warranties on construction are in place, as applicable:

- 2 years – electrical, plumbing, and mechanical warranty (if such work is performed)
- 10 years – structural warranty (if structural work is performed)

Contractors must provide all warranties at the time of the program final inspection. During this inspection, photographs will be taken for documentation purposes and the homeowner will be provided with applicable instruction booklets and warranty information.

Complaints of contractor fraud, such as abandoning a job, will be reported to HUD OIG. In addition, FloridaCommerce will coordinate with the Florida Department of Business and Professional Regulation to address such claims. To safeguard FloridaCommerce and its subrecipients, contractors are also required to submit proof of liability insurance and provide performance and payment bonds against the project.

Complaints of poor-quality work and associated issues can be reported to the program either directly to the subrecipient, or through OLTR's CMS. Complaints will be received and investigated by FloridaCommerce and addressed with the subrecipient or contractor responsible for that project.

All complaints and claims of fraud will be logged in the program's system of record.

Information about the right and how to file a reconsideration request, agency informal appeal, and complaints will be printed in all guidelines and posted on the Rebuild Florida website, www.RebuildFlorida.gov, in all local languages, as appropriate and reasonable.

3.5.5 Preparedness, Mitigation and Resiliency

Resilience is defined as a community's ability to minimize damage and recover quickly from extreme events and changing conditions, including natural hazard risks.

FloridaCommerce completed a risk-based mitigation needs assessment (2.6 Mitigation Only Activities) to identify and analyze all significant current and future disaster risks that provide a substantive basis for the activities proposed in 4.0 Grantee Proposed Use of Funds. The assessment utilizes the findings of Florida's Enhanced State Hazard Mitigation Plan (ESHMP), data and research acquired from essential data resources, and consultation with public, private, and non-profit stakeholders to arrive at a thorough assessment of the hazards which pose substantial risk of loss of life, injury, damage, and loss of property, along with suffering and hardship.

One of the most significant challenges faced by Florida communities is the threat of repetitive flooding. Maintaining current levels of flood risk in Florida is unsustainable and threatens the state's ability to

[197] https://FloridaJobs.org/docs/default-source/office-of-disaster-recovery/purchasing/deo-purchasing-and-contracting-guidelines-july-2019.pdf?sfvrsn=7bbb7fb0_4

provide critical services, preserve critical service areas, and maintain long-term community and ecosystem viability and resilience. Flooding has been identified as one of the most destructive hazards in terms of loss of human life, injury, and property damage. Enhancing the function of natural flood mitigation features such as streams and wetlands to ensure that conveyed water makes it to rivers and other bodies of water is increasingly important. Stormwater management is also a major issue for inland communities. Funding for implementing flooding mitigation projects is critical to achieving the state's lifeline objectives.

This Action Plan details how the CDBG-DR mitigation set-aside will be allocated to reduce the effects of natural disasters and eliminate long-term risks to Floridians. The purpose of the mitigation activities outlined in this Action Plan is to detail a strategy that reduces risks and vulnerabilities of people in hazard-prone areas through current technology; reduces the potential impact of natural disasters on new and existing properties, infrastructure, and local economies; and promotes education, outreach, and research and development programs to improve the knowledge and awareness among the citizens—particularly vulnerable populations and historically underserved communities—and industry about hazards they may face and mitigation alternatives that can reduce vulnerabilities.

FloridaCommerce intends to promote high quality, durable, sustainable, mold-resistant, and energy-efficient construction methods for all CDBG-DR funded activities, as applicable. Construction standards will be based on the FBC and must meet or exceed applicable requirements.

For rehabilitation construction, FloridaCommerce and its subrecipients will follow the Green Building Retrofit Checklist to the extent applicable to the rehabilitation work undertaken, including the use of mold-resistant products when replacing surfaces such as drywall. When older or obsolete products are replaced as part of the rehabilitation work, rehabilitation is required to use ENERGY STAR-labeled, WaterSense-labeled, or FEMP-designated products and appliances or other equivalent.

FloridaCommerce and its subrecipients will require both quality inspections and code compliance inspections on all projects. Site inspections will be required on all projects to ensure quality and compliance with building codes. FloridaCommerce will and will encourage and support subrecipients' efforts to update and strengthen local compliance codes to mitigate hazard risks due to sea level rise, high winds, storm surge, and flooding where applicable. In the project application, subrecipients will submit an explanation of both current and future planned codes to mitigate hazard risks. FloridaCommerce will provide technical guidance on hazard mitigation code examples.

All rehabilitation, reconstruction, and new construction work will be designed to incorporate principles of sustainability, including water and energy efficiency, resilience, and mitigation against the impact of future disasters. FloridaCommerce will—and will encourage its subrecipients to—incorporate preparedness and mitigation measures for rebuilding activities. The encouragement and incorporation of these activities will help to ensure that communities build back safer and stronger than before Hurricane Ian to reduce costs in recovering from future disasters. Mitigation measures that are not incorporated into those rebuilding activities must be a necessary expense related to disaster relief, long-term recovery, and restoration of infrastructure.

When implementing mitigation measures, FloridaCommerce will, and will require that its subrecipients demonstrate that projects:

- Address a problem that has been repetitive, or a problem that poses a significant risk to public health and safety if left unsolved;
- Cost less than the anticipated monetary reduction in both direct damage and subsequent negative impacts to the area if future disasters were to occur;
- Have been determined to be the most practical, effective, and environmentally sound alternative after consideration of a range of options;
- Contribute, to the extent practicable, to a long-term solution to the problem it is intended to address; and/or

- Consider long-term changes to the areas and entities it protects and have manageable future maintenance and modification requirements.

Adopted into Florida Law in 2011, through the Community Planning Act,[198] Adaptation Action Areas provide a flexible and optional framework that can be applied to the entire state through individual local action. At the request of coastal communities, FloridaCommerce created this guidance to assist communities in understanding how they can use Adaptation Action Areas to adapt to coastal flooding. Chapter 163, Florida Statutes, requires each local government authority to create, adopt, and maintain a comprehensive land use plan. The local comprehensive plan is a key driver of development and redevelopment because it outlines legally enforceable guidelines and strategies, directly influencing the decision-making process. Comprehensive plans can be amended to create strategies for merging growth with resilience.

Seeking input from stakeholders and communities around the state is an important component of the planning process. FloridaCommerce used a variety of methods to inform local officials and the public on the purpose and goals of disaster recovery and mitigation, understanding risks, threats, and hazards in the MID areas and gathering feedback on how to craft programs that will meet the needs of communities as quickly as possible. In addition to gaining feedback, this process helped local stakeholders and members of the public understand what to expect from CDBG-DR funding and allowed them to play a key role in shaping the outcomes of this Action Plan. The outreach methods include in-person public hearings, a stakeholder survey, regional stakeholder meetings, stakeholder and citizen workshops, and social media posts.

FloridaCommerce is committed to supporting minority populations and low-income populations and encourages members of these populations to participate in outreach efforts to provide valuable input on the needs and priorities of their communities. Additionally, Florida Commerce will ensure adequate public participation and access to information as required by Executive Order 12898.

FloridaCommerce and its subrecipients will also provide meaningful opportunities for public participation throughout the environmental review process as required by guidance from the Council on Environmental Quality.

Florida's 2018 ESHMP is the most recent risk assessment completed through the FEMA hazard mitigation planning process. The ESHMP was completed by FDEM's Mitigation Bureau and serves as the FEMA-approved ESHMP. It provides the factual basis for developing a mitigation strategy for Florida. The purpose of the ESHMP is to reduce death, injuries, and property losses caused by natural hazards in Florida. The 2018 ESHMP identifies hazards based on the history of disasters within Florida and lists goals, objectives, strategies, and actions for reducing future losses. This assessment utilizes the findings of Florida's ESHMP, data and research acquired from essential data resources, and consultation with public, private, and non-profit stakeholders to arrive at a thorough assessment of the hazards which pose substantial risk of loss of life, injury, damage, and loss of property, along with suffering and hardship.

CDBG-DR funding will not be allocated for the development of disaster recovery and response planning. FDEM is the state entity responsible for coordinating the state's overall long-term mitigation strategy, including pre- and post-disaster hazard mitigation.

3.5.6 Broadband Infrastructure in Housing

Any substantial rehabilitation or new construction of a building with more than four rental units will include installation of broadband infrastructure, except when:

[198] Title XI. County Organizations and Intergovernmental Relations; Chapter 163 Intergovernmental Programs; Part II Growth Policy, County and Municipal Planning, Land Development Regulation; http://www.leg.state.fl.us/statutes/index.cfm?App_mode=Display_Statute&URL=0100-0199/0163/0163PartIIContentsIndex.html&StatuteYear=2021&Title=%2D%3E2021%2D%3EChapter%20163%2D%3EPart%20II

- The location of the new construction or substantial rehabilitation makes the broadband infrastructure infeasible,
- The cost of installing broadband infrastructure would result in a fundamental alteration in the nature of its program or activity or in an undue financial burden, or
- The structure of the housing to be substantially rehabilitated makes installation of broadband infrastructure infeasible.

3.5.7 Cost-Effectiveness

FloridaCommerce's standard contracting procedures include a cost analysis process that incorporates a review of each cost element to determine allowability, reasonableness, and necessity. Maximum assistance available to housing beneficiaries, as well as cost-effectiveness relative to other means of assistance, will be outlined in the Hurricane Ian Rebuild Florida HRRP Guidelines. Maximum assistance per beneficiary for infrastructure activities will be set by the applicant jurisdictions as part of the project submittal to FloridaCommerce and will be considered by FloridaCommerce upon review.

Additionally, the Florida State Housing Initiatives Partnership (SHIP) program, provides funds to local governments as an incentive to develop partnerships that produce and preserve affordable homeownership and multifamily housing. Many local governments have participated in the program and have established local housing assistance plans, which include items such as housing incentive strategies, local policies to implement the incentive strategies, and partnerships to reduce housing costs.

To ensure that housing assistance amounts are cost reasonable, the maximum amount of CDBG-DR assistance available for any single housing unit under Hurricane Ian recovery programs is outlined in 4.8.1.14.8.1.1 Housing Repair and Replacement Program (HRRP) subsection Program Maximum Assistance. An increase in the cap may be necessary to provide funding for difficult or unexpected repairs above and beyond the housing caps. FloridaCommerce will establish methods of cost reasonableness by conducting research on the services sought and procured. FloridaCommerce will consult industry accepted trade organizations, past programs, and other regional grantees for input on costs for services being procured.

For direct implementation, FloridaCommerce will define "demonstrable hardship" as exceptions to HRRP policies for applicants who demonstrate undue hardship. Undue hardship may include, but is not limited to, excessive amounts of debt due to a natural disaster, disability, etc. FloridaCommerce will develop policies to review applicants in situations of demonstrable hardship on a case-by-case basis to determine whether assistance is required to alleviate such hardship. With documentation, FloridaCommerce may allow for persons with disabilities to exceed the program maximum assistance cap on a case-by-case basis and if cost reasonable to ensure reasonable accommodation. FloridaCommerce will, in these policies and procedures, provide examples of undue hardship that may lead to program exceptions.

The policy exception process is detailed in the OLTR Policy Manual. The FloridaCommerce Policy Exceptions Review Panel can only review and allow/refuse alternate documentation supporting eligibility or award issues. The panel cannot circumvent federal or state law or regulations and therefore, any file submitted where federal or state guidance clearly addresses the issue raised will be rejected by the FloridaCommerce Policy Exceptions Review Panel.

As a recipient of federal funds, FloridaCommerce is charged with ensuring that the costs of its activities are reasonable and necessary. Cost-effectiveness will be considered for all residential rehabilitation, reconstruction and/or new construction housing projects of eight units or more. FloridaCommerce and its subrecipients will establish policies and procedures to assess the cost-effectiveness of each proposed project undertaken to assist a household under any residential rehabilitation, reconstruction, or new construction program. The policies and procedures will address criteria for determining when the cost of rehabilitation, reconstruction, or new construction of the unit will not be cost-effective relative to other means of assisting the property.

To aid FloridaCommerce in ensuring cost reasonableness of subrecipient projects, subrecipients of the CDBG-DR program must submit with their program application all documents used to determine the

amount of funding requested. Additionally, if awarded, all subrecipients must provide a cost analysis for every service and/or vendor procured for the implementation of CDBG-DR funded activities.

3.5.8 Duplication of Benefits

The Robert T. Stafford Disaster Relief and Emergency Assistance Act of 1974 (the "Stafford Act") institutes a goal to achieve greater coordination and responsiveness of disaster preparedness and relief programs. Accordingly, the Stafford Act duplication of benefits (DOB) requirements apply to all federal agencies administering a disaster recovery program that provides financial assistance for emergency response and long-term recovery. CDBG-DR grants are subject to these requirements.

Section 312(a) of the Stafford Act requires the Federal Government to assure that no person receiving Federal financial assistance receives funds for any part of a loss already paid by insurance or any other source. Section 312(c) makes any person receiving duplicative assistance liable to the Federal Government for the duplicative amount and states that "the agency which provided the duplicative assistance shall collect [it] from the recipient when the head of such agency considers it to be in the best interest of the Federal Government" (42 USC 5155(c)). Additionally, Section 312(b) of the Stafford Act permits the payment of assistance to someone who is or may be entitled to future payments from insurance or another source "if such person agrees to repay all duplicative assistance to the agency providing the Federal assistance" (42 USC 5155(b)).

DOB guidance for CDBG-DR grantees is outlined in Federal Register Vol. 84, No. 119, June 20, 2019. However, grantees that received funds for disasters occurring in 2022 must follow the DOB requirements located in section IV.A.1. of the AAN and section IV.A. of the Consolidated Notice. The temporary changes to the treatment of loans made by the Disaster Recovery Reform Act of 2018 (DRRA) do not apply to disasters occurring in 2022, therefore, subsidized loans may be a DOB for CDBG-DR funds allocated for Hurricane Ian recovery (depending on DOB analysis results).

Recipients of CDBG-DR funds for disasters occurring in 2022 or later are not able to reimburse the costs paid by subsidized loans, including SBA loans, unless the exceptions in section IV.A.1.a. of the Consolidated Notice apply. In compliance with this requirement, for Hurricane Ian programs, FloridaCommerce will follow the DOB requirements described in section IV.A.1. of the AAN and section IV.A. of the Consolidated Notice.

Additionally, the Appropriations Act, regulations, and cost principles within uniform administrative requirements applicable to all CDBG-DR grantees require that costs are necessary and reasonable (24 CFR Part 570 and Uniform Requirements at 2 CFR Part 200). "A cost is reasonable if, in its nature and amount, it does not exceed that which would be incurred by a prudent person under the circumstances prevailing at the time the decision was made to incur the cost" (2 CFR 200.404).

To prevent DOB, FloridaCommerce will require that all sources (federal, state, local, and private) and amounts of disaster assistance received or reasonably anticipated to be received are documented with submission of an application for CDBG-DR funding. DOB for CDBG-DR assistance will only consider other sources of funding pertaining to structural damage caused by Hurricane Ian. Prior to program-related construction, applicant awardees must submit any additional funds received for damage caused by the Presidentially Declared Disaster to the program or subrecipient to avoid DOB. DOB are statutorily not allowed. FloridaCommerce's policies and procedures, and its subrecipients' policies and procedures will dictate the process to prevent duplication. CDBG-DR funding must be the funding of last resort. Any additional funds paid to applicant awardees for the same purpose as the assistance awarded after the state has completed the project or after the initial DOB analysis must be returned to FloridaCommerce.

4.0 Grantee Proposed Use of Funds

4.1 Overview

FloridaCommerce is the lead agency and responsible entity (RE) for administering $910,624,000 in CDBG-DR funds allocated for disaster recovery following Hurricane Ian. These programs include the HRRP, the MIP, the WFAH, and the HMGMP.

In accordance with the Consolidated Notice guidance, FloridaCommerce's aggregate total for indirect costs and administrative and technical assistance expenditures will not exceed five percent of its total grant ($45,531,200) plus program income. Planning costs are subject to the 15 percent cap ($136,593,600) defined in 42 U.S.C. 5305(a)(12). State and local administration costs are capped at five percent in aggregate by federal regulations. FloridaCommerce will provide additional guidance to subrecipients regarding the amount of administrative funds available to them; this guidance will be included in the subrecipient agreements. Eligible project delivery costs are presumed included as a portion of the overall CDBG-DR grant funding allocation provided to each subrecipient. Subrecipients will be responsible for properly tracking and monitoring these expenses that may not be included as part of the overall grant award to each individual project or individual applicant, as applicable.

In compliance with the use of funds required by the AAN and informed by the unmet needs assessment, the allocation of CDBG-DR funds is displayed below in Table 135: Program Budget.

A total amount of $762,962,194.10 has been allocated to addressing housing unmet needs through three housing programs: the HRRP, the MIP, and the WFAH.

The HRRP will assist and prioritize the most vulnerable homeowners and property owners impacted by Hurricane Ian through the repair, reconstruction, or replacement of Hurricane Ian damaged single-family owner-occupied homes and rental properties, including mobile homes. The HRRP will receive the largest sum of the housing allocation as this program most directly benefits individuals in the MID areas of the state.

The MIP will serve all remaining unserved homeowners from the Hurricane Irma HRRP that are present in the overlapping Hurricane Ian and Irma identified MID areas.

Funds allocated to the WFAH will be awarded to Florida Housing Finance Corporation (FHFC) to manage the construction of new affordable rental housing for renters and farm laborers in areas impacted by Hurricane Ian. The term "workforce," as used under this program refers to LMI individuals. Additionally, FHFC has expressed interest in repairing damaged multi-family properties through the WFAH.

The proposed allocation of $82,130,605.90 to address unmet infrastructure needs would be distributed through the Hazard Mitigation Grant Match Program (HMGMP). The HMGMP will award funds to eligible counties and municipalities within HUD and state-identified MID counties to fund the FEMA Hazard Mitigation Grant Program (HMGP) required 25 percent local match. Priority will be given to fiscally constrained (as defined in Florida Statute 218.67(1)) and rural UGLGs.

Florida strives to incorporate mitigation measures into all rebuilding activities as a standard; this emphasis on mitigating against future disasters is crucial to long-term sustainability and resilience against disasters. Continuing this effort and in compliance with the 15 percent mitigation set aside requirement outlined in the AAN, FloridaCommerce will expend a minimum of $118,777,000 on activities that increase resilience to disasters and reduce or eliminate the long-term risk of loss of life, injury, damage to and loss of property, and suffering and hardship, by lessening the impact of future disasters. These mitigation measures will be included in activities administered through the HRRP and HMGMP, which will incorporate mitigation elements. Further details describing the inclusion of mitigation measures is present in each of the relevant program descriptions.

In the case that additional CDBG-DR funds become available, FloridaCommerce may incorporate additional programs to address unmet infrastructure or economic revitalization needs.

Table 135: Program Budget

	Program	Budget	HUD identified MID Budget	Grantee identified MID budget	% of Allocation	Maximum Award	National Objective	Estimated Outcome
Housing	Rehab	$542,962,194.10	$434,369,755.28	$108,592,438.82	59.63%	$350,000	LMI, UN	-
	Buyout	$0	$0.00	$0.00	0.00%	N/A	N/A	N/A
	New Construction	$100,000,000	$80,000,000.00	$20,000,000.00	10.98%	$100,000,000	LMI	-
	Other	$120,000,000	$96,000,000.00	$24,000,000.00	13.18%	$350,000	LMI, UN	-
Economic Revitalization	Workforce Training	$0	$0.00	$0.00	0.00%	$-	N/A	N/A
	Business Grants	$0	$0.00	$0.00	0.00%	$-	N/A	N/A
	Other	$0	$0.00	$0.00	0.00%	$-	N/A	N/A
Infrastructure	Water/Sewer Improvements	$0	$0.00	$0.00	0.00%	$-	N/A	N/A
	Health Facilities	$0	$0.00	$0.00	0.00%	$-	N/A	N/A
	Other	$82,130,605.90	$65,704,484.72	$16,426,121.18	9.02%	$10,000,000	LMI, UN	-
Public Services	Legal Services	$0	$0.00	$0.00	0.00%	$-	N/A	N/A
	Housing Counseling	$0	$0.00	$0.00	0.00%	$-	N/A	N/A
	Other	$0	$0.00	$0.00	0.00%	$-	N/A	N/A
Admin		$45,531,200	$36,424,960.00	$9,106,240.00	5.00%	N/A	N/A	N/A
Planning		$20,000,000	$16,000,000.00	$4,000,000.00	2.20%	N/A	N/A	N/A
Total		$910,624,000.00	$728,499,200.00	$182,124,800.00	100%	N/A	N/A	N/A

4.2 Connection to Unmet Needs

As required by the Consolidated Notice, FloridaCommerce will allocate at least 80 percent of the funds to address unmet needs with HUD-identified MID areas. The remaining 20 percent of the allocation may be used to address unmet needs that received a Hurricane Ian—FEMA 4673 presidential major disaster declaration.

The programs and funding outlined in this Action Plan were informed by the findings of the unmet needs assessment and mitigation needs assessment along with meetings and feedback from communities impacted by Hurricane Ian, as required by HUD. As outlined in the assessment, the largest portion of unmet needs resulting from Hurricane Ian are related to housing and infrastructure.

This Action Plan primarily considers and addresses unmet housing needs with 83.8 percent of the budget allocated for housing activities due to the large proportion of need in this sector as reflected in the Unmet Needs Assessment. Additionally, 9 percent of available funding has been obligated to address unmet needs that remain in the infrastructure sector as reflected in the available data.

Seventy-five percent of the remaining unmet needs resulting from Hurricane Ian are related to housing needs. This includes significant impacts from high winds, flooding, and storm surges. The HRRP, MIP, and WFAH programs will allow Hurricane Ian impacted communities the opportunity to meet their unmet

housing needs by providing several program options to repair housing, increase housing stock, and reduce risk to existing housing. The HRRP will provide the opportunity for the rehabilitation and replacement of damaged homes. The MIP will provide assistance to homeowners who have suffered damage from Hurricane Irma, are present in the Hurricane Ian MID areas, and have yet to be served under the Hurricane Irma HRRP. The WFAH, through subrecipient administration, will result in an increase in affordable housing units through new construction in areas impacted by Hurricane Ian.

Fourteen percent of all remaining unmet needs resulting from Hurricane Ian are related to infrastructure. Stakeholders from the impacted communities expressed a substantial need for infrastructure projects and activities. Mitigation activities combined with the aforementioned programs will allow these communities to prepare for and mitigate against future disasters while incorporating resiliency measures that allow for quicker recovery following future storms. FloridaCommerce will ensure that all infrastructure activities undertaken using CDBG-DR funds contribute to recovery and increased resiliency in the MID areas.

At least 70 percent of all program funds will benefit LMI persons or households.

Dedicating limited federal funds allocated to the State of Florida toward the most urgent need is paramount and a moral obligation. FloridaCommerce has allocated funds based on the proportion of unmet needs reflected in the unmet needs assessment and shown in Table 2: Unmet Need and Proposed Allocation, with the majority of funds going toward addressing unmet needs in the housing sector with some funding dedicated to addressing infrastructure needs through match. As CDBG-DR funds are allocated by HUD, who emphasize a mission of supporting housing, and in an effort to make the most meaningful impact with the limited funds available, FloridaCommerce has chosen to administer fewer programs while focusing on addressing unmet needs in the housing sector. The funds allocated to Infrastructure activities will serve to directly address infrastructure unmet needs in MID communities while dually supporting housing and economic development in the impacted communities. While remaining unmet needs have been identified in the economic sector, current budget limitations do not allow for the allocation of funds to economic revitalization programs. However, should HUD make additional funding available, FloridaCommerce may incorporate additional infrastructure and/or economic revitalization programs should unmet needs remain.

4.2.1 Most-Impacted and Distressed Expenditure Requirement

As required by the AAN, FloridaCommerce will allocate at least 80 percent of the funds to address unmet needs within HUD-identified MID areas. The remaining 20 percent of the allocation may be used to address unmet needs within state-identified MID areas.

This Action Plan primarily considers and addresses unmet housing needs due to the large proportion of need in this sector reflected in the Unmet Needs Assessment.

Table 136: HUD and State-Identified Most Impacted and Distressed (MID) Counties

Hurricane Ian HUD Designated MID Counties		
Brevard	Charlotte	Collier
DeSoto	Hardee	Highlands
Hillsborough	Manatee	Monroe
Osceola	Pinellas	Polk
Putnam	Seminole	
Hurricane Ian State Designated MID Counties		
Flagler	Glades	Hendry
Lake	Okeechobee	St. Johns

4.2.2 CDBG-DR Program Allocation

4.2.2.1 Overview

Section III.C.1. of the Consolidated Notice states: "The grantee's action plan must identify the use of all funds – including criteria for eligibility and how the uses address long-term recovery needs, restoration of infrastructure and housing, economic revitalization, and the incorporation of mitigation measures in the MID areas."

The programs and funding outlined in this Action Plan were informed by the findings of the unmet needs assessment and mitigation risk-based assessment along with meetings and feedback from communities impacted by Hurricane Ian, as required by HUD. Additionally, the programs selected by FloridaCommerce, and the allocation to each has been determined with the intention of prioritizing limited federal funds to the most urgent need present in the MID areas. As outlined in the assessment, the largest portion of unmet needs resulting from Hurricane Ian are related to housing.

As stated in 1.0 Executive Summary, and reflected in Table 2: Unmet Need and Proposed Allocation, triaging limited federal funds allocated to the State of Florida across 20 counties toward the most urgent need is paramount and a moral obligation. As CDBG-DR funds are allocated by HUD, who emphasize a mission of supporting housing, FloridaCommerce has proposed a program budget which will prioritize addressing unmet needs in the housing sector. Infrastructure activities serve to directly address infrastructure unmet needs in MID communities while dually supporting housing and economic development in the impacted communities. While the Unmet Needs Assessment identified remaining unmet needs in the economic sector, current budget limitations do not allow for the allocation of funds to economic revitalization or a separately run mitigation program. However, should HUD make additional funding for Hurricane Ian recovery available in the future, FloridaCommerce may incorporate additional programs should unmet needs remain.

Florida strives to incorporate mitigation measures into all rebuilding activities as a standard; this emphasis on mitigating against future disasters is crucial to long-term sustainability and resilience against disasters. Continuing this effort, the CDBG-DR mitigation set-aside funds ($118M) allocated to FloridaCommerce will be included in activities administered through the housing and infrastructure programs outlined in this Action Plan. Both HRRP and HMGMP will incorporate mitigation elements and will utilize the mitigation set-aside funds for projects and activities that meet the definition of mitigation as described in the Consolidated Notice. Further details describing the inclusion of mitigation measures is present in each of the relevant program descriptions.

4.2.2.2 Housing

Seventy five percent of the remaining unmet needs resulting from Hurricane Ian are related to housing (see Table 2: Unmet Need and Proposed Allocation). This includes significant impacts from high winds, flooding, and storm surges. FloridaCommerce's housing programs (including HRRP and WFAH) will allow Hurricane Ian impacted individuals and communities the opportunity to meet their unmet housing needs by providing several program options through which to repair housing, increase housing stock, and reduce risk to existing housing.

The proposed allocation of $762,962,194.10 to address housing unmet needs will be distributed to three housing programs: the HRRP, the MIP, and the WFAH.

Housing Repair & Replacement Program (HRRP) - $542,962,194.10

The HRRP will assist and prioritize the most vulnerable homeowners and property owners impacted by Hurricane Ian through the repair, reconstruction, or replacement of their Ian-damaged homes, including mobile homes. The HRRP has been allocated the largest sum of the housing allocation ($542,962,194.10) as this program most directly benefits individuals in the MID areas of the state by repairing, reconstructing, or replacing Hurricane Ian damaged single-family owner-occupied homes and rental properties. As outlined in 4.8.1.1 Housing Repair and Replacement Program

(HRRP)4.8.1.1Housing Repair and Replacement Program (HRRP), applicants to this program will be prioritized based on vulnerability (income, disability, and age) and presence in a MID area.

Additionally, FloridaCommerce may provide eligible homeowners reimbursement of eligible short-term bridge loans acquired through private not-for-profit entities through the Acceleration Reimbursement option administered through the HRRP. Acceleration Reimbursement programs have been utilized as a tool in other states to expedite completion of home repair or reconstruction and would be an "opt-in" option in limited circumstances.

Multiple Impact Program (MIP) - $120,000,000

Several counties impacted by Hurricane Ian in 2022 also suffered impacts from Hurricane Irma in 2017, leading to a significant number of homeowners in these areas suffering setbacks in their recovery process. The MIP will prioritize these vulnerable homeowners who have suffered damage from Hurricane Irma, are present in the Hurricane Ian MID areas, and have yet to be served under the Hurricane Irma HRRP.

The MIP will receive a sum of $120,000,000 to serve all homeowners from the Hurricane Irma HRRP that remain unserved and are present in the overlapping Hurricane Ian and Irma identified MID areas. This program would be administered through essentially the same process and activities as the Hurricane Irma HRRP, except for where Federal Register requirements differ.

Workforce Affordable Housing Construction Program (WFAH) - $100,000,000

The WFAH will receive a sum of $100,000,000 to be awarded to FHFC to manage the construction of new affordable rental housing for tenants in areas impacted by Hurricane Ian. The term "workforce," as used under this program refers to LMI individuals, including any LMI individuals in the senior population.[199] Additionally, FHFC may repair damaged multi-family properties through the WFAH.

4.2.2.3 Infrastructure

Approximately 14 percent of all remaining unmet needs resulting from Hurricane Ian are related to infrastructure.

The proposed allocation of $82,130,605.90 to address unmet infrastructure needs would be distributed through one program: the Hazard Mitigation Grant Match Program (HMGMP).

Hazard Mitigation Grant Match Program (HMGMP) - $82,130,605.90

The HMGMP will receive $82,130,605.90 in funding to be awarded to HUD and state-identified MID areas to fund the FEMA HMGP required 25 percent local match.[200] Priority will be given to projects located within fiscally constrained (as defined in Florida Statute 218.67(1)) and rural UGLGs. This funding, in conjunction with FEMA HMGP funds, will allow the awarded UGLGs to execute necessary and significant infrastructure projects that they may not otherwise have the monetary means to complete (i.e. buyouts, structural elevation, localized flood risk reduction, infrastructure retrofitting, and post-disaster code enforcement). Projects must meet both FEMA and HUD requirements to be eligible for HMGMP funding.

If in the future additional CDBG-DR funds for Hurricane Ian recovery are allocated by HUD to Florida, FloridaCommerce may consider implementing additional infrastructure programs. Infrastructure continues to be a top priority in disaster recovery, however, the unmet need for housing programs necessitates prioritization for this allocation.

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[199] The Florida Department of Elder Affairs submitted a public comment to FloridaCommerce, and intended program subrecipient Florida Housing Finance Corporation, to help ensure new housing inventory in Hurricane Ian impacted areas prioritizes seniors. The agencies have accepted this comment and share in this commitment.

[200] The Action Plan posted for public comment on July 12, 2023 originally proposed an allocation of $50,000,000 for HMGMP. During the public comment period, FloridaCommerce received feedback from FDEM—which administers the Hazard Mitigation Grant Program (federally funded through FEMA)—that $50,000,000 was below the projected need of $82,130,605.90 in matching funds for the 20 state and HUD MID counties. FloridaCommerce accepted this request.

4.2.2.4 Economic Revitalization

The Unmet Needs Assessment notes that ten percent of unmet needs are related to Economic Revitalization; however, current budget limitations do not allow for the allocation of funds to economic revitalization programs. Should HUD make additional funding available, FloridaCommerce may incorporate economic revitalization programs should unmet needs remain.

4.2.3 Interchangeability of Funds

As stated in the AAN, HUD "authorizes grantees receiving a CDBG-DR grant under the Appropriation Act and prior or future appropriations acts for activities authorized under title I of the HCDA for a specific qualifying disaster(s) to use these funds interchangeably and without limitation for the same activities in MID areas resulting from a major disaster in a prior or future appropriation acts, as long as the MID areas overlap, and the activities address unmet needs of both disasters." All waivers and alternative requirements associated with a CDBG–DR grant apply to the use of the funds provided by that grant, regardless of which disaster the funded activity will address.

CDBG-DR funds will be interchanged between Hurricane Irma and Hurricane Ian allocations in counties identified as MID in both disasters. In HUD and State-identified MID areas of overlap between Hurricane Irma and Hurricane Ian, FloridaCommerce may apply Hurricane Ian funds toward Hurricane Irma recovery efforts when allowable by this Action Plan and the Federal Register. Due to an oversubscription of eligible applicants and significant remaining unmet need, FloridaCommerce will utilize this interchangeability of funds allowance to complete construction on homes already deemed eligible for program assistance through OLTR's Hurricane Irma HRRP.

4.2.4 Low-to-Moderate Income Expenditure Requirement

At least 70 percent of all program funds will benefit LMI persons or households. Throughout implementation of the programs identified in this Action Plan, FloridaCommerce will track usage of funds to ensure that the final aggregate benefit to LMI persons meets or exceeds the required 70 percent, as identified in the Federal Register. The housing programs identified in this Action Plan will serve LMI populations at a higher proportion than is expressly required by HUD (Table 137: Projected LMI Benefit by Program). FloridaCommerce anticipates that these programs with higher LMI benefit in tandem with the benefit to LMI persons achieved through infrastructure projects, will meet or exceed the 70 percent required total LMI benefit.

Table 137: Projected LMI Benefit by Program

Sector	Program	Estimated LMI Benefit
Housing	Housing Repair and Replacement Program	90%
	Multiple Impact Program	90%
	Workforce Affordable Housing Construction Program	100%
Infrastructure	Hazard Mitigation Grant Match Program	70%

4.2.5 Public Housing, Affordable Housing, and Housing for Vulnerable Populations

Public housing is an integral piece of the state's housing resources for LMI persons. FloridaCommerce and its subrecipients will identify and address the rehabilitation, reconstruction, and replacement of the following types of housing affected by the disaster:

- Committed Affordable LMI housing units;

- Public housing authority housing stock, including HUD-assisted housing;
- Private market units receiving project-based assistance or with tenants participating in the Section 8 Housing Choice Voucher Program; and
- Affordable housing, including housing for the homeless, emergency shelters, transitional, and permanent housing.

As appropriate and applicable, FloridaCommerce may coordinate with FDEM and local governments, including county emergency management officials, located in the MID areas to identify emergency shelters in those communities that are in need of rehabilitation, reconstruction, or replacement. Data gathered through these coordination efforts will inform FloridaCommerce's efforts to rehabilitate, reconstruct, or replace emergency shelters in the MID areas.

As appropriate and applicable, FloridaCommerce will identify and coordinate with service providers that work with the homeless, which may include the Florida's Department of Children and Families (DCF), Office of Homelessness Florida Coalition to End Homelessness, Florida's Council on Homelessness, and the homeless shelters located in the MID areas to determine the current needs of those served.

FloridaCommerce and its subrecipients will ensure ongoing coordination with service providers that work with vulnerable populations to ensure that any remaining or ongoing storm-related impact is brought to FloridaCommerce's attention for a coordinated approach. In addition, any vulnerable populations brought to FloridaCommerce's attention who are not served under current FloridaCommerce programs may be referred to specialized service providers for assistance.

FloridaCommerce and its subrecipients will develop policies and procedures for compliance with Affirmatively Furthering Fair Housing (AFFH) requirements. Such policies and procedures will involve a review that will include an assessment of the proposed housing project area's demography, socio-economic characteristics, environmental hazards or concerns, and other factors material to the AFFH determination. Subrecipient should show that housing projects are likely to lessen area racial, ethnic, and low-income concentrations and/or promote affordable housing in low-poverty, non-minority areas in response to natural hazard-related impacts. The findings of this review will be used to inform the selection of projects for funding, in accordance with the Federal Register Notice requirements and FloridaCommerce's certification to AFFH. The state will remain highly agile throughout the planning and implementation phases of each program to ensure the process and program design is consistent with HUD's direction to AFFH.

Application and outreach materials will be made available in Spanish and in other languages, upon request. FloridaCommerce acknowledges that persons with disabilities may have special needs and will make every effort to accommodate those needs as they arise. For example, upon request, FloridaCommerce may provide program documents in accessible forms such as braille.

4.3 Leveraging Funds

FloridaCommerce anticipates leveraging CDBG-DR funds with the following methods:

In order to best utilize the limited CDBG-DR funds, FloridaCommerce will encourage subrecipients to leverage CDBG-DR funds with funding provided by other federal, state, local, private, and nonprofit sources. This will be specifically encouraged for the homeowner buyout programs as well as infrastructure programs. By encouraging local governments to use CDBG-DR as match for the FEMA HMGP and PA Mitigation program, communities will be able to better utilize both funding sources. Often, local governments cannot afford match for HMGP and PA mitigation programs; CDBG-DR funding, though limited, may be used in tandem with other sources of funding to extend a municipality's ability to complete projects. FloridaCommerce will report on leveraged funds in the DRGR system. When leveraging funds, in accordance with the Stafford Act, as amended, FloridaCommerce will implement policies and procedures to ensure no individual receives funding for the same purpose and/or effect to recover from Hurricane Ian, creating a DOB.

4.4 Program Partners

FloridaCommerce does not currently have any Program Partners. This Action Plan will be amended as Program Partners become applicable.

4.5 Distribution of Funds

Due to the significant impacts of Hurricane Ian and the comparatively limited amount of CDBG-DR funding, FloridaCommerce will prioritize areas with the highest damage by limiting assistance outlined in this Action Plan to counties (and municipalities within those counties) that received FEMA IA and PA declarations (categories A-G). Receiving an IA declaration in addition to a PA declaration indicates that the county had a significant amount of damage to housing in addition to public infrastructure. Those counties which were not identified as HUD MID counties in the AAN and received a FEMA declaration of IA and PA assistance (categories A-G) were identified by FloridaCommerce as State MID counties.

As required by AAN FloridaCommerce will use 80 percent of the allocation to address unmet needs within the HUD-identified MID areas. Per the AAN, the communities to receive 80 percent of the funds include Brevard, Charlotte, Collier, DeSoto, Hardee, Highlands, Hillsborough, Manatee, Monroe, Osceola, Pinellas, Polk, Seminole, and Putnam Counties. Where HUD identified specific zip codes as MID communities, FloridaCommerce intends to expand program operations and eligibility to the whole county. The remaining 20 percent can be spent in state-identified MID communities, which include Flagler, Glades, Hendry, Lake, Okeechobee, and St. Johns counties as shown in Figure 83: Hurricane Ian Most Impacted and Distressed (MID) Communities. FloridaCommerce will ensure, as required and identified in the Federal Register, that at least 70 percent of the entire allocation of CDBG-DR funds will be used for activities benefiting LMI persons. All MID counties are identified in Table 1: HUD and State-Identified Most Impacted and Distressed (MID) Counties.

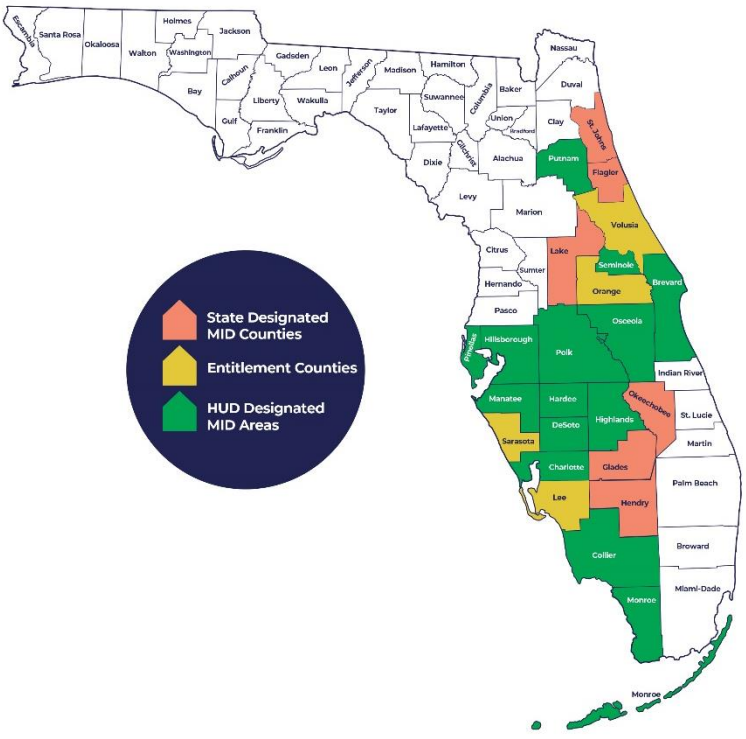

Figure 83: Hurricane Ian Most Impacted and Distressed (MID) Communities

4.5.1 Basis for Allocation

As outlined in the unmet needs assessment and shown in Table 2: Unmet Need and Proposed Allocation, the largest portion of unmet needs resulting from Hurricane Ian are related to housing with the total amount of impact to Housing ($2,845,547,024), Infrastructure ($1,271,066,771), and the economy ($299,322,688) within the identified MID communities, as well as the estimated remaining unmet needs in each sector—$1,886,005,587, $356,895,566, and $255,882,538, respectively.

FloridaCommerce acknowledges the importance of administering the limited allocated CDBG-DR funding in the most effective and meaningful way possible and has allocated funds based on the proportion of unmet needs reflected in the unmet needs assessment, with the majority of funds going toward addressing housing unmet needs and the remaining funds allocated to infrastructure unmet needs. In consideration of the unmet needs assessment and HUD requirements, and to prioritize limited funding in areas with the highest damage, FloridaCommerce assistance outlined in this Action Plan will be limited to homeowners, small rental property owners, and local governments within counties (and municipalities within those counties) identified as HUD or State MID areas. All projects and programs described in this Action Plan will primarily support LMI households.

In order to make the most meaningful impact with the limited funds available, FloridaCommerce has chosen to administer fewer programs while focusing on the housing sector with some funding dedicated to addressing infrastructure needs in MID communities through match. Triaging limited federal funds allocated to the State of Florida toward the most urgent need is paramount and a moral obligation. As CDBG-DR funds are allocated by HUD, who emphasize a mission of supporting housing, this current budget will prioritize housing by addressing unmet needs in the housing sector. The funds allocated to Infrastructure activities will serve to directly address infrastructure unmet needs in MID communities while dually supporting housing and economic development in the impacted communities.

FloridaCommerce's HRRP and the MIP will be directly administered by FloridaCommerce and its authorized third-party vendor. Potential applicants will apply directly with the program and be served based on prioritization of needs as described in 4.8.1.1 Housing Repair and Replacement Program (HRRP).

For all subrecipient activities, including infrastructure and subrecipient-administered housing activities, jurisdictions from each of the MID areas (80 percent HUD MID or 20 percent State MID) will select projects to propose to FloridaCommerce for funding in accordance with FloridaCommerce's thresholds and criteria.

While remaining unmet needs have been identified in the economic sector, current budget limitations do not allow for the allocation of funds to economic revitalization programs. However, should HUD make additional funding available, FloridaCommerce may incorporate additional infrastructure and/or economic revitalization programs should unmet needs remain.

Specific information regarding eligibility criterion, threshold factors, maximum awards, maximum assistance caps, mitigation set-aside activities, and projected use of CDBG-DR funds is located in the applicable program descriptions below (4.8 Program Details).

HUD requires that 100 percent of CDBG-DR funding be expended within six years of the signing of the grant agreement which provides the grantee access to the federal funds. CDBG-DR programs must be carried out in a manner such that all grant close out and audit/verification activities are completed within the six-year period.

FloridaCommerce will implement program management, monitoring, and oversight standards necessary to ensure compliance with state and federal requirements.

Florida strives to incorporate mitigation measures into all rebuilding activities as a standard; this emphasis on mitigating against future disasters is crucial to long-term sustainability and resilience against disasters. Continuing this effort, the CDBG-DR mitigation set-aside funds allocated to FloridaCommerce will be included in activities administered through the housing and infrastructure programs outlined in this Action

Plan. Both HRRP and HMGMP will incorporate mitigation elements and will utilize the mitigation set-aside funds for projects and activities that meet the definition of Mitigation as described in the Consolidated Notice. Further details describing the inclusion of mitigation measures is present in each of the relevant program descriptions.

4.5.2 Reimbursement of Pre-Award Costs

As stated in the Consolidated Notice, the provisions of 24 CFR 570.489(b) are applied to permit FloridaCommerce to charge to the grant otherwise allowable costs incurred by FloridaCommerce, its recipients or subrecipients (including Indian tribes and PHAs) on or after the incident date of Hurricane Ian.

FloridaCommerce has incurred and plans to incur additional pre-agreement costs and will seek reimbursement for these costs after the effective date of the grant agreement. Pre-agreement costs could include the costs for salaries, benefits, and direct operating expenses of FloridaCommerce used for the planning of the CDBG-DR programs. Other pre-agreement costs, which FloridaCommerce will fund with this grant, could include activity delivery and projects costs associated with eligible disaster recovery programs identified within this Action Plan. Moreover, the state may request reimbursement for certain eligible pre-award costs necessary for the efficient and timely implementation of its recovery programs. These costs may include environmental review, damage assessment and other costs necessary for determining eligibility of housing related projects. The state may also provide reimbursement of short-term bridge loans incurred by individual homeowners for expense on eligible costs and eligible repairs prior to application for CDBG-DR assistance.

4.5.3 Eligible and Ineligible Activities

4.5.3.1 Eligible Activities

As specified in the AAN, CDBG-DR funds are provided for necessary expenses for activities authorized under Title I of the HCDA related to disaster relief, long-term recovery, restoration of infrastructure and housing, economic revitalization, and mitigation of risk associated with activities carried out for these purposes, in the MID areas resulting from Hurricane Ian. All CDBG-DR funded activities must address an impact of Hurricane Ian. Accordingly, each activity must:

1. Address a direct or indirect impact from the disaster(s) in a MID area;
2. Be a CDBG-eligible activity (or be eligible under a waiver or alternative requirement); and
3. Meet a national objective.

FloridaCommerce has received a CDBG-DR mitigation set-aside for Hurricane Ian recovery efforts. Unlike recovery activities where FloridaCommerce must demonstrate activities “tie-back” to Hurricane Ian and address a specific unmet recovery need for which the CDBG-DR funds were appropriated, activities funded by the CDBG-DR mitigation set-aside do not require such a “tie-back” to an impact of Hurricane Ian. Instead, all activities funded by the CDBG-DR mitigation set-aside must:

1. Meet the definition of mitigation activities as defined in the AAN;
2. Address the current and future risks as identified in FloridaCommerce’s mitigation needs assessment in the MID areas;
3. Be CDBG-eligible activities under Title I of the HCDA or otherwise eligible pursuant to a waiver or alternative requirement; and
4. Meet a national objective.

4.5.3.2 Ineligible Activities

Ineligible activities identified in the Consolidated Notice, include the use of CDBG-DR for forced mortgage payoff; the use of CDBG-DR funds to provide compensation to beneficiaries for losses stemming from disaster-related impacts; construction of a dam/levee beyond original footprint without obtaining pre-

approval from HUD; rehabilitation assistance or safe housing incentives for second homes; incentive payments to households that move to disaster-impacted floodplains; not prioritizing assistance to businesses that meet the definition of a small business; or assistance for second homes and activities identified in 24 CFR 570.207, except as allowed by the alternative requirement outlined in II.B.12 of the Consolidated Notice. Any activity that is not authorized under Section 105(a) of the HCDA is ineligible to be assisted with CDBG–DR funds, unless explicitly allowed by waiver and alternative requirement in the Consolidated Notice.

4.5.4 CDBG-DR Program National Objectives

FloridaCommerce has designed this CDBG-DR program in compliance with the national program objectives and will make every effort to ensure that assistance is prioritized toward the most disadvantaged populations. FloridaCommerce intends to spend no less than 70 percent of funds allocated for direct benefit to LMI populations. As stewards of federal CDBG funds, FloridaCommerce complies with HUD's mission to develop viable communities by the provision of decent housing, a suitable living environment, and expanding economic opportunities, principally for LMI persons.

To this end, all funded activities administered by FloridaCommerce will meet one of three named HUD national objectives:

1. Benefit to LMI Persons;
2. Prevention or Elimination of Slums or Blight; or
3. Meeting an Urgent Need (will comply with expanded definition found in the Consolidated Notice (p. 32075)—Use of Urgent Need National Objective).

Provisions of assistance will be made to eligible applicants in the impacted areas, as funds are available, with priority given to applicants with verified household income at 80 percent or below the AMI for the region in which they reside. HUD has directed Florida to spend at least 70 percent of the funds on LMI households. Rebuild Florida Programs will begin immediately upon execution of HUD funding agreement.

Table 138: Income Limits[201]

IA & PA Declared County	1 Person	2 Person	3 Person	4 Person	5 Person	6 Person	7 Person	8 Person
Brevard County								
30% Limit	$18,100	$20,650	$24,860	$30,000	$35,140	$40,280	$45,420	$50,560
50% Limit	$30,100	$34,400	$38,700	$43,000	$46,450	$49,900	$53,350	$56,800
80% Limit	$48,150	$55,000	$61,900	$68,750	$74,250	$79,750	$85,250	$90,750
Charlotte County								
30% Limit	$16,100	$19,720	$24,860	$30,000	$35,140	$40,280	$45,420	$50,560
50% Limit	$26,850	$30,700	$34,550	$38,350	$41,450	$44,500	$47,600	$50,650
80% Limit	$42,950	$49,100	$55,250	$61,350	$66,300	$71,200	$76,100	$81,000
Collier County								
30% Limit	$21,000	$24,000	$27,000	$30,000	$35,140	$40,280	$45,420	$50,560
50% Limit	$34,950	$39,950	$44,950	$49,900	$53,900	$57,900	$61,900	$65,900
80% Limit	$55,900	$63,900	$71,900	$79,850	$86,250	$92,650	$99,050	$105,450
De Soto County								
30% Limit	$14,580	$19,720	$24,860	$30,000	$34,700	$37,250	$39,850	$42,400

[201] Income limits from https://www.huduser.gov/portal/datasets/il.html#year2023

50% Limit	$22,500	$25,700	$28,900	$32,100	$34,700	$37,250	$39,850	$42,400
80% Limit	$35,950	$41,100	$46,250	$51,350	$55,500	$59,600	$63,700	$67,800
Flagler County								
30% Limit	$16,600	$19,720	$24,860	$30,000	$35,140	$40,280	$45,420	$50,560
50% Limit	$27,650	$31,600	$35,550	$39,500	$42,700	$45,850	$49,000	$52,150
80% Limit	$44,250	$50,600	$56,900	$63,200	$68,300	$73,350	$78,400	$83,450
Glades County								
30% Limit	$14,580	$19,720	$24,860	$30,000	$34,700	$37,250	$39,850	$42,400
50% Limit	$22,500	$25,700	$28,900	$32,100	$34,700	$37,250	$39,850	$42,400
80% Limit	$35,950	$41,100	$46,250	$51,350	$55,500	$59,600	$63,700	$67,800
Hardee County								
30% Limit	$14,580	$19,720	$24,860	$30,000	$34,700	$37,250	$39,850	$42,400
50% Limit	$22,500	$25,700	$28,900	$32,100	$34,700	$37,250	$39,850	$42,400
80% Limit	$35,950	$41,100	$46,250	$51,350	$55,500	$59,600	$63,700	$67,800
Hendry County								
30% Limit	$14,580	$19,720	$24,860	$30,000	$34,700	$37,250	$39,850	$42,400
50% Limit	$22,500	$25,700	$28,900	$32,100	$34,700	$37,250	$39,850	$42,400
80% Limit	$35,950	$41,100	$46,250	$51,350	$55,500	$59,600	$63,700	$67,800
Highlands County								
30% Limit	$14,580	$19,720	$24,860	$30,000	$35,140	$38,000	$40,650	$43,250
50% Limit	$22,950	$26,200	$29,500	$32,750	$35,400	$38,000	$40,650	$43,250
80% Limit	$36,700	$41,950	$47,200	$52,400	$56,600	$60,800	$65,000	$69,200
Hillsborough County								
30% Limit	$18,250	$20,850	$24,860	$30,000	$35,140	$40,280	$45,420	$50,560
50% Limit	$30,450	$34,800	$39,150	$43,450	$46,950	$50,450	$53,900	$57,400
80% Limit	$48,650	$55,600	$62,550	$69,500	$75,100	$80,650	$86,200	$91,750
Lake County								
30% Limit	$18,450	$21,100	$24,860	$30,000	$35,140	$40,280	$45,420	$50,560
50% Limit	$30,750	$35,150	$39,550	$43,900	$47,450	$50,950	$54,450	$57,950
80% Limit	$49,150	$56,200	$63,200	$70,200	$75,850	$81,450	$87,050	$92,700
Manatee County								
30% Limit	$19,200	$21,950	$24,860	$30,000	$35,140	$40,280	$45,420	$50,560
50% Limit	$32,000	$36,600	$41,150	$45,700	$49,400	$53,050	$56,700	$60,350
80% Limit	$51,200	$58,500	$65,800	$73,100	$78,950	$84,800	$90,650	$96,500
Monroe County								
30% Limit	$22,800	$26,050	$29,300	$32,550	$35,200	$40,280	$45,420	$50,560
50% Limit	$38,000	$43,400	$48,850	$54,250	$58,600	$62,950	$67,300	$71,650
80% Limit	$60,800	$69,450	$78,150	$86,800	$93,750	$100,700	$107,650	$114,600
Okeechobee County								
30% Limit	$14,580	$19,720	$24,860	$30,000	$34,700*	$37,250*	$39,850*	$42,400*
50% Limit	$22,500	$25,700	$28,900	$32,100	$34,700	$37,250	$39,850	$42,400

80% Limit	$35,950	$41,100	$46,250	$51,350	$55,500	$59,600	$63,700	$67,800
Osceola County								
30% Limit	$18,450	$21,100	$24,860	$30,000	$35,140	$40,280	$45,420	$50,560
50% Limit	$30,750	$35,150	$39,550	$43,900	$47,450	$50,950	$54,450	$57,950
80% Limit	$49,150	$56,200	$63,200	$70,200	$75,850	$81,450	$87,050	$92,700
Pinellas County								
30% Limit	$18,250	$20,850	$24,860	$30,000	$35,140	$40,280	$45,420	$50,560
50% Limit	$30,450	$34,800	$39,150	$43,450	$46,950	$50,450	$53,900	$57,400
80% Limit	$48,650	$55,600	$62,550	$69,500	$75,100	$80,650	$86,200	$91,750
Polk County								
30% Limit	$15,000	$19,720	$24,860	$30,000	$35,140	$40,280	$44,300*	$47,150*
50% Limit	$25,000	$28,600	$32,150	$35,700	$38,600	$41,450	$44,300	$47,150
80% Limit	$40,000	$45,700	$51,400	$57,100	$61,700	$66,250	$70,850	$75,400
Putnam County								
30% Limit	$14,580	$19,720	$24,860	$30,000	$34,700	$37,250	$39,850	$42,400
50% Limit	$22,500	$25,700	$28,900	$32,100	$34,700	$37,250	$39,850	$42,400
80% Limit	$35,950	$41,100	$46,250	$51,350	$55,500	$59,600	$63,700	$67,800
Seminole County								
30% Limit	$18,450	$21,100	$24,860	$30,000	$35,140	$40,280	$45,420	$50,560
50% Limit	$30,750	$35,150	$39,550	$43,900	$47,450	$50,950	$54,450	$57,950
80% Limit	$49,150	$56,200	$63,200	$70,200	$75,850	$81,450	$87,050	$92,700
St. Johns County								
30% Limit	$18,600	$21,250	$24,860	$30,000	$35,140	$40,280	$45,420	$50,560
50% Limit	$31,000	$35,400	$39,850	$44,250	$47,800	$51,350	$54,900	$58,450
80% Limit	$49,600	$56,650	$63,750	$70,800	$76,500	$82,150	$87,800	$93,500
Note: In cases where 30% Limit equals 50% Limit, see footnote[202]								

4.5.5 FloridaCommerce Monitoring Standards and Procedures

The state has adopted monitoring standards, including procedures to (1) ensure program requirements are met (including non-duplication of benefits), and (2) provide for continual quality assurance and adequate program oversight. These standards and procedures are included in the pre-award Implementation Plan as required by the Consolidated Notice. Monitoring will be conducted by FloridaCommerce who will be supported by an external vendor procured through competitive solicitation to ensure that program activities progress toward timely completion and to allow for the early identification of potential issues and problems so they can be prevented or corrected.

Monitoring will also include environmental compliance under 24 CFR Part 58. FloridaCommerce currently has staff that will oversee environmental compliance. Additionally, the current staff will be augmented by external vendors procured through competitive solicitation.

[202] The FY 2014 Consolidated Appropriations Act changed the definition of extremely low-income to be the greater of 30/50ths (60 percent) of the Section 8 very low-income limit or the poverty guideline as established by the Department of Health and Human Services (HHS), provided that this amount is not greater than the Section 8 50% very low-income limit. Consequently, the extremely low-income limits may equal the very low (50%) income limits.

FloridaCommerce's monitoring program includes desk monitoring and onsite monitoring with priority and frequency based on the results of a risk-based assessment of each subrecipient. The purpose of the risk-based assessment is to define the scope and focus of the monitoring efforts, including establishing a framework for determining the appropriate level of monitoring consistent with available resources. In addition, the risk-based assessment will be required each state fiscal year to guarantee continuous review of risks. FloridaCommerce monitoring is based on criteria consistent with HUD guidance in assessing program risk. The risk-based assessment provides the basis for developing individual monitoring strategies and documents the decisions and recommendations regarding where to apply staff and travel resources for monitoring, training, and/or technical assistance.

The Florida Auditor General and staff will act as the state's independent external auditor and will conduct financial audits of the accounts and records of state agencies. Where applicable, accounting policies and procedures of FloridaCommerce should mirror the requirements of the Office of the Auditor General.

4.6 Program Income

FloridaCommerce anticipates it may generate program income as part of the activities allowed under this allocation. Should any funds be generated, recovery of funds including program income, refunds, and rebates will be used before drawing down additional CDBG-DR funds. These amounts will be recorded and tracked in the state accounting systems and recorded in the DRGR system. The DRGR system requires grantees to use program income before drawing additional grant funds and to ensure that program income retained by one subrecipient will not affect grant draw requests for other subrecipients. Subrecipients will be required to report program income quarterly and will be subject to applicable rules, regulations, and HUD guidance. Retention of program income will comply with the subrecipient agreements.

If any program income remains at program closeout, FloridaCommerce will return these funds to HUD.

4.7 Resale or Recapture

An applicant may be required to repay all, or a portion of the funds received. The reasons for recapture include, but are not limited to, the following:

- An applicant is determined to have provided false or misleading information to FloridaCommerce or its subrecipient;
- An applicant withdraws from the program prior to completion of the project;
- An applicant does not complete construction;
- An applicant does not report the receipt of additional insurance, SBA, FEMA, non-profit assistance, and/or any other DOB received after calculation of the award; and / or
- An applicant voluntarily or involuntarily relinquishes ownership of the property prior to the successful completion of a final program inspection.

OLTR's Recapture Policy, available on www.floridajobs.org/CDBG-DR, sets forth the policies that will guide FloridaCommerce's Recapture Program in its efforts to recapture funds that have been overpaid to applicants for any reason.

In addition, all duplicative funding obtained by a property owner must be remitted to or accounted for by FloridaCommerce or its subrecipient, regardless of when the property owner received such assistance. If property owners receive additional funding for the same purpose(s) they are awarded CDBG-DR funding, even after the CDBG-DR award is executed or construction is completed, the property owner or subrecipient is required to report the additional funding to FloridaCommerce. FloridaCommerce is obligated to evaluate whether the assistance is duplicative of the CDBG-DR award. Upon receipt of a report that additional benefits have been received, FloridaCommerce will recalculate the applicant's award and provide instructions on whether the award will be reduced by such amount, whether the applicant must remit such amounts to the program as reimbursement (when additional assistance was

received after program disbursements). Each property owner and subrecipient will execute and be bound by a subrogation agreement that outlines these responsibilities.

4.8 Program Details

4.8.1 Housing Program(s)

4.8.1.1 Housing Repair and Replacement Program (HRRP)

Grant Number	Proposed Budget	Proposed MID Budget HUD Defined	Proposed MID Budget Grantee Defined
B-23-DN-12-0001	$542,962,194.10	$434,369,755.28	$108,592,438.82

Program Description

Hurricane Ian caused extensive damage to housing in the MID areas, greatly reducing the quality and safety of much of the impacted area's housing stock. To address damage to housing, FloridaCommerce has created the HRRP, a centralized housing rehabilitation or replacement program for LMI households in the Hurricane Ian impacted areas whose home sustained damage from the hurricane. This may include single family homes and multi-family housing.

Decent, safe, and sanitary housing is crucial to human safety and survival, and FloridaCommerce recognizes that LMI households face particular difficulty recovering from the impacts of natural disasters. Through the HRRP, FloridaCommerce aims to address unmet housing needs, increase resilience, and protect human life.

FloridaCommerce proposes the following housing assistance activities under this program:

- Rehabilitation, reconstruction, or replacement of housing units (including single-family, small rental, or multi-family housing) damaged by Hurricane Ian, which may include bringing the home into code compliance, and the incorporation of mitigation measures, including elevation, to help protect against future storm impacts;
- Repairs to, or replacement of, manufactured, modular and mobile homes impacted by Hurricane Ian;
- Temporary housing assistance based on individual tenant/homeowner needs and their participation in the HRRP;
- Title assistance based on an individual homeowner's needs and their participation in the HRRP;

FloridaCommerce will manage and complete the construction process for the rehabilitation, reconstruction, or replacement of damaged homes on behalf of eligible applicants. With the assistance of staff and vendors, the state will work with a pool of qualified contractors assigned to repair, reconstruct, or replace damaged properties; applicants will not select their own contractors. The program will pay contractors directly and no funds will be paid to homeowners. Applicants will be required to enter into agreements with the state setting forth the terms and conditions of the program.

FloridaCommerce is aware of private not-for-profit entities who leverage private sector resources to work with impacted homeowners and provide short-term bridge loans to repair damage to impacted homes. These organizations are familiar with CDBG-DR regulations and cross-cutting requirements (such as duplication of benefits and environmental regulations) and can provide assistance to help homeowners remain in their home and complete repairs quickly. Homeowners who choose to work with these entities may be eligible for reimbursement of their short-term bridge loans through the Acceleration Reimbursement option administered through the HRRP. Homeowners seeking this option must complete all construction before applying for reimbursement from the HRRP. Due to federal requirements, the last day to apply for reimbursement would be May 23, 2024. In recent years, other states have introduced this type of innovation with great success.

Applicants may not initiate any further repairs on the damaged property after submission of an application for HRRP assistance. An applicant undertaking or completing any repairs after applying for HRRP assistance from FloridaCommerce may result in ineligibility for assistance through the HRRP.

Program Tieback to Disaster/Unmet Needs

All housing activities will address unmet housing needs in the Hurricane Ian MID areas and will ensure that all participants in the program can demonstrate that damage to the home can be tied back to damage from Hurricane Ian.

How Program will Promote Housing for Vulnerable Populations

Recognizing that the $542,969,194.10 allocated to HRRP will likely not address all needs, at-risk and vulnerable populations with the greatest needs will be prioritized. At a minimum, 70 percent of program funds must meet the LMI National Objective. Additionally, households with one or more of the following characteristics will be prioritized and invited to apply in the earliest applicable phase: households with members over the age of 62, households with children under the age of 18, and households with special needs or special accommodation requirements (disabled). This prioritization does not "stack." In other words, households with members both elderly and disabled do not receive higher priority than those with only elderly or disabled members. The state believes that these considerations create a fair prioritization system and better serves the spirit and fact of AFFH.

In addition, FloridaCommerce will prioritize very low- and low-income households, with the greatest prioritization for households with incomes less than 50 percent of AMI. Households with income at or above 120 percent of AMI will not be eligible for this program. FloridaCommerce is procuring an implementation vendor to assist with the implementation of the HRRP and the operation of intake centers for program applicants. This vendor will be procured with an emphasis and goal of ample outreach and program accessibility. In partnership with this vendor, FloridaCommerce will develop a comprehensive outreach campaign and, where applicable and feasible, may provide accessibility and transportation services and mobile outreach centers to ensure all households have equal opportunity and support to complete a pre-application survey, and will provide additional assistance to those invited to formally apply.

In order to ensure the most vulnerable populations are served first, FloridaCommerce will utilize a pre-application assessment which will be made available to any constituents seeking information regarding HRRP assistance. In addition to outreach strategies developed with the selected implementation vendor, FloridaCommerce and its vendor will also be conducting outreach to the impacted communities by advertising this assessment. All potential applicants must fill out the pre-application assessment in order to be invited to submit a formal application for HRRP assistance. This method will allow FloridaCommerce to "phase" potential applicants by utilizing pre-established priority criteria in order to serve the most vulnerable populations in the Hurricane Ian impacted area first. Information on completing the pre-application assessment may be found at https://deosera.my.site.com/rebuildflorida/s/. Accuracy of all information provided by potential applicants through the pre-application assessment will be verified by FloridaCommerce following formal application.

Table 139: Application Phasing for HRRP Applicants displays the phasing criteria for HRRP applicants.

Table 139: Application Phasing for HRRP Applicants

Phase	Percent of Area Median Income	Is any member of the household: under 18, over 62, and/or disabled?	Is the property in a HUD MID or State MID?
Phase 1	< 50%	Yes	Either
Phase 2	< 50%	No	Either

	50% - 80%	Yes	Either
Phase 3	50% - 80%	No	Either
Phase 4	80% - 100%	Yes	HUD
Phase 5	80% - 100%	No	HUD
Phase 6	80% - 100%	Either	State

FloridaCommerce will track and project total obligation of grant funds for each proposed activity. As the projected grant award agreement total value for any activity approaches full obligation, FloridaCommerce will analyze the remaining potential eligible applicant pipeline to determine the amount of remaining unmet need for prioritized applicants and the remaining balance of funds available to serve those applicants. FloridaCommerce may choose not to invite remaining potential applicants to apply or place remaining applicants on hold until prioritized household applicants are fully processed, and their needs addressed. As program applications are monitored, FloridaCommerce may choose to adjust the percentage of funding or re-allocate additional funding from other programs with less production to maximize assistance for prioritized eligible applicants seeking assistance.

Program Affordability Period (if Applicable)

This program is open to homeowners and owners of rental properties with the condition that it is agreed upon to meet occupancy or affordability requirements, whichever is applicable. Rental units must be affordable as prescribed in the Consolidated Notice. If currently occupied, the tenants will have the opportunity to move back into the unit or units.

FloridaCommerce will implement the following requirements:

Occupancy Period

Homeowners assisted under this program are required to maintain homeownership and primary residency of the assisted property for a minimum period of three years beginning at the time construction is completed. During this time, FloridaCommerce has the right to request documentation for proof of occupancy to ensure the applicant has continued owning and residing in the home for the required three-year period. The total grant award must be repaid, at a prorated amount, if the homeowner is determined to be out of compliance before the three-year occupancy period has expired.

Affordability Period

Rental property owners, including PHAs seeking assistance through HRRP to repair or reconstruct rental housing units will be required to ensure the rental property is affordable for LMI tenants for a minimum period of time. The minimum required affordability time periods are:

Table 140: Housing Program Affordability Periods

Type of Project	Number of Units	Minimum Required Affordability
Multi-family	less than 8	5 years
	8 or more	15 years
Single Family	1 – 4	5 years

Affordability restrictions will be enforceable by deed restrictions, covenants, or other similar mechanisms and/or instruments.

Affordable Rent

Landlords served through the HRRP will control and provide affordable rent in accordance with HUD guidelines. The affordability requirement states that property owner must lease the units to LMI

households earning 80 percent or less of the AMI and must lease the units at an affordable rent. Rent must comply with the maximum HUD HOME rent limits. The maximum HUD HOME rent limits are the lesser of:

- The fair market rent for existing housing for comparable units in the area as established by HUD under 24 CFR 888.111; or
- A rent that does not exceed 30 percent of the adjusted income of a family whose annual income equals 65 percent of the AMI, as determined by HUD, with adjustments for number of bedrooms in the unit. The HUD HOME rent limits will include average occupancy per unit and adjusted income assumptions.

Program Definition of Second Home/Eligibility

A second home is defined in the Consolidated Notice as a home that is not the primary residence of the owner, a tenant, or any occupant at the time of the disaster or at the time of application for CDBG–DR assistance. Second homes, vacation residences, and short-term, seasonal, and vacation rental properties are not eligible for assistance under the HRRP.

The HRRP will require the applicant to be the primary resident homeowner or property owner of the rental property at the time Hurricane Ian made landfall. HUD's regulations, regarding the use of funding for Hurricane Ian recovery, state an alternative requirement for housing rehabilitation which prohibits housing rehabilitation assistance for second homes. Properties that served as second homes at the time of the disaster, or following the disaster, are not eligible for rehabilitation assistance or housing incentives. FloridaCommerce considers second homes ineligible for assistance through the HRRP.

Applicants who purchased or moved into the damaged property after the specified disaster are not eligible for assistance under this program.

FloridaCommerce will verify a primary residence using a variety of documentation including, but not limited to, property tax records, utility statements, FEMA award letters, and homeowners' insurance claim documentation.

Program National Objectives

Benefit to LMI persons or Urgent Need (UN) (meeting a need having a particular urgency).

When using the UN National Objective, FloridaCommerce must provide justification that certifies the urgency of the condition. FloridaCommerce must document that the project is urgent because of an existing condition that poses a serious and immediate threat to the health or welfare of the community and indicate that no other financial resources are available. The documentation narrative should also:

1. Tie the current urgent need and future risks to the Unmet Needs Assessment for Hurricane Ian.
2. Prove that a measurable and verifiable reduction in the risk of loss of life and property will occur. Summarize how these reductions will be achieved and how they will yield community development benefits; and
3. Illustrate a plan to fund long-term operation and maintenance of the project and summarize how this will be done. (Funding options for long-term operation and maintenance might include state or local resources, borrowing authority, or a retargeting of existing financial resources).

The UN national objective will only be used after all eligible LMI applicants to the HRRP have been served.

Program Eligibility

The HRRP will serve primary resident homeowners and owners of rental properties in HUD and state-identified MID counties. Property owners must prove Hurricane Ian storm damage to qualify for HRRP assistance. The following additional eligibility criteria apply:

- Projects must demonstrate tie-back to Hurricane Ian.
- Projects must not duplicate benefits.

- Projects must be for eligible structures, as determined by the program, including but not limited to single family residences, duplexes, condominiums, mobile homes, and resilient manufactured (modular) housing units.
- Household income must be below 120 percent AMI.

As with all proposed projects, FloridaCommerce will have to document that there will be no DOB. This is especially important in areas that may receive additional federal assistance to address Hurricane Ian-related impacts.

Program Responsible Entity

FloridaCommerce is the lead state agency and RE for administering the HRRP.

Program Maximum Assistance

The maximum assistance for HRRP is $350,000.

The maximum assistance will be further detailed in the HRRP guidelines.

Program Estimated Begin and End Dates

Begin Date: Anticipated 90 days after grant agreement execution.

End date: Anticipated to be no more than 36 months following program launch.

Other Program Details

For all construction activities completed by FloridaCommerce, the program will pay contractors directly and no funds will be paid to homeowners. Applicants will be required to enter into agreements with the state setting forth the terms and conditions of the program. This program is open to homeowners and owners of rental properties with the condition of meeting post-construction occupancy or affordability requirements, whichever is applicable. Rental units must be affordable as prescribed in the Consolidated Notice. If currently occupied, the tenants will have the opportunity to move back into the unit or units.

Flood Insurance

FloridaCommerce may not provide disaster assistance for the repair, replacement, or restoration of a property to a person who has failed to satisfy Federal requirements to obtain and maintain flood insurance. FloridaCommerce will implement a process to verify and monitor for compliance with section 582 of the National Flood Insurance Reform Act of 1994, as amended, (42 U.S.C. 5154a) and the requirement to obtain and maintain flood insurance. FloridaCommerce may, on a case-by-case basis and at the sole discretion of FloridaCommerce, use CDBG–DR funds to assist beneficiaries in the purchase of flood insurance to comply with this requirement, subject to the requirements of cost reasonableness and other federal cost principles.

If an applicant previously received federal disaster relief assistance which required the recipient to maintain flood insurance, and the applicant did not maintain such insurance, the applicant is not eligible for assistance through the HRRP.

Duplication of Benefits

To prevent DOB, FloridaCommerce will require that all sources (federal, state, local and private) and amounts of disaster housing assistance received or reasonably anticipated to be received are documented with submission of an application for CDBG-DR funding. DOB for housing assistance will only consider other sources of funding pertaining to structural damage caused by Hurricane Ian. Assistance for contents and personal items will not be considered duplication.

All duplicative funding received by the applicant must be remitted to or accounted for by FloridaCommerce, regardless of when it is received by the applicant. The HRRP will calculate the applicant's award and provide instructions as to whether duplicative funds must be used in construction prior to award of funds by the HRRP, whether the applicant's award will be reduced by the duplicative amount, or whether the applicant must remit such amounts to the HRRP. Prior to program-related

construction, applicant awardees must remit any additional funds received for housing damage caused by the presidentially-declared hurricane disaster to the state to avoid DOB.

Any additional funds paid to applicant awardees for the same purpose as HRRP funds after the state has completed the repair, rehabilitation, or replacement of the applicant's housing unit(s) must be returned to FloridaCommerce.

DOB is statutorily prohibited. Policies and procedures will dictate the process to prevent duplication. CDBG-DR funding must be the funding of last resort.

Construction Standards

FloridaCommerce will implement construction methods that emphasize quality, durability, energy efficiency, sustainability, and mold resistance. All HRRP rehabilitation and reconstruction work will be designed to incorporate principles of sustainability, including water and energy efficiency, resiliency, and mitigation against the impact of future disasters. FloridaCommerce will implement and monitor construction results to ensure the safety of residents and the quality of homes assisted through the program. All housing units repaired or replaced must comply with the current HUD Housing Quality Standards (HQS). The housing assistance provided under the HRRP will be built with emphasis on high quality, durable, sustainable, and energy efficient construction methods and materials. These methods and materials will include the following minimum standards:

- Construction standards will be based on the FBC and must meet or exceed applicable requirements, as determined by the municipality where construction is to occur;
- Construction will comply with the Green Building Standard for all reconstruction of residential buildings and for all reconstruction of substantially damaged residential buildings (i.e., where repair costs exceed 50 percent of replacement or reconstruction cost) under the Florida Green Building Coalition; and
- For rehabilitation construction, the state will follow the Green Building Retrofit Checklist to the extent applicable to the rehabilitation work undertaken, including the use of mold resistant products when replacing surfaces such as drywall. When older or obsolete products are replaced as part of rehabilitation work, rehabilitation work is required to use ENERGY STAR-labeled, WaterSense-labeled, or Federal Energy Management Program (FEMP)-designated products and appliances, or other equivalent.

Cost Reasonableness

Properties with rehabilitation and/or elevation cost estimates that meet or exceed 60 percent of a comparable reconstruction or replacement house, as determined by standard operating procedures and policies, properties with rehabilitation and/or elevation cost estimates that meet or exceed a comparable reconstruction or replacement house will be limited to reconstruction or replacement as a more cost reasonable option. HRRP homeowner-occupant participants household incomes cannot exceed 120 percent AMI.

Minimizing Displacement

The state plans to minimize displacement of persons and assist those displaced as a result of implementing a project with CDBG-DR funds. Should any projects cause displacement, FloridaCommerce will follow the URA to ensure tenants are relocated to decent, safe, and sanitary locations. The URA provides, at 49 CFR 24.402(b), that a displaced person is eligible to receive a rental assistance payment that covers a period of 42 months.

Temporary Housing Assistance Benefit

As a general rule, the HRRP will not provide temporary relocation costs to homeowner applicants who will be required to vacate their property during construction activities. As the HRRP is a voluntary program for owner-occupants and those applicants are made aware of program policies at the time of application, temporary relocation will be the owner-occupant's responsibility. However, FloridaCommerce recognizes that some HRRP beneficiaries, particularly LMI households and those with vulnerable household

members, may face financial challenges caused by the cost of interim housing that may be necessary during the repair or reconstruction process. To avoid displacement and homelessness of HRRP applicants, FloridaCommerce has developed the Temporary Housing Assistance Benefit (THAB) to provide additional assistance for HRRP applicants who are experiencing financial hardship due to, or exacerbated by, the cost of interim housing.

On a case-by-case basis, through THAB, FloridaCommerce will provide temporary rental assistance to homeowner applicants experiencing hardship and displacement for an extensive period of time, or other substantiated extenuating circumstances due to HRRP activities.

THAB will be available to HRRP participants with an executed Homeowner Grant Agreement (HGA), until completion of HRRP activities on their damaged home. THAB provides assistance under the HRRP for unmet needs related to eligible short-term lodging or rental expenses, for up to 6 months, provided the household is at or below 80 percent AMI and is a beneficiary also receiving HRRP assistance for their Hurricane Ian damaged property.

THAB is a housing assistance benefit not directly resulting in the rehabilitation, replacement, or reconstruction of a home. Therefore, THAB does not count against the program cap for rehabilitation, replacement, or reconstruction of the home. The program construction cap identified in this Action Plan applies to hard and soft construction costs associated with the Hurricane Ian repairs. THAB will have a maximum assistance cap of $20,000 in program sponsored payments. Construction delays, in which FloridaCommerce's assigned construction contractor is responsible, may result in contractor responsibility for provisions of additional housing assistance; this additional assistance is not limited by the THAB cap.

Homeowners who choose to stay with friends or family in lieu of staying in a hotel or a short-term leased apartment are not eligible for THAB payments. Further, any homeowner who initially utilizes THAB assistance and subsequently abandons the temporary housing situation will have all future THAB payments terminated. If a recipient of THAB abandons the temporary housing situation without properly checking out and without notifying the program of their departure, and charges are incurred for any nights proceeding, the recipient of THAB will be responsible for any costs incurred and considered disallowed by FloridaCommerce.

The THAB allows short-term lodging in the form of temporary hotel assistance , or temporary rental assistance, the total of which cannot exceed six months.

THAB Eligibility

THAB assistance is only available to active HRRP participants who

4. Have household incomes at or below 80 percent AMI;
5. Have executed an HRRP HGA for Hurricane Ian;
6. Are currently in award status, but construction has not been completed;
7. Require temporary housing due to other circumstances of hardship, as approved by FloridaCommerce, including temporary displacement that requires that the damaged home be vacated for safety and other reasonable measures during construction; and
8. Will stay in a hotel, motel, or extended stay hotel, unless alternative arrangements are needed due to excessive length of displacement or reasonable accommodations which cannot be met in standard short-term lodging.

In addition to the criteria listed above, the following eligibility criteria also applies:

- Recipients of THAB assistance cannot receive concurrent temporary lodging or rental assistance from other governmental or charitable organization(s) that would cause a duplicative benefit.
- If the homeowner received any rental assistance from FEMA, Tenant-Based Rental Assistance (TBRA), Project-Based Rental Assistance (PBRA), or Section 8 Housing, the funding must have been exhausted prior to provision of CDBG-DR THAB funds.

- Funds must be used for lodging and cannot be used for any other purpose.

THAB is not a DOB to housing rehabilitation, repair, or reconstruction funds, as it constitutes a separate and distinct eligible activity. Prior to deeming a homeowner eligible for THAB assistance, FloridaCommerce will verify that prior rental assistance, if received, has been exhausted on eligible costs.

THAB Assistance Types

THAB is dependent on the homeowner applicants' and tenants' needs, which will be identified and confirmed by HRRP representatives to determine the best and most reasonable options available to homeowners and tenants. THAB assistance may be provided in the form of temporary lodging in units such as hotels, motels, or extended stay hotels, intended not to exceed 90 days, but may be extended until the project is complete. The benefit will be calculated based on the Government Services Agency (GSA) nightly lodging rates for the applicant's area. GSA rates can be found at https://www.gsa.gov/travel/plan-book/per-diem-rates.

THAB assistance types include:

1. Temporary Hotel Assistance: Funding will be provided for temporary hotel lodging for families for up to an estimated 90 days or until construction is complete.
2. Extended Temporary Hotel Assistance: In the event that the construction contractor notifies FloridaCommerce that the project will exceed the original schedule and a homeowner will not be able to reoccupy his or her home due to construction timelines that exceed the initial assistance, an extension of benefits may be issued to prevent homelessness or additional undue financial burden. The extension will be granted based on a new estimated timeline from the construction contractor.
3. Alternative Lodging Assistance: In cases where the duration of estimated displacement exceeds 90 days due to other extenuating factors, alternative lodging (i.e., lodging alternative to hotel, motel, extended stay hotel) may be approved on a case-by-case basis.

THAB Maximum Benefit

THAB covers 100 percent of the hotel, motel, or extended stay hotel's nightly or monthly rate, as noted below, without a percentage cost share required from the homeowner. The benefit is capped at a maximum of $20,000. This maximum may be waived in areas with spiking rates, as defined by the GSA publication, with FloridaCommerce approval on a case-by-case basis.

Extension of Benefit

If the reconstruction or rehabilitation timeline extends beyond the initial estimate, FloridaCommerce, in its sole discretion, may approve any extensions of temporary housing, on a case-by-case basis. The HRRP program guidelines will contain information and a point of contact where questions regarding THAB extensions should be directed

Termination or Discontinuation of THAB Assistance

Temporary housing assistance is discontinued when a homeowner's home passes final inspection; the homeowner is expected to reoccupy his or her home within five days of a passed final inspection. No additional payments for THAB will be allowed after the fifth day following a passed final inspection.

FloridaCommerce recognizes that there may be unforeseen circumstances that cause a homeowner to withdraw from, become inactive in, or be disqualified from the HRRP after the eligibility determination and after the homeowner has agreed to proceed in the program. Termination or discontinuation of THAB assistance may occur when:

- An eligible homeowner who has received or is receiving THAB assistance withdraws, becomes inactive, or is disqualified from the program. THAB assistance must cease immediately upon such determination by program staff.
- A homeowner has executed their grant agreement and fails to move out of the property in a timely manner, as notified by the Program, to allow construction activities to begin.

- A homeowner fails to check-in to their THAB reservation, the HRRP has attempted to contact the homeowner and, if after 24 hours following the contact attempt, the homeowner has not provided a reasonable cause for missing their check-in date/time. This will be evaluated on a case-by-case basis to mitigate wasteful spending.
- A homeowner is negligent or causes damage to the temporary lodging. In these cases, the HRRP will immediately notify the homeowner and terminate THAB assistance. The homeowner will be responsible for the cost of all damages.
- A homeowner chooses to stay with friends or family in lieu of staying in a hotel or other THAB eligible arrangement. Terminating occupancy of a hotel to stay with family or friends will result in termination of payments.
- A homeowner enters into a short-term lease agreement without prior review and approval from the Program.

Upon notice of any of the above conditions, THAB recipients should be immediately provided with a Termination of Temporary Housing Notice along with instructions for appeal.

Acknowledging that there may be extenuating circumstances that result in a homeowner's withdrawal or inactivity subsequent to his or her eligibility determination and agreement to participate in the program, FloridaCommerce may allow an exception to the recapture policy with documented proof of and acceptance by FloridaCommerce of the hardship. Policies and procedures for THAB will be updated, as needed, as the program evolves, and unforeseen situations arise.

Demonstrable hardships may include job loss, failure of a business, divorce, severe medical illness, injury, death of a family member or spouse, unexpected and extraordinary medical bills, disability, substantial income reduction, unusual and excessive amount of debt due to a natural disaster, etc. None of the listed examples above, individually or taken together, automatically establish a demonstrable hardship, nor is the listing above exhaustive as there may be other factors relevant to the issue of demonstrable hardship in a particular case.

If an applicant believes that they are in the state of demonstrable hardship and that the demonstrable hardship causes them to not comply with program policies, then they may present their evidence of a demonstrable hardship to their program representative and request temporary housing assistance. The program will evaluate temporary housing requests on a case-by-case basis after review of all circumstances. Individuals with proof of household income below 30 percent AMI who request THAB assistance will be presumed to be experiencing demonstrable hardship.

Accessibility/Disability Accommodations

Reasonable steps will be taken to accommodate accessibility and other special needs to ensure the THAB placement is appropriate to the homeowner and the household members.

Title Assistance Benefit

When there is a significant presence of Heirs Property, which occurs when land is jointly owned by descendants of deceased persons whose estate was never handled in probate, these descendants (heirs) have the right to use the property, but they do not have clear or marketable title to the property because the estate issues have not been resolved. Homeowners must have sufficient ownership rights in the property to authorize FloridaCommerce to commence recovery activities on the property.

To address the presence of Heirs Property, FloridaCommerce has developed the Title Assistance Benefit (TAB) to provide additional assistance for homeowners participating in the HRRP who are experiencing a financial hardship, where the homeowner would otherwise be eligible for rehabilitation, reconstruction, or replacement assistance but is unable to move forward due to pending Heirs Property title issues. The TAB provides assistance under the HRRP to resolve Heirs Property title issues, provided the household is at or below 50 percent AMI and is a beneficiary also receiving assistance for the rehabilitation, reconstruction, or replacement of their Hurricane Ian damaged property.

The TAB is a housing assistance benefit not directly resulting in the rehabilitation, replacement, or reconstruction of a home. Therefore, TAB does not count against the program cap for rehabilitation, replacement, or reconstruction of the home. The HRRP maximum assistance cap identified in this Action Plan applies to hard and soft construction costs associated with the Hurricane Ian repairs. TAB will be capped at a maximum of $20,000 in program sponsored payments.

TAB can fund legal services to assist HRRP participants with resolving title issues related to Heirs Property. Reevaluation of assistance to exceed the $20,000 cap is available on a case-by-case basis by the FloridaCommerce Policy Exceptions Review Panel following extenuating circumstances.

TAB Eligibility

TAB assistance is only available to active HRRP participants. “Active” participants are defined as HRRP homeowners who are post-application, meaning the homeowner has provided all the information requested by the application but has an unresolved title interest to the property due to the property being shared Heirs Property.

In addition to the criteria listed above, the following eligibility criteria also applies. Homeowners must:

1. Have a total household income at or below 50 percent AMI.
2. Be eligible for HRRP assistance if not for the Heirs Property title issues.
3. Not receive concurrent legal assistance from other governmental or charitable organization that would cause a DOB.
4. Have exhausted any funding received from another source for legal assistance, such as a non-profit organization or legal aid, prior to provision of CDBG-DR TAB funds.

Funds must be used for title resolution services related to Heirs Property.

The TAB is not a DOB to housing rehabilitation, repair, or reconstruction funds, as it constitutes a separate and distinct eligible activity.

How Mitigation Set-Aside Activities will Meet Definition of Mitigation? (if Applicable)

Housing activities completed through HRRP may include repair of private sea walls, elevation, and the use of weather hardening features in homes impacted by Hurricane Ian, in order to better withstand and mitigate against the impacts of future disasters. In doing such, these activities will meet the HUD definition of mitigation and will be considered mitigation activities as the completion of qualifying HRRP projects incorporating mitigation measures will serve to “increase resilience to disasters and reduce or eliminate the long-term risk of loss of life, injury, damage to and loss of property, and suffering and hardship, by lessening the impact of future disasters,” as stated in the AAN. In addition to meeting this definition of mitigation, HRRP projects incorporating mitigation measures will meet the following requirements for mitigation activities:

- Address the current and future risks identified in the Mitigation Risk-Based Assessment, located in Section 2.6.1 Risk-Based Assessment Methodology;
- Be considered CDBG-eligible under Title I of the HCDA or pursuant to a waiver or alternative requirement; and
- Meet a national objective.

How Mitigation Set-Aside Activities will Address Current and Future Risks (if Applicable)

The incorporation of mitigation measures into HRRP projects will enable those structures to better withstand the impacts of future disasters. FloridaCommerce will provide such hardening through elevation and the incorporation of hardening measures, which may include items such as storm impact windows/doors, hurricane clips.

4.8.1.2 Multiple Impact Program (MIP)

Grant Number	Proposed Budget	Proposed MID Budget HUD Defined	Proposed MID Budget Grantee Defined
B-23-DN-12-0001	$120,000,000	$96,000,000.00	$24,000,000.00

Program Description

Several counties impacted by Hurricane Ian in 2022 also suffered impacts from Hurricane Irma in 2017, leading to a significant number of homeowners in these areas suffering setbacks in their recovery process. The Multiple Impact Program (MIP) will serve these vulnerable homeowners who have yet to be served through the Hurricane Irma HRRP, which is oversubscribed. MIP will also assist homeowners who suffered additional damage from Hurricane Ian to ensure all needs are met. The MIP is meant to provide assistance to applicants from the Hurricane Irma HRRP that remain unserved and are present in MID areas that overlap with the Hurricane Ian MID areas. The Consolidated Notice allows for use of CDBG-DR funds allocated for recovery of a disaster to be used interchangeably for recovery from a separate disaster as long as the areas served by the funds are also identified as MID areas for the disaster for which the funds were initially allocated. All waivers and alternative requirements identified in the AAN apply to the use of these funds.

Program Tieback to Disaster/Unmet Needs

All housing activities will address unmet housing needs in counties identified as MID areas for both Hurricane Irma and Hurricane Ian and will ensure that all participants in the program can demonstrate that damage to the home can be tied back to damage from Hurricane Irma.

How Program will Promote Housing for Vulnerable Populations

As detailed in the Hurricane Irma Action Plan for Disaster Recovery, at-risk and vulnerable populations with the greatest needs will be prioritized. At a minimum, 70 percent of program funds meet an LMI National Objective. Additionally, households with one or more of the characteristics identified below will be prioritized and processed in the order that they complete an application.

- Households with seniors age 62+
- Households with children under the age of 18
- Households with special needs or special accommodation requirements (disabled)

FloridaCommerce believes that the prioritization of households with these characteristics creates a fair prioritization system and better serves the spirit and fact of AFFH. Furthermore, FloridaCommerce clarifies that prioritization does not “stack.” In other words, families with members both elderly and disabled do not receive higher priority than those with only elderly or disabled members.

FloridaCommerce will track and project total obligation of grant funds for each proposed activity. As program applications are monitored, FloridaCommerce may choose to adjust the percentage of funding or re-allocate additional funding from other programs with less production to maximize assistance for priority applicants eligible and seeking assistance.

The MIP intends to serve the most vulnerable populations that remain unserved under the oversubscribed Hurricane Irma HRRP. The MIP aims to reduce the risk of homelessness by expediting repairs to homes vulnerable to further deterioration.

Program Affordability Period (if Applicable)

FloridaCommerce will implement the following requirements.

Occupancy Period

Homeowners assisted under this program are required to maintain homeownership and primary residency of the assisted property for a minimum period of three years beginning at grant closing. During this time FloridaCommerce has the right to request documentation for proof of occupancy to ensure the applicant has continued owning and residing in the home for the required 3-year period. The total grant award must be repaid, at a prorated amount, if the homeowner is determined to be out of compliance before the 3-year occupancy period has expired.

Affordability Period

Rental property owners, including PHAs seeking assistance through HRRP to repair or reconstruct rental housing units will be required to ensure the rental property is affordable for LMI tenants for a minimum period of time. The minimum required affordability time periods are:

Table 141: Housing Program Affordability Periods

Type of Project	Number of Units	Minimum Required Affordability
Multi-family	less than 8	5 years
	8 or more	15 years
Single Family	1 – 4	5 years

Affordability restrictions will be enforceable by deed restrictions, covenants, or other similar mechanisms and/or instruments.

Affordable Rent

Landlords served through FloridaCommerce's housing programs will control and provide affordable rent in accordance with HUD guidelines. The affordability requirement states that the property owner must lease the units to LMI households earning 80 percent or less of the AMI and must lease the units at an affordable rent. Rent must comply with the maximum HUD HOME rent limits. The maximum HUD HOME rent limits are the lesser of:

- The fair market rent for existing housing for comparable units in the area as established by HUD under 24 CFR 888.111; or
- A rent that does not exceed 30 percent of the adjusted income of a family whose annual income equals 65 percent of the AMI, as determined by HUD, with adjustments for number of bedrooms in the unit. The HUD HOME rent limits will include average occupancy per unit and adjusted income assumptions.

Program Definition of Second Home/Eligibility

A second home is defined in the Consolidated Notice as a home that is not the primary residence of the owner, a tenant, or any occupant at the time of the disaster or at the time of application for CDBG–DR assistance. Second homes, vacation residences, and short-term, seasonal, and vacation rental properties are not eligible for assistance under the MIP.

The MIP will require the applicant to be the primary resident homeowner or property owner of the rental property at the time Hurricane Irma made landfall and must remain the primary resident homeowner or property owner of the rental property when applying to the program. HUD's regulations, regarding the use of funding for Hurricane Ian recovery, state an alternative requirement for housing rehabilitation which prohibits housing rehabilitation assistance for second homes. Properties that served as second homes at the time of the disaster, or following the disaster, are not eligible for rehabilitation assistance or housing incentives. FloridaCommerce considers second homes ineligible for assistance through the HRRP. In the case that an applicant must relocate due to unsafe, unsanitary, or indecent conditions of their home while awaiting HRRP assistance, the homeowner applicant must maintain homestead exemption on the damaged property in order for the home to be considered a primary residence and eligible for HRRP assistance.

Applicants who moved into the damaged property after the specified disaster(s) are not eligible for assistance under this program.

FloridaCommerce will verify a primary residence using a variety of documentation including, but not limited to, voter registration cards, tax returns, homestead exemptions, driver's licenses, and rental agreements.

Program National Objectives

Benefit to LMI persons or Urgent Need (UN) (meeting a need having a particular urgency).

When using the UN National Objective, FloridaCommerce must provide justification that certifies the urgency of the condition. FloridaCommerce must document that the project is urgent because of an existing condition that poses a serious and immediate threat to the health or welfare of the community and indicate that no other financial resources are available. The documentation narrative should also:

1. Tie the current urgent need and future risks to the Unmet Needs Assessment for Hurricane Ian.
2. Prove that a measurable and verifiable reduction in the risk of loss of life and property will occur. Summarize how these reductions will be achieved and how they will yield community development benefits; and
3. Illustrate a plan to fund long-term operation and maintenance of the project and summarize how this will be done. (Funding options for long-term operation and maintenance might include state or local resources, borrowing authority, or a retargeting of existing financial resources).

The UN national objective will only be used after all eligible LMI applicants to the HRRP have been served.

Program Eligibility

The MIP will serve primary resident homeowners and owners of rental properties that are "active" applicants from the Hurricane Irma HRRP that remain unserved and are present in MID areas that overlap with the Hurricane Ian MID areas. The following additional eligibility criteria apply:

- Projects must demonstrate "tie-back" to the hurricane event (Hurricane Irma).
- Projects must not duplicate benefits.
- Projects must be for eligible structures, as determined by the program, including but not limited to single family residences, duplexes, condominiums, mobile homes, and resilient manufactured (modular) housing units.
- Household income must be below 120 percent AMI.

As with all proposed projects, homeowners will have to document that there will be no DOB. This is especially important in areas that may receive additional federal assistance to address Hurricane Irma-related impacts.

Table 142: Overlapping MID Counties for Hurricane Irma and Hurricane Ian below lists the counties that have been identified as MID areas for both Hurricane Irma and Hurricane Ian. Only active Hurricane Irma HRRP applicants located within the counties identified below are eligible for assistance through the MIP.

Table 142: Overlapping MID Counties for Hurricane Irma and Hurricane Ian

Overlapping MID Counties for Hurricane Irma and Hurricane Ian		
Brevard	Charlotte	Collier
DeSoto	Flagler	Glades
Hardee	Hendry	Highlands
Hillsborough	Lake	Manatee
Monroe	Okeechobee	Osceola

Pinellas	Polk	Putnam
Seminole	St. Johns	

Program Responsible Entity

FloridaCommerce is the lead state agency and RE for administering the MIP.

Program Maximum Assistance

Maximum Award (per unit): $350,000

FloridaCommerce may increase the $350,000 cap if construction and elevation cost prove to be higher than originally estimated due to recent national disasters' impact on the market.

Program Estimated Begin and End Dates

Begin Date: Anticipated immediately following execution of the HUD funding agreement.

End date: Anticipated to be no more than 24 months following program launch.

Other Program Details

Four counties served by the Hurricane Irma HRRP and impacted by Hurricane Ian are grantees of CDBG-DR funds allocated under the Hurricane Ian AAN. As these counties are directly receiving funds for their own disaster recovery projects and are not identified as Hurricane Ian MID areas in this Action Plan, Hurricane Irma HRRP applicants located in Lee, Orange, Sarasota, and Volusia Counties are not eligible for assistance through the MIP. However, these applicants may be able to be served under remaining Hurricane Irma HRRP assistance, as feasible.

The MIP will be administered using the same guidelines as the Hurricane Irma HRRP, which are posted to the Hurricane Irma website at FloridaJobs.org/CDBG-DR/Hurricane-Irma. Exceptions to this include instances where the policies and procedures for the Hurricane Irma HRRP differ from or conflict with the guidance within the ANN and/or the Consolidated Notice.

Section IV.A.3. of the AAN, Interchangeability of disaster funds, allows for funds allocated under the AAN and prior or future appropriations to be used interchangeably and without limitation for the same activities in MID areas resulting from a major disaster in prior or future appropriation acts, as long as the MID areas overlap, and the activities address unmet needs of both disasters. All waivers and alternative requirements associated with a CDBG–DR grant apply to the use of the funds provided by that grant, regardless of which disaster the funded activity will address. In compliance with the interchangeable use of funds allowed by this requirement, where guidance differs for the Hurricane Irma HRRP and the AAN and the Consolidated Notice, FloridaCommerce will administer the MIP in compliance with guidance outlined in the ANN and the Consolidated Notice.

One such difference in guidance that should be noted by recipients of MIP assistance is that the AAN contains DOB guidance that differs from the guidance outlined in Federal Register Vol. 84, No. 119 (June 20, 2019) to which Hurricane Irma HRRP projects are subject. CDBG-DR funds for disasters occurring in 2022 and all projects funded by a grant allocated through the AAN (including recipients of MIP assistance) are subject to the DOB requirements located in IV.A.1. of the AAN and section IV.A. of the Consolidated Notice. In compliance with this new guidance, recipients of MIP assistance must undergo a DOB calculation compliant with the updated process and requirements outlined in the AAN and the Consolidated Notice.

In addition, recipients of CDBG-DR funds for disasters occurring in 2022 or later (including recipients of MIP assistance) are not able to reimburse the costs paid by subsidized loans, including SBA loans, unless the exceptions in section IV.A.1.a. of the Consolidated Notice apply.

4.8.1.3 Workforce Affordable Housing Construction Program (WFAH)

Grant Number	Proposed Budget	Proposed MID Budget HUD Defined	Proposed MID Budget Grantee Defined
B-23-DN-12-0001	$100,000,000.00	$80,000,000.00	$20,000,000.00

Program Description

FloridaCommerce will work in partnership with FHFC to manage the WFAH program which will result in the construction of new affordable rental housing for renters in areas impacted by Hurricane Ian. FHFC may also repair existing multi-family affordable rental housing. The term "workforce," as used under this program refers to LMI individuals, including any LMI individuals in the senior population.

CDBG-DR funds will be provided as zero-interest, non-amortizing loans (including forgivable loans) to qualified developers to support development.

FHFC will follow its established policies and procedures and regulatory requirements including those for affordability covenants, land use restrictions, etc. for developments that will be recorded and enforceable for non-compliance.

Program Tieback to Disaster/Unmet Needs

The WFAH will provide funding to facilitate the creation of quality, affordable housing units to help Florida build resiliency and alleviate the rental stock shortage caused by Hurricane Ian in the most impacted areas of the state.

How Program will Promote Housing for Vulnerable Populations

The term "workforce," as used under this program refers to LMI individuals , including any LMI individuals in the senior population. The affordable housing created by this program is also intended to serve vulnerable populations and reduce the risk of homelessness by requiring certain funded developments to set aside a percentage of units, as specified in the RFA, to serve extremely low income (ELI) households established in the area median incomes set by FHFC, and to set aside a percent, as specified in the RFA, of those ELI units to serve Homeless and Persons with Special Needs as defined in Florida Statutes.

Program Affordability Period (if Applicable)

Any new rental housing created under this program will have a minimum affordability period of 20 years.

FloridaCommerce will use FHFC's definition of affordable rents which are provided at www.floridahousing.org/owners-and-managers/compliance/rent-limits.

Program Definition of Second Home/Eligibility

A second home is defined in the Consolidated Notice as a home that is not the primary residence of the owner, a tenant, or any occupant at the time of the disaster or at the time of application for CDBG–DR assistance.

Units developed through the WFAH program will serve as primary residences. Units created through the WFAH will not serve as seasonal, short-term, and/or vacation rentals for the duration of the affordability period. FloridaCommerce can verify a primary residence using a variety of documentation including, but not limited to, voter registration cards, tax returns, homestead exemptions, driver's licenses, and rental agreements.

Program National Objectives

The national objective of the WFAH program is LMI benefit.

Program Eligibility

Eligible Applicants: Eligible Applicants will include private for-profit and nonprofit housing developers and PHAs with experience developing and managing rental properties in size and scope of the proposed development. Local governments may apply for funds in partnership with these entities.

To be considered for funding, eligible applicants will be required to show ability to proceed with construction and demonstrate experience in developing and managing affordable housing in size and scope of the proposed development, and, if applicable, must have a financing structure that leverages CDBG-DR funding. To ensure feasibility, the proposed development will be underwritten in accordance with underwriting standards in place at FHFC.

Eligibility Criteria: The proposed developments must help address unmet needs in the HUD-or State-identified MID areas.

All developments funded will be required to meet the following criteria:

- Green Building Standards
- Energy Efficiency Standards
- Accessibility and Visitability Standards
- Resiliency Standards

Applicants must meet the eligibility requirements as outlined in 24 CFR Part 570.202, as noted in the waiver at II.B.1 of the Consolidated Notice.

Program Responsible Entity

FHFC is the RE for administering this program.

Program Maximum Assistance

$100,000,000

Program Estimated Begin and End Dates

Begin Date: Anticipated within 90 days after execution of the HUD funding agreement.

End date: Anticipated to be no more than 60 months following program launch.

Other Program Details

FHFC will issue one or more Requests for Applications (RFA) for this funding. Developers may need different funding options depending on the size, scope, and impacted area of the proposed development. Where appropriate, CDBG-DR funds can be effectively leveraged with four percent Low Income Housing Tax Credits (LIHTC), local or state Tax-Exempt Bond Financing, or other local financing to produce new or rehabilitate existing affordable housing rental units. In other impacted areas of the state, it may not be feasible to finance new rental development or rehabilitate existing developments with Tax-Exempt Bond Financing; this is particularly true for smaller, less populated impacted counties. In these areas, CDBG-DR may be used to provide stand-alone, or act as the primary source of funds needed to finance the development.

Maximum subsidy limits will follow the applicable HOME Investment Partnership Program per-unit limits and will target LMI households. The units created under this program, at a minimum, will follow the established HOME Program Rent schedule or any other funding source used to finance the development with a more restrictive rent schedule and will be set-aside for the required CDBG-DR affordability period plus the longer affordability periods required by the additional financing source (such as FHFC or local Tax-Exempt Bonds and/or LIHTC, for example). In the event one program has less restrictive requirements, the more stringent program requirements will apply to ensure all requirements are met.

Any new housing construction will meet the elevation requirements outlined in the Consolidated Notice and the NFIP purchase requirements prior to the commencement of construction activities in section II.B.2.c. of the Consolidated Notice.

Program Competitive Application Overview (if applicable)

CDBG-DR funds will be awarded to eligible applicants through a competitive application process.

FHFC will include the criteria for prioritizing proposed projects under this program within the WFAH RFAs. These guidelines will be available on FHFC's webpage and will demonstrate how the programs will promote affordable housing in HUD and State-designated MID areas.

FHFC will serve as a subrecipient to FloridaCommerce, administering one or more competitive solicitations seeking applications from for-profit and nonprofit developers and PHAs to build affordable housing in targeted areas of the state.

4.8.2 Infrastructure Program(s)

4.8.2.1 Hazard Mitigation Grant Match Program

Grant Number	Proposed Budget	Proposed MID Budget HUD Defined	Proposed MID Budget Grantee Defined
B-23-DN-12-0001	$82,130,605.90	$65,704,484.72	$16,426,121.18

Program Description

Long-term resilience measures and infrastructure improvements are critical to the ongoing recovery of the State of Florida following Hurricane Ian. To fortify infrastructure with resilience measures, it is important to leverage CDBG-DR dollars in conjunction with other sources of funding.

Funds available through FEMA's HMGP represent a unique and significant opportunity for the state to carry out strategic and high impact activities to rebuild and harden infrastructure to prevent, reduce, or mitigate losses from future disasters.

FloridaCommerce will maximize the benefit achieved through the expenditure of CDBG-DR funds by allocating $82,130,605.90 to the Hazard Mitigation Grant Match Program (HMGMP) to meet the HMGP 25 percent local match requirement for eligible UGLGs. Financing the 25 percent local match requirement with CDBG-DR funds will allow impacted communities to execute necessary and significant infrastructure projects that they may not otherwise have the monetary means to complete. Priority will be given to projects located within small and fiscally constrained UGLGs in order to ensure that counties and UGLGs with the most need are served.

FloridaCommerce will include FEMA's 12-Month Lock-in for Hurricane Ian impacted counties, anticipated to be released in October 2023, in its HMGMP program guidelines.

Activities may include, but may not be limited to, buyouts, structural elevation, localized flood risk reduction, infrastructure retrofitting, and post-disaster code enforcement. Applicants are required to submit applications to FloridaCommerce for the HMGMP. Projects must meet both FEMA and HUD requirements to be eligible for HMGMP funding.

Program Tieback to Disaster/Unmet Needs

Projects must demonstrate "tie-back" to Hurricane Ian or meet the definition of mitigation, as defined in the AAN.

How will Program Advance Long-Term Resilience

FloridaCommerce recognizes the importance of resiliency against future storms and through the HMGMP will assist impacted communities in funding adaptable and reliable technologies to guard against premature obsolescence of infrastructure. Without assistance through the HMGP and Department-

funded match assistance through HMGMP, UGLGs—especially fiscally constrained and rural communities—may not be able to implement projects to increase long-term resiliency.

How will Program Address Disaster-Related Storm Water Management/Other Systems

One of the most significant challenges faced by communities across Florida is the threat of repetitive flooding. Maintaining current levels of flood risk in Florida is unsustainable and threatens the state's ability to provide critical services, preserve critical service areas, and maintain long-term community and ecosystem viability and resilience. Flooding has been identified as one of the most destructive hazards in terms of loss of human life, injury, and property damage. Enhancing the function of natural flood mitigation features such as streams and wetlands to ensure that conveyed water makes it to rivers and other bodies of water is increasingly important. Stormwater management is also a major issue for inland communities. Funding for the implementation of flood mitigation projects is critical to achieving the state's lifeline objectives.

FloridaCommerce and its subrecipients will consider the costs and benefits of projects when selecting CDBG-DR eligible projects. This will be completed by requiring subrecipients to perform a self-assessment of each proposed project and selecting the project(s) that provide(s) the greatest impact within the confines of the budgeted grant amount.

FloridaCommerce will rely on professional engineers procured by the subrecipients to employ adaptable and reliable technologies to guard against premature obsolescence of infrastructure and ensure that construction or rehabilitation will mitigate against future disasters.

Program National Objective(s)

The national objectives for the HMGMP are benefit to LMI persons or UN (meeting a need having a particular urgency).

FloridaCommerce will first consider LMI as the National Objective for projects funded through the HMGMP. The UN National Objective will only be used if the project does not benefit LMI persons but is needed to alleviate emergency conditions. When using urgent need as a national objective, FloridaCommerce will obtain justification from the local government or municipality to certify the urgency of the condition.

Program Eligibility

To be considered eligible for the HMGMP, applicants must meet the requirements outlined in sections 105(a)(2) and 105 (a)(9) of the HCDA. Any match funding activities must meet CDBG-DR and FEMA eligibility requirements. FloridaCommerce will coordinate with FEMA and HUD to ensure all eligibility requirements are met for all project applications submitted for Global Match.

UGLGs located in HUD MID and State MID areas are eligible to apply to the HMGMP. To be considered eligible, each project must:

- Have been awarded FDEM HMGP funds.
- Use CDBG-DR as match for the awarded HMGP funds
- Be in compliance with CDBG-DR requirements, which include:
    - Meet one of the National Objectives (benefit LMI persons or meet an urgent need)
    - Be located in a HUD or State MID
    - Meet HUD crosscutting federal regulations (Davis Bacon, Section 3 and URA)
    - Meet citizen participation requirements
    - Be cost reasonable
    - Follow all anti-fraud, waste, and abuse requirements
    - Must have submitted budget proposals with all costs and funding sources
    - Demonstrate tie-back to Hurricane Ian or meet the definition of a CDBG-DR mitigation activity

- Use CDBG-DR fund for Infrastructure projects that support LMI housing; and
- Verify no duplication of benefits

Eligible Subrecipients

Potentially eligible subrecipients of the HMGMP are UGLGs located in a HUD MID or State MID county. In order to ensure those with the most need are served, priority will be given to entities and projects located in fiscally constrained UGLGs, as defined in 218.67(1), Florida Statutes and identified in the map below.

Figure 84: Hurricane Ian MID Counties Considered Fiscally Constrained Counties[203]

[203] https://floridarevenue.com/property/Documents/fcco081210.pdf

Eligible Activities

Eligible activities allowable under CDBG-DR include but are not limited to flood control and drainage improvements, including the construction or rehabilitation of storm water management systems; infrastructure improvements (such as water and sewer facilities, streets, provision of generators, removal of debris, bridges, etc.); natural or green infrastructure; communications infrastructure; buyouts or acquisition of hazard-prone structures, with or without relocation assistance; demolition; and Hazard Mitigation Plan updates.

Additional eligible activities may include, but are not limited to:

- Aquifer storage and recovery
- Elevation of flood-prone structures
- Flood diversion
- Floodplain and stream restoration
- Minor structure flood control
- Infrastructure protection measurements
- Permanent generators for a critical facility
- Repair and hardening of existing buildings and facilities
- Community safe room construction
- Stormwater management improvements
- Relocation of police and fire facilities (moved out of floodplain)
- Relocation of UGLG owned and operated utilities (above ground to below ground)

Ineligible Activities

Activities that are ineligible for assistance through the HMGMP include, but may not be limited to:

- Backup to major communication channels
- Construction of new facilities
- Equipment such as temporary emergency pumps, vehicles, and communication devices
- Portable generators
- Projects already in progress
- Projects located in or on the grounds of facilities for the general conduct of government. These include but are not limited to:
    - Town Halls
    - Administration Buildings
    - Police or Fire Headquarters
    - 911 Operation Centers
    - Courthouses
- Projects only completing a mitigation activity
- Stand-alone studies, design, and planning-related activities

Program Responsible Entity

FloridaCommerce is the RE for administering the HMGMP.

Program Maximum Assistance

Minimum Award: $25,000

Maximum Award: $10,000,000

Program Estimated Begin and End Dates

Begin Date: Anticipated within 90 days after execution of the HUD funding agreement.

End date: Anticipated to be no more than 48 months following program launch.

Other Program Details

A project receiving any amount of CDBG-DR funding through the HMGMP is subject to, in its entirety, all applicable CDBG-DR requirements. Subrecipients should note that CDBG-DR grant funds will not be awarded until the subrecipient has received an executed FDEM agreement and provided this agreement to FloridaCommerce.

Affirmatively Furthering Fair Housing (AFFH)

All projects proposed to FloridaCommerce will undergo an AFFH review before approval. Such review will include an assessment of the proposed project area's demography, socio-economic characteristics, environmental hazards or concerns, and other factors material to the AFFH determination. Applications should show that projects are likely to lessen area racial, ethnic, and low-income concentrations and/or promote affordable housing in low-poverty and/or non-minority areas in response to natural hazard-related impacts. FloridaCommerce will monitor each program during the implementation phase and will perform additional analysis through program implementation to ensure all protected classes are adequately served. All subrecipients will certify that they will affirmatively further fair housing in their grant agreements.

Program Competitive Application Overview (if applicable)

The following table contains the criteria and relative importance for the selection of applications.

Table 143: HMGMP Scoring Criteria

Criteria	Relative Importance
Demographic need (LMI, historically underserved areas)	High
Project Located within a fiscally constrained county	High
Leverage of additional resources	High
Homeless shelters or facilities serving as emergency shelters	Medium
Stormwater infrastructure	Medium
Project impact	Medium

Applicants will select projects or programs to propose to FDEM, and subsequently to FloridaCommerce for funding in accordance with FloridaCommerce's thresholds and objectives. These thresholds are:

- Projects must demonstrate "tie-back" to Hurricane Ian, or meet the definition of mitigation, as defined in the AAN.
- Projects must not duplicate benefits.
- Project must be awarded by and have an executed agreement with FDEM.

FloridaCommerce will also consider to what extent proposed projects or programs support the following objectives:

- Projects must support LMI housing needs in some way, or
- Projects must primarily serve LMI populations

FloridaCommerce will first consider LMI as the National Objective for HMGMP projects. The UN National Objective will only be used if the project is not LMI but is needed to alleviate emergency conditions. When using urgent need as a national objective, FloridaCommerce will obtain justification from the local government or municipality to certify the urgency of the condition.

Applicants may pursue a range of eligible activities as allowed under CDBG-DR regulations for this appropriation, so long as they are in accordance with FloridaCommerce's threshold requirements and the requirements for the applicable activity as outlined in the Action Plan and Federal Register. Applicants will be required to meet HUD regulations, such as those for environmental, duplication of benefits, fair housing, and others.

How Mitigation Set-Aside Activities will Meet Definition of Mitigation? (if Applicable)

To assess whether a given activity qualifies as mitigation and thus counts toward the 15 percent of the grant that must be spent on mitigation activities, in accordance with the Appropriations Act, FloridaCommerce will consider whether the activity fits the description outlined in the AAN. HUD defines mitigation as "those activities that increase resilience to disasters and reduce or eliminate the long-term risk of loss of life, injury, damage to and loss of property, and suffering and hardship, by lessening the impact of future disasters." For each activity outlined in this Action Plan, FloridaCommerce describes not only how the activity is eligible under Title I of the HCDA or otherwise and meets a national objective but also, where applicable, how it addresses the current and future risks as identified in the mitigation needs assessment and meets the foregoing definition of mitigation.

HMGMP activities meet the definition of mitigation as they will increase the resilience of Florida's infrastructure so that it will be able to withstand the impacts of future wind and flood events and reduce the long-term risk of damage to infrastructure such as roads and bridges.

Activities funded by HUD's additional 15 percent allocation for mitigation must meet the definition of mitigation activities and, in addition, must:

- Address the current and future risks identified in the Mitigation Risk -Based Assessment, located in Section 2.6.1 Risk-Based Assessment Methodology;
- Be considered CDBG-eligible under Title I of the HCDA or pursuant to a waiver or alternative requirement; and
- Meet a national objective.

Pursuant to the AAN, FloridaCommerce will document how activities meet the definition of mitigation and will report such activities in DRGR so that they can be tracked.

FloridaCommerce and its subrecipients will implement programs that focus on risk reduction for the hazards identified as having the greatest severity in the risk-based mitigation needs assessment (2.6.1 Risk-Based Assessment Methodology). These hazards include flooding, tropical cyclones (specifically hurricane force winds and storm surge), severe storms, and tornadoes.

How Mitigation Set-Aside Activities will Address Current and Future Risks (if Applicable)

FloridaCommerce will strive to fund HMGMP projects which address current risk and mitigate future risks, such as those of hurricanes and tropical storms, taking into account Florida's changing climate, geography, and demographics.

Each of FloridaCommerce's Infrastructure and Hazard Mitigation activities seeks to make human development and the natural environment safer and more resilient from the risks identified in the mitigation risk-based assessment (2.6.1 Risk-Based Assessment Methodology). The mitigation process generally involves enhancing the built environment to significantly reduce risks and vulnerability to hazards. Mitigation can also include removing the built environment from disaster prone areas and maintaining natural mitigating features, such as wetlands or floodplains. Hazard mitigation makes it easier and less expensive to respond to and recover from disasters by breaking the damage and repair cycle.

Mitigation measures may include, but may not be limited to, the following:

- Development of mitigation standards, regulations, policies, and programs;
- Land use/zoning policies;
- Strong statewide building code and floodplain management regulations;
- Dam safety programs, seawalls, and levee systems;
- Acquisition of flood prone and environmentally-sensitive lands;
- Retrofitting/hardening/elevating structures and critical facilities;
- Relocation of structures, infrastructure, and facilities out of vulnerable areas;
- Public awareness/education campaigns; and
- Improvement of warning and evacuation systems.

Quantifiable benefits of hazard mitigation include, but are not limited to, the following:

- Saving lives and protecting public health;
- Preventing or minimizing property damage;
- Minimizing social dislocation and stress;
- Reducing economic losses;
- Protecting and preserving infrastructure; and
- Spending less on response and recovery efforts.

HMGMP projects contributing to the use of the 15 percent mitigation set-aside will allow local and regional units of government to address their most pressing hazard mitigation needs and will require subrecipient applicants to document how their proposed projects will meet or exceed hazard reduction needs of their most vulnerable citizens and identify which critical lifelines are protected by each proposed project. Other considerations such as multi-use facilities and natural infrastructure developments will be encouraged through the subrecipient application process.

In accordance with the HCDA, eligible activities for HMGMP projects include the acquisition, construction, reconstruction, or installation (including design features and improvements with respect to such construction, reconstruction or installation that promote energy efficiency) of public works, facilities (except for buildings for the general conduct of government), and site or other improvements.[204]

[204] U.S. Department of Housing and Urban Development (n.d.). State CDBG Program Guide to National Objectives and Eligible Activities for State CDBG Programs - Appendix A. Retrieved from The Housing and Community Development Act of 1974 (HCDA) Eligible Activities for States Section 105(a)(2): https://www.HUD.gov/sites/documents/DOC_16364.PDF

5.0 Appendices

Appendix A: Certifications

a. The grantee certifies that it has in effect and is following a residential anti-displacement and relocation assistance plan in connection with any activity assisted with funding under the CDBG program.
b. The grantee certifies its compliance with restrictions on lobbying required by 24 CFR part 87, together with disclosure forms, if required by part 87.
c. The grantee certifies that the Action Plan for Disaster Recovery is authorized under State and local law (as applicable) and that the grantee, and any entity or entities designated by the grantee, possess(es) the legal authority to carry out the program for which it is seeking funding, in accordance with applicable HUD regulations and this Notice. The grantee certifies that activities to be administered with funds under this Notice are consistent with its Action Plan.
d. The grantee certifies that activities to be undertaken with CDBG-DR funds are consistent with its action plan.
e. The grantee certifies that it will comply with the acquisition and relocation requirements of the URA, as amended, and implementing regulations at 49 CFR part 24, except where waivers or alternative requirements are provided for in this Notice.
f. The grantee certifies that it will comply with section 3 of the Housing and Urban Development Act of 1968 (12 U.S.C. 1701u) and implementing regulations at 24 CFR part 75.
g. The grantee certifies that it is following a detailed citizen participation plan that satisfies the requirements of 24 CFR 91.105 or 91.115, as applicable (except as provided for in notices providing waivers and alternative requirements for this grant). Also, each local government receiving assistance from a State grantee must follow a detailed citizen participation plan that satisfies the requirements of 24 CFR 570.486 (except as provided for in notices providing waivers and alternative requirements for this grant).
h. State grantee certifies that it has consulted with all disaster-affected local governments (including any CDBG entitlement grantees), Indian tribes, and any local public housing authorities in determining the use of funds, including the method of distribution of funding, or activities carried out directly by the state.
i. The grantee certifies that it is complying with each of the following criteria:
    i. Funds will be used solely for necessary expenses related to disaster relief, long-term recovery, restoration of infrastructure and housing, and economic revitalization in the most impacted and distressed areas for which the President declared a major disaster in 2017 pursuant to the Robert T. Stafford Disaster Relief and emergency Assistance Act of 1974 (42 U.S.C. 5121 et seq.).
    ii. With respect to activities expected to be assisted with CDBG-DR funds, the Action Plan has been developed so as to give the maximum feasible priority to activities that will benefit low- and moderate-income families.
    iii. The aggregate use of CDBG-DR funds shall principally benefit low- and moderate-income families in a manner that ensures that at least 70 percent of the grant amount is expended for activities that benefit such persons.
    iv. The grantee will not attempt to recover any capital costs of public improvements assisted with CDBG-DR grant funds, by assessing any amount against properties owned and occupied by persons of low- and moderate-income, including any fee charged or assessment made as a condition of obtaining access to such public improvements, unless:
        a. disaster recovery grant funds are used to pay the proportion of such fee or assessment that relates to the capital costs of such public improvements that are financed from revenue sources other than under this title; or

b. for purposes of assessing any amount against properties owned and occupied by persons of moderate income, the grantee certifies to the Secretary that it lacks sufficient CDBG funds (in any form) to comply with the requirements of clause (a).

j. State and local government grantees certify that the grant will be conducted and administered in conformity with title VI of the Civil Rights Act of 1964 (42 U.S.C. 2000d), the Fair Housing Act (42 U.S.C. 3601–3619), and implementing regulations, and that it will affirmatively further fair housing. An Indian tribe grantee certifies that the grant will be conducted and administered in conformity with the Indian Civil Rights Act.

k. The grantee certifies that it has adopted and is enforcing the following policies. In addition, States receiving a direct award must certify that they will require UGLGs that receive grant funds to certify that they have adopted and are enforcing:

   i. A policy prohibiting the use of excessive force by law enforcement agencies within its jurisdiction against any individuals engaged in nonviolent civil rights demonstrations; and

   ii. A policy of enforcing applicable State and local laws against physically barring entrance to or exit from a facility or location that is the subject of such nonviolent civil rights demonstrations within its jurisdiction.

l. The grantee certifies that it (and any subrecipient or administering entity) currently has or will develop and maintain the capacity to carry out disaster recovery activities in a timely manner and that the grantee has reviewed the requirements applicable to the use of grant funds.

m. The grantee certifies to the accuracy of its Financial Management and Grant Compliance Certification Requirements, or other recent certification submission, if approved by HUD, and related supporting documentation as provided in section III.A.1. of the Consolidated Notice and the grantee's implementation plan and related submissions to HUD as provided in section III.A.2. of the Consolidated Notice.

n. The grantee certifies that it will not use CDBG–DR funds for any activity in an area identified as flood prone for land use or hazard mitigation planning purposes by the state, local, or tribal government or delineated as a Special Flood Hazard Area (or 100-year floodplain) in FEMA's most current flood advisory maps, unless it also ensures that the action is designed or modified to minimize harm to or within the floodplain, in accordance with Executive Order 11988 and 24 CFR part 55. The relevant data source for this provision is the state, local, and tribal government land use regulations and hazard mitigation plans and the latest-issued FEMA data or guidance, which includes advisory data (such as Advisory Base Flood Elevations) or preliminary and final Flood Insurance Rate Maps.

o. The grantee certifies that its activities concerning lead-based paint will comply with the requirements of 24 CFR part 35, subparts A, B, J, K, and R.

p. The grantee certifies that it will comply with environmental requirements at 24 CFR Part 58.

q. The grantee certifies that it will comply with the provisions of title I of the HCDA and with other applicable laws.

Warning: Any person who knowingly makes a false claim or statement to HUD may be subject to civil or criminal penalties under 18 U.S.C. 287, 1001, and 31 U.S.C. 3729.

The Florida Department of Commerce hereby certifies the above, as authorized by the Secretary.

_____Signed version submitted to HUD_____

Appendix B: Waivers (if applicable)

CDBG-DR grantees that are subject to the Consolidated Notice, as indicated in each Federal Register notice that announces allocations of the appropriated CDBG-DR funds ("Allocation Announcement Notice"), must comply with all waivers and alternative requirements in the Consolidated Notice, unless expressly made inapplicable.

(AAN) IV.A.4. Assistance to utilities (Federal Register Vol. 88, No. 96, May 18, 2023, p. 32056)

The Appropriations Acts provide that funds "may be used by a grantee to assist utilities as part of a disaster-related eligible activity under section 105(a) of the Housing and Community Development Act of 1974 (42 U.S.C. 5305(a))."

Accordingly, paragraph III.G.3 of the Consolidated Notice does not apply to funds under the Appropriations Acts, and HUD is adding a modified alternative requirement that applies in lieu of paragraph III.G.3.

For grants made in response to 2022 disasters under the Appropriations Acts, the following alternative requirement applies:

A grantee may assist private for-profit, non-profit, or publicly owned utilities as part of disaster-related activities that are eligible under section 105(a) of the HCDA, or otherwise made eligible through a waiver or alternative requirement, provided that the grantee complies with the following:

1. The funded activity must comply with applicable CDBG-DR requirements, including the requirements that the assisted activity will meet a national objective, the activity will address an unmet recovery need or a risk identified in the grantee's mitigation needs assessment, and if the assistance is provided to a for-profit entity for an economic development project under section 105(a)(17), the grantee must first comply with the underwriting requirements in section II.D.6 of the Consolidated Notice.
2. Each grantee must carry out the grant consistent with the grantee's certification that "With respect to activities expected to be assisted with CDBG–DR funds, the action plan has been developed so as to give the maximum feasible priority to activities that will benefit low- and moderate-income families." To fortify compliance with the existing certification, if the grantee carries out activities that assist privately-owned, for-profit utilities, the grantee must prioritize assistance to for-profit utilities that will benefit areas where at least 51 percent of the residents are LMI persons and demonstrate how assisting the private, for-profit utility will benefit those areas.
3. The grantee must determine that the costs of the activity to assist a utility are necessary and reasonable and that they do not duplicate other financial assistance. To fortify these requirements and achieve a targeted use of funds and to safeguard against the potential over-subsidization when assistance is used to carry out activities that benefit private, for-profit utilities, the grantee must document that the level of assistance provided to a private, for-profit utility addresses only the actual identified needs of the utility. Additionally, the grantee must establish policies and procedures to ensure that the CDBG–DR funds that assist private, for-profit utilities reflect the actual identified financing needs of the assisted businesses by establishing a mix of financing terms (loan, forgivable loan, and/or grant) for each assisted private, for-profit utility, based on the business's financial capacity, in order to ensure that assistance is based on actual identified need.

II.B.1. New housing construction waiver and alternative requirement (Federal Register Vol. 88, No. 96, May 18, 2023, p. 32061)

42 U.S.C. 5305(a) and 24 CFR 570.207(b)(3) are waived to the extent necessary to permit new housing construction, subject to the following alternative requirement. When a CDBG–DR grantee carries out a new housing construction activity, 24 CFR 570.202 shall apply and shall be read to extend to new construction in addition to rehabilitation assistance. Private individuals and entities must remain compliant with federal accessibility requirements as well as with the applicable site selection requirements of 24 CFR 1.4(b)(3) and 8.4(b)(5).

II.B.2. Construction standards for new construction, reconstruction, and rehabilitation.

HUD is adopting an alternative requirement to require grantees to adhere to the applicable construction standards in II.B.2.a. through II.B.2.d. when carrying out activities to construct, reconstruct, or rehabilitate residential structures with CDBG-DR funds as part of activities eligible under 42 U.S.C. 5305(a) (including activities authorized by waiver and alternative requirement). For purposes of the Consolidated Notice, the terms "substantial damage" and "substantial improvement" shall be as defined in 44 CFR 59.1 unless otherwise noted.

II.B.5. Homeownership assistance waiver and alternative requirement. (Federal Register Vol. 88, No. 96, May 18, 2023, p. 32062)

42 U.S.C. 5305(a)(24) is waived and replaced with the following alternative requirement:

''Provision of direct assistance to facilitate and expand homeownership among persons at or below 120 percent of area median income (except that such assistance shall not be considered a public service for purposes of 42 U.S.C. 5305(a)(8)) by using such assistance to—

(A) subsidize interest rates and mortgage principal amounts for homebuyers with incomes at or below 120 percent of area median income;

(B) finance the acquisition of housing by homebuyers with incomes at or below 120 percent of area median income that is occupied by the homebuyers;

(C) acquire guarantees for mortgage financing obtained by homebuyers with incomes at or below 120 percent of area median income from private lenders, meaning that if a private lender selected by the homebuyer offers a guarantee of the mortgage financing, the grantee may purchase the guarantee to ensure repayment in case of default by the homebuyer. This subparagraph allows the purchase of mortgage insurance by the household but not the direct issuance of mortgage insurance by the grantee;

(D) provide up to 100 percent of any down payment required from homebuyers with incomes at or below 120 percent of area median income; or

(E) pay reasonable closing costs (normally associated with the purchase of a home) incurred by homebuyers with incomes at or below 120 percent of area median income.''

II.B.8. Safe housing incentives in disaster-affected communities. (Federal Register Vol. 88, No. 96, May 18, 2023, p. 32063)

The limitation on eligible activities in section 42 U.S.C. 5305(a) is waived and HUD is establishing the following alternative requirement to establish safe housing incentives as an eligible activity. A safe housing incentive is any incentive provided to encourage households to relocate to suitable housing in a lower risk area or in an area promoted by the community's comprehensive recovery plan. Displaced persons must receive any relocation assistance to which they are entitled under other legal authorities, such as the URA, section 104(d) of the HCDA, or those described in the Consolidated Notice.

II.D.2. National objective documentation for activities that support economic revitalization. (Federal Register Vol. 88, No. 96, May 18, 2023, p. 32065)

24 CFR 570.208(a)(4)(i)&(ii), 24 CFR 570.483(b)(4)(i)&(ii), 24 CFR 570.506(b)(5)&(6), and 24 CFR 1003.208(d) are waived to allow the grantees under the Consolidated Notice to identify the LMI jobs benefit by documenting, for each person employed, the name of the business, type of job, and the annual wages or salary of the job. HUD will consider the person income-qualified if the annual wages or salary of the job is at or under the HUD-established income limit for a one-person family.

II.D.3. Public benefit for activities that support economic revitalization. (Federal Register Vol. 88, No. 96, May 18, 2023, p. 32065)

HUD waives the public benefit standards at 42 U.S.C. 5305(e)(3), 24 CFR 570.482(f)(1), (2), (3), (4)(i), (5), and (6), and 570.209(b)(1), (2), (3)(i), (4), and 24 CFR 1003.302(c) for all economic development activities. Paragraph (g) of 24 CFR 570.482 and paragraph (c) and (d) under 570.209 are also waived to the extent these provisions are related to public benefit. However, grantees that choose to take advantage of this waiver in lieu of complying with public benefit standards under the existing regulatory requirements shall be subject to the following condition: grantees shall collect and maintain documentation in the project file on the creation and retention of total jobs; the number of jobs within appropriate salary ranges, as determined by the grantee; the average amount of assistance provided per job, by activity or program; and the types of jobs. Additionally, grantees shall report the total number of jobs created and retained and the applicable national objective in the DRGR system.

II.D.5. Waiver and modification of the job relocation clause to permit assistance to help a business return. (Federal Register Vol. 88, No. 96, May 18, 2023, p. 32065)

42 U.S.C. 5305(h), 24 CFR 570.210, 24 CFR 570.482(h), and 24 CFR 1003.209, are waived to allow a grantee to provide assistance to any business that was operating in the disaster-declared labor market area before the incident date of the applicable disaster and has since moved, in whole or in part, from the affected area to another state or to another labor market area within the same state to continue business.

III.B.2.c Direct grant administration and means of carrying out eligible activities (state grantees only). (Federal Register Vol. 88, No. 96, May 18, 2023, p. 32068)

Requirements at 42 U.S.C. 5306(d) are waived to allow a state to use its disaster recovery grant allocation directly to carry out state-administered activities eligible under the Consolidated Notice, rather than distribute all funds to local governments. Pursuant to this waiver and alternative requirement, the standard at 24 CFR 570.480(c) and the provisions at 42 U.S.C. 5304(e)(2) will also include activities that the state carries out directly. Activities eligible under the Consolidated Notice may be carried out by a state, subject to state law and consistent with the requirement of 24 CFR 570.200(f), through its employees, through procurement contracts, or through assistance provided under agreements with subrecipients. State grantees continue to be responsible for civil rights, labor standards, and environmental protection requirements, for compliance with 24 CFR 570.489(g) and (h), and subparagraph III.A.1.a.(2)(a) of the Consolidated Notice relating to conflicts of interest, and for compliance with 24 CFR 570.489(m) relating to monitoring and management of subrecipients.

III.B.2.f Recordkeeping (state grantees only) (Federal Register Vol. 88, No. 96, May 18, 2023, p. 32068)

When a state carries out activities directly, 24 CFR 570.490(b) is waived and the following alternative provision shall apply: a state grantee shall establish and maintain such records as may be necessary to facilitate review and audit by HUD of the state's administration of CDBG–DR funds, under 24 CFR 570.493 and reviews and audits by the state under III.B.2.h.

III.B.2.h Responsibility for review and handling of noncompliance (state grantees only). (Federal Register Vol. 88, No. 96, May 18, 2023, p. 32068)

This change is in conformance with the waiver allowing a state to carry out activities directly. 24 CFR 570.492 is waived, and the following alternative requirement applies for any state receiving a direct award: the state shall make reviews and audits, including on-site reviews of any local governments or Indian tribes (either as subrecipients or through a method of distribution) designated public agencies, and other subrecipients, as may be necessary or appropriate to meet the requirements of section 104(e)(2) of the HCDA, as amended, and as modified by the Consolidated Notice. In the case of noncompliance with these requirements, the state shall take such actions as may be appropriate to prevent a continuance of the deficiency, mitigate any adverse effects or consequences, and prevent a recurrence. The state shall establish remedies for noncompliance by any subrecipients, designated public agencies, or local governments.

III.C. Action Plan for Disaster Recovery Waiver and Alternative Requirement. (Federal Register Vol. 88, No. 96, May 18, 2023, p. 32069)

Requirements for CDBG actions plans, located at 42 U.S.C. 5304(a)(1), 42 U.S.C. 5304(m), 42 U.S.C. 5306(a)(1), 42 U.S.C. 5306(d)(2)(C)(iii), 42 U.S.C. 12705(a)(2), and 24 CFR 91.220 and 91.320, are waived for CDBG–DR grants. Instead, grantees must submit to HUD an action plan for disaster recovery which will describe programs and activities that conform to applicable requirements as specified in the Consolidated Notice and the applicable Allocation Announcement Notice.

III.C.4. Waiver of 45-day review period for CDBG-DR action plans to 60 days. (Federal Register Vol. 88, No. 96, May 18, 2023,p. 32072)

The Secretary has determined that good cause exists and waives 24 CFR 91.500(a) to extend HUD's action plan review period from 45 days to 60 days.

III.D.1. Citizen participation waiver and alternative requirement (Federal Register Vol. 88, No. 96, May 18, 2023, p. 32073)

To permit a more streamlined process and ensure disaster recovery grants are awarded in a timely manner, provisions of 42 U.S.C. 5304(a)(2) and (3), 42 U.S.C. 12707, 24 CFR 570.486, 24 CFR 1003.604, 24 CFR 91.105(b) through (d), and 24 CFR 91.115(b) through (d), with respect to citizen participation requirements, are waived and replaced by the alternative requirements in this section. The streamlined requirements require the grantee to include public hearings on the proposed action plan and provide a reasonable opportunity (at least 30 days) for citizen comment.

III.E.1. Program income waiver and alternative requirement. (Federal Register Vol. 88, No. 96, May 18, 2023, p. 32074)

For state and unit of general local government grantees, HUD is waiving all applicable program income rules at 42 U.S.C. 5304(j), 24 CFR 570.489(e), 24 CFR 570.500, and 24 CFR 570.504 and providing the alternative requirement described below. Program income earned by Indian tribes that receive an allocation from HUD will be governed by the regulations at 24 CFR 1003.503 until grant closeout and not by the waivers and alternative requirements in this Consolidated Notice. Program income earned by Indian tribes that are subrecipients of state grantees or local government grantees will be subject to the program income requirements for subrecipients of those grantees.

III.F.1. Consolidated Plan waiver. (Federal Register Vol. 88, No. 96, May 18, 2023, p. 32075)

HUD is temporarily waiving the requirement for consistency with the consolidated plan (requirements at 42 U.S.C. 12706, 24 CFR 91.225(a)(5), and 24 CFR 91.325(a)(5)), because the effects of a major disaster alter a grantee's priorities for meeting housing, employment, and infrastructure needs. In conjunction, 42 U.S.C. 5304(e) is also waived, to the extent that it would require HUD to annually review grantee performance under the consistency criteria. These waivers apply only for 24 months after the applicability date of the grantee's applicable Allocation Announcement Notice.

III.F.3. Use of the urgent need national objective. (Federal Register Vol. 88, No. 96, May 18, 2023, p. 32075)

Because HUD provides CDBG-DR funds only to grantees with documented disaster-related impacts and each grantee is limited to spending funds only for the benefit of areas that received a Presidential disaster declaration, the Secretary finds good cause to waive the urgent need national objective criteria in section 104(b)(3) of the HCDA and to establish the following alternative requirement for any CDBG–DR grantee using the urgent need national objective for a period of 36 months after the applicability date of the grantee's Allocation Announcement Notice.

Pursuant to this alternative requirement, grantees that use the urgent need national objective must: (1) describe in the impact and unmet needs assessment why specific needs have a particular urgency, including how the existing conditions pose a serious and immediate threat to the health or welfare of the community; (2) identify each program or activity in the action plan that will use the urgent need national objective—either through its initial action plan submission or through a substantial amendment submitted by the grantee within 36 months of the applicability date of the grantee's Allocation Announcement Notice;

and (3) document how each program and/or activity funded under the urgent need national objective in the action plan responds to the urgency, type, scale, and location of the disaster-related impact as described in the grantee's impact and unmet needs assessment.

The grantee's action plan must address all three criteria described above to use the alternative urgent need national objective for the program and/or activity. This alternative urgent need national objective is in effect for a period of 36 months following the applicability date of the grantee's Allocation Announcement Notice. After 36 months, the grantee will be required to follow the criteria established in section 104(b)(3) of the HCDA and its implementing regulations in 24 CFR part 570 when using the urgent need national objective for any new programs and/or activities added to an action plan.

III.F.4. Reimbursement of disaster recovery expenses by a grantee or subrecipient. (Federal Register Vol. 88, No. 96, May 18, 2023, p. 32075)

Section 570.200(h)(1)(i) is waived to the extent that it requires pre-agreement activities to be included in the local government's consolidated plan. As an alternative requirement, grantees must include any pre-agreement activities in their action plans, including any costs of eligible activities that were funded with short-term loans (e.g., bridge loans) and that the grantee intends to reimburse or otherwise charge to the grant, consistent with applicable program requirements.

III.F.6. Alternative requirement for the elevation of structures when using CDBG-DR funds as the non-Federal match in a FEMA-funded project. (Federal Register Vol. 88, No. 96, May 18, 2023, p. 32076)

Currently, CDBG–DR grantees using FEMA and CDBG–DR funds on the same activity have encountered challenges in certain circumstances in reconciling CDBG– DR elevation requirements and those established by FEMA. FEMA regulations at 44 CFR 9.11(d)(3)(i) and (ii) prohibit new construction or substantial improvements to a structure unless the lowest floor of the structure is at or above the level of the base flood and, for Critical Actions, at or above the level of the 500-year flood. However, 44 CFR 9.11(d)(3)(iii) allows for an alternative to elevation to the 100- or 500-year flood level, subject to FEMA approval, which would provide for improvements that would ensure the substantial impermeability of the structure below flood level. While FEMA may change its standards for elevation in the future, as long as the CDBG–DR grantee is following a FEMA-approved flood standard this waiver and alternative requirement will continue to apply.

III.F.7. Certifications waiver and alternative requirement (Federal Register Vol. 88, No. 96, May 18, 2023, p. 32076)

Sections 104(b)(4), (c), and (m) of the HCDA (42 U.S.C. 5304(b)(4), (c), & (m)), sections 106(d)(2)(C) & (D) of the HCDA (42 U.S.C. 5306(d)(2)(C) & (D)), and section 106 of the Cranston-Gonzalez National Affordable Housing Act (42 U.S.C. 12706), and regulations at 24 CFR 91.225 and 91.325 are waived and replaced with the following alternative. Each grantee choosing to submit an action plan for program administrative costs must make the following certifications listed in section III.F.7 of the Consolidated Notice and include them with the submission of this plan: paragraphs b, c, d, g, i, j, k, l, p, and q.

IV.F.1. Section 104(d) one-for-one replacement of lower-income dwelling units. (Federal Register Vol. 88, No. 96, May 18, 2023, p. 32079)

One-for-one replacement requirements at section 104(d)(2)(A)(i) and (ii) and 104(d)(3) of the HCDA and 24 CFR 42.375 are waived for owner-occupied lower-income dwelling units that are damaged by the disaster and not suitable for rehabilitation. The section 104(d) one-for-one replacement housing requirements apply to occupied and vacant occupiable lower-income dwelling units demolished or converted in connection with a CDBG assisted activity. This waiver exempts all disaster-damaged owner-occupied lower-income dwelling units that meet the grantee's definition of "not suitable for rehabilitation," from the one-for-one replacement housing requirements of 24 CFR 42.375.

IV.F.2. Section 104(d) relocation assistance. (Federal Register Vol. 88, No. 96, May 18, 2023, p. 32079)

The relocation assistance requirements at section 104(d)(2)(A)(iii) and (B) of the HCDA and 24 CFR 42.350, are waived to the extent that an eligible displaced person, as defined under 24 CFR 42.305 of the section 104(d) implementing regulations, may choose to receive either assistance under the URA and implementing regulations at 49 CFR part 24, or assistance under section 104(d) and implementing regulations at 24 CFR 42.350. This waiver does not impact a person's eligibility as a displaced person under section 104(d), it merely limits the amounts and types of relocation assistance that a section 104(d) eligible displaced person is eligible to receive.

IV.F.3. URA replacement housing payments for tenants (Federal Register Vol. 88, No. 96, May 18, 2023, p. 32079)

The requirements of sections 204 and 205 of the URA (42 U.S.C. 4624 and 42 U.S.C. 4625), and 49 CFR 24.2(a)(6)(vii), 24.2(a)(6)(ix), and 24.402(b) are waived to the extent necessary to permit a grantee to meet all or a portion of a grantee's replacement housing payment obligation to a displaced tenant by offering rental housing through a rental housing program subsidy (to include, but not limited to, a housing choice voucher), provided that comparable replacement dwellings are made available to the tenant in accordance with 49 CFR 24.204(a) where the owner is willing to participate in the program and the period of authorized assistance is at least 42 months.

IV.F.4. URA voluntary acquisition—homebuyer primary residence purchase. (Federal Register Vol. 88, No. 96, May 18, 2023, p. 32080)

Grantees may implement disaster recovery program activities that provide financial assistance to eligible homebuyers to purchase and occupy residential properties as their primary residence. Such purchases are generally considered voluntary acquisitions under the URA and subject to the URA regulatory requirements at 49 CFR 24.101(b)(2). For CDBG–DR, 49 CFR 24.101(b)(2) is waived to the extent that it applies to a homebuyer, who does not have the power of eminent domain, and uses CDBG–DR funds in connection with the voluntary purchase and occupancy of a home the homebuyer intends to make their primary residence. This waiver is necessary to reduce burdensome administrative requirements for homebuyers following a disaster. Tenants displaced by these voluntary acquisitions may be eligible for relocation assistance.

IV.F.5. CDBG displacement, relocation, acquisition, and replacement housing program regulations - Optional relocation assistance. (Federal Register Vol. 88, No. 96, May 18, 2023, p. 32080)

The regulations at 24 CFR 570.606(d) are waived to the extent that they require optional relocation policies to be established at the grantee level. Unlike with the regular CDBG program, states may carry out disaster recovery activities directly or through subrecipients, but 24 CFR 570.606(d) does not account for this distinction. This waiver makes clear that grantees receiving CDBG-DR funds may establish optional relocation policies or permit their subrecipients to establish separate optional relocation policies.

IV.F.6. Waiver of Section 414 of the Stafford Act. (Federal Register Vol. 88, No. 96, May 18, 2023, p. 32080)

Section 414 of the Stafford Act and its implementing regulation at 49 CFR 24.403(d)(1) are waived to the extent that they would apply to real property acquisition, rehabilitation, or demolition of real property for a CDBG-DR funded project commencing more than one year after the date of the latest applicable Presidentially declared disaster undertaken by the grantees, or subrecipients, provided that the project was not planned, approved, or otherwise underway before the disaster.

V.A. Timely Distribution and Expenditure of Funds (Federal Register Vol. 88, No. 96, May 18, 2023, p. 32057)

HUD waives the provisions at 24 CFR 570.494 and 24 CFR 570.902 regarding timely distribution and expenditure of funds, and establishes an alternative requirement providing that each grantee must expend 100 percent of its allocation within six years of the date HUD signs the grant agreement.

V.C.1. DRGR-related waivers and alternative requirements. (Federal Register Vol. 88, No. 96, May 18, 2023, p. 32081)

The Consolidated Notice waives the requirements for submission of a performance report pursuant to 42 U.S.C. 12708(a), 24 CFR 91.520, and annual status and evaluation reports that are due each fiscal year under 24 CFR 1003.506(a). Alternatively, HUD is requiring that grantees enter information in the DRGR system on a quarterly basis through the performance reports.

Appendix C: Summary and Response of Public Comments

The following provides a summary of public comments received for the 2023 State of Florida Action Plan for Disaster Recovery in response to Hurricane Ian during the public comment period of July 13, 2023, through August 12, 2023. FloridaCommerce received a total of 18 comments during the 30 calendar day public comment period. Comments as received in their original form are available upon request at HurricaneIan@RebuildFlorida.gov.

Summary of Public Comments Received During Draft Action Plan Publication

Comments Related to Available Assistance

1. Workforce Recovery Training Program Comment

FloridaCommerce received one comment from a consulting group requesting that a workforce recovery training program—which has previously been included as a FloridaCommerce CDBG-DR program—in the Hurricane Ian Action Plan for Disaster Recovery. The commentor provided a list of benefits of workforce training programs and an explanation of why they believe this program should be included.

FloridaCommerce Response:

FloridaCommerce acknowledges receipt of this comment and acknowledges the many benefits that workforce training programs can provide an area following a disaster, however, as required by HUD, the programs and funding outlined in this Action Plan were informed by the findings of the unmet needs assessment and mitigation risk-based assessment along with meetings and feedback from communities impacted by Hurricane Ian. The Unmet Needs Assessment identified that the largest portion of unmet needs resulting from Hurricane Ian are related to housing. While the Unmet Needs Assessment identified remaining unmet needs in the economic sector, current budget limitations do not allow for the allocation of funds to economic revitalization. The programs selected by FloridaCommerce, and the allocation to each has been determined with the intention of prioritizing limited federal funds to the most urgent need present in the MID areas. As CDBG-DR funds are allocated by HUD, who emphasize a mission of supporting housing, FloridaCommerce has proposed a program budget which will prioritize addressing unmet needs in the housing sector. Should HUD make additional funding for Hurricane Ian recovery available in the future, FloridaCommerce may incorporate additional programs should unmet needs remain.

2. Flood Buyout Program and Insufficient Insurance Assistance Comment

Florida Commerce received one comment requesting the incorporation of a buyout program for individuals located in flood zones. The commentor is a citizen of DeSoto County and notes that DeSoto County residents struggling with poverty and that many residents who have experienced flood damage and are located in special flood hazard areas are unable to receive appropriate assistance through other disaster recovery programs as many programs offer housing rehabilitation rather than flood buyout programs.

This commenter also expressed frustration with homeowner's insurance as insurance settlements do not seem to be sufficient to cover damage caused by flooding during Hurricane Ian.

FloridaCommerce Response:

FloridaCommerce acknowledges that a housing buyout program can benefit impacted areas following a disaster and can aid in the prevention of future loss of and damage to property, however, current budget limitations do not allow for the allocation of funds to additional programs. Should HUD make additional funding for Hurricane Ian recovery available in the future, FloridaCommerce may incorporate additional programs should unmet needs remain.

In addition, FloridaCommerce acknowledges the commentor's mention of the compounded impacts and increased hardship experienced by impacted citizens living in poverty. FloridaCommerce will

ensure, as required and identified in the Federal Register Guidance, that at least 70 percent of the allocation of CDBG-DR funds will be used for activities benefiting low and moderate income (LMI) persons.

FloridaCommerce acknowledges the ongoing and unique insurance-related difficulties faced by Floridians. FloridaCommerce is unable to alter state policy or assist homeowners with insurance claims, adjustments, or settlements, however, FloridaCommerce encourages impacted Floridians with remaining unmet needs to apply for assistance through the CDBG-DR programs outlined in this Action Plan.

3. Hazard Mitigation Grant Match Program (HMGMP) Allocated Amount

FloridaCommerce received a comment from the Florida Division of Emergency Management (FDEM) that the proposed allocation of $50,000,000 to the HMGMP would not be sufficient to meet the projected needs of all 20 HUD and State MID counties identified in this Action Plan. FDEM stated the projected need for the required 25 percent local match, based on their data, is $82,130,605.90.

FloridaCommerce Response:

FloridaCommerce appreciates the information from FDEM and shares the commitment to ensuring impacted counties have access to sufficient match funds for critical local projects. FloridaCommerce has updated the HMGMP allocation to the proposed amount, resulting in a reduced allocation to the HRRP, which remains the highest-funded program within this Action Plan.

4. Hazard Mitigation Grant Match Program (HMGMP) Eligibility and New Construction Infrastructure Programs Comment

FloridaCommerce received comment requesting that the counties potentially eligible for assistance through the HMGMP be expanded to include all state-identified Most Impacted and Distressed (MID) counties in addition to fiscally constrained counties.

This commenter also suggested consideration of implementing an infrastructure program to complete new construction of evacuation shelters in LMI communities.

FloridaCommerce Response:

FloridaCommerce acknowledges that all counties impacted by Hurricane Ian experience difficulty in recovering from the storm, and as such, FloridaCommerce has expanded the available budget and eligibility of the HMGMP to include all HUD and state-identified MID counties as potentially eligible. However, in order to ensure that the communities with the greatest need are served, FloridaCommerce will prioritize projects located within fiscally constrained counties.

FloridaCommerce acknowledges the importance of implementing infrastructure and mitigation projects like the construction of evacuation shelters, however, current limited funding prevents the addition of costly infrastructure programs. Should HUD make additional funding for Hurricane Ian recovery available in the future, FloridaCommerce may incorporate additional infrastructure programs if unmet needs remain.

5. Hazard Mitigation Grant Match Program, Reconstruction of Schools, and Debris Removal Comment

FloridaCommerce received a comment from a company active in disaster recovery posing multiple questions related to infrastructure.

This comment referenced the Hazard Mitigation Grant Match Program (HMGMP) and posed the following questions:

1. Is FloridaCommerce allocating funds to the FEMA Public Assistance local match?
2. How are the HMGMP funds allocated differently than the “Senate Bill 4-A: Disaster Recovery” funds allocated for this purpose?

This comment also asked if HMGMP funds and/or the mitigation set-aside could be used for the complete rebuild of a new school campus and/or for debris-related activities such as debris removal, and the acquisition, preparation, and pre-permitting of new debris management sites.

FloridaCommerce Response:

FloridaCommerce's HMGMP provides funding for the required 25 percent local match for projects funded by FEMA's Hazard Mitigation Grant Program. In order to be considered eligible for assistance through the HMGMP, a project must already have received funding through FEMA's HMGP.

No funding is currently allocated to the FEMA Public Assistance Local Match.

The HMGMP is funded by CDBG-DR funds allocated by HUD to FloridaCommerce. CDBG-DR funds differ from other sources of funding allocated to the state, such as those referenced in SB 4-A, in that CDBG-DR funds are funds of last resort and must be expended in compliance with all requirements outlined in the applicable federal register. SB 4-A and the provisions outlined therein do not apply to CDBG-DR funds.

The HMGMP may fund the required local match portion of eligible projects award through FEMA's HMGP, including but not limited to activities such as debris removal and/or reconstruction of school facilities.

6. Infrastructure Repairs (Roads) Comment

FloridaCommerce received one comment regarding a road in Sebring, Florida that was washed out during Hurricane Ian. The citizen noted in their comment that repairs began on the road but were halted, possibly in concurrence with the potential availability of federal disaster recovery funding.

FloridaCommerce Response:

Eligible counties and municipalities may apply for assistance through the HMGMP for eligible projects including, but not limited to, construction or rehabilitation of storm water management systems; infrastructure improvements (such as water and sewer facilities, streets, provision of generators, removal of debris, bridges, etc.); natural or green infrastructure. In order to be considered eligible for assistance through the HMGMP, a project must already have received funding through FEMA's HMGP.

7. Affordable Housing Rehabilitation Comment

FloridaCommerce received one comment from the Lee County Housing Authority suggesting the incorporation of rehabilitation projects into the Workforce Affordable Housing Construction Program by allowing the Florida Housing Finance Corporation to allocate funds to the preservation of existing affordable housing. The commenter expressed concerns specifically in relation to the impacts and needs of Lee County.

FloridaCommerce Response:

FloridaCommerce acknowledges receipt of this comment and recognizes the importance of ensuring the resiliency of affordable housing against the impacts of future disasters. Through Federal Register Vol. 88, No. 96 and Public Law 117-328, Lee County, Florida was directly allocated $1.1B in funding to address unmet needs and mitigation activities within Lee County following the 2022 disaster Hurricane Ian. This commenter is encouraged to contact Lee County via the methods made available at https://www.leegov.com/recovery/cdbg-dr.

8. Housing Repair and Replacement Program Recovery Acceleration Fund and Suggested Waiver Comment

FloridaCommerce received a comment from the St. Bernard Project (SBP) regarding the proposed Housing Repair and Replacement Program Acceleration Reimbursement option. In this comment, SBP expressed interest in providing assistance to impacted Floridians through a "Recovery Acceleration Fund," if the proposed HRRP Acceleration Reimbursement option is approved and included in Florida's final Action Plan. SBP expressed that it and other potential not for profit organizations offering assistance

in the form of short-term bridge loans to impacted Floridians would have additional time to implement repairs if FloridaCommerce were able to request and obtain a waiver from HUD extending the current deadline for reimbursement of eligible loans from May 23, 2024, until May 23, 2025.

FloridaCommerce Response:

FloridaCommerce acknowledges receipt of this comment and appreciates SBP's interest in assisting Floridians impacted by Hurricane Ian. FloridaCommerce will review the needs reflected in the pre-application assessments submitted by impacted individuals in need of housing assistance and may consider the submission of a waiver requesting an extension of the one-year limit on reimbursement assistance should the program require such an extension.

Comments Related to Action Plan Data and Typographical Issues

9. Unmet Needs Assessment Data Comment (Data for Public Housing Authority and Continuum of Care)

FloridaCommerce received a comment related to Public Housing Authority damage. This comment noted that data provided by the Punta Gorda Housing Authority was not included in Table 16: Public Housing Authorities Damaged.

This comment also noted that the data in Table 32: Affected Continuum of Care Entities and Table 33: Point-In-Time Count - Type of Shelter is outdated.

FloridaCommerce Response:

The data provided by Punta Gorda Housing Authority has been added to Table 16: Public Housing Authorities Damaged.

FloridaCommerce has updated Table 32: Affected Continuum of Care Entities and Table 33: Point-In-Time Count - Type of Shelter and the language accompanying these tables to reflect the most current 2023 data, where available.

10. Public Housing Authority Data Comment

FloridaCommerce received a comment related to Public Housing Authority damage. This comment noted that data provided by the Punta Gorda Housing Authority was not included in Table 16: Public Housing Authorities Damaged.

FloridaCommerce Response:

The data provided by Punta Gorda Housing Authority has been added to Table 16: Public Housing Authorities Damaged.

Comments Related to Insurance

11. Insurance Assistance Comment:

FloridaCommerce received a comment expressing frustration with personal home insurance policies and the lack of coverage provided by insurance for hurricane damage and subsequent damage. The commenter expressed a concern that some insurance providers do not cover hurricane damage and proposes that Florida law prevent this lack of coverage.

FloridaCommerce Response:

FloridaCommerce acknowledges the ongoing and unique insurance-related difficulties faced by Floridians. While FloridaCommerce may not assist homeowners with insurance claims, adjustments, or settlements, impacted Floridians are encouraged to apply for assistance through the CDBG-DR programs outlined in this Action Plan. As CDBG-DR funding is funding of last resort, homeowners may apply to the Housing Repair and Replacement Program (HRRP) after private insurance and other forms of assistance have been exhausted, if unmet needs remain.

Comments Related to Procurement and Contracting

12. Construction Material Comment

FloridaCommerce received one comment from a corporation providing information on a building material and suggesting that FloridaCommerce utilize this product in program construction.

FloridaCommerce Response:

FloridaCommerce acknowledges receipt of this comment and would like to note that all CDBG-DR-funded programs administered by FloridaCommerce will ensure cost-reasonableness and cost effectiveness of all materials used in program construction. The Rebuild Florida construction team has been made aware of the product suggested in this comment.

Comments Related to Construction Standards

13. Housing Repair and Replacement Program and Construction Standards Comment

FloridaCommerce received a comment expressing concern regarding Action Plan language surrounding Green Building Certifications; the commenter stated that language in the Hurricane Michael and Hurricane Irma Action Plans specifically require certification to the Florida Green Building Coalition Standards and stated that the Hurricane Ian Action Plan language regarding Green building certifications differs from that in the Hurricanes Michael and Irma Action Plans.

Additionally, the commenter is concerned there may be confusion around language in 3.5.3 Construction Standards referencing construction standards and language in Construction Standards within 4.8.1.1 Housing Repair and Replacement Program (HRRP) where Florida Green Building Coalition is again listed as a required standard.

Commenter suggests changing the phrase “building to the standards of” to building standard “Certification.”

Commenter also noted that “Most if not all of your contractors and a number of Commerce staff members have had training to help guide them through the FGBC Certification process.”

FloridaCommerce Response:

FloridaCommerce has reviewed the Florida Green Building Code (FGBC) language contained in the Hurricane Irma and Michael Action Plans and compared it to the FGBC language in the draft Hurricane Ian Action Plan and has concluded that the language in these three documents is interchangeable. Any minor differences in phrasing between these documents will not result in any differences in quality or standards of implementation and/or construction. The language in these documents regarding construction standards is, at this time, considered sufficient by FloridaCommerce. FloridaCommerce recognizes that Florida Green Building Coalition will remain the standard by which contractors will demonstrate that program-assisted homes are energy efficient.

FloridaCommerce appreciates the suggested edit regarding the addition of the word “certification” and will ensure that executed contracts include language clarifying the requirement of certification. FloridaCommerce contractors have received training on FGBC, and this standard will remain the relevant standard for program implementation.

14. FORTIFIED Construction Standard Comment

FloridaCommerce received one comment suggesting the inclusion of “FORTIFIED” as a required resilient construction standard in the Action Plan and its accompanying Construction Standards.

Commenter recommended utilizing additional checklist components to incorporate HUD-recommended resiliency construction standards found in HUD’s current Green and Resilient Retrofit Program (GRRP) and provided proposed language to be incorporated into the final Action Plan to address these concerns.

FloridaCommerce Response:

FloridaCommerce would like to highlight that due to Florida's unique geography and vulnerability to hurricanes, Florida Building Code (FBC) is especially stringent when compared to the building codes of other states. As such, FloridaCommerce believes that current program building code requirements are sufficient to produce resilient and storm-resistant construction. By omitting the requirement to use "FORTIFIED" and relying on FBC, FloridaCommerce will increase cost effectiveness and time efficiency. FloridaCommerce and its subrecipients and contractors will meet all applicable local and state building codes.

15. Complaint Process and Contractor Qualifications Comment

FloridaCommerce received one comment expressing concern that participants in the Complaint process may not have a clear line of communication regarding documentation on the progress of their repairs. The commenter also noted that if a Freedom of Information Act request is required to be filed, a clear path for resolution should be provided.

Commenter additionally requested that FloridaCommerce include "a requirement that all contractors and sub-contractors doing actual work on a project have at least a minimum of 8 hours of current best practice instruction regarding the fundamentals of Building Science."

FloridaCommerce Response:

FloridaCommerce will ensure that complaints are addressed in compliance with the established complaint process and that all FOIA requirements are met.

All FloridaCommerce contractors are required to follow Florida law and all applicable licensure requirements. At this time, FloridaCommerce feels these requirements are sufficient to ensure that contractors are adequate qualified to complete projects in compliance with program standards.

Comments Related to Demographics and Prioritization

16. Prioritization of Assistance to Applicants 62 and Over Comment

FloridaCommerce received one comment from the Secretary of the Florida Department of Elder Affairs emphasizing that elderly Floridians were disproportionately affected by Hurricane Ian, and that, to their knowledge, there are currently no federal or state programs "uniquely designed for those age 65 and over." This commenter stated that this agency is currently looking for looking for "all possible opportunities to either provide rental assistance or redevelop/develop inventory for affordable housing that addresses the quickly growing needs of Florida's seniors." The comment included three areas for discussion.

The commenter expressed interest in partnering with FloridaCommerce and Area Agencies on Aging (AAA) to conduct community outreach to ensure seniors are reached and appropriately prioritized for assistance.

The commenter requested that FloridaCommerce and FHFC, through the WFAH, work to ensure new affordable housing inventory is accessible to seniors.

The commenter also requested that FloridaCommerce share these requests with the entitlement counties (Lee, Orange, Sarasota, and Volusia).

FloridaCommerce Response:

FloridaCommerce appreciates the Florida Department of Elder Affairs' commitment to ensuring impacted seniors are provided assistance following disasters.

FloridaCommerce's Housing Repair and Replacement Program (HRRP) will prioritize households with members age 62 and older (as well as households with members under 18 and households with members with a disability) to ensure that the most vulnerable populations are served first. The HRRP prioritization and phasing methodology is detailed in How Program will Promote Housing for Vulnerable Populations within section 4.8.1.1 Housing Repair and Replacement Program (HRRP).

Five percent of all units created through the Workforce Affordable Housing Program (WFAH) are required to meet ADA accessibility requirements. This requirement will ensure that a portion of the units created are accessible to disabled and elderly and disabled Floridians. Additionally, FloridaCommerce has clarified in the WFAH section that "the term 'workforce,' as used under this program refers to LMI individuals, including any LMI individuals in the senior population."

FloridaCommerce executive leadership will share these requests with the entitlement counties (Lee, Orange, Sarasota, and Volusia).

Summary of Public Comments Received During Public Hearings

The following comment(s) were received during the public hearings hosted by FloridaCommerce on August 3rd and August 4th, 2023.

Comments Related to Available Assistance

17. Housing Repair and Replacement Program Eligibility Comment

FloridaCommerce received one comment requesting more information on Housing Repair and Replacement Program eligibility and requesting clarification on whether the owner of a mobile home must also own the property on which the mobile home is positioned in order to be considered eligible to receive HRRP assistance.

FloridaCommerce Response:

FloridaCommerce's HRRP is open to primary resident homeowners and owners of rental properties in HUD and state-identified MID counties. An applicant who is the owner of a mobile home unit on leased land may be eligible for the program so long as the owner of the land on which the mobile home unit is placed agrees to the mobile home unit owner's participation in the program.

18. Voluntary Home Buyout Comment

FloridaCommerce received one comment requesting the incorporation of a buyout program—such as the previously implemented Voluntary Home Buyout program—and highlighted the current need for buyout activities in the impacted areas.

FloridaCommerce Response:

Current limitations on funding do not allow for the inclusion of a buyout program. FloridaCommerce acknowledges receipt of this comment and would like to suggest that local governments direct impacted homeowners who may be interested in receiving housing assistance to complete the pre-application housing assessment survey to potentially be able to receive assistance, such as elevation of their home, under the HRRP.

Appendix D: Data Sources/Methodologies

Owner Occupied Households:

- Minor-Low:
  - Less than $3,000 of FEMA inspected real property damage
- Minor-High:
  - $3,000 to $7,999 of FEMA inspected real property damage
- Major-Low:
  - $8,000 to $14,999 of FEMA inspected real property damage
- Major-High:
  - $15,000 to $28,800 of FEMA inspected real property damage
- Severe:
  - Greater than $28,800 of FEMA inspected real property damage

Renter Occupied Households:

- Minor-Low:
  - Less than $1,000 of FEMA inspected personal property damage
- Minor-High:
  - $1,000 to $1,999 of FEMA inspected personal property damage
- Major-Low:
  - $3,500 to $4,999 of FEMA inspected personal property damage
- Major-High:
  - $5,000 to $8,999 of FEMA inspected personal property damage
- Severe:
  - Greater than $9,000 of FEMA inspected personal property damage

Appendix E: Important Definitions and Terms

Acronyms

AMI: Area Medium Income

AFN: Access and Functional Needs

AFFH: Affirmatively Furthering Fair Housing

AP: CDBG-DR Action Plan for Disaster Recovery

CBDO: Community Based Development Organization

CDBG: Community Development Block Grant

CDBG-DR: Community Development Block Grant - Disaster Recovery

CFR: Code of Federal Regulations

CMS: Constituent Management Services

CO: Certifying Officer

CoC: Continuum of Care

CP: Citizen Participation

DOB: Duplication of Benefits

DR: Disaster Recovery

EDA: U.S. Economic Development Administration

FBC: Florida Building Code

FDEM: Florida Division of Emergency Management

FEMA: Federal Emergency Management Agency

FEMP: Federal Emergency Management Program

FHFC: Florida Housing Finance Corporation

FIDA: Federal Emergency Management Agency Information Data and Analysis

FVL: Full Verified Loss

GSA: Government Services Agency

HA: Housing Assistance

HCDA: Housing and Community Development Act of 1974, as amended

HCV: Housing Choice Voucher

HGA: Homeowner Grant Agreement

HMGP: Hazard Mitigation Grant Program

HMGMP: Hazard Mitigation Grant Match Program

HQS: Housing Quality Standards

HRRP: Housing Repair and Replacement Program

HUD: The United States Department of Housing and Urban Development

IA: (Federal Emergency Management Agency) Individual Assistance

LAP: Language Access and Accessibility Plan

LEP: Limited English Proficiency

LIHTC: Low-Income Housing Tax Credit

LMI: Low and Moderate-Income

MHU: Manufactured Housing Unit

MID: Most Impacted and Distressed Area

MIP: Multiple Impact Program

MIT: Mitigation

NFIP: National Flood Insurance Program

NGO: Non-governmental organizations

NWS: National Weather Service

PA: (Federal Emergency Management Agency) Public Assistance

PNP: Private Non-profit Organizations

RARAP: Residential Anti-displacement and Relocation Assistance Plan

RE: Responsible Entity

RECAP: Racially or Ethnically Concentrated Areas of Poverty

REFL: Rebuild Florida

RFP: Request for Proposal

SBA: United States Small Business Administration

SBDC: Small Business Development Corporation

SFHA: Special Flood Hazard Area

SHIP: State Housing Initiatives Partnership Program

TAB: Title Assistance Benefit

THAB: Temporary Housing Assistance Benefit

UGLG: Unit of General Local Government

UN: Urgent Need (national objective)

URA: Uniform Relocation Assistance and Real Property Acquisition Act of 1970, as amended

USACE: U.S. Army Corps of Engineers

VOAD: Volunteer Organizations Active in Disasters

WFAH: Workforce Affordable Housing Construction Program

Definitions

Acquisition – The acquiring of real property, in whole or in part, by the recipient, or other public or private nonprofit entity through purchase, long-term lease, donation, or otherwise for any public purpose, subject to the limitation of 24 CFR 570.207. Real property includes air rights, water rights, rights-of-way, easements, and other interests therein (24 CFR 570.201).

Allocable Costs – Costs assigned to a Community Development Block Grant-Disaster Recovery eligible activity with a methodology for clear determination of where to attribute costs.

Allowable Costs – Costs deemed allowable under the Community Development Block Grant-Disaster Recovery rules and regulations and 2 CFR 200 Subpart E.

Americans with Disabilities Act (ADA) – Effective July 20, 1990, a federal law which prohibits discrimination and ensures equal opportunity for persons with disabilities in employment, state and local government services, public accommodations, commercial facilities, and transportation. It also mandates the establishment of TDD/telephone relay services.

Area Median Income (AMI) – The median household income for an area adjusted for household size as published and annually updated by the U.S Department of Housing and Urban Development. Once household income is determined, it is compared to the U.S Department of Housing and Urban Development's income limit for that household size.

Appraisal – A written statement independently and impartially prepared by a qualified appraiser setting forth an opinion of defined value of an adequately described property as of a specific date, supported by the presentation and analysis of relevant market information.

Bid – An offer by a company, firm, or individual to provide goods or services, in response to solicitation for those goods or services.

Business Concern – A business entity formed in accordance with state law, and which is licensed under state, county, or municipal law to engage in the type of business activity for which it was formed. A business concern that provides economic opportunities for low- and very low-income persons.

Buyout – The acquisition of a property located in a floodway, floodplain, or other Disaster Risk Reduction Area with the intention of reducing risk from future hazards.

Cancelled Loans – Occurs when the borrower has entered a loan agreement, but for a variety of reasons, all or a portion of the loan amount was not disbursed and is no longer available to the applicant. The loan cancellation may be due to default of the borrower, agreement by both parties to cancel the undisbursed portion of the loan, or expiration of the term for which the loan was available for disbursement.

CENST – Categorically Excluded Not Subject to 24 CFR 58.5

CEST – Categorically Excluded Subject to 24 CFR 58.5

CFR – Code of Federal Regulations

Change Order – Work that is added to, or deleted from, the original contract activities that were to be performed. The order changes the original contract amount and/or the completion due date. The change order must be approved by the Florida Department of Commerce's Office of Long-Term Resiliency, homeowner, subgrantee, contractor, subcontractor, and project architect and/or engineer, as appropriate, prior to implementation.

CMS – Constituent Management Services

Community Development Block Grant (CDBG) – Supports community development activities to build stronger and more resilient communities. To support community development, activities are identified through an ongoing process. Activities may address needs such as infrastructure, economic development

projects, public facilities installation, community centers, housing rehabilitation, public services, clearance/acquisition, microenterprise assistance, code enforcement, homeowner assistance, etc.

Community Development Block Grant-Disaster Recovery (CDBG-DR) – The Community Development Block Grant Disaster Recovery Program, administered by the U.S. Department of Housing and Urban Development, as authorized under Title I of the Housing and Community Development Act of 1974, as amended. These funds are provided as a last resort to help cities, counties, and states to recover from Presidentially declared disasters.

Concern(s) – An issue identified in the Department of Commerce's monitoring report, or an environmental review memo sent to the subgrantee and/or subrecipient that, if not addressed or corrected, may result in a finding.

Consolidated Notice – The U.S. Department of Housing and Urban Development's Community Development Block Grant-Disaster Recovery Consolidated Notice, Appendix B of Federal Register Vol. 88, No. 96. The Consolidated Notice governs all Office of Long-Term Resiliency Community Development Block Grant-Disaster Recovery grants beginning with 2020 disasters and includes amended requirements from previous Federal Register Notices and Community Planning and Development Notices that have regulated Community Development Block Grant-Disaster Recovery funds in the past. The Consolidated Notice includes waivers and alternative requirements, relevant regulatory requirements, the grant award process, criteria for action plan approval, and eligible disaster recovery activities.

Contractor – An entity competitively selected to provide clearly-specified goods or services meeting the procurement requirements at 2 CFR 200, Section 287.055, Florida Statutes, and Section 255.0525, Florida Statutes.

Corrective Action – Steps required to be taken to resolve findings and/or concerns identified in the Florida Department of Commerce's Office of Long-Term Resiliency monitoring report.

Cost Reimbursement – Payment made to the subgrantee and/or subrecipient after a request for funds has been submitted along with proper supporting documentation and has been approved by the Florida Department of Commerce. In Community Development Block Grant-Disaster Recovery grant agreements, the subgrantees and/or subrecipients are required to pay in advance for all completed work that is associated with the deliverables set forth in the subrecipient agreement and is reimbursed based on the invoice and supporting documentation submitted to the Florida Department of Commerce.

Davis-Bacon and Related Acts (DBRA) – Federal law requiring contractors and subcontractors performing on federally funded or assisted contracts for the construction, alteration, or repair of public buildings or public works to pay their laborers and mechanics employed under the contract no less than the locally prevailing wages and fringe benefits for corresponding work on similar projects in the area.

Decent, Safe, and Sanitary (DSS) – A dwelling which meets local housing and occupancy codes. Any of the standards outlined in 49 CFR 24.2(a)(8) which are not met by the local code shall apply unless waived for good cause by the Federal Agency funding the project.

Declined Loans – Loan amounts that were approved or offered by a lender in response to a loan application, but were turned down by the applicant, meaning the applicant never signed the loan documents to receive the loan proceeds.

Deficiency – An inadequacy based on a federal or state statutory, regulatory or program requirement.

Deficiency – An inadequacy based on a federal or state statutory, regulatory, or program requirement.

Direct Cost – Any project cost or project delivery cost that is identified specifically with completing an activity or product such as materials and labor. Costs identified specifically within a contract are direct costs of that contract. Administrative expenses are not generally considered direct costs.

Disability – Federal nondiscrimination laws define a person with a disability to include any (1) individual with a physical or mental impairment that substantially limits one or more major life activities; (2) individual

with a record of such impairment; or (3) individual who is regarded as having such an impairment consistent with federal law under The Social Security Act, as amended, 42 U.S.C. §423(d), The Americans with Disabilities Act of 1990, as amended, 42 U.S.C. §12102(1) -(3), and in accordance with the U.S. Department of Housing and Urban Development regulations at 24 CFR 5.403 and 891.505.

Disaster Recovery Grant Reporting (DRGR) System – The U.S Department of Housing and Urban Development's web-based reporting and grants management system.

Duplication of Benefits (DOB) – When a person, household, business, government, or other entity receives financial assistance from multiple sources for the same purpose within the same time period, and the total assistance received for that purpose is more than the total need for assistance.

Environmental Review Record (ERR) – A written record of the review process undertaken to evaluate potential environmental impacts associated with a project to be conducted with the U.S. Department of Housing and Urban Development funds, including all associated documentation necessary to document the process and the outcome of the review process.

Farm – As defined in Florida Statute 823.14, the land, buildings, support facilities, machinery, and other appurtenances used in the production of farm or aquaculture products.

Federal Register (FR) – The official journal of the Federal Government of the United States that contains government agency rules, proposed rules, and public notices issued by federal administrative agencies.

FEMA – Federal Emergency Management Agency

Finding(s) – A specific issue of noncompliance with federal or state regulatory requirements, including the Community Development Block Grant subrecipient/subgrant agreement provisions, that is identified in a monitoring report produced by the Florida Department of Commerce or in an environmental review memo sent to the subrecipient/subgrantee.

Florida Accountability Tracking System (FACTS) – An online tool managed by the Department of Financial Services that was developed to make the government contracting process in Florida more transparent through the creation of a centralized, statewide reporting system.

Florida Accounting Information Resource system (FLAIR) – **T**he state of Florida's official statewide accounting system managed by the Florida Department of Financial Services.

Florida Department of Commerce (FloridaCommerce) – Administrator of the Community Development Block Grant-Disaster Recovery and Community Development Block Grant-Mitigation programs funded by the U.S. Department of Housing and Urban Development. FloridaCommerce is the governor-designated state authority responsible for administering all long-term disaster recovery funds awarded to Florida from the U.S. Department of Housing and Urban Development. As used in this document, "FloridaCommerce" refers to the Florida Department of Commerce.

Grantee – As used in this document, the grantee is the State of Florida Department of Commerce's Office of Long-Term Resiliency as recipient of Community Development Block Grant-Disaster Recovery funds from the U.S. Department of Housing and Urban Development.

Green Building Standards – All rehabilitation that meets the definition of substantial improvement, reconstruction, or new construction must meet an industry-recognized standard that has achieved certification under at least one of the following programs: (1) ENERGY STAR (Certified Homes or Multifamily High-Rise), (2) EPA Indoor Air Plus (Energy Star a prerequisite), (3) LEED (New Construction, Homes, Midrise, Existing Buildings Operations, and Maintenance, or Neighborhood Development), or (4) ICC–700 National Green Building Standard.

Household – All persons occupying the same housing unit, regardless of their relationship to each other. The occupants could consist of a single family, two or more families living together, or any other group of related or unrelated persons who share living arrangements.

Increased Cost of Compliance (ICC) – Structures damaged by floods may be required to meet certain building requirements, such as elevation or demolition, to reduce the risk of future flood damage before the structure can be repaired or rebuilt. To help cover these costs, the National Flood Insurance Program includes Increased Cost of Compliance coverage for all new and renewed Standard Flood Insurance Policies. Increased Cost of Compliance is a potential source of a Duplication of Benefit, as a supplement to an existing National Flood Insurance Program policy. Policyholders are only eligible to receive Increased Cost of Compliance payment if a Substantial Damage Letter has been issued by the local floodplain manager.

Income – Annual income as reported under the United States Census long-form for the most recent available decennial U.S. Census. This definition includes:

- Wages, salaries, tips, commissions, etc.;
- Self-employment income from own nonfarm business, including proprietorships and partnerships;
- Farm self-employment income;
- Interest, dividends, net rental income, or income from estates or trusts;
- Social Security or railroad retirement;
- Supplemental Security Income, Aid to Families with Dependent Children, or other public assistance or public welfare programs;
- Retirement, survivor, or disability pensions; and
- Any other sources of income received regularly, including Veterans' (VA) payments, unemployment compensation, and alimony.

Indirect Cost – Any expense not directly identified with a cost objective, such as a specific project, facility, or function. Indirect costs include administration, personnel, and security costs.

Individual Mitigation Measures (IMM) – Activities designed to mitigate and/or reduce risk beyond the pre-disaster condition of a housing unit when the activities are above and beyond federal, state, or local construction or code requirements. In accordance with HUD's guidance, repair of housing units and the payment of flood insurance are not IMM activities. Examples of mitigation measures include elevation above the base flood elevation level or the addition of storm shutters, disaster-proof windows, roof straps, etc. if those improvements are not required to comply with local code requirements and did not exist on the housing unit prior to the disaster damage. However, mitigation measures are not eligible as standalone activities. They must be incorporated as part of a project that is otherwise addressing eligible repairs that are necessary as a result of the applicable disaster.

Invitation to Bid (ITB) – A written or electronically posted solicitation for competitive sealed bids.

Invitation to Negotiate (ITN) – A written or electronically posted solicitation for competitive sealed replies to select one or more vendors with which to commence negotiations for the procurement of commodities or contractual services.

Low Moderate Area Benefit (LMA) – An eligible activity that benefits all residents in a particular area, where at least 51 percent of the residents are Low-to-Moderate Income Persons as determined by the most recently available decennial Census information, together with the Section 8 income limits that would have applied at the time the income information was collected by the Census Bureau, or a current survey of the residents of the service area.

Low Moderate Housing (LMH) – Eligible activities that are undertaken for the purpose of providing or improving permanent residential structures which, upon completion, will be occupied by LMI households. To be eligible, structures with one unit must be occupied by a Low-to-Moderate Income Household, with two units, at least one unit must be Low-to-Moderate Income occupied, and structures with three or more units must have at least 51 percent occupied by Low-to-Moderate Income Households.

Low Moderate Housing Incentive (LMHI) – Housing incentives tied to a voluntary buyout or other voluntary acquisitions of housing owned by eligible Low-to-Moderate Income Households and provided for the purpose of moving the eligible household outside the affected floodplain or to a lower-risk area, or improving residential structures that will be occupied by an LMI household.

Low-to-Moderate Income (LMI) Household – A household whose annual income does not exceed 80 percent of the median income for the area as most recently determined by the Department of Urban and Housing Development.

- LMI 30 refers to those individuals/families making less than 30 percent of the Area Median Income.
- LMI 50 refers to those individuals/families making less than 50 percent of the Area Median Income.
- LMI 80 refers to those individuals/families making less than 80 percent of the Area Median Income.
- Above LMI 80 refers to those individuals/families making more than 80 percent of the Area Median Income.

Low-to-Moderate-Income (LMI) National Objective – Activities that benefit households whose total annual gross income does not exceed 80 percent of Area Median Income, adjusted for family size. Pursuant to federal statute, the grantee is required to expend 70 percent of Community Development Block Grant-Disaster Recovery funds to meet the Low-to-Moderate-Income National Objective.

Low-to-Moderate Income (LMI) Resident/Person/Individual – A person whose annual income does not exceed 80 percent of the median income for the area as most recently determined by the U.S. Department of Housing and Urban Development.

Mitigation Activities – Activities funded by the mitigation set-aside that increase resilience to disasters and reduce or eliminate the long-term risk of loss of life, injury, damage to and loss of property, and suffering and hardship, by lessening the impact of future disasters, as defined by the Florida Statutes.

Mitigation Measures – Measures that—per the U.S. Department of Housing and Urban Development's Community Development Block Grant-Disaster Recovery Consolidated Notice, Appendix B of Federal Register Vol. 87, No. 23—must be incorporated into Community Development Block Grant-Disaster Recovery activities carried out by the grantee and its subrecipients as a construction standard to create communities that are more resilient, and to reduce the impacts of recurring natural disasters and the long-term impacts of climate change. When determining which mitigation measures to incorporate, the grantee should design and construct structures to withstand existing and future climate impacts expected to occur over the service life of the project.

Most Impacted and Distressed (MID) Areas – Areas of most impact as determined by the U.S. Department of Housing and Urban Development or the state using the best available data sources to calculate the amount of disaster damage.

National Flood Insurance Program (NFIP) –

- NFIP Zone A refers to those applicants within the 100-year flood zone.
- NFIP Zone V refers to those applicants within the 100-year flood zone with velocity (coastal storm surge risk).
- NFIP Zone X refers to those applicants outside of the 100-year flood zone.

Necessary Costs – Community Development Block Grant-Disaster Recovery funding will fill a necessary gap to address an unmet need that cannot be filled by another funding source. This is demonstrated by conducting a duplication of benefits analysis calculation for each activity.

New Hires – Full-time employees for permanent, temporary, or seasonal employment opportunities.

Offer – A response to a solicitation that, if accepted, would bind the offer. Responses to an Invitation to Bid are offers called "bids"' or "sealed bids".

Office of Long-Term Resiliency (OLTR) – The Florida Department of Commerce's office dedicated to the administration of Community Development Block Grant-Disaster Recovery and Community Development Block Grant-Mitigation funded programs and activities.

Private Loans – A loan that is not provided by, or guaranteed by, a governmental entity. Private loans require the Community Development Block Grant-Disaster Recovery applicant (the borrower) to repay the full amount of the loan (principal and interest) under typical commercial lending terms, i.e., the loan is not forgivable.

Program Income – Gross income received by the subgrantee and/or subrecipient directly generated from the use of Community Development Block Grant-Disaster Recovery funds. Revenue that is received by a state, Unit of General Local Government, or subrecipient as defined at 24 CFR 570.500.

Project Cost – Direct costs of undertaking a Community Development Block Grant-Disaster Recovery project and which can be tied to a final cost objective and eligible activity. The project costs can count towards meeting the overall Low-to-Moderate Income benefit requirements.

Project Delivery Cost – Costs used specifically to meet the requirements to complete a particular project, especially as it applies to meeting Community Development Block Grant requirements.

Project/Program/Activity – The housing, infrastructure, economic development, or planning endeavor undertaken by FloridaCommerce, the subgrantee and/or subrecipient using Community Development Block Grant-Disaster Recovery funds.

Public Housing Authority (PHA) – Ahttps://www.lawinsider.com/dictionary/public-housing-authority state, county, municipality or other governmental entity or public body or agency or instrumentality of these entities that is authorized to engage or assist in the development or operation of low-income housing under the United States Housing Act of 1937 in accordance with 24 CFR 5.100.

Quarterly Performance Report (QPR) – The Community Development Block Grant-Disaster Recovery Quarterly Performance Report that is required to be uploaded quarterly in the Disaster Recovery Grant Reporting system for the U.S. Department of Housing and Urban Development's review of Florida's disaster recovery programs.

Racially or Ethnically Concentrated Areas of Poverty (RECAP) – RECAPs must have a non-white population of 50 percent or more and a poverty rate that exceeds 40 percent or is three or more times the average tract poverty rate for the metropolitan/micropolitan area, whichever threshold is lower.

Real Property – Land, including all the natural resources and permanent buildings on it. Real property includes air rights, water rights, rights-of-way, easements, and other interests therein, as described in 24 CFR 570.201.

Reasonable Costs – Costs that do not exceed what a prudent person would incur under similar circumstances, as demonstrated by the market price for comparable goods and services. For contracted work, the Responsible Entity should conduct an independent cost estimate to establish cost reasonableness as outlined in 2 CFR Part 200.

Rebuild Florida – A disaster recovery program created by the Florida Department of Commerce to help Florida's long-term recovery efforts from disasters that have impacted the citizens of Florida.

Release of Funds (ROF) – The U.S. Department of Housing and Urban Development's or Florida Department of Commerce's granting approval to use Community Development Block Grant-Disaster Recovery funding. This approval, or authority to use grant funds, is executed through the U.S. Department of Housing and Urban Development form 7015.16. The authority to use Community Development Block Grant-Disaster Recovery funds usually occurs after the project environmental review is completed and approved by the Florida Department of Commerce.

Request for Applications (RFA) – The Florida Department of Commerce notice requesting applications for funding as a subrecipient for the Community Development Block Grant-Disaster Recovery program.

Request for Funds (**RFF)** – A subgrantee and/or subrecipient's request for funds from the Florida Department of Commerce**.**

Request for Release of Funds (RROF) – A subgrantee and/or subrecipient request for a release of funds. This request is executed through the U.S. Department of Housing and Urban Development Form 7015.15.

Responsible Entity (RE) – The entity responsible for certain components of the Community Development Block Grant-Disaster Recovery administration process including environmental reviews, monitoring, and administration. The Responsible Entity can be the Florida Department of Commerce or a Unit of General Local Government, also known as a subrecipient, as specified by FloridaCommerce.

Subsidized Loans – Loans, including forgivable loans, other than private loans. Both Small Business Administration and Federal Emergency Management Agency provide subsidized loans for disaster recovery.

Sealed bid – A method of contracting that encompasses a competitive bid process, the public opening of bids, and making the bid award.

Section 3 –Section 3 of the Housing and Urban Development Act of 1968, as amended, and the implementing regulations at 24 CFR Part 135 and 24 CFR Part 75, as applicable, relating to employment and other economic opportunities for low and very low-income persons.

Section 3 Business or Business Concern – As related to Section 3 of the of the Housing and Urban Development Act of 1968, as amended:

- Is at least 51 percent owned and controlled by low or very low-income persons;
- Over 75 percent of the labor hours performed for the business over the prior three-month period are performed by Section 3 Workers; or
- A business at least 51 percent owned and controlled by current public housing residents or residents who currently live in Section 8-assisted housing.

Section 3 Covered Contracts – A contract or subcontract (including a professional service contract) awarded by a recipient or contractor for work generated by the expenditure of Section 3 covered assistance, or for work arising in connection with a Section 3 covered project.

Section 3 Covered Non-Construction Project – A project associated with a Section 3 Covered Project such as maintenance contracts, re-painting, routine maintenance, HVAC servicing, and professional services (architectural, engineering, legal, accounting, marketing, etc.).

Section 3 Covered Project – The construction, reconstruction, conversion, or rehabilitation of housing (including reduction and abatement of lead-based paint hazards), other public construction such as roads, sewers and community centers, and buildings or improvements (regardless of ownership) assisted with housing or community development assistance.

Section 3 Workers – A worker whose income for the previous or annualized calendar year is below 80 percent of the area median income for the area in which the worker resides, is employed by a Section 3 business concern, or the worker is a YouthBuild participant.

Service Area – The total geographic area to be directly or indirectly served by a subgrant project that addresses the Low-to-Moderate Income National Objective, in which at least 51 percent of the residents are low-to-moderate income persons. A service area must include all, and only those, beneficiaries who are reasonably served or would be reasonably served by the activity.

Solicitation – Any request to submit offers or quotations to the local government. Solicitations under sealed bid procedures are called "invitations for bids". Solicitations under negotiated procedures are

called “requests for proposals." Solicitations under simplified acquisition procedures may require submission of either a quotation or an offer.

Special Flood Hazard Area (SFHA) – Areas where the National Flood Insurance Program’s (NFIP’s) floodplain management regulations must be enforced, and the mandatory purchase of flood insurance applies.

Subcontract – A contract entered into by a subcontractor to furnish supplies or services for performance of a prime contract, or another subcontract. It includes, but is not limited to, purchase orders, and changes and modifications to purchase orders.

Subcontractor – Any supplier, distributor, vendor, or firm that furnishes supplies or services to or for a subrecipient. As related to Section 3 of the of the Housing and Urban Development Act of 1968, as amended, any entity (other than a person who is an employee of the contractor) which has a contract with a contractor to undertake a portion of the contractor’s obligation for the performance of work generated by the expenditure of Section 3 covered assistance or arising in connection with a Section 3 covered project.

Subgrantee – A recipient that demonstrated its abilities to carry out competitive applications due to their expertise related to goals of the program.

Subgrant Agreement – An agreement between the Florida Department of Commerce and the subgrantee for the subgrantee to undertake activities using Community Development Block Grant-Disaster Recovery funds.

Subrecipient – A competitively-selected recipient, usually a local government, that is provided Community Development Block Grant-Disaster Recovery funds from the Florida Department of Commerce to agreed-upon eligible disaster recovery activities documented in a Subrecipient Agreement.

Subrecipient Agreement – An agreement between the Florida Department of Commerce and the subrecipient for the subrecipient to undertake activities using Community Development Block Grant-Disaster Recovery funds.

Subrecipient Enterprise Resource Application (SERA) – The Florida Department of Commerce’s web-based reporting and grants management system. This system is used by Community Development Block Grant-Disaster Recovery vendors, subgrantees, and subrecipients to submit invoices and supporting documentation in order to be reimbursed for goods and services. The transactions in this system are linked to the state’s Florida Accounting Information Resource system as well as the U.S. Department of Housing and Urban Development’s Disaster Recovery Grant Reporting system.

Subrogation – A legal doctrine that allows one entity to take on the rights of another. In the context of Disaster Recovery grants, a subrecipient must enter into a subrogation agreement in which the funding agency (the Florida Department of Commerce) obtains the right to collect any additional disaster recovery payments the entity obtains for the same purpose after the entity has received disaster recovery benefits.

Targeted Section 3 Worker – A Section 3 Worker who is:

- A worker employed by a Section 3 Business concern; or
- A worker who currently fits or when hired fit at least one of the following categories, as documented within the past five years:
    - A resident of public housing or Section 8-assisted housing;
    - A resident of other public housing projects or Section 8-assisted housing managed by the Public Housing Authority that is providing the assistance; or
    - A YouthBuild participant.

Uniform Relocation Assistance and Real Property Acquisition Act (URA) of 1970, as amended – A federal law that establishes minimum standards for federally funded programs and projects that require the acquisition of real property (real estate) or displace persons from their homes, businesses, or farms. The URA's protections and assistance apply to the acquisition, rehabilitation, or demolition of real

property for federal or federally funded projects pursuant to 49 CFR Part 24 and applicable waivers provided in the U.S. Department of Housing and Urban Development's Community Development Block Grant-Disaster Recovery Consolidated Notice, Appendix B of Federal Register Vol. 87, No. 23.

Urgent Need (UN) – A recent need that poses a serious and immediate threat to the health or welfare of the community.

Very Low-Income (VU) Household/Family – A household whose annual income does not exceed 30 percent of the median income for the area as most recently determined by the Department of Housing and Urban Development.

Very Low-Income (VU) Person or Individual – A person whose annual income does not exceed 30 percent of the median income for the area as most recently determined by the Department of Housing and Urban Development.

Vendor – An entity competitively selected to provide clearly-specified goods or services meeting the procurement requirements at 24 CFR 85.36, 2 CFR Part 200, Section 287.055, Florida Statutes, and Rule 73-23.0051(3), Florida Administrative Code. In accordance with 24 CFR 85.36(c), such procurement actions must be conducted in a manner that provides for free and open competition.

Waiver – A revision to the standard Community Development Block Grant-Disaster Recovery regulations, requirements, and activities, granted by the U.S. Department of Housing and Urban Development.

YouthBuild – A national organization administered by the U.S. Department of Labor with a community-based pre-apprenticeship program that provides job training and educational opportunities for at-risk youth ages 16 to 24 who have previously dropped out of high school.

Zero Award – Is determined when the estimated cost to repair the disaster-related structural damage sustained to an applicant's home is less than the amount of benefits previously received or previously approved from other sources.

Appendix F: Standard Form 424

FloridaCommerce submits this Plan to HUD along with a completed and executed Federal Form SF-424.

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