



# COASTAL MANAGEMENT

*Manatee Protection & Coastal, Lakes,  
and River Management*

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## Introduction

Due to its low-lying topography and abundance of coastline, Florida is at an increased risk of the effects of coastal natural hazards. To reduce the impacts of natural hazards, such as hurricanes, coastal flooding, and sea level rise the State of Florida requires a Coastal Management Element for all coastal municipalities. The Coastal Management Element is an analysis of the coastal area of Citrus County and how coastal natural hazards impact human life, property, and infrastructure. The goal of this element is to inform responsible land use decisions that protect Citrus County's coastline and residents both environmentally and economically.

Citrus County boasts an impressive 1,195 miles of shoreline that is home to several coastal communities. These coastal communities all have relationships with the coastline whether it be economically or recreationally, water-related activities are essential to each community's identity. It is the goal of the County to allow these communities to continue to flourish in ways that balance coastal identities and protection from coastal risks.

## Coastal Area Inventory

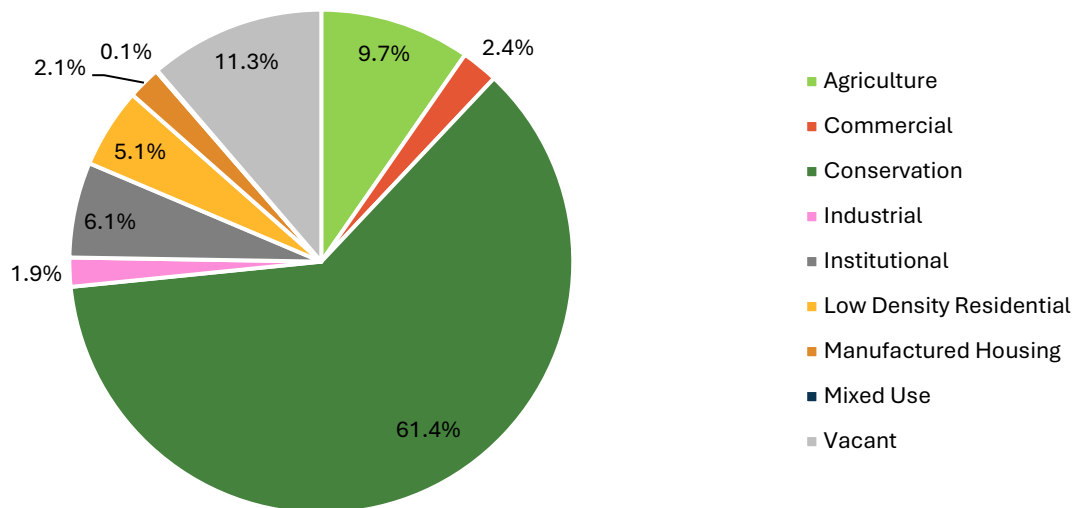
The state of Florida utilizes Category 1 Hurricane storm surge as a statewide threshold for coastal natural hazards. Areas of a community within the Category 1 storm surge are designated as the Coastal High Hazard Area (CHHA) and are considered particularly susceptible to coastal flooding associated with the smallest categorized hurricane strength. The Coastal High Hazard Area (CHHA) is determined by the National Oceanic and Atmospheric Administration (NOAA) Sea, Lake, and Overland Surges from Hurricanes (SLOSH) model which estimates the maximum extent of storm surge based on hurricane category.

In Citrus County, the Coastal High Hazard Area (CHHA) is largely confined to the areas west of US Route 98, with some areas extending east of the highway near Crystal River. Coastal communities of Ozeo, Homosassa, and Homosassa Springs are examples of population centers at risk within the CHHA. The CHHA is approximately 83,374 acres of unincorporated Citrus County. For the purpose of analyzing Citrus County's vulnerability to coastal natural hazards, the CHHA is used as the analysis area (shown in **Map CM - 1**).

## Existing Land Use

Most of the land within unincorporated Citrus County’s CHHA is designated as conservation land by the Citrus County Property Appraisers. Nearly 62% of the land in the CHHA is conserved in some capacity. Of the remaining land area, 15% has been developed as residential, commercial, institutional, or industrial related land uses. It should be noted that a large portion of this 15% is institutional land dedicated to the Crystal River Energy Complex. The remaining land in the CHHA is split between vacant and agricultural lands. A full breakdown of each existing land use in the CHHA is included in **Figure CM - 1**.

**Figure CM - 1: Existing Land Use in Coastal High Hazard Area**



Source: Citrus County Property Appraiser, 2025

## Natural Resources

### Land Cover/Ecological Communities

Living up to the “Nature Coast” name, Citrus County’s coastal area is rich with a variety of native Florida habitats and vegetation. Within the CHHA, marshes, swamps, and wetlands are abundant with pockets of upland coniferous forests and pine flatwoods scattered towards the interior of the County. Natural areas in the CHHA aid in the goal of protecting Citrus County’s communities and coastline. The saltwater marshes, also known as tidal marshes, make up most of the natural coverage in the CHHA, which reduce

coastal erosion and protect inland areas. Their dense vegetation absorbs wave energy, slows floodwater, and anchors soil and sediment. Salt marshes also provide economic benefits functioning as nurseries and feeding grounds for 70% of Florida’s commercially valuable fisheries, including scallops. A full list of the natural areas in the CHHA provided by the Florida Department of Environmental Protection’s (FDEP) Land Use/Land Cover (LULC) database is provided below and shown in **Map CM – 3**.

- Saltwater Marshes
- Streams and Waterways
- Wetland Forested Mixed
- Upland Forested Mixed
- Tree Plantation
- Freshwater marshes
- Pine Flatwoods
- Longleaf Pine – Xeric Oak
- Cypress
- Upland Coniferous Forest
- Upland Hardwood Forests
- Wet Prairies
- Disturbed and Open Land

*\*Excludes LUCLC with <0.1% share of CHHA*

## Protected Lands

Conservation is the predominate land use in the County’s CHHA, approximately 62%. There are 15 different managed conservation lands in the CHHA listed by the Florida Natural Areas Inventory (FNAI). These conservation lands vary from Federal to private management and include portions of the Withlacoochee State Forest, Crystal River National Wildlife Refuge, and Chassahowitzka National Wildlife Refuge.

## Outstanding Florida Waters

Outstanding Florida Waters (OFW) are waters designated by the environmental regulation commission as worthy of special protection because of their natural attributes. Citrus County is home to four Special OFWs, Withlacoochee, Crystal River, Homosassa, and Chassahowitzka River Systems. Special OFWs are waters designated as being exceptional in their recreational or ecological significance. The environmental regulation commission deems the environmental, social, and economic benefits of protecting these waters outweigh the environmental, social, and economic costs. In addition to the Special OFWs, there are two Aquatic Preserves in Citrus County: St. Martins Marsh Aquatic Preserve and Nature Coast Aquatic Preserve. Both of these state managed aquatic preserves are recognized OFWs as well.

## Coastline Classification

FDEP classifies shorelines as part of their Environmental Sensitivity Index (ESI). Originally created as a tool for oil spill clean ups, the ESI shoreline classification provides insight into the characteristics of shorelines across Florida. In Citrus County, 99% of the shoreline is classified as Salt and Brackish Water Marshes, Swamps, and Freshwater Marshes. The remaining 1% represent man-made coastal structures and the artificial sandy beach at Fort Island Beach Park. Man-made coastal structures include docks, sea walls, and other types of waterfront developments. It should also be noted that the beach at Fort Island Beach Park is listed on FDEP's list of critically eroded beaches.

## Historic and Cultural Resources

Three listed historic and cultural resources are identified by the State Division of Historical Resources in the CHHA. Crystal River Old City Hall, Crystal River Indian mound, and the Yulee Sugar Mill Historic Memorial are all National Register of Historic Places designated sites within the CHHA. An additional 175 proposed and eligible cultural and historical resources are located within the CHHA. The historic resources are at risk of storm damage and flooding and should be evaluated in conjunction with State and Federal historic programs.

## Public Facilities and Infrastructure

Disruptions to public facilities and infrastructure can significantly impact the health and safety of Citrus County residents. Protecting and maintaining public facilities and infrastructure is an essential function of local government. Understanding the risks posed to critical facilities by storm surge, sea level rise, and other flooding threats is one of the first steps in building resilience and minimizing storm and flooding related disruptions in Citrus County. The Citrus County Vulnerability Assessment completed by the Tampa Bay Regional Planning Council (TBRPC) analyzes the threats to critical infrastructure in various sea level rise and storm surge scenarios. A brief overview of the threats to different types of public facilities and infrastructure is included below.

## Roadways

Flooding can reduce the life span of roads by increasing the erosion of pavement. Intense flooding such as storm surge scenarios can cause roadway washouts. In Citrus County, where many of the coastal communities are connected by a single road, roadway flooding poses a significant threat to safety and the ability to evacuate during a storm event. All

local roads in the CHHA are vulnerable to the impacts of storm surge and sea level rise as well as considerable portions of US 19/98 and State Road 44.

## Water and Sewer Treatment

There are 42 private and City water and wastewater treatment facilities in the CHHA. While Citrus County does not own or operate these facilities, understanding their risk and impacts on local populations is an element of assessing the vulnerability of the County as a whole.

## Electric Utilities

The Crystal River Energy Complex in the northwest portion of the County is located within the CHHA. A significant power supplier for the County, coastal impacts on this facility can cause power outages for homes and facilities throughout Citrus County. Additionally, rising sea levels and storm surge may increase the potential for pollutants to enter the environment, especially if facilities are damaged in a storm event.

## Water Dependent & Water-Related Uses

Water-related industries provide a large sector of the employment base in Citrus County. Water-related uses are uses that are not directly dependent on water access but the goods and services they provide require water access. These industries include boat manufacturing and services, commercial fishing, dive shops, and retail and tourist trades. Water-related uses depend on the health and safety of coastal resources such as coastal fisheries and the West Indian Manatee. Water-dependent uses are uses that require direct access to a waterbody to function. Examples of water-dependent uses include ports, marinas, boat ramps, electrical generating facilities, and some parks and water supply facilities.

Changes in sea level and increasing volatility in coastal weather can severely impact water-related and dependent uses. Rising sea levels and storms negatively impact nursery habitats like marshes and estuaries by increasing salinity and eroding coastlines. In Citrus County, these nursery habitats are crucial for fishing and tourism, with impacts already negatively affecting scalloping and other fishing industries.

## Port

The Citrus County Port Authority retains the authority to acquire land, submerged lands, and water rights to support the development of infrastructure for port-related uses within

the Port Future Land Use Area. Although limited infrastructure currently exists, approximately 74 percent of the land designated for port uses lies within the Coastal High Hazard Area (CHHA). As a result, future sea level rise, storm surge, and severe weather events may substantially affect the viability, design, and long-term resilience of development in this area, particularly for water-dependent and marine-related uses.

## Public Access

Recreation is a large part of Citrus County’s Nature Coast identity. Public access to coastal amenities is essential for water-related and dependent recreational activities like swimming, fishing, kayaking, and boating. There are currently 21 different public water access points which vary from state parks to municipal boat ramps. Providing areas like Ozello Community Park or the Fort Island Beach Boat Ramp allows residents to enjoy the natural amenities of the County’s coastline. In addition to public parks and boat ramps, there are several privately owned boat ramps and marinas where residents can access coastal amenities. Understanding the location and vulnerabilities of all coastal access points is in the best interest of the County, as marinas across the County are closely associated with tourism and economic development as they are able to facilitate a variety of businesses such as fishing charters and manatee tours.

## Vulnerable Populations

Groups with characteristics that increase the impact of coastal flooding and storms are considered vulnerable populations. According to the HUD Community Resilience Toolkit, these populations often have a harder time evacuating during storm events or are disproportionately affected by workplace closures, lost business revenue, and loss of public services. Characteristics that can increase a household’s vulnerability include lacking access to a vehicle, living below the poverty level, and having a member with a disability. These factors were examined within the Citrus County CHHA using demographic analysis tools available through ESRI Business Analyst (BA). The results of this analysis are shown in **Table CM – 1** below. Households may have more than one vulnerability factor.

**Table CM - 1: Vulnerability Factors for Households within the CHHA**

| Vulnerability Factor                                  | Number of Households |
|-------------------------------------------------------|----------------------|
| Total Households                                      | 6,764                |
| Households with No Vehicle                            | 214                  |
| Households with Retirement Income                     | 2,566                |
| Households Earning Below the Poverty Level            | 1,080                |
| Households with One or More Persons with a Disability | 2,158                |

Source: ESRI Business Analyst Online, 2023/2025

As shown in **Table CM – 1**, there are a significant number of households with vulnerability factors present. One of the most prominent vulnerability factors in the CHHA are households with one or more persons with a disability. Households caring for individuals with disabilities may have a more difficult time evacuating and are at risk of losing access to essential medical devices or medications in the event of evacuation or power failure. Additional vulnerabilities can compound risk to coastal natural hazards. Households below the poverty line, on a fixed income, or without a vehicle may be restricted in their ability to make necessary home repairs, obtain emergency medical care, or secure temporary shelter. The inability to make repairs or access proper care increases the future vulnerability of a household into a continuous feedback loop of disaster and repair.

### Pollution

The restoration, protection, and management of surface water resources is a statewide objective. To achieve this objective the State of Florida established the Surface Water Improvement and Management (SWIM) Act, which directs the state’s water management districts to identify water bodies of regional significance in need of protection/restoration. The Southwest Florida Water Management District (SWFWMD) in coordination with FDEP, Florida Fish and Wildlife Conservation Commission (FWC), Florida Department of Agriculture and Consumer Services (FDACS), and Citrus County identified three coastal waters as SWIM Priority Water Bodies: Crystal River/Kings Bay, Homosassa River, and Chassahowitzka River. In accordance with the plan SWFWMD must adopt a SWIM Plan for each water body. The SWIM Plans evaluate the water quality of each priority body and the degradation of water quality caused by point and non-point source pollution.

The SWIM Plans identified nitrogen and phosphorus as major pollutants impacting coastal water quality in Citrus County. Concentrations of these pollutants have been linked to decreases in water clarity, increases in harmful algal blooms, and the overall degradation of coastal habitats such as seagrasses. To address these impacts the SWIM Plans established water quality management actions categorized by major pollution sources. These pollution source categories include septic tanks, agricultural operations, urban/residential fertilizers (including golf courses), wastewater treatment facilities, and stormwater. Specific action items are listed in each priority water bodies respective SWIM Plan, overall action items address the reduction of runoff contaminants, such as fertilizer, and improved land use regulations in areas near coastal water bodies.

### Manatees

The West Indian (Florida) Manatee (*Trichechus manatus latirostris*) is a year-round inhabitant of the coastal waters and rivers of Citrus County. During the winter months, a significant number of manatees seek out the water outflows of natural springs for warmth, food, and rest. As coastal waters begin to warm in the spring and summer months, the manatee population disperses throughout the Gulf coastal waters. Manatees and their protection are of significant interest to the tourism industry and other economic industries in the coastal area of Citrus County.

### Protection Areas

There are four Manatee Protection Areas established by the County. These areas represent places of significant manatee habitat and human overlap. The waterways in these areas are regulated by the (FWC) as state manatee protection zones. These regulated areas abide by FWC protections to restrict the speed and operation of vessels where necessary to protect manatees from harmful collisions with vessels and from harassment. Manatee protection areas and zones overlap with essential manatee and seagrass habitats.

### Threats

Manatees are dependent on the abundance of seagrasses and aquatic vegetation for their survival. Seagrasses and other aquatic vegetation thrive in environments with ample nutrients, stable sediments, and access to sunlight. Sea level rise decreases sunlight access for seagrass by increasing the distance to the surface and decreasing the clarity of water. Increased salinity of coastal waters associated with sea level rise

reduces seagrass' ability to create nutrients. Hurricanes and coastal storms increase river discharge and runoff, allowing for excess nutrients and pollutants to infiltrate the ecosystem and potentially impacting seagrasses and aquatic plants.

Coastal land uses also pose a threat to manatee and manatee habitat health. Increased development and water access in coastal areas increases the rate of manatee and human interactions. While there are state protections for manatees, the risk of harassment and injury is increased with more interactions. Additionally, land development and increases in impervious surfaces in the coastal area increase rates of runoff and inundation that can degrade manatee habitats.

## Coastal Vulnerability

### Storm Surge

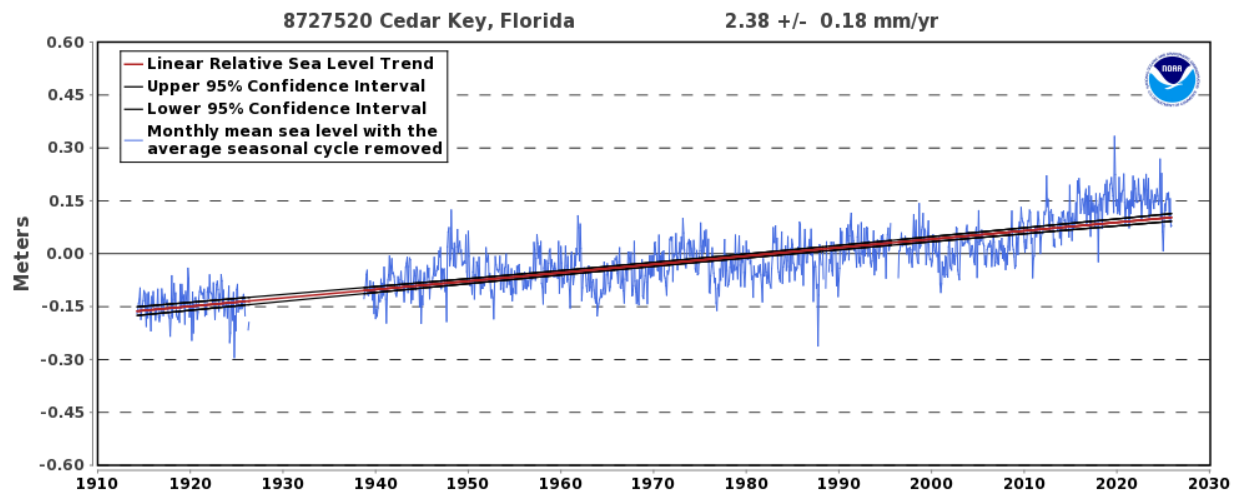
To increase hurricane planning and preparedness, NOAA and the National Weather Service (NWS) developed the Sea, Lake, and Overland Surges from Hurricane (SLOSH) model. The SLOSH model utilizes elevation, atmospheric pressure, size, forward speed, and data tracking to estimate the maximum extent of storm surge in an area during different hurricane categories. According to NOAA, storm surge is the abnormal rise in water level generated by a storm over and above the predicted astronomical tide. Citrus County's lowland and marshy coastline make it particularly susceptible to the impacts of storm surge with 21 percent of the County land in the category 1 hurricane storm surge area or CHHA. Citrus County's topography limits the impacts of storm surge to the coastal areas of the County with some penetration in the northern part of the County along Lake Rousseau and the Withlacoochee River. All areas depicted as impacted by category 5 hurricane storm surge are considered to be within the County's hurricane vulnerability zone. **Map CM – 6** shows the projected extent of storm surge within the County.

### Sea Level Rise

Sea level rise is a naturally occurring phenomenon impacting coastal communities across Florida. NOAA has been tracking the changes in sea level citing increases in sea level over the past century and accelerating in recent decades. Rising sea levels intensify storm surge and high-tide flooding, including king tide events, resulting in more frequent and widespread inundation. For more inland areas, higher sea levels can elevate the groundwater table, causing flooding and reducing flood waters ability to drain.

The nearest NOAA tide gauge to Citrus County is located in Cedar Key. According to the data collected at this gauge, the relative sea level in this area has increased by an estimated 0.86 feet between 1915 and 2025. This is equivalent to an average increase of 2.38 mm/year.

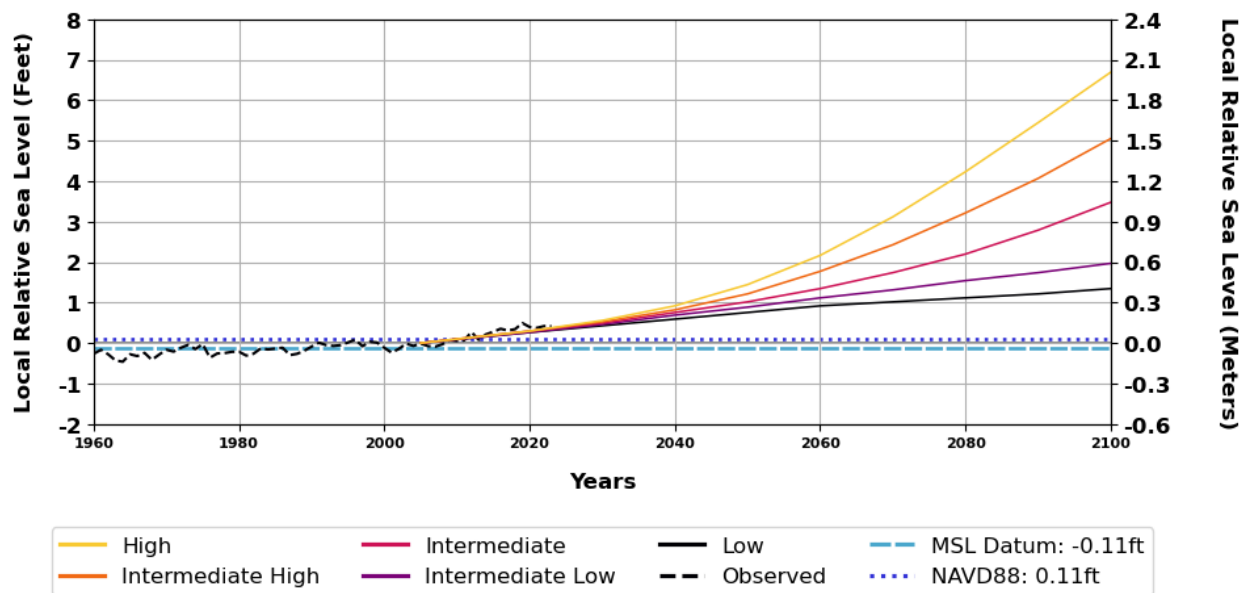
**Figure CM - 2: Relative Sea Level Trend, Cedar Key, Florida**



Source: National Oceanic and Atmospheric Administration (NOAA), 2025

Utilizing local trends in relative sea level NOAA projects out potential sea level rise scenarios, **Figure CM – 2**. Sea level rise projections provide a wide array of results with some projections estimating rises as high as 7 feet and as low as 1.5 feet in Cedar Key. Based on NOAA projections, Citrus County has evaluated Intermediate-Low and Intermediate-High scenarios for 2040 and 2070. Mapping these scenarios, **Maps CM – 7 through 10**, helps to identify areas vulnerable to the effects of sea level rise. Identifying not only communities but critical infrastructure, such as roads, utilities, and water or wastewater facilities can guide planning and adaptation strategies for the County.

**Figure CM - 3: Annual Relative Sea Level Since 1960 and Projections, Cedar Key, Florida**



Source: National Oceanic and Atmospheric Administration (NOAA), 2025

As shown in **Figure CM -3**, NOAA estimates sea level will most likely rise between 0.5 and 1.5 feet in the Nature Coast area by 2050. Based on the existing trends and projections it is highly unlikely that there will not be a rise in sea levels in Citrus County by 2050. Despite being associated with the coastline, sea level rise can have compounding impacts on a multitude of other flooding risks throughout Citrus County, increasing the reach of storm surge and floodplains.

## Emergency Management

### Evacuation Zones

Evacuation zones are assigned based on inundation depth of storm surge. Shallower areas more likely to be inundated by storm surge are assigned to a higher evacuation level. Evacuation levels are listed in an alphabetical scale between A and E with areas assigned to level A being more likely to be impacted by storm surge than areas assigned to level E. Citrus County, TBRPC, and FDEM coordinate to establish the evacuation zones in Citrus County. While storm surge is strongly associated with hurricane strength, intense inundation from storm surge can be generated regardless of storm strength. The evacuation zones in Citrus County are depicted on **Map CM – 11** and described as follows:

Evacuation Zone A: Areas likely to be impacted by storm surge of category 1 or higher hurricanes and larger tropical cyclones. This area is the closest to the coast and is any area that may be impacted by storm surge of less than 14 feet. The entirety of Homosassa and Chassahowitzka are in this area.

Evacuation Zone B: Areas likely to be impacted by storm surge of category 2 or higher hurricanes. This area is completely east of US Route 19 and is any area that may be impacted by storm surge of more than 14 feet.

Evacuation Zone C: Areas likely to be impacted by storm surge of category 3 or higher hurricanes. This area is more intermittent than the previous evacuation zones. Areas in evacuation zone C may be impacted by storm surge of more than 19 feet.

Evacuation Zone D: Areas likely to be impacted by storm surge of category 4 or higher hurricanes. This area contains many of the lands around Lake Rousseau and along the Withlacoochee River in northern Citrus County. Areas in evacuation zone D may be impacted by storm surge of more than 23 feet.

Evacuation Zone E: Areas likely to be impacted by storm surge of category 5 hurricanes. This area is largely contained to the areas south of Lake Rosseau with intermittent parcels along the edge of the vulnerable area of the county. Areas in evacuation zone E may be impacted by storm surge of more than 29 feet.

Non-evacuation zones: Areas east of the vulnerable coastal areas. These areas are unlikely to be impacted by storm surges of less than 35 feet.

Unassigned areas and areas assigned to lower evacuation levels may still be impacted by storm surge but are deemed less vulnerable than higher evacuation level areas.

Of the five evacuation levels, evacuation level A is the largest zone representing a need for adequate evacuation procedures even during smaller storm events. While evacuation orders may be assigned to one group of evacuation zones, storm impacts may still be felt across the County. Even in unassigned areas and areas assigned to lower evacuation levels, residents are still advised to make proper preparations for all storm events and in all evacuation events, and all mobile home and RV residents are advised to evacuate.

## **Evacuation Routes**

Evacuation routes are roads assigned to facilitate the evacuation of residents from an evacuation zone to a safer area. Major evacuation routes identified by FDEM in Citrus

County are US 19/98 North and Southbound, US 41 North and Southbound, and SR 44 Eastbound. Based on 2020 population projections, FDEM estimated that these routes may see over 153,000 vehicles attempting to exit the County in Category 5 hurricane conditions. While these routes are currently evaluated at a Level of Service of C, the sudden evacuation of the region may cause excessive vehicle queues along evacuation routes. Citrus County evacuation routes are shown on **Map CM – 11**.

### Evacuation Clearance Times

Evacuation clearance time scenarios were established by FDEM in the Statewide Regional Evacuation Study (SRES). Clearance time is the calculated time, in hours, of how long it takes for the population in an evacuation zone to secure their home, prepare to leave, and the time they spend on evacuation routes. There are three types of clearance times each with different points of safety and size of the population evacuating. The types of clearance times are defined by FDEM as follows:

**Clearance Time to Shelter** - The time necessary to safely evacuate vulnerable residents and visitors to a “point of safety” within the county based on a specific hazard, behavioral assumptions, and evacuation scenario. Calculated from the point in time when the evacuation order is given to the point in time when the last vehicle reaches a point of safety within the county.

**In-County Clearance Time** - The time required from the point an evacuation order is given until the last evacuee can either leave the evacuation zone or arrive at safe shelter within the County. This does not include those evacuees leaving the County on their own.

**Out of County Clearance Time** - The time necessary to safely evacuate vulnerable residents and visitors to a “point of safety” within the county, and all out of county evacuees have left the county but may still be evacuating based on a specific hazard, behavioral assumptions and evacuation scenario. Calculated from the point an evacuation order is given to the point in time when the last vehicle assigned an external destination exits the County.

Utilizing the SRES Program evacuation transportation model, two distinct sets of evacuation analyses were conducted to estimate clearance time. The first method of analysis, base scenario, is a series of worst-case scenarios created using a standardized set of variables. The methodology for base scenario evacuations is the same for every jurisdiction and regional planning area. The second method of analysis, operational

scenario, is developed through coordination between FDEM, TBRPC, and Citrus County and is tailored to the needs of the County's emergency managers preparedness. Whereas, base scenarios use common assumptions, the characteristics of operational scenarios vary from jurisdiction to jurisdiction. Both analyses are used by TBRPC and FDEM to estimate evacuation clearance times for Citrus County at each evacuation level (A-E) and shown in **Table CM-2**.

**Table CM - 2: Citrus County Clearance Times**

| Clearance Time Type                            | Evacuation Level A | Evacuation Level B | Evacuation Level C | Evacuation Level D | Evacuation Level E |
|------------------------------------------------|--------------------|--------------------|--------------------|--------------------|--------------------|
| <b>2025 Base Clearance Time (Hours)</b>        |                    |                    |                    |                    |                    |
| Clearance Time to Shelter                      | 16                 | 16.5               | 16                 | 15.5               | 19.5               |
| In-County Clearance Time                       | 19                 | 25.5               | 37                 | 44                 | 53.5               |
| Out Of County Clearance Time                   | 19                 | 25.5               | 37                 | 44                 | 53.5               |
| <b>2025 Operational Clearance Time (Hours)</b> |                    |                    |                    |                    |                    |
| Clearance Time to Shelter                      | 9.5                | 13                 | 22.5               | 25.5               | 27                 |
| In-County Clearance Time                       | 15.5               | 17.5               | 24                 | 35                 | 37                 |
| Out Of County Clearance Time                   | 15.5               | 17.5               | 24                 | 35                 | 37                 |

Source: Florida Department of Emergency Management, 2021

### Evacuation Level of Service

The State of Florida established a statewide level of service (LOS) for out-of-county hurricane evacuation, to be no greater than 16 hours for a category 5 storm event as measured on the Saffir-Simpson scale. In Citrus County, evacuation level E is representative of the areas in the County vulnerable to the storm surge from a category 5 storm event. Citrus County's Base and Operational out-of-county clearance time both surpass the State LOS by 37.5 hours and 21 hours respectively, however, within the Tampa Bay region the County ranks among the fastest clearance times in all categories. Ongoing roadway conditions and capacity improvements on evacuation routes may assist in decreasing clearance times.

## Emergency Shelters

In the event of a community emergency, Citrus County has four evacuation shelters for residents and visitors. The emergency shelters are operated through a partnership between Citrus County Emergency Management and the Citrus County School District. Shelters in Citrus County are organized into three categories based on target population. General population shelters are open to all Citrus County residents and visitors in evacuation zones when activated. These types of emergency shelters are opened for the single purpose of protecting lives and offer basic food provisions and water. Special needs shelters are for populations with qualifying medical needs including the use of oxygen or use of medical equipment that requires electricity. Special needs shelters require advanced registration and do not offer medical care beyond monitoring. Pet-friendly shelters allow for evacuees to bring their household pet to the shelter. Evacuated pets must provide proof of vaccinations. The four Citrus County evacuation shelters and their respective type are listed in **Table CM – 3**.

**Table CM - 3: Emergency Shelters**

| Shelter Name                    | Shelter Type  |
|---------------------------------|---------------|
| Citrus High School              | General       |
| Central Ridge Elementary School | General       |
| Forest Ridge Elementary School  | Special Needs |
| Lecanto Primary School          | Pet-Friendly  |

Source: Citrus County Emergency Management, 2026

The State of Florida does not have an established LOS for number or capacity of emergency shelters. The County continuously evaluates its emergency services including emergency shelters in order to best protect the lives and property of Citrus County residents. Emergency shelters may be added or removed at the discretion of Citrus County Emergency Management to best meet the needs of the County in different emergency situations.

## Coastal Management Area

In response to the risks posed to coastal communities, jurisdictions across Florida designate Coastal Management Areas (CMA). CMAs are planning areas that provide additional protections for natural resources, infrastructure, and public safety in coastal vulnerable areas.

Citrus County uses three CMAs to guide planning and resiliency efforts in coastal areas, the CHHA, the hurricane vulnerability zone, and the Coastal Area geographic planning region. As discussed above, the CHHA is the area impacted by the surge of a category 1 storm. The hurricane vulnerability zone, or vulnerability zone, consists of the storm surge area from category 1 through category 5 hurricanes, as depicted by **Map CM – 6**. The Coastal Area geographic planning region generally represents the western third of the County and is described in the Growth and Development Element.

### Future Land Use

Vacant lands in the Coastal Area are assigned as one of two environmentally sensitive future land use categories. These dedicated future land use categories manage future growth in vulnerable coastal areas. The Low Intensity Coastal and Lakes (CL) and Coastal and Lakes Commercial (CLC) future land use designations protect environmentally sensitive lands in Citrus County by reducing the density and intensity of development in these areas. Residential development in CL and CLC are limited to a maximum of one dwelling unit per 20 acres and one unit per 40 acres in Federal Emergency Management Agency (FEMA) V Zones also known as areas of Coastal High Risk. Directly tying residential development to flood risk not only protects environmentally sensitive lands but also prevents development in areas of repetitive flooding, increasing the overall resiliency of Citrus County. Development that is permitted in these districts is subject to stricter standards for stormwater, wildlife, and wetland protections. Within the CHHA, 35 percent of non-Conservation land is designated under these two land uses.

### Future Considerations

The goal of the County is to allow coastal communities to continue to flourish in ways that balance community identities and protection from coastal risks. To achieve this goal, coastal planning in Citrus County needs to be adaptable to the risks posed by sea level rise, storm surge, and other coastal hazards. The County should ensure that adaptation strategies, ordinances, and design standards reflect current conditions and anticipated future risks by incorporating updated scientific data, flood modeling, and hazard projections into planning and regulatory frameworks. Understanding risks and making informed policy decisions places the County in a position to be more resilient as it continues to grow.

To further strengthen the County's coastal management efforts, the following items should be taken into consideration.

**1. Maintain and Improve Community Rating System.** The FEMA Community Rating System (CRS) is a voluntary incentive program that recognizes and encourages community floodplain management practices. Communities that exceed the minimum management practices requirements outlined in the National Flood Insurance Program (NFIP) are rewarded with a discount on flood insurance premiums. Ratings and discounts reflect the community's efforts in reducing and avoiding flood damage. Citrus County has been a CRS community since 2001 and is currently classified as one of the top CRS communities in Florida. Maintaining the County's CRS rating requires continued commitment to improving the community's flood management and building a stronger, more resilient community.

**2. Adapt Existing and New Development and Infrastructure.** The County should continue to evaluate the vulnerability of new and existing development and infrastructure in the CHHA and explore coastal adaptation and hazard mitigation strategies to best protect these areas. Partnerships with TBRC, state and federal agencies should be explored to implement identified adaptation and mitigation strategies.

**3. Improve Evacuation Clearance Times.** Citrus County's evacuation clearance time is above the statewide LOS. The County's Emergency Management Department should continue coordination with FDEM and TBRC to evaluate existing evacuation routes and shelters and identify areas of potential improvement.

**4. Achieve SWIM Plan Objectives.** The County should continue to coordinate with SWFWMD, FDEP, FWC, and FDACS to achieve the quantifiable objectives identified in the SWIM Plans for costal priority water bodies. The SWIM Plans each identify management action items that when implemented should lead to improvement in water quality, water quantity, and natural systems in coastal areas.

**5. Coordination with the City of Crystal River.** Coastal impacts do not stop at jurisdictional lines. The County should continue to coordinate with the City of Crystal River to implement best resiliency practices and mitigate the impacts of coastal threats in the Kings Bay/Crystal River area.

**6. Protect Natural Coastline.** Citrus County’s natural marshy coastline is its first defense against storm surge by absorbing wave energy and provides significant habitat for aquatic species, and filters nutrients from upland sources. These marshes are at risk of damage due to the rising sea levels. Citrus County should work with appropriate state and federal agencies to protect existing shoreline marshes and consider implementing nature-based resiliency measures.

**7. Continue Implementing the Manatee Protection Plan.** Citrus County is identified as a key manatee area by Florida Fish and Wildlife, as such the County was required to develop a Manatee Protection Plan (MPP). The MPP is a comprehensive planning document that addresses the long-term protection of manatees and their habitats within Citrus County. Citrus County should continue to coordinate and cooperate with Florida Fish and Wildlife Conservation (FWC), the United States Fish and Wildlife Service, and others to implement the elements of the MPP for the protection of Manatees their ecosystem and the related economy.

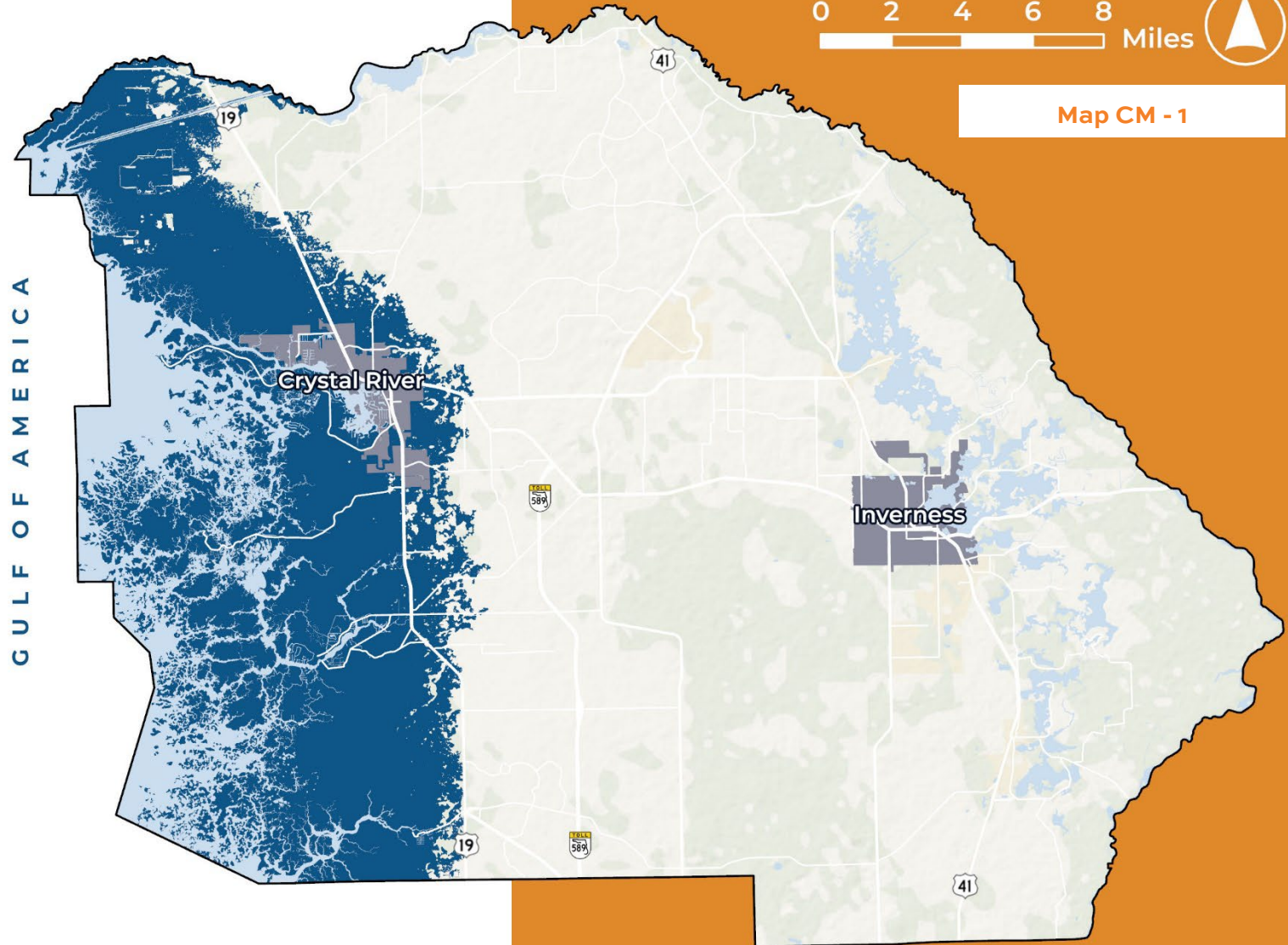
## Legend

-  Citrus County Boundary
-  Incorporated Area
-  Coastal High Hazard Area

# COASTAL HIGH HAZARD AREA



Map CM - 1



## Legend

□ Citrus County Boundary

■ Incorporated Area

## Existing Land Use

■ Conservation

■ Recreation and Open Space

■ Agriculture

■ Low Density Residential

■ Manufactured Housing

■ High Density Residential

■ Mixed Use

■ Commercial

■ Institutional

■ Industrial

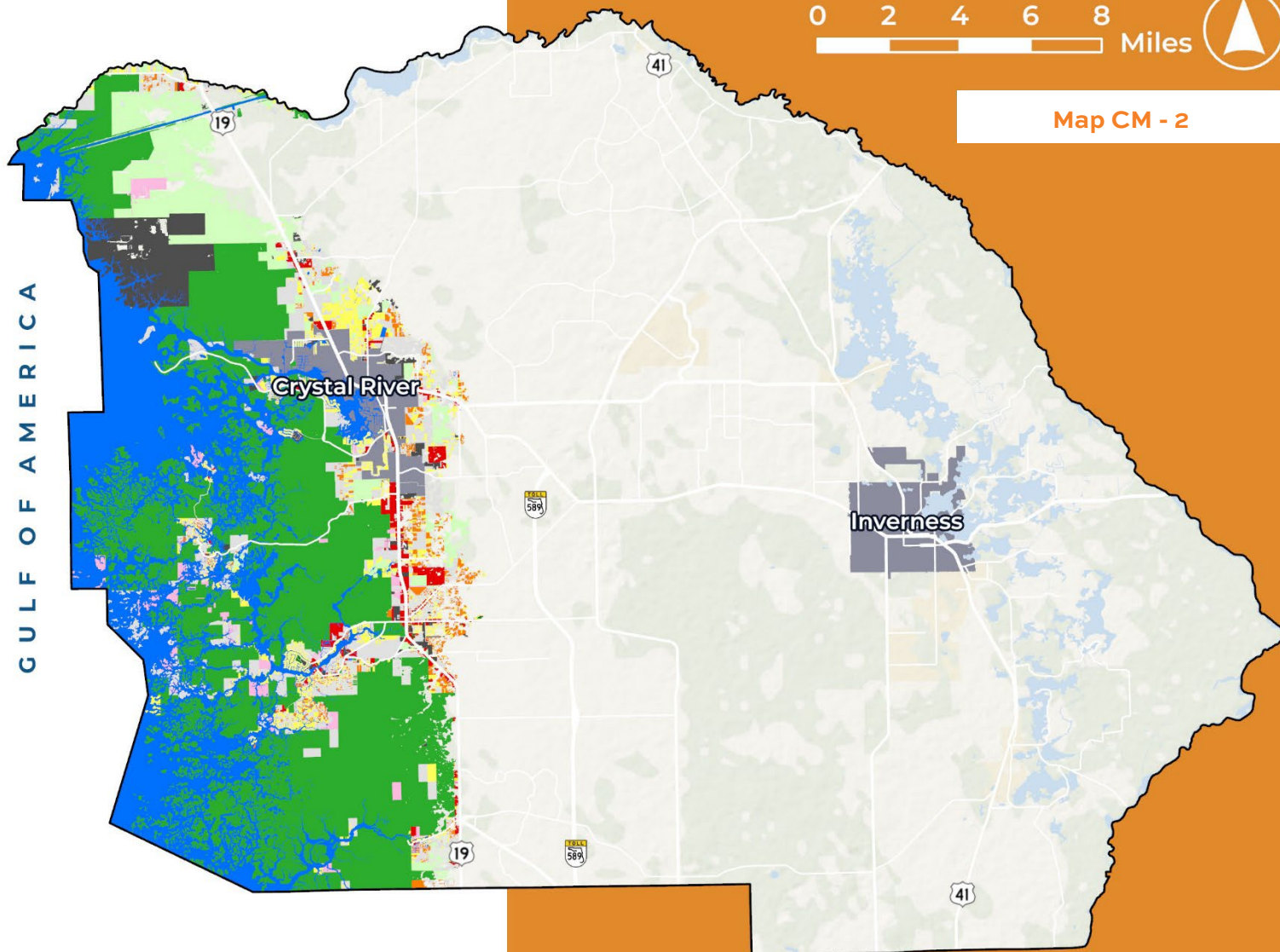
■ Vacant

■ Water

# EXISTING LAND USE IN COASTAL MANAGEMENT AREA



Map CM - 2



## Legend

□ Citrus County Boundary

■ Incorporated Area

## Land Use / Land Cover

■ Tree Plantation

■ Disturbed and Open Land

■ Cypress

■ Pine Flatwoods

■ Longleaf Pine - Xeric Oak

■ Upland Coniferous Forest

■ Upland Hardwood Forest

■ Wetland Coniferous Forest

■ Wetland Forested Mixed

■ Wetland Hardwood Forest

■ Vegetated Non-Forested Wetland

■ Emergent Aquatic Vegetation

■ Freshwater Marsh

■ Mangrove Swamp

■ Bay Swamp

■ Wet Prairie

■ Saltwater Marsh

■ Stream and Lake Swamp

■ Intermittent Pond

■ Lake

■ Salt Flat

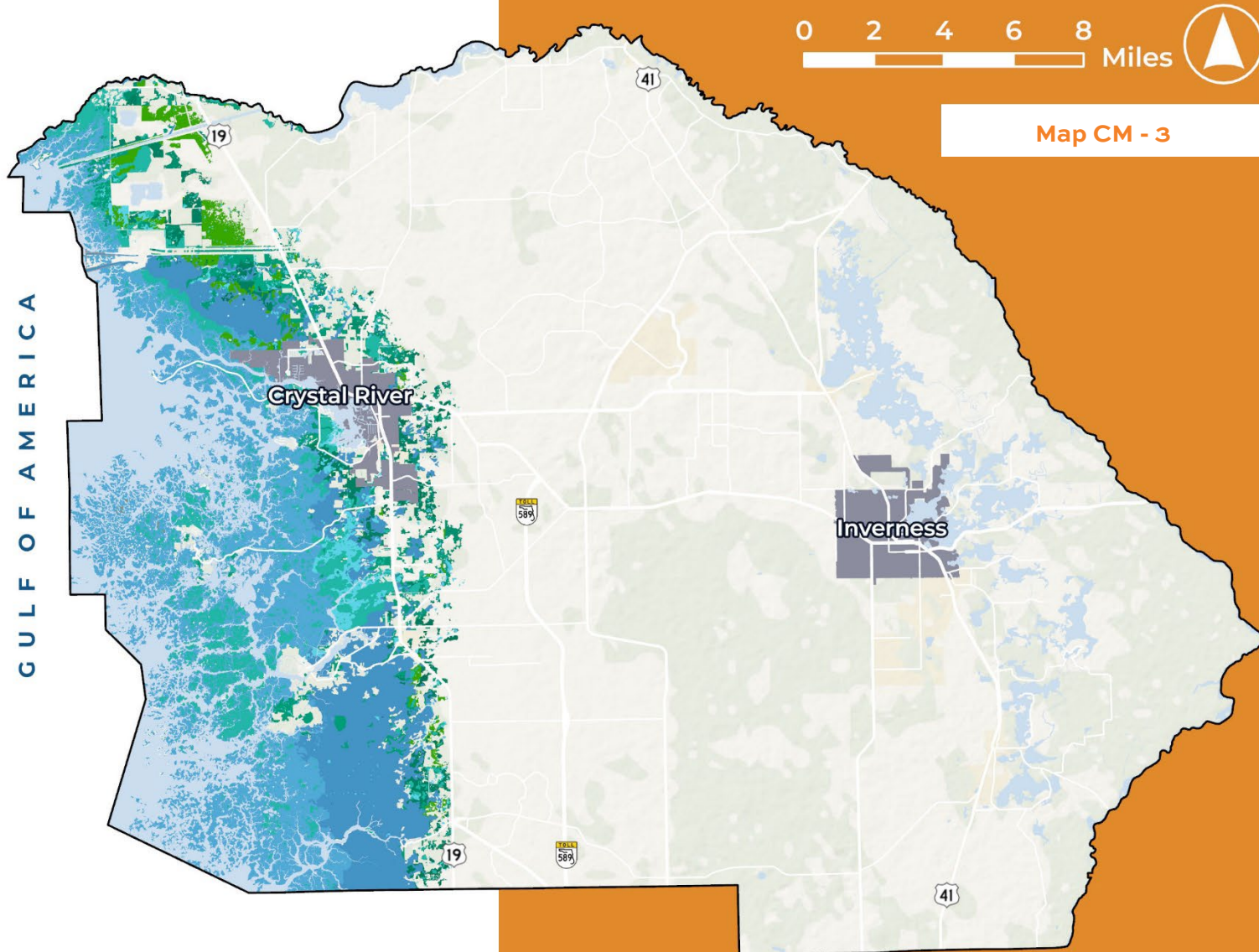
■ Beach other than Swimming

■ Sand other than Beaches

# NATURAL AREA LAND COVER IN COASTAL MANAGEMENT AREA



Map CM - 3



## Legend

 Citrus County Boundary

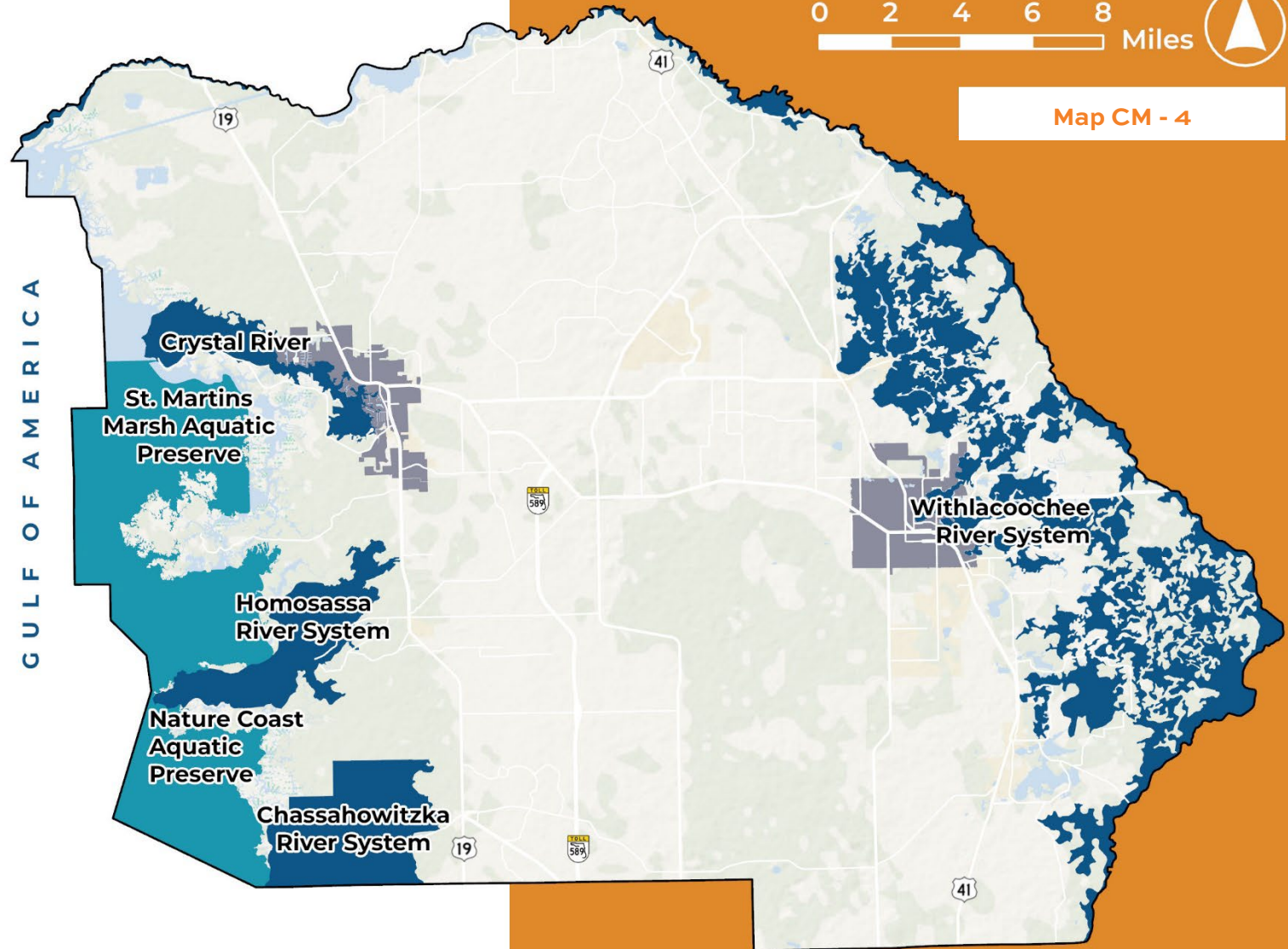
 Incorporated Area

## Outstanding Florida Waters

 Aquatic Preserve

 Special

# OUTSTANDING FLORIDA WATERS



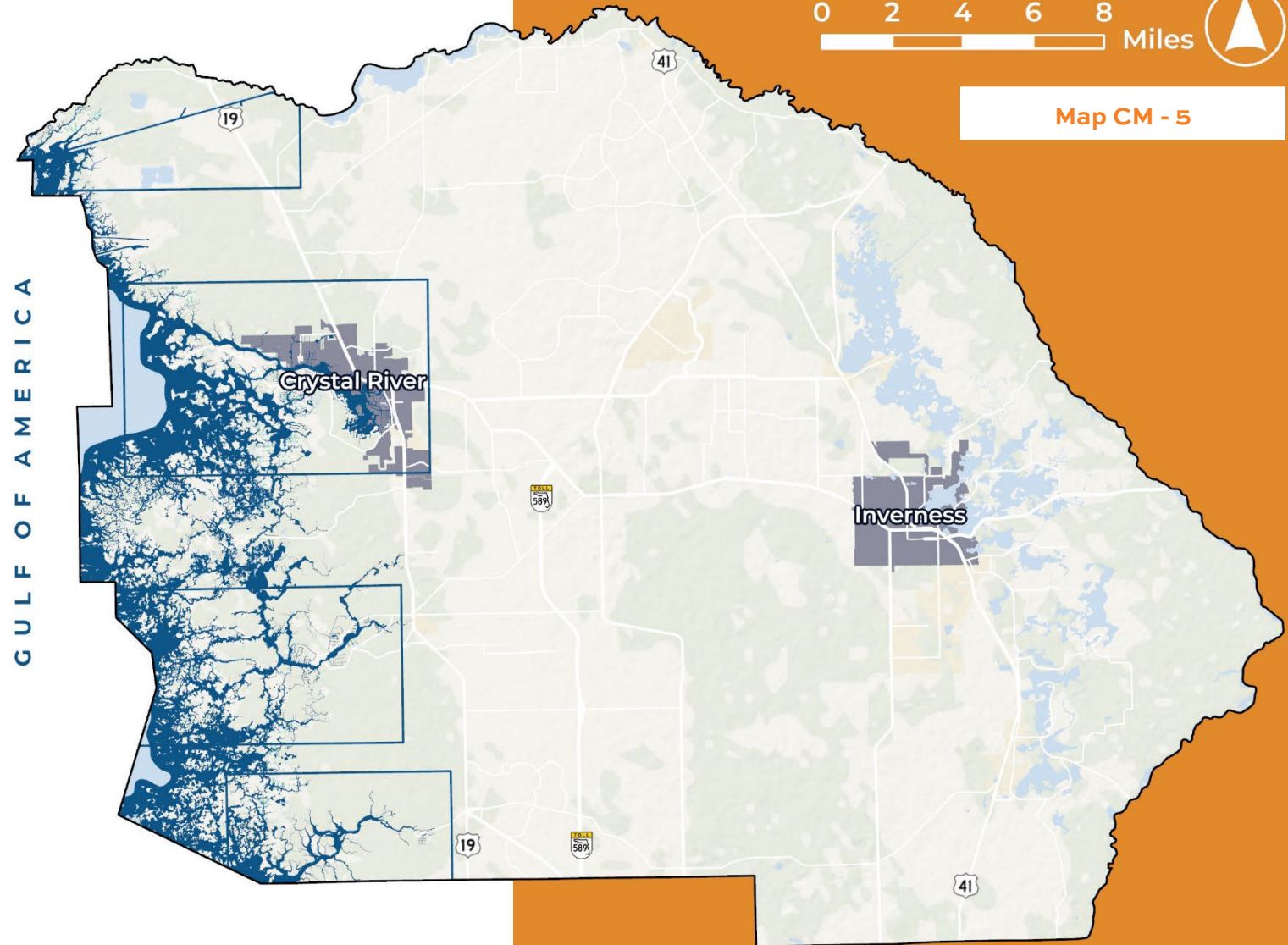
## Legend

-  Citrus County Boundary
-  Incorporated Area
-  Manatee Habitat Area
-  State Manatee Protection Zones

# STATE MANATEE PROTECTION ZONES



Map CM - 5



## Legend

 Citrus County Boundary

 Incorporated Area

## Storm Surge (SLOSH)

 Category 1 (CHHA)

 Category 2

 Category 3

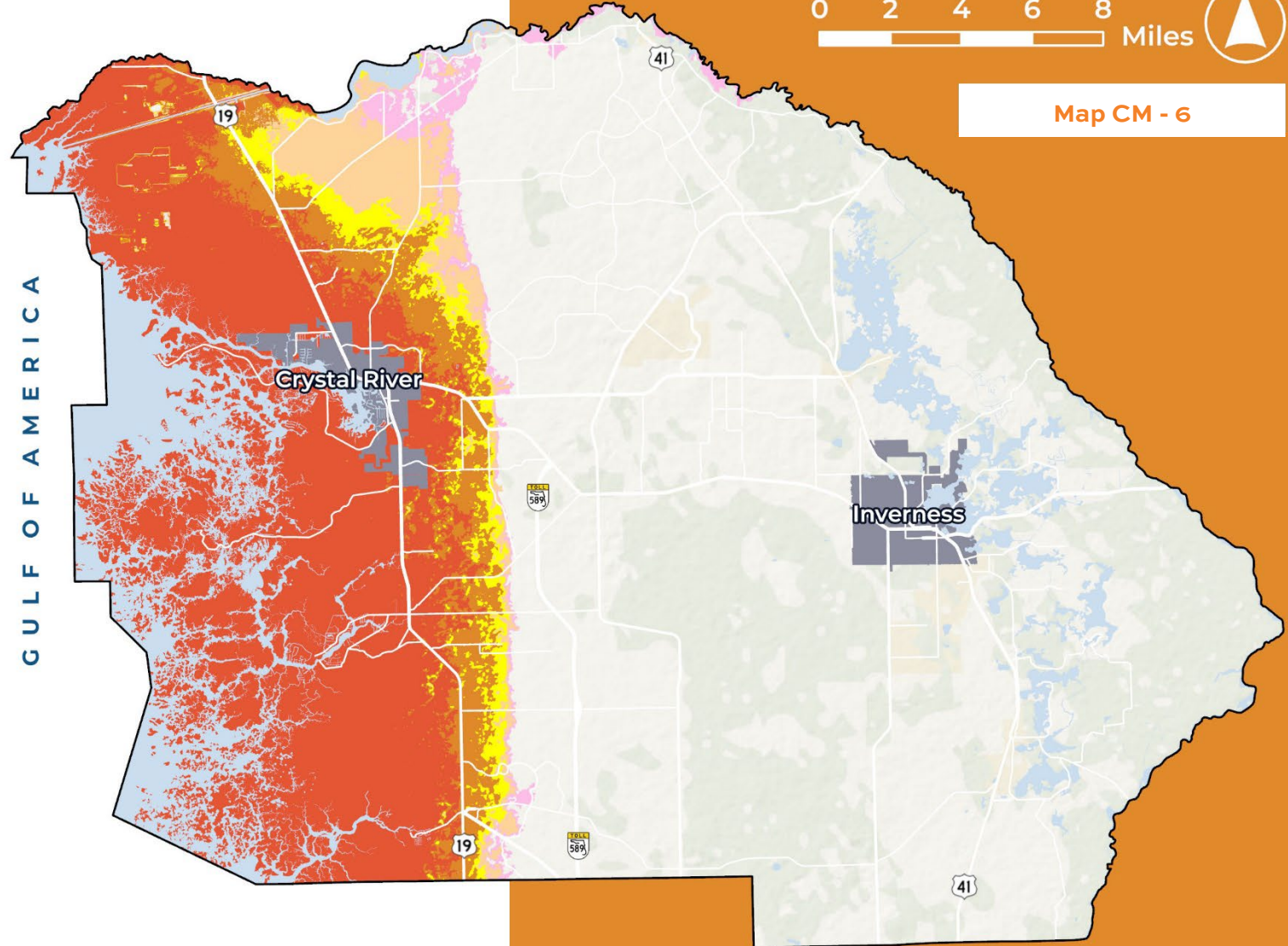
 Category 4

 Category 5

# STORM SURGE (SLOSH)



Map CM - 6



## Legend

 Citrus County Boundary

 Incorporated Area

## SLR Inundation Depth

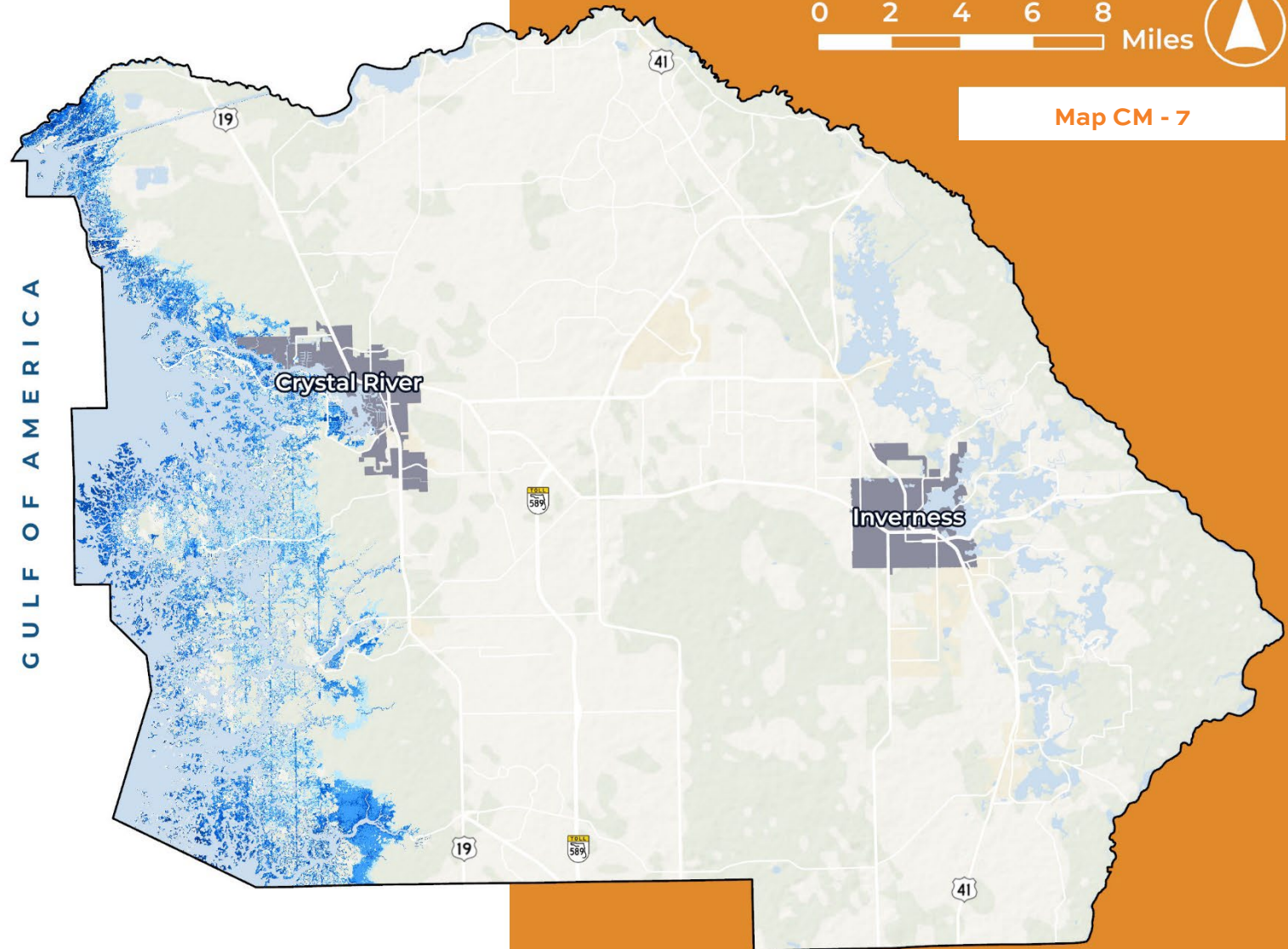


# SEA LEVEL RISE PROJECTIONS

2040 INTERMEDIATE LOW



Map CM - 7



## Legend

 Citrus County Boundary

 Incorporated Area

## SLR Inundation Depth

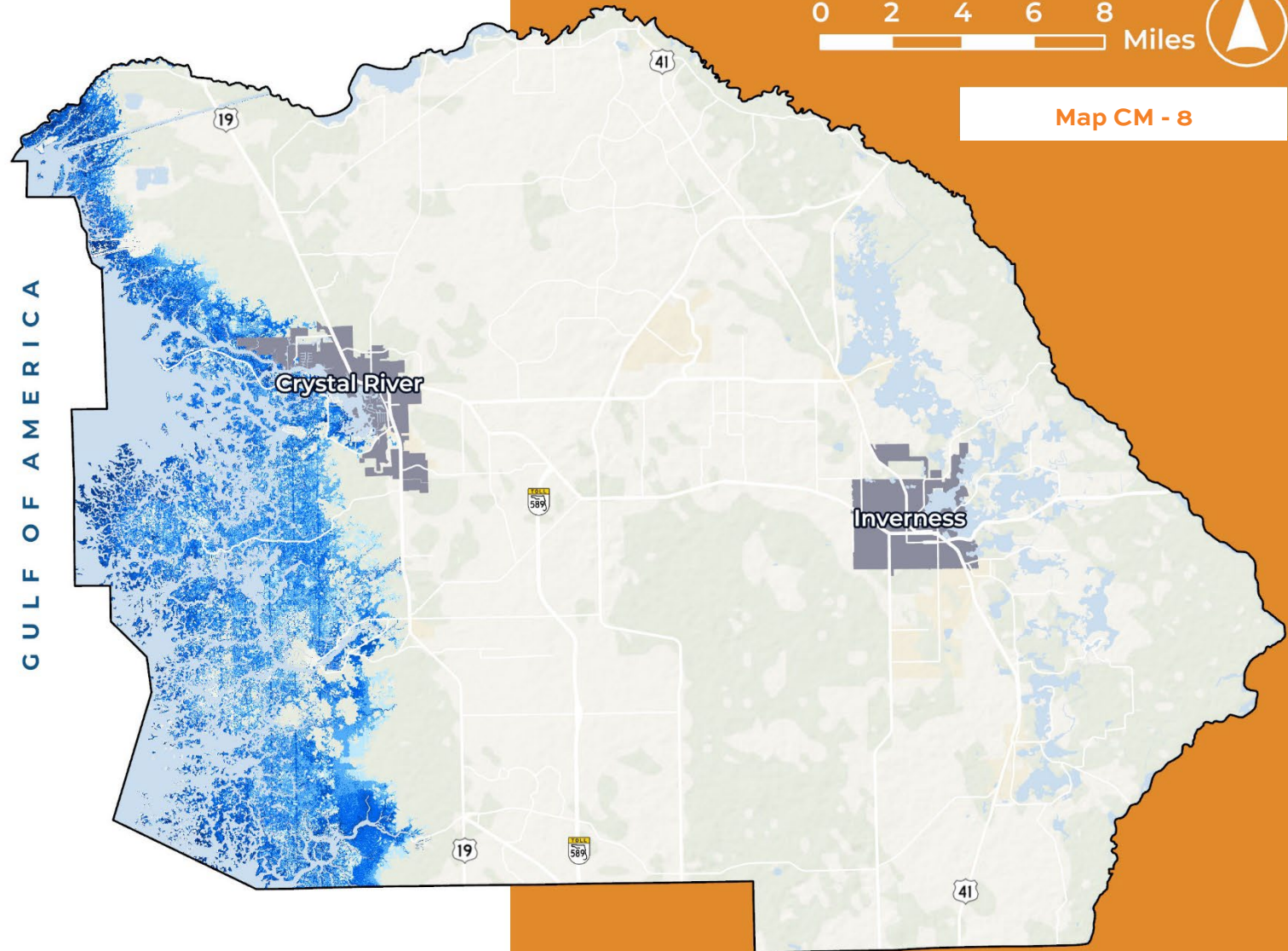


# SEA LEVEL RISE PROJECTIONS

## 2040 INTERMEDIATE HIGH



Map CM - 8



## Legend

 Citrus County Boundary

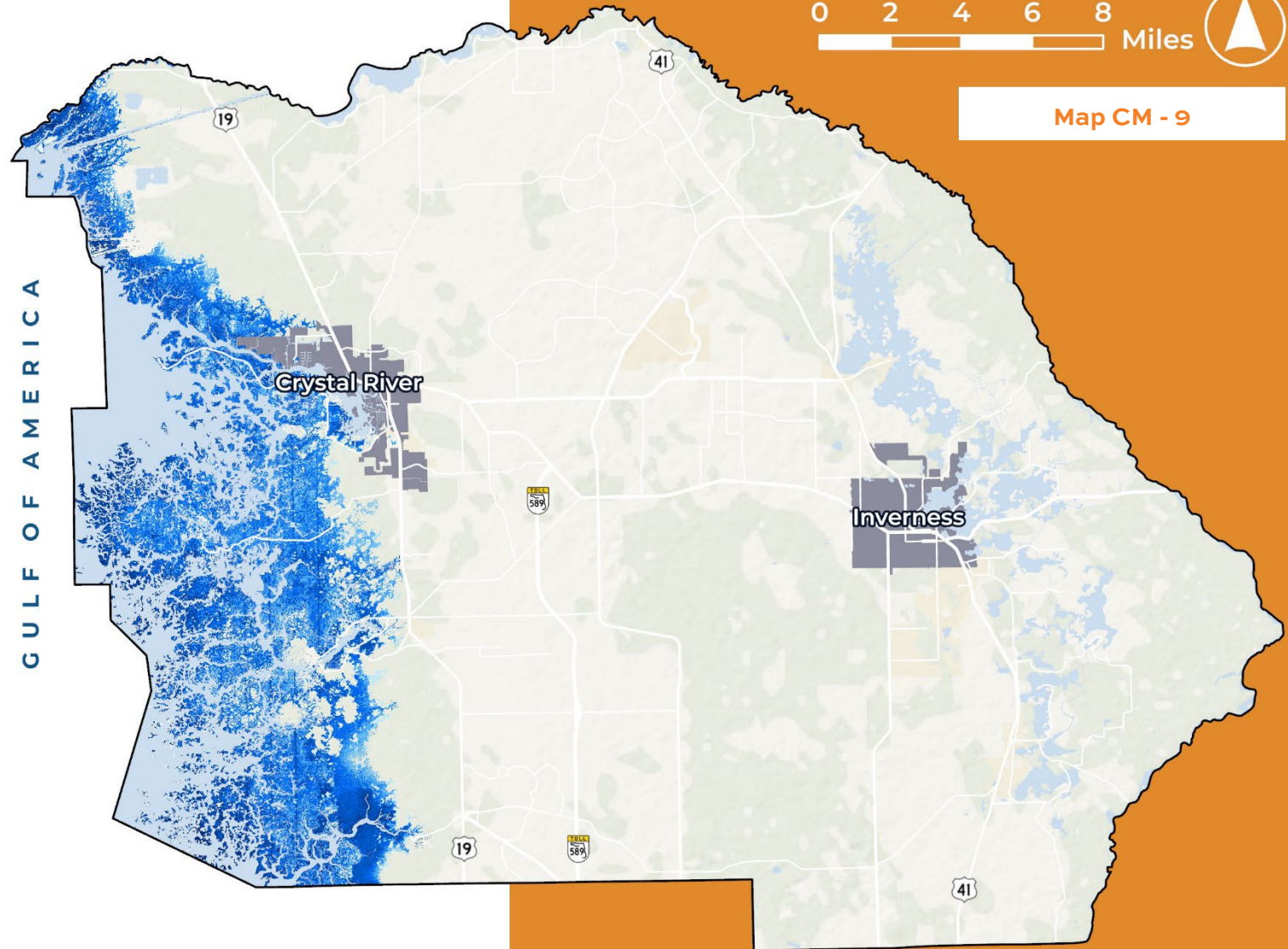
 Incorporated Area

## SLR Inundation Depth



# SEA LEVEL RISE PROJECTIONS

2070 INTERMEDIATE LOW



## Legend

 Citrus County Boundary

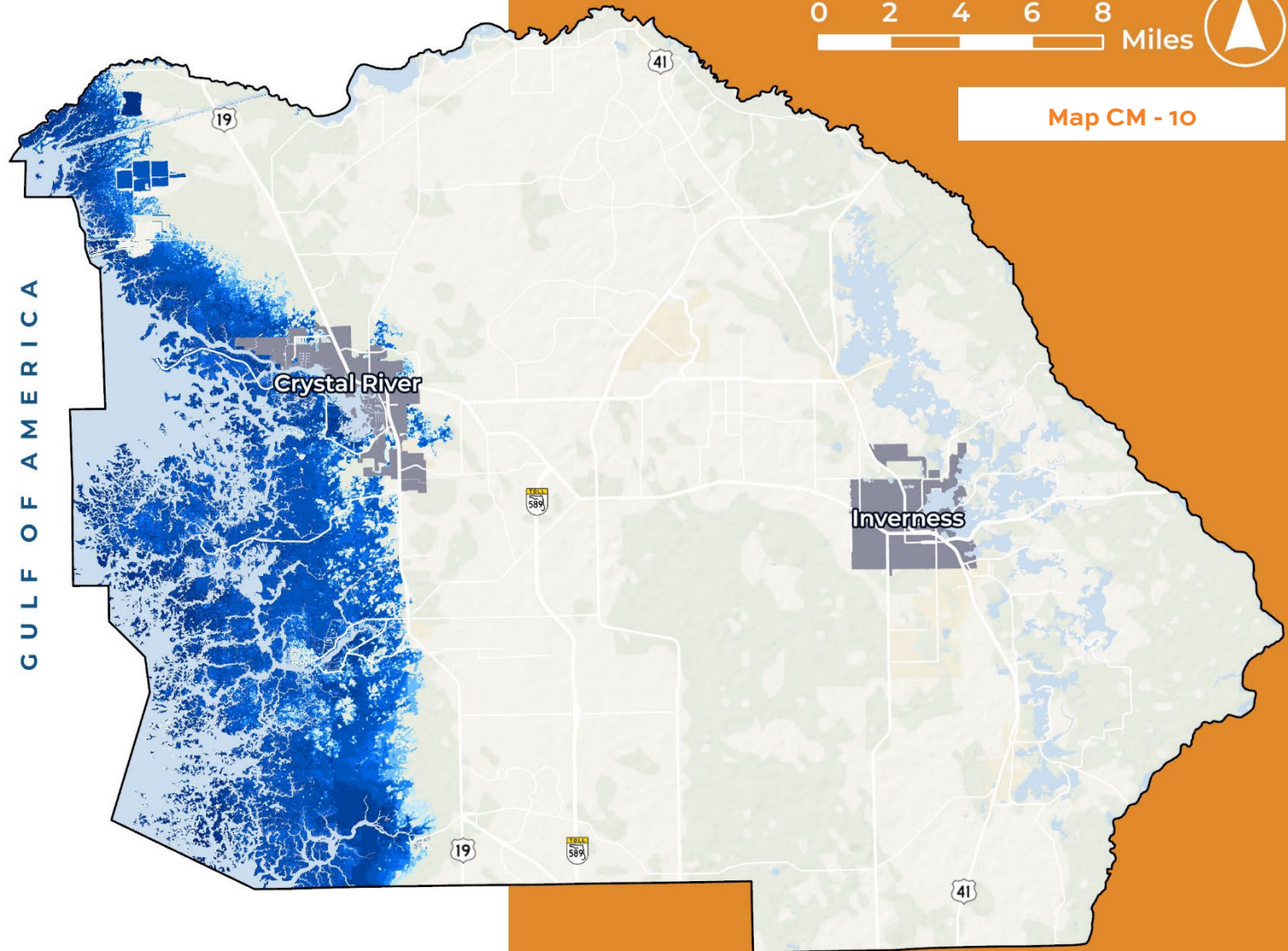
 Incorporated Area

## SLR Inundation Depth



# SEA LEVEL RISE PROJECTIONS

## 2070 INTERMEDIATE HIGH



## Legend

□ Citrus County Boundary

■ Incorporated Area

## Evacuation Zone

■ A

■ B

■ C

■ D

■ E

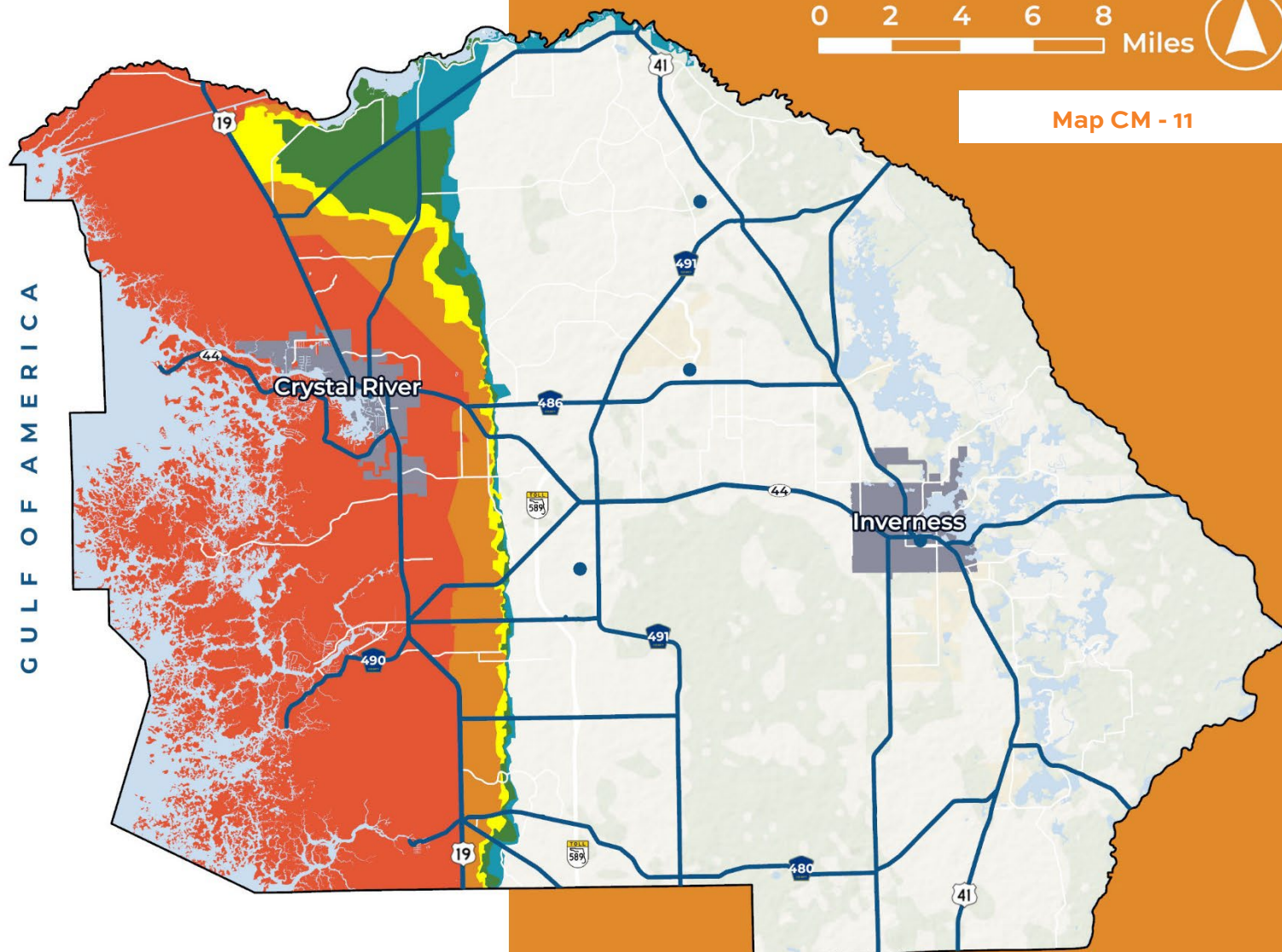
— Evacuation Route

● Emergency Shelter

# EVACUATION ZONES



Map CM - 11



## Legend

- Citrus County Boundary
- Incorporated Area
- Future Land Use**
- Agriculture
- Central Ridge Residential
- Coastal and Lakes Commerical
- Conservation
- Extractive
- General Commercial
- High Density Residential
- Industrial
- Low Density Residential
- Low Intensity Coastal Lakes
- Medium Density Residential
- Mobile Home Park
- Port District Use
- Professional Service & Office
- Public/Semi-Public Institution
- Recreation
- Recreational Vehicle Park
- Residential Mixed Use
- Rural Activity Center
- Rural Residential
- Transp./Communic./Utilities

# FUTURE LAND USE IN COASTAL MANAGEMENT AREA



Map CM - 12

