

2026

| SARASOTA COUNTY
UNIFIED LOCAL
MITIGATION
STRATEGY



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Executive Summary

Sarasota County, local jurisdictions, and community partners continue to prioritize strengthening resilience against both natural and human-caused hazards. The 2026 update to the Sarasota County Unified Local Mitigation Strategy (LMS) presents a comprehensive plan aimed at reducing risks, leveraging lessons learned from recent events, and implementing proactive measures to enhance the community's safety and preparedness.

One of the most significant recent challenges occurred in 2024, when Sarasota County faced three federally declared disasters: Hurricanes Debby, Helene, and Milton. Each storm presented unique challenges and highlighted the breadth of risks faced by the community from natural hazards. Hurricane Debby brought 16.98 inches of rain and caused devastating flooding throughout the northern half of the county.¹ Hurricane Helene sent a 6-foot storm surge to the barrier islands, flooding thousands of homes. Hurricane Milton made landfall in Sarasota County as a major hurricane, bringing with it destructive storm surge and winds. These disasters highlighted the county's ongoing vulnerability to severe weather events and reinforced the importance of effective mitigation strategies.

To address these risks, the Sarasota County LMS Working Group has updated its mitigation plan to more clearly communicate the community's hazards and local priorities for mitigation investments. Regarding community hazards, the plan addresses the full spectrum of possible natural hazards facing the community. And in terms of local priorities for mitigation investments, strong collaboration with governmental and nongovernmental partners ensures that clear mitigation goals are established and communicated throughout all parts of the community. This plan also highlights the local commitment to conducting proactive mitigation to reduce risks and vulnerabilities, and to enhance resilience across the three core domains of the community: the Human Environment, the Natural Environment, and the Built Environment.

The LMS takes a comprehensive approach to hazard mitigation, incorporating strategies in multiple areas. Land use planning measures address development in high-risk zones, limiting exposure to potential threats. Building code enforcement remains a priority, with a focus on retrofitting existing structures to meet current safety standards and enhance durability.

The 2026 LMS update aligns with federal, state, and local regulations, offering a streamlined and user-friendly document that supports long-term resilience planning. This proactive approach ensures that Sarasota County remains adaptable in the face of evolving challenges, working to minimize hazard impacts while fostering a safer, more stable future. By integrating these strategies, the county reaffirms its

¹ National Hurricane Center, "National Hurricane Center Tropical Cyclone Report: Hurricane Debby," https://www.nhc.noaa.gov/data/tcr/AL042024_Debby.pdf.

commitment to protecting lives and property, strengthening preparedness, and promoting sustainable development that balances growth with disaster resilience.

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Planning Process

Purpose

Local hazard mitigation planning is the process of organizing community resources, identifying and assessing hazard risks, and determining how to best minimize or manage those risks. This process culminates in a hazard mitigation plan that identifies specific mitigation actions designed to achieve both short-term planning objectives and a long-term community vision.

Communities that participate in hazard mitigation planning may experience benefits including:

- Saving lives and property,
- Saving money,
- Accelerating recovery following disasters,
- Reducing future vulnerability (improving resiliency) through wise development and post-disaster recovery and reconstruction,
- Expediting the receipt of pre-disaster and post-disaster grant funding; and
- Demonstrating a firm commitment to improving community health and safety.

The Disaster Mitigation Act (DMA), passed in 2000, amended the Robert T. Stafford Disaster Relief and Emergency Assistance Act (Stafford Act) to require state and local governments to develop hazard mitigation plans as a condition for federal disaster grant assistance. Regulations are included in Title 44 of the Code of Federal Regulations (44 CFR). Hazard mitigation plans are intended to break the cycle of disaster damage, reconstruction, and repeated damage. In accordance with 44 CFR 201.3(d)(2) local jurisdictions are to review and update the local mitigation plan every 5 years through the Federal Emergency Management Agency (FEMA); this plan update meets that requirement.

Multi-Jurisdictional Planning Participation

The development of the 2026 Sarasota County Unified Local Mitigation Strategy (LMS) update was a multi-jurisdictional effort encompassing all the jurisdictions represented by the plan. The Sarasota County Local Mitigation Strategy Working Group (LMSWG) held quarterly meetings to identify, discuss, and recommend changes to maintain and update the plan. Each continuing and new jurisdiction participated in the development of the plan and was a full and integral member of the review and decision process. Table 1 below identifies the participating jurisdictions in the 2026 Sarasota County Unified Local Mitigation Strategy update. Sarasota Soil and Water Conservation District is no longer participating.

Table 1: 2026 LMS Jurisdictions

Jurisdiction	2026 Participating Status
Sarasota County	Ongoing participation
City of North Port	Ongoing participation
City of Sarasota	Ongoing participation
City of Venice	Ongoing participation
Town of Longboat Key	Ongoing participation
Sarasota Memorial Hospital	Ongoing participation
Sarasota County Schools	Ongoing participation
Sarasota Manatee Airport Authority	New participant
Englewood Fire District	New participant
Florida State University, John and Mable Ringling Museum of Art	New participant

The LMS includes Sarasota County, its unincorporated areas, four incorporated municipalities, Sarasota Memorial Hospital, Sarasota Mantee Airport Authority, Englewood Fire District and Florida State University Ringling Museum. To satisfy multijurisdictional plan participation requirements, the county and participating jurisdictions designated participants to perform the following tasks:

- Participate in LMS plan update meetings,
- Provide data for the Hazard Analysis and Risk Assessment,
- Provide the current status of previous mitigation actions,
- Identify completed mitigation projects; and
- Adopt the Updated LMS.

Plan participants are reflected in Table 2 as of October 2025.

Table 2: Plan Participants

Jurisdiction	Department	Title
Sarasota County	Emergency Services	Operations Manager
Sarasota County	Stormwater	CRS Coordinator
Sarasota County	Emergency Services	Chief of Emergency Management
Sarasota County	Emergency Services	Emergency Services Director

Jurisdiction	Department	Title
Sarasota County	Planning and Development Services	Environmental Protection Division, Business Professional
Sarasota County	Parks, Recreation and Natural Resources	Business Operations Manager
City of Sarasota	Department of Public Works	Director
City of Sarasota	Department of Public Works	General Manager of Public Services
City of Sarasota	Emergency Management	Emergency Manager
City of North Port	City of North Port Emergency Management	Deputy Emergency Manager
City of North Port	City of North Port Emergency Management	Emergency Manager
City of Venice	Emergency Management	CRS Coordinator
City of Venice	Engineering	Assistant City Engineer
City of Venice	City of Venice Fire Department	Fire Chief/Emergency Manager
Town of Longboat Key	Public Works	Town Engineer
Town of Longboat Key	Department of Public Works	Public Works Director
Town of Longboat Key	Public Works	Grants Coordinator
Town of Longboat Key	Planning and Zoning Department	Director of Planning and Zoning
Sarasota Memorial Hospital	Emergency Management	Emergency Manager
Sarasota Manatee Airport Authority	Department of Operations and Safety	Senior Vice President of Operations and Safety
Sarasota Manatee Airport Authority	Department of Operations and Safety	Director of Facilities

Jurisdiction	Department	Title
Sarasota Manatee Airport Authority	Department of Operations and Safety	Risk Manager
Sarasota County Schools	Facilities Services	Executive Director of Facilities Services
Sarasota County Schools	Safety and Security	Director of Safety and Security
Sarasota County Schools	Safety and Security	Safety and Security Coordinator
Englewood Fire District	Englewood Fire Department	Fire Chief
Florida State University, John and Mable Ringling Museum of Art	Administration Department	Deputy Director
Florida State University	Emergency Management	Emergency Planning Manager
Florida State University, John and Mable Ringling Museum of Art	Security	Chief of Security

Each plan participant had the opportunity to be actively involved in the plan, including providing input into the draft plan. LMSWG calls were open to the public, and public surveys were sent, with over 394 residents responding. The LMSWG reviewed the findings from this information. The LMSWG also reached out to community groups—such as the Sarasota County Coalition of Humanitarian Organizations, the Sarasota County COAD (Community Organizations Active in Disaster), government agencies, faith-based groups, and businesses, as well as Community Emergency Response Teams (CERT), through emails and social media posts inviting input in the LMS update. Additionally, the Floodplain Manager sent a survey via a newsletter to those in the floodplain who are at increased risk. Plan participants met this requirement by attending meetings, completing plan participant surveys and input forms on each major section of the plan, and reviewing the draft plan.

Table 3 documents how all plan participants seeking approval for this plan participated in the planning process.

Table 3: Plan Participation

Jurisdiction/Special District	Attended Meeting(s)	Conducted Public Outreach	Completed Risk Assessment	Completed Capability Assessment Survey	Completed Mitigation Strategy Forms	Reviewed Draft Plan
Sarasota County	X	X	X	X	X	X
City of North Port	X	X	X	X	X	X

Jurisdiction/Special District	Attended Meeting(s)	Conducted Public Outreach	Completed Risk Assessment	Completed Capability Assessment Survey	Completed Mitigation Strategy Forms	Reviewed Draft Plan
City of Sarasota	X	X	X	X	X	X
City of Venice	X	X	X	X	X	X
Town of Longboat Key	X	X	X	X	X	X
Sarasota Memorial Hospital	X	X	X	X	X	X
Sarasota Manatee Airport Authority	X		X	X	X	X
Sarasota County Schools	X		X			X
Englewood Fire District	X		X	X	X	X
Florida State University, Ringling Museum	X		X	X	X	X

The 10-Step Planning Process for the Local Mitigation Strategy Update

The planning process for preparing Sarasota County’s unified LMS plan was based on requirements of the Stafford Act, 44 CFR, and the Community Rating System (CRS) Activity 510 Floodplain Management requirements. The planning effort is also guided by standards set forth by the Florida Division of Emergency Management (FDEM). FEMA’s guidance is structured around a four-phase process which includes the planning process, risk assessment, mitigation strategy, and plan maintenance. This four-phase process is integrated into the 10-step planning process established under CRS Activity 510. Table 4 outlines how the 10-step CRS planning process aligns with the four phases of hazard mitigation planning.

Table 4: Mitigation Planning and CRS-10 Step Process Reference Table

DMA Process	CRS Process
Planning Process	Step 1: Organize and Prepare the Plan Step 2: Involve the Public Step 3: Coordinate
Risk Assessment	Step 4: Assess the Hazard Step 5: Assess the Program

DMA Process	CRS Process
Mitigation Strategy	Step 6: Set Goals Step 7: Review Possible Activities Step 8: Draft an Action Plan
Plan Maintenance	Step 9: Adopt the Plan Step 10: Implement, Evaluate, and Revise the Plan

STEP 1: ORGANIZE AND PREPARE THE PLAN

County leadership and the LMSWG established the framework and schedule for the 2026 Unified LMS update. An initial kickoff convened the participants and consultants to confirm the scope, roles, and deliverables while expanding the participation to include special districts and critical partners to include the Sarasota Manatee Airport Authority, Englewood Fire District, and Florida State University’s Ringling Museum. Meetings were structured to familiarize participants and members with the CRS planning steps as well as FEMA’s four-phase DMA framework. Discussion was also focused on CRS steps four through eight. Throughout the process, participants collaborated via in-person meetings, virtual meetings, email, and phone. Draft materials of the plan were shared with jurisdictions in order to facilitate a timely review and solicit comments. All meetings were open to the public, and separate public involvement activities were conducted.

STEP 2: INVOLVE THE PUBLIC

Two public meetings were conducted during the planning process. One occurred at the project initiation to introduce the update and gather input, and a second occurred near the completion to solicit input and present the draft. Meetings were publicized through the Sarasota County website and community calendar. Public involvement activities for this update included social media announcements, stakeholder briefings, distribution of outreach materials to community partners, targeted outreach to those in the floodplain through a newsletter from the floodplain administrator, a bilingual public survey, and posting of draft materials for public review and comments. A total of 394 responses for the public survey were received, and this feedback was reviewed and incorporated into the plan.

STEP 3: COORDINATE

During the planning process, the working group determined that the plan would be greatly enhanced by inviting outside agencies and organizations to participate. Invitations were extended to federal, state, regional, and local stakeholders with an interest in Sarasota’s hazard mitigation and floodplain management efforts. A list of the stakeholder agencies and organizations can be found in Table 6 within the LMS Stakeholders section. Coordination with these agencies and organizations began by email, and stakeholders were informed of opportunities to provide input, share data, review draft sections, and attend meetings.

Coordination with existing community plans and programs is also essential to the success of Sarasota County’s Unified LMS. Mitigation planning requires reviewing and leveraging existing policies and tools

that guide development, floodplain management, and resilience. Sarasota County and its participating jurisdictions utilized a variety of local and regional plans to support mitigation capabilities. Integrating these existing efforts ensures the plan is comprehensive, consistent, and aligns with ongoing community initiatives. The plans and resources that were reviewed for this LMS update can be located in the Plans and Resources Evaluated section below.

These and other documents were utilized as appropriate during CRS planning steps four and five to help identify and assess the hazards. Findings from these documents were also used during steps six, seven, and eight to set goals, review mitigation activities, and develop an action plan. Specifically, the Florida State Enhanced Hazard Mitigation Plan provided statewide hazard profiles, Local Comprehensive Plan served as the primary land use and growth management guide, Sarasota County Threat and Hazard Identification and Risk Assessment (THIRA) offered scenario-based hazard analyses, Floodplain Management Plans informed the analysis of flood-prone areas, and Flood Insurance Rate Maps provided critical spatial data for identifying at-risk infrastructure located within floodplains.

STEP 4 AND 5: IDENTIFY/ASSESS THE HAZARD AND ASSESS THE PROBLEM

The working group and participating jurisdictions took a comprehensive approach to identify, document, and profile a wide range of hazards that could impact the planning area. A Geographic Information System (GIS) was utilized extensively to map hazard-prone areas while quantifying the potential exposure of the population and critical assets to these hazards. Hazard vulnerabilities across the county and its municipalities were also examined.

Draft results of the hazard identification and risk assessment were shared with the working group and made available for public review and comments. This ensured that both technical stakeholders and residents could provide feedback on hazard profiles, exposure data, and areas of concern. In addition to hazard profiling, the working group conducted a capability assessment to document Sarasota County's existing policies, programs, and procedures that support hazard mitigation. This review included land-use and development regulations, floodplain management programs, and other regulatory tools currently in effect. This allowed the working group to identify gaps and successes in the current existing capabilities.

STEPS 6 AND 7: SET GOALS AND REVIEW POSSIBLE ACTIVITIES

Facilitated workshops and discussions were conducted with the working group and participating jurisdictions to establish mitigation actions. These sessions outlined the purpose of developing goals and objectives related to planning while considering a comprehensive range of mitigation alternatives. During these meetings, a methodology for prioritizing and selecting recommended mitigation actions was applied. Through this process, the members of the working group and stakeholders worked collaboratively to complete the following:

- Confirm countywide and jurisdiction-specific mitigation goals that are consistent with CRS and DMA guidance.

- Review a range of potential mitigation actions that include structural projects, regulatory measures, property protection, public information initiatives, and natural resource protection strategies.
- Apply selection criteria to rank and prioritize actions.
- Update the status of previously identified actions and develop new projects that address current vulnerabilities and future risks.

STEP 8: DRAFT AN ACTION PLAN

A draft of the Sarasota County Unified LMS plan was prepared using input from the working group and participating jurisdictions. This draft incorporated the results of the hazard identification and risk assessment (Planning Steps 4 and 5) as well as the goals, objectives, and mitigation actions developed during planning Steps 6 and 7. The draft plan was posted on the Sarasota County webpage for working group members, participating jurisdictions, stakeholders, and the public to review and provide comments. Additionally, outside agencies and organizations, along with community stakeholders engaged during the planning phase, were specifically invited to review the draft and submit feedback. Comments received were compiled and integrated into the final draft of the plan and submitted to FEMA Region IV and the FDEM for review and approval.

STEP 9: ADOPT THE PLAN

The plan will be formally reviewed and adopted by the Sarasota County Board of County Commissioners and the governing authorities for each participating jurisdiction. Formal adoption ensures that the LMS is recognized as the guiding document for hazard mitigation within Sarasota County and satisfies both the Stafford Act and CRS planning requirements.

STEP 10: IMPLEMENT, EVALUATE, AND REVISE THE PLAN

Implementation and maintenance of the plan is critical to the overall success of hazard mitigation and floodplain management efforts in Sarasota County. With the adoption of the plan, actions identified within the plan are put into practice to ensure accountability. The Plan Implementation and Maintenance section outlines the framework for this process, which is ongoing. It describes the methodology and schedule for monitoring progress, evaluating implementation, and updating the LMS to remain effective. A formal five-year update cycle ensures compliance with FEMA and CRS standards. The Plan Implementation and Maintenance section also describes how the LMS will be integrated into existing planning and regulatory mechanisms. The plan also commits to maintaining continued public involvement through open meetings, surveys, and opportunities to comment on mitigation priorities during the maintenance cycle.

Local Mitigation Strategy Planning Meetings

The LMS meetings provided participating jurisdictions with the opportunity to engage and actively participate in the development of the plan. Documentation provided in Appendix B and in Table 5

demonstrates the meetings LMS participants were invited to attend to provide input towards the plan update throughout the planning process.

Table 5: Schedule of Local Mitigation Strategy Planning Meetings

Meeting Date	Meeting Type	Meeting Agenda
February 19, 2025	Kick-Off Meeting with LMS participants and consultant	The Kickoff Meeting introduced plan participants and stakeholders to hazard mitigation and hazard mitigation planning. The planning consultants from IEM International, Inc facilitated a review of each section of the plan including the anticipated public outreach. Plan participants discussed their goals and expectations for the plan update process.
January 2025 March 25, 2025; June 24, 2025; and September 23, 2025	LMSWG Meetings	Meetings to provide updates and discussion on the current progress on the LMS update.
May 6, 2025, and August 5, 2025	1:1 meeting with the Englewood Area Fire Control District	The first meeting focused on gathering data on hazard vulnerability, past impacts, NFIP data, mitigation capabilities, and the status of past mitigation actions. Second meeting focused on gathering new mitigation actions for inclusion in the plan.
May 9, 2025	1:1 meeting with the Town of Longboat Key	This meeting focused on gathering data on hazard vulnerability, past impacts, NFIP data, mitigation capabilities, and the status of past mitigation actions.
May 15, 2025, and August 5, 2025	1:1 meeting with the City of Venice	The first meeting focused on gathering data on hazard vulnerability, past impacts, NFIP data, mitigation capabilities, and the status of past mitigation actions. The second meeting focused on gathering new mitigation actions for inclusion in the plan.
May 16, 2025, and August 15, 2025	1:1 meeting with the Sarasota Manatee Airport Authority	The first meeting focused on gathering data on hazard vulnerability, past impacts, NFIP data, mitigation capabilities, and the status of past mitigation actions. The second meeting focused on gathering new mitigation actions for inclusion in the plan.
May 20, 2025, and August 7, 2025	1:1 meeting with the City of North Port	The first meeting focused on gathering data on hazard vulnerability, past impacts, NFIP data, mitigation capabilities, and the status of past mitigation actions. The second meeting focused

Meeting Date	Meeting Type	Meeting Agenda
		on gathering new mitigation actions for inclusion in the plan.
July 11 2025	Communications and Outreach Strategy Meeting with Sarasota County and Consultant	Discussion of the public survey and plan for outreach.
September 2, 2025	1:1 meeting with Sarasota Memorial Hospital	This meeting focused on gathering data on hazard vulnerability, past impacts, NFIP data, mitigation capabilities, the status of past mitigation actions and gathering new mitigation actions for inclusion in the plan.
September 5, 2025	1:1 meeting with Sarasota County Schools	This meeting focused on gathering data on hazard vulnerability, past impacts, NFIP data, mitigation capabilities, the status of past mitigation actions and gathering new mitigation actions for inclusion in the plan.
August 29, 2025	1:1 meeting with the Ringling Museum	This meeting focused on gathering data on hazard vulnerability, past impacts, NFIP data, mitigation capabilities, the status of past mitigation actions and gathering new mitigation actions for inclusion in the plan.

Local Mitigation Strategy Working Group

The LMSWG is responsible for maintaining the current Local Mitigation Strategy (LMS) in accordance with Chapter 27P-22.004 and 27P-22.005 of the Florida Administrative Code. The LMSWG is charged with developing a comprehensive planning document intended to reduce or attempt to eliminate the loss of life, property and economic vitality in the event of a natural or technological disaster; to be formally adopted by local government officials, County Commissioners, incorporated jurisdictions within the county for eligibility to pre-disaster mitigation funding and federal disaster relief.

The LMSWG is comprised of representatives from various agencies of county government, to include planning and zoning, roads, public works, and emergency management, representatives from all interested municipalities within the county, and any interested representatives from the private sector. These members have the opportunity to provide input and feedback to the plan as well as discuss strategies to implement and integrate the plan once it is complete.

The responsibilities of the LMSWG members are:

- To develop and revise the local mitigation strategy as needed,
- To coordinate all mitigation activities within the county; and

- To prioritize local mitigation projects.

Local Mitigation Strategy Stakeholders

Involving stakeholders is a key component of the hazard mitigation planning process as doing so ensures a diverse range of perspectives and local knowledge is incorporated into the draft plan. Further, they may be directly impacted by hazard events. By incorporating them early in the planning process, stakeholders can help refine and establish hazard risk reduction objectives for the planning area. Stakeholders provide useful data and hazard mitigation actions including identifying opportunities to support local mitigation actions.

Table 6 provides a list of stakeholders invited to participate in the planning process and categorizes them by stakeholder type. Stakeholders were invited to attend meetings, provide input/feedback, and review the draft plan prior to adoption.

Table 6: Stakeholders Invited to Participate in the Local Mitigation Strategy

Agency/Organization	Description of Organization	Stakeholder Type
Southwest Florida Water Management District	Water Systems District	Development regulatory authority
Senior Friendship Centers	Senior Center located in Sarasota County	Nonprofit/ community-based organizations
New College	Public Liberal Arts college located in Sarasota County	Academic institution
Old Miakka Church	Historic Methodist Church located in Sarasota County	Nonprofit/community-based organizations
State College of Florida	Public College located on the Manatee-Sarasota Campus in Sarasota County	Academic institution
University of South Florida	Public metropolitan research University located on the Manatee-Sarasota Campus in Sarasota County	Academic institution
The Salvation Army	Christian social services, with donation center located in Sarasota County, disaster relief programs	Nonprofit/community-based organizations
Wright Flood Insurance	Private flood insurance company operating in Sarasota County	Businesses/private organization
Community Foundation of Sarasota County	Nonprofit, philanthropic, social investment in	Nonprofit organizations

Agency/Organization	Description of Organization	Stakeholder Type
	community projects and organizations	
American Red Cross of Southwest Florida	Disaster social services nonprofit organization, disaster relief programs	Nonprofit organization
Florida Department of Children and Families	Sarasota One Stop Service Center, social service agency	Development regulatory authority
Manatee County Emergency Management	County Emergency Management Department	Neighboring Community
Charlotte County Emergency Management	County Emergency Management Department	Neighboring Community

Public Involvement

Public involvement is a major and required component of each LMS update. Public involvement is required under both FEMA (44 CFR § 201.6(b)(1)) and The State of Florida's LMS guidelines. The insight and feedback provided by the public throughout the planning process helps to ensure residents' experiences are reflected in the final LMS update. This is particularly true for underserved and vulnerable populations who are often impacted adversely by natural hazards.

For this LMS update opportunities for public engagement were provided both in-person and digitally through an online survey. The plan participants recognized the challenge in gathering public involvement through in-person means only and the digital survey was created to give residents and stakeholders additional options to provide feedback.

Digital Survey

The digital survey was created to allow residents of Sarasota County and participating jurisdictions a convenient way to provide feedback on the LMS. This 13-question survey asked residents about hazards of concern, vulnerable areas in their communities, disaster education and awareness, and mitigation action ideas among other questions. A flyer was created to advertise the survey, see Figure 1, and was disseminated to a wide range of stakeholders including neighboring Desoto, Charlotte, and Manatee Counties, 174 residents living in the floodplain, and was posted on the County website and social media. 394 people took the survey with responses received from every participating jurisdiction. This feedback gathered from the survey was incorporated into the plan.



Figure 1: Digital Survey Flyer

In-Person Engagement

The quarterly LMSWG meetings are open and advertised to the public. Each of these meetings consist of an update on the progress of the LMS, hazard mitigation grant program projects proposed, and updates from each of the LMS participating jurisdictions. The LMS meetings are formally advertised as public meetings. Attendees are welcome to give input on the LMS update process or simply listen in and learn about hazard mitigation in Sarasota County.

Plans and Resources Evaluated

The following resources were reviewed and considered, as appropriate, during the collection of hazard identification, vulnerability assessment, and capability assessment. Data from these plans and ordinances were incorporated into the risk assessment and hazard vulnerability sections of this plan. The data was also used to determine the community's capability to implement certain mitigation strategies.

- Florida State Enhanced Hazard Mitigation Plan

- Sarasota County Local Comprehensive Plan
- Sarasota County THIRA
- Sarasota County Comprehensive Emergency Management Plan (CEMP)
- Floodplain Management Plans
- Economic Development Plan
- Resilient Florida
- Hazard Specific Plan
- Sarasota County Continuity of Operations (COOP) Plan
- CDC Social Vulnerability Index
- FEMA's National Risk Index
- Land Use Maps
- Flood Insurance Rate Maps
- Sarasota County Vulnerability Assessment and Adaptation Plan

Existing Policies, Programs, and Resources

Effective hazard mitigation and emergency management rely on a framework of existing policies, programs, and resources designed to guide planning, implementation, and regulatory compliance. These policies establish the legal and procedural foundations for floodplain management, wetland protection, hazard mitigation funding, and disaster response coordination. Federal and state agencies, including the Federal Emergency Management Agency (FEMA) and the Department of Homeland Security (DHS), provide directives, instructions, and regulatory guidelines to ensure consistency in disaster preparedness and risk reduction efforts.

Key federal regulations, such as 44 CFR, Part 9, focus on floodplain management and wetland protection, ensuring that development projects consider environmental sustainability and disaster resilience. DHS policies, including Directive 023-01 and Instruction 023-01-001-01, set forth environmental planning and historic preservation requirements, aligning federal actions with sustainability and resilience objectives. In addition, FEMA Directive 108-1 and FEMA Instruction 108-1-1 establish processes for integrating hazard mitigation efforts into broader emergency management strategies.

At the state level, Florida's Administrative Code (27P-22.006) outlines county allocations and project funding mechanisms under the Hazard Mitigation Grant Program (HMGP), which helps local governments finance projects that reduce disaster risks. These policies collectively provide a structured approach to managing hazards, protecting critical ecosystems, and ensuring the responsible use of public resources in disaster mitigation and recovery efforts.

- [44 CFR](#), Part 9, Floodplain Management and Protection of Wetlands, dated October 1, 2019, incorporated by reference, <http://www.flrules.org/Gateway/reference.asp?No=Ref-12335>;

- DHS Directive 023-01, Revision 01, dated 10/31/2014, incorporated by reference, <http://www.flrules.org/Gateway/reference.asp?No=Ref-12336>;
- DHS Instruction 023-01-001-01, Revision 01, dated 11/6/2014, incorporated by reference, <http://www.flrules.org/Gateway/reference.asp?No=Ref-12337>;
- FEMA Directive 108-1, dated 10/10/2018, incorporated by reference, <http://www.flrules.org/Gateway/reference.asp?No=Ref-12338>; and
- FEMA Instruction 108-1-1, dated 10/10/2018, incorporated by reference, <http://www.flrules.org/Gateway/reference.asp?No=Ref-12339>.
- [27P-22.006. County Allocations and Project Funding, 27P-22. Hazard Mitigation Grant Program, 27P. Division of Emergency Management, 27. Executive Office of the Governor, Florida Administrative Code](#)

Sarasota County Profile

Geographic Profile

Sarasota County stretches along Florida’s west coast, sitting about 60 miles south of the Tampa Bay area. It’s bordered by Manatee County to the north, DeSoto County to the east, and Charlotte County to the south, with Florida’s Gulf Coast framing its western edge.² Covering close to 725 square miles, the county is mostly land, about 572 square miles, while around 154 square miles are water.³ With 35 miles of beautiful coastline, Sarasota offers plenty of spots for locals and visitors to relax, explore, and soak in the Gulf’s incredible views.⁴

Sarasota County includes four incorporated jurisdictions:

- City of North Port
- City of Sarasota
- City of Venice
- Town of Longboat Key

Table 7: Land Distribution of Participating Jurisdictions

Jurisdiction	Land Area (square miles)	% of Land Area
Unincorporated Area	435	76%
City of North Port	104.1	18.2%
City of Sarasota	14.7	2.6%
City of Venice	16.6	2.9%
Town of Longboat Key	4.1	0.4%

Sarasota County features a predominantly flat landscape, interspersed with isolated swamps and marshes that merge into sloughs and winding streams, eventually feeding into the region’s coastal estuaries. Along the Gulf of Mexico shoreline, elevations range between 1 and 18 feet, while the highest natural point, in the county’s northeastern section, reaches 95 feet.⁵

² Visit Sarasota County, “Discover Sarasota’s Beaches,” 2024, <https://www.visitsarasota.com>.

³ U.S. Census Bureau, “QuickFacts: Sarasota County, Florida,” 2021, <https://www.census.gov/quickfacts/sarasotacountyflorida>.

⁴ Visit Sarasota County, “Discover Sarasota’s Beaches,” 2024, <https://www.visitsarasota.com>.

⁵ Federal Emergency Management Agency, “Flood Insurance Study: Sarasota County, Florida and Incorporated Areas,” 2022, <https://msc.fema.gov>.

Development and Growth

Sarasota County, established in 1921, has undergone significant transformation from a small, developing community to a thriving economic and cultural hub. Over the past century, the county has experienced substantial growth in population, infrastructure, and economic sectors, making it one of Florida’s most desirable places to live and work. The county’s development has been influenced by historical figures, suburban expansion, economic diversification, and modern urban planning initiatives. Although the county has made considerable progress, there are challenges—such as hurricane threats, climate change, and urban sprawl—that necessitate continued resilience and sustainable development strategies.

During the early 20th century, Sarasota County saw accelerated growth largely due to key developers and visionaries, such as Owen Burns, who played an essential role in shaping the county’s infrastructure and economic landscape. Burns became the county’s largest landowner and founded Sarasota’s first locally owned bank, stimulating business development and real estate expansion.⁶ His investments in roads, bridges, and commercial properties helped lay the groundwork for Sarasota’s economic stability. The official separation of Sarasota County from Manatee County in 1921 marked a pivotal moment, as it allowed for localized governance and tailored urban planning strategies.⁷

The post–World War II era ushered in a period of rapid suburbanization, reflecting national trends of urban expansion and residential development. During this time, Sarasota County saw the emergence of planned communities, such as Kensington Park, which introduced innovative urban planning concepts, including resident-owned utilities and sustainable infrastructure.⁸ This shift accommodated a growing population drawn to the region’s booming economy, coastal location, and suburban amenities. The construction of highways and bridges in the 1950s and 1960s further facilitated economic growth, enabling increased connectivity between Sarasota and other major Florida cities.⁹

In recent decades, Sarasota County has embraced modern urban planning and sustainable development. The creation of master-planned communities, such as Wellen Park, represents a shift toward self-sufficient neighborhoods that integrate residential, commercial, and recreational spaces.¹⁰ Wellen Park, spanning approximately 11,000 acres, reflects contemporary urban planning trends, emphasizing walkability, mixed-use zoning, and green space preservation. In addition, infrastructure projects, such as the expansion of

⁶ J. W. Covington, *The Story of Sarasota: History and Development of Florida’s Gulf Coast* (University Press of Florida, 2020).

⁷ Florida Department of State, “Sarasota County History and Incorporation,” 2023, <https://dos.myflorida.com>.

⁸ City of Sarasota, *Urban Planning and Development Initiatives* (Sarasota County Planning Office, 2022).

⁹ Florida Department of Transportation, “The Historic Highway Bridges of Florida,” <https://www.fdot.gov/docs/default-source/environment/pubs/Historic-Highway-Bridges-of-Florida-2010-Update.pdf>.

¹⁰ Sarasota County Planning Department, “Sarasota County Comprehensive Plan,” https://library.municode.com/fl/sarasota_county/codes/comprehensive_plan?nodeId=SACOCOPL.

Sarasota Bradenton International Airport and improvements to public transportation, continue to enhance the county's economic competitiveness.¹¹

The North Port–Sarasota–Bradenton metropolitan area has seen significant economic and demographic expansion, driven by industries, such as tourism, healthcare, and real estate. Sarasota County's economy has thrived due to a high influx of retirees, entrepreneurs, and skilled professionals, attracted by a favorable climate, tax incentives, and quality-of-life factors.¹² The tourism industry alone contributes billions of dollars annually, with cultural attractions, beaches, and recreational facilities drawing millions of visitors each year.¹³ Healthcare services have also become a primary economic driver, with institutions such as Sarasota Memorial Hospital expanding to meet the needs of a growing and aging population.

Sarasota County, as a coastal community, faces challenges from natural hazards. Coastal developments are vulnerable to flooding and storm surges, necessitating a continual focus on resilience.¹⁴ The county has implemented resilience-focused policies, such as enhanced zoning regulations and investments in green infrastructure, to mitigate environmental risks and ensure long-term economic sustainability. Sarasota County and its jurisdictions are not expecting future development to adversely impact their risk to the profiled hazards. As Sarasota continues to grow, thoughtful development plays an important role in reducing the potential impacts of hazards. Modern building standards, the County's Land Development Code, enhanced stormwater management requirements, and resilient infrastructure design help ensure that new development is better able to withstand the effects of natural hazards. By integrating strong codes and mitigation measures into development practices, the County supports community growth while also improving long-term safety, reducing vulnerabilities, and promoting a more resilient future.

Demographics

Sarasota County, situated along Florida's Gulf Coast, has experienced notable demographic changes over recent decades. According to the U.S. Census Bureau, the county's population reached 434,006 in 2020, up from 379,448 in 2010, reflecting its growing appeal as both a residential destination, especially for retirees.

The county's age distribution is characterized by a significant proportion of older residents. In 2020, individuals aged 65 and over constituted 37.4% of the population, underscoring Sarasota County's reputation as a favored location for retirees. In contrast, only 14.0% of residents were under 18, and just 3.5% were under 5, indicating a smaller youth demographic. Gender distribution in Sarasota County is relatively balanced, with females comprising 52.4% of the population and males accounting for 47.6%.

¹¹ Sarasota-Manatee Airport Authority, "Master Plan Update," <https://flysrq.com/sites/default/files/2022-07/Master%20Plan%202022.pdf>.

¹² Sarasota County, "Economic Development," <https://www.scgov.net/government/governmental-relations/economic-development>.

¹³ Visit Sarasota County, *Annual Tourism Impact Report*, <https://www.visitsarasota.com/sites/default/files/2023-11/FY23%20Outcomes.pdf>.

¹⁴ Florida Climate Institute, *Resilient Infrastructure Strategies for Coastal Florida Counties* (University of Florida, 2023).

The county's racial and ethnic composition has evolved, reflecting broader national trends. As of 2020, the racial makeup was as follows:

- White (Non-Hispanic): 80.57%
- Black or African American (Non-Hispanic): 3.72%
- Asian (Non-Hispanic): 1.94%
- Native American or Alaska Native (Non-Hispanic): 0.16%
- Pacific Islander (Non-Hispanic): 0.04%
- Some other race (Non-Hispanic): 0.44%
- Mixed/Multiracial (Non-Hispanic): 3.16%
- Hispanic or Latino (of any race): 9.96%

The Hispanic or Latino population has increased from 7.91% in 2010 to 9.96% in 2020, indicating growing diversity in the county.

In 2020, Sarasota County had 189,228 households, with an average household size of approximately 2.29 individuals. Families accounted for 62.1% of these households, while non-family households accounted for 37.9%. The significant proportion of elderly residents is reflected in the fact that 37.4% of households included individuals aged 65 and older.¹⁵

Economic indicators reveal a median household income of \$64,644 between 2016 and 2020, with a per capita income of \$44,402. Approximately 8.7% of the population lived below the poverty threshold during this period. The median value of owner-occupied housing units was \$269,300, and the median gross rent was \$1,342, reflecting the county's housing market dynamics. Educational attainment in Sarasota County is relatively high. Among residents aged 25 and older, 93.2% had completed a high school education, and 36.4% held a bachelor's degree or higher. The county is also home to a substantial veteran community, with 41,215 veterans residing in the area as of 2020. In addition, 12.2% of the population was foreign-born, contributing to the county's cultural diversity.

Sarasota County encompasses four municipalities, each contributing to the county's demographic landscape:¹⁶

- **City of Sarasota:** The county seat, with a population of 54,842 as of 2020.
- **City of North Port:** The largest city in the county, with 74,793 residents in 2020.
- **City of Venice:** Known for its historic downtown and coastal charm, housing 25,463 people in 2020.
- **Town of Longboat Key:** A barrier island community with 3,710 residents in the Sarasota County portion as of 2020.

¹⁵ U.S. Census Bureau, "American Community Survey 5-Year Estimates, 2016-2020," <https://data.census.gov/cedsci/>.

¹⁶ U.S. Census Bureau, "2020 Census Redistricting Data (P.L. 94-171) Summary Files," <https://data.census.gov/cedsci/>.

In addition to these incorporated areas, the county includes many unincorporated communities and census-designated places (CDPs), such as Siesta Key, Englewood, and Gulf Gate Estates, each contributing unique characteristics to the county's demographic profile. Sarasota County's demographic profile reflects a community with a significant elderly population, growing diversity, and a stable economic foundation. The county's municipalities and communities each add distinct elements to the overall demographic landscape, creating a region rich in cultural and social variety.

Social Vulnerability

Sarasota County, situated along Florida's Gulf Coast, faces a spectrum of natural hazards that impact its communities. The Federal Emergency Management Agency's (FEMA) National Risk Index (NRI) offers a comprehensive assessment of these risks by incorporating factors such as expected annual loss, social vulnerability, and community resilience. According to the NRI, Sarasota County has a Relatively High risk ranking and Relatively High expected annual loss, which is mostly due to the County's vulnerability to hurricanes and tropical storms. The NRI scores hurricanes as a 99.3 out of 100, ranking it as Very High on the index. Similarly, lightning, which is strongly associated with severe storms and hurricanes, scores 98.8 out of 100, also ranked Very High on the index.¹⁷ The State of Florida, especially its coastal cities, is at particular risk to hurricanes and lightning due to its subtropical climate near the ocean, where hurricane formation occurs. In most cases, various tropical waves and disturbances are generated near the coast of Africa and move westward across the Atlantic Ocean.¹⁸ Sarasota County is on the west coast of Florida, which is a highly vulnerable coastline due to the wide-shallow continental shelf, as well as very warm water during hurricane season. These two components allow for the propagation of stronger and more destructive storms, producing catastrophic storm surge. These potential conditions are of particular concern to Sarasota County.

Only one hazard ranks as Relatively High, a cold wave. A cold wave is a rapid fall in temperature in a 24-hour period. Florida, specifically Sarasota County, is at particular risk to cold waves as its infrastructure and wildlife rely on warm temperatures year-round, so an extreme drop in temperature can significantly harm the tourism industry, wildlife habitats, crops, and other food sources for the area.¹⁹

Tornadoes and wildfires rank as Relatively Moderate for Sarasota County, as these are not as widely destructive or as common as other hazards. However, they still pose a dangerous threat to the community and wildlife. When tornadoes and wildfires do occur, they can give little warning and have intense impacts on property and lives. The remaining hazards rank relatively low or very low on the NRI. While still of concern to the area, they are not as likely or costly as those ranked higher. Sarasota County has no rating or insufficient data for avalanche, heat wave, tsunami, or volcanic activity.

¹⁷ National Risk Index, "Sarasota County, Florida," 2025, <https://hazards.fema.gov/nri/map>.

¹⁸ National Hurricane Center, 2025, nhc.noaa.gov

¹⁹ American Meteorological Society, "Glossary of Meteorology: Cold Wave," 2025, https://glossary.ametsoc.org/wiki/Cold_wave.

Critical Infrastructure

Sarasota County's critical infrastructure includes essential systems and assets that are vital to public safety, economic stability, and community well-being. Key components consist of transportation networks, utilities, public safety facilities, hospitals, and emergency communications systems.²⁰ Major highways, such as Interstate 75 and U.S. Route 41, serve as vital arteries for local and regional movement, connecting residents, businesses, and emergency responders to surrounding counties and metropolitan areas.²¹ The Sarasota Bradenton International Airport offers critical air transportation services that support tourism, business travel, and emergency logistics.²² The county is also supported by a robust network of bridges, including the John Ringling Causeway and North and South Siesta Key bridges, which are crucial for access to coastal communities and barrier islands during routine travel and emergency evacuations.²³

Public utilities form the backbone of day-to-day functioning across Sarasota County. Potable water is sourced and treated through regional utility providers, while stormwater infrastructure helps manage the impacts of seasonal rainfall and storm surges.²⁴ Healthcare infrastructure plays a vital role in community resilience, with Sarasota Memorial Health Care System serving as the county's primary acute care provider, supported by several satellite clinics and urgent care centers.²⁵ Several private healthcare facilities also service the region. Law enforcement, fire-rescue stations, and emergency operation centers are strategically located to ensure rapid response capabilities during both routine incidents and major emergencies. The integrity of these systems is essential, particularly as the county faces increasing threats from hurricanes, coastal flooding, and sea-level rise. Consequently, efforts to harden and modernize critical infrastructure have become central to the county's broader mitigation and resilience planning.

²⁰ Sarasota County Government, "Public Utilities Department," 2024, <https://www.scgov.net/government/public-utilities-water>.

²¹ Florida Department of Transportation, "District One - Sarasota County," 2024, <https://www.fdot.gov>.

²² Sarasota Bradenton International Airport, "Airport Information," 2024, <https://flysrq.com/>.

²³ Florida Department of Transportation, "District One - Sarasota County," 2024, <https://www.fdot.gov>.

²⁴ Sarasota County Government, "Public Utilities Department," 2024, <https://www.scgov.net/government/public-utilities-water>.

²⁵ Sarasota Memorial Health Care System, "About Us," 2024, <https://www.smh.com/>.



Figure 2: Sarasota County Emergency Operations Center²⁶

Risk Assessment

Introduction

Sarasota County, situated along Florida’s southwest coast, faces a range of natural hazards due to its geographic location, environmental features, and coastal characteristics. This risk assessment provides a comprehensive review of the historical impact, frequency, and financial consequences of such hazards based on storm event data and federal disaster declarations. The goal of this assessment is to support the county’s ongoing hazard mitigation planning efforts by identifying the most relevant threats to the community and guiding appropriate preparedness and resilience strategies. Drawing on records from the National Weather Service (NWS) and the Federal Emergency Management Agency (FEMA), the analysis captures both widespread and localized events across jurisdictions such as the City of Sarasota, North Port, Venice, and Longboat Key, and including key partners like Sarasota Memorial Hospital, Englewood Fire District, Florida State University, and the Sarasota Manatee Airport Authority.

The following sections detail historical hazard occurrences, major disaster declarations, and a refined list of hazards to be profiled in the 2025 update to the Unified Local Mitigation Strategy (LMS). Hazards that are not applicable to the region due to environmental or geographic factors have been excluded to

²⁶ Sarasota County, “Emergency Management,” 2025, <https://www.scgov.net/government/emergency-services/emergency-management-4420>.

ensure a focused and relevant planning approach. Additionally, jurisdiction-specific differences are acknowledged to account for the varied vulnerabilities and capabilities across different sectors of the county. This targeted strategy aims to enhance local preparedness and inform long-term resilience initiatives.

Table 8 provides a detailed record of documented hazard events that have occurred across Sarasota County from 2019 through 2024. This data, primarily sourced from the NWS's Storm Events Database, captures the diverse range of natural hazards that have impacted the region, including thunderstorms, flooding, lightning strikes, tornadoes, tropical storms, hurricanes, and wildfires. Each entry includes the date and location of the event.

This historical perspective is essential for understanding the frequency, intensity, and geographic spread of hazard events within the county. It not only informs current risk assessments but also helps local jurisdictions prioritize future mitigation strategies. Notably, while many of the events resulted in minimal or no damage, major incidents, such as Hurricane Milton in 2024, caused widespread destruction and highlight the importance of continued investment in hazard preparedness and resilience planning.

Table 8: History of Hazard Events in Sarasota County

Location	Date	Event
Fruitville	1/24/2019	Thunderstorm wind
Manasota Key	4/19/2019	Thunderstorm wind
Nokomis	7/16/2019	Lightning
Sarasota County	5/22/2020	Wildfire
Venice	6/1/2020	Tornado
Sunnyland	6/6/2020	Flood – Tropical Storm Cristobal
Fruitville	6/6/2020	Flood – Tropical Storm Cristobal
Osprey	6/6/2020	Flood – Tropical Storm Cristobal
Vamo	6/26/2020	Tornado
Siesta Key	7/16/2020	Lightning
Sarasota County	11/11/2020	Tropical storm Eta
Beverly Terrace	6/24/2021	Thunderstorm wind
Sarasota County	7/7/2021	Flood – Tropical Storm Elsa
Sarasota County	12/21/2021	High wind
Nokomis	3/12/2022	Thunderstorm wind
Sarasota Beach	3/16/2022	Tornado
Desoto Lakes	5/31/2022	Tornado

Location	Date	Event
Newtown Heights	6/15/2022	Thunderstorm wind
Sarasota County	9/28/2022	Hurricane Ian (typhoon)
Sarasota County	11/10/2022	Tropical Storm Nicole
North Port	12/15/2022	Tornado
Sarasota County	8/30/2023	Tropical Storm Idalia
North Port	9/30/2023	Flood (thunderstorms)
Gator Creek Estates	10/11/2023	Tornado
Fruitville	1/9/2024	Thunderstorm wind
Siesta Key	6/11/2024	Flood (tropical disturbance)
Sarasota	6/11/2024	Flood (tropical disturbance)
Sarasota County	8/4/2024	Tropical Storm Debby
Sarasota County	9/26/2024	Tropical storm – Hurricane Helene
Sarasota County	10/9/2024	Hurricane Milton

Overall, these events resulted in no reported fatalities and minimal injuries, with a few exceptions, such as Hurricane Ian in 2022, which caused eight fatalities and \$2 billion in property damage, and Hurricane Debby in 2024 that resulted in one fatality. Other significant events include a 2022 tornado in Sarasota Beach, which caused one injury and \$1 million in damage, and the June 2024 flood, primarily in the City of Sarasota, when deep tropical moisture, associated with a tropical disturbance centered just offshore of Tampa Bay, produced 5 to 8 inches of rain. Sarasota County Emergency Management reported multiple cars partially inundated in floodwaters, with water also entering some businesses in St. Armands Circle.

The data highlights that while many hazard events in Sarasota County are relatively low in impact, major weather systems pose substantial risk to life and property. These findings reinforce the importance of continued investment in hazard mitigation planning, especially for flood-prone and coastal zones.

Major Disaster Declarations

Table 9 provides a comprehensive overview of major disaster and emergency declarations affecting Sarasota County, Florida, from 1968 to 2024. These declarations, issued by the federal government through agencies such as FEMA, are formal acknowledgments of significant hazard events that required federal assistance. The table includes the declaration number, date, type of declaration (e.g., Disaster [DR], Emergency [EM], or Fire Suppression Assistance [FSA]), event description, and the amount of federal aid granted for individual and public assistance when applicable.

The data illustrates the county’s repeated exposure to hurricanes, tropical storms, flooding, wildfires, and other extreme weather events, with some incidents, such as Hurricanes Milton (2024), Ian (2022), and Irma

(2017), and the COVID-19 pandemic (2020), resulting in federal assistance totaling billions of dollars. The table highlights both the frequency and financial severity of these events, helping to inform ongoing mitigation planning and resource allocation. It underscores the importance of preparedness and resilience, particularly as Sarasota County continues to experience increasing impacts from climate-related hazards.

Table 9: Disaster Declarations in Sarasota County

Declaration #	Date	Type	Event Details
4834	10/11/2024	DR	Hurricane Milton
3622	10/7/2024	EM	Hurricane Milton
4828	9/28/2024	DR	Hurricane Helene
3615	9/24/2024	EM	Tropical Storm Helene
4806	8/10/2024	DR	Hurricane Debby
3605	8/2/2024	EM	Tropical Storm Debby
4734	8/31/2023	DR	Hurricane Idalia
3596	8/28/2023	EM	Tropical Storm Idalia
4680	12/13/2022	DR	Hurricane Nicole
3587	11/8/2022	EM	Tropical Storm Nicole
4673	9/29/2022	DR	Hurricane Ian
3584	9/24/2022	EM	Tropical Storm Ian
3561	7/4/2021	EM	Tropical Storm Elsa
3551	11/11/2020	EM	Hurricane Eta
4486	3/25/2020	DR	COVID-19
3432	3/13/2020	EM	COVID-19
3419	8/30/2019	EM	Hurricane Dorian
4337	9/10/2017	DR	Hurricane Irma
3385	9/5/2017	EM	Hurricane Irma
4280	9/28/2016	DR	Hurricane Hermine
4068	7/3/2012	DR	Tropical Storm Debby
1785	8/24/2008	DR	Tropical Storm Fay
3288	8/21/2008	EM	Tropical Storm Fay
1609	10/24/2005	DR	Hurricane Wilma
3220	9/5/2005	EM	Hurricane Katrina Evacuation

Declaration #	Date	Type	Event Details
1561	9/26/2004	DR	Hurricane Jeanne
1551	9/16/2004	DR	Hurricane Ivan
1545	9/4/2004	DR	Hurricane Frances
1539	8/13/2004	DR	Tropical Storm Bonnie and Hurricane Charley
1481	7/29/2003	DR	Severe storms and flooding
1393	9/28/2011	DR	Severe storms, tornadoes, and flooding associated with Tropical Storm Gabrielle
2358	4/18/2001	FSA	Myakka Complex Fire
1359	2/5/2001	DR	Severe freeze
2298	5/16/2000	FSA	Myakka Fire Complex
3150	10/15/1999	EM	Tropical Storm Irene
3139	4/27/1999	EM	Fires
2260	4/23/1999	FSA	Fires
3131	9/25/1998	EM	Hurricane Georges
1223	6/18/1998	DR	Extreme fire hazard
1195	1/6/1998	DR	Severe storms, high winds, tornadoes, and flooding
1141	10/15/1996	DR	Tropical Storm Josephine
982	3/13/1993	DR	Tornado
952	8/14/1992	DR	Severe storms and flooding
851	1/15/1990	DR	Severe freeze
664	7/7/1982	DR	Severe storms and flooding
526	1/31/1977	DR	Severe winter weather
337	6/23/1972	DR	Tropical Storm Agnes
252	11/7/1968	DR	Hurricane Gladys

Hurricanes have consistently caused significant damage, with some of the largest financial impacts seen from Hurricane Ian (2022), Hurricane Irma (2017), and Hurricane Wilma (2005), each resulting in over a billion dollars in individual and public assistance combined. More recent storms, such as Hurricane Milton (2024) and Hurricane Helene (2024), also resulted in substantial financial aid, with over \$700 million allocated for individual assistance. The COVID-19 pandemic (2020) stands out as a non-weather-related disaster, receiving combined federal aid of over \$3 billion. Other significant hurricanes, including Jeanne, Ivan, Frances, and Charley in 2004, each contributed to extensive damage, receiving hundreds of millions

in assistance. Figure 3 displays the disasters in Sarasota County from 05/02/1953 to 05/19/2025 by incident type as well as the subcategories. Subcategories refer to the specific types of incidents, which allow FEMA to tailor its response and assistance based on the unique needs of the affected areas.

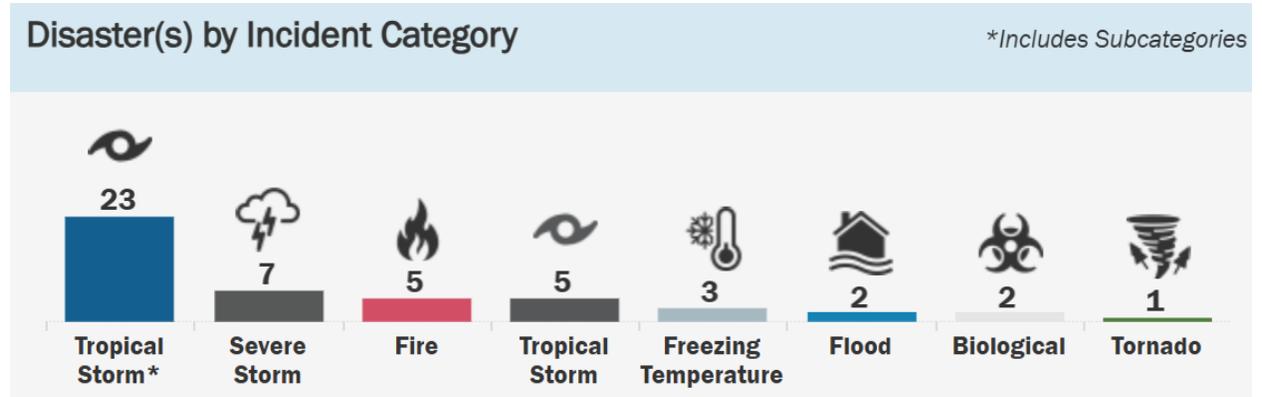


Figure 3: Disasters by Incident Type for Sarasota County²⁷

Although many hurricanes and tropical storms resulted in major financial aid, some events, such as severe winter weather (1977) and fires (1998, 2001), had lower public assistance allocations. The data highlights the frequency and severity of natural disasters over time, showcasing federal support patterns and the escalating financial impact of recent storms compared with earlier decades. Figure 4 displays information on the number of disasters by year in Sarasota County from 1968 to 2024.

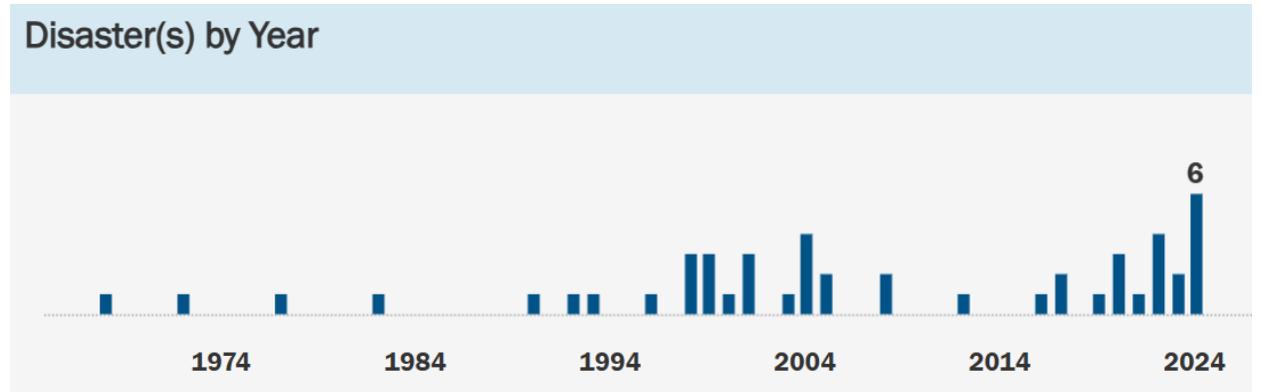


Figure 4: Disasters by Year for Sarasota County²⁸

²⁷ FEMA, "Disaster Declarations for States and Counties," <https://www.fema.gov/data-visualization/disaster-declarations-states-and-counties>.

²⁸ FEMA, "Disaster Declarations for States and Counties," <https://www.fema.gov/data-visualization/disaster-declarations-states-and-counties>.

Hazards Profiled

Sarasota County, located along the southwest coast of Florida, is a midsize community that faces a variety of natural hazards, including hurricanes, flooding, and wildfires. While many residents and tourists recognize the area's location within the "Hurricane Belt," there is generally less awareness or concern regarding other serious natural threats. The entire region is susceptible to natural disasters year-round, with the county's low elevation and high water table contributing to increased vulnerability, particularly to flooding-related events. Some coastal areas experience nuisance flooding during certain high tide events, commonly known as King Tides.

A review of historical data reveals that nearly all jurisdictions within the county are exposed to a wide range of hazards. The 2021 Sarasota County Unified LMS assessed each hazard identified by the LMS Working Group, factoring in historical data, geographical coverage, and likelihood of future events. During the 2021 update of the LMS plan, the group revisited each hazard profile to include new insights and data collected since the 2016 plan. The revised strategy focused on improving the plan by addressing several key areas, including the following:

- Confirming the accuracy of existing hazard data,
- Documenting new hazard events that occurred after 2021,
- Highlighting jurisdiction-specific hazard differences; and
- Ensuring consistency in risk assessment with the Sarasota County Comprehensive Emergency Management Plan and the Florida State Mitigation Plan.

This targeted update aimed to ensure a more streamlined and data-driven approach to hazard mitigation across the county. The following hazards will be profiled in the 2025 update:

- Drought and Extreme Heat,
- Flooding,
- Land Subsidence and Sinkholes,
- Severe Storms (Hail, Lightning, Wind),
- Tornadoes and Waterspouts,
- Tropical Cyclones,
- Wildland Fire; and
- Winter Weather (Freezes and Winter Storms).

Hazards Excluded from Further Analysis

The hazards excluded from the Sarasota County hazard list do not reflect the geographical, environmental, and infrastructural characteristics specific to Sarasota County and its jurisdictions. Here's

an analysis of why certain hazards were omitted from the original list provided for Sarasota County, including the cities and districts of North Port, Sarasota, Venice, Longboat Key, Sarasota Memorial Hospital, Sarasota Manatee Airport Authority, and Englewood Fire District:

- **Avalanche:** Sarasota County is located in a coastal region with no significant mountainous terrain, making avalanche risks virtually nonexistent. Avalanches are typically a concern in areas with significant snowfall and mountainous elevations, which do not apply to Sarasota.
- **Coastal Erosion:** While coastal erosion can impact areas with significant shorelines, particularly along barrier islands, it may not be a primary focus in the comprehensive hazard planning for Sarasota as it would likely fall under the broader category of "Flooding" or "Tropical Cyclones." Additionally, only certain coastal areas would face the most immediate threats of erosion, which may not be prioritized in the general hazard assessment for the entire county.
- **Coastal Storms:** Coastal storms are likely considered part of the broader category of "Tropical Cyclones" in the county's hazard planning, especially given that Sarasota is highly vulnerable to hurricanes and tropical storms. Therefore, there is no need to list "Coastal Storms" separately.
- **Dam Failure:** Although a concern for many regions, Sarasota County does not have a significant number of large dams that pose the same level of risk as those found in other regions. In addition, flooding risks are often captured under the general "Flooding" category.
- **Earthquake:** Florida is not located near active fault lines, making the likelihood of earthquakes extremely low. As such, this hazard is generally excluded from hazard mitigation planning in the region.
- **Expansive Soils:** While expansive soils can be a concern in some regions, they are not a prominent issue in Sarasota County, which is largely composed of coastal and sandy soils. The absence of significant large-scale construction activities on expansive soils likely reduces the need for this hazard to be addressed in planning.
- **Levee Failure:** Sarasota County does not have a significant network of levees, which are typically used in areas prone to river flooding or other major water control projects. This hazard is therefore less relevant in Sarasota's context where flooding is primarily related to rainfall, storm surges, and sea level rise.
- **Landslide:** Sarasota County is not located in an area with significant slopes or geological instability that would make landslides a common or high-risk hazard. This type of event is typically more relevant in mountainous or hilly areas.
- **Repetitive Loss Properties:** While Sarasota may have properties that have experienced repeated flooding, the term "repetitive loss properties" refers to a specific classification under FEMA's National Flood Insurance Program (NFIP). It may be integrated within the general "Flooding" category and therefore does not need to be a separate hazard in the planning document.
- **Space Weather:** Although the impacts of space weather could hypothetically impact Sarasota County, given the likelihood of this type of event occurring, and given that it is an evolving hazard whose

likelihood is difficult to predict, this hazard has been excluded from the hazard mitigation planning process.

- **Tsunami:** The threat of tsunamis is minimal for Sarasota County due to its relatively low risk from seismic activity in the region. While a distant tsunami from an earthquake could technically impact the coast, the likelihood is low, which is why it is not typically included in the county’s major hazard plans.
- **Volcano:** Florida is not located near any active volcanic regions. Since there are no volcanoes in the state, this hazard is not relevant to Sarasota County’s planning efforts.
- **Windstorm:** Windstorms are often included under the broader category of "Tropical Cyclones" or "Severe Weather Storms." Since Sarasota is highly vulnerable to hurricanes, which bring significant winds, there is no need to separately list windstorms unless they refer to non-tropical storm events, which are less common.

Many of the excluded hazards from the list can be categorized under broader risks such as flooding, tropical cyclones, or severe weather storms. Additionally, some hazards are geographically irrelevant or unlikely to occur in Sarasota County, such as earthquakes, avalanches, and volcanic events. The planning process is focused on identifying the most probable and impactful risks specific to the region, which is why some hazards are omitted or integrated into broader categories.

Jurisdictional Differences

Table 10 outlines specific natural hazards that were excluded from the hazard mitigation planning processes of various jurisdictions within Sarasota County, Florida. Each participant, including municipalities, special districts, and key infrastructure entities, has tailored its hazard assessment based on geographic, environmental, and infrastructural characteristics unique to its area. The table identifies which hazards were omitted and provides reasoning for each exclusion, demonstrating a focused approach to risk management that aligns with local conditions and vulnerabilities. This ensures that mitigation efforts remain relevant, efficient, and reflective of actual threats faced by each jurisdiction.

Table 10: Hazards Not Included in Listed Jurisdictions

Participants	Hazards Excluded and Reasoning
Sarasota County	No exclusions or differences.
City of Sarasota	Excluded wildland fire and winter weather, which are low probability hazards and low impact for the City of Sarasota.
Englewood Fire District	Excluded winter weather, which is low probability for the Englewood Fire District.
Longboat Key	Excluded drought, land subsidence and sinkholes wildland fire, and winter weather. All of these hazards are low-probability events with minimal impact on the Town of Longboat Key.

Participants	Hazards Excluded and Reasoning
North Port	Excluded land subsidence and sinkholes, for which the Florida Geological Survey has no documented instances in the City of North Port.
Sarasota Manatee Airport Authority	Excluded drought, flooding, land subsidence and sinkholes, wildland fire, and winter weather. For flooding, the airport is situated 30 feet above sea level, with a low probability of experiencing impactful flooding. Drought has a low impact on the airport. For land subsidence and sinkholes, wildland fires, and winter weather, there are no known historical instances of these hazards having impacted the Sarasota Manatee Airport Authority.
Sarasota Memorial Hospital	Excluded land subsidence and sinkholes, as well as wildland fire. Sarasota Memorial Hospital facilities are in low probability areas for these hazards, and they are low impact should they occur.
Venice	None.
Ringling Museum	Excluded drought, land subsidence and sinkholes, wildland fire, and winter weather. There have been few historical instances of these hazards, and they have had low impacts on Ringling Museum.

Drought and Extreme Heat

Definition

According to the National Oceanographic and Atmospheric Administration (NOAA) drought and heat often occur together. Recent studies by NOAA have indicated the hazards are interconnected: extreme temperatures can lead to drought, and drought conditions can enhance the impacts of heat waves²⁹.

Drought is a prolonged lack of precipitation, including rain, snow, sleet, hail, and drizzle. It typically lasts a season or more, leading to water shortages that adversely impact people, animals, and vegetation.³⁰

Extreme heat is a period of high heat and humidity with temperatures above 90 degrees for at least two to three days.

Droughts are a natural occurrence, but they are difficult to predict. Knowing when they will start and how long they will last is challenging. The severity of a drought depends on several factors, including its duration, the level of moisture deficiency, and the size of the impacted area.³¹ Heat waves are shorter

²⁹ American Meteorological Society, "The Influence of Drought on Heat Waves"
<https://journals.ametsoc.org/view/journals/apme/64/5/JAMC-D-24-0072.1.xml>

³⁰ National Oceanic and Atmospheric Administration, "Drought,"
<https://gml.noaa.gov/obop/mlo/educationcenter/students/brochures%20and%20diagrams/noaa%20publications/Drought%20Fact%20Sheet.pdf>.

³¹ The City of Sarasota, "Sarasota County Unified Local Mitigation Strategy,"
<https://www.scgov.net/home/showpublisheddocument/60934/638206106205870000>.

duration events. Forecasting models are improving, and lead time in predicting extreme heat events is expanding with technology. Severity is defined by both intensity and duration.

Location

All areas of Sarasota County are susceptible to drought and heat conditions, but certain regions may face greater risks. Areas with sandy soil that are also agricultural typically dry out more quickly than those with clay or loamy soils. This makes them more susceptible to drought, particularly in regions like North Port, where the risk increases if irrigation is inadequate during times of low rainfall.

The distance from large water bodies can affect the amount of moisture in the area. Regions farther from lakes and the Florida Gulf may experience drier conditions. Proximity to the Gulf may provide some heat relief in the form of breezes and cooler evenings.

Extent

The U.S. Drought Monitor depicts the location and intensity of drought across the country using five classifications: Abnormally Dry (D0), which indicates areas that may be going into or are coming out of drought, and four levels of drought (D1–D4), as shown in Table 11. Figure 6 displays a map of drought conditions within the United States per the U.S. Drought Monitor.

Table 11: U.S. Drought Monitor³²

Drought Intensity	Description
D0	Abnormally Dry
D1	Moderate Drought
D2	Severe Drought
D3	Extreme Drought
D4	Exceptional Drought

³² National Integrated Drought Information System, "Drought Conditions for Sarasota County," <https://www.drought.gov/states/florida/county/Sarasota>.

Sarasota County, FL

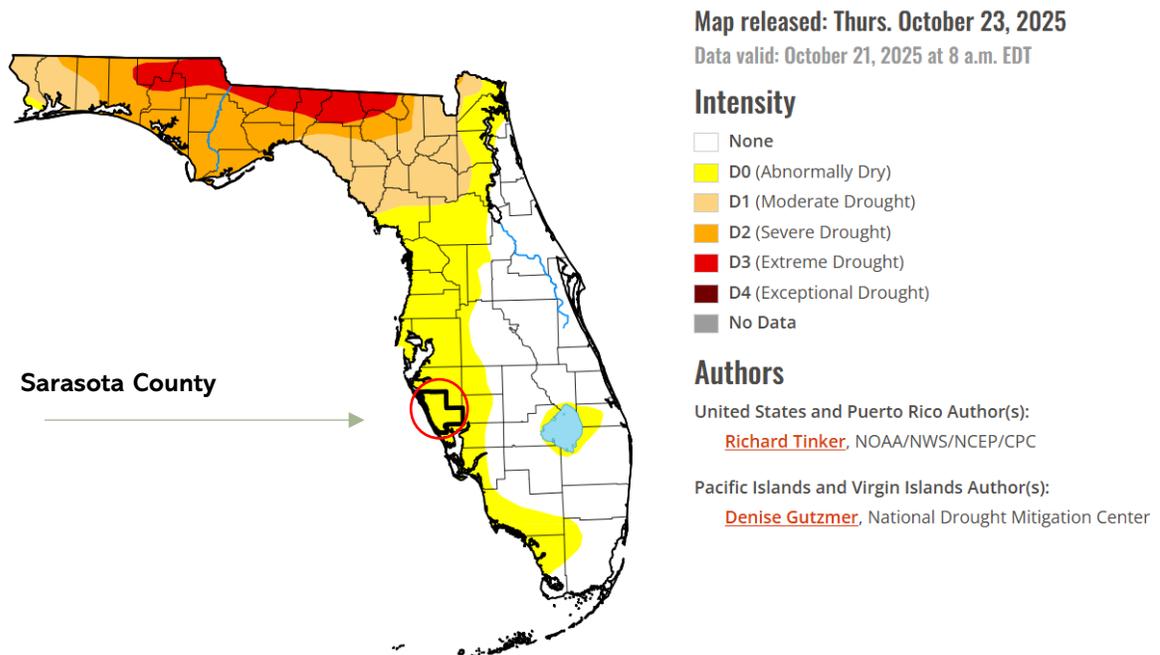
[Home](#) / Sarasota County, FL

Figure 5: U.S. Drought Monitor Map, Sarasota County, October 23, 2025³³

The Palmer Drought Severity Index (PDSI) measures drought conditions using temperature and rainfall data; it helps assess how severe and long-lasting a drought is. Table 12 provides data created from the PDSI as shown in Figure 6. Figure 6, which is based on Table 12, provides a map of drought information for the United States based on the PDSI, which updates weekly.

In addition to the formal process of issuing extreme heat watches and warnings to alert the public to dangerous weather conditions, the National Weather Service has developed NWS HeatRisk³⁴ as a method to continuously communicate heat related hazards in the 7-day forecast window. HeatRisk takes into consideration:

1. Level of heat above normal at the given location
2. Forecast-driven humidity detection
3. Seasonal considerations
4. Duration of event

³³ U. S. Drought Monitor, "Sarasota County, FL," https://droughtmonitor.unl.edu/CurrentMap/StateDroughtMonitor.aspx?fips_12115

³⁴ NOAA, NWS HeatRISK "Highlighting Impactful Heat in the Seven Day Forecast" <https://www.wpc.ncep.noaa.gov/heatrisk/>

5. Human impact

Table 12: Palmer Drought Severity Index³⁵

Dryness	Description	Wetness	Description
-4 or less	Exceptional drought	1 to 1.9	Unusually moist
-3 to -3.9	Extreme drought	2 to 2.9	Very moist
-2 to -2.9	Severe drought	3 to 3.9	Extremely moist
-1 to -1.9	Moderate drought	Above 4	Exceptionally moist
-0.9 to 0.9	Near normal		

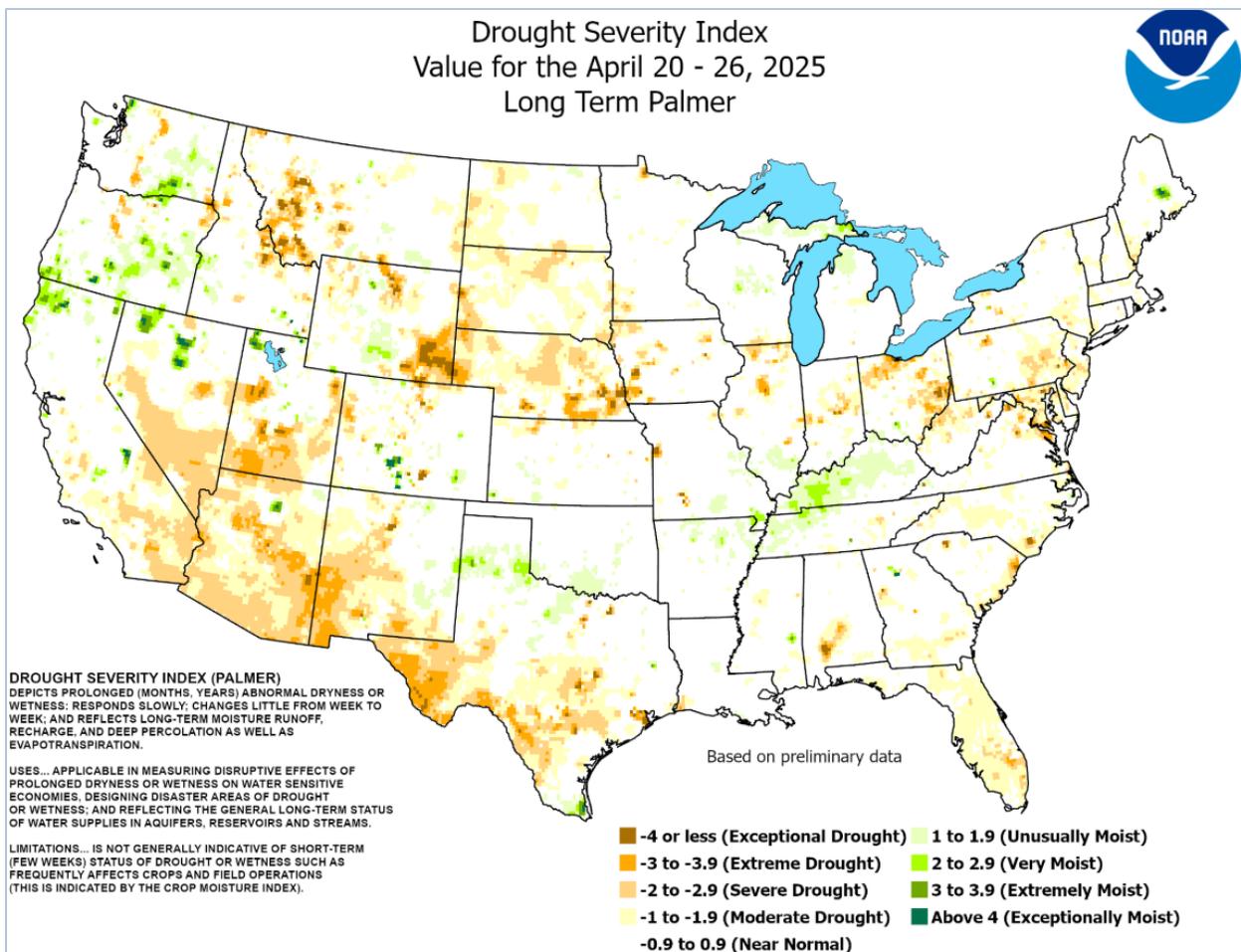


Figure 6: Long-Term Palmer Drought Severity Index, April 20–26, 2025³⁶

³⁵ NOAA, "Drought Severity Index Value for the April 20-26, 2025 Long Term Palmer," https://www.cpc.ncep.noaa.gov/products/analysis_monitoring/regional_monitoring/palmer/PDSI.png

³⁶ NOAA, "Drought Severity Index Value for the April 20-26, 2025 Long Term Palmer," https://www.cpc.ncep.noaa.gov/products/analysis_monitoring/regional_monitoring/palmer/PDSI.png.

*Note: Map information is updated weekly.

JURISDICTIONAL IMPACTS

Hazard impacts refer to the adverse effects stemming from natural or human-induced events. These impacts include physical damage, human health concerns, and economic, environmental, and social impacts, as listed by jurisdiction in Table 13.

Table 13: Jurisdictional Impacts

Participant	Impacts
Sarasota County	<ul style="list-style-type: none"> • Drops in water levels in rivers, lakes, and aquifers • Waterborne illnesses from poor sanitation • Heat-related illnesses • Respiratory issues from dust • Crop losses • Tourism decline • Wildfire increases • Lower quality of life • Wildlife and ecosystem distribution changes • Increased water prices • Strains on wastewater and stormwater systems • Infrastructure damage
City of North Port	<ul style="list-style-type: none"> • Water shortages • Wildfire increases • Soil erosion • Heat-related illnesses • Crop losses • Higher water rates • Tourism decline • Habitat loss
City of Sarasota	<ul style="list-style-type: none"> • Water shortages • Water quality issues • Heat-related illnesses • Crop losses • Tourism decline • Increased wildfire risk • Vegetation and wildlife stress • Community tension
City of Venice	<ul style="list-style-type: none"> • Water shortages • Heat-related illnesses • More demand on water systems

Participant	Impacts
	<ul style="list-style-type: none"> • Crop losses • Tourism decline • Wildlife impact • Increase in wildfires • Saltwater intrusion • Water use disagreements
Town of Longboat Key	<ul style="list-style-type: none"> • This jurisdiction has removed drought from their hazard mitigation plan.
Sarasota Memorial Hospital	<ul style="list-style-type: none"> • Water shortages • Water supply issues • Heat-related illnesses • Increased health issues • Higher costs due to alternative water sources
Englewood Fire District	<ul style="list-style-type: none"> • Increased fire risk • Water supply issues • Heat-related illnesses • Poor air quality/increase in respiratory issues • Health-related illnesses • Concerns about water availability for firefighting efforts
Sarasota County Schools	<ul style="list-style-type: none"> • Damage to school grounds, including athletic fields • Foundation cracks • Water shortages • Heat-related illnesses • Respiratory issues due to dust • Increased costs due to cooling systems • Limited outdoor activities • Disruptions to outdoor athletic events, potentially affecting community relationships • Stress experienced by children from farming families due to drought affecting the family business
Ringling Museum	<ul style="list-style-type: none"> • This jurisdiction has excluded drought from its hazard mitigation planning process.

NATIONAL RISK INDEX

The National Risk Index (NRI) is a tool developed by the Federal Emergency Management Agency (FEMA) designed to evaluate and visualize the risk of natural hazards across the United States. It provides data and insights on 18 different hazards. The index combines multiple factors, such as the probability of different hazard events, the vulnerability of communities, and potential impacts, to assess overall risks.

Sarasota County's drought risk profile includes a relatively low risk index score of 68.9, a relatively low expected annual loss score of 72.9, and a relatively moderate social vulnerability score of 41.22.³⁷ When comparing these figures statewide, 81% of Florida's counties demonstrate a higher community resilience score, while 12% have a lower social vulnerability score. Furthermore, 87% of counties exhibit a lower expected annual loss, and 84% show a lower overall risk index.³⁸



Figure 7: Drought Risk in Sarasota County

Previous Occurrences (2019–2024)

The National Centers for Environmental Information (NCEI) is a comprehensive resource that catalogs data on weather-related events, including tropical storms, hurricanes, tornadoes, floods, and more. It provides critical information that helps assess the frequency, intensity, and impact of severe weather events across the United States. The NCEI is maintained by NOAA. According to the NCEI, Sarasota County experienced zero drought events between January 1, 2019, and December 30, 2024.³⁹ FEMA's Disaster Declaration for

³⁷ FEMA, "National Risk Index,"

<https://hazards.fema.gov/nri/report/viewer?dataLOD=Counties&dataDs=C12115#SectionSocialVulnerability>.

³⁸ FEMA, "National Risk Index,"

<https://hazards.fema.gov/nri/report/viewer?dataLOD=Counties&dataDs=C12115#SectionSocialVulnerability>.

³⁹ National Oceanic and Atmospheric Administration, "Storm Events Database,"

https://www.ncdc.noaa.gov/stormevents/listevents.jsp?eventType=%28Z%29+Drought&beginDate_mm=01&beginDate_dd=01&beginDate_yyyy=2019&endDate_mm=12&endDate_dd=31&endDate_yyyy=2024&county=SARASOTA%3A115&hailfilter=0.00&tornfilter=0&windfilter=000&sort=DT&submitbutton=Search&statefips=12%2CFLORIDA.

States and Counties also showed zero events.⁴⁰ However, the U.S. Department of Agriculture (USDA) designated three droughts during this period, as shown in Table 14. Similarly, the NCEI identified no excessive heat events for the same period, but the southwest Florida faces a known risk for extreme heat events due to the semitropical climate, abundant sunshine, and relatively high humidity.

Table 14: USDA-Designated Droughts in Sarasota County, 2019–2024⁴¹

Designation#	Approval Date	Begin Date	End Date
S5670	03/25/2024	12/01/2023	N/A
S5413	05/15/2023	03/21/2023	N/A
S5419	05/15/2023	03/21/2023	N/A

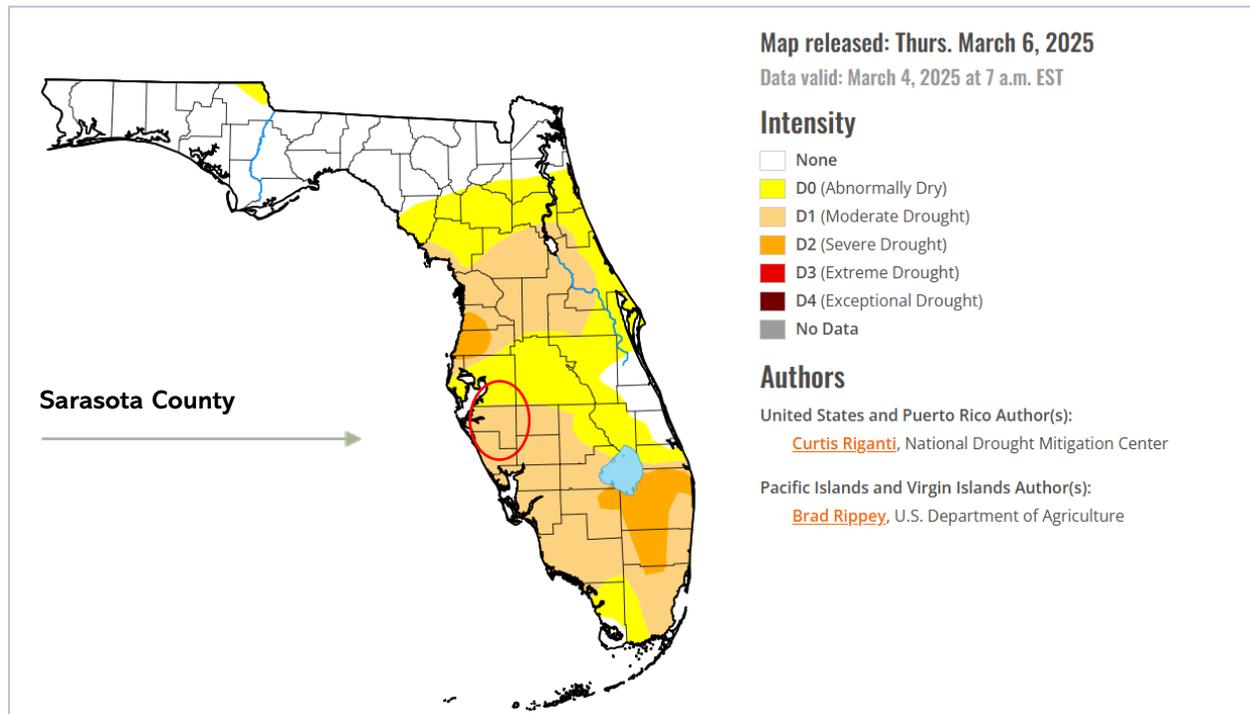


Figure 8: Drought Intensity Map for the State of Florida, March 6, 2025⁴²

⁴⁰ FEMA, “Disaster Declarations for States and Counties,” <https://www.fema.gov/data-visualization/disaster-declarations-states-and-counties>.

⁴¹ U.S. Department of Agriculture, “Disaster Designation Information,” <https://www.fsa.usda.gov/resources/disaster-assistance-program/disaster-designation-information>.

⁴² U.S. Drought Monitor, “Florida,” <https://droughtmonitor.unl.edu/CurrentMap/StateDroughtMonitor.aspx?FL>. Note: These maps are updated weekly.

Probability of Future Conditions

The annualized drought frequency in Sarasota County is 9.2, with 357 events recorded from 2000 to 2021.⁴³ Based on these statistics, Sarasota County and the jurisdictions in the planning area have a high likelihood of experiencing regular drought events or an increase in drought events over the next 30 years due to atmospheric changes. Rising temperatures and increased evaporation rates deplete soil moisture, reducing water levels in reservoirs and aquifers, and leaving the area vulnerable to drought. In any given year, the range would vary anywhere from normal to exceptional drought.

The location of Sarasota County on the southwest coast of Florida, with abundant sunshine and high humidity, in addition to a significant outdoor lifestyle and tourism culture, brings the inherent risk of heat related events. While the archives do not well document the history of excessive heat in the area, the known risk is high, and the hazard will be treated appropriately. Improved forecasting tools and hazard communication systems will ensure that as events occur the public can be notified in a timely fashion.

Vulnerability Assessment

Sarasota County faces vulnerabilities from drought and extreme heat due to its geography, soil conditions, agriculture, and beach-facing business and lifestyle considerations. Population growth can increase water demand, putting strain on local resources. The agricultural sector, which depends heavily on consistent water availability, stands to suffer decreased production during droughts, affecting both local farmers and the broader economy. Extreme heat affects all sectors, but more significant impacts are felt on tourism. Groundwater and surface water are at risk during prolonged droughts, where declining aquifer levels can also lead to increased salinity, particularly in coastal regions.

Dry and hot periods have led to several issues in North Port and Sarasota County, including an increase in wildfires, a decline in the water table, countywide water restrictions, threats to wildlife, and crop losses in Sarasota County's agricultural areas. The economic impact on the community includes reduced farm revenue and higher prices for produce and other agricultural items.⁴⁴

The City of Sarasota is particularly susceptible to drought and extreme heat due to its tourism-dependent economy and reliance on outdoor recreational activities. When water availability declines or exposed outdoor activities become dangerous, the city risks deterring visitors, which can negatively impact businesses reliant on tourism revenue. Groundwater and surface water are at risk during prolonged droughts, where declining aquifer levels can also lead to increased salinity, particularly in coastal regions.

The City of Venice faces vulnerabilities from drought and extreme heat that threaten its economic and environmental stability. As a populated coastal city, the demand for water is high, and reduced freshwater availability can lead to increased salinity in water supplies. This poses a risk to both the environment and

⁴³ FEMA, "National Risk Index," <https://hazards.fema.gov/nri/report/viewer?dataLOD=Counties&dataIDs=C12115>.

⁴⁴ The City of Sarasota, "Sarasota County Unified Local Mitigation Strategy," <https://www.scgov.net/home/showpublisheddocument/60934/638206106205870000>.

water quality. Additionally, tourism plays a vital role in Venice's economy, where reduced water resources can impact visitor numbers and local businesses.

Longboat Key's freshwater is supplied by Manatee County and is backed up through an emergency line by Sarasota. Wells are for irrigation only. The town's demographic characteristics, including a high population of retirees, may hinder the ability to adapt to water shortages, especially for those with limited resources. Furthermore, tourism and recreation can be adversely affected by extremely hot or dry conditions.

Sarasota Memorial Hospital faces vulnerabilities related to water supply and infrastructure, especially during drought conditions. Limited water availability can affect hospital operations, impacting patient care and essential services. Improving water management practices, enhancing water storage capabilities, and developing contingency plans for emergency water access are critical steps for the hospital to ensure consistent operations and patient safety during times of water scarcity. Extreme heat impacts infrastructure and climate control systems necessary for care and also has the potential to increase patient load as heat-related injuries and illness increase.

Sarasota School Districts are vulnerable to the effects of drought, which can limit access to water for educational facilities and impact outdoor learning environments. Increased temperatures and decreased water availability can affect student health and outdoor activities. Implementing water conservation education programs for students, investing in efficient irrigation systems for school grounds, and establishing emergency water supply plans for schools are essential strategies to build resilience against drought and ensure a conducive learning environment. Extreme heat can impact school schedules, after school activities, and increase the incidence of heat-related illnesses among students and staff.

Sarasota Manatee Regional Airport is susceptible to water-related vulnerabilities, particularly because of its operational reliance on a reliable water supply and drainage systems. Drought conditions may impact fire safety systems and airport maintenance. Developing comprehensive water management strategies, including investment in efficient water use and drainage improvements, would be helpful for maintaining operational integrity and safety during extended periods of low water availability. Extreme heat can impact operating conditions, taxing the capabilities of infrastructure and limiting exposure time for external staff.

The Englewood Fire District is at risk during drought conditions, as low water availability can hinder firefighting efforts and increase the likelihood of wildfires. The district would benefit from prioritizing the enhancement of water supply infrastructure for firefighting, conducting regular assessments of local fire risks, and engaging the community in fire prevention strategies. Additionally, fostering partnerships with local entities to improve water resource management can significantly strengthen the district's resilience to drought-related challenges. As a fire control district, extreme heat can impact both staff and response operations. Heat limits responder exposure times. Heat also brings the potential for increased incidents requiring response, including wildfires and heat-related injuries.

IMPACTS TO ASSETS

Droughts and extreme heat have been linked to impacts on industry in the affected area, but there can also be socioeconomic impacts such as higher production costs, shorter shift times, livestock loss, declines in tourism, and increases in heat-related illnesses. Based on Sarasota County’s long history of involvement in agriculture tourism, extended drought conditions could severely harm the business sector. However, the overall impact on the entire county and its jurisdictions may be limited, given the county demographics, development patterns, and generally mild climate conditions that dominate the long-term cycles. As the duration of a drought increases, the impacts become more pronounced. Watering restrictions may be implemented, access to freshwater recreation may be limited, and the risks of wildfires and heat injury may rise. Although generally viewed as inconvenient to most, the impacts are significant to those affected. These effects could manifest throughout the entire planning area.

Table 15 provides a summary of the effects of drought and extreme heat in Sarasota and the other jurisdictions in the planning area. It discusses the impact on the public, first responders, continuity of operations, property, infrastructure, the environment, economic conditions, and public confidence, along with the consequences of these impacts.

Table 15: Consequence Analysis of Drought and Extreme Heat

Area Affected	Consequences
Public	<ul style="list-style-type: none"> • Reduced water availability and deterioration of water quality • Increases in Heat-related illness • Increase in health-related issues and diseases, such as an increased level of particulates in the air, and increased levels of water-borne diseases in drinking water ⁴⁵
First Responders	<ul style="list-style-type: none"> • Impact of Heat and Water Scarcity on Emergency Response and Public Health: <ul style="list-style-type: none"> › Limited Firefighting Resources: Insufficient water hampers firefighting efforts, making it difficult to control wildfires. › Limited Exposure Times: Extreme Heat can limit the on-scene stay time for responders and require crew rotations and responder relief measures. › Increased Wildfire Risks: Drought conditions may elevate the likelihood of fires, threatening communities and ecosystems. › Increased Patient Loads: Extreme heat can cause increased heat-related illnesses requiring medical care.

⁴⁵ CDC “Health Impacts of Drought” [Health Impacts of Drought | Drought and Health | CDC](#)

Area Affected	Consequences
Continuity of Operations	<ul style="list-style-type: none"> • Impact of Food Shortages Due to Crop Loss from Droughts/Heat: <ul style="list-style-type: none"> › Increased Food Costs: Crop declines from drought can lead to reduced supply, causing food prices to rise, which especially burdens low-income households › Stricter Water Restrictions: Diminished water resources may result in tighter regulations, affecting agricultural productivity and daily needs for communities. › Job Losses in Agriculture: Challenges in farming can lead to downsizing or closures, resulting in job losses that impact local economies and increase unemployment. › Complicated Water Management: As water sources dwindle, managing these resources complicates long-term planning and conservation efforts necessary for sustainable agriculture.
Property, Facility, and Infrastructure	<ul style="list-style-type: none"> • Drought and Heat can lead to sinkhole formation:⁴⁶ <ul style="list-style-type: none"> › Land Subsidence Issues: Ground weakening due to natural erosion can lead to sinkholes. › Burst Water Pipes: Failures in municipal water pipes can erode soil and create voids that cause sinkholes. › Cracked Foundations: Sinkhole development may damage structural foundations by causing cracks. › Decrease in Property Values: Properties in sinkhole-prone areas often see a decline in value due to safety concerns and market stigma.

⁴⁶ NOAA, "Navigation and Transportation," [https://www.drought.gov/sectors/navigation-and-transportation#:~:text=When%20water%20supplies%20are%20depleted%20in%20drought%2C%20subsidence%20\(the%20sinking,to%20the%20formation%20of%20sinkholes.](https://www.drought.gov/sectors/navigation-and-transportation#:~:text=When%20water%20supplies%20are%20depleted%20in%20drought%2C%20subsidence%20(the%20sinking,to%20the%20formation%20of%20sinkholes.)

Area Affected	Consequences
Environment ⁴⁷	<ul style="list-style-type: none"> • Loss of Fish and Wildlife Habitats: <ul style="list-style-type: none"> › Decreased food and water availability can affect wildlife health and reproduction › Increased migration patterns as species search for better conditions due to drought and heat › Low water levels in lakes, ponds, and reservoirs threaten aquatic ecosystems › Less water may lead to loss of wetlands vital for biodiversity and flood control › Rising frequency of wildfires disrupting habitats and ecosystems › Soil erosion from vegetation loss, impacting ecosystems and waterways
Economic Conditions ⁴⁸	<ul style="list-style-type: none"> • Economic Losses: Farmers face significant revenue declines due to crop failures. Tourism losses when outdoor activities are unavailable due to extreme heat. • Increased Water Access Costs: More funds may be needed for drilling new wells to secure water. • Higher Livestock Expenses: Rising feed and water costs for livestock add financial strain. • Elevated Energy Costs: Power companies may incur higher costs due to water management and irrigation practices, which drive up energy consumption, impacting overall prices. Climate and cooling systems run times increase during a heat wave.
Public Confidence	<ul style="list-style-type: none"> • Heightened Safety Concerns Due to Increased Wildfire Risks: Rising temperatures and prolonged dry spells intensify wildfire threats, making communities feel increasingly vulnerable. • Economic Uncertainty from Agricultural Harm: droughts damages agriculture, creating instability in local economies and jeopardizing farmers' livelihoods. • Concerns Over Water Shortages and Clean Drinking Water: Ongoing drought and heat conditions threaten access to clean drinking water, highlighting the need for sustainable water management. • Intensified Competition for Water Resources: Limited water supplies increase competition among stakeholders, necessitating policies for equitable resource management.

IMPACT ON COMMUNITY LIFELINES

Drought and Extreme Heat profoundly impact various FEMA Community Lifelines in Sarasota County (Figure 9). The main lifelines affected by drought are food, water, shelter, transportation, and water systems.

⁴⁷ National Drought Mitigation Center, "How Does Drought Affect Our Lives?," <https://drought.unl.edu/Education/DroughtforKids/DroughtEffects.aspx#:~:text=Social%20impacts%20include%20public%20safety,flows%20and%20poor%20water%20quality>.

⁴⁸ Ibid.

- **Food, Hydration, and Shelter:** Most crops and animals require water to thrive and grow, without which they can perish. People may also lack adequate, clean drinking water, posing serious public health risks. Shelter is affected, as drought can severely damage structural integrity when the soil pulls away from beams, buildings, bridges, etc.
- **Transportation:** Transportation may be affected by asphalt and concrete cracking and eroding, affecting road conditions and transportation systems
- **Health and Medical:** The incidence of heat related injuries increases during times of drought and extreme heat, requiring increased service levels to treat those affected. Responders also face limited exposure time requiring increased resources for shift rotations and responder recovery.
- **Water Systems:** One significant effect is the reduction in water supply, as decreased rivers, lakes, and reservoirs lead to water restrictions and challenges in meeting the community's needs. This frequently leads to groundwater reliance, which can be over-extracted, leading to further depletion and degradation of water quality.

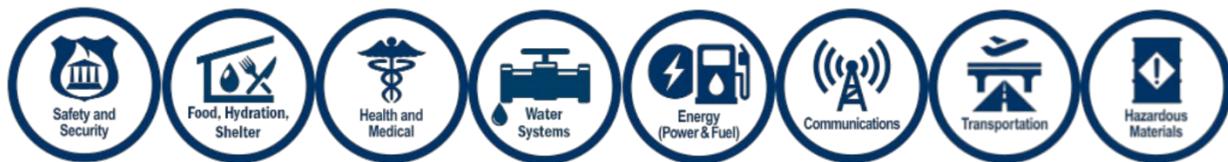


Figure 9: Federal Emergency Management Agency’s Community Lifelines

While the risks posed by drought and heat have increased, so too have efforts to mitigate it. Several development changes have occurred in Sarasota County to help manage heat and drought. Local governments have implemented strict zoning and land use policies, focusing on investing in areas with greater water resources. There has been an increase in the development of reservoirs and advanced irrigation systems for improved water management.

Farmers have adopted more efficient irrigation methods and introduced more drought-tolerant crops. Long-term changes in water usage behaviors have shifted toward more sustainable practices for residents and industries.

In 2022, the Sarasota County Stormwater Division of Public Works updated the Watershed Master Plan, which included 59 projects totaling \$186.88 million.⁴⁹ The City of Venice, meanwhile, has three projects totaling \$2.39 million. Specific examples of projects in the Sarasota County plan include the following:

- Converting existing wet detention ponds into stormwater harvesting ponds to supply irrigation to the Boca Royale Golf & Country Club

⁴⁹ Sarasota County, “Public Works Stormwater Future Projects Dashboard,” <https://app.powerbigov.us/view?r=eyJrjoiOTc0NGY5M2MtYjhjNS00MmZmLTlkMDQzMzQ3NTMxNTNlNmJliiwidCI6jllhYzkwZmE0LWVhNDYtNDhkNy05MTE0LWJiZjJmYzU1NGQwZSJ9>.

- Converting existing wet detention ponds into stormwater harvesting ponds for golf course irrigation at Forest Lakes Golf Club; Phillippi Creek west of the golf club may also be used as an additional water source
- Installing cisterns, permeable pavers, rain barrels, and a stormwater harvesting pond for onsite irrigation at Pine View School
- Converting an existing wet detention pond into a stormwater harvesting pond to collect and store irrigation water for Prew Academy
- Installing biofiltration swales and cisterns to collect and store irrigation water for the Riverbluff Parkway Low-Impact Development Retrofit
- Installing cisterns, permeable pavers, rain barrels, and converting existing ponds into stormwater harvesting ponds for on-site irrigation at Sarasota Middle School
- Installing up to three aquifer recharge wells and associated infrastructure; investigating and developing alternative water supply options

Converting wet detention ponds into stormwater harvesting ponds and installing aquifer recharge wells offer significant benefits. These initiatives enhance local water supplies by capturing and storing stormwater, ensuring that crops and landscapes receive essential moisture during dry periods. This not only supports agricultural productivity but also promotes resilience against water shortages. Aquifer recharge wells help restore groundwater supplies, strengthening water security and stabilizing local ecosystems.

It is important to note that as growth occurs and/or environmental conditions change, Sarasota County will assess those impacts to identify potential enhancements and implement mitigation actions to enhance resilience to droughts and extreme heat.

Flooding

Definition

Flooding can be defined as an overflowing of water onto land that is normally dry.⁵⁰ The type and intensity of flooding is influenced by both natural and human-induced factors. Natural variables include precipitation patterns, topography, vegetation cover, soil composition, and seasonal variations. Human activities, such as urban expansion, increased impervious surfaces, land use changes—including deforestation and agricultural practices that contribute to soil erosion—and the construction of flood control infrastructure like levees and dams, also play a significant role.

Flooding in Sarasota County is often triggered by extreme precipitation events associated with mid-latitude cyclones, thunderstorms, or hurricanes. Due to its proximity to the ocean and low latitude, the

⁵⁰ NOAA National Severe Storms Laboratory, “Severe Weather 101: What Is Flooding?,” 2025, <https://www.nssl.noaa.gov/education/svrwx101/floods/#:~:text=Flooding%20is%20an%20overflowing%20of%20water%20onto%20land,it%20may%20cover%20a%20house%20to%20the%20rooftop.>

state of Florida experiences a Subtropical climate, with a wet (warm) season and dry (cooler) season rather than the typical four season cycle most U.S. regions see. During the dry (cooler) season, synoptical scale frontal weather systems produce heavy rainfall, contributing to river flooding. In contrast, wet (warm) season precipitation, often associated with isolated thunderstorms or hurricanes, can lead to localized flash flooding and seawater inundation. Warmer seasons are more prone to flash floods due to rapid water accumulation, as there are no synoptic scale fronts that bring cooling and drying to the otherwise humid environment. Whereas the cooler season tends to produce slower-developing river floods caused by slow moving synoptic scale fronts and sustained heavy streamflow.⁵¹

Flooding events fall into six primary categories: riverine flooding, flash flooding, ponding, backwater flooding, urban flooding, and coastal flooding.

- **Riverine Flooding:** Occurs along rivers and smaller streams due to excessive runoff from heavy rainfall or snowmelt. The rate at which water levels rise and recede depends on rainfall intensity, river capacity, and watershed characteristics. Smaller rivers experience rapid fluctuations, whereas larger systems, such as the Myakka River, exhibit slower changes. The shape and land cover of a drainage basin also affect flood behavior, with elongated and developed basins experiencing quicker peak discharges compared with circular, forested basins.
- **Flash Flooding:** Results from intense, short-duration rainfall overwhelming drainage systems and local stream channels. This type of flooding develops rapidly and poses significant risks to infrastructure and human safety.
- **Ponding:** Occurs when water accumulates in low-lying or concave areas, such as parking lots or roads, and may occur due to the nature of stormwater systems in which roadways serve as secondary conveyances.
- **Backwater Flooding:** Arises when water rises slowly from an unexpected direction, often in areas without adequate flood protection measures.
- **Urban Flooding:** A form of flash flooding specific to developed areas, where stormwater drainage systems become overwhelmed, causing water to accumulate on streets and other impervious surfaces. This type of flooding is commonly triggered by slow-moving thunderstorms or heavy downpours.
- **Coastal Flooding:** Involves seawater inundation of normally dry coastal land. Causes of coastal flooding include direct inundation when sea levels exceed land elevation, overtopping of natural or human-made barriers, or breaching of coastal defenses. Coastal flooding is typically driven by storm surges, tsunamis, or gradual sea-level rise.

The National Weather Service (NWS) monitors flooding through stream gauge data and precipitation forecasts issuing alerts on severity.

- **Flood Categories:**

⁵¹ National Weather Service, "The Onset of the Wet and Dry Seasons in East Central Florida – A Subtropical Wet-Dry Climate?," 2002, <https://www.weather.gov/media/mlb/climate/wetdryseason.pdf>.

- > **Minor Flooding:** Minimal property damage, though some public hazards may arise.
 - > **Moderate Flooding:** Inundation of roads and structures near water bodies, requiring localized evacuations and property relocation to higher ground.
 - > **Major Flooding:** Extensive inundation with significant evacuations and property damage.
 - > **Record Flooding:** Occurs when water levels exceed previously recorded maximums at a given location.
- **Flood Alerts:**
 - > **Flood Advisory:** Issued when minor or nuisance flooding is occurring or imminent.
 - > **Flood Warning:** Issued when a Flash Flood is imminent or occurring and life or property is at risk due to significant flooding along major streams.
 - > **Flood Watch:** Indicates conditions favorable for flooding but does not guarantee immediate occurrence.
 - > **Flash Flood Watch:** Issued when a Flash Flood is possible, generally listed as specific note under the Flood Watch.
 - > **Flash Flood Warning:** Issued when Flash Flooding is imminent or occurring, on three tiers of risk: Base, Considerable, and Catastrophic.
 - > **Flash Flood Emergency:** Issued when a Flash Flood is a major threat to life or potential for catastrophic damage. These are rare warnings based on a confirmed rapid rise in water, an unusual water level, or complete failure of a high-hazard dam.

These classification systems and monitoring efforts help mitigate flood risks by providing timely information to communities and emergency management officials.

Location

Sarasota County is vulnerable to various types of flooding, including storm surge, riverine flooding, and flash flooding. Coastal areas, low-lying inland regions, and areas near rivers, creeks, and drainage basins are particularly susceptible. Heavy rainfall from tropical storms and hurricanes can overwhelm local drainage systems, leading to widespread flooding. Areas adjacent to the Myakka River, Phillippi Creek, and the Intracoastal Waterway are at heightened risk. Additionally, Siesta Key, in addition to being flood-prone, is located on a barrier island, and there may be transportation constraints during evacuations, increasing its vulnerability.

North Port experiences frequent flooding, particularly in areas near the Myakkahatchee Creek and Myakka River. Due to their location at the end of the Big Slough Watershed, the areas directly adjacent to the Myakkahatchee Creek are the most vulnerable to flooding. In addition, there is a broad vulnerable area—including a mobile home community east of the river—that is at risk due to its proximity to waterways. Urban development and an increase in impervious surfaces contribute to road ponding and localized flooding in low-lying and poorly drained areas.

The City of Sarasota, situated along Sarasota Bay, faces flood risks primarily from storm surges and heavy rainfall. Flood-prone locations include coastal neighborhoods, such as Lido Key, St. Armands, and areas near Sarasota Bay. Inland, the region surrounding Phillippi Creek and Hudson Bayou frequently experiences flooding due to poor drainage and rising water levels during storms. Downtown Sarasota and other urbanized districts with older stormwater systems are also vulnerable to flash flooding during intense rain events.

Venice is located along Florida's Gulf Coast and is particularly vulnerable to coastal flooding caused by storm surges and high tides. The Intracoastal Waterway and local drainage channels, such as Curry Creek and Hatchett Creek, can contribute to inland flooding during heavy rainfall. Low-lying neighborhoods, including areas near Venice Beach, Roberts Bay, and Dona Bay, are among the most flood-prone zones. The city actively participates in the National Flood Insurance Program (NFIP) to mitigate flood risks.

As a barrier island extending between Sarasota and Manatee Counties, Longboat Key is highly susceptible to coastal flooding, storm surges, and tidal inundation. During hurricanes or strong storm systems, the island can experience significant over wash, particularly in low-elevation areas near Gulf of Mexico Drive. In addition, heavy rainfall can cause temporary flooding in residential areas where drainage is limited.

Sarasota Memorial Hospital is in a coastal zone, making it susceptible to flooding from storm surges and heavy rainfall. To mitigate flood risks, the hospital has implemented extensive flood-prevention measures, including reinforced structures, water barriers, and emergency preparedness systems. Nearby areas along Hudson Bayou and Sarasota Bay are known to experience periodic flooding during extreme weather conditions.

The Ringling Museum is located just southwest of the airport on Sarasota Bay. Due to its location, water intrusion at high tide and flooding caused by storms are regular occurrences in museum facilities. A drainage system and retention ponds help to convey floodwater away from the historic buildings, but they are inadequate even under moderate conditions. In previous flood events, the basement of the historic home on the grounds was flooded, destroying mechanical equipment.

The Englewood Fire District covers areas in both Sarasota and Charlotte Counties, including Englewood, Rotonda West, and surrounding communities. Flooding is common in low-lying areas near Lemon Bay, Forked Creek, and the Myakka River. Coastal storm surges and heavy rainfall can exacerbate flooding in residential and commercial districts. The district regularly updates flood preparedness plans to protect residents and properties from the impacts of severe weather events.

Concerns raised within the public survey highlight several key areas of vulnerability across Sarasota County. Respondents from Venice frequently noted issues related to flooding, drainage, and stormwater management. In North Port, participants identified inland flooding, infrastructure weaknesses, and power outage vulnerability as significant challenges, warranting inclusion in both the riverine and inland flood analyses. Residents and stakeholders from Lido Key, Longboat Key, and Casey Key expressed high concern regarding coastal storm surge, erosion, and limited access during emergencies, common issues for barrier island communities. Respondents from Fruitville, Bee Ridge, and Gulf Gate emphasized localized drainage and stormwater management problems that contribute to frequent nuisance flooding. Finally,

communities in Englewood, Laurel, Nokomis, and Myakka highlighted increased flood exposure and evacuation challenges facing southern and rural areas of the county, emphasizing the need for improved infrastructure resilience and emergency accessibility during flood events.

Extent

Flood magnitude and frequency are primarily measured using probability-based assessments, which estimate the likelihood of specific discharge levels being reached or exceeded each year. This probability is determined through historical flood records and statistical analyses. The discharge probability is calculated as the inverse of flood frequency, where flood frequency is determined by dividing 100 by the discharge probability. For example, a flood event with a 10-year recurrence interval has a 10% probability of occurring in a given year, whereas a 100-year flood has a 1% probability, and a 500-year flood has a 0.2% probability. Figure 10 shows FEMA's definitions related to flooding, including 100- and 500-year floodplains.

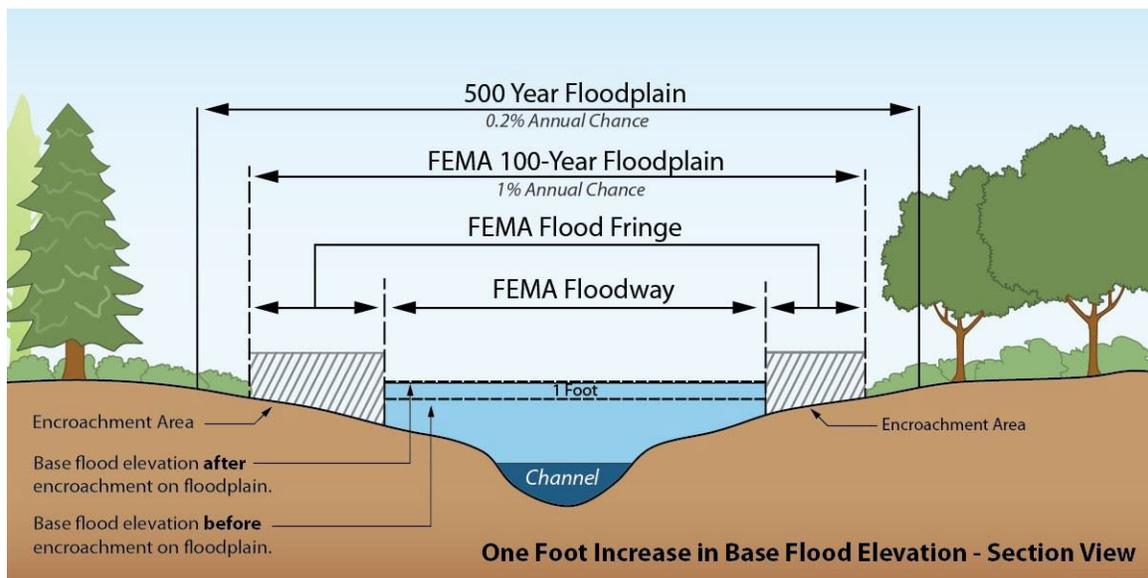


Figure 10: Schematic of 100- and 500-Year Floodplain⁵²

It is important to note that the term “100-year flood” does not imply that such an event will occur only once in a century. Instead, it signifies that there is a 1% chance of such a flood occurring in a given year. Consequently, a 100-year flood could occur in consecutive years or multiple times in a decade. Similarly, a 500-year flood has a 0.2% probability of occurring in a given year, meaning structures in a 500-year floodplain are still at risk, though at a lower probability than those in a 100-year flood zone.⁵³ To improve public understanding, the Association of State Floodplain Managers (ASFPM) expresses the 100-year flood event as having a 25% probability of occurring at least once over the life of a 30-year mortgage.

⁵² Pierce County, WA, “FEMA Floodway,” <https://www.piercecountywa.gov/7215/FEMA-Floodway>.

⁵³ Federal Emergency Management Agency (FEMA), “Flood Insurance,” 2021. <https://www.fema.gov/flood-insurance>.

The 1% Special Flood Hazard Area (SFHA) (100-year floodplain) designates regions with a 1% annual chance of flooding, also referred to as the base flood. Some agencies, including FEMA and the NFIP, describe this as the 1% Annual Exceedance Probability (AEP) flood.⁵⁴ The 0.2% SFHA (500-year floodplain) includes areas with a 0.2% annual chance of experiencing flooding. Although less frequent, such events can still cause significant damage when they occur. Figure 11 shows the locations of 100- and 500-year floodplain areas in Florida.

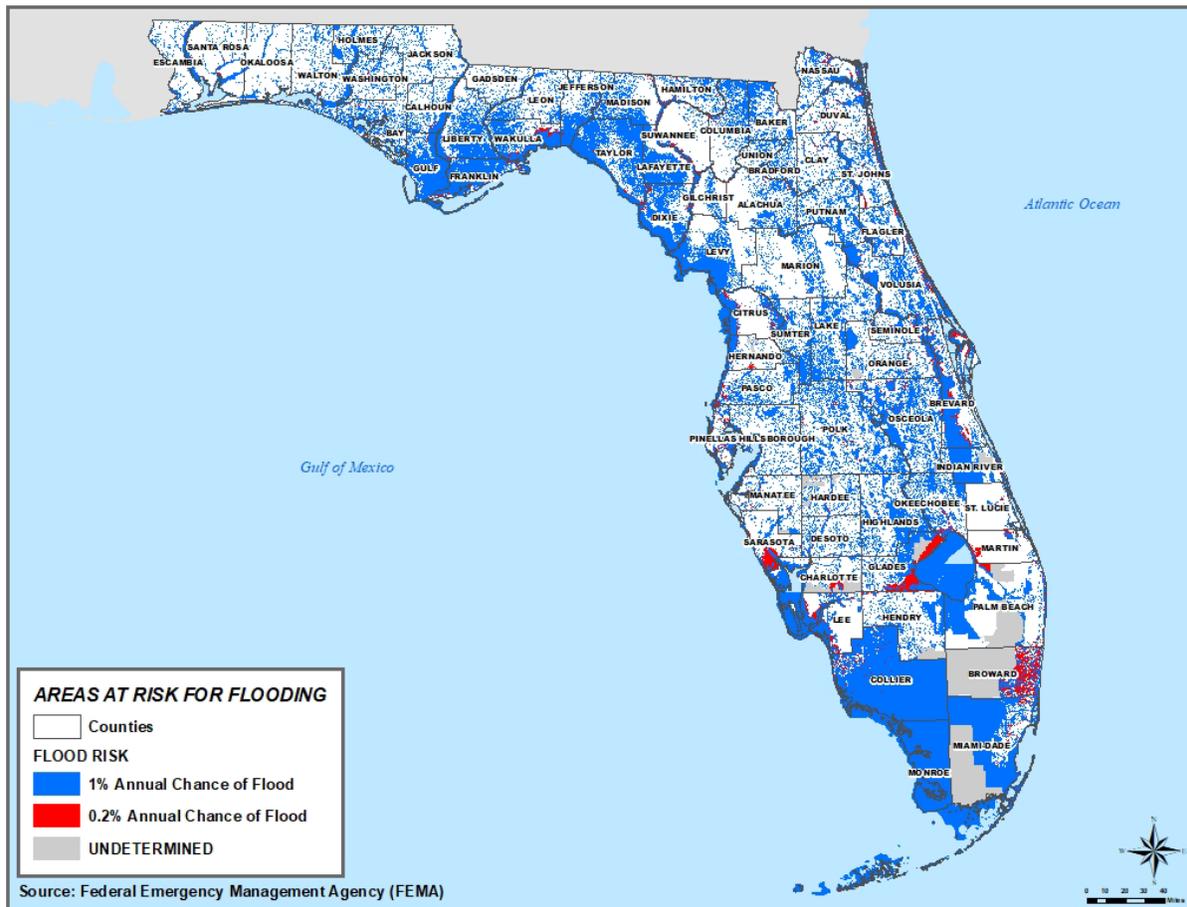


Figure 11: Location of 100- and 500-Year Floodplain Areas in Florida

Floodplain management regulations enforce flood mitigation strategies in SFHAs to minimize risk and financial loss. The 100-year flood event is particularly significant, as it serves as the regulatory benchmark for flood insurance requirements. Properties located in SFHAs must adhere to NFIP guidelines, and owners of federally backed mortgages are required to carry flood insurance.

⁵⁴ Federal Emergency Management Agency, "FEMA Flood Risk Communication Toolkit for Community Officials," 2025, retrieved from <https://www.fema.gov/floodplain-management/manage-risk/communication-toolkit-community-officials>.

JURISDICTIONAL IMPACTS

Flooding presents a significant challenge across various jurisdictions in Sarasota County, affecting infrastructure, public services, and local economies. The impacts vary by location, with coastal areas more typically facing heightened risks from storm surges, while inland communities may experience severe inundation from heavy rainfall and overflowing waterways. Critical facilities, including hospitals and transportation hubs, must implement mitigation measures to maintain operations during flood events.

Table 16 provides a detailed breakdown of how different municipalities and key facilities in Sarasota County are affected by flooding. The table highlights disruptions to infrastructure, emergency response efforts, economic stability, and public safety. Understanding these localized impacts is essential for developing targeted mitigation strategies and improving overall community resilience.

Table 16: Impacts of Flooding on the Jurisdictions

Participant	Impacts
Sarasota County	<ul style="list-style-type: none"> • Widespread Flooding: Heavy rainfall and storm surges have led to extensive flooding across Sarasota County, affecting both urban and rural areas. • Infrastructure Damage: Floodwaters have compromised roads, bridges, and public utilities, leading to disruptions in transportation and essential services. • Economic Impact: Flooding can halt business operations, particularly in sectors like tourism, which is vital to Sarasota. The loss of income can affect local employment and tax revenues. • Environmental Effects: Flooding can lead to erosion, habitat destruction, and changes in water quality. The influx of contaminated water can harm local ecosystems and wildlife. • Public Health Risks: Stagnant water can become a breeding ground for mosquitoes and other pests, increasing the risk of disease. Additionally, flooding can contaminate drinking water supplies, posing health risks to residents. • Transportation Disruption: Flooded roads can impede travel and emergency response efforts. This disruption can affect supply chains and access to essential services. • Insurance and Financial Strain: Home and business owners may face increased insurance premiums or challenges in obtaining coverage. This financial strain can have long-term implications for the community. • Community Displacement: In severe cases, flooding can force residents to evacuate their homes, leading to temporary or permanent displacement. This can strain local resources and social services.
City of North Port	<ul style="list-style-type: none"> • Severe Inundation: North Port has experienced significant flooding, with many neighborhoods submerged, leading to property damage and displacement of residents. • Emergency Evacuations: Rising waters have necessitated evacuations and swift water rescues, straining local emergency response teams.

Participant	Impacts
City of Sarasota	<ul style="list-style-type: none"> • Urban Flooding: Low-lying areas in the City of Sarasota have faced urban flooding, impacting homes, businesses, and public spaces. • Economic Disruptions: Flooding has affected local commerce, leading to temporary closures of businesses and financial losses.
City of Venice	<ul style="list-style-type: none"> • Coastal Flooding: Venice has been particularly vulnerable to storm surges, resulting in coastal flooding that has damaged properties and infrastructure. • Water Supply Interruptions: Flooding has led to disruptions in water services, affecting both residents and businesses.
Town of Longboat Key	<ul style="list-style-type: none"> • Barrier Island Vulnerabilities: As a barrier island, Longboat Key is susceptible to storm surges and flooding, leading to property damage and beach erosion. • Access Challenges: Flooded roadways have hindered access to and from the island, complicating evacuation and emergency response efforts.
Sarasota Memorial Hospital	<ul style="list-style-type: none"> • Operational Strain: Flooding has increased patient intake due to flood-related injuries and illnesses, putting additional pressure on hospital resources. • Infrastructure Protection: The hospital has had to implement flood mitigation measures to protect critical infrastructure and ensure continuous operations.
Sarasota Schools	<ul style="list-style-type: none"> • Flooding events may impact school activities and result in closures. Flooding has affected some of the schools' shelter sites in the past.
Sarasota Manatee Airport Authority	<ul style="list-style-type: none"> • Sarasota Manatee Airport Authority has excluded this hazard from its hazard mitigation planning process since the airport is situated 30 feet above sea level, with a low probability of experiencing impactful flooding.
Englewood Fire District	<ul style="list-style-type: none"> • Increased Emergency Calls: The fire district has experienced a surge in emergency calls related to flooding, requiring swift response to water rescues and property damage incidents. • Resource Allocation: Flooding has necessitated the reallocation of resources to address flood-related emergencies, impacting routine operations.
The Ringling Museum	<ul style="list-style-type: none"> • Facility Damage: Floodwaters have entered historic buildings on the Museum grounds, damaging the facilities and mechanical equipment. • Programming Disruptions: Damage from floods has forced facilities to be closed and has interfered with planned museum programming for visitors.

Figure 12 through Figure 15 display the 100- and 500-year floodplains for Sarasota County and its jurisdictions.

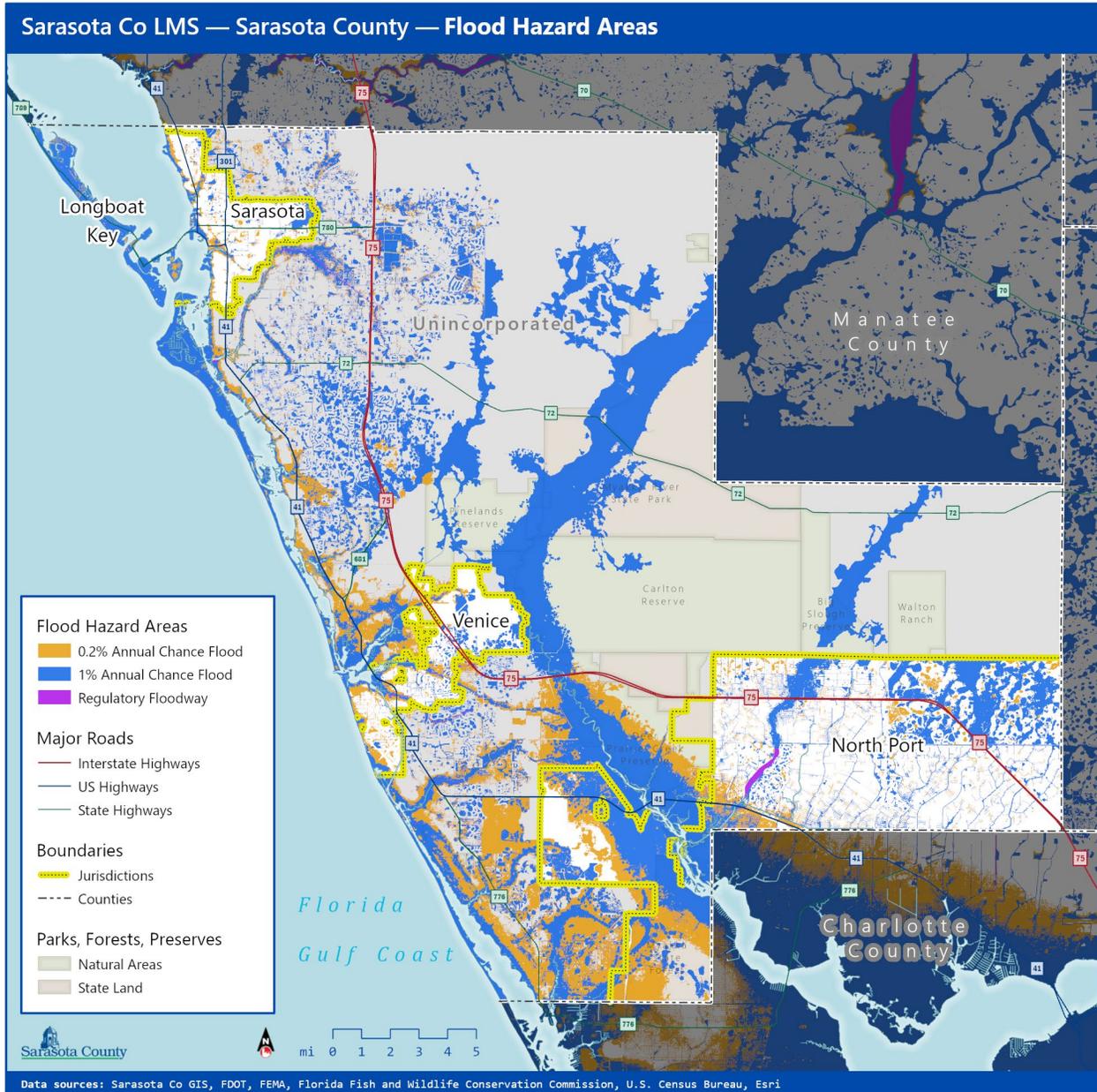


Figure 12: Sarasota County Flood Zone Map

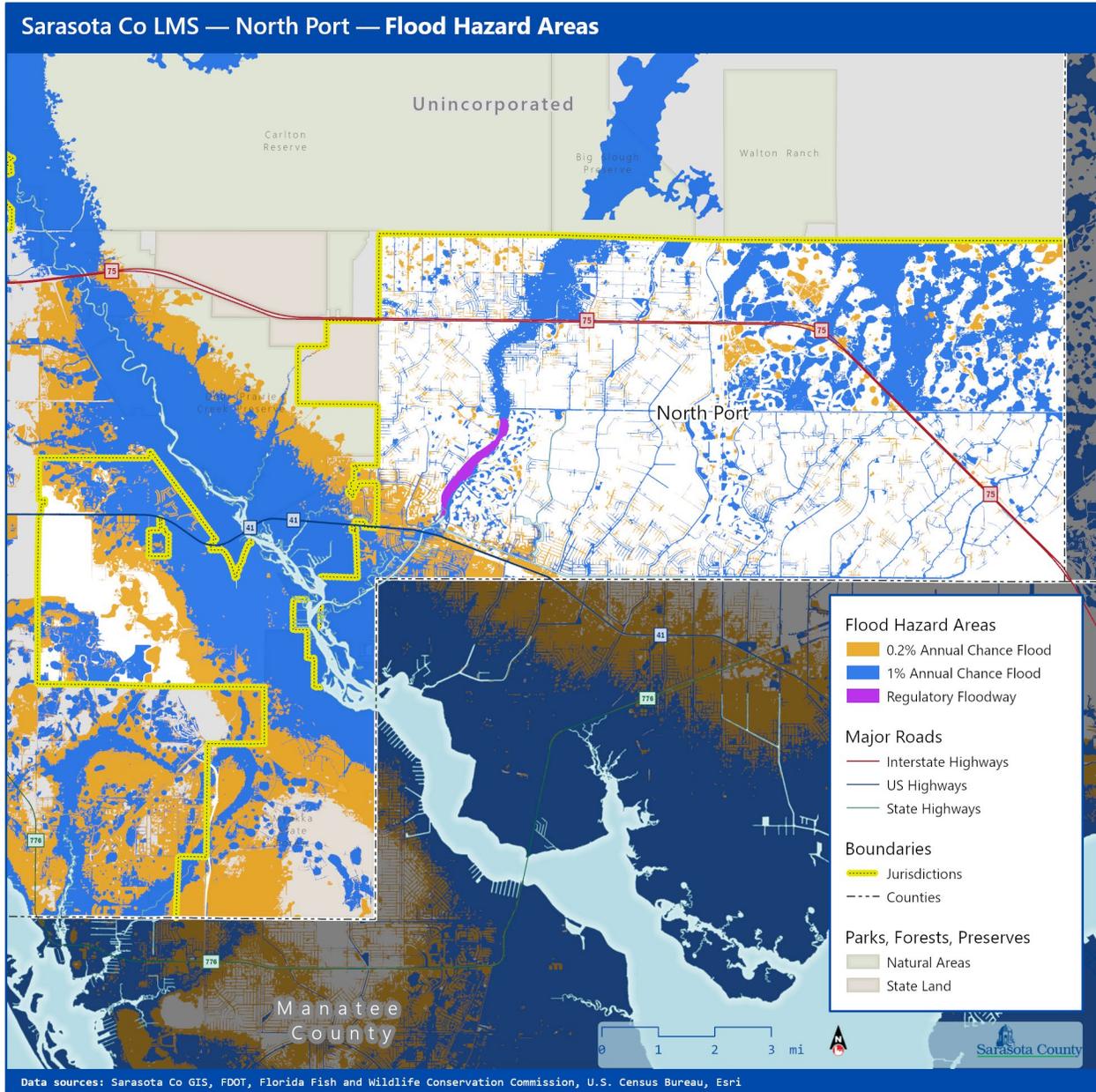


Figure 13: City of North Port Flood Zone Map

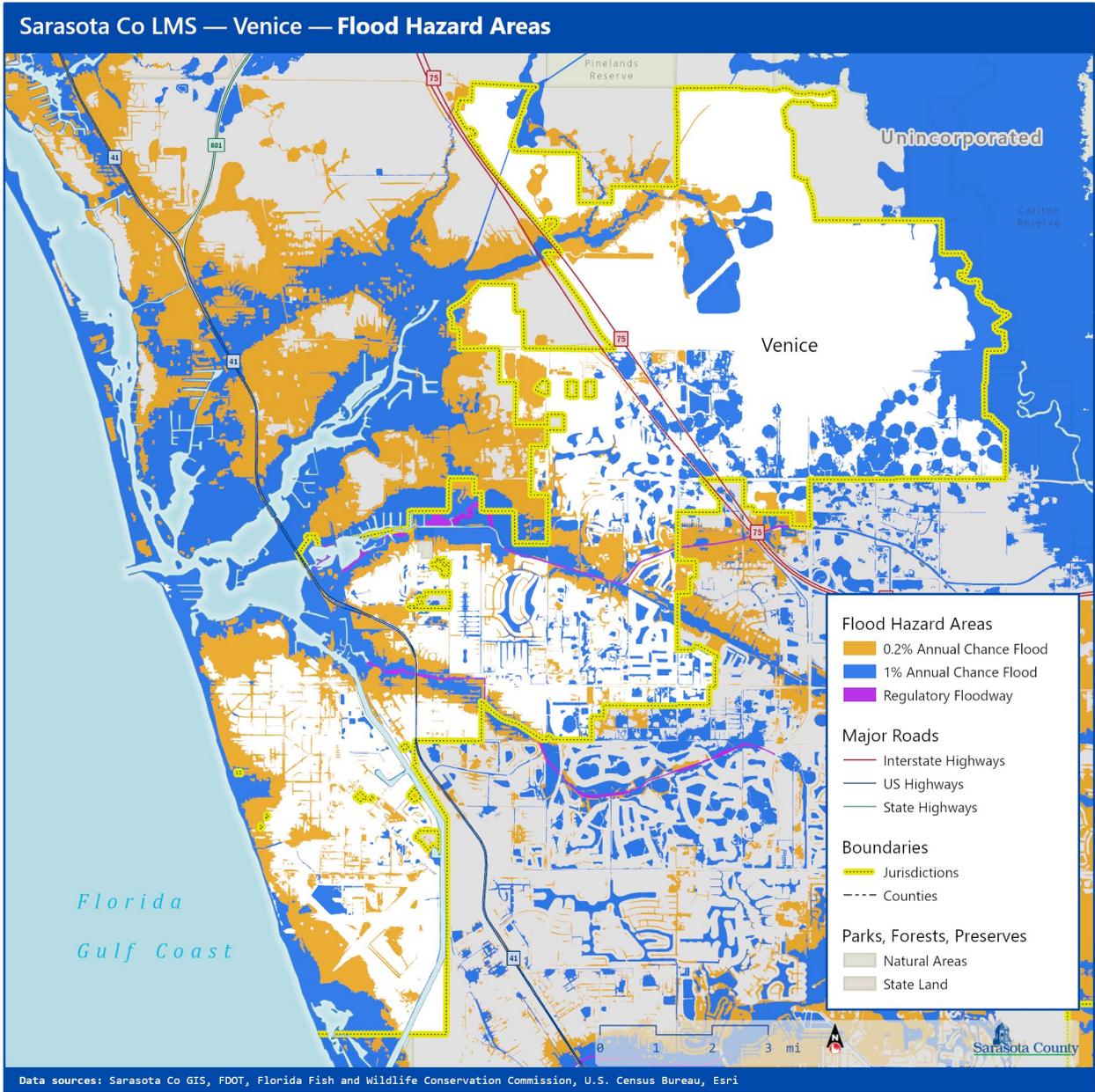


Figure 14: City of Venice Flood Zone Map

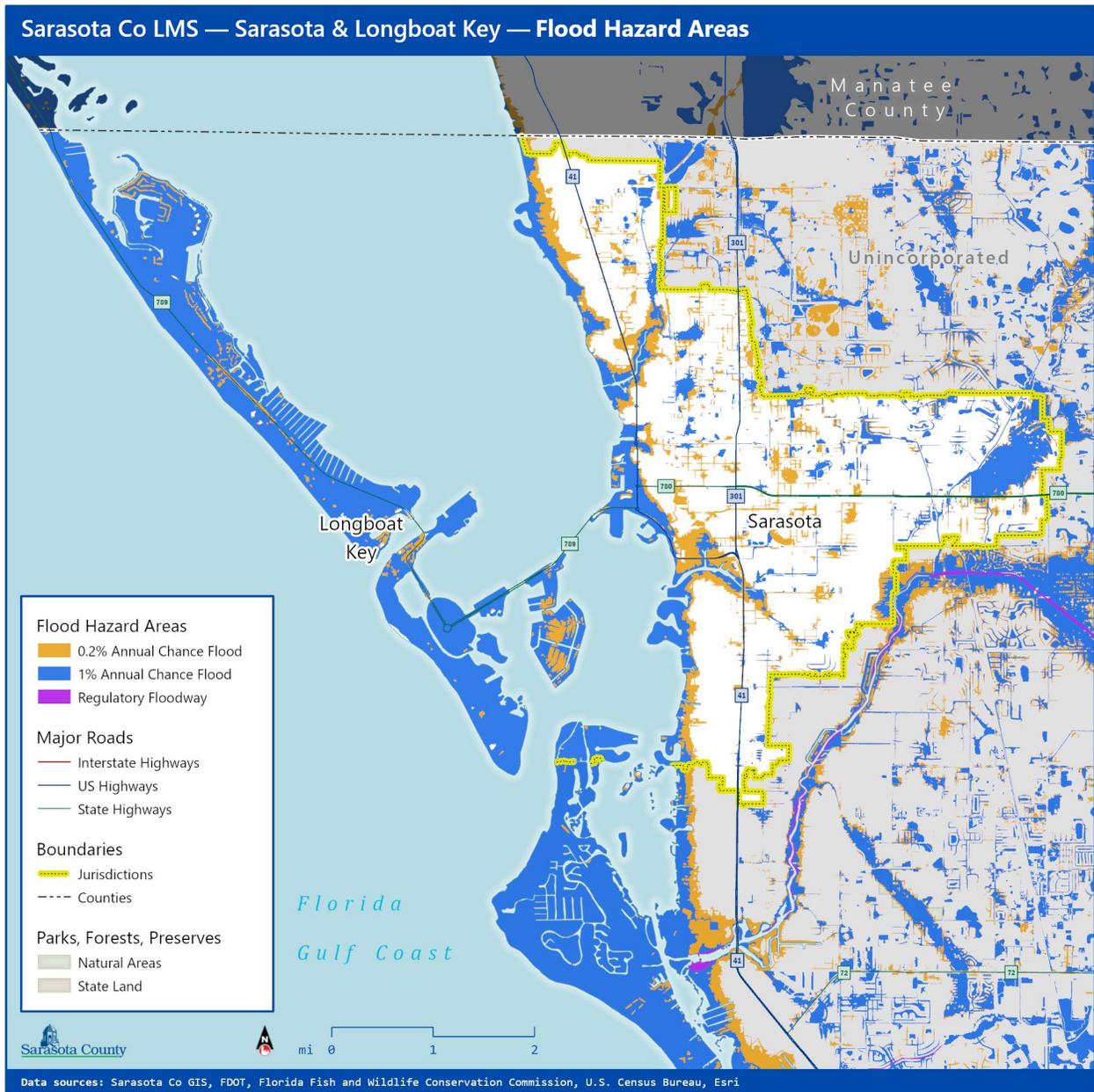


Figure 15: Town of Longboat Key and City of Sarasota Flood Zone Map

NATIONAL RISK INDEX

The NRI provides data on the expected annual losses and overall risk of individual hazards at the county level. Table 17 provides an overview of each category at the county level for the hazard of flooding. Figure 16 shows the risk of riverine flooding in Sarasota County, while Figure 17 shows the risk for coastal flooding.

Table 17: National Risk Index for Riverine Flooding for Sarasota County

Expected Annual Losses	Overall Risk Rating
Relatively Low	Relatively Low

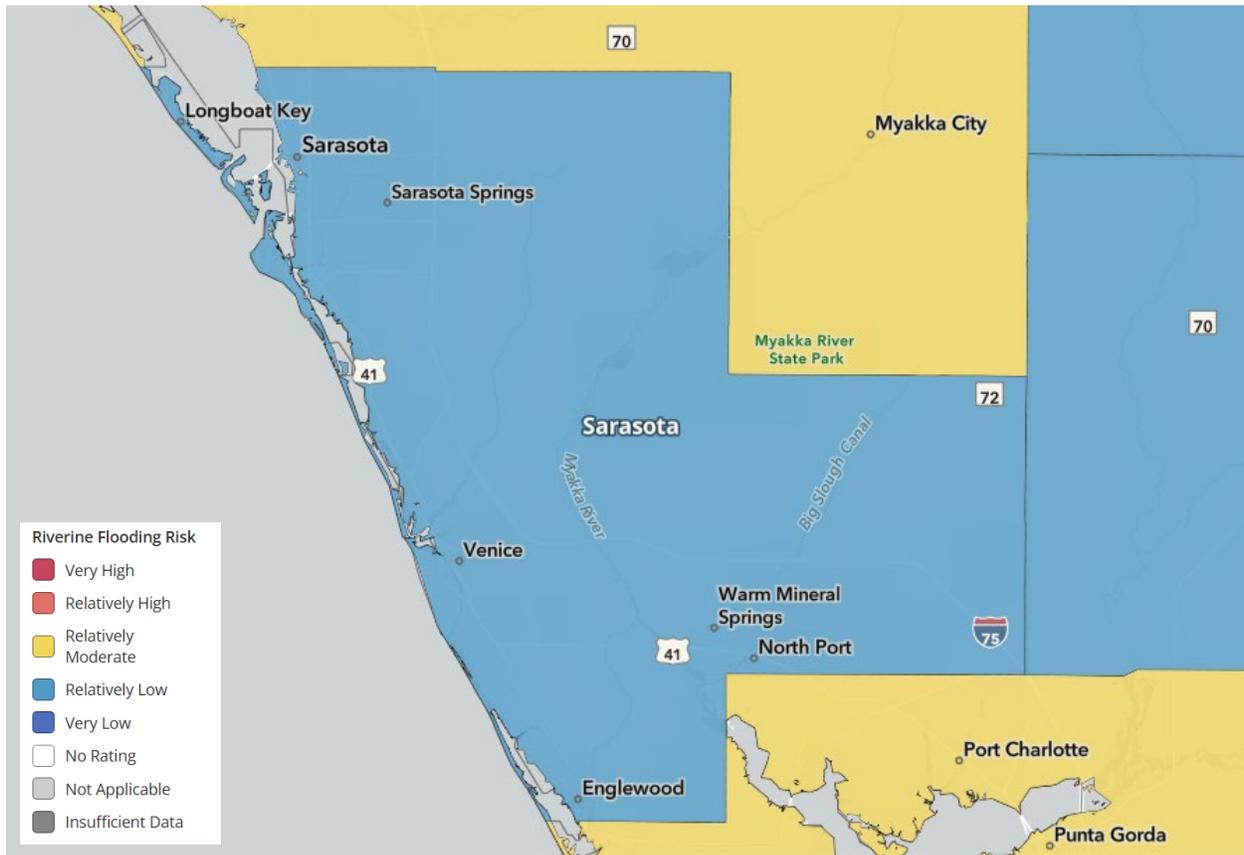


Figure 16: National Risk Index for Riverine Flooding in Sarasota County

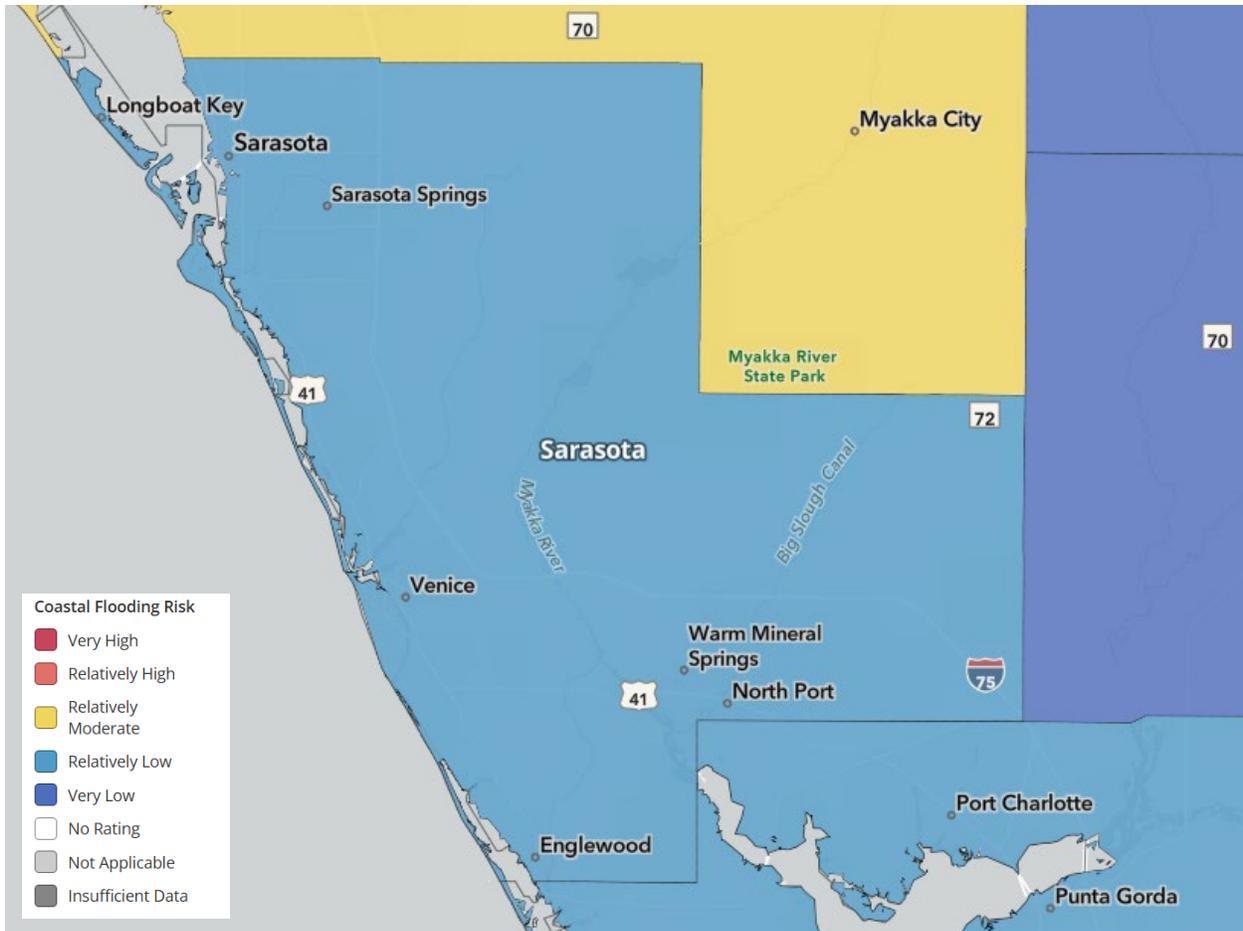


Figure 17: National Risk Index for Coastal Flooding in Sarasota County

Previous Occurrences (2019–2024)

Since 1996, there have been 48 flooding events within the planning boundaries of Sarasota County. Table 18 lists the 12 events that have occurred since 2019.

Table 18: Flooding Events in Sarasota County, 2019–2024⁵⁵

Location	Date	Event	Deaths
Sunnyland	6/6/2020	Flood – Tropical Storm Cristobal	0
Belspur	6/6/2020	Flood – Tropical Storm Cristobal	0
Osprey	6/6/2020	Flood – Tropical Storm Cristobal	0

⁵⁵ NOAA, NCEI, “Storm Events Database,” retrieved from <https://www.ncdc.noaa.gov/stormevents/>. Emergency Management added information from Hurricanes Helene and Debby, as the NCEI database did not include this information for flooding events impacting Sarasota County.

Location	Date	Event	Deaths
Coastal Sarasota (Zone)	11/11/2020	Storm Surge/Tide – Hurricane Eta	0
Warm Mineral Springs	7/7/2021	Flood – Hurricane Elsa	0
Coastal Sarasota (Zone)	9/28/2022	Storm Surge/Tide – Hurricane Ian	0
North Port	9/30/2023	Flood (thunderstorm)	0
Siesta Key, Sarasota, and Coral Cove	6/11/2024	Flood (tropical disturbance)	0
Sarasota	8/5/2024	Flood- Hurricane Debby	1
Sarasota	9/28/2024	Storm Surge- Hurricane Helene	0
Sarasota	10/9/2024	Flash Flood – Hurricane Milton	0
Coastal Sarasota (Zone)	10/9/2024	Storm Surge/Tide – Hurricane Milton	0

Table 19 lists all federal disaster declarations related to flooding events in Sarasota County.

Table 19: Federal Disaster Declarations in Sarasota County, 1960–2025

Disaster Declaration	Year	Type	Incident	Storm
DR-252-FL	1969	DR	Hurricane	Hurricane Gladys
DR-337-FL	1972	DR	Coastal Storm	Tropical Storm Agnes
DR-664-FL	1982	DR	Flood	Severe Storms and Flooding
DR-952-FL	1992	DR	Flood	Severe Storms and Flooding
EM-3131-FL	1998	EM	Hurricane	Hurricane Georges
EM-3150-FL	2000	EM	Hurricane	Tropical Storm Irene – Florida
DR-1393-FL	2001	DR	Coastal Storm	Severe Storms, Tornadoes and Flooding Associated with Tropical Storm Gabrielle
DR-1545-FL	2004	DR	Hurricane	Hurricane Frances
DR-1539-FL	2004	DR	Hurricane	Tropical Storm Bonnie and Hurricane Charley
DR-1561-FL	2004	DR	Hurricane	Hurricane Jeanne
DR-1551-FL	2004	DR	Hurricane	Hurricane Ivan
EM-3220-FL	2005	EM	Hurricane	Hurricane Katrina Evacuation

Disaster Declaration	Year	Type	Incident	Storm
DR-1609-FL	2006	DR	Hurricane	Hurricane Wilma
DR-4280-FL	2016	DR	Hurricane	Hurricane Hermine
DR-4337-FL	2017	DR	Hurricane	Hurricane Irma
EM-3385-FL	2017	EM	Hurricane	Hurricane Irma
EM-3419-FL	2019	EM	Hurricane	Hurricane Dorian
EM-3551-FL	2021	EM	Hurricane	Hurricane Eta
DR-4673-FL	2022	DR	Hurricane	Hurricane Ian
EM-3584-FL	2022	EM	Hurricane	Tropical Storm Ian
DR-4680-FL	2023	DR	Hurricane	Hurricane Nicole
DR-4734-FL	2023	DR	Hurricane	Hurricane Idalia
DR-4806-FL	2024	DR	Hurricane	Hurricane Debby
DR-4828-FL	2024	DR	Hurricane	Hurricane Helene
EM-3622-FL	2025	EM	Hurricane	Hurricane Milton
DR-4834-FL	2025	DR	Hurricane	Hurricane Milton

Probability of Future Conditions

The National Centers for Environmental Information (NCEI) Storm Events Database identified 48 flooding occurrences within the boundaries of the Sarasota County planning area since 1996. This results in approximately 1 to 2 flood occurrences each year. This provides a high probability ranking (see Table 20).

Table 20: Probability Rating for the Local Mitigation Strategy Plan

2023 SHMP Probability Ranking	
High	1+ occurrences each year
Medium-High	One occurrence every 3 years
Medium	One occurrence every 5-7 years
Low	One occurrence every 10 years
Not Identified	Hazard Not Profiled

The probability of flooding in Sarasota County is expected to continue to be a potential issue, as such continued resilience and sustainable development strategies are necessary. As Sarasota County continues

to grow, modifications to land use, particularly in flood-prone zones, require consideration of flooding vulnerabilities.

Sarasota County may experience more frequent and intense flood events in the coming decades. Addressing these concerns requires proactive floodplain management, updated infrastructure to accommodate increased runoff, and strategies to mitigate against long-term flooding impacts.

Vulnerability Assessment

Sarasota County faces vulnerability to flooding due to its low-lying coastal geography, extensive waterways, and seasonal storm activity. The region is particularly susceptible to storm surge and heavy rainfall, which can lead to coastal, riverine, and urban flooding. During severe flood events, water management systems may become overwhelmed, resulting in prolonged water accumulation and property damage. Low-lying coastal communities, along with areas adjacent to rivers and bays, are at heightened risk, especially during hurricane season and extreme weather events. In addition, flooding can impact groundwater quality by introducing contaminants, raising the potential for public health risks.

Beyond the immediate physical damage caused by floodwater, secondary impacts can have long-term consequences for residents and the local economy. Infrastructure damage, including washed-out roads, power outages, and overwhelmed wastewater systems, can disrupt essential services and transportation. Prolonged flood conditions may lead to mold growth and structural deterioration in buildings, increasing repair and insurance costs for property owners. Businesses may experience economic losses due to closures, supply chain interruptions, and declining tourism. Environmental impacts include erosion of coastal and inland areas, loss of habitat for wildlife, and increased pollution in waterways. In addition, stagnant floodwaters create breeding grounds for mosquitoes and waterborne diseases, heightening public health concerns.

Severe or recurrent flooding can also exacerbate social vulnerabilities by displacing residents, particularly those in flood-prone or low-income areas who may lack resources for recovery. Psychological stress and financial hardship from repeated flood events can weaken community resilience and reduce public confidence in local flood mitigation efforts. Sarasota County should continue to improve flood prevention measures, drainage infrastructure, and land-use policies to minimize the long-term impacts of future flood events.

NATURAL FLOODPLAIN FUNCTIONS

Sarasota County floodplains provide critical natural functions that reduce the risk of flooding while supporting ecological systems and community resilience. These areas include coastal wetlands, estuaries, river corridors, mangroves, and freshwater marshes, which serve as buffers against flooding and storm surges. Natural floodplains in areas such as the Myakka River, Phillippi Creek, and Hudson Bayou, as well as other tributaries, help reduce peak flows and minimize downstream impacts by storing and slowly releasing floodwater. These wetlands and low-lying basins help enhance natural infiltration and lessen runoff by relieving pressure on engineered stormwater systems during high-intensity rainfall.

Sediments, nutrients, and pollutants can be filtered by floodplain wetlands before they reach areas such as Sarasota Bay, Lemon Bay, and the Gulf. Water quality is maintained by trapping suspended particles and absorbing excess nutrients. Preserved riparian buffers along rivers and creeks are especially effective in improving water quality and in reducing nonpoint source pollution from urban and agricultural land uses.

The floodplains in Sarasota County also help sustain diverse ecosystems that provide habitats for fish, birds, and other wildlife. Coastal mangroves and estuaries provide nurseries for marine life while freshwater floodplains support other species and migratory birds. Maintaining these natural ecosystems promotes biodiversity conservation. Moreover, coastal mangrove systems and dunes provide natural barriers and serve as the first line of defense against storm surge impacts on inland communities and critical infrastructure.

Natural floodplains also provide recreational opportunities and other community benefits by enhancing the quality of life, supporting local tourism, and promoting environmental awareness while preserving spaces that reduce flood hazards. Sarasota County’s floodplain management program recognizes the importance of preserving and restoring natural floodplain functions, and it has taken an active role in incorporating provisions to limit encroachment into flood-prone areas through land development regulations, zoning ordinances, municipal stormwater programs, and building codes. Sarasota County’s participation in NFIP and CRS reflects the county’s continued commitment to balancing growth with the protection of floodplain functions.

IMPACTS ON ASSETS

Table 21 outlines the effects of flooding, detailing its impact on the public, first responders, continuity of operations, property, infrastructure, the environment, economic conditions, and public confidence.

Table 21: Consequence Analysis of Flooding

Area Affected	Consequences
Public	<ul style="list-style-type: none"> • Housing: Homes in flood-prone areas face a high risk of structural damage or complete loss due to prolonged water exposure and erosion. Even properties outside high-risk zones may suffer damage from flash flooding or overwhelmed drainage systems. • Casualties/Fatalities: The risk of drowning, injuries from debris, and waterborne diseases increases during flood events. Areas without adequate warning systems or emergency evacuation routes face higher casualty risks. • Work: Businesses may experience extended closures due to flood damage, road blockages, and power outages. Limited access to transportation routes can prevent employees from commuting, further impacting productivity. • Food/Water: Floodwaters can contaminate drinking water supplies, requiring extensive purification efforts. Emergency food provisions may be needed until supply chains are restored, and perishable goods can be restocked.
First Responders	<ul style="list-style-type: none"> • Flooding places additional strain on emergency personnel, requiring swift water rescues, evacuations, and hazard mitigation. In communities with volunteer-based

Area Affected	Consequences
	<p>emergency services, responders may be personally affected, reducing available personnel. Mutual aid agreements allow support from surrounding jurisdictions. Exposure to floodwaters increases health risks due to contaminants, mold, and waterborne pathogens.</p> <ul style="list-style-type: none"> Flooded infrastructure puts additional strain on response time and sometimes requires specialized equipment to access flooded areas.
Continuity of Operations	<ul style="list-style-type: none"> The ability of government agencies to maintain essential services depends on the extent of flood damage. If government buildings, emergency response centers, or utility facilities are compromised, restoration efforts may take significant time. Continuity of Operations (COOP) plans are critical in ensuring that essential functions remain active.
Property, Facility, and Infrastructure	<ul style="list-style-type: none"> Structures: Homes, businesses, and public facilities can suffer extensive damage from prolonged water exposure, leading to structural instability, mold growth, and material degradation. Buildings in low-lying areas may be completely submerged. Electricity: Floodwaters can damage substations, power lines, and electrical grids, leading to widespread outages. Repairs may be delayed if roads are impassable or if floodwaters persist. Water Systems including wastewater systems: Contaminated floodwaters can compromise treatment plants, distribution systems, and private wells. Power outages may exacerbate the issue by disabling pumps and filtration systems. Roads and Bridges: Heavy flooding can cause washouts, road collapses, and bridge failures, disrupting transportation and emergency response efforts. Sediment deposits, fallen trees, and standing water further hinder mobility.
Environment	<ul style="list-style-type: none"> Floodwaters can erode riverbanks, uproot vegetation, and deposit debris in waterways, altering ecosystems. Contaminants, such as sewage, chemicals, and hazardous materials, may spread through floodwaters, endangering wildlife and water quality. Standing water can also increase mosquito populations, raising concerns about vector-borne diseases.
Economic Conditions	<ul style="list-style-type: none"> Flooding can lead to severe economic consequences, particularly for small businesses and industries reliant on stable infrastructure. Prolonged closures, loss of inventory, and supply chain disruptions contribute to financial instability. If major commercial hubs experience significant flood damage, economic repercussions may extend regionally or even statewide.
Public Confidence	<ul style="list-style-type: none"> The efficiency of flood response, cleanup efforts, and rebuilding initiatives heavily influence public trust in government agencies and emergency management authorities. Delays in restoring utilities, repairing infrastructure, or providing assistance can lead to frustration and diminished confidence in disaster preparedness efforts.

IMPACT ON COMMUNITY LIFELINES

Flooding in Sarasota County can significantly disrupt FEMA’s community lifelines, which are essential services that support public safety and economic stability (see Figure 18).

Transportation systems often experience major disruptions as floodwaters render roads, bridges, and highways impassable, limiting access for emergency responders and delaying supply chain operations. Communication networks can also be affected, as floodwaters may damage cellular towers, fiber optic cables, and power lines, leading to service outages that hinder emergency coordination and public information dissemination.

The energy sector is vulnerable as well, with flooded substations and damaged power lines causing widespread electrical outages, impacting both residential and commercial areas. Prolonged power disruptions can also affect water treatment facilities, exacerbating issues in the water and wastewater systems. Contaminated floodwaters pose health risks by overwhelming drainage systems and sewage infrastructure, leading to potential waterborne illnesses and hazardous conditions.

Flooding can also compromise the health and medical lifeline, particularly if hospitals such as Sarasota Memorial Hospital experience structural damage, access limitations, or power disruptions. Emergency medical services may face delays, while nursing homes and other healthcare facilities may require evacuations due to rising waters. In addition, flooding threatens food, water, and shelter resources, as grocery stores, distribution centers, and food supply chains may be disrupted, leading to shortages. Shelters may become overcrowded as displaced residents seek safety from floodwaters.

Economic impacts on hazardous material facilities and industrial sites can also lead to chemical spills or environmental contamination, affecting both public safety and long-term recovery efforts. Businesses and essential services may be forced to close temporarily, leading to financial losses and employment disruptions. The cumulative impact of flooding on these lifelines underscores the need for comprehensive flood mitigation strategies and emergency response planning to minimize risks and enhance community resilience in Sarasota County.

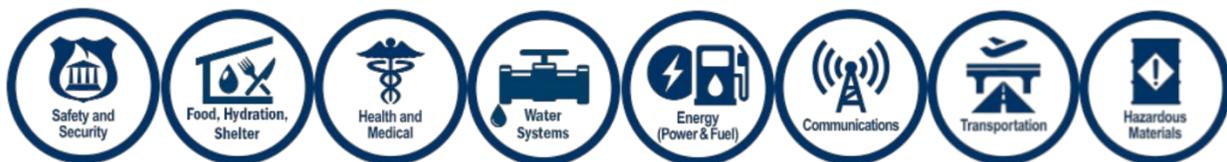


Figure 18: Federal Emergency Management Agency’s Community Lifelines

Building codes and development regulations in Sarasota County play a crucial role in mitigating the impacts of flooding by ensuring resilient construction and improved water management practices. Local building codes, floodplain regulations, and zoning requirements are designed to minimize flood risks by enforcing elevated construction, proper drainage systems, and the use of flood-resistant materials. Sarasota County follows FEMA floodplain management guidelines and Florida Building Code (FBC) standards, which require that new developments in flood-prone areas meet elevation and structural reinforcement criteria to reduce flood damage.

Stormwater management regulations also mandate retention ponds, permeable surfaces, and improved drainage infrastructure to control runoff and prevent urban flooding. The Sarasota County Land Development Code outlines specific requirements for site planning and construction in flood zones,

ensuring that new developments do not exacerbate flooding risks. Local municipalities, including the Cities of Sarasota, North Port, and Venice and the Town of Longboat Key, enforce these codes to safeguard residential and commercial structures from flood hazards. Additionally, Sarasota County has enhanced its flood response and rescue capabilities by adding marine vessels and high-water vehicles for shallow-water rescues.

By implementing strict floodplain management and resilient building practices, Sarasota County reduces the overall vulnerability of properties and infrastructure to flooding. These regulations not only help protect lives and property but also contribute to lower flood insurance costs for residents under the NFIP. Continued focus on building codes and land-use policies will be essential in ensuring long-term flood resilience for the county.

It is important to note that as growth occurs and/or environmental conditions change, Sarasota County will assess those impacts to identify potential enhancements and implement mitigation actions to enhance resilience to flooding.

National Flood Insurance Program

Flood insurance statistics show that Sarasota County and its jurisdictions have 14,130 NFIP policies, for a total annual premium of \$71,126,595. Sarasota County, the City of North Port, the City of Sarasota, the City of Venice, and the Town of Longboat Key all participate in the NFIP. Sarasota County and its jurisdictions will continue to adopt and enforce floodplain management requirements, including regulating new construction SFHAs, and will continue to monitor activities, including local requests for new map updates. Flood insurance statistics and additional NFIP participation details for Sarasota County and its jurisdictions are in Table 22 and Table 23.

Table 22: Data on the National Flood Insurance Program for Sarasota County

Participant	# Insured	Total Insurance Coverage Value	Annual Premiums Paid	Claims Filed Since 1978	Total Loss
Sarasota County	38,717	\$10,502,845,800	\$44,887,417	9,956	\$363,850,097
City of North Port	4,094	\$1,209,572,200	\$3,462,299	371	\$16,468,880
City of Sarasota	8,231	\$2,193,611,000	\$11,086,358	2,085	\$88,316,047
City of Venice	6,013	\$1,500,235,200	\$6,216,076	1,065	\$33,732,023
Town of Longboat Key	5,860	\$1,448,883,000	\$5,474,445	833	\$23,543,545
Sarasota Memorial Hospital	N/A	N/A	N/A	N/A	N/A
Sarasota Manatee Airport Authority	N/A	N/A	N/A	N/A	N/A

Participant	# Insured	Total Insurance Coverage Value	Annual Premiums Paid	Claims Filed Since 1978	Total Loss
Englewood Fire District	N/A	N/A	N/A	N/A	N/A

Table 23: National Flood Insurance Program Policies for Sarasota County⁵⁶

CID	Community	Initial FHBM	Initial FIRM	Effective Map Date	Adoption Date	Date Joined	Tribal
125144B	Sarasota County	7/10/1970	7/31/1971	3/27/2024	2024	7/30/1971	No
120279B	City of North Port	6/10/1977	9/2/1981	3/27/2024	2024	9/2/1981	No
125150B	City of Sarasota	—	7/31/1971	3/27/2024	2024	7/30/1971	No
125154B	City of Venice	8/26/1970	7/31/1971	3/27/2024	2024	7/30/1971	No
125126B	Town of Longboat Key	4/25/1970	7/30/1971	3/27/2024	2024	7/30/1971	No

COMMUNITY RATING SYSTEM

According to the Community Rating System (CRS) list of eligible communities, Sarasota County and the City of North Port, City of Sarasota, City of Venice, and the town of Longboat Key all participate in the CRS. Table 24 outlines the details for the CRS jurisdictions.

Table 24: Community Rating System for the Jurisdictions⁵⁷

CID	Community	CRS Entry Date	Effective Date	Current Class	% Discount
125144B	Sarasota County	10/1/1992	5/1/2007	5	25%
120279B	City of North Port	10/1/1992	5/1/2020	5	25%
125150B	City of Sarasota	10/1/1991	4/1/2022	5	25%
125154B	City of Venice	10/1/1991	10/1/2005	6	20%
125126B	Town of Longboat Key	10/1/1991	5/1/2020	6	20%

⁵⁶ CID = Community ID, FIRM = Flood Insurance Rate Map, FHBM = Flood Hazard Boundary Map.

⁵⁷ CID = Community ID, CRS = Community Rating System.

REPETITIVE AND SEVERE REPETITIVE LOSS PROPERTIES

Repetitive loss structures are properties insured under the NFIP that have sustained flood-related damage multiple times. These structures meet the following conditions:

- They have experienced flood damage on at least two occasions, where the cost of repairs, on average, was at least 25% of the property’s market value at the time of each event.
- At the time of the second flood-related incident, the insurance policy included Increased Cost of Compliance (ICC) coverage.

Severe Repetitive Loss (SRL) properties are defined based on criteria established in the Flood Insurance Reform Act of 2004, with updates provided by the Biggert-Waters Flood Insurance Reform Act of 2012. To be classified as an SRL property, the following conditions must be met:

- The property must be insured under an NFIP flood insurance policy.
- The structure must have sustained flood damage that meets one of the following thresholds:
 - › At least four separate claims payments of more than \$5,000 each have been made, with the total amount of payments exceeding \$20,000.
 - › At least two separate claims payments have been issued, where the combined total equals or surpasses the market value of the insured structure.

These classifications help determine eligibility for mitigation assistance and influence flood insurance requirements and costs. Table 25 lists the numbers of repetitive loss and SRL properties:

Table 25: Repetitive and Severe Repetitive Loss Properties

Jurisdiction	Residential	Commercial	Institutional	Other
Sarasota County	<ul style="list-style-type: none"> • 240 Repetitive Loss • 48 Severe Repetitive Loss 	<ul style="list-style-type: none"> • 0 Repetitive Loss • 0 Severe Repetitive Loss 	<ul style="list-style-type: none"> • 0 Repetitive Loss • 0 Severe Repetitive Loss 	<ul style="list-style-type: none"> • None
City of North Port	<ul style="list-style-type: none"> • 7 Repetitive Loss • 0 Severe Repetitive Loss 	<ul style="list-style-type: none"> • 0 Severe Repetitive Loss • 0 Severe Repetitive Loss 	<ul style="list-style-type: none"> • 0 Repetitive Loss • 0 Severe Repetitive Loss 	<ul style="list-style-type: none"> • None
City of Sarasota	<ul style="list-style-type: none"> • 157 Repetitive Loss • 19 Severe Repetitive Loss 	<ul style="list-style-type: none"> • 0 Repetitive Loss • 0 Severe Repetitive Loss 	<ul style="list-style-type: none"> • 0 Repetitive Loss • 0 Severe Repetitive Loss 	<ul style="list-style-type: none"> • None
City of Venice	<ul style="list-style-type: none"> • 100 Repetitive Loss • 9 Severe Repetitive Loss 	<ul style="list-style-type: none"> • 1 Repetitive Loss • 0 Severe Repetitive Loss 	<ul style="list-style-type: none"> • 0 Repetitive Loss • 0 Severe Repetitive Loss 	<ul style="list-style-type: none"> • None

Jurisdiction	Residential	Commercial	Institutional	Other
Town of Longboat Key	<ul style="list-style-type: none"> • 185 Repetitive Loss • 62 Severe Repetitive Loss 	<ul style="list-style-type: none"> • 0 Repetitive Loss • 0 Severe Repetitive Loss 	<ul style="list-style-type: none"> • 0 Repetitive Loss • 0 Severe Repetitive Loss 	<ul style="list-style-type: none"> • None

FLOOD MITIGATION CAPABILITIES

In Sarasota County, flood mitigation is a crucial aspect of local planning efforts due to the region’s susceptibility to flooding. To enhance community resilience and minimize flood-related risks, Sarasota County and its jurisdictions, including the City of Sarasota, City of North Port, City of Venice, and Town of Longboat Key, actively incorporate mitigation strategies into their existing planning frameworks.

Sarasota County continuously evaluates its floodplain management policies, zoning regulations, building codes, and land-use planning strategies to ensure that they align with best practices in flood risk reduction. By integrating these measures into local decision-making, the county and its municipalities work to protect residents and infrastructure while maintaining compliance with NFIP standards.

Flood mitigation objectives are embedded in Sarasota County’s Comprehensive Plan, which serves as a long-term guide for sustainable development. The county and its municipalities incorporate flood resilience strategies into land-use planning to ensure that new developments and infrastructure projects adhere to floodplain management guidelines. Updates to zoning ordinances and building codes reflect advancements in flood-resistant construction and planning, reducing exposure in high-risk areas. In addition, participation in the CRS incentivizes proactive flood mitigation by offering reduced flood insurance premiums to property owners in communities that implement higher flood protection standards.

To reinforce ongoing efforts, Sarasota County and its jurisdictions document their floodplain management activities and mitigation actions in accordance with state and federal guidelines. The Local Mitigation Strategy (LMS) Working Group plays a key role in coordinating these initiatives across municipalities, ensuring that flood mitigation remains a core focus of policy updates and planning improvements. Public outreach efforts further support these initiatives by educating residents about flood risks, mitigation opportunities, and available flood insurance options.

Through collaborative planning, risk reduction strategies, and continuous policy integration, Sarasota County and its municipalities remain committed to strengthening flood resilience and maintaining eligibility for federal flood insurance and disaster assistance programs. These proactive efforts help safeguard the community from the increasing threats posed by flooding while promoting sustainable development practices.

Land Subsidence and Sinkholes

Definition

Land subsidence refers to the gradual or sudden sinking of the Earth's surface due to the removal or displacement of underlying support materials. This downward movement can result from natural processes or human activities and typically occurs over broad areas, but it can also manifest abruptly in more localized forms such as sinkholes. The rate and extent of subsidence depend on various geological, hydrological, and anthropogenic factors.

Natural influences include soil and rock type, groundwater levels, and underlying geologic structures, while human-induced contributors often involve the excessive extraction of groundwater, oil, or natural gas; mining operations; and the loading of soils through urban development. When groundwater is withdrawn faster than it can be replenished, for example, the sediment layers it once supported begin to compact, leading to a lowering of the ground surface. Figure 19 displays the geology behind a sinkhole.

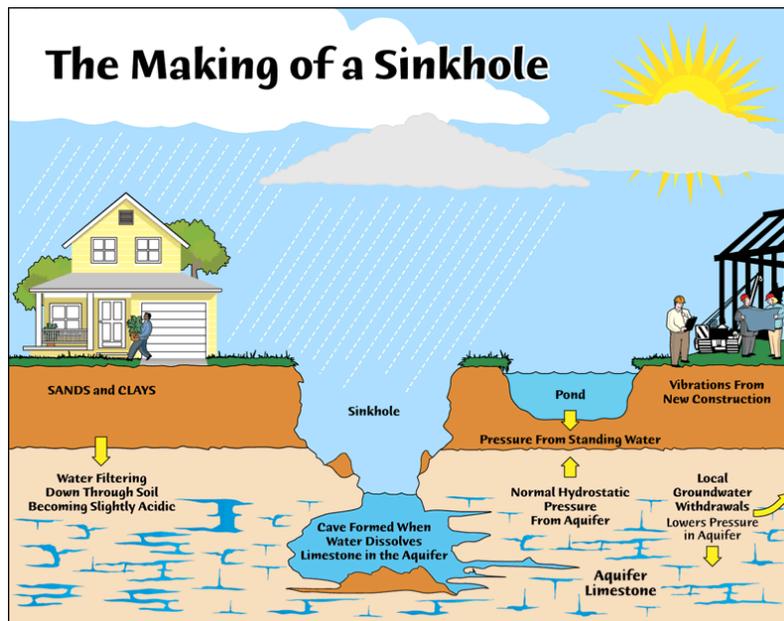


Figure 19: Geology of a Sinkhole⁵⁸

Sinkholes are a specific type of land subsidence characterized by a localized collapse of the ground into a void or cavity beneath the surface. They typically form in areas underlain by soluble bedrock, such as limestone, gypsum, or dolomite, that gradually dissolves when exposed to water, creating underground voids. When the overlying materials can no longer be supported, the ground may suddenly give way.

⁵⁸ Southwest Florida Water Management District, "Sinkholes," <https://www.swfwmd.state.fl.us/resources/weather-hydrology/sinkholes>.

Sinkholes generally fall into three major categories:

- **Dissolution Sinkholes:** These form slowly as surface water erodes the bedrock and removes supporting material. They usually develop gradually and may go unnoticed until substantial ground movement occurs.
- **Cover-Subsidence Sinkholes:** Occur in regions where sandy or permeable soils cover soluble rock. As water percolates downward, it carries soil into underlying cavities, leading to a gradual subsidence of the surface.
- **Cover-Collapse Sinkholes:** Develop rapidly and without warning when cohesive overburden materials such as clay suddenly collapse into an underground void. This is the most dramatic and potentially dangerous type.

The consequences of land subsidence and sinkholes can be severe. They may damage critical infrastructure such as roads, buildings, pipelines, and levees; disrupt drainage systems; and pose threats to human safety. Agricultural regions may experience altered water flow and reduced crop yields due to changes in land elevation and drainage capacity.

Location

As shown in Figure 20, Sarasota County is located in a region of Florida underlain by soluble limestone bedrock, making it prone to land subsidence and sinkhole activity.⁵⁹ These geological features are most common in areas with fluctuating groundwater levels, particularly following periods of drought or intense rainfall.⁶⁰ Communities near natural drainage systems, creeks, and retention areas are more susceptible due to soil composition and ongoing development. Land subsidence and sinkholes pose risks to both infrastructure and residential properties, especially in zones with historic sinkhole occurrences or shallow aquifers.⁶¹

While the City of North Port monitors for potential sinkholes, none have been recorded in the jurisdiction according to City officials and the Florida Department of Environmental Protection.⁶² The geology of the area and the lack of historical instances show that North Port is at low risk for land subsidence and sinkholes.

⁵⁹ Florida Geological Survey, *Sinkholes and Karst Terrain in Florida* (Florida Department of Environmental Protection, 2023).

⁶⁰ Southwest Florida Water Management District (SWFWMD), "Aquifer Characteristics within Southwest Florida Water Management District," 2023, https://sarasota.wateratlas.usf.edu/upload/documents/aquifer_characteristics_swfwmd_2006.pdf.

⁶¹ U.S. Geological Survey (USGS), "Land Subsidence in the United States," 2022, <https://pubs.usgs.gov/circ/circ1182/>.

⁶² Florida Department of Environmental Protection, "Subsidence Incident Report Map," 2025, <https://ca.dep.state.fl.us/mapdirect/?focus=fgssinkholes>.

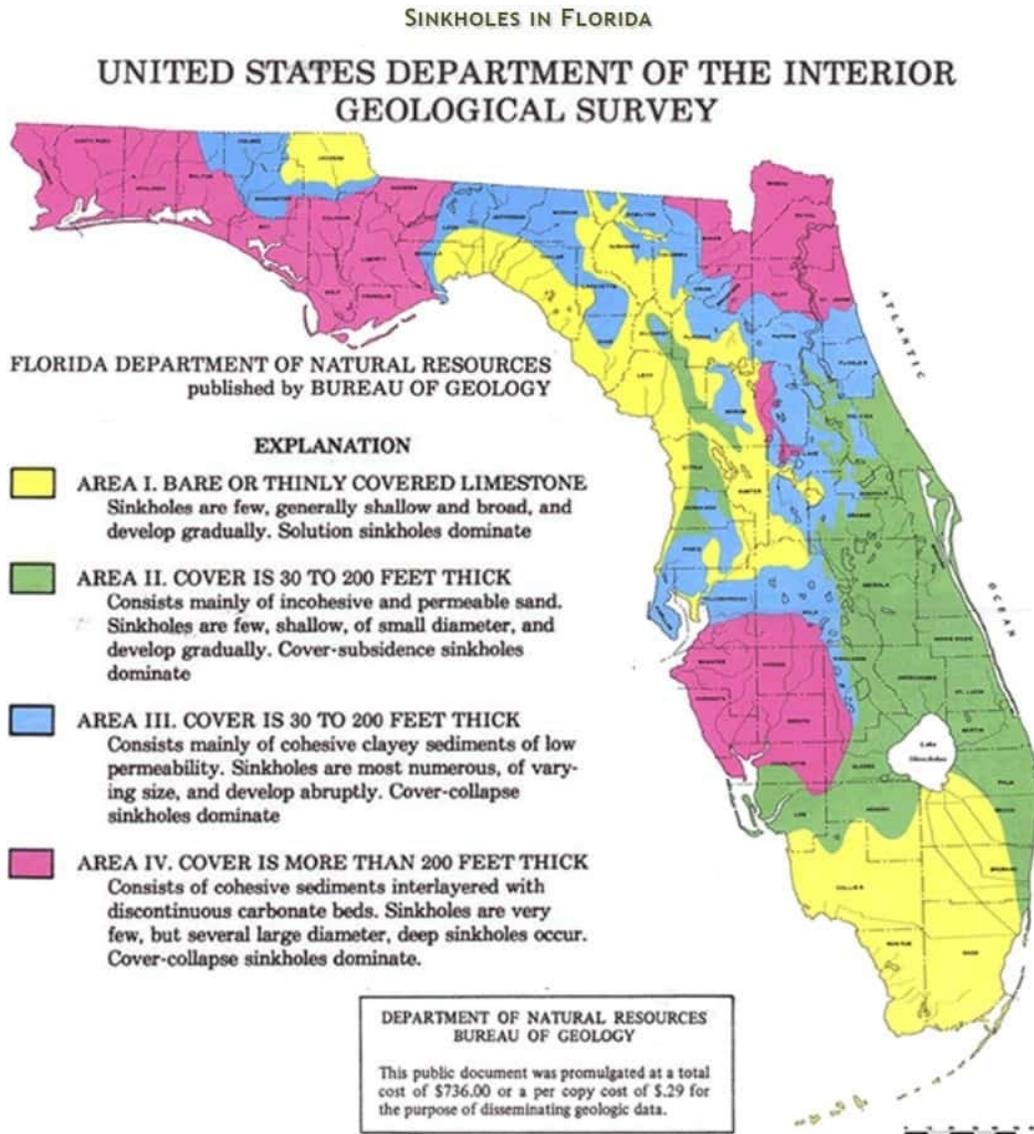


Figure 20: Sinkholes in Florida⁶³

The City of Sarasota faces vulnerability to subsurface instability due to aging infrastructure, shallow groundwater tables, and historical modifications to natural drainage systems. Areas surrounding Phillippi Creek and Hudson Bayou have reported occasional ground settling, particularly following extreme weather events. In addition, urbanized districts like downtown Sarasota, where stormwater infrastructure is older, may be more vulnerable to the effects of underground voids, especially in zones with past utility work or fill placement over porous soils.⁶⁴

⁶³ C. Bride, "Can Sinkholes Be Predicted? Florida Sinkhole Risk, Detection and Prediction | Interactive Sinkhole Maps. Interactive Sinkhole Maps," March 27, 2022, <https://sinkholemaps.com/blog/florida-sinkhole-risk-detection-and-prediction/>

⁶⁴ Florida Department of Environmental Regulation, "Stormwater Management," https://chnep.wateratlas.usf.edu/upload/documents/Stormwater_Guide_for_Floridians.pdf.

Venice, built atop karst terrain, remains at risk for sinkhole development, particularly in zones where stormwater retention areas intersect with older neighborhoods. Areas adjacent to Curry Creek, Hatchett Creek, and Dona Bay have soils that are susceptible to erosion beneath the surface, creating conditions favorable for ground collapse. The city actively engages with state geological monitoring systems to track potential sinkhole-prone zones and promote public education on identifying early warning signs of land instability.⁶⁵

Longboat Key excluded land subsidence from their hazard profile. No instances of land subsidence have been recorded by the Florida Department of Environmental Protection in the Town of Longboat Key.⁶⁶

Sarasota Memorial Hospital, located in a coastal zone, conducts regular geological assessments as part of its hazard mitigation strategy. While primarily focused on flood protection, the hospital also monitors for subsidence risks, particularly in utility corridors and support infrastructure where soil compaction or underground pipe failure could lead to localized settling.⁶⁷

Although Sarasota Bradenton International Airport monitors for sinkholes and land subsidence within its jurisdiction, none have been detected by airport staff or reported to the Florida Department of Environmental Protection.⁶⁸ Sinkholes are considered a low-risk and low-probability hazard for the airport.

The Englewood Fire District, which includes parts of Sarasota and Charlotte counties, monitors potential land subsidence impacts in neighborhoods near Lemon Bay, Forked Creek, and the Myakka River. The mix of residential expansion and natural hydrology in these low-lying zones increases the importance of regular inspections and hazard awareness campaigns related to both sinkholes and gradual ground settling.

Extent

The extent of land subsidence in Sarasota County—including the associated jurisdictions in the planning area—is evaluated using measured or modeled rates of ground settlement. For planning purposes, three categories are applied:

- **Minor:** less than 5 millimeters per year of ground subsidence, generally resulting in cosmetic damage or localized depressions; it involves gradual lowering of the ground level with minimal damage, typically requiring observation and long-term monitoring.

⁶⁵ Florida Department of Environmental Protection, "Subsidence Incident Reports," <https://floridadep.gov/fgs/sinkholes/content/subsidence-incident-reports>.

⁶⁶ Florida Department of Environmental Protection, "Subsidence Incident Report Map," 2025, <https://ca.dep.state.fl.us/mapdirect/?focus=fgssinkholes>.

⁶⁷ Sarasota Memorial Health Care System, "2025-2026 Hurricane Response Plan," https://www.smh.com/Portals/0/Documents/ForEmployees/EmergencyManagement/2025-2026_SMHCS_Hurricane_Response_Plan.pdf?ver=0H3cQh7f8XmA822MPFRUKg%3D%3D.

⁶⁸ Florida Department of Environmental Protection, "Subsidence Incident Report Map," 2025, <https://ca.dep.state.fl.us/mapdirect/?focus=fgssinkholes>.

- **Moderate:** 5–15 millimeters per year, with potential to cause structural cracking, utility disruption, and roadway settlement; it may include cracking of pavement or foundations, prompting the need for engineering assessments and mitigation measures.
- **Severe:** greater than 15 millimeters per year, with potential for sudden sinkhole collapse or major infrastructure impacts; it is characterized by sudden collapse, threatening structures and public safety, and requiring immediate emergency response.

Government agencies and research institutions monitor land subsidence through remote sensing, ground-based surveys, and satellite-based interferometry. Instruments like GPS (Global Positioning System) and InSAR (Interferometric Synthetic Aperture Radar) help track surface elevation changes over time. In areas prone to sinkholes, ground-penetrating radar and other geophysical techniques are employed to detect subsurface voids.

JURISDICTIONAL IMPACTS

Land subsidence and sinkholes pose a growing concern for jurisdictions across Sarasota County, with potential impacts on infrastructure, public safety, and long-term land use. Areas with karst geology, shallow groundwater, and ongoing development are particularly vulnerable. Damage to roads, buildings, and utility systems may occur suddenly and without warning, making early detection and proactive planning essential. Critical facilities must account for ground instability in both routine maintenance and emergency preparedness efforts.

Table 26 provides a detailed summary of how land subsidence and sinkhole activity affect various municipalities and key facilities throughout Sarasota County. This includes risks to structural integrity, disruption of essential services, and challenges in emergency management. Addressing these localized hazards through mitigation planning and engineering solutions is essential to strengthen community resilience.

Table 26: Impacts of Land Subsidence and Sinkholes on Participants

Participant	Impacts
Sarasota County	<ul style="list-style-type: none"> • Geological Vulnerability: Countywide karst terrain contributes to ongoing risk of subsidence and sinkhole formation, especially in areas with high groundwater usage. • Infrastructure Risk: Roadways, stormwater systems, and utilities are subject to damage from sudden ground shifts, requiring regular geotechnical assessments.
City of North Port	<ul style="list-style-type: none"> • The City of North Port did not include this hazard mitigation planning effort.
City of Sarasota	<ul style="list-style-type: none"> • Ageing Infrastructure: Older urban areas are more susceptible to sinkholes due to leaking pipes, compacted soils, and historic land modifications.

Participant	Impacts
	<ul style="list-style-type: none"> • Public Safety Concerns: Unanticipated subsidence in densely populated neighborhoods can create hazardous conditions and complicate emergency response.
City of Venice	<ul style="list-style-type: none"> • Soil Erosion Risks: Subsurface erosion near retention ponds and creeks may lead to gradual land depression or abrupt collapses. • Infrastructure Maintenance: Roads and drainage systems require enhanced monitoring to prevent costly repairs from unnoticed ground movement.
Town of Longboat Key	<ul style="list-style-type: none"> • The Town of Longboat Key did not include this hazard as part of their hazard mitigation planning effort.
Sarasota Memorial Hospital	<ul style="list-style-type: none"> • Sarasota Memorial Hospital did not include this hazard as part of their hazard mitigation planning effort.
Sarasota Manatee Airport Authority	<ul style="list-style-type: none"> • Sarasota Manatee Airport Authority did not evaluate this hazard as part of their hazard mitigation planning effort.
Englewood Fire District	<ul style="list-style-type: none"> • Infrastructure Stress: Station buildings and access roads may experience foundation stress due to ground shifting, particularly near Lemon Bay and other coastal zones. • Emergency Response Planning: Sinkhole incidents may limit access to affected areas, requiring adjusted response routes and resource deployment.
Ringling Museum	<ul style="list-style-type: none"> • Ringling Museum did not evaluate this hazard as part of their hazard mitigation planning effort.

NATIONAL RISK INDEX SSS

The National Risk Index (NRI) offers data on expected annual losses and overall risk for a variety of natural hazards at the county level. However, it is important to note that land subsidence and sinkholes are not currently included among the hazards assessed within the NRI framework. As such, no official NRI risk rating is available for these specific geologic hazards in Sarasota County.

Previous Occurrences (2019–2024)

The Florida Geological Survey has documented multiple subsidence incidents across Sarasota County, highlighting the region’s vulnerability to sinkholes and ground settlement. Reported events span several decades and are geographically dispersed.

Notable incidents include occurrences in Englewood (September 20, 1985), Nokomis (July 21, 1988), and Sarasota (May 1, 1989, and July 7, 2013). The City of Venice has experienced multiple reports, including those dated February 29, 1988, and August 13, 2003, underscoring persistent risks in that area. More recent reports, such as the September 3, 2016, incident along State Route 72 and the November 16, 2024, event near Cabana Road, suggest that land subsidence remains an ongoing concern in both urban and

transportation corridors. Collectively, these reports emphasize the need for continued monitoring, public awareness, and proactive mitigation efforts throughout the county. Table 27 provides a chronological view of the sinkholes that have occurred in Sarasota County.

Table 27: Previous Occurrences of Sinkholes in Sarasota County⁶⁹

Date	Location
November 16, 2024	Cabana Road
September 3, 2016	State Route 72
July 7, 2013	City of Sarasota
August 13, 2003	City of Venice
May 1, 1989	City of Sarasota
February 29, 1988	City of Venice
July 21, 1988	Nokomis
September 20, 1985	Englewood

Probability of Future Conditions

Given the historical record of subsidence incidents documented by the Florida Geological Survey, there is a credible probability that Sarasota County, as well the jurisdictions in the planning area, will continue to experience some land subsidence and sinkhole activity in the future (see Table 28). The continuation of incidents into recent years, including those in 2016 and 2024, further supports the likelihood of potential future occurrences.

The probability of future land subsidence and sinkhole activity in Sarasota County is classified as *medium*, defined as a likelihood of at least one measurable incident (subsidence greater than 5 millimeters or a sinkhole requiring remediation) every 5–10 years within the planning area. This equates to a 10–20 percent annual probability of occurrence at the county scale. Jurisdictions with extensive karst features (Venice, Sarasota County unincorporated) are at the higher end of this probability range.

⁶⁹ Florida Department of Environmental Protection, "Sinkhole Reporting Map," 2025, <https://ca.dep.state.fl.us/mapdirect/?webmap=57f0721c3c5e4b16a3a92c0c12493978>.

Table 28: Probability Rating for the Local Mitigation Strategy Plan

2023 SHMP Probability Ranking	
High	1+ occurrences each year
Medium-High	One occurrence every 3 years
Medium	One occurrence every 5-7 years
Low	One occurrence every 10 years
Not Identified	Hazard Not Profiled

Sinkholes and subsidence are naturally occurring in Florida’s karst terrain. These events can be triggered or intensified by human activities and environmental shifts. Historically, Sarasota County has reported subsidence incidents over several decades, indicating an ongoing risk. As development expands into previously undeveloped or high-risk areas, and as water demands increase with population growth, there is potential for future incidents.

Extended dry periods followed by heavy rainfall can accelerate the formation of sinkholes, particularly in areas where the supporting limestone has already been compromised. Droughts can lower the water table, creating voids in underground rock layers. When these voids are suddenly re-saturated by intense rain events, the overlying soil can collapse, forming sinkholes. Similarly, sea level rise and saltwater intrusion into freshwater aquifers may alter the chemical balance of groundwater, contributing to additional dissolution of soluble rock and increasing subsidence potential. Impervious surfaces can redirect water flow and concentrate runoff, which may lead to erosion or trigger subsidence in vulnerable soils. Pumping groundwater can destabilize underground layers, potentially leading to the formation of sink holes.

Vulnerability Assessment

Sarasota County is underlain by karst limestone, but the risk of sinkhole-related land subsidence in the county is generally low. Much of the region is situated atop porous limestone, which can dissolve over time, creating underground voids that may collapse and lead to sudden ground depressions or sinkholes. This geologic condition combined with factors such as periods of drought followed by intense rainfall, increased water extraction, and changes in surface load from construction could increase the county’s susceptibility to ground instability.

In addition to the direct physical impacts, subsidence and sinkhole events can cause a range of cascading effects with long-term consequences. The County should continue to address potential land subsidence through planning, transparent risk communication, and proactive policies.

IMPACTS TO ASSETS

Table 29 outlines the effects of land subsidence and sinkholes, detailing their impact on the public, first responders, continuity of operations, property, infrastructure, the environment, economic conditions, and public confidence.

Table 29: Consequence Analysis of Land Subsidence and Sinkholes

Area Affected	Consequences
Public	<ul style="list-style-type: none"> • Housing: Sinkholes and land subsidence can cause sudden structural failure of homes, resulting in unsafe living conditions or total property loss. Cracks in foundations, driveways, and walls may appear without warning, requiring costly repairs or relocation. • Casualties/Fatalities: Sinkholes can result in injury or death if collapse occurs suddenly beneath occupied structures or roadways. • Work: Businesses located in subsidence-prone zones may face operational interruptions due to property damage or access limitations. Employees may also be displaced from their homes or encounter transportation disruptions. • Food/Water: Damage to underground pipelines or wells from ground movement can compromise water supply systems and contaminate drinking water, requiring temporary alternatives or emergency services.
First Responders	<ul style="list-style-type: none"> • Emergency personnel must be prepared to respond to sudden ground collapses, building evacuations, and infrastructure failures. Access to affected areas may be hindered by unstable ground or road closures. In rural or low-staffed jurisdictions, mutual aid may be necessary to provide timely response. Health risks may arise from structural instability, gas leaks, and utility failures.
Continuity of Operations (COOP)	<ul style="list-style-type: none"> • Government agencies may be forced to temporarily relocate operations if administrative buildings or emergency service centers are compromised by subsidence. Damage to essential infrastructure can delay public services and emergency response. COOP plans should account for geologic hazards and identify alternate sites for continuity.
Property, Facility, and Infrastructure	<ul style="list-style-type: none"> • Structures: Sudden or progressive subsidence can render buildings uninhabitable. Foundations may shift, walls may crack, and in severe cases, total collapse may occur, especially if voids are large and undetected. • Electricity: Ground movement can sever underground cables or damage substations and transformers, leading to outages and fire hazards. • Water Systems: Sinkholes may damage water mains, sewer lines, and drainage infrastructure, potentially leading to service disruptions, contamination, or raw sewage leaks. • Roads and Bridges: Collapsing road surfaces or bridge supports due to subsurface voids can create dangerous travel conditions, requiring immediate closures and long-term repairs.
Environment	<ul style="list-style-type: none"> • Sinkholes and land subsidence can disrupt natural hydrology by altering water flow, draining wetlands, or redirecting groundwater. This may harm sensitive ecosystems, reduce biodiversity, and introduce pollutants into aquifers. Sinkhole collapse in

Area Affected	Consequences
	contaminated sites can also accelerate the spread of hazardous materials into the environment.
Economic Conditions	<ul style="list-style-type: none"> Property loss, repair costs, insurance claims, and business closures contribute to economic strain. Areas with high subsidence risk may experience declining property values, higher insurance premiums, and reduced investment. Widespread sinkhole activity can impact tourism, local economies, and long-term development prospects.
Public Confidence	<ul style="list-style-type: none"> Public trust in local government and emergency management may be affected by the speed and transparency of sinkhole response and recovery efforts. Delays in damage assessments, unclear communication, or lack of long-term mitigation planning can erode confidence and increase public concern about safety and preparedness.

IMPACT ON COMMUNITY LIFELINES

Land subsidence and sinkholes in Sarasota County may impact FEMA's Community Lifelines, which represent essential systems and services required to sustain life, health, and safety. Sudden ground collapse or gradual settling can damage critical infrastructure, disrupt transportation, and compromise utilities and public services, resulting in potentially long-lasting impacts on community functionality and economic stability.

Transportation systems are particularly vulnerable to subsidence. Sinkholes can appear beneath roads, bridges, and highways with little warning, leading to closures, detours, or total loss of access. Such events may severely delay emergency response times and interrupt regional supply chains. Key transit routes, including corridors near the Myakka River and major urban centers, could experience structural failures that isolate communities or hinder evacuation efforts. Similarly, airport operations—such as those at Sarasota Bradenton International Airport—could be affected by runway subsidence, causing service interruptions and posing safety hazards for travelers and personnel.

Communication networks may be disrupted when sinkhole activity impacts underground utility corridors housing fiber-optic lines, data cables, or communication relays. These disruptions can lead to outages that impair emergency communications, slow information flow to the public, and delay coordination among first responders and support agencies during crisis events.

The energy sector also faces risks from subsidence, especially when electric transmission lines, substations, or underground gas lines are located in vulnerable areas. Ground shifting can lead to utility pole collapses, equipment damage, or gas leaks, resulting in outages that impact homes, businesses, and critical infrastructure. Power loss may further cascade into disruptions to water and wastewater systems, as lift stations, treatment plants, and water mains are susceptible to damage from soil movement or collapse. These failures can impair water quality, service availability, and public health protections.

The health and medical lifeline can be compromised if hospitals, clinics, or assisted living facilities experience ground movement that damages foundations or impairs access routes. Facilities such as

Sarasota Memorial Hospital must remain vigilant to avoid interruptions to patient care, especially during emergencies. Sinkhole formation near healthcare facilities may necessitate rapid evacuations or limit the transport of medical supplies and personnel.

Food, water, and shelter services may also be affected, particularly when sinkholes form near distribution centers, grocery stores, or transportation hubs. Damage to supply routes and utility outages can lead to food shortages, food spoilage, and restricted access to clean drinking water. In severe cases, displacement caused by structural damage to homes or buildings may result in increased demand for temporary shelter, straining local resources.

The presence of hazardous material facilities in sinkhole-prone zones further elevates public safety concerns. Subsidence in or around industrial areas could lead to breaches in chemical storage, spills, or leaks, resulting in environmental contamination and long-term recovery challenges. Cleanup and remediation efforts in such scenarios are costly, time-consuming, and potentially harmful to nearby populations and ecosystems.

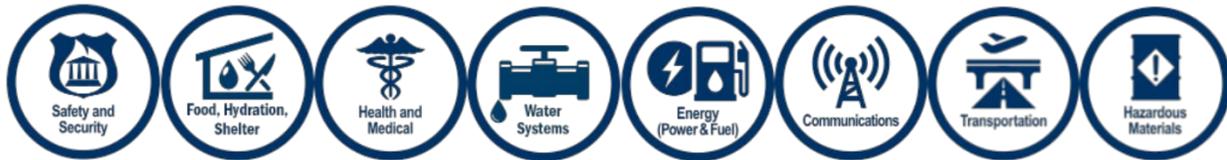


Figure 21: Federal Emergency Management Agency's Community Lifelines

Sarasota County's building codes and land development regulations include provisions to address subsurface hazards by requiring site-specific geotechnical evaluations in areas with a known history of sinkhole activity or vulnerable soil conditions. Engineering practices such as deep foundations, soil stabilization techniques, and ground-penetrating surveys are encouraged or required in certain high-risk zones to ensure structural integrity and reduce susceptibility to subsidence. The Florida Building Code (FBC) also includes standards that help mitigate damage from potential ground movement, particularly critical facilities and infrastructure.

Land use policies further support risk reduction by guiding development away from historically unstable areas and by discouraging practices that can accelerate sinkhole formation, such as excessive groundwater withdrawal or improper stormwater management. Local jurisdictions, including the City of Sarasota, North Port, Venice, and the Town of Longboat Key, enforce these policies through site plan reviews, zoning ordinances, and construction permitting requirements that aim to minimize the risk of triggering subsurface collapse.

Modifications to natural drainage patterns and increases in impervious surface coverage from urban development can also impact groundwater recharge and flow, potentially contributing to soil erosion or void formation beneath the surface. To address this, local regulations promote responsible stormwater management practices that balance development needs with the preservation of natural hydrology. This includes the use of retention systems and the conservation of open space in sensitive areas.

It is important to note that as growth occurs and/or environmental conditions change, Sarasota County will assess those impacts to identify potential enhancements and implement mitigation actions to enhance resilience to land subsidence.

Severe Storms (Hail, Lightning, Wind)

Definition

Severe storms are intense weather phenomena characterized by heavy precipitation, strong winds, hail, and frequent lightning strikes. These storms can produce damaging winds that exceed 58 miles per hour (mph), hail over an inch in diameter that can cause significant property damage,⁷⁰ and frequent lightning that poses a safety risk. Severe storms often lead to hazardous conditions, such as flash flooding and reduced visibility, and can substantially impact the environment, infrastructure, and human safety.

Hail is a type of precipitation that forms in thunderstorms when strong updrafts lift raindrops into very cold regions of the atmosphere, causing them to freeze into balls of ice. Hailstones can grow several inches in diameter and fall at speeds exceeding 100 mph.⁷¹

Lightning occurs due to the attraction between positive and negative atmospheric charges, leading to the buildup and discharge of electrical energy. This rapid heating and cooling of the air generates a shock wave, which produces the sound of thunder. When the accumulation of electrical charges becomes strong enough, it results in a “bolt” of lightning. This flash of light typically happens within the clouds or between the clouds and the ground. A bolt of lightning can reach temperatures close to 50,000 degrees Fahrenheit.⁷² While Texas had more total lightning strikes in 2023, Florida consistently leads the nation in lightning strike density, measured in strikes per square kilometer.⁷³ Figure 22 displays lightning strikes within the United States by density.

⁷⁰ National Oceanic and Atmospheric Administration, “Severe Thunderstorm Safety,” <https://www.weather.gov/safety/thunderstorm#:~:text=Severe%20thunderstorms%20are%20officially%20defined,cause%20structural%20damage%20to%20trees>.

⁷¹ National Oceanic and Atmospheric Administration, “Severe Storms,” <https://www.noaa.gov/explainers/severe-storms>.

⁷² Ibid.

⁷³ EarthSky, “Where Does Lightning Strike in the US?,” <https://earthsky.org/earth/where-does-lightning-strike-in-the-us-maps/>.

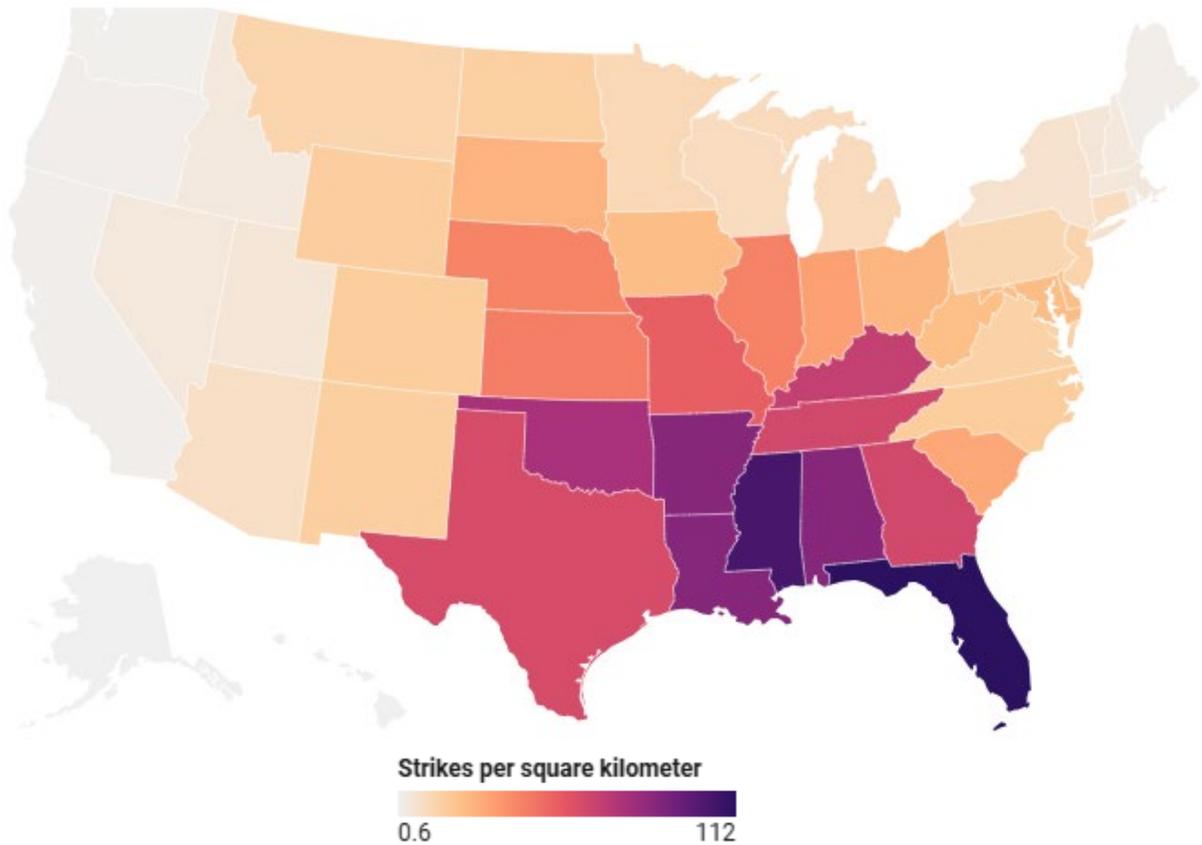


Figure 22: Lightning Strike Density by State 2023

Strong winds are often called “straight-line” winds to differentiate the damage they cause from that of tornadoes. Most damaging winds during thunderstorms result from outflow generated by a thunderstorm downdraft.⁷⁴

Central Florida is the most lightning-prone area in the United States per square kilometer, with about 90 thunderstorm days a year. Because of this, Florida has more lightning deaths than any other state. Between 2015 and 2024, 50 lightning-related deaths were reported in Florida.⁷⁵ In fact, lightning kills more people in Florida than all other weather hazards combined. In the Florida Peninsula, thunderstorm season has two general periods. In Sarasota County, the most dangerous months for severe storms are typically June through September. This period aligns with the Atlantic hurricane season, which runs from June 1 to November 30. During these months, the area is prone to thunderstorms, heavy rainfall, and the

⁷⁴ National Oceanic and Atmospheric Administration, “Severe Storms,” <https://www.noaa.gov/explainers/severe-storms>.

⁷⁵ National Lightning Safety Council, “Number of Lightning Deaths by State from 2015 to 2024,” <http://lightningsafetycouncil.org/Deaths%20by%20State%20Table.pdf>.

potential for tropical storms and hurricanes. August and September are often the peak months for these storms.

Location

Specific locations in Sarasota County are more susceptible to extreme weather conditions, including hail, strong winds, and lightning. Coastal areas like Siesta Key and Longboat Key tend to experience strong winds during storms, primarily due to their location near the Gulf. The open water can increase wind speeds and add to the intensity of storm systems, making these areas more prone to severe weather when conditions are right. In 2024, Sarasota County reported 569,478 lightning pulses and 57,632 lightning flashes.⁷⁶

A lightning pulse is a short electrical signal that occurs during a lightning flash. In contrast, a lightning flash is the bright light you see during a thunderstorm and can occur from cloud to ground, from one cloud to another, or within a single cloud. The flash is the whole event of the electrical charge and the light it creates.⁷⁷

While certain areas in Sarasota County may be more prone to severe weather events, thunderstorms can be unpredictable and impact all regions of the county.

Extent

The extent or magnitude of severe storms in Sarasota County can be defined by various factors, including their frequency and intensity. Historically, Sarasota experiences a significant number of thunderstorms each year, particularly during the summer months when atmospheric conditions are favorable for severe weather development. These storms can produce strong winds, heavy rainfall, hail, and lightning, leading to various impacts on the community. In 2024, Florida reported 1,335 dangerous thunderstorm alerts.⁷⁸

Strong winds associated with severe storms can reach speeds exceeding 58 mph, posing threats to structures and vegetation. This intensity can lead to damage to roofs, canopies, and trees, as well as downed power lines. The impact of hail is concerning, as larger hail, sometimes over 1 inch in diameter, can cause severe damage to vehicles, homes, and crops, resulting in economic concerns for residents and businesses.

Lightning is another critical component of severe storms in the region, with Sarasota County experiencing an annualized frequency of approximately 158.6 strikes per square mile.⁷⁹ This high incidence of lightning

⁷⁶ AEM, "Lightning Report," <https://aem.eco/2024-united-states-lightning-report/#:~:text=THE%20LIGHTNING%20CAPITALS%20OF%202024,125%20flashes%20per%20square%20mile>

⁷⁷ Ibid.

⁷⁸ Ibid.

⁷⁹ FEMA, "National Risk Index," <https://hazards.fema.gov/nri/report/viewer?dataLOD=Counties&dataIDs=C12115>.

increases the risk of injuries, fires, and other hazards, making it vital for residents to be aware of safety precautions during storm events.

The following tables measure the extent of hail (Table 30), strong winds (Table 31), and lightning (Table 32).

Table 30: Hailstorm Intensity Scale⁸⁰

Scale	Intensity Category	Typical Hail Diameter (mm)	Probable Kinetic Energy (J m ⁻²)	Typical Damage Impacts
H0	Hard ball	5	0-20	No damage
H1	Potentially damaging	5–15	>20	Slight general damage to plants, crops
H2	Significant	10–20	>100	Significant damage to fruit, crops, and vegetation
H3	Severe	20–30	>300	Severe damage to fruit and crops, damage to glass and plastic structures, and paint and wood scored
H4	Severe	25–40	>500	Widespread glass damage, vehicle bodywork damage
H5	Destructive	30–50	>800	Wholesale destruction of glass, damage to tiled roofs, significant risks of injuries
H6	Destructive	40–60	*	Bodywork of grounded aircraft dented; brick walls pitted
H7	Destructive	50–75	*	Severe roof damage, risk of serious injuries
H8	Destructive	60–90	*	Severe damage to aircraft bodywork
H9	Super Hailstorms	75–100	*	Extensive structural damage. Risk of severe or even fatal injuries to persons caught in the open
H10	Super Hailstorms	>100	*	Extensive structural damage. Risk of severe or even fatal injuries to persons caught in the open

*Note: Kinetic energy in joules typically maxes out at 800.

⁸⁰ The Tornado and Storm Research Organisation, "The TORRO Hailstorm Intensity Scale," <https://www.torro.org.uk/research/hail/hscale>.

Table 31: Beaufort Wind Scale⁸¹

Force	Wind (knots)	World Meteorological Organization (WMO) Classification	Appearance of Wind Effects on Land
0	0–1	Calm	Sea like a mirror. Calm; smoke rises vertically.
1	1–3	Light Air	Ripples with the appearance of scales are formed but without foam crests. Direction of wind shown by smoke drift but not by wind vanes.
2	4–6	Light Breeze	Small wavelets, still short, but more pronounced. Crests have a glassy appearance and do not break.
3	7–10	Gentle Breeze	Large wavelets. Crests begin to break. Foam of glassy appearance. Perhaps scattered white horses.
4	11–16	Moderate Breeze	Small waves are becoming larger; white horses are fairly frequent. Raises dust and loose paper; small branches are moved.
5	17–21	Fresh Breeze	Moderate waves take a more pronounced long form, forming many white horses. Small trees in leaf begin to sway; crested wavelets form on inland waters.
6	22–27	Strong Breeze	Large waves begin to form; the white foam crests are more extensive everywhere. Large branches in motion; whistling heard in telegraph wires; umbrellas used with difficulty.
7	28–33	Near Gale	Seas heap up, and white foam from breaking waves begins to be blown in streaks along the direction of the wind. Whole trees in motion; inconvenience felt when walking against the wind.
8	34–40	Gale	Moderately high waves of greater length; edges of crests begin to break into spindrift. The foam is blown in well-marked streaks along the direction of the wind. Breaks twigs off trees; generally impedes progress.
9	41–47	Strong Gale	High waves. Dense streaks of foam along the direction of the wind. Crests of waves begin to topple, tumble, and roll over. The spray may affect visibility.

⁸¹ National Weather Service, "Beaufort Wind Scale," <https://www.weather.gov/mfl/beaufort#:~:text=One%20of%20the%20first%20scales,to%20a%20force%20of%2012.>

Force	Wind (knots)	World Meteorological Organization (WMO) Classification	Appearance of Wind Effects on Land
			Slight structural damage occurs (chimney pots and slates removed)
10	48–55	Storm	Very high waves with long overhanging crests. The resulting foam, in great patches, is blown in dense white streaks along the direction of the wind. On the whole, the surface of the sea has a white appearance. The tumbling of the sea becomes heavy and shock-like. Visibility affected. Seldom experienced inland; trees uprooted; considerable structural damage occurs.
11	56–63	Violent Storm	Exceptionally high waves (small and medium-sized ships might be, for a time, lost to view behind the waves). The sea is completely covered with long white patches of foam lying along the direction of the wind. Everywhere, the edges of the wave crests are blown into froth. Visibility affected. Very rarely experienced; accompanied by widespread damage.
12	64+	Hurricane	The air is filled with foam and spray. The sea is completely white with driving spray; visibility is very seriously affected.

Table 32: Lightning Activity Level Scale⁸²

Level	Description
LAL 1	No thunderstorms.
LAL 2	Isolated thunderstorms. Light rain will occasionally reach the ground. Lightning is very infrequent, with 1 to 5 cloud-to-ground strikes in a five-minute period.
LAL 3	Widely scattered thunderstorms. Light to moderate rain will reach the ground. Lightning is infrequent, with 6 to 10 cloud-to-ground strikes in a five-minute period.
LAL 4	Scattered thunderstorms. Moderate rain is commonly produced. Lightning is frequent, with 11 to 15 cloud-to-ground strikes in a five-minute period.
LAL 5	Numerous thunderstorms. Rainfall is moderate to heavy. Lightning is frequent and intense, with greater than 15 cloud-to-ground strikes in a five-minute period.

⁸² National Weather Service, "LALs (L)ightning (A) activity (L)evels Numbered 1 through 6," <https://www.weather.gov/media/rnk/fire/LAL.pdf>.

Level	Description
LAL 6	Dry lightning (same as LAL 3 but without the rain). This type of lightning has the potential for extreme fire activity and is normally highlighted in fire weather forecasts with a Red Flag Warning.

JURISDICTIONAL IMPACTS

Hazard impacts refer to the adverse effects stemming from natural or human-induced events. These impacts include physical damage, human health concerns, economic, environmental, and social impacts, as seen in Table 33.

Table 33: Impacts of Severe Storms on the Jurisdictions

Participant	Impacts
Sarasota County	<ul style="list-style-type: none"> • Agricultural damage • Business disruptions • Carbon cycling • Community displacement • Ecosystem damage • Emergency response • Emergency response stress • Infrastructure damage • Injuries • Insurance claims • Mental health • Property damage • Repair costs • Water quality
City of North Port	<ul style="list-style-type: none"> • Business interruptions • Community disruption • Ecosystem disruptions • Emergency services • Infrastructure damage • Injuries • Mental health • Property damage • Repair costs • Soil erosion
City of Sarasota	<ul style="list-style-type: none"> • Community displacement • Ecosystem disruption • Emergency response strain

Participant	Impacts
	<ul style="list-style-type: none"> • Heat-related illnesses • Infrastructure damage • Injuries • Insurance claims • Loss of revenue • Mental health effects • Property damage • Repair costs • Soil erosion • Water quality
<p>City of Venice</p>	<ul style="list-style-type: none"> • Business interruptions • Community support • Displacement • Ecosystem disruption • Infrastructure damage • Injuries • Insurance claims • Mental health • Property damage • Public services • Repair costs • Soil erosion
<p>Town of Longboat Key</p>	<ul style="list-style-type: none"> • Community displacement • Community resilience • Ecosystem disruption • Emergency services burden • Health risks • Impact on tourism • Infrastructure damage • Injuries • Insurance claims • Property damage • Psychological effects • Repair costs • Water quality
<p>Sarasota Memorial Hospital</p>	<ul style="list-style-type: none"> • Community relations • Debris and waste management • Injuries and emergency preparedness • Operational disruptions • Psychological effects

Participant	Impacts
	<ul style="list-style-type: none"> • Repair costs • Runoff pollution • Structural damage • Utility disruptions
<p>Sarasota Manatee Airport Authority</p>	<ul style="list-style-type: none"> • Aircraft operations • Altered landscapes • Biodiversity impacts • Community safety • Disruption of services • Evacuation procedures • Infrastructure damage • Injury risks • Insured losses • Operational delays • Pollution and debris • Psychological effects • Repair costs • Reputation and trust • Runway conditions
<p>Englewood Fire District</p>	<ul style="list-style-type: none"> • Business interruptions • Community displacement • Ecosystem disruption • Emergency response strain • Injuries and fatalities • Injury risks • Mental health effects • Property damage • Repair costs • Water quality
<p>The Ringling Museum</p>	<ul style="list-style-type: none"> • Disruption of programming • Property damage • Repair costs • Debris cleanup • Impact on tourism • Ecosystem disruption • Soil erosion
<p>Sarasota School District</p>	<ul style="list-style-type: none"> • Community response • Disruption to learning • Flooding

Participant	Impacts
	<ul style="list-style-type: none"> • Human health concerns • Injuries • Landscape damage • Mental health • Physical damage • Repair costs • Safety risks during events • Transportation issues • Increased vulnerability

NATIONAL RISK INDEX

The National Risk Index (NRI) is a tool developed by the Federal Emergency Management Agency (FEMA) to evaluate and visualize the risk of natural hazards across the United States. It provides data and insights on various hazards, including floods, earthquakes, wildfires, and hurricanes. The index combines multiple factors, such as the probability of different hazard events, the vulnerability of communities, and potential impacts, to assess overall risks.

Sarasota County’s hail risk profile includes an overall risk index score of 17.6 (a community’s Expected Loss Value, community risk factors, and the adjustment factor used to create the risk value), an expected annual loss rated at 21.7 (which combines exposure values, annualized frequency, and historic loss ratios), and a social vulnerability score of 41.22 (measured by using the Centers for Disease Control and Prevention’s Social Vulnerability Index [SVI]).⁸³ The overall risk score of 17.6 (calculated by multiplying the Expected Annual Loss by the social vulnerability, then dividing by the community resilience score) indicates low risk regarding hail events, as displayed in Figure 23.

⁸³ FEMA, “National Risk Index,” <https://hazards.fema.gov/nri/report/viewer?dataLOD=Counties&dataDs=C12115#SectionSocialVulnerability>.

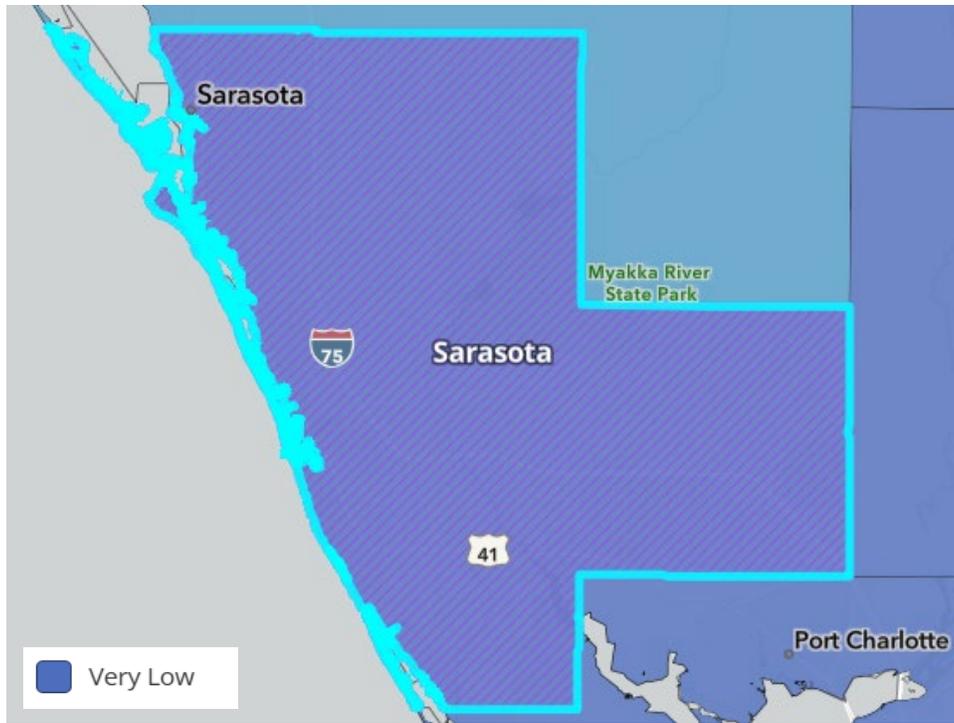


Figure 23: Overall Risk Level to Sarasota County from Hail

Sarasota County’s strong winds risk profile includes an overall risk index score of 34.9, an expected annual loss rated at 39.5, and a social vulnerability score of 41.22. The overall risk score of 34.9 indicates relatively low risk regarding strong wind events, as displayed in Figure 24.

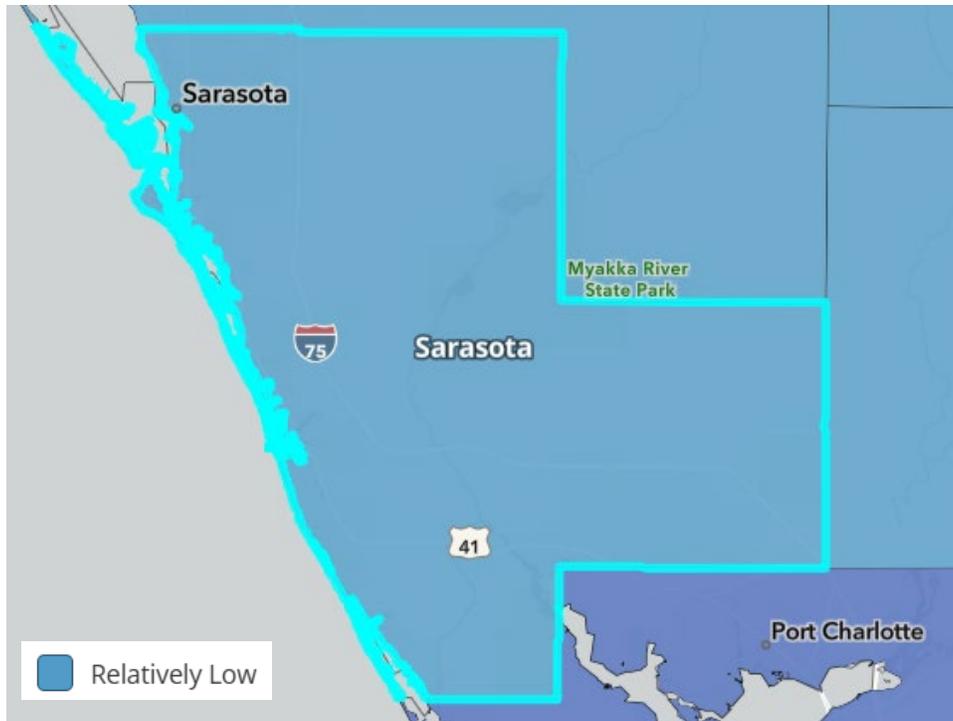


Figure 24: Overall Risk Level to Sarasota County from Strong Winds

As reflected in its metrics, Sarasota County exhibits significant vulnerability to lightning strikes. A risk index score of 98.8 indicates a very high susceptibility to lightning events in the area, as displayed in Figure 25. Such a score suggests Sarasota's geographic and climatic conditions contribute to frequent lightning occurrences.

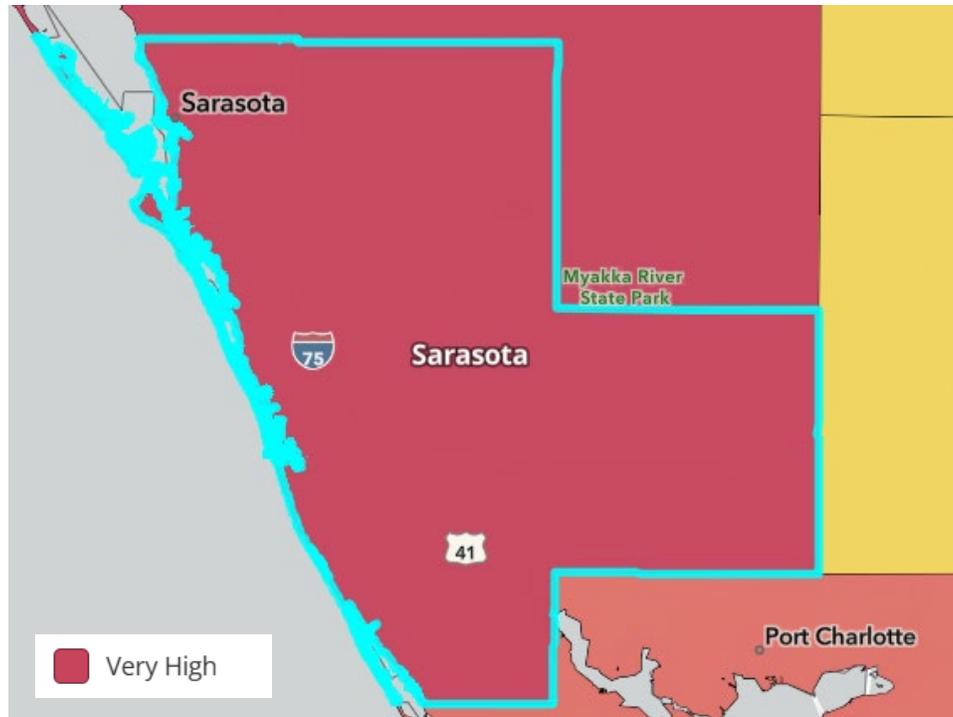


Figure 25: Overall Risk Level to Sarasota County from Lightning

Previous Occurrences (2019–2024)

The National Center for Environmental Information (NCEI) is a comprehensive resource that catalogs data on weather-related events, including tropical storms, hurricanes, tornadoes, floods, and more. It provides critical information that helps assess the frequency, intensity, and impact of severe weather events across the United States. The NCEI is maintained by the National Oceanic and Atmospheric Administration (NOAA).

According to the database, Sarasota County experienced eight events that included hail, strong winds, thunderstorm wind, and lightning between January 1, 2019, and December 31, 2024 (see Table 34). Sarasota County experienced significant weather-related impacts during this time, resulting in one reported injury and approximately \$182,000 in property damage.⁸⁴ This data highlights the recurring threat of these severe weather phenomena in the region, underscoring the importance of preparedness and response strategies to mitigate potential impacts on the community.

⁸⁴ National Center for Environmental Information, "Storm Events Database," https://www.ncdc.noaa.gov/stormevents/listevents.jsp?eventType=%28C%29+Hail&eventType=%28C%29+Lightning&eventType=%28Z%29+Strong+Wind&eventType=%28C%29+Thunderstorm+Wind&beginDate_mm=01&beginDate_dd=01&beginDate_yyy=2019&endDate_mm=12&endDate_dd=31&endDate_yyy=2024&county=SARASOTA%3A115&hailfilter=0.00&tornfilter=0&windfilter=000&sort=DT&submitbutton=Search&statefips=12%2CFLORIDA.

Table 34: Severe Storms in Sarasota County, 2019–2024⁸⁵

Location	Date	Event	Deaths	Injuries	Property Damage	Crop Damage
Fruitville	1/24/2019	Thunderstorm wind	0	0	0	0
Manasota Key	4/19/2019	Thunderstorm wind	0	0	\$40,000	0
Nokomis	7/16/2019	Lightning	0	0	\$50,000	0
Siesta Key	7/16/2020	Lightning	0	1	0	0
Beverly Terrace	6/24/2021	Thunderstorm wind	0	0	\$2,000	0
Nokomis	3/12/2022	Thunderstorm wind	0	0	\$50,000	0
Newtown Heights	6/18/2022	Thunderstorm wind	0	0	\$15,000	0
Fruitville	1/09/2024	Thunderstorm wind	0	0	\$25,000	0

Probability of Future Conditions

The probability of future severe storms in Sarasota County, including hail, strong winds, and lightning, can be assessed through a combination of historical data, environmental factors, and climate models. Historical data provides a foundational understanding of how often these severe weather events have occurred in the past. For instance, the annualized frequency rates indicate that lightning strikes are quite common, while hail and strong wind events are less frequent. This historical perspective is crucial in anticipating future risks.

As atmospheric conditions evolve, models suggest an increased risk of severe weather events in the region. While assigning a specific probability to future occurrences is complex, the combination of historical data, environmental factors, and atmospheric change projections suggests a likelihood for severe storms in Sarasota County moving forward.

In Sarasota County, the probabilities of future weather events such as hail, strong winds, and lightning can be measured using their annualized frequencies. Hail has an annualized frequency of 1.5 events per year.⁸⁶ This indicates a relatively high likelihood of experiencing hail at some point.

Strong winds occur at an annualized frequency of 0.7 events per year, which corresponds to a probability of about 50.3% for at least one strong wind event over the course of a year.⁸⁷

For lightning, the annualized frequency is notably high at 158.6 events per year, leading to a probability of almost 100% for at least one lightning event occurring annually.⁸⁸

⁸⁵ Ibid.

⁸⁶ FEMA, "National Risk Index," <https://hazards.fema.gov/nri/report/viewer?dataLOD=Counties&dataIDs=C12115>.

⁸⁷ Ibid.

⁸⁸ Ibid.

Vulnerability Assessment

Sarasota County is vulnerable to severe weather, especially hail, strong winds, and lightning. These risks impact homes, infrastructure, and public safety. Hail can damage roofs, cars, and crops, leading to financial losses. Strong winds can damage power lines, trees, and buildings, causing power outages. Lightning can cause fires, injuries, and deaths, and straining emergency services.

All jurisdictions in Sarasota County face distinctive challenges from severe weather. Coastal areas are especially at risk for flooding and damage to properties and businesses near water. The Sarasota School District must ensure its facilities can handle severe weather. Sarasota Memorial Hospital needs strong emergency response plans to remain functional during severe weather, while the Sarasota-Manatee Airport Authority should focus on safety and continuous operations. Local fire districts—such as the Englewood Area Fire Control District, the Sarasota Fire Department, and other fire departments—will see an increase in call volume during these events and will need to prepare for dangerous winds and lightning.

Vulnerable populations in Sarasota County include aging individuals, those with limited financial resources, and people with disabilities. These groups face unique challenges during severe weather. Aging individuals may have mobility issues or other health concerns that make it difficult to evacuate. Those with limited financial resources may not have the resources to prepare for or recover from disasters. Individuals with disabilities may need individualized help during emergencies, putting them at higher risk if support is unavailable. These groups may also reside in areas more prone to flooding and wind damage, increasing their risks during severe weather events.

IMPACTS TO ASSETS

Table 35 provides a summary of the effects of severe storms, such as hail, wind, and lightning. It discusses the impact on the public, first responders, continuity of operations, property, infrastructure, the environment, economic conditions, public confidence, and the consequences of these impacts.

Table 35: Consequence Analysis of Severe Storms

Area Affected	Consequences
Public	<ul style="list-style-type: none"> • Hail can cause damage to vehicles, roofs, windows, and other structures. Recreational areas might suffer damage to playgrounds and sports fields, possibly leading to expensive repairs and temporary closures. • Strong winds can knock down trees and branches, leading to safety risks and property damage. They may cause damage to power lines, resulting in outages, public transportation disruptions, and difficulty for emergency services in responding. • Lightning can start fires and damage electrical systems, interrupting utility services.

Area Affected	Consequences
<p>First Responders</p>	<ul style="list-style-type: none"> • Emergency Response Delay: Severe weather can damage roads, bridges, and infrastructure, making it difficult for first responders to reach those in need. Fallen trees, debris, or flooding can slow response times. • Increased Call Volume: Severe weather can increase emergency calls, overwhelming first responders. • Injury and Safety Risks: First responders may face higher injury risks due to high winds and lightning. • Damage to Equipment and Vehicles: Hail and strong winds can damage emergency equipment, leading to expensive repairs and downtime. • Resource Allocation: First responders may need to focus resources on the hardest-hit areas, impacting their response to other emergencies. • Public Safety Challenges: First responders must also manage public safety concerns during severe weather, including evacuating residents, educating the public about safety measures, and assisting with shelter operations, which can strain resources. • Mental and Emotional Strain: The aftermath of severe weather disasters can lead to burnout and stress.
<p>Continuity of Operations</p>	<ul style="list-style-type: none"> • Infrastructure Damage: Hail and strong winds can cause physical damage to buildings, roads, and other infrastructure, leading to temporary closures for repairs. • Utility Disruptions: Lightning can lead to power outages, disrupting operations that rely on electricity and halting productivity until power is restored. • Vehicle and Equipment Damage: Severe weather can damage vehicles and equipment, increasing maintenance costs and delaying services. • Safety Risks: Strong winds and lightning pose safety risks to employees and the public, and evacuations can disrupt business. • Economic Impact: Repair costs and lost revenue can affect businesses and local governments. • Emergency Response and Recovery Efforts: Emergency efforts can divert resources and attention away from regular operations, complicating planning and responsiveness. • Insurance and Liability Considerations: Increased severe weather incidents may raise insurance costs and influence financial planning.
<p>Property, Facility, and Infrastructure</p>	<ul style="list-style-type: none"> • Hail: <ul style="list-style-type: none"> › Property Damage: Hail can damage roofs, siding, windows, and vehicles, leading to expensive repairs and an increase in insurance claims. › Crop Damage: Hail can severely damage crops, affecting local food supply and farmers' incomes. • Strong winds: <ul style="list-style-type: none"> › Structural Damage: High winds can damage roofs, uproot trees, and harm fences. Buildings not designed for strong winds may be severely damaged.

Area Affected	Consequences
	<ul style="list-style-type: none"> ➤ Infrastructure Impact: Winds can knock down power lines, causing outages, and debris can block roads, delaying emergency response. • Lightning: <ul style="list-style-type: none"> ➤ Fire Risk: Lightning can ignite fires in buildings, forests, and fields, endangering lives and property and leading to firefighting efforts. ➤ Electrical Infrastructure: Lightning can cause surges that damage electronics and necessitate repair of power grids and communication systems.
Environment	<ul style="list-style-type: none"> • Vegetation Damage: Hail can cause harm to leaves, stems, and fruit, affecting the health of trees and plants. Strong winds can uproot or break branches, increasing tree mortality and altering local ecosystems. • Soil Erosion: Heavy winds can erode soil, especially when vegetation is damaged or removed, leading to the loss of nutrient-rich topsoil and impacting plant growth. • Water Quality: Storms can cause runoff that carries debris, pesticides, and fertilizers into water bodies, harming aquatic life and water quality. Lightning may also start fires, leading to additional pollution. • Wildlife Habitats: Damage to trees and vegetation can disrupt habitats for many species, affecting biodiversity. • Invasive Species: Disturbed environments can enable invasive species to thrive, outcompeting native plants. • Atmospheric Resilience: Frequent severe weather can weaken ecosystems, making recovery and adaptation more difficult.
Economic Conditions	<ul style="list-style-type: none"> • Property Damage: Severe weather can damage residential and commercial properties. Hail can damage roofs, windows, and vehicles, while strong winds can uproot trees and damage structures. Repair costs can strain local finances, reducing community spending. • Insurance Claims: Increased property damage typically leads to more insurance claims. This can provide short-term help but may raise future premiums, making insurance less affordable. • Business Interruptions: Extreme weather can disrupt operations, leading to lost income. This is particularly challenging for areas like tourism, as bad weather can dissuade visitors. • Infrastructure Strain: Strong winds and lightning can damage roads, bridges, and utilities, leading to expensive repairs and diverting funds from other community needs. • Economic Growth: Ongoing weather issues may discourage investment. Investors might see frequent weather as a risk, slowing economic growth in the area. • Long-Term Effects on Property Values: Persistent weather-related issues can lower property values, affecting local tax revenues, and creating economic challenges.
Public Confidence	<ul style="list-style-type: none"> • Property Damage: Severe weather can damage homes, businesses, and public infrastructure. Large hail can break windows, while strong winds can uproot trees

Area Affected	Consequences
	<p>and damage structures. This destruction can reduce public confidence in safety measures.</p> <ul style="list-style-type: none"> • Insurance Costs: Increased incidences of severe weather can raise insurance costs or make insurance coverage harder to find, creating financial strain and impacting homeowners’ and businesses’ financial stability. If the community thinks insurance is too expensive, trust in local government can decline. • Emergency Response: The effectiveness of emergency services during and after severe weather can affect public confidence. If help arrives late or support appears lacking, trust in services may suffer. • Economic Impact: Damage from severe weather can disrupt local economies, leading to business shutdowns and job losses, which can increase concerns about safety and stability. • Reputation: Frequent extreme weather and associated damage can harm the community’s reputation, discouraging new residents and businesses.

IMPACT ON COMMUNITY LIFELINES

Hail, strong winds, and lightning can greatly impact various FEMA Community Lifelines in Sarasota County. The safety and security of residents are compromised during such events. The threats created by severe weather can lead to injuries and an increased demand for emergency response. Additionally, the health and medical sector can face significant challenges. Any damage to healthcare facilities or disruptions in essential services can disrupt the delivery of medical care. Power outages often accompany severe weather and can affect vital medical equipment. Energy is also vulnerable during storms. Strong winds and lightning can damage power lines, leading to outages. Communications can be disrupted during these weather events. Severe storms can damage communication systems, making it challenging for residents to receive updates or contact emergency services. Lastly, transportation becomes a concern as high winds and hail damage roads and disrupt traffic signals. This creates hazardous driving conditions that delay mobility and access to necessary resources.



Figure 26: Federal Emergency Management Agency’s Community Lifelines

Sarasota County has implemented various policies, building codes, and regulations to mitigate the impacts of severe storms and enhance development resilience. A key component is adherence to the Florida Building Code, which requires buildings to be engineered to withstand high winds, ensuring safety during storms.

Changes in development in Sarasota County have produced a range of impacts on how hail, strong winds, and lightning events affect the area. Newer structures are typically designed to meet updated building

codes that better endure high winds and hail impacts, reducing damage during storms. Additionally, green spaces and stormwater management features, such as retention ponds and permeable surfaces can mitigate flooding risks associated with heavy rainfall and runoff.

The county should continue identifying resilient and sustainable development strategies to mitigate impacts from severe storms. It is important to note that as growth occurs and/or environmental conditions change, Sarasota County will assess those impacts to identify potential enhancements and implement mitigation actions to enhance resilience to severe storms.

Tornadoes and Waterspouts

Definition

A tornado is a violently rotating column of air that touches the ground, typically forming at the base of a thunderstorm. These storms can cause fatalities and devastate neighborhoods in seconds, with wind speeds reaching up to 300 miles per hour. Damage paths can be over a mile wide and 50 miles long. Tornadoes often occur alongside strong downburst winds and hail.

Some tornadoes are visible, while others may be obscured by rain or low-hanging clouds. They can develop and dissipate rapidly, usually remaining on the ground for less than 15 minutes. Before a tornado strikes, winds may die down, and air may become still. A cloud of debris can signal a tornado's presence, even if the funnel isn't visible. Tornadoes generally form near the trailing edge of a thunderstorm, with clear skies sometimes visible behind them.⁸⁹

Waterspouts are classified into two categories: fair-weather waterspouts and tornadic waterspouts.

Tornadic waterspouts are tornadoes that form over water or move from land to water. They share characteristics with land tornadoes and are associated with severe thunderstorms, often bringing high winds, rough seas, large hail, and dangerous lightning.

Fair-weather waterspouts form along the base of developing cumulus clouds and are not linked to thunderstorms. They develop from the water surface upward and are generally mature when they become visible, occurring in light wind conditions that limit their movement.

If a waterspout moves onshore, the National Weather Service issues a tornado warning, as it can cause significant damage and injuries. Typically, fair-weather waterspouts dissipate quickly upon landfall and rarely penetrate far inland.⁹⁰

⁸⁹ National Weather Service, "Tornado Definition," <https://www.weather.gov/phi/tornadodefinition>.

⁹⁰ National Oceanic and Atmospheric Administration, "What Is a Waterspout?" <https://oceanservice.noaa.gov/facts/waterspout.html>.

Location

Tornadoes and waterspouts in Sarasota County are typically associated with severe weather events, particularly thunderstorms. Tornadoes can occur uniformly across Sarasota county and its jurisdictions. In 2023, Sarasota County was listed as the fourteenth most active Florida county for tornadoes.⁹¹

Waterspouts, on the other hand, often develop over bodies of water, including the Gulf Coast, which borders Sarasota County. These atmospheric phenomena can occur when warm, moist air rises and meets cooler air, creating conditions suitable for forming a waterspout. Coastal areas such as Longboat Key, the city of Sarasota, and Venice may experience waterspouts during thunderstorms or when atmospheric instability is present.⁹² Due to their proximity to the coast, these areas are more susceptible to waterspouts than other areas of the county.

Extent

The Enhanced Fujita Scale is used to classify tornadoes based on damage, ranging from EF0 to EF5. The Waterspout Intensity Scale categorizes the strength of waterspouts, factoring wind speed and damage, while the Waterspout Threat Levels categorize the potential threat of waterspouts.

Table 36, Table 37, and Table 38 measure the extent of tornadoes, waterspouts, and waterspout threat levels, respectively.

Table 36: Enhanced Fujita Scale⁹³

EF Scale	Class	Windspeed (mph)	Description
EF0	Weak	65–85	Gale
EF1	Weak	86–110	Moderate
EF2	Strong	111–135	Significant
EF3	Strong	136–165	Severe
EF4	Violent	166–200	Devastating
EF5	Violent	> 200	Incredible

⁹¹ News Channel 8, "Counties with the Most Tornadoes in Florida," <https://www.wfla.com/news/florida/counties-with-the-most-tornadoes-in-florida/>.

⁹² The City of Sarasota, "2021 Sarasota County Unified Local Mitigation Strategy," <https://www.scgov.net/home/showpublisheddocument/60934/638206106205870000>.

⁹³ National Weather Service, "Enhanced Fujita Scale," [https://www.weather.gov/tae/ef_scale#:~:text=For%20example%2C%20with%20the%20EF,\(254%2D332%20kph\)](https://www.weather.gov/tae/ef_scale#:~:text=For%20example%2C%20with%20the%20EF,(254%2D332%20kph)).

Table 37: Waterspout Intensity Scale⁹⁴

Waterspout Type	Intensity Scale	Windspeed (mph)
Waterspout	F0	73 mph or less
Tornadic Waterspout	F0 to F1	74 mph to 112 mph
Significant Tornadic Waterspout	F2	113 mph or greater

Table 38: Waterspout Threat Levels⁹⁵

Waterspout Threat Level	Descriptions
Extreme	<ul style="list-style-type: none"> • "An Extreme Threat to Life and Property Aboard Small Marine Craft from Waterspouts." <ul style="list-style-type: none"> ➢ Within 12 miles of a marine location, a moderate likelihood or greater (16% probability or greater) of a significant tornadic waterspout. AND/OR high likelihood or greater (26% probability or greater) of a tornadic waterspout. ➢ AND/OR...a very high likelihood (36% or greater) of a waterspout.
High	<ul style="list-style-type: none"> • "A High Threat to Life and Property Aboard Small Marine Craft from Waterspouts." <ul style="list-style-type: none"> ➢ Within 12 miles of a marine location, a low likelihood (6% to 15% probability) of a significant tornadic waterspout ➢ AND/OR...a moderate likelihood (16% to 25% probability) of a tornadic waterspout ➢ AND/OR...a high likelihood (26% to 35% probability) of a waterspout
Moderate	<ul style="list-style-type: none"> • "A Moderate Threat to Life and Property Aboard Small Marine Craft from Waterspouts." <ul style="list-style-type: none"> ➢ Within 12 miles of a marine location, a very low likelihood (2% to 5% probability) of a significant tornado-like waterspout. ➢ AND/OR...a low likelihood (6% to 15% probability) of a tornadic waterspout ➢ AND/OR...a moderate likelihood (16% to 25% probability) of a waterspout.

⁹⁴ National Oceanic and Atmospheric Administration, "Waterspout Threat," https://www.weather.gov/mlb/waterspout_threat#:~:text=Waterspout%20%2D%20A%20fair%20weather%20waterspout,64%20knots%20to%2097%20knots.

⁹⁵ Ibid.

Waterspout Threat Level	Descriptions
Low	<ul style="list-style-type: none"> • "A Low Threat to Life and Property Aboard Small Marine Craft from Waterspouts." <ul style="list-style-type: none"> › Within 12 miles of a marine location, a very low likelihood (2% to 5% probability) of a tornado-like waterspout › AND/OR...a low likelihood (6% to 15% probability) of a waterspout.
Very Low	<ul style="list-style-type: none"> • " A Very Low Threat to Life and Property Aboard Small Marine Craft from Waterspouts." <ul style="list-style-type: none"> › Within 12 miles of a marine location, a very low likelihood (2% to 5% probability) of a waterspout.
Non-threatening	<ul style="list-style-type: none"> • " No Discernible Threat to Life and Property Aboard Marine Vessels from Waterspouts." <ul style="list-style-type: none"> › Within 12 miles of a marine location, environmental conditions do not support waterspouts.

JURISDICTIONAL IMPACTS

Hazard impacts refer to the adverse effects stemming from natural or human-induced events. These include physical damage, human health concerns, and economic, environmental, and social impacts. The impacts of tornadoes and waterspouts on the different jurisdictions are presented in Table 39. The impacts for Sarasota and the other jurisdictions in the planning area are also shown in the table.

Table 39: Impacts of Tornadoes and Waterspouts on the Jurisdictions

Participant	Impacts
Sarasota County	<ul style="list-style-type: none"> • Tornadoes <ul style="list-style-type: none"> › Structural damage › Injury and fatalities › Displacement › Economic impact › Emergency Response • Waterspouts <ul style="list-style-type: none"> › Coastal damage › Marine hazards › Storm surge › Environmental effects › Public safety concerns
City of North Port	<ul style="list-style-type: none"> • Tornadoes <ul style="list-style-type: none"> › Physical damage › Injury and fatalities › Displacement

Participant	Impacts
	<ul style="list-style-type: none"> › Economic impact › Emergency response • Waterspouts <ul style="list-style-type: none"> › Limited hazard impact
<p>City of Sarasota</p>	<ul style="list-style-type: none"> • Tornadoes <ul style="list-style-type: none"> › Property damage › Injury and loss of life › Infrastructure damage › Economic impact › Psychological effects • Waterspouts <ul style="list-style-type: none"> › Marine hazards › Property damage along the coast › Disruption to fishing and tourism › Visibility hazards › Environmental impacts
<p>City of Venice</p>	<ul style="list-style-type: none"> • Tornadoes <ul style="list-style-type: none"> › Structural damage › Injury and loss of life › Displacement of residents › Economic impact • Waterspouts <ul style="list-style-type: none"> › Localized damage › Marine hazards › Flooding › Tourism and recreational impact
<p>Town of Longboat Key</p>	<ul style="list-style-type: none"> • Tornadoes <ul style="list-style-type: none"> › Structural damage › Injury and loss of life › Disruption of services › Economic impact › Psychological effects • Waterspouts <ul style="list-style-type: none"> › Marine hazards › Localized wind damage › Coastal erosion › Tourism impact › Safety alerts (temporary disruptions in activities)

Participant	Impacts
Sarasota Memorial Hospital	<ul style="list-style-type: none"> • Tornadoes <ul style="list-style-type: none"> › Structural damage › Operational disruption › Patient safety › Utility disruption › Emergency response strain • Waterspouts <ul style="list-style-type: none"> › Limited direct impact
Sarasota Manatee Airport Authority	<ul style="list-style-type: none"> • Tornadoes <ul style="list-style-type: none"> › Structural damage › Runway and taxiway damage › Disruption of operations › Emergency response needs › Financial impact • Waterspouts <ul style="list-style-type: none"> › Limited direct damage › Impact on marine operations (seaplane operations) › Weather conditions (delayed flights) › Safety risks
Englewood Fire District	<ul style="list-style-type: none"> • Tornadoes <ul style="list-style-type: none"> › Property damage › Injury and fatalities › Emergency response › Community disruption • Waterspouts <ul style="list-style-type: none"> › Coastal damage › Marine safety › Reduced visibility › Less immediate damage
The Ringling Museum	<ul style="list-style-type: none"> • Tornadoes <ul style="list-style-type: none"> › Property damage from wind › Disruption of operations › Financial impact › Ecological damage • Waterspouts <ul style="list-style-type: none"> › Damage to coastal infrastructure › Disruption of operations › Property damage from wind

NATIONAL RISK INDEX

The National Risk Index (NRI) is a tool developed by the Federal Emergency Management Agency (FEMA) designed to evaluate and visualize the risk of natural hazards across the United States. It provides data and insights on various hazards, including floods, earthquakes, wildfires, tornadoes, and hurricanes. The index combines multiple factors, such as the probability of different hazard events, the vulnerability of communities, and potential impacts, to assess overall risks.

Sarasota County's tornado risk profile includes an overall risk index score of 89.1, an expected annual loss rated at 90.1, and a social vulnerability score of 41.22.⁹⁶ The National Risk Index does not address the risks associated with waterspouts.

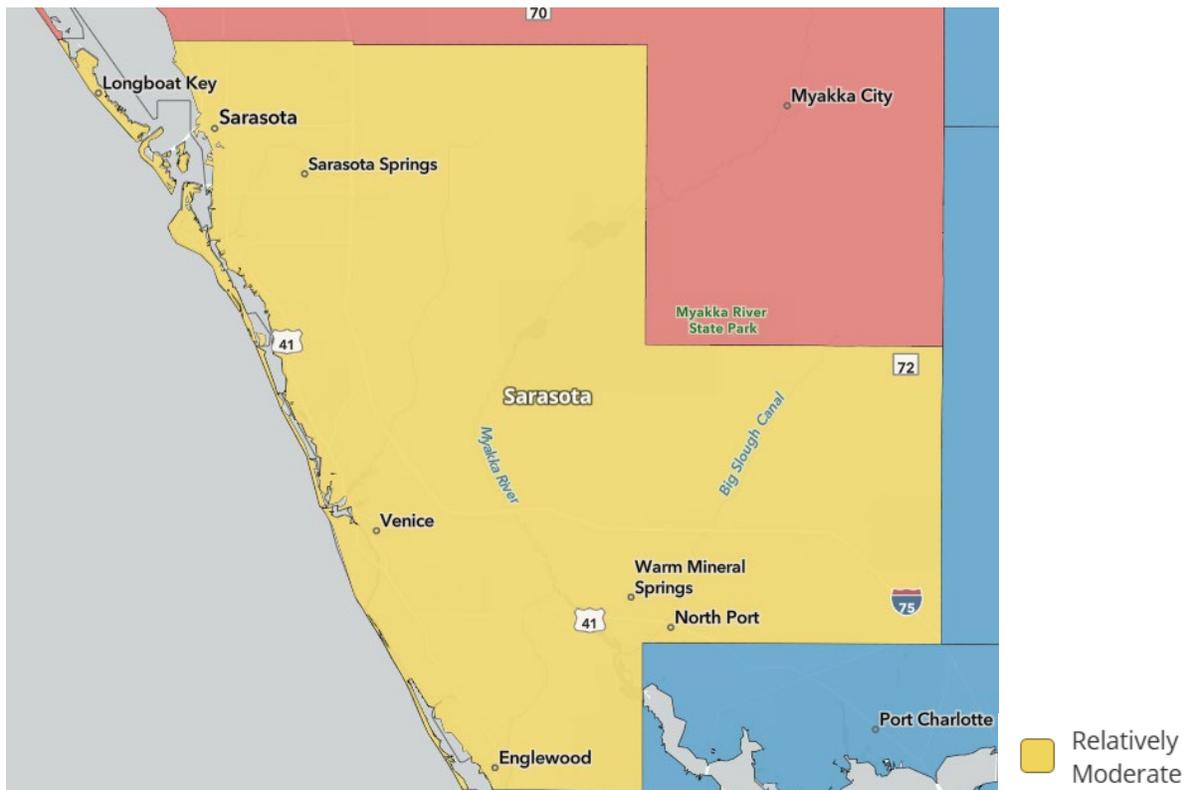


Figure 27: Tornado Risk Rating Sarasota County, Florida⁹⁷

Previous Occurrences (2019–2024)

The National Storm Event Database is a comprehensive resource that catalogs data on weather-related events, including tropical storms, hurricanes, tornadoes, floods, and more. It provides critical information

⁹⁶ FEMA, "National Risk Index," <https://hazards.fema.gov/nri/report/viewer?dataLOD=Counties&dataDs=C12115#SectionSocialVulnerability>.

⁹⁷ Ibid.

that helps assess the frequency, intensity, and impact of severe weather events across the United States. The database is maintained by the National Oceanic and Atmospheric Administration (NOAA).

Sarasota County experienced six tornadoes and 16 waterspout events between January 1, 2019, and December 30, 2024, according to the Storm Events Database.⁹⁸

No federal or state disaster declarations were identified for Sarasota County related to tornadoes or waterspouts during that time period.

Table 40: Tornadoes and Waterspouts in Sarasota County, 2019–2024⁹⁹

Location	Date	Event
Venice	06/01/2020	Tornado
Vamo	06/26/2020	Tornado
Sarasota Beach	03/06/2022	Tornado
Desoto Lakes	05/31/2022	Tornado
North Port	12/15/2022	Tornado
Gator Creek Estates	10/11/2023	Tornado
Longboat Key	03/27/2019	Waterspout
Sarasota Beach	05/05/2019	Waterspout
Longboat Key	05/05/2019	Waterspout
Venice	06/27/2019	Waterspout
Longboat Key	07/03/2019	Waterspout
Sarasota Beach	07/23/2019	Waterspout
Longboat Key	07/16/2020	Waterspout
Longboat Key	08/09/2020	Waterspout
Sarasota Beach	08/19/2020	Waterspout
Venice	09/18/2020	Waterspout
Longboat Key	05/07/2022	Waterspout

⁹⁸ NOAA, National Centers for Environmental Information, "https://www.ncdc.noaa.gov/stormevents/listevents.jsp?eventType=%28%29+Waterspout&beginDate_mm=01&beginDate_dd=01&beginDate_yyyy=2019&endDate_mm=02&endDate_dd=28&endDate_yyyy=2025&county=ALL&submitbutton=Search&statefips=85%2CGULF+OF+MEXICO.

⁹⁹ National Centers for Environmental Information, "Storm Events Database," "https://www.ncdc.noaa.gov/stormevents/listevents.jsp?eventType=%28%29+Hurricane+%28Typhoon%29&eventType=%28%29+Tropical+Depression&eventType=%28%29+Tropical+Storm&beginDate_mm=01&beginDate_dd=01&beginDate_yyyy=2019&endDate_mm=12&endDate_dd=31&endDate_yyyy=2024&county=SARASOTA%3A115&hailfilter=0.00&tornfilter=0&windfilter=000&sort=DT&submitbutton=Search&statefips=12%2CFLORIDA.

Location	Date	Event
Venice	06/07/2022	Waterspout
Sarasota Beach	06/08/2022	Waterspout
Longboat key	07/19/2022	Waterspout
Longboat Key	06/10/2023	Waterspout
Longboat Key	08/17/2023	Waterspout
Nokomis ¹⁰⁰	05/30/2025	Waterspout

OTHER EVENTS

- On March 16, 2025, a tornado touched down in downtown Sarasota, north of the Sarasota Police Department headquarters, damaging a couple of structures and a large oak tree.¹⁰¹
- Tuesday, July 23, 2019, A waterspout was located offshore near Siesta Key.¹⁰²

Probability of Future Conditions

The probability of future tornadoes and waterspout events in Sarasota County is based on historical data, environmental factors, and climate models. Historical records provide insights into the frequency and intensity of past tornadoes and waterspouts, establishing a baseline for future predictions. Tornadoes in Sarasota County have an annualized frequency of 0.6 events per year, suggesting that, on average, 0.6 tornadoes occur each year in the region.¹⁰³ Their range can vary from weak to violent. Waterspouts are more apt to occur in coastal regions like Sarasota, Venice, and Longboat Key, especially during severe storms. Their range can vary from non-threatening to extreme. Specific data on waterspouts is not always available, but they do happen regularly in this area. If atmospheric conditions change, there is a possibility of increased tornadic and waterspout activity.

Vulnerability Assessment

Sarasota County faces a moderate vulnerability to tornadoes and waterspouts, primarily due to its geographic location within the often-active thunderstorm regions of Florida. Several factors contribute to this vulnerability, including manufactured homes, metal buildings, and recreational vehicles, as well as a high number of aged residents. Vulnerable groups often reside in mobile home parks, recreational vehicles, and aging infrastructure. The risk of damage and loss of life increases with population density. The more people and buildings, the greater the chance a tornado will cause damage or injuries. All critical

¹⁰⁰ YouTube, "Nokomis FL Waterspout May 20, 2025," https://www.youtube.com/watch?v=ounN7_LPBpo.

¹⁰¹ Herald-Tribune, "Tornado Touches Down in Downtown Sarasota," <https://www.heraldtribune.com/picture-gallery/weather/2022/03/16/tornado-touches-down-downtown-sarasota-florida-photos/7068211001/>.

¹⁰² WWSB, "Video: Waterspout off Siesta Key Beach," <https://www.mysuncoast.com/2019/07/23/video-waterspout-off-siesta-key-beach/>.

¹⁰³ FEMA, "National Risk Index," <https://hazards.fema.gov/nri/report/viewer?dataLOD=Counties&datalDs=C12115#SectionSocialVulnerability>.

infrastructure in the county can be affected by tornadoes. Jurisdictions and their properties, such as boats and docks, are especially at risk from waterspouts.¹⁰⁴ All jurisdictions within the planning area are vulnerable to tornadoes, while the cities of Sarasota, Venice, North Port, the Ringling Museum, and Longboat Key are vulnerable to waterspouts.

IMPACTS TO ASSETS

Tornadoes and waterspouts pose risks to Sarasota County and its assets. Located on Florida's Gulf Coast, the county is vulnerable to extreme weather that can lead to property damage and safety threats. While all areas face tornado risks, cities like Sarasota, Venice, and Longboat Key are especially susceptible to waterspouts due to their coastal positions.

Table 41 provides a summary of the effects of tornadoes and waterspouts. It discusses the impact on the public, first responders, property, infrastructure, the environment, economic conditions, public confidence, and the consequences of these impacts.

Table 41: Consequence Analysis of Tornadoes and Waterspouts

Area Affected	Consequences
Public	<ul style="list-style-type: none"> • Tornadoes and waterspouts can pose major risks to people's safety, leading to injuries and deaths, and leaving survivors with lasting emotional trauma. • Key services like power, water, and emergency response can be heavily impacted, making it challenging for people to access what they need and slowing down recovery efforts. • Local economies can be hurt by business disruptions and loss of income, which can lead to long-term financial struggles for communities and individuals. • Tornadoes and waterspouts can badly damage natural habitats and ecosystems, causing pollution and requiring extensive cleanup. • Damage to roads and public infrastructure can slow down recovery efforts, stretching resources and extending community disruptions. • Dealing with insurance claims can be complicated and frustrating, often leaving people and businesses without enough support to recover fully after these events. • Community Resilience: Disasters test community resilience, with well-prepared communities recovering more quickly. • Property Damage: Tornadoes and waterspouts can cause extensive harm to homes and businesses, leading to high repair costs and emotional distress for affected residents.

¹⁰⁴ The City of Sarasota, "2021 Sarasota County Unified Local Mitigation Strategy," <https://www.scgov.net/home/showpublisheddocument/60934/638206106205870000>.

Area Affected	Consequences
First Responders	<ul style="list-style-type: none"> • Damage to Infrastructure: Severe weather can destroy critical infrastructure such as roads and communication systems, hindering access to affected areas and delaying rescue operations. • Increased Demand for Resources: Tornadoes and waterspouts create a sudden surge in demand for emergency resources, stressing first responders who may lack adequate personnel and supplies. • Safety Risks: First responders face heightened safety threats from debris, unstable structures, and the potential for secondary disasters, increasing their risk of injury. • Psychological Stress: The emotional toll from witnessing devastation and working under pressure can lead to significant psychological stress and burnout among first responders. • Coordination Challenges: Effective responses require seamless collaboration among agencies, which can be complicated by communication breakdowns and disruptions caused by disasters. • Financial Strains: The costs of emergency responses can be substantial, straining budgets and diverting funds from other essential services due to the economic impacts of recovery efforts.
Property, Facility, and Infrastructure	<ul style="list-style-type: none"> • Property Damage: Tornadoes and waterspouts can cause severe destruction to homes and businesses, resulting in significant repairs or total losses. Waterspouts can also lead to water damage and mold growth, further complicating the recovery process. • Infrastructure Disruption: Critical infrastructure, such as roads, bridges, and utilities, often becomes inoperable. Debris and damaged power lines can obstruct access and hinder emergency responses, leaving communities without essential services for extended periods. • Economic Effects: The economic impact can be substantial, with immediate repair costs and significant revenue losses for businesses. Long-term effects include decreased property values and a weakened local economy, which can take years to recover. • Insurance and Liability: Tornadoes and waterspouts raise issues regarding insurance coverage, often resulting in underinsurance and complex claims processes. Legal liabilities may arise for property owners if negligence plays a role in damage.
Environment	<ul style="list-style-type: none"> • Ecosystem Disruption: Tornadoes and waterspouts can uproot vegetation and displace wildlife, disrupting local ecosystems and affecting biodiversity. • Waterspouts and Water Quantity: Waterspouts can impact local water levels, affecting the availability of water for drinking and agriculture, while also altering water quality due to runoff. • Flooding: After tornadoes, heavy rain can cause flooding that damages properties and public health, increasing the risk of waterborne diseases and environmental hazards.

Area Affected	Consequences
<p>Economic Conditions</p>	<ul style="list-style-type: none"> • Economic Impact: The economic fallout includes repair costs, business interruptions, and losses in the agricultural sector, which can destabilize local economies. • Property Damage: Tornadoes can cause severe damage to homes and businesses, leading to costly repairs and a decline in property values, which ultimately impacts the local economy. • Infrastructure Disruption: Damage to roads, bridges, and utilities can hinder transportation and logistics, affecting the flow of goods and services and prolonging recovery efforts for local businesses. • Insurance Costs: An increased frequency of extreme weather may lead to higher insurance premiums, placing financial burdens on property owners and potentially leaving some uninsured, which can undermine economic stability. • Tourism Impact: Negative perceptions following weather events can discourage visitors, resulting in lost revenue for the tourism-dependent local economy and negatively affecting businesses in the hospitality sector. • Employment Effects: Businesses facing extended closures may reduce staff or lay off workers, leading to job losses that impact consumer spending and overall economic health. • Emergency Costs: The need for immediate emergency response can strain public resources, redirecting funds from other essential services and impacting the community’s budget. • Mitigation Investments: Investing in infrastructure and preparedness programs, while essential for future resilience, requires significant funding, affecting the county’s financial priorities. • Financial Impacts: Immediate repair costs and potential revenue loss can significantly affect finances, underscoring the need for risk assessments and financial reserves. • Financial Strains: The costs of emergency responses can be substantial, straining budgets and diverting funds from other essential services due to the economic impacts of recovery efforts.
<p>Public Confidence</p>	<ul style="list-style-type: none"> • Property Damage: Tornadoes and waterspouts can cause extensive destruction to homes and businesses, affecting property values and the local economy. This damage can lead to increased anxiety among residents and a loss of trust in safety measures. • Emergency Preparedness: Effective emergency preparedness is crucial for mitigating the impact of extreme weather. Communities must focus on educating residents about storm readiness, establishing clear evacuation routes, and ensuring emergency services are well-prepared, which can enhance public confidence during crises. • Insurance and Recovery: Access to robust disaster insurance is vital for facilitating quick recovery post-event. Community support in navigating the insurance process can boost residents' confidence in their financial recovery and stability.

Area Affected	Consequences
	<ul style="list-style-type: none"> • Community Resilience: Fostering resilience involves encouraging collaboration among local organizations and residents to rebuild and strengthen infrastructure. A united community is better positioned to cope with the effects of disasters, thereby increasing public trust. • Perception of Safety: Residents' perception of safety is shaped by past weather experiences. Clear communication from authorities about risks and preparedness efforts is essential for reinforcing public confidence and encouraging community engagement in resilience initiatives.

IMPACT ON COMMUNITY LIFELINES

In Sarasota County, tornadoes and waterspouts can significantly impact several FEMA community lifelines. For example, the Safety and Security lifeline is affected as tornadoes and waterspouts can lead to injuries, increased demands on emergency response services, and create hazardous environments. The Food, Hydration, and Shelter lifeline is also impacted. Tornadoes can disrupt food supply chains and damage food resources. In terms of Health and Medical, tornadoes and waterspouts can cause injuries and strain local healthcare facilities. There is often an urgent need for medical supplies and personnel to assist in the aftermath, which can overwhelm available resources. The Water System's lifeline may be compromised, as tornadoes and waterspouts can damage infrastructure that affects drinking water quality and wastewater systems.

Energy (power and fuel) is another community lifeline impacted. Tornadoes can down power lines and damage substations, causing electrical outages and disruptions in fuel supply that delay recovery efforts. Communication systems fall under the Communications lifeline. Cell towers and communication networks may be damaged, complicating coordination among emergency responders and limiting public access to information. The Transportation lifeline experiences challenges when roads become blocked or damaged due to debris, delaying access for emergency services and evacuation efforts. Lastly, the lifeline of Hazardous Materials is threatened by damage to facilities that can lead to spills or releases of dangerous substances.

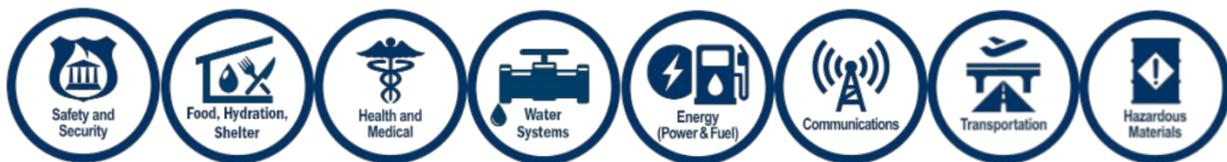


Figure 28: Federal Emergency Management Agency's Community Lifelines

Sarasota County enforces the latest building code standards, which mitigate the impacts of tornadoes and waterspouts and enhance development resilience. The Florida Building Code requires buildings to be engineered to withstand high winds, ensuring safety during tornadoes and waterspouts. Economically, tornadoes and waterspouts can lead to major losses, impacting property values and local businesses. The repercussions may be felt long after the storm has passed, impacting the community's overall economic stability.

The county should continue identifying resilient and sustainable development strategies to mitigate impacts from tornadoes and waterspouts. It is important to note that as growth occurs and/or environmental conditions change, Sarasota County will assess those impacts to identify potential enhancements and implement mitigation actions to enhance resilience to tornados and waterspouts.

Tropical Cyclones

Definition

A tropical cyclone is a rapidly rotating storm system characterized by organized thunderstorm activity and a closed low-level circulation.¹⁰⁵ These storms typically form over warm ocean waters and are classified based on wind speeds. When sustained wind speeds reach 39 miles per hour (63 kilometers per hour), the system is referred to as a tropical storm, and when wind speeds exceed 74 miles per hour (119 kilometers per hour), it is classified as a hurricane (in the Atlantic and Northeast Pacific) or a typhoon (in the Northwest Pacific). Tropical cyclones can produce heavy rainfall, strong winds, and storm surges, significantly impacting coastal areas.

Several conditions are necessary for a tropical cyclone to develop: warm ocean waters (at least 80°F to a depth of about 150 feet), a rapidly cooling atmosphere with height, moist mid-level tropospheric air around 16,000 feet, a distance of at least 300 miles from the equator, a pre-existing near-surface disturbance, and low vertical wind shear (less than about 23 mph).¹⁰⁶ Warm water fuels the cyclone by allowing water vapor to rise and condense into clouds, releasing heat and drawing in more air, leading to strong winds. Once the cyclone's center (the "eye") moves over land, it weakens rapidly due to the loss of moisture and heat from the ocean.¹⁰⁷

An atmospheric disturbance, such as easterly waves or the West African Disturbance Line (WADL), is also required for formation. The Tropical Upper Tropospheric Trough (TUTT) can also play a role, and remnants of a polar front can generate cyclones, particularly in the Gulf or Caribbean Sea during early or late hurricane season.¹⁰⁸ Figure 29 displays the anatomy of a tropical cyclone.

¹⁰⁵ National Oceanic and Atmospheric Administration, "What Is the difference Between a Hurricane and a Typhoon?," <https://oceanservice.noaa.gov/facts/cyclone.html#:~:text=A%20tropical%20cyclone%20is%20a,cyclones%20are%20called%20tropical%20depressions.>

¹⁰⁶ National Oceanic and Atmospheric Administration, "Tropical Cyclone Introduction," <https://www.noaa.gov/jetstream/tropical/tropical-cyclone-introduction#:~:text=A%20tropical%20cyclone%20is%20a,and%20has%20an%20organized%20circulation.>

¹⁰⁷ Ibid.

¹⁰⁸ National Oceanic and Atmospheric Administration, "Tropical Cyclone Introduction," <https://www.noaa.gov/jetstream/tropical/tropical-cyclone-introduction#:~:text=A%20tropical%20cyclone%20is%20a,and%20has%20an%20organized%20circulation.>

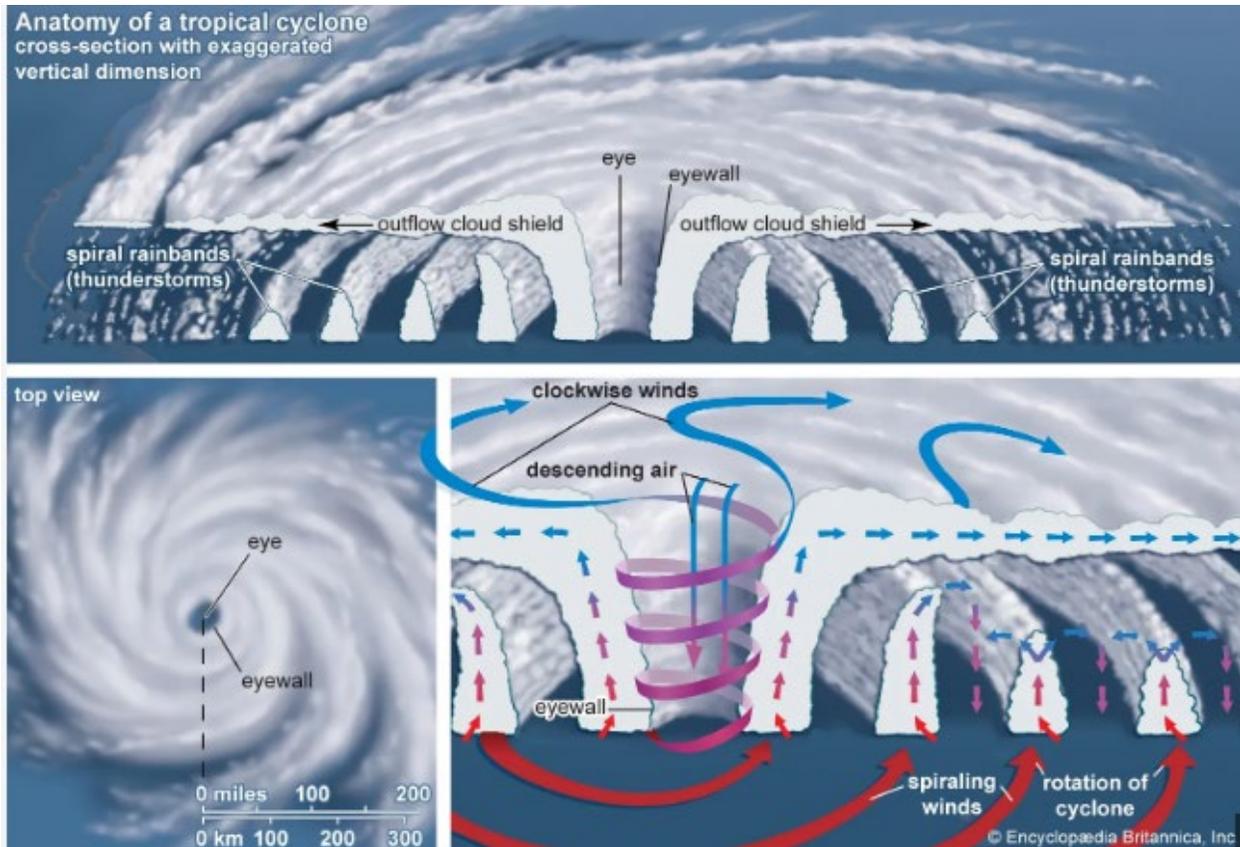


Figure 29: Anatomy of a Cyclone¹⁰⁹

Location

Tropical cyclones can impact all of Sarasota County, especially along the coast. Areas like Siesta Key, Lido Key, Town of Longboat Key and the city of Sarasota are at risk for strong winds, heavy rain, and storm surges. The entire county is vulnerable to hurricane-force winds and flooding due to its location near the Gulf Coast.

North Port is somewhat protected from storm surges but can still have localized flooding. Sarasota is more exposed to tropical cyclones, facing risks from storm surges and high winds, similar to Venice. Longboat Key, an island, is extremely vulnerable due to its location along the Gulf Coast. Its low elevation increases flooding during severe weather, and dense development near the waterfront worsens the issue. Sarasota County Schools serve areas at risk of flooding, due to their location near the coast, which exposes them to severe storms from the Gulf. Many are built at low elevations, making them vulnerable to flooding.

Sarasota Memorial Hospital, near downtown, is at risk of storm surges and flooding due to its location along the Gulf as well as its low elevation. High winds and flying debris pose additional threats to its

¹⁰⁹ Encyclopedia Britannica, Inc., "Tropical Cyclone," <https://www.britannica.com/science/tropical-cyclone>.

infrastructure. The urban surroundings can worsen dangers, while access to the hospital may be delayed by flooded roads and power disruptions during storms. The Sarasota-Manatee Airport Authority oversees the airport, which is crucial for air travel and emergency transportation in the area. Its coastal location requires strict safety protocols during severe weather. High winds from cyclones can create safety hazards and damage facilities. Lastly, the Englewood Area Fire Control District serves communities at risk for flooding and wind damage from cyclones. It is vulnerable due to its coastal location and flat terrain, which can exacerbate flooding.

Extent

Tropical cyclones significantly threaten the Sarasota County planning area. One of the most critical effects of these storms is storm surge, which can lead to remarkable increases in water levels along the coast. Storm surge heights can vary widely depending on the cyclone's intensity, with inundation levels reaching anywhere from 4 to 10 feet or more in low-lying areas. This flooding can substantially damage homes, infrastructure, cut off access to utilities, transportation, emergency services and cause widespread disruption to local communities.¹¹⁰

Wind speed is another crucial factor to consider when assessing the impacts of tropical cyclones. With sustained winds ranging from 38 to over 74 mph or higher, depending on the storm's category, Sarasota County can experience significant wind-related damage.¹¹¹ Structures, trees, and power lines are particularly vulnerable during these events. Even moderate winds can lead to hazardous conditions, causing power outages and structural instability, especially in coastal areas where storm conditions can be exacerbated.

Coastal erosion is a further consequence of tropical cyclones, often resulting in long-term changes to the shoreline. The combination of strong winds and storm surges can erode beaches, reshape dunes, and damage waterfront properties, creating vulnerabilities for the environment and local infrastructure.¹¹²

Table 42 and Table 43 provide data on tropical cyclone wind speeds, hurricane wind speeds, and storm surge. The Saffir-Simpson Hurricane Wind Scale is a classification system that categorizes hurricanes based on their maximum sustained wind speeds. This scale ranges from Category 1 to Category 5, with each category indicating a different level of potential damage and wind intensity. This scale does not consider other potentially deadly hazards, such as storm surge, flooding from rainfall, and tornadoes.

¹¹⁰ First Street, "Sarasota Flooding Risk," https://firststreet.org/city/sarasota/1264175_fsid/flood.

¹¹¹ National Hurricane Center, "Tropical Cyclone Climatology (Text)," [https://www.nhc.noaa.gov/climo/?text#:~:text=Tropical%20Depression%3A%20A%20tropical%20cyclone,\(64%20knots\)%20or%20higher](https://www.nhc.noaa.gov/climo/?text#:~:text=Tropical%20Depression%3A%20A%20tropical%20cyclone,(64%20knots)%20or%20higher).

¹¹² USGS, "National Assessment of Hurricane-Induced Coastal Erosion Hazards: Mid-Atlantic Coast," <https://pubs.usgs.gov/publication/ofr20131131>.

Table 42: Tropical Cyclone Classifications¹¹³

Classification	Wind Speed
Tropical Depression	Maximum sustained winds of 38 mph or less
Tropical Storm	Maximum sustained winds of 39 to 73 mph
Hurricane	Maximum sustained winds of 74 mph or higher

Table 43: Saffir-Simpson Hurricane Wind Scale¹¹⁴

Category	Sustained Winds	Damage Types
1	74–95 mph	Very dangerous winds will produce some damage: Well-built frame homes may experience damage to their roofs, shingles, vinyl siding, and gutters. Large branches of trees can break, and shallow-rooted trees may be uprooted. Significant damage to power lines and poles is likely, which could lead to power outages lasting from a few days to several days.
2	96–110 mph	Extremely dangerous winds will cause extensive damage: Well-constructed frame homes can suffer significant roof and siding damage. Many trees with shallow roots may be snapped or uprooted, blocking many roads. Near-total power loss is anticipated, with outages lasting from several days to weeks.
3 (Major)	111–129 mph	Devastating damage will occur: Well-constructed framed homes may experience significant damage, including the loss of roof decking and gable ends. Many trees could be snapped or uprooted, blocking multiple roads. Electricity and water services may be unavailable for several days to weeks after the storm passes.
4 (Major)	130–156 mph	Catastrophic damage will occur: Well-constructed framed homes can suffer significant damage, potentially losing much of their roof structure and some exterior walls. Most trees will either be snapped or uprooted, and power poles will be downed. This will lead to isolation in residential areas due to fallen trees and downed power poles. Power outages may last for weeks and possibly even months. As a result, much of the area may be uninhabitable for an extended period.
5 (Major)	157 mph or higher	Catastrophic damage will occur: A significant number of framed homes are likely to be destroyed due to total roof failure and wall collapse. Fallen trees and power poles will isolate residential areas, leading to power outages that may last for weeks or even months. As

¹¹³ National Hurricane Center, "Tropical Cyclone Climatology (Text)," [https://www.nhc.noaa.gov/climo/?text#:~:text=They%20are%20classified%20as%20follows,\(64%20knots\)%20or%20higher.](https://www.nhc.noaa.gov/climo/?text#:~:text=They%20are%20classified%20as%20follows,(64%20knots)%20or%20higher.)

¹¹⁴ National Hurricane Center, "Saffir-Simpson Hurricane Wind Scale," <https://www.nhc.noaa.gov/aboutsshws.php>

Category	Sustained Winds	Damage Types
		a result, most of the region will be uninhabitable for an extended period, ranging from weeks to months

Storm surge is an abnormal rise in sea level that occurs during storms, such as hurricanes or tropical cyclones. This phenomenon is primarily driven by two major forces: the storm's intense winds, which push water toward the coastline, and the low atmospheric pressure accompanying the storm. As the winds blow, they create a pile-up of water, leading to elevated sea levels along the shores. This sudden increase in water can cause flooding and significant damage to coastal areas.

Several factors influence the severity of storm surge:¹¹⁵

- Storm intensity: Stronger winds will produce higher storm surges.
- Forward speed: Faster storms create higher surges at the coastline, while slower storms produce surges that reach further inland.
- Size (radius of maximum winds): A larger storm will generate a higher surge for two main reasons. First, the winds in a larger storm exert pressure on a more extensive ocean area. Second, the strong winds in a larger storm tend to impact an area longer than those in a smaller storm.
- The angle of approach: A storm that approaches the coast at a perpendicular angle is more likely to produce a higher storm surge than one that travels parallel to the coast or moves inland at an oblique angle.
- Width and slope of the ocean bottom: A wide, gently sloping continental shelf allows for a higher storm surge, while a narrow, steeply sloping shelf makes storm surge formation more difficult.
- The shape of the coastline and local features: Storm surge is typically higher when a storm makes landfall on a concave coastline, which curves inward (like Apalachee Bay in Florida), than on a convex coastline, which curves outward (such as the Outer Banks of North Carolina). In addition, storm surges are greatly influenced by local features and barriers that affect water flow.

Storm surge is only one factor contributing to rising water levels along the coast during a hurricane. Tides, wave setup, and freshwater flow also play significant roles in the overall increase, as shown in Figure 30.

¹¹⁵ National Hurricane Center, "Storm Surge Overview," <https://www.nhc.noaa.gov/surge/>.

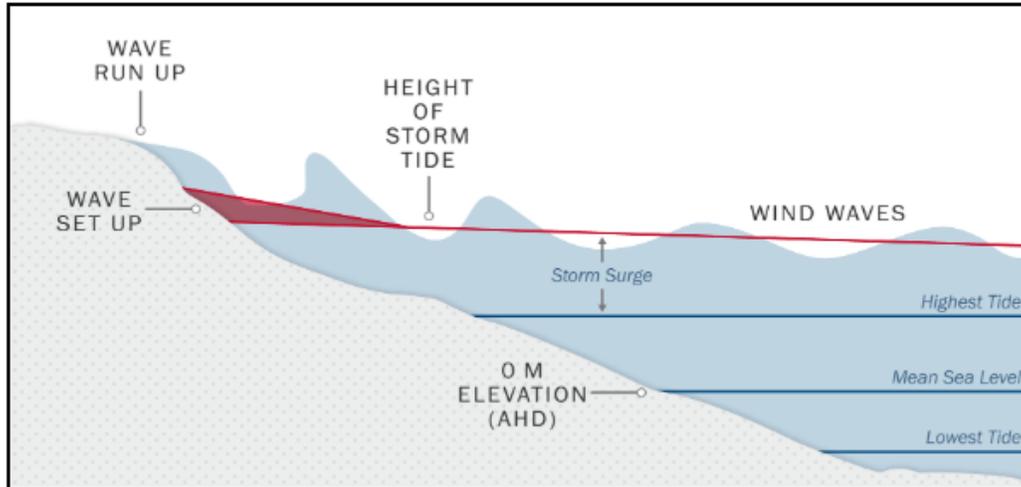


Figure 30: Sea Level, with Low and High Tide, and under Storm Conditions¹¹⁶

JURISDICTIONAL IMPACTS

Hazard impacts refer to the negative effects stemming from natural or human-induced events. Impacts include physical damage, human health concerns, and economic, environmental, and social impacts (see Table 44). Many jurisdictional impacts will be similar, with the exception of Sarasota Memorial Hospital and the Sarasota School District, which face unique challenges.

Table 44: Impacts of Tropical Cyclones/Hurricanes on the Jurisdictions

Participant	Impacts
Sarasota County, City of North Port, City of Sarasota, City of Venice, Town of Longboat Key, Sarasota Manatee Airport authority, Englewood Fire District, and Ringling Museum	<ul style="list-style-type: none"> • High winds • Flooding • Coastal erosion • Public health risks • Contamination of water supplies • Compromised essential services • Storm surge (with the exception of North Port, which is at a higher elevation and inland) • Wind damage • Water systems issues (stormwater and wastewater) • Economic disruption • Disruption of services • Public safety risks • Emergency response challenges • Environmental damage • Infrastructure strain

¹¹⁶ Ibid.

Participant	Impacts
	<ul style="list-style-type: none"> • Long-term recovery challenges • Operational disruptions • Supply chain disruptions • Insurance and liability issues • Evacuation challenges
Sarasota Memorial Hospital	<ul style="list-style-type: none"> • Patient safety risks • Medical supply shortages • Infectious disease risks
Sarasota School District	<ul style="list-style-type: none"> • Lost instructional time

NATIONAL RISK INDEX

The National Risk Index (NRI) is a tool developed by the Federal Emergency Management Agency (FEMA) designed to evaluate and visualize the risk of natural hazards across the United States. It provides data and insights on 18 natural hazards. The index combines multiple factors, such as the probability of different hazard events, the vulnerability of communities, and potential impacts, to assess overall risks.

Sarasota County's hurricane risk profile includes an overall risk index score of 99.3, an expected annual loss also rated at 99.3, and a social vulnerability score of 41.22.¹¹⁷

The overall risk index score of 99.3 signifies a very high risk associated with hurricanes. This indicates Sarasota County is highly vulnerable to hurricane impacts, including wind damage, flooding, and secondary risks such as power outages. The expected annual loss being the same (99.3) suggests that the predicted economic impact of hurricanes on the county could be severe, leading to substantial annual financial losses.

With a social vulnerability score of 41.22, Sarasota County shows that a portion of its population may face challenges during and after hurricane events. This vulnerability could stem from various factors, including lower income levels, lack of access to transportation, and inadequate health resources. Understanding these vulnerabilities is crucial for local authorities and agencies to implement effective outreach and support programs aimed at at-risk communities, ensuring that they are better prepared and equipped to respond to hurricanes.

Sarasota County's high hurricane risk index and expected annual loss underscore the importance of comprehensive planning and preparedness. Local leaders should continue to prioritize strengthening community safety and recovery capabilities. Figure 31 shows the overall risk of hurricanes in Sarasota County.

¹¹⁷ FEMA, "National Risk Index," <https://hazards.fema.gov/nri/map>.

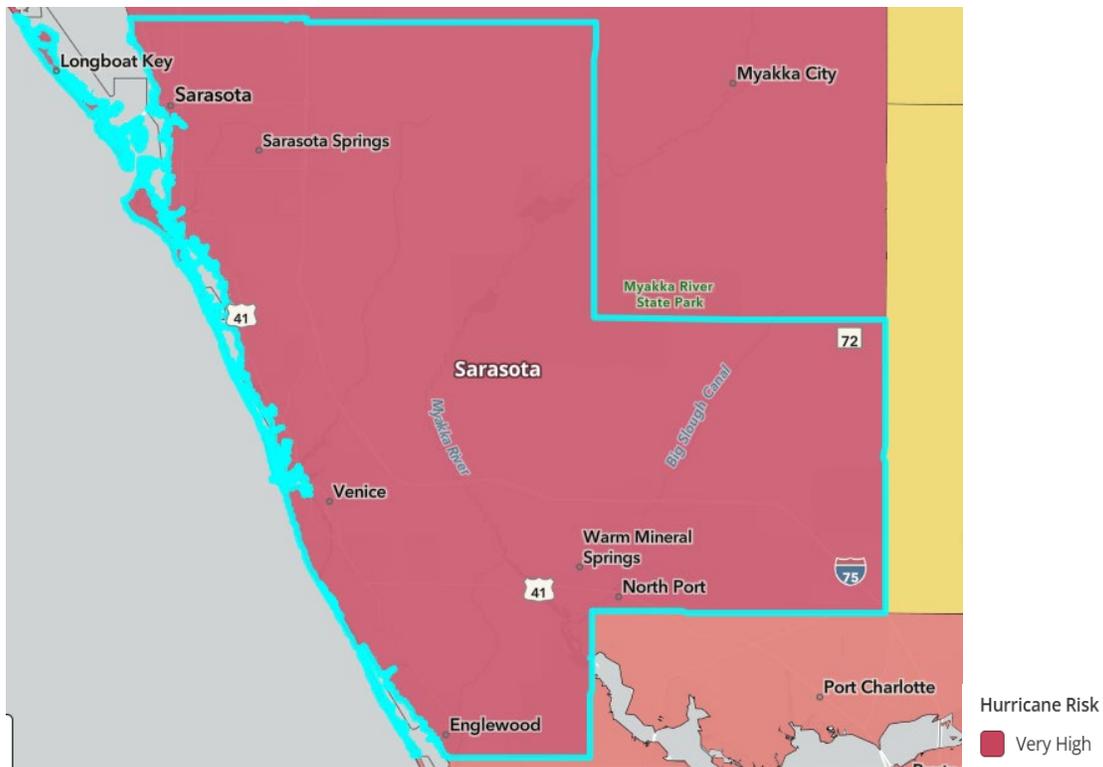


Figure 31: National Risk Index for Hurricanes¹¹⁸

Previous Occurrences (2019–2024)

The National Center for Environmental Information (NCEI) is a comprehensive resource that catalogs data on weather-related events, including tropical storms, hurricanes, tornadoes, floods, and more. It provides critical information that helps assess the frequency, intensity, and impact of severe weather events across the United States. The NCEI is maintained by the National Oceanic and Atmospheric Administration (NOAA).

According to the database, Sarasota County experienced 8 tropical storms and hurricane events between January 1, 2019, and December 30, 2024 (see Table 45). Table 46 provides information on FEMA-declared tropical cyclones which included Sarasota County during the same period.

¹¹⁸ FEMA, "National Risk Index," <https://hazards.fema.gov/nri/map#>.

Table 45: Tropical Cyclones in Sarasota County, 2019–2024¹¹⁹

Date	Event	Deaths
11/11/2020	Tropical Storm Eta	0
7/6/2021	Tropical Storm Elsa	0
9/28/2022	Hurricane Ian	8
11/10/2022	Tropical Storm Nicole	0
8/30/2023	Tropical Storm Idalia	0
8/4/2024	Tropical Storm Debby	1
9/26/2024	Tropical Storm Helene	0
10/9/2024	Hurricane Milton	0

Table 46: FEMA Declared Disasters¹²⁰

Declaration Date	Disaster Number	Type	Event
10/11/2024	4834	Major Disaster	Hurricane Milton
10/07/2024	3622	Emergency Declaration	Hurricane Milton
09/28/2024	4828	Major Disaster	Hurricane Helene
09/24/2024	3615	Emergency Declaration	Tropical Storm Helene
08/10/2024	4806	Major Disaster	Hurricane Debby
08/03/2024	3605	Emergency Declaration	Tropical Storm Debby
08/31/2023	4734	Major Disaster	Hurricane Idalia
08/28/2023	3596	Emergency Declaration	Tropical Storm Idalia
12/13/2022	4680	Major Disaster	Hurricane Nicole
11/08/2022	3587	Emergency Declaration	Tropical Storm Nicole
09/29/2022	4673	Major Disaster	Hurricane Ian
09/24/2022	3584	Emergency Declaration	Tropical Storm Ian
07/04/2021	3561	Emergency Declaration	Tropical Storm Elsa

¹¹⁹ National Centers for Environmental Information, “Storm Events Database,” <https://www.ncdc.noaa.gov/stormevents/listevents.jsp?eventType=%28%29+Hurricane+%28Typhoon%29&eventTyp e=%28%29+Tropical+Depression&eventType=%28%29+Tropical+Storm&beginDate mm=01&beginDate dd=01 &beginDate yyyy=2019&endDate mm=12&endDate dd=31&endDate yyyy=2024&county=SARASOTA%3A115&hai lfilter=0.00&torfilter=0&windfilter=000&sort=DT&submitbutton=Search&statefips=12%2CFLORIDA>.

¹²⁰ FEMA, “Disaster Declarations for States and Counties,” <https://www.fema.gov/data-visualization/disaster-declarations-states-and-counties>

Declaration Date	Disaster Number	Type	Event
08/30/2019	3419	Emergency Declaration	Hurricane Dorian

- Hurricane Milton:** Hurricane Milton was one of the most powerful hurricanes ever documented in the Atlantic basin, achieving Category 5 intensity on the Saffir-Simpson Hurricane Wind Scale. Hurricane Milton was the fifth most intense by central pressure at 897 millibars and tied for sixth most intense by wind speed at 180 mph. Uniquely, it followed an eastward trajectory across the Gulf before making landfall on the west coast of the Florida peninsula, which includes Sarasota County, as a Category 3 hurricane. This system caused considerable damage, particularly in the Sarasota and Tampa Bay regions.¹²¹

In the city of Venice, officials reported that 19 structures were destroyed as of October 21. Additionally, 250 residences sustained major damage, 1,108 experienced minor damage, and a total of 1,896 homes were affected. City Building Official Derek Applegate stated that the estimated damage from Hurricane Milton amounted to \$57.5 million.

In Sarasota, the estimated damage to city facilities was between \$7 million and \$10 million.

In North Port, 17 single-family homes and 45 manufactured homes sustained major damage due to Hurricane Milton.

In Longboat Key, authorities estimated the damage from Hurricane Milton to be \$11.2 million.

For unincorporated Sarasota County, the preliminary damage estimate from Hurricane Helene was \$305,712,894.¹²²

Table 47: Number of Properties Damaged by Hurricane Milton, Sarasota County¹²³

Number of Structures	Damage Categories
103	Destroyed
878	Major Damage
2,436	Minor
4,699	Affected

¹²¹ NOAA, "National Hurricane Center Tropical Storm Cyclone Report," https://www.nhc.noaa.gov/data/tcr/AL142024_Milton.pdf.

¹²² Business Observer, "Sarasota County Damage Estimate Over \$440M from Hurricane Milton," <https://www.businessobserverfl.com/news/2024/oct/18/sarasota-milton-damage-estimate/>.

¹²³ Business Observer, "Sarasota County Damage Estimate Over \$440M from Hurricane Milton," <https://www.businessobserverfl.com/news/2024/oct/18/sarasota-milton-damage-estimate/>.



Figure 32: Bayfront Park, Sarasota, After Hurricane Milton, 2024¹²⁴

- Hurricane Helene:** Hurricane Helene made landfall in the Florida Big Bend region as a Category 4 storm. In Sarasota County, the hurricane sent a 6-foot storm surge to the barrier islands, flooding thousands of homes in Sarasota County. Additionally, more than 410 people and pets were sheltered in Sarasota County evacuation shelters.¹²⁵ The estimated damage to residential and commercial properties from Hurricane Helene exceeded \$1.1 billion, with 7,644 residential properties damaged.¹²⁶ Nationwide, Helene has been linked to at least 250 fatalities in the United States, including 176 direct deaths, marking it as the deadliest hurricane in the contiguous U.S. since Hurricane Katrina in 2005.¹²⁷ The estimated nationwide cost of Helene was \$306,000,000.¹²⁸
- Hurricane Debby:** Hurricane Debby made landfall in Florida on August 5, 2024, as a Category 1 hurricane. Its eyewall passed approximately 100 miles offshore from Sarasota County before making landfall in the Big Bend region. Sustained winds of 46 mph, with gusts up to 64 mph, were recorded at the Sarasota Bradenton International Airport (SRQ).¹⁴⁴

In addition to high winds, the hurricane's outer bands stalled over the County, producing 16.98 inches of rainfall in less than 48 hours. Given this situation, the County experienced the highest rainfall in the state, and significant flooding occurred in the northern part of the County. Flooding occurred in both

¹²⁴ Herald-Tribune, "How Bad Was Hurricane Milton Damage in Sarasota? See Photos and Videos," <https://www.heraldtribune.com/story/weather/hurricane/2024/10/11/sarasota-hurricane-milton-damage-photos-storm-florida/75632443007/>.

¹²⁵ Sarasota County, "One Year Later: Sarasota County Recalls Impacts, Lessons Learned From Hurricane Helene," <https://www.scgov.net/Home/Components/News/News/8217/23#:~:text=One%20Year%20Later:%20Sarasota%20County,5>.

¹²⁶ "Sarasota County 2024 Hurricane Season After-Action Report," egenda.scgov.net.

¹²⁷ NOAA, "National Hurricane Center Tropical Cyclone Report," https://www.nhc.noaa.gov/data/tcr/AL092024_Helene.pdf

¹²⁸ Herald-Tribune, "Combined Losses from Helene and Milton to Eclipse \$1 Billion in Sarasota, Manatee Counties," <https://www.heraldtribune.com/story/news/local/sarasota/2024/10/21/helene-milton-damage-to-sarasota-manatee-near-hurricane-ians-cost/75713402007/>

the floodplain—as predicted—and in some newer neighborhoods that had not previously experienced significant flooding in recent history. Impacts were compounded by the above-average rainy season.¹⁴⁴

Hurricane Debby caused an estimated \$57.9 million in damage to 1,047 residences and an estimated \$49.7 million in public assistance costs to the County (e.g., emergency work, infrastructure repairs, and debris removal). Additionally, it resulted in the removal of more than 11,000 cubic yards of debris.¹⁴⁴

- **Hurricane Idalia:** Hurricane Idalia began as a disturbance over the eastern Pacific and Central America around August 23. It moved northeast into the northwestern Caribbean Sea and organized. On August 26, at about 5 PM EDT, the National Hurricane Center identified a closed circulation, leading to a tropical depression.

From August 26 to early August 28, Idalia slowly moved through the northwestern Caribbean Sea and became a tropical storm by Sunday morning. Early Monday, it turned northward, passed over Cuba, and quickly strengthened into a major hurricane on Tuesday. It made landfall near Keaton Beach, Florida, just before 8 AM EDT on Wednesday.

Idalia's main impact was a significant storm surge along the Big Bend coast of Levy, Dixie, and Taylor counties, with surge levels reaching 7 to 12 feet. This was among the highest recorded since the 1993 Storm of the Century. If Idalia had made landfall at high tide, surge levels could have been 3 to 4 feet higher. Additionally, high winds and flooding caused damage inland into Georgia. The wind impacts were likely reduced due to an eyewall replacement cycle that weakened Idalia's inner core before landfall.¹²⁹ The estimated damages were \$2.6 million.¹³⁰

- **Hurricane Nicole:** Hurricane Nicole began forming on November 7th as a large low-pressure system started to show subtropical features. On November 8th, the system organized and became a Tropical Storm. By November 9th, Nicole had intensified into a Category 1 Hurricane after making landfall in the northern Bahamas. The storm then hit the Florida east coast near Vero Beach in the early morning on November 10th. It brought strong winds, heavy rain, and high surf to the east coast, which was still recovering from Hurricane Ian. West Central and Southwest Florida also experienced heavy rainfall and stronger winds from the storm.¹³¹ The estimated costs from Nicole to the state of Florida were \$481 million.¹³²
- **Hurricane Ian:** Hurricane Ian hit southwestern Florida as a Category 4 storm on the Saffir-Simpson scale. It became one of the most devastating storms in Sarasota County's history. The storm caused billions of dollars in damage and tragically killed eight people. Almost every part of the County

¹²⁹ NOAA, "Hurricane Idalia Strikes the Florida Big Bend August 30, 2023," <https://www.weather.gov/tae/HurricaneIdalia2023>.

¹³⁰ Sarasota County, "News List," <https://www.scgov.net/Home/Components/News/News/5494/23>.

¹³¹ NOAA, "Hurricane Nicole – November 2022," <https://www.weather.gov/tbw/HurricaneNicole>.

¹³² Fox News, "Florida's Damages from Hurricane Nicole Will Cost Over \$481 Million," <https://www.foxnews.com/weather/floridas-damages-hurricane-nicole-cost-481-million>.

experienced damage from severe storm surges, damaging winds, and historic flooding, but the City of North Port was hit particularly hard. Much of the City was flooded and the Holiday Park mobile home community was severely damaged. Seven of the eight deaths in the County occurred in North Port.¹³³ To fund housing reconstruction and recovery, the County launched the Resilient SRQ program, which continues to provide residents with support after major storms.¹³⁴ The overall estimated cost to Sarasota County was \$2 billion.¹³⁵

- **Hurricane Dorian:** On August 19, 2019, a tropical wave formed off the west coast of Africa and moved west. By August 24, it became a tropical depression and was named Tropical Storm Dorian the same day. Dry air slowed its organization for 24 hours.

Dorian made landfall in Barbados with 45-knot winds on 27 August and continued over the Windward Islands, struggling due to the terrain. By 1530 UTC, it strengthened to a 65-knot hurricane near St. Croix, reaching 70 knots over St. Thomas.

Dorian then followed a favorable west-northwest path, becoming a Category 3 hurricane by 30 August. It intensified into a Category 5 hurricane, making landfall at Elbow Cay, Great Abaco, on 1 September with winds of 160 knots. Dorian impacted Great Abaco for three days before landing near Grand Bahama Island on 2 September with winds of 155 knots, later dropping to 140 knots.

A trough over the eastern U.S. influenced Dorian's north-northwest movement, keeping it east of Florida from 3 to 5 September. It weakened due to high shear but regained strength to a Category 3 as it crossed the Gulf Stream. Dorian made landfall at Cape Hatteras with 85-knot winds on 6 September, mostly affecting the waters in North Carolina. It then accelerated northeast, became a strong post-tropical cyclone on 7 September, and reached Nova Scotia, causing hurricane-force wind gusts. Dorian became fully extratropical by 8 September and was absorbed by a larger low by 9 September.¹³⁶

- **Hurricane Elsa:** Elsa became the earliest fifth-named storm recorded by the end of the 2021 hurricane season. The storm significantly impacted the west coast of Florida, causing storm surge of 2 to 3 feet and bringing 6 to 10 inches of rain to parts of southwest Florida. In southern Sarasota and Charlotte Counties, streets flooded due to weeks of heavy rain, which was worsened by Elsa's

¹³³ Community Foundation of Sarasota County, "A Year after Hurricane Ian, Sarasota County Working on Long Term Recovery," October 3, 2023, <https://www.cfsarasota.org/photo-album/A-year-after-Hurricane-Ian-Sarasota-County-working-on-long-term-recovery>.

¹³⁴ Sarasota County, "Resilient SRQ," 2025, <https://www.resilientsrq.net/housing-recovery>.

¹³⁵ NOAA, "Storm Events Database,"

https://www.ncdc.noaa.gov/stormevents/listevents.jsp?eventType=%28Z%29+Hurricane+%28Typhoon%29&eventType=%28Z%29+Tropical+Storm&beginDate_mm=01&beginDate_dd=01&beginDate_yyyy=2019&endDate_mm=06&endDate_dd=03&endDate_yyyy=2025&county=SARASOTA%3A115&hailfilter=0.00&tornfilter=0&windfilter=000&sort=DT&submitbutton=Search&statefips=12%2CFLORIDA.

¹³⁶ NOAA, "National Hurricane Center Tropical Cyclone Report," https://www.nhc.noaa.gov/data/tcr/AL052019_Dorian.pdf.

additional rainfall. The storm made landfall as a Tropical Storm near Fish Creek, just north of Steinhatchee in Taylor County, at about 10:30 AM EDT on July 7.¹³⁷

Probability of Future Conditions

The probability of future tropical cyclone events in Sarasota County is based on historical data, environmental factors, and climate models. Historical records provide insights into the frequency and intensity of past cyclones, establishing a baseline for future predictions.

According to the National Risk Index, Sarasota County has an annualized frequency value of 0.2 hurricanes and 3.7 coastal flooding events.¹³⁸ This means that, on average, there is a 20% chance (0.2) of experiencing a tropical cyclone or hurricane annually.

There is a higher likelihood of coastal flooding with an annualized frequency of 3.7 events per year.¹³⁹ This means there is about a 97.4% chance of experiencing at least one coastal flooding event in a year.

The probability of both a tropical cyclone and coastal flooding occurring in the same year is approximately 19.48%. The overall likelihood of either a tropical cyclone/hurricane or coastal flooding (or both) occurring in the future is about 97.92%, highly likely (high).

Vulnerability Assessment

Sarasota County is at significant risk from tropical cyclones due to its geographic location and extensive shoreline, which increases vulnerability to storm surges and flooding. Additionally, tropical cyclones are identified as the number one threat and as the most likely significant threat in the County's Threat and Hazard Identification and Risk Assessment.

Longboat Key's Island status limits evacuation routes and complicates emergency responses. Venice is vulnerable to flooding, particularly in its historic district. North Port is vulnerable to flooding in the low-lying, poorly draining areas, especially near the Myakka River and its tributaries. Sarasota Bradenton International Airports operations could be disrupted by high winds and flooding, making resilient infrastructure and evacuation plans crucial. Englewood Area Fire Control District could struggle to respond effectively during cyclones due to flooding and debris. Upgrades and community education on preparedness are a necessity. Sarasota County Schools need to ensure safety during storms, with well-developed evacuation protocols and buildings that meet strict hurricane standards. Sarasota Memorial Hospital must maintain operations during storms, requiring infrastructure and emergency contingency

¹³⁷ NOAA, "Hurricane Elsa – July 2021,"

<https://www.weather.gov/tbw/HurricaneElsa#:~:text=Areas%20along%20the%20west%20coast,additional%20rainfall%20associated%20with%20Elsa.>

¹³⁸ FEMA, "National Risk Index," <https://hazards.fema.gov/nri/map#>.

¹³⁹ Ibid.

plans. Although there are already measures in place to prepare for tropical cyclones, continued assessments and strategic improvements are essential.

IMPACTS TO ASSETS

Table 48 provides a summary of the impact of tropical cyclones/hurricanes, including the impact on the public, first responders, continuity of operations, property, infrastructure, environment, economic conditions, and public confidence, and the consequences of those impacts.

Table 48: Consequence Analysis of Tropical Cyclones

Area Affected	Consequences
<p>Public</p>	<ul style="list-style-type: none"> • Infrastructure Damage: Tropical cyclones can severely damage critical infrastructure, such as roads and bridges, disrupting transportation and emergency services, and leading to costly repairs. • Damage to Residential Property: Homes often face significant destruction from flooding and high winds, risking displacement for families and financial strain due to costly repairs and reduced property values. • Damage to Commercial Property: Businesses may experience substantial losses due to property damage and inventory loss, affecting revenue and potentially leading to layoffs, which hampers economic recovery. • Agricultural Losses: Farmers may suffer from crops and livestock damage due to flooding and high winds, impacting local food supply and agricultural economic stability. • Damage to Water Treatment Facilities and Sewage Systems: Storms can compromise water treatment and sewage systems, risking public health with contaminated water supplies and necessitating costly emergency fixes. • Disruptions of Utilities: Utilities like electricity, gas, and telecommunications are vulnerable to tropical cyclones, leading to service outages that affect households and businesses and complicate emergency response efforts.
<p>First Responders</p>	<ul style="list-style-type: none"> • Physical Damage to Specialized Equipment and Vehicles: Tropical cyclones can severely damage essential rescue vehicles and equipment, hindering emergency response efforts and leading to lengthy repair times and replacement costs. • Operational Challenges: The aftermath of a cyclone creates significant operational hurdles, such as navigating debris-laden roads and coordinating with various agencies, complicating effective rescue and recovery processes. • Increased Demand for Resources: The demand for personnel, equipment, and medical supplies skyrockets during and after a cyclone, often overwhelming existing resources and risking burnout among responders. • Communication Disruptions: Cyclones can disrupt communication networks, impeding timely information sharing and coordination among first responders, which can delay emergency responses. • Financial Strain: Repairing or replacing damaged equipment imposes a significant financial burden on emergency services, straining budgets and diverting funds from other essential community services.

Area Affected	Consequences
<p>Continuity of Operations</p>	<ul style="list-style-type: none"> • Infrastructure Damage: Cyclones can cause severe damage to critical infrastructure, leading to service disruptions and high repair costs, impacting community resilience. • Resource Allocation: Redirecting resources to cyclone response strains existing operations, reducing capacity in essential services and hindering daily functions. • Communication Disruptions: Damage to communication systems can impede coordination among emergency services and delay crucial information dissemination to the public. • Threats to First Responder Safety: The unpredictable nature of cyclones poses risks to first responders, resulting in injuries or absenteeism that can weaken emergency response capabilities. • Supply Chain Interruptions: Cyclones disrupt local supply chains, impacting the availability and cost of essential goods and complicating recovery efforts. • Economic Strain: The aftermath can create economic challenges, including business damage, loss of income, and increased recovery costs, affecting long-term community stability. • Public Distrust and Lack of Confidence: Poor management of disaster response may erode public trust in local authorities, leading to decreased community cooperation in future emergencies.
<p>Property, Facility, and Infrastructure</p>	<ul style="list-style-type: none"> • Property Damage: Tropical cyclones can cause severe damage to both residential and commercial properties, including structural damage from flooding and winds. • Infrastructure Damage: Roads and bridges may be compromised, with flooding and debris obstructing vital transportation routes and hindering emergency response. • Utility Services Damage: Power outages and compromised water supply systems can disrupt essential services for days or weeks, affecting residents and businesses. • Business Disruption: Many businesses experience income loss and operational shutdowns due to physical damage and utility outages, impacting the local economy. • Emergency Services Disruption: First responders may struggle to access affected areas, and demand for services can exceed available resources during widespread disasters. • Environmental Damage: Cyclones can lead to habitat destruction, erosion, and water quality issues, negatively impacting local ecosystems. • Insurance and Financial Implications: Increased claims on property insurance can raise costs and affect availability of coverage, placing financial burdens on policyholders and businesses during recovery.

Area Affected	Consequences
<p>Environment</p>	<ul style="list-style-type: none"> • Erosion: Erosion caused by storm surges and strong winds can result in the loss of land and infrastructure while weakening natural buffers like beaches and dunes. • Habitat Destruction: Cyclones can devastate habitats, destroying nesting areas and disrupting ecosystems, which displaces wildlife and threatens biodiversity. • Water Pollution: Floodwaters can carry pollutants from urban runoff into rivers and coastal areas, degrading water quality and harming aquatic life, which in turn impacts recreation and tourism. • Soil Degradation: Heavy rains can compact soil and wash away nutrient-rich topsoil, reducing agricultural productivity and altering natural nutrient cycling. • Freshwater Resource Contamination: Saltwater intrusion can compromise freshwater aquifers, threatening drinking water quality and availability for both humans and ecosystems. • Altered Ecosystems: The impact of cyclones can shift species dynamics and reduce ecosystem resilience, making them more vulnerable to future disturbances and climate change.
<p>Economic Conditions</p>	<ul style="list-style-type: none"> • Physical Damage: Cyclones cause extensive damage to infrastructure and homes, leading to substantial repair costs and safety hazards. • Business Interruption: Many businesses may close temporarily or permanently, disrupting local economies and supply chains, and limiting consumer access to essential goods and services. • Increased Insurance Costs: After a cyclone, insurance premiums often rise, straining budgets for residents and businesses, and potentially lowering property values. • Displacement of People: Residents may be forced to evacuate, leading to social issues like homelessness and stressing local resources and public services. • Agricultural Losses: Cyclones can devastate crops, resulting in food shortages and increased prices while threatening long-term agricultural productivity. • Job Losses: Business and agricultural disruptions can lead to significant job losses, increasing unemployment and reducing disposable income in the community. • Public Spending and Resource Reallocation: Local governments may need to divert funds to disaster response, straining budgets and potentially cutting essential services. • Long-term Economic Growth Delays: The cumulative impact of damage, job losses, and increased costs can hinder long-term economic growth and development, affecting investment and community progress.
<p>Public Confidence</p>	<ul style="list-style-type: none"> • Emergency Response Effectiveness: Delays or mishaps in emergency response can lead to frustration and distrust in local authorities. A well-coordinated and prompt response is crucial for maintaining public confidence. • Economic Impact: Tropical cyclones can disrupt local economies, causing job losses and lower property values. These economic strains may diminish trust in government, as residents feel their livelihoods are not protected, ultimately weakening community resilience.

Area Affected	Consequences
	<ul style="list-style-type: none"> • Communication and Misinformation: Effective and timely communication is critical during emergencies. Misinformation can lead to increased panic and skepticism toward officials. Clear communication strategies are crucial for maintaining public trust. • Community Preparedness: Unprepared communities experience heightened anxiety and frustration during crises. Access to preparedness resources is critical for building resilience and trust in local government. • Long-term Recovery: Slow or ineffective recovery can leave lasting impacts on a community’s trust in local governance. Successful recovery efforts are essential for restoring public confidence and ensuring future stability.

IMPACT ON COMMUNITY LIFELINES

Tropical storms can profoundly disrupt several FEMA community lifelines. The Safety and Security lifeline may be compromised as emergency services struggle to respond to incidents due to hazardous conditions. The Food, Hydration, and Shelter lifeline is often affected when supply chains are interrupted, leading to food shortages and inadequate access to clean water and safe shelters. The health and medical lifeline can strain services, with hospitals overwhelmed and facing challenges in reaching those in urgent need of care. Hazardous Materials management becomes critical when such storms can lead to spills, posing public health and safety risks.

The energy lifeline faces significant damage to power infrastructure, leading to widespread outages that can last days or weeks, affecting homes, businesses, and emergency services. Fuel shortages can also happen due to transportation issues, complicating recovery efforts. Additionally, the communications lifeline suffers from network outages due to damaged infrastructure, complicating disaster response.

Tropical cyclones pose significant threats to water systems, mainly through infrastructure damage to treatment plants, distribution networks, and storage facilities. Flooding increases contamination risks, requiring widespread testing and remediation efforts. After a cyclone, the demand for clean water increases, straining already compromised systems, especially during power outages.

Finally, infrastructure systems face severe impacts, as flooding can wash out roads and bridges, hinder transportation, and limit access to essential services, while communication outages can further complicate emergency responses.

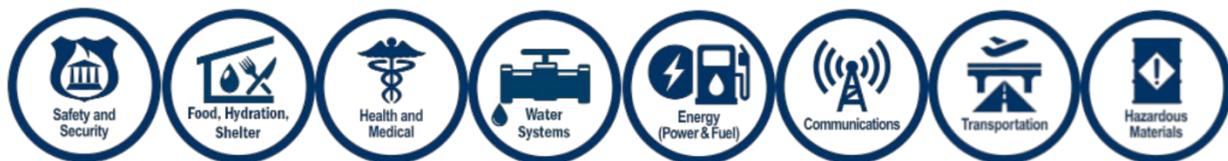


Figure 33: Federal Emergency Management Agency’s Community Lifelines

Sarasota County and its municipalities have implemented various policies, building codes, and regulations to mitigate the impacts of tropical cyclones and enhance development resilience. A key component is adherence to the Florida Building Code, which requires buildings to be engineered to withstand high winds, ensuring safety during storms.

The Sarasota County Floodplain Management Ordinance and those of its municipalities enforce strict floodplain regulations that mandate flood risk assessments and require designs that elevate structures above predicted flood levels. The County's Comprehensive Plan promotes land use policies that encourage the preservation of natural buffers, like wetlands, which help absorb storm surges.

County and municipal emergency management plans are crucial for community preparedness, outlining evacuation routes and resource allocation during storms. The County also promotes sustainable development through green infrastructure practices that manage stormwater and reduce flooding risks.

The impacts of tropical cyclones on Sarasota County can be significant, particularly due to the region's coastal geography. Infrastructure may be vulnerable to wind, flooding, and storm surge. Structures built closer to the coast and waterways require prioritization in resilience planning.

The economic implications of tropical cyclones in highly developed areas can be severe. Increased property and infrastructure damage can lead to significant financial losses for homeowners and negatively impact local businesses and the broader economy. Rising insurance costs are another concern; as the perceived risk of damage from cyclones increases, insurance premiums may rise, making coverage less affordable and placing an additional financial strain on residents.

The county should continue identifying resilient and sustainable development strategies to mitigate impacts from tropical cyclones. It is important to note that as growth occurs and/or environmental conditions change, Sarasota County will assess those impacts to identify potential enhancements and implement mitigation actions to enhance resilience to tropical cyclones.

Wildland Fire

Definition

A wildfire is defined as an unplanned, unwanted fire that burns in a natural area, such as a forest, grassland, or prairie.¹⁴⁰ Fires that are intentionally ignited within legal guidelines are known as controlled burns or prescribed fires. These fires serve various ecological and land management purposes.¹⁴¹ Wildfires, on the other hand, occur naturally or accidentally and can be classified into three primary types.

¹⁴⁰ National Oceanic and Atmospheric Administration, National Weather Service, "Wildfire," <https://forecast.weather.gov/glossary.php?word=wildfire>.

¹⁴¹ U.S. Department of Agriculture Forest Service, *Wildfire, Wildlands, and People: Understanding and Preparing for Wildfire in the Wildland-Urban Interface* (General Technical Report RMRS-GTR-299) (January 2013), https://www.fs.usda.gov/rm/pubs/rmrs_gtr299.pdf

Ground fires burn through dense organic material accumulated on the forest floor and can extend deep into the soil. These fires are particularly destructive to root systems, peat layers, and compacted litter. Because they burn slowly, they can smolder beneath the surface for extended periods, sometimes lasting months. Surface fires, in contrast, consume fallen leaves, branches, and other vegetation in the underbrush of a forest.¹⁴²

Surface fires are the most common type of wildfire, burning along the forest floor and consuming grasses, fallen leaves, pine needles, and other dead fuels. While generally less intense than crown fires, surface fires can still spread rapidly under dry and windy conditions, especially when fuel loads are high. These fires play an important ecological role in many forest systems by clearing underbrush and promoting new growth. However, when surface fires intensify, they can generate enough heat to ignite the lower branches of trees, potentially transitioning into more severe crown fires.

Crown fires, which burn through the tops of trees, are far less common but much more destructive. They may begin as surface fires before climbing into the canopy under the right conditions—typically in areas with dense, dry vegetation and strong winds. Passive crown fires depend on heat from the surface fire below, while active crown fires can sustain themselves independently once established. At their most extreme, crown fires can evolve into firestorms, generating intense convection currents and powerful winds that spread flames and embers across large areas. Though less frequent, these high-intensity events pose significant challenges for suppression and create severe risks to life, property, and ecosystems.

Location

Sarasota County, located along Florida’s Gulf Coast, faces significant wildfire risks due to its climate, vegetation, and seasonal weather patterns. Dry conditions, combined with natural and human-caused ignition sources, contribute to frequent wildfire occurrences. Areas with dense vegetation—such as forests, grasslands, and conservation lands—are particularly vulnerable. Prolonged periods of drought and strong winds can intensify wildfire spread, increasing the potential for property damage and threats to public safety. Regions near Myakka River State Park and other natural reserves are at heightened risk due to the accumulation of dry fuels, including underbrush and dead vegetation. It is important to note that under Sarasota County’s burn ban ordinance (Sarasota County Code Section 58-2), burn bans automatically go into effect countywide and prohibit almost all open burning when the Keetch-Byram Drought Index (KBDI) meets or exceeds 500. This policy applies to all of Sarasota County, except where municipal restrictions are in place. For example, in late 2024, due to elevated drought conditions, Sarasota County implemented the automatic burn ban on December 28. This precautionary measure remained in effect until March 4, 2025, when consistent rainfall led to improved conditions, allowing the ban to be lifted. These initiatives underscore Sarasota County’s commitment to balancing ecological health with public safety, ensuring that both natural habitats and communities are protected from wildfire threats.

The City of North Port is particularly prone to wildfires, especially in areas near the Myakka River and Myakkahatchee Creek, where extensive natural lands provide ample fuel for fires. Residential areas west of

¹⁴² D. C. Powell, “Estimating Crown Fire Susceptibility for Project Planning,” *Fire Management Today* 70, no. 3 (2010): 12–17.

the Myakka River—including neighborhoods such as Wellen Park, Gran Paradiso, and Renaissance—are at risk due to their proximity to undeveloped wooded areas. Similarly, a good portion of North Port is located in the wildland-urban interface (WUI) where fire vulnerability exists—one reason being the large number of vegetative lots within the city. Urban expansion and an increase in construction activities can also lead to a higher likelihood of human-caused fires, further exacerbating the risk.

In the City of Sarasota, wildfire concerns stem from the presence of dry vegetation in conservation areas and parklands. Although coastal neighborhoods such as Lido Key and St. Armands are less likely to experience wildfires due to their proximity to water, inland areas near Phillippi Creek and Hudson Bayou are more susceptible.

The City of Venice, located along the Gulf Coast, is also vulnerable to wildfires, particularly in undeveloped areas and nature preserves surrounding residential communities. Conservation lands near Curry Creek, Hatchett Creek, and the Intracoastal Waterway can become fire-prone during extended dry seasons. Neighborhoods near Venice Beach, Roberts Bay, and Dona Bay may be affected by wildfires if strong winds push flames toward residential zones. The city actively implements fire mitigation strategies, including controlled burns and firebreak maintenance, to reduce the potential for large-scale wildfires.

Sarasota Memorial Hospital (SMH) has multiple campuses throughout the county, while the main SMH campus in the coastal area of Sarasota is not typically at risk of wildfires. The SMH North Port campus (SMH freestanding emergency room) is at a higher risk of wildfire due to its location within a WUI area. Additionally, areas surrounding the main SMH campus in Sarasota—such as the Hudson Bayou and Sarasota Bay—contain sections of undeveloped land where dry brush and vegetation could pose fire hazards during drought conditions. The hospital has taken preventive measures to ensure emergency preparedness, including fire-resistant landscaping, firebreaks, and coordinated evacuation plans in case of nearby wildfires.

The Englewood Fire District, covering areas in both Sarasota and Charlotte counties, faces wildfire threats due to its location near conservation lands and undeveloped regions. Communities such as Englewood and Rotonda West, along with areas near Lemon Bay, Forked Creek, and the Myakka River, have experienced wildfires in the past. Dry conditions, combined with high winds, can cause rapid fire spread, posing risks to both residential and commercial properties. Fire officials regularly update wildfire preparedness plans, implement controlled burns, and educate residents on fire prevention strategies to mitigate potential threats.

Extent

The Southern Group of State Foresters created the Southern Wildfire Risk Assessment Portal to increase awareness of wildfire threats among both the public and government agencies. This portal provides users with the ability to assess and identify regions that are most vulnerable to wildfires. By utilizing this tool, individuals and organizations can better understand the level of wildfire risk in specific areas and take necessary precautions. In addition, the portal assigns intensity levels to different locations, categorizing them based on their susceptibility to wildfires (Table 49). These classifications help in making informed decisions regarding fire prevention, preparedness, and response efforts.

Table 49: Southern Group of State Foresters Wildfire Risk Assessment Fire Intensity Scale¹⁴³

Level	Definition
1	Lowest Intensity: Minimal direct wildfire impacts. Location has a minimal chance of being directly impacted by a wildfire.
2	Low Intensity: Small flames usually less than two feet long; small amount of very-short-range spotting possible. Fires are easy to suppress.
3	Moderate Intensity: Flames up to eight feet in length; short-range spotting is possible.
4	High Intensity: Large flames up to 30 feet in length; short-range spotting common; medium range spotting possible.
5	Highest Intensity: Very large flames up to 150 feet in length; profuse short-range spotting, frequent long-range spotting; strong fire induced winds.

Sarasota County experiences varying fire intensity levels, with inland areas facing moderate to high risk due to dense vegetation and forested regions (see Table 50). The City of North Port has a higher potential for wildfire intensity, as it is heavily forested and more susceptible to fire spread. In contrast, the City of Sarasota benefits from urban development and managed landscapes, which generally lead to lower fire intensity levels, although areas on the outskirts may still experience moderate fire risks. Similarly, the City of Venice has moderate wildfire intensity, as natural vegetation is interspersed with urban development, creating pockets of potential fire hazards. On the other hand, the Town of Longboat Key, as a barrier island, has limited wildland vegetation and, therefore, faces a low risk of intense wildfire activity. Understanding these variations in wildfire intensity helps inform local mitigation efforts and emergency preparedness strategies.

Table 50: Southern Group of State Foresters Wildfire Risk Assessment Fire Intensity Scale for Sarasota County

Jurisdiction	Potential Fire Intensity Level
Sarasota County	3 to 4: Moderate to High
City of North Port	4: High
City of Venice	3: Moderate

Besides the Southern Wildfire Risk Assessment Portal, the extent of wildfires is commonly measured using the metric of acres burned, which provides a quantifiable way to assess the severity and impact of fire events. Acres burned refers to the total land area affected by a wildfire, offering critical insight into the fire's spread, intensity, and potential damage to natural habitats, infrastructure, and communities.

¹⁴³ Southern Wildfire Assessment Portal, <https://www.southernwildfirerisk.com/>.

Between January 1 and March 9, 2025, Florida experienced 716 wildfires. 685 of these wildfires occurred on state lands and 31 on federal lands, collectively burning 13,035 acres.¹⁴⁴ Although specific data for Sarasota County and its jurisdictions during this period are limited, available information indicates that the county faced minimal wildfire activity. Notably, between February 2 and February 9, 2025, there were four fire alerts in Sarasota County. However, none were classified as high-confidence alerts, suggesting a lower risk of significant wildfires during that timeframe.¹⁴⁵ In response to changing conditions, Sarasota County implemented a burn ban on December 28, 2024, which was subsequently lifted on March 4, 2025, after the drought index fell below 500 for seven consecutive days.¹⁴⁶ These measures underscore the county's proactive approach to wildfire prevention and management, aiming to protect both natural resources and communities in its jurisdictions. Figure 34 displays the estimated fire danger in Florida as well as Sarasota County for the Week of March 11, 2025.

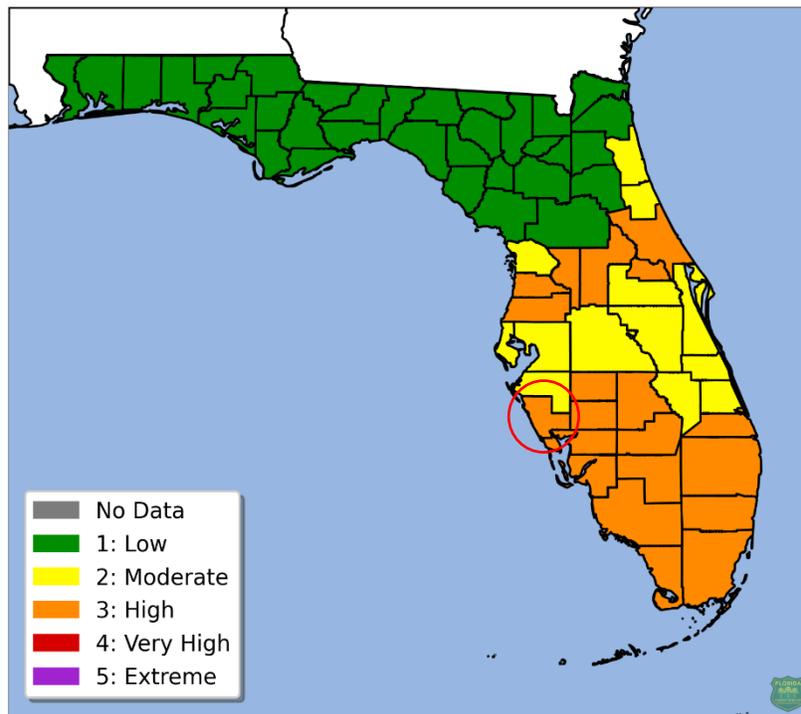


Figure 34: Estimated Fire Danger in Florida for the Week of March 11, 2025¹⁴⁷

¹⁴⁴ Florida Department of Agriculture and Consumer Affairs, "Current Wildfire Information," <https://www.fdacs.gov/Forest-Wildfire/Wildland-Fire/Current-Wildfire-Information>.

¹⁴⁵ Global Forest Watch, "Sarasota, Florida, United States," <https://www.globalforestwatch.org/dashboards/country/USA/10/58/?category=fires&map=eyJjYW55Cj3VuZCI6dHJ1ZiX0%3D>.

¹⁴⁶ Sarasota County, "Sarasota County Fire Department," <https://www.scgov.net/government/emergency-services/fire-department-6090>.

¹⁴⁷ Florida Department of Agriculture and Consumer Services, "Fire Danger Maps and Fire Danger Index (FDI) Report," <https://fireweather.fdacs.gov/wx/fdi-report.html>.

JURISDICTIONAL IMPACTS

Wildfire poses a significant threat to communities and infrastructure throughout Sarasota County, affecting both urban and rural areas. Factors such as prolonged drought conditions, the presence of WUI zones, and the region’s natural vegetation contribute to wildfire susceptibility. Each jurisdiction faces unique challenges, from evacuation difficulties in barrier island communities to the need for enhanced emergency response and public safety measures.

Table 51 provides a detailed examination of how wildfires impact different municipalities and critical facilities in Sarasota County. The table highlights key concerns, including risks to infrastructure, air quality, emergency operations, and community preparedness. Understanding these localized challenges is essential for developing targeted mitigation strategies that improve wildfire resilience across the region.

Table 51: Impacts of Wildfires on Jurisdictions

Participant	Impacts
Sarasota County	<ul style="list-style-type: none"> • Increased Wildfire Risk: Approximately 53% of Sarasota County is classified as having moderate or higher wildfire hazard potential, indicating a substantial portion of the area is susceptible to wildfires. • Burn Bans and Public Safety Measures: In response to heightened fire risks, Sarasota County has implemented burn bans to mitigate potential wildfire occurrences. Residents are advised to adhere to these restrictions to prevent accidental fires.
City of North Port	<ul style="list-style-type: none"> • Wildfire Susceptibility: North Port, characterized by heavily forested areas, is at an elevated risk of wildfires, which can spread rapidly under favorable conditions. • Drought Conditions: Extended periods of drought increase wildfire likelihood, necessitating heightened vigilance and preparedness within the community.
City of Sarasota	<ul style="list-style-type: none"> • This jurisdiction has excluded wildland fire from its hazard mitigation planning process.
City of Venice	<ul style="list-style-type: none"> • Vegetation Management: Proper maintenance of vegetation is crucial in Venice to reduce available fuel for wildfires, thereby minimizing risk. • Community Preparedness: Engaging residents in wildfire preparedness programs enhances community resilience against fire hazards.
Town of Longboat Key	<ul style="list-style-type: none"> • This jurisdiction has excluded wildland fire from its hazard mitigation planning process.

Participant	Impacts
Sarasota Memorial Hospital	<ul style="list-style-type: none"> • Operational Continuity: Wildfires can disrupt hospital operations due to potential evacuations or infrastructure damage, underscoring the importance of comprehensive emergency preparedness plans. • Patient Safety: Ensuring the safety of patients during wildfire events is paramount, requiring detailed evacuation and shelter-in-place protocols.
Sarasota Manatee Airport Authority	<ul style="list-style-type: none"> • This jurisdiction has excluded wildland fire from its hazard mitigation planning process.
Englewood Fire District	<ul style="list-style-type: none"> • This jurisdiction has excluded wildland fire from its hazard mitigation planning process.
Sarasota County Schools	<ul style="list-style-type: none"> • County schools are located throughout the county in different locations; wildfires can disrupt school operations and cause safety concerns.

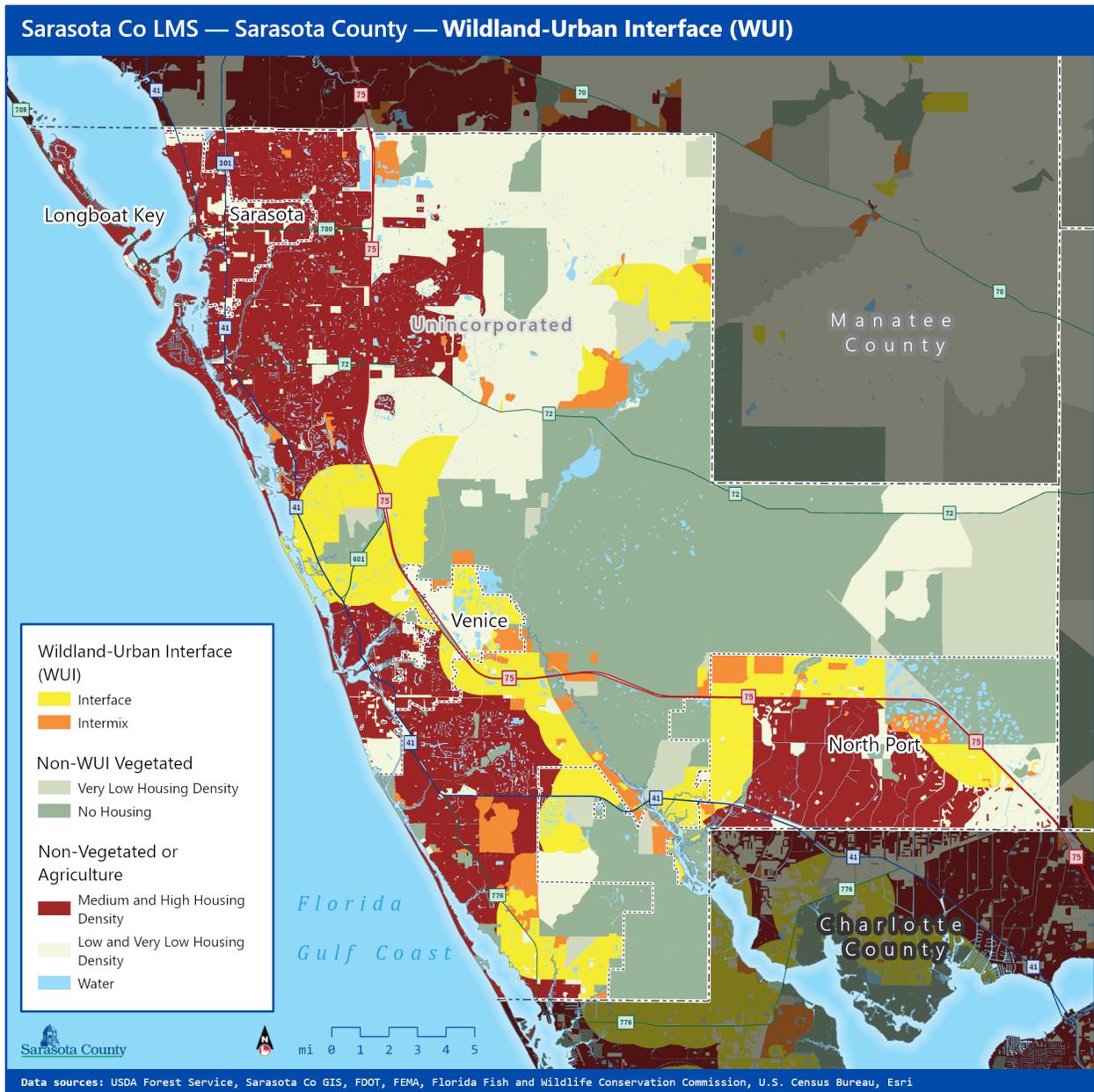


Figure 35: Wildland–Urban Interface Areas in Sarasota County



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SGSF Wildfire Risk Assessment Portal
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Figure 36: Extreme Fire Intensity Areas in the City of North Port

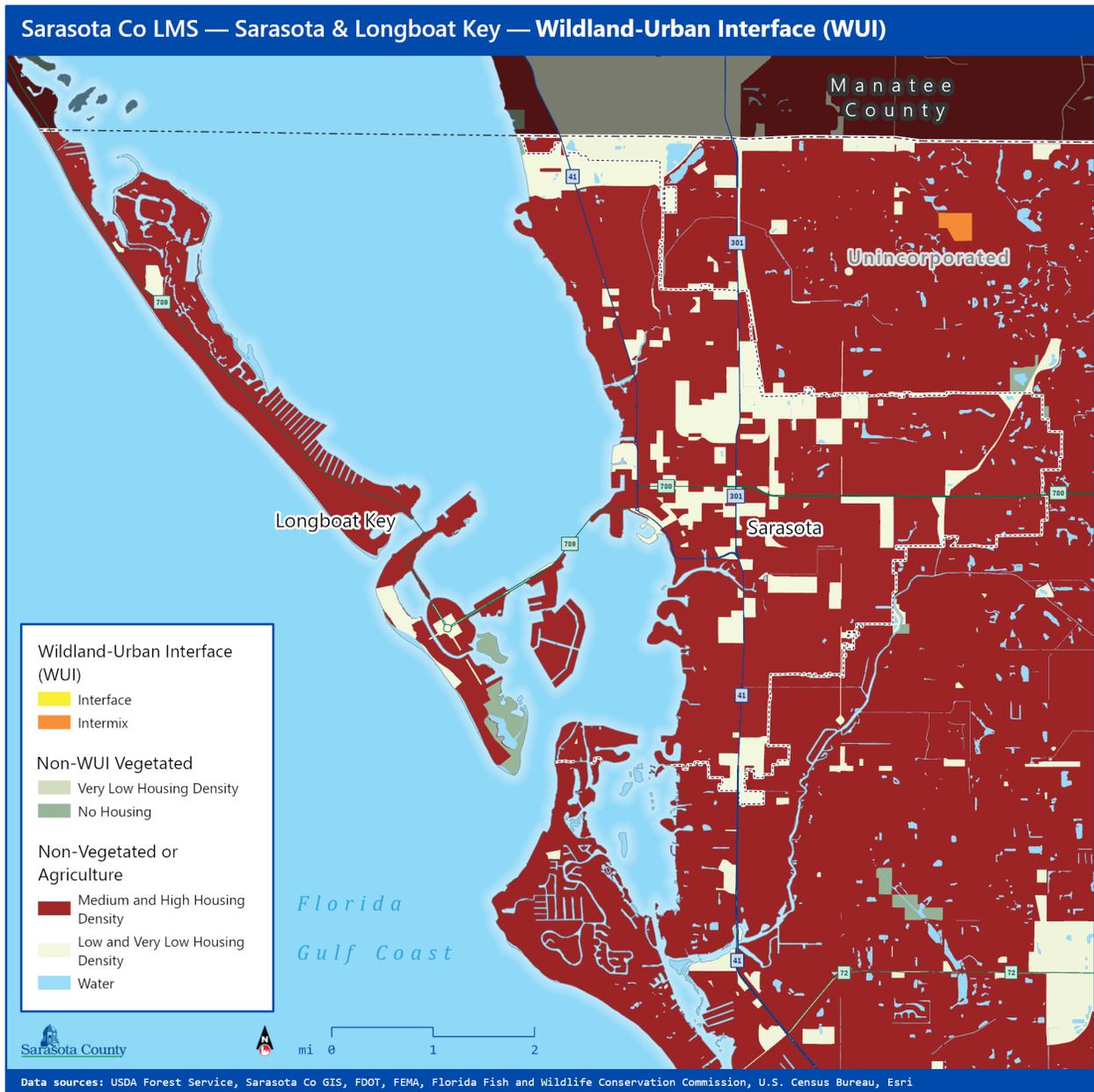


Figure 37: Wildland–Urban Interface Areas in the City of Sarasota and the Town of Longboat Key

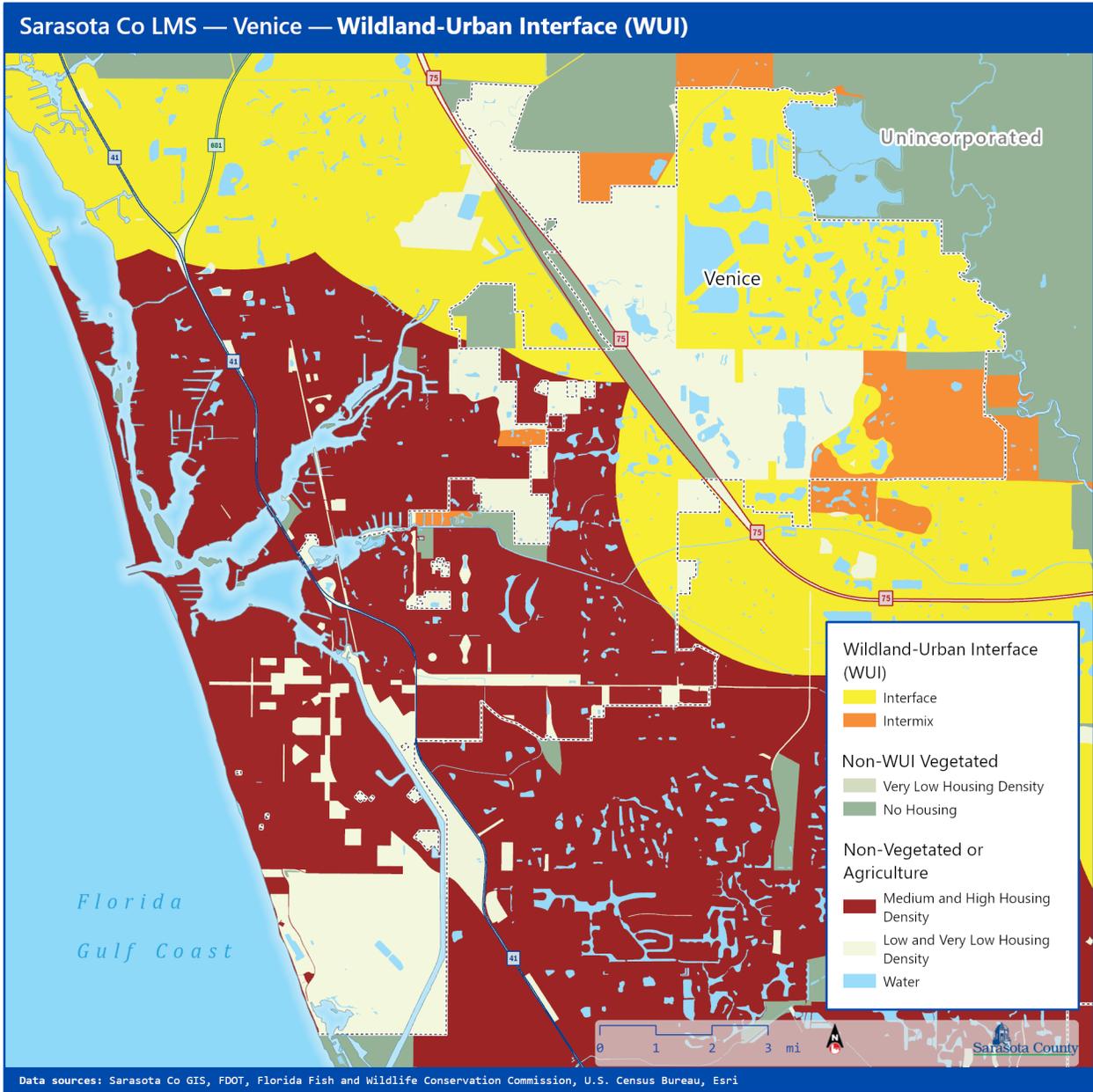


Figure 38: Wildland–Urban Interface Areas in the City of Venice

NATIONAL RISK INDEX

The National Risk Index (NRI) provides data on the expected annual losses and overall risk of individual hazards at the county level. Table 52 provides an overview of each category at the county level for the hazard of wildfires and Figure 39 provides a map demonstrating the risk of wildfires in the county.

Table 52: National Risk Index for Wildfires in Sarasota County

Expected Annual Losses	Overall Risk Rating
Relatively Moderate	Relatively Moderate



Figure 39: National Risk Index for Wildfires

Previous Occurrences (2019–2024)

Between 2019 and 2024, Sarasota County experienced various wildfire-related events, reflecting its proactive approach to fire management. The National Oceanic and Atmospheric Administration’s Storm Event Database recorded a wildfire on May 22, 2020, in coastal Sarasota, with no reported deaths, injuries, property damage, or crop damage—attributed to Sarasota County’s proactive wildfire mitigation approach efforts (see Table 53).

Table 53: Wildland Fires in Sarasota County, 2019–2024

Location	Date	Event	Deaths
Coastal Sarasota (Zone)	5/22/2020	Wildfire	0

Beyond this incident, Sarasota County has emphasized the importance of prescribed burns to maintain ecological balance and reduce wildfire risks. Annually, the county hosts “Fire Fest” at the Carlton Reserve, an event designed to educate the public about the benefits of controlled burns. For instance, Fire Fest 2024 was held on January 25, offering attendees insights into fire’s role in Florida’s ecosystems.

Probability of Future Conditions

The National Centers for Environmental Information Storm Events Database identified one wildfire occurrence within the boundaries of Sarasota County planning area since 1996. This results in an annual return rate (frequency) for periods of wildfire in the county of 0.04 (4% annual probability) or approximately 1 wildfire occurrence every 25 years. This provides a low probability ranking (see Table 54).

Table 54: Probability Ratings for the Local Mitigation Strategy Plan

2023 SHMP Probability Ranking	
High	1+ occurrences each year
Medium-High	One occurrence every 3 years
Medium	One occurrence every 5-7 years
Low	One occurrence every 10 years
Not Identified	Hazard Not Profiled

Sarasota County has experienced growth, leading to expanded development into previously undeveloped areas. This expansion increases the WUI, where human developments meet wildland vegetation, elevating the risk of wildfires impacting communities. Between 1990 and 2010, the WUI was the fastest-growing land use type in the United States, primarily due to new housing developments.

Approximately 63% of buildings in Sarasota are at risk of wildfire, though the risk level for these buildings is relatively low. However, the expansion of the WUI due to population growth and land use changes may increase this risk over time. The county’s comprehensive land-use plans aim to address these challenges by integrating climate change projections and implementing strategies to mitigate wildfire risks. WUI growth and changing fire weather conditions suggest a projected increase in community wildfire risk for the residents of Sarasota County and the jurisdictions in the planning area.

Vulnerability Assessment

Sarasota County faces increased vulnerability to wildfires due to dry seasonal conditions and expanding WUI. The region is particularly susceptible to prolonged droughts, high temperatures, and strong winds, which create ideal conditions for fire ignition and spread. Many areas rely on natural vegetation buffers, firebreaks, and controlled burns to manage fuel loads, but during extreme droughts or high-risk fire

weather, these measures may be insufficient, leading to rapid fire expansion and property damage. Communities near forested areas, grasslands, and undeveloped lands are at heightened risk, particularly during dry seasons and periods of extreme heat. In addition, wildfire smoke can impact air quality, posing significant health risks to residents, especially those with respiratory conditions.

Beyond the immediate destruction caused by wildfires, secondary effects can have long-term consequences for residents and the local economy. Infrastructure damage—including burned utility poles, road closures, and damage to water supply systems—can disrupt essential services and emergency response efforts. Prolonged exposure to wildfire smoke and ash may lead to respiratory illnesses and other health concerns, increasing strain on local healthcare facilities. Businesses, especially those in tourism and outdoor recreation, may suffer economic losses due to park closures, air quality concerns, and damaged natural landscapes. Environmental impacts include soil degradation, loss of native vegetation, destruction of wildlife habitats, and increased runoff erosion, which can further threaten local ecosystems.

Severe or recurrent wildfires can also exacerbate social vulnerabilities by displacing residents, particularly those in high-risk fire zones who may lack financial resources for rebuilding and recovery. Psychological stress and economic burdens from repeated fire events can weaken community resilience and reduce confidence in wildfire prevention efforts. Sarasota County should continue to prioritize proactive wildfire mitigation strategies, which include improved land management, community preparedness programs, and stricter building regulations, to reduce long-term risks and enhance wildfire resilience. At the time of this publication, Sarasota County is actively working on a Community Wildland Protection Plan.

IMPACTS TO ASSETS

Table 55 outlines the effects of wildfire, detailing its impact on the public, first responders, continuity of operations, property, infrastructure, the environment, economic conditions, and public confidence. These impacts can occur across all participating jurisdictions within Sarasota County.

Table 55: Consequence Analysis of Wildfires

Area Affected	Consequences
Public	<ul style="list-style-type: none"> Housing: Homes in wildfire-prone areas face a significant risk of destruction or severe damage from direct exposure to flames, intense heat, and falling embers. Even properties outside high-risk zones can suffer from smoke damage, poor air quality, and fire-driven embers igniting nearby structures. Casualties/Fatalities: Wildfires pose a serious threat to human life, with risks including burns, smoke inhalation, and entrapment due to rapid fire spread. Limited evacuation routes, lack of early warnings, and unpredictable fire behavior increase the likelihood of casualties.

Area Affected	Consequences
	<ul style="list-style-type: none"> • Work: Businesses may experience prolonged closures due to fire damage, road closures, and utility disruptions. Smoke and air quality concerns can prevent employees from working, impacting local economies and business operations. • Food/Water: Wildfires can destroy crops, disrupt supply chains, and contaminate water sources with ash, debris, and chemical runoff. Emergency food and clean water supplies may be necessary until infrastructure is restored.
First Responders	<ul style="list-style-type: none"> • Wildfires place immense pressure on emergency personnel, requiring rapid evacuations, fire suppression efforts, and extensive coordination between agencies. In communities reliant on volunteer firefighters, available responders may be personally affected, reducing response capacity. Firefighters also face health risks from prolonged smoke exposure, extreme heat, and hazardous terrain. Mutual aid agreements allow reinforcements from neighboring regions.
Continuity of Operations	<ul style="list-style-type: none"> • The ability of government agencies to maintain essential services depends on the extent of fire damage. If municipal buildings, emergency operation centers, or communication systems are compromised, response and recovery efforts may be delayed. Continuity of Operations (COOP) plans are essential to ensuring that essential services remain functional.
Property, Facility, and Infrastructure	<ul style="list-style-type: none"> • Structures: Homes, businesses, and public buildings can suffer complete destruction or severe structural damage from intense heat, flames, and falling embers. Smoke and soot can even make non-burned buildings uninhabitable. • Electricity: Wildfires can destroy power lines, transformers, and substations, causing widespread outages. Damage to transmission infrastructure can take weeks to repair, especially in remote or heavily affected areas. • Water Systems: Heat and debris from wildfires can compromise water treatment facilities, reservoirs, and distribution systems. Power failures can halt water pumping stations, and ash contamination may render water supplies unsafe. • Roads and Bridges: Wildfires can damage roads by warping pavement, destroying guardrails, and weakening bridge structures. Falling trees, debris, and smoke can make routes impassable, delaying evacuations and emergency response efforts.
Environment	<ul style="list-style-type: none"> • Wildfire devastates ecosystems by destroying forests, grasslands, and wildlife habitats. Ash, debris, and chemicals from burned structures can contaminate rivers and lakes, affecting water quality. Soil destabilization increases the risk of landslides and erosion, particularly in mountainous or sloped areas. The loss of vegetation can also exacerbate future fire risks.
Economic Conditions	<ul style="list-style-type: none"> • Wildfires can have severe economic consequences, particularly for businesses reliant on tourism, agriculture, and local infrastructure. Extended closures, loss of inventory, and disrupted supply chains lead to financial instability. If major economic centers suffer damage, the financial impact may extend beyond local communities.
Public Confidence	<ul style="list-style-type: none"> • The effectiveness of wildfire response, containment efforts, and rebuilding initiatives directly impacts public trust in government agencies and emergency management teams. Delays in restoring power, reopening roads, or providing

Area Affected	Consequences
	financial aid can lead to frustration and reduced confidence in disaster preparedness and response.

IMPACT ON COMMUNITY LIFELINES

Wildfire poses a significant threat to FEMA’s Community Lifelines in Sarasota County, disrupting essential services and infrastructure critical to public safety and well-being. Safety and Security, one of the core lifelines, is severely impacted as wildfires endanger lives, destroy homes, and force mass evacuations. First responders, including firefighters and law enforcement, face increased demands on resources and personnel as they work to contain fires and protect affected communities. Evacuation centers may become overwhelmed, and law enforcement must coordinate road closures and evacuation orders to ensure public safety.

Health and medical services are also at risk. Wildfires may compromise air quality, leading to respiratory issues, especially for vulnerable populations, such as the elderly and those with preexisting health conditions. Medical facilities may experience power outages, road access disruptions, or an influx of patients suffering from smoke inhalation and other fire-related injuries. Emergency medical services also may be delayed due to impassable roads or diverted resources.

The Energy lifeline is another critical area affected, as wildfires can damage power lines and substations, leading to widespread outages. Downed transmission lines and infrastructure destruction may take days or weeks to repair, leaving homes, businesses, and emergency response facilities without electricity. Loss of electricity can also compromise communication systems, water treatment plants, and residential wells, exacerbating the crisis. The City of North Port, in particular, relies on small residential wells for water, so when power is compromised, the City may need to use water tenders and pump trucks, further straining emergency services.

Transportation lifelines suffer as wildfires lead to road closures, bridge damage, and hazardous conditions that limit movement in the county. Key evacuation routes may become blocked by flames, fallen trees, or debris, delaying emergency response and evacuation efforts. Public transportation systems also may be disrupted, making it difficult for residents without personal vehicles to evacuate safely.

Communications infrastructure is another lifeline at risk, as wildfires can damage cell towers, fiber optic cables, and communication hubs. Emergency alerts and coordination efforts rely on stable communication networks, and any disruption can delay critical information from reaching the public and first responders. Limited connectivity can hinder emergency management efforts and complicate recovery operations.

The Food, Hydration, and Shelter lifeline is directly impacted as wildfires can destroy homes, displace residents, and disrupt local food supply chains. Agricultural losses due to fire damage can contribute to food shortages, while smoke and ash contamination may compromise local water sources. Shelters may struggle to accommodate displaced residents, and prolonged utility outages can affect access to clean drinking water and refrigeration for perishable food.

Finally, the Hazardous Materials lifeline can be compromised if wildfires spread to industrial sites, gas stations, or facilities storing hazardous chemicals. The release of toxic substances into the air, soil, or water can create long-term environmental and public health risks. Firefighters must also take extra precautions when battling blazes near such sites to prevent further hazards.

The cumulative impact of wildfires on these lifelines highlights the need for robust mitigation strategies, emergency preparedness, and coordinated response efforts in Sarasota County. Strengthening infrastructure, improving evacuation planning, and investing in fire-resistant construction and vegetation management are essential steps to minimize disruptions and protect the community from the devastating effects of wildfires.



Figure 40: Federal Emergency Management Agency's Community Lifelines

Building codes and land development regulations in Sarasota County play a vital role in reducing wildfire risks by promoting fire-resistant construction and effective land management practices. Local building standards, zoning regulations, and fire safety requirements help minimize the potential damage from wildfires by enforcing defensible space guidelines, the use of fire-resistant materials, and proper vegetation management around structures.

Sarasota County follows Florida Fire Prevention Code (FFPC) standards and wildfire mitigation strategies recommended by the Florida Forest Service to enhance community resilience. Regulations require new developments in fire-prone areas to incorporate firebreaks, maintain safe distances between structures and flammable vegetation, and use ember-resistant building materials to reduce ignition risks.

Besides construction guidelines, Sarasota County enforces land-use policies that promote responsible landscaping and vegetation clearance to limit wildfire spread. Fire mitigation efforts include controlled burns, brush management, and emergency access requirements to ensure that first responders can effectively combat wildfires when they occur. Local municipalities, including the Cities of Sarasota, North Port, and Venice and the Town of Longboat Key, work alongside fire officials to implement and enforce these safety measures.

By maintaining strict fire prevention codes and proactive land management practices, Sarasota County reduces the overall risk of wildfires to homes and infrastructure. These regulations not only protect lives and property but also help lower insurance costs for residents by reducing fire hazards.

The county should continue identifying resilient and sustainable development strategies to mitigate impacts from wildland fires. It is important to note that as growth occurs and/or environmental conditions change, Sarasota County will assess those impacts to identify potential enhancements and implement mitigation actions to enhance resilience to wildland fires.

Winter Weather

Definition

A winter weather event is an incident such as snow, sleet, ice, or cold temperatures affecting public safety, transportation, or commerce. These events typically occur during the climatological winter season, from October 15 to April 15.¹⁴⁸ Florida's winter months generally last from December to February, with the peak of cold temperatures occurring in January.¹⁴⁹

Typically, winter weather in Florida is characterized by the following:

- **Cold Temperatures:** Extended periods of low temperatures that may result in frost or freeze.
- **Precipitation:** Snowfall is rare but can happen in some northern regions, while sleet and freezing rain can be more common.
- **Wind Chill:** The combination of wind and cold temperatures leading to an identified temperature drop, which can affect safety and health.

Frost is water vapor that solidifies, typically forming on surfaces such as cars, windows, and plants. It occurs when air temperatures drop below 36 degrees Fahrenheit (°F), but are greater than 32°F, the wind is calm, and there is enough moisture in the air.¹⁵⁰

A freeze occurs when the temperature several feet above the ground drops to 32°F or lower. This can happen when a cold air mass moves into an area. A hard freeze is defined as a temperature that falls below 28°F.¹⁵¹

Location

Florida does not experience winter weather as severely as northern states, but it faces winter weather impacts almost yearly. Northern Florida is more often impacted by winter storms and freezing events than

¹⁴⁸ National Oceanic and Atmospheric Administration, "National Weather Service Expanded Winter Weather Terminology," <https://www.weather.gov/bgm/winterterms#:~:text=A%20winter%20weather%20event%20is,October%2015%20and%20April%2015.>

¹⁴⁹ Florida Today, "Is Winter Over in Florida? Will It Get Cold Again and When Does Spring Start?," <https://www.floridatoday.com/story/news/2024/01/24/florida-weather-cold-weather-spring-heat/72335460007/>

¹⁵⁰ Florida Division of Emergency Management, "Winter Weather Hazard Profile," <https://flshmp-floridadisaster.hub.arcgis.com/pages/winter-weather>.

¹⁵¹ University of Illinois Urbana-Champaign, "What's the Difference Between a Frost and a Freeze?," <https://extension.illinois.edu/blogs/all-about-weather/2024-10-04-whats-difference-between-frost-and-freeze>.

southwest Florida. However, southwest Florida can still experience freeze events, as indicated in the historical section below.¹⁵²

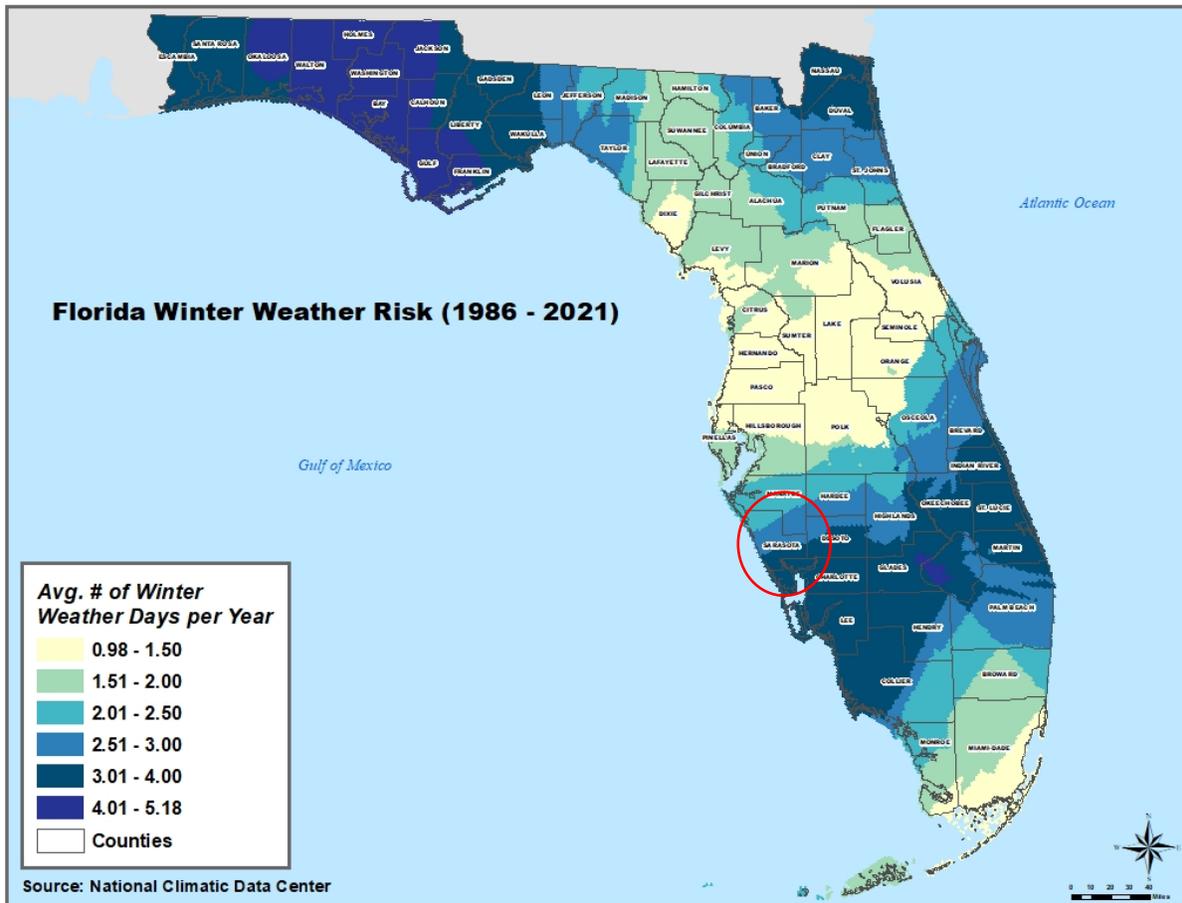


Figure 41: Winter Weather Risk in Florida¹⁵³

¹⁵² Florida Division of Emergency Management, "Winter Weather Hazard Profile," <https://flshmp-floridadisaster.hub.arcgis.com/pages/winter-weather>.

¹⁵³ Ibid.

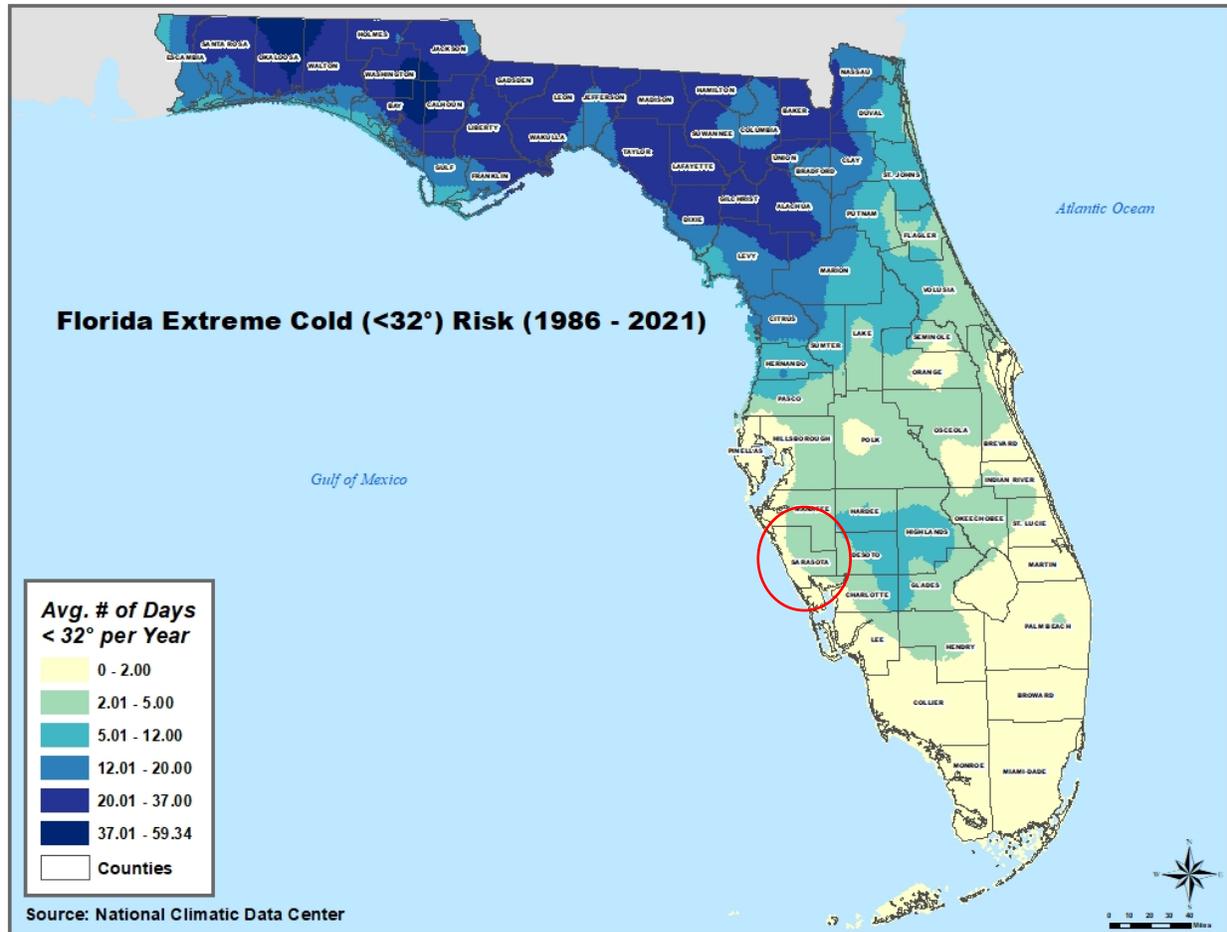


Figure 42: Extreme Cold Risk in Florida¹⁵⁴

The jurisdictions within the planning area generally face similar overall risks related to winter weather and freezing temperatures. However, certain areas in Sarasota County face slightly elevated risks for winter weather conditions due to their unique geographic and environmental factors. For example, the areas of North Port and Venice can see colder temperatures due to their lower elevations and open land. These two factors allow cold air to settle overnight, leading to freezing conditions. Additionally, areas near creeks, wetlands, or drainage basins can be colder due to the collection of cold air in low spots.

Coastal areas are generally warmer due to Florida's Gulf Coast; however, strong cold fronts can still cause freezing temperatures inland. In these areas, communities with few trees or more open land can cool off quickly during the night, which can lead to freeze events during very cold weather.

¹⁵⁴ Ibid.

Extent

Winter weather can be evaluated through weather data, population information, and its impact on a community. The following tools can help jurisdictions evaluate their risks.

When strong winds and cold temperatures combine, the human skin loses heat more quickly; this is called wind chill. Wind chill can make it feel much colder outside than the actual temperature. In regions that are not used to winter weather, temperatures near freezing are often regarded as "cold stress."¹⁵⁵

Figure 43 shows how wind chills affect the risk of frostbite at different air temperatures and wind speeds. Various hues indicate the risk of frostbite, pinpointing the conditions (temperature, wind speed, and duration of exposure) that can lead to frostbite. Each shaded area on the chart shows the maximum time a person can be exposed to these conditions before frostbite occurs.

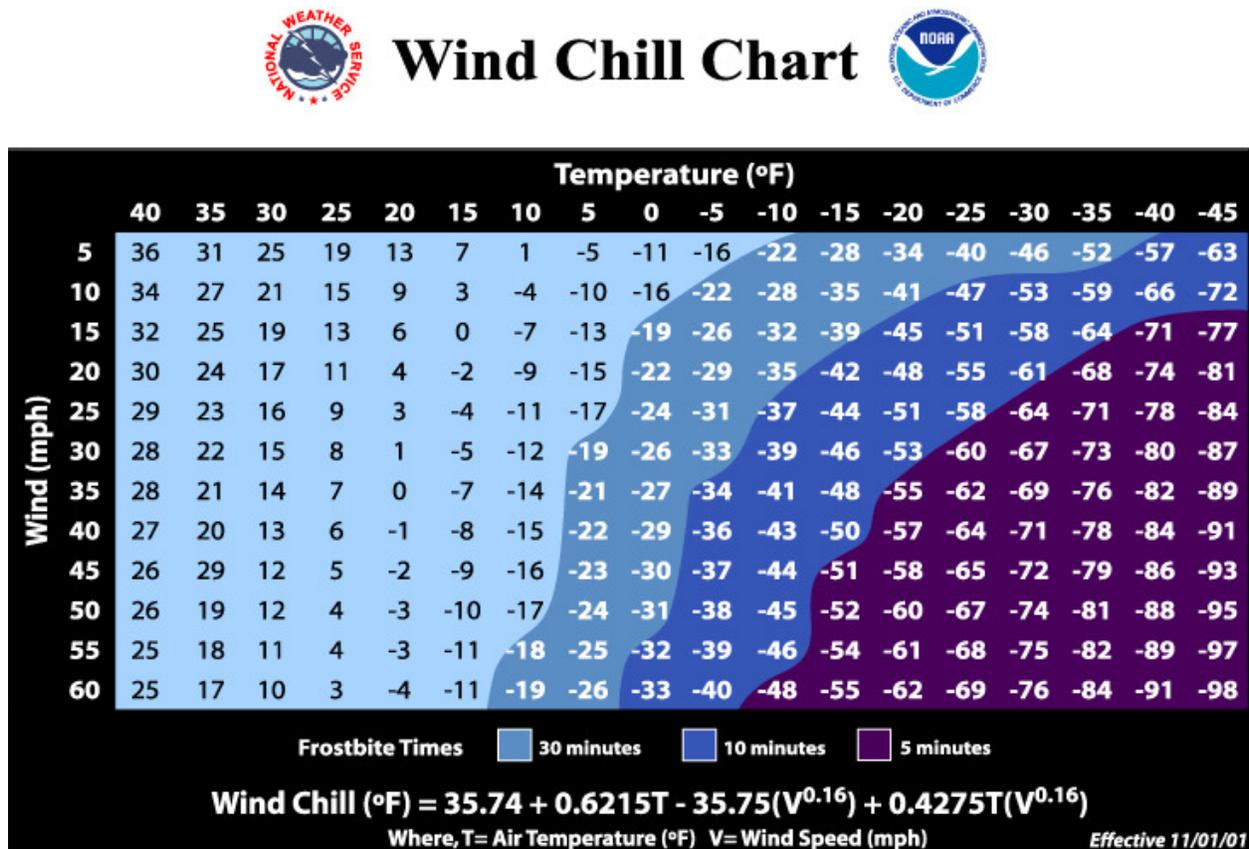


Figure 43: Wind Chill Chart¹⁵⁶

¹⁵⁵ U.S. Department of Labor, "Winter Weather," <https://www.osha.gov/winter-weather/cold-stress#:~:text=In%20regions%20that%20are%20not,heat%20loss%20from%20the%20body.>

¹⁵⁶ National Oceanic and Atmospheric Administration, "Understanding Wind Chill," <https://www.weather.gov/safety/cold-wind-chill-chart>.

The Winter Storm Severity Index (WSSI) provides information on the severity of winter precipitation, such as snow and ice, and its potential impacts on society. The storms are then categorized from minor to extreme (Table 56).¹⁵⁷

Table 56: Winter Storm Severity Index Chart¹⁵⁸

Impacts	Potential Winter Storm Impacts
Minor	<ul style="list-style-type: none"> • Expect a few inconveniences to daily life. <ul style="list-style-type: none"> › Winter driving conditions. Use caution while driving.
Moderate	<ul style="list-style-type: none"> • Expect disruptions to daily life. <ul style="list-style-type: none"> › Hazardous driving conditions. Use extra caution while driving. › Closure and disruptions to infrastructure may occur.
Major	<ul style="list-style-type: none"> • Expect considerable disruptions to daily life. <ul style="list-style-type: none"> › Dangerous or impossible driving conditions. Avoid travel if possible. › Widespread closures and disruptions to infrastructure may occur.
Extreme	<ul style="list-style-type: none"> • Expect substantial disruptions to daily life. <ul style="list-style-type: none"> › Extremely dangerous or impossible driving conditions. Travel is not advised. › Extensive and widespread closures and disruptions to infrastructure may occur. › Life-saving actions may be needed.

JURISDICTIONAL IMPACTS

Hazard impacts refer to the harmful effects of natural or human-induced events. Impacts include physical damage, human health concerns, and economic, environmental, and social impacts. Table 57 provides a detailed breakdown of how different municipalities and key facilities in Sarasota County are affected by winter weather.

Table 57: Impacts of Winter Weather on the Jurisdictions

Participant	Impacts
Sarasota County	<ul style="list-style-type: none"> • Agricultural impacts • Infrastructure impacts • Hypothermia and frostbite • Increased insurance claims • Decreased tourism

¹⁵⁷ National Oceanic and Atmospheric Administration, “Winter Storm Severity Index (WSSI),” https://www.weather.gov/ict/WSSI_Overview#:~:text=The%20purpose%20of%20the%20Winter,its%20potential%20related%20societal%20impacts.

¹⁵⁸ National Oceanic and Atmospheric Administration, “The Winter Storm Severity Index,” <https://www.wpc.ncep.noaa.gov/wwd/wssi/wssi.php>.

Participant	Impacts
	<ul style="list-style-type: none"> • Ecosystem disruption • Community disruption • Emergency services strain
City of North Port	<ul style="list-style-type: none"> • Agricultural impacts • Infrastructure impacts • Hypothermia and frostbite • Business disruptions • Ecosystem disruption • Plant life disruption • Emergency services disruptions and delays
City of Sarasota	<ul style="list-style-type: none"> • This jurisdiction has excluded winter weather from its hazard mitigation planning process.
City of Venice	<ul style="list-style-type: none"> • Agricultural impacts • Infrastructure impacts • Cold-related illnesses • Business closures • Increased heating costs • Increased insurance claims • Ecosystem disruptions • Water supply risks • Community displacement • Emergency services strain
Town of Longboat Key	<ul style="list-style-type: none"> • This jurisdiction has excluded winter weather from its hazard mitigation planning process.
Sarasota Memorial Hospital	<ul style="list-style-type: none"> • Structural damage • Utility failures • Equipment malfunction • Increased patient volume • Loss of revenue • Insurance claims • Waste management issues • Impact on local resources • Community support strain
Sarasota Manatee Airport Authority	<ul style="list-style-type: none"> • This jurisdiction has excluded winter weather from its hazard mitigation planning process.
Englewood Fire District	<ul style="list-style-type: none"> • This jurisdiction has excluded winter weather from its hazard mitigation planning process.
Sarasota County Schools	<ul style="list-style-type: none"> • Classroom disruptions • Health concerns due to cold exposure and inappropriate clothing

Participant	Impacts
	<ul style="list-style-type: none"> • Transportation issues • Closures
Ringling Museum	<ul style="list-style-type: none"> • Ringling Museum has excluded winter weather from its hazard mitigation planning process.

NATIONAL RISK INDEX

The National Risk Index (NRI) is a tool developed by the Federal Emergency Management Agency (FEMA) designed to evaluate and visualize the risk of natural hazards across the United States. It provides data and insights on 18 hazards. The index combines multiple factors, such as the probability of different hazard events, the vulnerability of communities, and potential impacts, to assess overall risks.

Sarasota County's ice storm and winter weather risk profile shows an overall risk index score of 0. However, the cold wave risk score is relatively high at 94.8. The expected annual loss is also rated as relatively high at 98.61, and the county has a relatively high social vulnerability score of 41.22.¹⁵⁹

The expected annual loss rate of 98.61 stresses the potential financial burden that cold waves could have on Sarasota County. This elevated rate suggests that the county may experience substantial annual losses, affecting property values and increasing costs for emergency services and disaster response.

The relatively high social vulnerability score of 41.22 suggests that many residents might not have the resources or support systems needed to handle extreme cold events. This vulnerability may be due to an aging population, income differences, and inadequate access to medical care and heating resources. Figure 44 shows the overall risk for cold waves in Sarasota County.

¹⁵⁹ FEMA, "National Risk Index," <https://hazards.fema.gov/nri/map>.

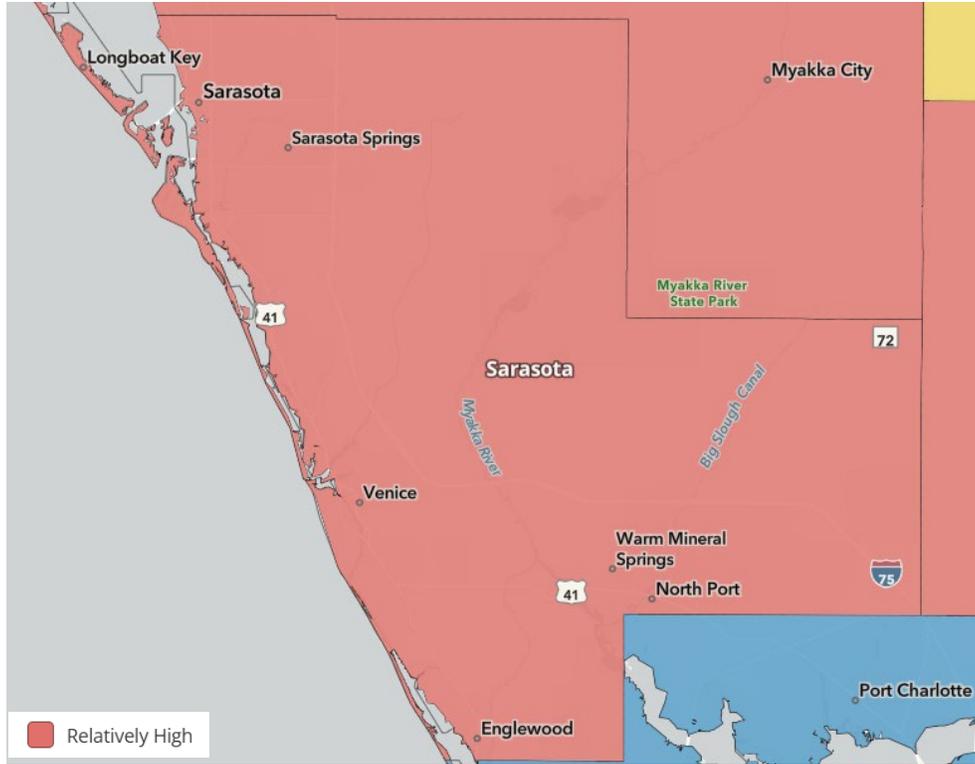


Figure 44: Risk of Cold Waves in Sarasota County¹⁶⁰

Previous Occurrences (2019–2024)

The National Center for Environmental Information (NCEI) is a comprehensive resource that catalogs data on weather-related events, including winter weather events. It provides critical information that helps assess the frequency, intensity, and impact of severe weather events across the United States. The NCEI is maintained by the National Oceanic and Atmospheric Administration (NOAA).¹⁶¹

According to the NCEI’s Storm Events Database, Sarasota County experienced zero cold/wind chill, extreme cold/wind chill, freezing fog, frost/freeze, heavy snow, ice storm, winter storm, or winter weather events between January 1, 2019, and December 30, 2024. Table 58 and Table 59 display additional historical winter weather events in Sarasota County.

Table 58: Historical FEMA Disaster Declarations¹⁶²

Declaration Date	Disaster Number	Event
02/05/2001	1359	Severe freeze

¹⁶⁰ FEMA, “National Risk Index,” <https://hazards.fema.gov/nri/map#>.

¹⁶¹ National Oceanic and Atmospheric Administration, “Storm Events Database,” <https://www.ncdc.noaa.gov/stormevents/>.

¹⁶² FEMA, “Disaster Declarations for States and Counties,” <https://www.fema.gov/data-visualization/disaster-declarations-states-and-counties>.

Declaration Date	Disaster Number	Event
01/15/1990	851	Severe freeze
01/31/1977	526	Severe winter weather

Table 59: Historical Winter Weather Events in Sarasota County

Location	Date	Event	Extent
Sarasota	1/25/2025	Frost ¹⁶³	—
Sarasota	12/23/1989	Sleet ¹⁶⁴	0.5"
Sarasota Bradenton	2/05/1996	Cold ¹⁶⁵	24°F
Sarasota Bradenton	12/27/1983	Cold	24°F
Sarasota Bradenton	12/26/1983	Cold	20°F
Sarasota Bradenton	12/25/1983	Cold	22°F
Sarasota Bradenton	1/13/1981	Cold	23°F
Sarasota Bradenton	1/21/1971	Cold	24°F
Sarasota Bradenton	12/13/1962	Cold	24°F
Sarasota Bradenton	12/13/1957	Cold	24°F
Sarasota Bradenton	1/29/1940	Cold	23°F
Sarasota Bradenton	1/12/1927	Cold	24°F
Sarasota Bradenton	2/04/2017	Cold	21°F

¹⁶³ Suncoast News Network, "Bird Baths Turned to Ice Amid Extreme Cold in Sarasota," <https://www.sntv.com/sarasota/bird-baths-turned-to-ice-amid-extreme-cold-in-sarasota/>.

¹⁶⁴ National Oceanic and Atmospheric Administration, "Christmas Snowstorm December 23, 1989," <https://www.weather.gov/mhx/Dec231989EventReview#:~:text=Snow%20fell%20in%20Tampa%20and,a%20Sarasota%20to%20Melbourne%20line.>

¹⁶⁵ Herald-Tribune, "What's the Coldest It's Ever Been in Sarasota Bradenton? Here Are the Top 5 Coldest Dates," <https://www.heraldtribune.com/story/news/local/2025/01/23/whats-the-coldest-its-ever-been-in-sarasota-bradenton/77878703007/>.

Probability of Future Conditions

Sarasota County's ice storm and winter weather risk profile shows an overall risk index score of 0. Cold waves, however, are possible, but determining the future probability of cold waves occurring in Sarasota County and the other jurisdictions included in the planning area is complicated. Though northern Florida is more often impacted by winter storms and freezing events than southern Florida, the jurisdictions within the planning area generally face similar overall risks related to winter weather and freezing temperatures.

However, certain areas in Sarasota County face slightly elevated risks for winter weather conditions due to their unique geographic and environmental factors. For example, areas such as North Port and Venice can experience colder temperatures due to their lower elevations and open land. These two factors enable cold air to settle overnight, resulting in freezing conditions. Additionally, areas near creeks, wetlands, or drainage basins can be colder due to the collection of cold air in low spots.

This probability is affected by a multitude of factors, including historical data, environmental conditions, and climate models. An annual frequency value of 0.2 indicates that, historically, cold waves have occurred approximately 20% of the time in any given year.¹⁶⁶ While the historical frequency provides a baseline probability of 20%, the actual future likelihood of cold waves may be higher or lower, depending on local weather patterns. The range of intensities, should a winter storm occur, could be anywhere from minor to extreme.

Vulnerability Assessment

Sarasota County and the other jurisdictions in the planning area usually have mild winters, but it can still face challenges from winter weather. Though winter storms that include ice accumulation and freezing temperatures are rare, when they do occur, they can disrupt daily life. Government-owned facilities and assets are vulnerable to winter weather, but not as much as other areas of the United States. Some buildings in Sarasota County may not have reliable heating systems, which may be unable to handle freezing temperatures. This could lead to freezing pipes that burst and disrupt the water supply. Florida's agricultural community may be susceptible to freezes, and vulnerable populations may additionally be at risk. Light ice can create slippery roads, increasing the risk of accidents and delaying emergency responses. Freezing temperatures can damage crops, affecting food supplies. Aging adults and those with disabilities may struggle with health issues, while lower-income and homeless individuals may not have enough resources to deal with cold temperatures.

IMPACTS TO ASSETS

Table 60 provides a summary of the effects of winter weather. It discusses the impact on the public, first responders, continuity of operations, property, infrastructure, the environment, economic conditions,

¹⁶⁶ FEMA, "National Risk Index, Sarasota County, Florida"
<https://hazards.fema.gov/nri/report/viewer?dataLOD=Counties&datalDs=C12115>.

public confidence, and the consequences of these impacts. These impacts would apply to all the jurisdictions in the planning area.

Table 60: Consequence Analysis of Winter Weather

Area Impacted	Consequences
Public	<ul style="list-style-type: none"> • Infrastructure Damage: Winter weather can significantly damage roads and bridges, leading to costly repairs that strain local budgets and increase accident risks due to icy conditions. • Water Utilities: Frozen pipes can disrupt water service and create contamination issues. Increased demand for water during cold spells can challenge local utilities' capacity. • Public Safety: Severe winter conditions pose risks of slips and falls and can lead to hypothermia for vulnerable populations, placing additional demands on emergency responders. • Agriculture Impact: Frost can damage crops and livestock, adversely affecting local farmers and altering market conditions, which can have economic repercussions. • Emergency Services Strain: Winter weather can overwhelm emergency services with increased call volumes, leading to longer response times and resource challenges. • Tourism Effects: Harsh winter conditions may deter visitors, reducing revenue for local businesses and impacting outdoor recreational activities essential to tourism. • Housing and Community Services: Severe weather can lead to increased heating costs and potential property damage, putting extra pressure on community services to support those in need.
First Responders	<ul style="list-style-type: none"> • Equipment and Vehicle Performance: Adverse winter conditions can affect vehicle traction, braking, and equipment reliability. Regular maintenance and appropriate winter preparations are essential to ensure readiness. • Increased Call Volume: Winter weather often leads to a rise in emergency calls, including those related to traffic accidents and hypothermia cases. Efficient triage and resource allocation are necessary to handle this increase while maintaining response quality. • Public Safety Education: Educating the community on winter safety, including proper clothing and heating safety, can help mitigate risks and reduce call volumes. • Health Hazards: Cold temperatures can increase health risks, including heart issues and respiratory problems. • Community Resources: Access to shelters and warming centers is vital during winter storms. Coordinating with local agencies and utilizing community volunteers can enhance support for those in need. • Ineffective Communication: Winter weather can disrupt communication channels. Using multiple information-sharing methods, like social media and emergency alerts, can help maintain clear communication with the public.

Area Impacted	Consequences
	<ul style="list-style-type: none"> • Training and Preparedness: Regular training focused on winter scenarios is essential for equipping first responders to handle unique challenges. Conducting drills and enhancing preparedness plans can improve overall response effectiveness.
<p>Continuity of Operations</p>	<ul style="list-style-type: none"> • Infrastructure Integrity: Winter weather can cause significant damage to roads, bridges, and utilities, requiring regular inspections and maintenance to ensure resilience. • Safety Hazards: Icy conditions increase the risk of accidents and injuries, necessitating effective emergency response and public safety measures. • Transportation Disruptions: Severe weather can lead to delays and blocked routes, affecting daily commutes and supply chains, highlighting the need for contingency planning. • Agricultural Impact: Frost and freezing temperatures can damage crops, impacting local agriculture and the economy, prompting the need for protective measures. • Energy Demand: Cold temperatures typically increase energy usage, which can strain power grids and raise costs, emphasizing the importance of energy conservation. • Tourism Drop: Harsh winter conditions can deter visitors, negatively affecting local businesses.
<p>Property, Facility, and Infrastructure</p>	<ul style="list-style-type: none"> • Property Damage: Winter weather can cause significant damage to properties, including roof collapses, burst pipes, and damage to outdoor structures. This results in costly repairs for homeowners and businesses. • Infrastructure Challenges: Severe winter conditions can disrupt transportation, leading to icy roads and impaired visibility. Utilities may face increased demand and potential outages, complicating maintenance efforts and public safety. • Economic Impact: The economic repercussions include financial losses from property damage and business interruptions. Disruptions in infrastructure can deter tourism and hinder economic activity, affecting community resilience and growth.
<p>Environment</p>	<ul style="list-style-type: none"> • Infrastructure Damage: Winter weather in Sarasota County can cause significant damage to roads, bridges, and public utilities, leading to increased maintenance costs and potential service disruptions. • Impact on Vegetation: Frost and freezing temperatures can harm sensitive plant species, disrupt growth and flowering patterns, and negatively affect local ecosystems. • Wildlife Disruption: Severe winter conditions can interfere with wildlife habitats, alter migration and breeding behaviors, and impact predator-prey dynamics, leading to a decline in biodiversity. • Water Quality Issues: Cold weather can increase runoff, introducing pollutants into water bodies and disrupting aquatic ecosystems, which affects both recreational activities and water supply.

Area Impacted	Consequences
	<ul style="list-style-type: none"> • Economic Effects: The costs of infrastructure repairs decreased agricultural yields, and a potential decline in winter tourism can significantly strain the local economy and government budgets. • Energy Demand: Increased reliance on heating during cold weather results in higher energy demand, which can stress local energy infrastructure and lead to higher costs for residents and businesses.
Economic Conditions	<ul style="list-style-type: none"> • Tourism Decline: Sarasota's economy relies heavily on winter tourism. Severe weather can deter visitors, impacting local businesses like hotels and restaurants and reducing tax revenue that supports public services and infrastructure. • Agriculture Damage: Winter weather can harm local crops, particularly citrus and vegetables, leading to decreased yields and increased costs for farmers. This can strain the agricultural sector and affect food supply chains. • Real Estate Value Decline: Adverse weather conditions can drive down property values as buyers become wary of potential damage. This decline impacts homeowners and can hinder local economic growth in construction and related industries. • Infrastructure Costs: Harsh winter weather leads to increased maintenance and repair costs for local infrastructure, such as roads and utilities. This strain on budgets can hinder essential services and future investments. • Increased Insurance Claims: Property damage due to winter weather results in higher insurance claims, leading to increased premiums for residents and businesses. This financial burden can reduce disposable income and consumer spending. • Fluctuation of Local Employment: Employment in tourism and agriculture can fluctuate significantly due to winter weather impacts, leading to job instability. This uncertainty affects household income and overall community economic health.
Public Confidence	<ul style="list-style-type: none"> • Infrastructure Strain: Winter conditions can weaken roads, public transportation, and utilities. Issues like icy roads can disrupt traffic and emergency services, raising concerns about the community's preparedness and reliability of infrastructure. • Economic Factors: Winter weather can negatively affect local businesses through reduced customer traffic and operational delays, leading to financial losses. Deterred tourism can also impact the local economy, diminishing public confidence in Sarasota as a stable business environment. • Public Health and Safety: The risks associated with winter weather include increased accidents and health issues, especially for vulnerable populations. Concerns grow if residents feel that adequate safety measures and emergency responses are lacking. • Communication and Response Delays: Delays in conveying crucial information during winter events can lead to confusion and anxiety among residents. Ineffective communication can undermine trust in local authorities and their ability to handle emergencies, highlighting the need for better crisis management.

IMPACT ON COMMUNITY LIFELINES

Winter weather may have some effects on FEMA Community Lifelines in Sarasota County and nearby areas, particularly during occasional cold snaps or winter storms. Key areas such as safety, food supply, health services, and transportation could face minor disruptions.

In a semi-tropical climate, winter events can occasionally create icy conditions that might slightly delay response times for law enforcement and first responders. This could result in challenges in addressing emergencies. Some disruption in food and hydration supplies might happen as residents prepare for unusual weather conditions.

Although freezing temperatures are not common in the area, the occasional frost can lead to minor plumbing issues, such as a burst pipe, causing temporary water shortages. Heating resources might be somewhat strained during sudden cold spells, and some residents could seek alternative shelter if their homes become uncomfortably cold.

Health and medical services may experience slight impacts if medical facilities are forced to close due to winter weather or if emergency services are delayed on icy roads. Water systems could encounter minor issues during colder temperatures, particularly if there are small breaks in lines.

Power systems might see occasional outages from fallen branches or trees under ice, and while the electrical grid may experience higher demand during colder spells, significant blackouts are unlikely. Transportation services, including public transit and airports, may experience some delays or cancellations due to icy conditions, but these disruptions are expected to be manageable.

It is important to note that as growth occurs and/or environmental conditions change, Sarasota County will assess those impacts to identify potential enhancements and implement mitigation actions to enhance resilience to winter weather.

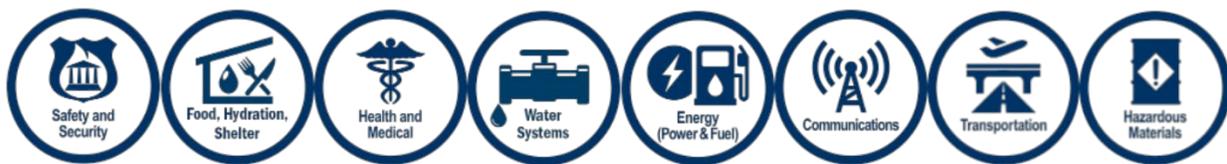


Figure 45: Federal Emergency Management Agency's Community Lifelines

Capability Assessment

Local mitigation capabilities are essential for reducing the impact of hazards on communities. Local authorities can effectively mitigate hazards by leveraging existing authorities, policies, programs, and resources. The planning partners of Sarasota County performed an assessment of their capabilities for implementing hazard mitigation actions. This involved considering how various capabilities could be expanded or improved upon. By completing this assessment, it is intended that all participating jurisdictions will be able to select the mitigation actions that are most effective and feasible for them to complete. The capability assessment used a multi-faceted approach, including the following for each jurisdiction:

- **Planning and Regulatory Capabilities:** The plans, policies, codes, and ordinances that prevent and reduce the impacts of hazards.
- **Administrative and Technical Capabilities:** The staff, skills, and tools that can help carry out mitigation actions.
- **Financial Capabilities:** Evaluating county or city-specific capabilities, state and federal resources, and funding from participating agencies and organizations to determine what projects are feasible given their costs.
- **Education and Outreach Capabilities:** Programs and methods that promote awareness through a whole-community approach to encourage and facilitate risk reduction and promote resilience.

Planning and Regulatory Capabilities

Sarasota County and its participating jurisdictions have several plans and policies in place that guide and support the development of mitigation actions in the most hazard-prone areas. Table 61 summarizes the planning capabilities, including all available plans in the planning area that prevent and reduce the impacts of hazards. As reflected below, while the larger and unincorporated jurisdictions of Sarasota County tend to all have a General Plan, there is much variation in each jurisdiction's plan capabilities.

Table 61: Planning Capabilities of Participants of the Mitigation Strategy Plan

Plan	Sarasota County	North Port	City of Sarasota	Venice	Longboat Key	Sarasota Memorial Hospital	Sarasota Manatee Airport Authority	Sarasota County Schools	Englewood Fire District	Ringling Museum
General Plan	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	No
Recovery Plan	No	Yes	No	No	Yes	Yes	No	Yes	No	No

Plan	Sarasota County	North Port	City of Sarasota	Venice	Longboat Key	Sarasota Memorial Hospital	Sarasota Manatee Airport Authority	Sarasota County Schools	Englewood Fire District	Ringling Museum
Capital Improvement Plan	No	Yes	Yes	Yes	Yes	No	No	Yes	Yes	No
Climate Change Adaptation Plan	Yes	Yes	Yes	No	Yes	No	No	No	No	No
Shoreline Management Plan	Yes	Yes	Yes	Yes	Yes	No	No	No	No	No
Community Wildfire Protection Plan	No	Yes	No	Yes	No	No	No	No	No	No
Economic Development Plan	No	Yes	No	No	No	Yes	No	No	No	No
Land Use Plan	No	Yes	Yes	Yes	Yes	No	No	No	No	No
Local Emergency Operations Plan	Yes	Yes	No	Yes	Yes	Yes	Yes	No	No	Yes
Stormwater Management Plan	Yes	Yes	No	Yes	No	No	No	No	No	No
Transportation Plan	No	Yes	Yes	Yes	No	No	No	No	No	No
Floodplain Management Plan	Yes	Yes	Yes	Yes	No	No	No	No	No	No
Substantial Damage Plan	No	Yes	No	Yes	No	No	No	No	No	No
Debris Management Plan	No	Yes	No	Yes	Yes	No	No	No	No	No
Resiliency Adaptation Plan	Yes	No	Yes	Yes	Yes	No	No	No	No	No
Severe Weather Plan	Yes	Yes	Yes	Yes	No	Yes	No	No	No	No

Table 62 summarizes the policies, codes, and ordinances present in Sarasota County and its participating jurisdictions. These policies, codes, and ordinances can be used to support mitigation strategies. As reflected, individual municipalities include most of the listed policies, codes, and ordinances. However, the smaller participants—the hospital, airport, schools, museum, and fire district—do not have many available codes.

Table 62: Regulations and Ordinances of the Participants of the Mitigation Strategy Plan

Plan	Sarasota County	North Port	City of Sarasota	Venice	Longboat Key	Sarasota Memorial Hospital	Sarasota Manatee Airport Authority	Sarasota County Schools	Englewood Fire District	Ringling Museum
Building Code	Yes	Yes	Yes	Yes	Yes	No	No	No	No	No
Flood Insurance Rate Maps	Yes	Yes	Yes	Yes	Yes	No	No	No	No	No
Floodplain Ordinance	Yes	Yes	Yes	Yes	Yes	No	No	No	No	No
Subdivision Ordinance	Yes	Yes	Yes	Yes	Yes	No	No	No	No	No
Zoning Ordinance	Yes	Yes	Yes	Yes	Yes	No	No	No	No	No
Natural Hazard Specific Ordinance (Stormwater, Steep Slope, Wildfire)	Yes	Yes	Yes	No	Yes	No	No	No	No	No
Acquisition of Land for Open Space and Public Recreation Use	Yes	Yes	Yes	No	Yes	No	No	No	No	No
Prohibition of Building in At-Risk Areas	Yes	No	Yes	No	No	No	No	No	No	No

Administrative and Technical Capabilities

Sarasota County and its participating jurisdictions have several staff members and tools that contribute to the knowledge and efficient implementation of mitigation actions. Table 63 summarizes the administrative capabilities, including the staff and their respective skills to support mitigation actions. State and regional partners may be able to contribute their skills and tools where local capabilities are missing. However, each individual city, town, and non-jurisdictional part of the county includes most of these staff members, emphasizing the strength of various skills to support mitigation actions throughout the county. The smaller jurisdictions—the hospital, airport, schools, and fire district—have varying staff members available. This is largely because each unique industry relies on very specific functions that its staff supports (i.e., pilots, teachers, medical doctors, firefighters). Consequentially, each entity might not require more niche capabilities, such as a floodplain administrator, engineers, or a GIS coordinator.

Table 63: Administrative Capabilities of the Participants of the Mitigation Strategy Plan¹⁶⁷

Plan	Sarasota County	North Port	City of Sarasota	Venice	Longboat Key	Sarasota Memorial Hospital	Sarasota Manatee Airport Authority	Sarasota County Schools	Englewood Fire District	Ringling Museum
Chief Building Official	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes	No	No
Grant Writer	Yes	Yes	Yes	No	Yes	Yes	No	Yes	No	Yes
Civil Engineer	Yes	Yes	Yes	Yes	Yes	No	No	No	No	No
Community Planner	Yes	Yes	Yes	Yes	Yes	No	No	Yes	No	No
Emergency Manager	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	No	No
Floodplain Administrator	Yes	Yes	Yes	Yes	Yes	No	No	No	No	No
Geographic Information System (GIS) Coordinator	Yes	Yes	Yes	Yes	No	No	No	Yes	No	No
Planning Commission	Yes	Yes	Yes	Yes	Yes	No	No	No	No	No
Fire Safe Council	No	No – partner with NFSC for resources	No	No	No	No	Yes	No	No	No
Community Emergency Response Team (CERT)	Yes	Yes	No	Yes	Yes	No	No	No	No	No
Voluntary Organizations Active in Disaster	Yes	Yes	No	No	No	No	No	No	No	No

Table 64 summarizes the Technical Capabilities of Sarasota County and its jurisdictions, including the available tools to support mitigation actions. There are only three technical capabilities listed: Hazard Data and Information, GIS, and Mutual Aid Agreements. Each individual city, town, and non-jurisdictional participant includes all three of these capabilities, except for Hazard Data in the Town of Longboat Key. For the smaller participants—the hospital, airport, schools, and fire district—the technical capabilities vary greatly.

¹⁶⁷ NFSC = National Fire Safety Council

Table 64: Technical Capabilities of the Participants of the Mitigation Strategy Plan

Plan	Sarasota County	North Port	City of Sarasota	Venice	Longboat Key	Sarasota Memorial Hospital	Sarasota Manatee Airport	Sarasota County Schools	Englewood Fire District	Ringling Museum
Hazard Data and Information	Yes	Yes	No	Yes	Yes	No	No	No	No	No
GIS	Yes	Yes	Yes	Yes	Yes	No	No	Yes	No	No
Mutual Aid Agreements	Yes	Yes – local, multi-county and statewide	Yes	Yes	Yes	Yes	Yes	No	No	No

Financial Capabilities

Sarasota County and its participating jurisdictions have many financial tools and resources for mitigating hazards. Discussing the funding and financial capabilities is important to determine the kinds of projects that are feasible given their cost. Outreach programs that use staff time and existing budgets tend to cost less than installing major construction upgrades, which could require more funding from state or federal partners. Table 65 summarizes the financial capabilities to fund mitigation actions. Similar to the previous capability sections, the individual cities, towns, and non-jurisdictional sectors of Sarasota County have many funding opportunities and grant programs, whereas the smaller jurisdictions—the hospital, schools, airport, and fire district—vary more in their available funding resources.

Table 65: Financial Capabilities of the Participants of the Mitigation Strategy Plan¹⁶⁸

Plan	Sarasota County	North Port	City of Sarasota	Venice	Longboat Key	Sarasota Memorial Hospital	Sarasota Manatee Airport Authority	Sarasota County Schools	Englewood Fire District	Ringling Museum
Capital Improvement Project Funding	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes – repair and upgrade of infrastructure	Yes	No
General Funds	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes – replacement of goods and supplies, non-capitalized	Yes	Yes
Hazard Mitigation Grant Program (HMGP/404)	Yes	Yes	No	Yes	Yes	No	No	No	No	No
Flood Mitigation Assistance (FMA)	Yes	No	No	No	No	No	No	No	No	No
Community Development Block Grant (CDBG)	Yes	Yes	Yes	Yes	No	No	No	No	No	No
Natural Resources Conservation Services (NRCS) Programs	Yes	Yes	No	No	No	No	No	No	No	No

¹⁶⁸ E&G = Education and General Funds, FDEP = Florida Department of Environmental Protection, LGFR = Local Government Funding Request, PO&M = Plant Operation and Maintenance,

Plan	Sarasota County	North Port	City of Sarasota	Venice	Longboat Key	Sarasota Memorial Hospital	Sarasota Manatee Airport Authority	Sarasota County Schools	Englewood Fire District	Ringling Museum
U.S. Army Corps (USACE) Programs	Yes	No	No	Yes	No	No	No	No	No	No
Property, Sales, Income, or Special Purpose Taxes	Yes	Yes	Yes	No	Yes	No	No	Yes	Yes	No
Stormwater Utility Fee	Yes	Yes	Yes	Yes	No	No	No	No	No	No
Fees for Water, Sewer, Gas, or Electric Services	Yes	Yes	Yes	Yes	Yes	No	No	No	No	No
Impact Fees from New Development and Redevelopment	Yes	Yes	Yes	Yes	Yes	No	No	No	Yes	No
General Obligation or Special Purpose Bonds	Yes	Yes	Yes	No	Yes	No	No	No	No	No
Federal-funded Programs (Please describe)	No	Yes	No	No	No	No	Yes – Airport Improvement Program	Yes – federal grants for educational purposes, Title 1, Title 2	No	No
State-funded Programs (Please describe)	No	Yes	No	No	Yes – FDEP LGFR	No	Yes – programs: Airport Improvement Program for	Yes – state funded educational program funding,	No	Yes – state appropriation (E&G, PO&M),

Plan	Sarasota County	North Port	City of Sarasota	Venice	Longboat Key	Sarasota Memorial Hospital	Sarasota Manatee Airport Authority	Sarasota County Schools	Englewood Fire District	Ringling Museum
					Activities: Beach Nourishment		maintenance, upgrades and airport infrastructure Activities: Aviation related only	student education (activities)		auxiliary revenues, endowment
Private Sector or Nonprofit Programs	No	Yes	No	No	No	No	No	Yes	No	Yes

Education and Outreach Capabilities

Sarasota County and its participating jurisdictions have several programs and methods to promote awareness of hazards and potential mitigation actions. Table 66 summarizes education and outreach capabilities that can promote and facilitate risk reduction and resilience. Community-based partners can also contribute to outreach efforts, especially those that work with underserved populations. Most individual cities, towns, and non-jurisdictional sections of Sarasota County have a multitude of educational and outreach capabilities. Smaller jurisdictions have fewer capabilities; these may be on a smaller scale, such as newsletters and meetings, instead of larger capabilities, such as campaigns, larger media entities, and working with partnering organizations.

Table 66: Education and Outreach Capabilities of the Participants of the Mitigation Strategy Plan

Plan	Sarasota County	North Port	City of Sarasota	Venice	Longboat Key	Sarasota Memorial Hospital	Sarasota Manatee Airport Authority	Sarasota County Schools	Englewood Fire District	Ringling Museum
Community Newsletter(s)	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes	No	No
Hazard Awareness Campaigns (such as Firewise, Storm Ready, Severe Weather Awareness Week, School Programs)	Yes	Yes – Citizen’s Academy, presentations, panels/ community forums	Yes	Yes	Yes	No	No	No	Yes	No
Public Meetings	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes – monthly board meetings	No
Emergency Management Listserv	Yes	Yes	Yes	No	Yes	No	No	No	No	No
Local News	Yes	Yes – use of digital and traditional media and partnerships with local TV, print and radio media outlets	Yes	Yes	Yes	No	No	No	No	No

Plan	Sarasota County	North Port	City of Sarasota	Venice	Longboat Key	Sarasota Memorial Hospital	Sarasota Manatee Airport Authority	Sarasota County Schools	Englewood Fire District	Ringling Museum
Distributing Hard Copies of Notices (e.g., public libraries, door-to-door outreach)	Yes	Yes	Yes	Yes	Yes	No	Yes	No	No	No
Insurance Disclosures/ Outreach	Yes	Yes	Yes	Yes	Yes	No	No	No	No	No
Organizations that Represent, Advocate for, or Interact with Underserved and Vulnerable Communities (Please Describe)	Yes	No	Yes	No	No	No	No	No	No	No
Social Media	Yes - Instagram, Facebook, X	Yes	Yes	Yes	Yes – Facebook, Instagram, Town Website	Yes	Yes	Yes	Yes – education tool to advise residents of potentially hazardous conditions	Yes – Instagram, Facebook, Website

Participation in the National Flood Insurance Program

Flooding is the costliest natural hazard in the United States, and with the promulgation of recent federal regulations, homeowners nationwide are experiencing increasingly high flood insurance premiums. Community participation in the National Flood Insurance Program (NFIP) provides an opportunity for additional grant funding associated specifically with flooding issues. Assessment of the NFIP status and compliance of Sarasota County and its participating jurisdictions provides planners with a greater understanding of the local flood management program, opportunities for improvement, and available grant funding opportunities.

The NFIP’s Community Rating System (CRS) is a voluntary incentive program that recognizes and encourages community floodplain management activities that exceed the minimum NFIP requirements. Participants are offered discounted flood insurance premium rates to reflect the reduced flood risk from the community actions meeting the three goals of the CRS. These goals are reducing flood damage to insurable property, strengthening and supporting insurance aspects of the NFIP, and encouraging a comprehensive approach to floodplain management. This section identifies and evaluates existing programs for the following jurisdictions:

- Sarasota County
- City of Sarasota
- City of North Port
- City of Venice
- Town of Longboat Key

The other jurisdictions were not eligible for NFIP participation, so they were not included in this assessment. Table 67 through Table 70 provide information about NFIP participation for each participating jurisdiction.

Table 67: NFIP Overview by Jurisdiction

Community	CRS Class ¹⁶⁹	Policy Count ¹⁷⁰	Repetitive and Severe Repetitive Loss Properties
Sarasota County	5	38,881	RL: 240 SRL: 48
City of Sarasota	5	8,581	RL: 157 SRL: 19
City of North Port	5	4,137	RL: 7

¹⁶⁹ Federal Emergency Management Agency, “Community Status Book Report,” 2025, <https://www.fema.gov/cis/FL.pdf>.

¹⁷⁰ Federal Emergency Management Agency, “Flood Insurance Data: Policy Information by State,” 2025, <https://agents.floodsmart.gov/flood-maps-and-data/flood-insurance-data>.

Community	CRS Class ¹⁶⁹	Policy Count ¹⁷⁰	Repetitive and Severe Repetitive Loss Properties
			SRL: 0
City of Venice	5	5,993	RL: 100 SRL: 9
Town of Longboat Key	6	6,031	RL: 185 SRL: 62

Sarasota County and its participating jurisdictions have a wide range of floodplain management capabilities. The questions asked of each participant in Table 68 focus on the roles, responsibilities, and capabilities of the floodplain manager and the community's enforcement of floodplain regulations and participation in programs such as the Community Rating System (CRS). They also inquire about the community's management of development permits, tracking of structures in flood hazard areas, substantial damage determinations, and compliance with the NFIP.

Table 68: Floodplain Management¹⁷¹

Question	Sarasota County	North Port	City of Sarasota	Venice	Longboat Key
Does the community participate in the NFIP?	Yes	Yes	Yes	Yes	Yes
Who is the floodplain manager? Is this their primary or secondary role?	Yes, primary role	The Floodplain Administrator, primary role	Yes, primary role	The Building Official, secondary role	Town Manager, secondary role
Does the floodplain manager have adequate training and capacity for their role?	Yes	Yes	Yes	Yes	No, the role needs to be assigned to a Certified Floodplain Manager
How does the community enforce its floodplain rules? Does enforcement include monitoring compliance and acting to correct violations?	Floodplain County Ordinances: Yes	Floodplain rules are enforced through city ordinances and the Floodplain Management Plan.	Yes	By using elevation certificates to ensure that all new construction is built to the design flood elevation	The town's Code Enforcement process includes monitoring compliance and acting to correct violations.
When was the most recent floodplain management	December 12, 2023	Adopted 8/6/2024 Effective 10/28/2024	Adopted on 9/6/2022 and amended 2/5/2024	May 2025	February 2025

¹⁷¹ ASFPM = Association of State Floodplain Managers, FIRM = Flood Insurance Rate Map, PPI = Protected Personal Information, SFHA = Special Flood Hazard Area, SD = Substantial Damage.

Question	Sarasota County	North Port	City of Sarasota	Venice	Longboat Key
ordinance adopted?					
Does your community participate in the Community Rating System (CRS)?	Yes	Yes. The city of North Port has undergone several CRS audits to improve its CRS rating. The city's continual efforts in flood protection activities have resulted in improved CRS ratings for each audit. The most recent 2023 audit resulted in an improvement of the city's Class 6 rating to a Class 5 rating. The Class 5 rating became effective on May 1, 2020. The change from a Class 6 to the better Class 5 rating resulted in a change from 20% (Class 6) to 25% (Class 5) flood insurance discount for high-risk AE flood zone areas.	Yes	Yes. Public outreach via letters, social media, and the website. Mapping all hazards in the community	Yes. The town achieves CRS goals by following the CRS Manual.

Question	Sarasota County	North Port	City of Sarasota	Venice	Longboat Key
Does the community's floodplain management ordinance include any higher standards? If so, please list.	Yes, one foot of freeboard is required in the SFHA. Regulating to all storms up to and including the 100-year storm, regulating to local floodplains, regulate Coastal A Zone requirements, and incorporates other local drainage criteria.	Yes, 1 foot of freeboard is required. Accessory structures are limited to 600 square feet below Design Flood Elevation (DFE). Manufactured Homes must have the bottom of the frame elevated to DFE.	Yes, there are additional freeboard requirements, enhanced building codes, and local drainage requirements.	Yes, one foot of freeboard is required.	Yes. The town has adopted Sarasota County's floodplain management ordinances as higher standards.
Who is responsible for permitting?	The Floodplain Administrator	Permitting goes through the Building Official, with review from the Floodplain Administrator.	The Building Department	The Building Department	Planning, Zoning and Building Department
How does the community issue development permits in the Special Flood Hazard Area?	The Planning and Zoning department review development applications, including a site plan showing to scale and size the location of all new construction and existing structures on the site, distances from lot lines, the established street grades, and the proposed finished grades and as applicable, Flood Hazard Areas and floodways. If those plans meet the requirements set forth in the floodplain ordinance,	The Floodplain Administrator issues development permits within the SFHA.	A Flood Zone Specialist reviews applications in conjunction with the building department.	The system flags all properties in the SFHA and sends a review step to a floodplain reviewer.	The entire Key is in the SFHA, and permits are issued through the Planning, Zoning and Building Department.

Question	Sarasota County	North Port	City of Sarasota	Venice	Longboat Key
	they provide a building permit.				
Does the community maintain elevation certificates?	Yes	Yes, elevation certificates are issued by neighborhood development services.	Yes	Yes	Yes
Does the community track the number of buildings in the special flood hazard area? If yes, are there any trends?	Yes. The PPI report for Sarasota County is used to track the number of buildings in the SFHA.	Yes, insurable structure counts are taken from GIS building footprint layers.	Yes, there are no discernable trends.	Yes. Describe: The building counts are taken from GIS.	Yes. The PPI report for Sarasota County is used to track the number of buildings in the SFHA.
How many repetitive loss (RL) structures does the community have? (List number and type of structure)	240, mostly residential	7 residential properties	157 single family residences and condominiums	100 residential properties and 1 commercial property	185 residential properties
How many severe repetitive loss (SRL) structures does the community have? (List number and type of structure)	48 mostly residential	Zero (0)	19	9	62 residential properties
Have any RL/SRL properties been mitigated since the last plan update?	Yes	No	Yes	Yes	Yes

Question	Sarasota County	North Port	City of Sarasota	Venice	Longboat Key
Who is responsible for making substantial damage/ substantial improvement determinations?	Floodplain Administrator	Floodplain Administrator	Development Services Floodplain Specialists	Building official/ floodplain administrator	Building Official
How does the substantial damage/ substantial improvement process work in your community?	The Floodplain Administrator, in coordination with the Building Official, reviews permits for Substantial Improvement or Repairs of structures within the SFHA. Market value is determined by a submitted Actual Cash Value appraisal or the adjusted Property Appraiser value. A determination is then made based on total scope of improvement/ repair. If the determination is made that the work constitutes a Substantial Improvement or Substantial Repair, the applicant is contacted and informed that the structure will need to be brought into compliance	The Floodplain Administrator, in coordination with the Building Official, reviews permits for Substantial Improvement or Repairs of structures within the SFHA. Market value is determined by a submitted Actual Cash Value appraisal or the adjusted Property Appraiser value. A determination is then made based on total scope of improvement/ repair. If the determination is made that the work constitutes a Substantial Improvement or Substantial Repair, the applicant is contacted and informed that the structure will need to be brought into compliance	If the damage is over 50% of the cost of the structure, it must be brought into compliance. The owner can provide a market value appraisal or use the Property Appraiser building value plus 20%.	In 2013, Ordinance 2013-27 amended Chapter 98 – Floods, in its entirety. Chapter 98 encompasses all things flood-related and is cross-referenced with associated chapters dealing with the environment (Chapter 34), stormwater management (Chapter 74), and buildings and building regulations (Chapter 90).	By upgrading the property through the building permit process.

Question	Sarasota County	North Port	City of Sarasota	Venice	Longboat Key
	with current floodplain regulations.	with current floodplain regulations.			
Is there sufficient staff and training to make substantial damage/substantial improvement determinations?	During “blue skies,” yes. During “gray skies,” the answer depends on the severity and geographic impact of the storm event. There is sufficient capacity and training to handle a small to moderate storm event or a geographically localized severe event, but outside assistance would likely be needed to handle substantial damage/substantial improvement determinations for a severe or catastrophic storm event with a large geographic impact in the county.	Yes	Yes	Yes	No
How are substantial damage/substantial improvement requirements messaged to the public before and after an event?	Messaging is handled primarily by Planning and Development Services (PDS) prior to an event through the County’s website, notifications on the County’s land management system, and email blasts to contractors.	Social media, permit review direct correspondence, Rep/Loss Area mailers, door hangers, or direct mail after an event, and yearly mailers to insurance/real estate companies.	They are sent to residents by email and postal mail and posted on social media and the city website.	The CRS program has mailings for different target audiences that include discussion of substantial damage (ongoing). Presentations are made to realtors,	Through individual communication methods.

Question	Sarasota County	North Port	City of Sarasota	Venice	Longboat Key
	<p>After an event, messaging is handled by PDS and Communications. Communications, in coordination with PDS, utilizes social media and online videos, while PDS uses the County’s website to post information and disseminates information face-to-face through county staff at community sites and events.</p>			<p>and the Substantial Damage (SD) rules are discussed (ongoing). Handouts are available in the building department lobby, and the SD rules are posted on the City of Venice website. Social media posts with SD rules were made (post-storm). Multiple informational meetings from the Building Official were held with different neighborhoods regarding SD rules (post-storm). A presentation was made at the Hurricane Expo, and SD rules are discussed (every May).</p>	

Question	Sarasota County	North Port	City of Sarasota	Venice	Longboat Key
Have any substantially damaged/substantially improved structures been mitigated since the last plan update?	Yes. Substantial Damage/Substantial Improvement determinations have been issued and have resulted in permits for mitigation efforts, including the elevation of structures.	No	Yes, 3	No	Yes
How will the community remain in compliance with the NFIP moving forward? (Simply stating “the community will continue to comply with the NFIP” will not meet FEMA’s planning requirements.)	Sarasota County continues to promote the NFIP to property owners, encourages flood loss reduction activities through the unincorporated areas, and, as part of the Community Rating System, implements insurance premium discounts that help taxpayers save money.	The City’s Floodplain Management Task Force will be very active in ASFPM membership and Florida Floodplain Mangers membership to stay informed about upcoming changes to the NFIP and potential effects these changes could have.	The community is part of the CRS and takes compliance very seriously. We are currently a Class 5 community with a 25% discount and will apply to be a Class 4 next year with the Watershed Master Plan.	Keep enforcing rules according to the NFIP minimum standards, such as meeting base flood elevation.	The town will be very active in ASFPM membership and Florida Floodplain Mangers membership to stay informed about upcoming changes to the NFIP and potential effects these changes could have.

Sarasota County and its participating jurisdictions exercise many processes and collect data on a regular basis to ensure proper floodplain management. The responses in Table 69 address the communities’ processes for supporting flood map change requests, including during the Risk Mapping, Assessment and Planning (Risk MAP) process, and provide the timelines for the most recent Flood Insurance Rate Map (FIRM) and its accessibility to the public. In addition, they explore the communities’ use of Risk MAP products and whether updated floodplain data or modeling is collected and shared with partners and FEMA.

Table 69: Floodplain Mapping¹⁷²

Question	Sarasota County	North Port	City of Sarasota	Venice	Longboat Key
How does the community support map change requests? This could be requests during the Risk MAP process or through Letters of Map Amendment or Revision.	Any submitted map changes are reviewed and, if applicable, a Community Acknowledgement Form is signed by the Floodplain Administrator and submitted.	Any submitted map changes are reviewed and, if applicable, a Community Acknowledgement Form is signed by the Floodplain Administrator and submitted.	The city reviews LOMCs that come in and make comments to approve when they are approvable.	The city reviews all map changes before signing the Community Acknowledgement Form.	The town requests Risk MAP changes through Letters of Map Amendment or Revision.
When did the latest Flood Insurance Rate Map (FIRM) become effective?	03/27/2024	03/27/2024	03/27/2024	05/2025	3/27/2024
When was the latest FIRM adopted?	03/27/2024	03/5/2024	03/27/2024	05/2025	3/27/2024
Is the FIRM and Flood Insurance Study (FIS) report in an accessible location? How would the public get access to their flood map information?	Yes. Updated floodplain data is in the basin planning and modeling program called the Community Flood Hazard Area (CFHA), accessible online at https://ftp.scgov.net/StormWater/ .	Yes, available upon request.	Yes, available upon request.	Yes, the public may come into City Hall or call/email the CRS coordinator.	Yes, available through the website and through the PZ&B Department.

¹⁷² LOMC = Letter of Map Change, PZ&B = Planning, Zoning & Building, Risk MAP = Risk Mapping, Assessment and Planning,

Question	Sarasota County	North Port	City of Sarasota	Venice	Longboat Key
Does the community use any Risk MAP products? If so, describe.	No	Yes, Coastal Risk Maps for Sarasota County, which include the City of North Port. The maps can be viewed through the city's interactive map application.	No	No	Yes
Does the community collect updated floodplain data or modeling? Is this shared with partners and with FEMA?	Yes. Updated floodplain data is available online at the following link: https://experience.arcgis.com/experience/48741ab2a7b24c0fb5f360d0f40824d5 .	Yes, during updates of the Peace River Reservoir computer modeling, dam breach modeling is conducted at six locations around the perimeter, along with flood inundation modeling of the dam breach.	Yes, the city collects information that is submitted with LOMCs and site development documents.	No	Yes, the collected floodplain data is shared with partners and FEMA.

Sarasota County and its participating jurisdictions have multiple ways to engage in public outreach and conduct insurance agent discussions. Table 70 shows how each jurisdiction educates the public about floodplain management and flood insurance availability, both inside and outside flood-prone areas, utilizing various outreach methods, such as letters, social media, and presentations. The questions present also explore the community's engagement with insurance agents, the existence of flood hazard disclosure laws in Florida, public familiarity with flood insurance options, and whether there are properties lacking flood insurance coverage.

Table 70: Flood Insurance and Outreach

Question	Sarasota County	North Port	City of Sarasota	Venice	Longboat Key
How does the community educate the public on floodplain management and the availability of flood insurance, in and out of the floodplain?	Yes	Yes	Brochures are mailed and available at couple of locations in the city. The city also posts to social media and the website with information/	Letters, social media, websites, presentations to realtors. The city of Venice staff provide outreach to educate residents about ways to protect their property and available financial assistance.	Through yearly mailers and social media messaging.
How does the community engage with insurance agents on flood insurance?	Local insurance agents are members of the Program for Public Information (PPI) committee. They receive an informational mailer once a year, and direct questions from agents are responded to via emails or phone calls.	Yes, various methods.	Local insurance agents are members of the PPI committee. They receive an informational mailer once a year, and direct questions from agents are responded to via emails or phone calls.	Through mailings.	Through yearly mailers and social media messaging.
Does the community (or state) have flood hazard disclosure laws?	Yes	Yes	Yes	Yes	Florida has flood hazard disclosure laws.

Question	Sarasota County	North Port	City of Sarasota	Venice	Longboat Key
How familiar is the public with their flood insurance options?	Unknown	Unknown	The public is aware that flood insurance is available to all properties.	The public is familiar since the city does mass mailings and includes information on the City's website: https://www.venice.gov.com/government/engineering/floodplain-management/flood-insurance	The public is very familiar with flood insurance options.
How many properties have flood insurance in the community?	38,881	4,137	8,581	5,993	6,031
Are there any areas where flood insurance is lacking?	No	No	No	No	No

Opportunities to Expand and/or Improve Capabilities

Findings of the capability assessment were reviewed to identify opportunities to expand, initiate, or integrate capabilities to further hazard mitigation goals and objectives. Where such opportunities were identified and feasible, they were included in the action plan.

Table 71: Opportunities to Expand and/or Improve the Capabilities of the Participants of the Mitigation Strategy Plan¹⁷³

Capability Type	Opportunity to Expand and/or Improve
Planning and Regulations	<ul style="list-style-type: none"> • Sarasota County: The county should continue to review its planning and regulatory mechanisms to better utilize hazard mitigation planning and implement mitigation actions. • City of Sarasota: The city should continue to review its planning and regulatory mechanisms to better utilize hazard mitigation planning and implement mitigation actions. • City of North Port: The city would like to develop a Pre-Disaster Recovery Framework and Post-Disaster Recovery Plan. It would like to make a more robust freshwater flooding plan and have an Integrated Preparedness Plan for the city. • City of Venice: Update policies for city staff emergency pay, sheltering during and post-storm, and pre-approved autoreplies for emails. Develop templates for required Executive Orders, such as curfews, closures, and regulation waivers. Develop a stormwater level of service evaluation. • Town of Longboat Key: Developing a staffing plan for disaster recovery could help highlight actions to improve staff capacity. • Sarasota Memorial Hospital: None identified. • Sarasota Manatee Airport Authority: Develop a formal procedure for periodically addressing hazards internally. • Sarasota County Schools: Flooding has affected some shelter sites in the past. Continue to develop alternative sites which are less prone to flooding. • Englewood Fire District: Develop a plan to improve resilience to vulnerable parts of town: mobile home parks, a hospital, and several nursing homes. • Ringling Museum: Participate in mitigation planning for FSU satellite campuses, based on deferred maintenance plan.
Administrative and Technical	<ul style="list-style-type: none"> • Sarasota County: The county can continue to enhance its use of direct technical assistance to develop hazard mitigation projects. • City of Sarasota: The city can improve its use of direct technical assistance to develop hazard mitigation projects. • City of North Port: Separate a debris removal contract from a bulk contract for disaster recovery to find more specialized, effective vendors. Construct a large open site that can be used as a staging area during disaster response and recovery. Partner with the Florida Forest Service to reduce wildfire risk.

¹⁷³ FSU = Florida State University, TFIT – Task Force for Initial Triage.

Capability Type	Opportunity to Expand and/or Improve
	<ul style="list-style-type: none"> • City of Venice: Secure pre-storm contractual services to expedite vendor staffing support during emergencies; Continue to train city staff in their specific Emergency Operations Center roles pre-storm (TFIT, damage assessment, debris, etc.). Consider additional Emergency Management (EM) and Public Information Officer (PIO) staff support. • Town of Longboat Key: In the aftermath of big storms, staff capacity is strained by recovery tasks. Making sure enough staff are trained in critical recovery tasks could help increase capacity so there is less reliance on private providers. • Sarasota Memorial Hospital: None identified. • Sarasota Manatee Airport Authority: The FAA is mandating a new safety management system for airports. Using this system, the authority can periodically obtain reports on hazards and ways to address them. • Sarasota County Schools: The district could look into putting in place a full-time emergency management position responsible for coordination and planning. • Englewood Fire District: A dedicated Emergency Manager would help streamline coordination with Sarasota County and Charlotte County. • Ringling Museum: Have a staff person available to collaborate with FSU regularly on mitigation planning
Financial	<ul style="list-style-type: none"> • Sarasota County: None identified. • City of Sarasota: The city could expand on its understanding of hazard mitigation grant funding available for meeting the city’s goals and objectives. • City of North Port: Add budget items to cover match costs for grants. Expand the city’s ability to take out loans post-disaster to pay for necessary upfront costs that would later be reimbursed by FEMA. • City of Venice: Improve processes for emergency procurement and train staff on how to apply for mitigation grants. Designate department representatives to provide cost estimates to Finance immediately following a storm. • Town of Longboat Key: The town struggles with funding match dollars for Hazard Mitigation Grant Program grants. Finding a funding stream to help pay the match requirement for grants would allow the town to pursue more grants. • Sarasota Memorial Hospital: None identified. • Sarasota Manatee Airport Authority: Develop a means to track potential grant funding available to the airport. • Sarasota County Schools: None identified. • Englewood Fire District: Having the capacity to pursue more grants could help hire staff and implement mitigation actions. The current funding structure is a flat fee, which limits the district’s ability to fund projects on its own. • Ringling Museum: Increase staff capacity to identify and apply for grant funding.
Education and Outreach	<ul style="list-style-type: none"> • Sarasota County: Sarasota County should continue to enhance its current public outreach and education programs to increase county residents’ awareness of hazard mitigation measures that can reduce risk.

Capability Type	Opportunity to Expand and/or Improve
	<ul style="list-style-type: none"> • City of Sarasota: The city can expand its current public outreach and education programs to increase its citizens' awareness of measures that can mitigate risk. • City of North Port: Improve capacity to train city staff and do outreach by hiring an Emergency Manager in charge of training and outreach. Move the yearly hurricane expo to a larger venue to accommodate more partners and vendors. • City of Venice: Increase public education about FEMA regulations and debris management procedures. Residents should be aware that debris collection will take several months to complete, and the collection process must adhere to all FEMA requirements. Increase public education on the importance of regulatory standards and the recovery process timeline. • Town of Longboat Key: The town could continue to develop messaging for residents on substantial damage/substantial improvement, especially before large storms. • Sarasota Memorial Hospital: None identified. • Sarasota Manatee Airport Authority: Improve redundancy for communication methods in a disaster, maybe through a satellite link or better radio connections. • Saratoga County Schools: None identified • Englewood Fire District: More staff are needed for community education. Currently, firefighters provide the education, but they are often interrupted by other work. • Ringling Museum: Increase staff training on mitigation opportunities and grant follow-through activities.

Mitigation Strategy

The overall goal of the Sarasota County Local Mitigation Strategy Working Group is to develop and maintain a “Disaster Resilient Community,” through awareness and application of hazard mitigation policies and the identification, prioritization, and achievement of cost-effective mitigation projects. The mitigation strategy achieves this by identifying a comprehensive range of actions that address the vulnerabilities identified in the risk assessment. These actions seek to reduce current and future risk through plans and regulations, structural and infrastructure projects, natural systems protection, and education and awareness programs. The Capability Assessment section guides the jurisdictions in selecting actions within their capabilities. This section also describes the process used to prioritize actions according to feasibility, costs, and benefits.

Changes in Priorities

Based on LMS Working Group conversations, Sarasota County and participating jurisdictions identified new goals and objectives to define their priorities for this LMS update. The LMS Plan effectively supports Sarasota County’s evolving mission and responsibilities. The plan priorities have been updated under new leadership to better align with current public needs, community-focused approach, and support the County’s long-term resilience. The new set of goals is broken down into enhancing the human, natural, and built environment of Sarasota County. Under enhancing the human environment, this plan prioritizes supporting community networks that support residents after a disaster and incorporating psychological and emotional well-being into disaster planning. These objectives recognize the importance of supporting social and emotional connections that can be strained after impacts from natural hazards.

Under enhancing the natural environment, there is a new emphasis on developing nature-based solutions that both reduce natural hazard impacts and provide environmental benefits. Over the past five years, nature-based solutions have increasingly been shown as effective alternatives to gray infrastructure, and in certain cases, with cheaper implementation costs. In this update, member jurisdictions are prioritizing nature-based solutions where possible.

Mitigation Goals and Objectives

MISSION OF THE PLAN

Conduct proactive mitigation to reduce risks and vulnerabilities, and to enhance resilience across the three core domains of the community: the Human Environment, the Natural Environment, and the Built Environment.

GOAL 1: ENHANCE THE HUMAN ENVIRONMENT

Enhance the Human Environment by focusing on people, including individual, social, and community factors. Priorities for action to promote resiliency in this environment include the following objectives:

- Support existing human-focused community networks.
- Enhance availability and access to public safety and emergency services both before and after disasters.
- Promote disaster preparedness and resilience through community-focused outreach and education.
- Promote awareness of location-based risks and vulnerabilities.
- Incorporate psychological/emotional well-being and resilience into disaster planning.
- Support the Community Rating System and other programs that increase resilience and lower insurance costs.

GOAL 2: ENHANCE THE NATURAL ENVIRONMENT

Enhance the Natural Environment through a focus on natural resources, local ecology, and community ecosystems. Priorities for action to promote resiliency in this environment include the following objectives:

- Promote programs and systems that safeguard natural resources and protect natural habitats.
- Promote programs and systems that safeguard coastal areas from erosion and protect against the degradation of coastal habitats.
- Promote the incorporation of nature-based solutions into infrastructure projects and ongoing maintenance.
- Promote resilience programs in the agricultural community to safeguard crops, livestock, and infrastructure.

GOAL 3: ENHANCE THE BUILT ENVIRONMENT

Enhance the Built Environment by focusing on human-made elements such as housing, public infrastructure, and commercial facilities. Priorities for action to promote resiliency in this environment include the following objectives:

- Promote resilience programs focused on occupied structures that mitigate against both storm surge and freshwater flooding.
- Promote hardening of critical infrastructure and housing against cyclonic winds.
- Support programs and systems that increase stormwater management capacity and resilience.
- Promote county-wide consistency for resilience-focused codes, risk thresholds, and master planning.
- Promote programs and systems that proactively manage and monitor development in designated floodplains.
- Promote mitigation and resilience at the household level through community programs and building codes.

- Promote programs and systems that increase the resilience of critical utility infrastructure, both public and private, to ensure continuity of essential services.

Definitions

Timeframe

The timeframe categories throughout the mitigation action plan were defined as follows:

- **Short-term:** To be completed in 1 to 2 years
- **Medium-term:** To be completed in 3 to 5 years
- **Long-term:** To be completed in more than 5 years

Cost

Cost rating categories throughout the plan were defined as follows:

- **5:** Less than \$500,000
- **4:** \$500,000–\$1,000,000
- **3:** \$1,000,000–\$2,000,000
- **2:** \$2,000,000–\$5,000,000
- **1:** More than \$5,000,000

Mitigation Prioritization Method

Sarasota County defined a process for local mitigation strategies using specific parameters. These criteria guide how mitigation projects are identified, how project nominations will be validated for funding opportunities, and how projects will be scored for prioritization.

Plan participants used these evaluation criteria to prioritize mitigation actions. The criteria are available to participants in digital worksheets, and a summary of their contents is provided below.

It is important to note that, per FEMA requirements (44 CFR § 201.6(c)(3)(ii)), each jurisdiction must include a mitigation action for each type of hazard profiled in the plan. This encourages jurisdictions to consider a broad range of mitigation strategies and to be better prepared for future hazard events. However, it does not obligate the jurisdiction to pursue mitigation actions for every hazard. Final decisions are based on multiple factors, including the level of risk and financial constraints.

Project Identification

Participants were instructed to use the following guidance when identifying mitigation projects.

Table 72: Sarasota County Local Mitigation Strategy Mitigation Project Process

	Process Step	Responsible Party
1	Project is identified and developed	Local Jurisdiction/Proponent
2	Project worksheet is completed	Local Jurisdiction/Proponent
3	Project is entered in online form	Local Jurisdiction/Proponent
4	Project is reviewed/vetted	LMS WG Project Ranking Committee
5	Project rank order list published	LMS WG Project Ranking Committee
6	Rank order list approved	LMS WG
7	Endorsement letter	Chair/Vice
8	Project updates	LMS WG

6. **Project Is Identified and Developed:** Local jurisdictions and project proponents will develop project details using their existing standard for local projects. Project development should include, at a minimum, a scope of work and cost estimate. Proponents shall also develop a narrative (one paragraph) describing the mitigation benefits of the project.
7. **Project Worksheet Is Completed:** Proponents will fill out the Project Ranking Sheet and perform an initial self-scoring of the project prior to submission. The Project Ranking Sheet is attached to these instructions and available for download at <https://www.scgov.net/government/emergency-services/documents-forms-and-plans>.
8. **Project Is Entered Online:** Proponents will fill out the online submission form for each project. Project Ranking Worksheets may be uploaded. Uploading project scopes and estimates is strongly encouraged as well.
9. **Project Is Reviewed/Vetted:** The Project Ranking Committee will meet on a regular basis and hold special meetings when specific funding opportunities become available (e.g., disaster-specific HMGP). The ranking committee will review projects submitted and score each project using approved criteria found in the Project Ranking Worksheet. If the committee has questions about project details, they will reach out to the project proponent. The committee will also coordinate with the proponent if the committee score differs from self-score as submitted.
10. **Project Rank Order List Published:** After project vetting is complete, the Project Ranking Committee will publish a rank-order project list.
11. **Rank Order List Approved:** The rank-order list will be presented to the LMS Working Group (LMS WG) for an approval vote. The Chair may call for a special meeting of the LMS WG to meet submission deadlines for funding opportunities.

- 12. **Endorsement Letter:** Once the rank order project list is approved by vote of the LMS WG, the LMS Chair (or Vice Chair) will sign and publish an endorsement letter.
- 13. **Project Updates:** Project cost and scope updates are sometimes required during the funding and approval process. Proponents will submit adjustment requests through the Chair. Upon approval of the LMS WG, an updated endorsement letter will be provided and published.

Project Validation

When Notice of Funding Availability (NOFA) is published, the following process will be used to validate project nominations.

Table 73: Process to Validate Project Nominations for Specific Funding Opportunities

#	Process Step	Responsible Party
1	Notice of Funding Availability (NOFA) published	Funding Agency
2	NOFA Forwarded to LMS WG with local submission timelines	Chair/Vice
3	Project lists updated, projects nominated	Local Jurisdiction/Proponent
4	Projects reviewed/vetted	LMS WG Project Ranking Committee
5	Project rank-order list published	LMS WG Project Ranking Committee
6	Rank-order list approved	LMS WG
7	Endorsement letter	Chair/Vice
8	Project updates	LMS WG

- 1. **Notice of Funding Availability (NOFA) Published:** The funding agency (often FEMA or FDEM) will publish a formal Notice of Funding Availability, which establishes funding values, eligibility, and submission timelines.
- 2. **NOFA Forwarded to LMS WG with Local Submission Timelines:** The Chair will forward the NOFA to the LWS WG and provide local submission timelines and parameters for project updates. The Chair will also establish whether the project list will be voted on at a regular meeting of the LMS Working Group or whether a special meeting will be required.
- 3. **Project Lists Updated, Projects Nominated:** Proponents are responsible for ensuring project details are current and will enter any emerging projects in the online portal. The LMS Project Ranking Committee will provide to each jurisdiction a list of projects in the system. For specific funding opportunities, projects will be nominated for consideration by the proponent jurisdiction. Each submitting jurisdiction will affirm for the LMS Project Ranking Committee that their roster of nominated projects is approved by such oversight board or delegated executive as may be required of their jurisdiction.

4. **Projects Reviewed/Vetted:** The Project Ranking Committee will hold special meetings when specific funding opportunities become available (e.g., disaster-specific HMGP). The Ranking Committee will review each project submitted and score each project using approved criteria found in the Project Ranking Worksheet. If the committee has questions about project details, they will reach out to the project proponent. The committee will also coordinate with the proponent if the committee score differs from self-score as submitted.
5. **Project Rank-Order List Published:** After project vetting is complete, the Project Ranking Committee will publish a rank-order project list.
6. **Rank-Order List Approved:** The rank order list will be presented to the LMS WG for an approval vote.
7. **Endorsement Letter:** The LMS Chair (or Vice Chair) will sign and publish an endorsement letter following the vote.
8. **Project Updates:** Project cost and scope updates are sometimes required during the funding and approval process. Proponents will submit adjustment requests through the Chair. Upon approval of the LMS WG, an updated endorsement letter will be provided and published.

Project Scores

The scoring criteria adopted by the LMS WG and scoring guidance from the Project Ranking Worksheet is used by jurisdictions when performing self-scoring and the Project Ranking Committee when performing project evaluations and ranking.

The project scoring is grouped in three primary areas: project viability, community benefit, and additional considerations. The following descriptions give additional details regarding factors that are considered while scoring and weighting project characteristics. The scoring criteria and weights used in the worksheets are shown in Table 74.

- **Project Viability**
 - › The highest confidence will apply to projects with dedicated funding already appropriated or a project that is included in an approved capital improvement plan.
 - › Lower cost projects are prioritized.
 - › Functional approach favors best practices identified in LMS plan.
- **Community Benefit**
 - › The highest scores apply to projects that mitigate against natural hazards that appear in both the adopted LMS plan and jurisdiction THIRA. Jurisdictions without an independent THIRA may use the County THIRA.
 - › Scores favor projects based on positive mitigation effects and the protective focus of the proposed project.
 - › Scores based on anticipated environmental impacts of project construction favor those with net

positive environmental effects or with fewer detrimental impacts.

- › Projects with broader benefits to jurisdictions or populations are given higher scores.

- **Additional Considerations**

- › Projects that address items identified in vulnerability studies or resilience planning can be given additional points.
- › Jurisdictions may designate one project as their top priority in scoring.

Table 74: Mitigation Action Prioritization Method

Project Viability				
Parameter	Guidance	Score (1–5)	Weight (%)	Points
Funding Availability (Cost Share from Jurisdiction)	5 - Funds are appropriated or project is included in jurisdiction capital plan 4 - High confidence of funding 3 - Reasonable confidence in funding 2 - Funding possible 1 - Funding difficult or unlikely This section refers only to the local jurisdiction cost share		18	0
Cost Factor	Total Project Cost 5 - Less than \$500,000 4 - \$500,000–\$1,000,000 3 - \$1,000,000–\$2,000,000 2 - \$2,000,000–\$5,000,000 1 - More than \$5,000,000 Total Project Cost includes both grant funded and local share for the proposed future project		12	0
Functional approach and conformance with Mitigation Strategies in adopted LMS Plan	5 - Project applies Best Practices from the adopted LMS Plan 4 - Code-plus and other physical enhancements to resiliency 3 - Planning, design, and codes 2 - Public Education and Outreach 1 - New Construction		10	0
Community Benefit				
Parameter	Guidance	Score (1–5)	Weight	Points
Hazards Mitigated	5 - Mitigates against natural hazards identified in both		20	0

Project Viability				
	LMS Plan and THIRA 4 - Mitigates against multiple LMS-only hazards 3 - Mitigates against a single LMS-only hazard 2 - Project does not directly mitigate hazards, but does enhance disaster response and recovery capability 1 - Project addresses hazards not documented in LMS			
Mitigation Results	5 - Reduces impact of significant event or known repetitive loss 4 - Protects responders and response capabilities 3 - Supports and enhances recovery capability 2 - Increased public preparedness and planning 1 - Hazard and risk awareness		12	0
Elements Protected	5 - Primary Infrastructure - critical to public safety 4 - Flooding, stormwater, and storm surge protection 3 - Other core infrastructure necessary for disaster response and recovery 2 - Public Convenience 1 - Private Residential		12	0
Environmental Influence	5 - Net positive environmental effect, - and- utilizes nature-based solutions 4 - Net positive environmental effect 3 - Neutral environmental effect 2 - Unknown environmental effect 1 - Net detrimental environmental effect, solution itself requires environmental mitigation to enact		10	0
Scope of Benefits	5 - Benefits the entire proponent jurisdiction directly -and- benefits one or more partner jurisdictions, directly or indirectly 4 - Benefits the entire proponent jurisdiction directly 3 - Benefits > 50% of proponent jurisdiction directly -and- one or more		6	0

Project Viability				
	partner jurisdictions, directly or indirectly 2 - Benefits > 50% of proponent jurisdiction directly 1 - Benefits < 50% of proponent jurisdiction			
Additional Considerations				
Parameter	Guidance	Score (0/1)	Weight	Points
Project addresses documented vulnerability focal points	Project addresses focus areas or action items identified in formal vulnerability studies or resilience planning documents other than the LMS Plan		10	0
Jurisdictional Top Priority	1 each per LMS member jurisdiction		40	0
Project Total				

Previous Plan Mitigation Actions

Each jurisdiction evaluated and described the status of all hazard mitigation actions in the previous plan and identified whether they have been completed or not. Table 75 through Table 80 show the status of the actions identified in the 2021 Sarasota County Mitigation Plan for each jurisdiction and identifies whether it has been completed or is in progress (for multi-phase projects). Based on analysis and the range of actions to consider, the tables also identify if the project has been deleted or deferred based on shifting priorities, community needs, or other reasons.

Sarasota County Previous Mitigation Actions

Table 75: Sarasota County Previous Actions

Mitigation Action#	Action Title	Action Description	Current Status (Completed, In Progress, Deleted, Deferred due to ...)
SC1	Upgrade & Update 800 MHZ Emergency Communication System	Replace countywide public safety mission critical voice system with regional integrated IP	Completed with general funds.
SC2	Next Generation 9-1-1 Phase II	Build upon Next Generation Project #843232 upgrade systems that support NG9-1-1	Complete

Mitigation Action#	Action Title	Action Description	Current Status (Completed, In Progress, Deleted, Deferred due to ...)
SC3	Fire Station Apex Road	Construct and equip +13,000 sq. ft 4 bay fire rescue station and special ops storage facility	Completed with general funds and fire district assessments. This is now Fire Station 8.
SC4	Fire Station Bee Ridge Road	Construct and equip 8600 sq ft 3 bay Fire and Rescue	Completed with general funds and fire district assessments. This is now Fire Station 9.
SC5	Hardened Emergency Evacuation Center Space	Design Construct 20,000 sq ft hardened shelter Central Sarasota County Area.	Deferred due to funding and prioritization.
SC6	Enterprise GIS/Browser Based Land Info Management System	Implement a GIS browser-based Land Info Management System	Deferred due to funding and prioritization.
SC7	GRM Government Revenue Management System	GRM formerly Prop Appraiser automates operations	Deferred due to funding and prioritization.
SC8	Enterprise Content Management System (ECMS)	Acquisition ECMS purchase, install and configure	Deferred due to funding and prioritization.
SC9	IT Service Management (ITSM) Replacement System	Replace current HELP application with ITSM solution	Deferred due to funding and prioritization.
SC10	Master Capital Project Planning and Development Program	Advanced CIP planning and development	Deferred due to funding and prioritization.
SC11	Facilities Renovations Upgrades and Replacements Program	Building access systems upgrade FEMA 490 compliant essential facilities	Deleted – Replaced by a new capital improvement program.

Mitigation Action#	Action Title	Action Description	Current Status (Completed, In Progress, Deleted, Deferred due to ...)
SC12	Venice Fuel Site Replacement	Renovation of fuel site at Venice Fleet Facility	Deleted - New facility under construction
SC13	Downtown Cooling Plant Replacement Full Design	Design and construct central energy plant (CEP)	Deleted – Project is no longer needed.
SC14	Pinkney Ave Fuel Site Replacement	Design and renovate fuel site and Bee Ridge Fire Station 8	Deleted – Project is no longer needed.
SC15	Bee Ridge Fuel Site Replacement	Renovate-fuel site may be combined with Fire Station 8	Completed and in full service. Funded through general funds and fire district assessments.
SC16	Sheriff's Off Support Services Facility Design & Construction	Construct new Sheriff's Support Facility	Completed with general funds
SC17	South County Courts/RL Anderson Building Remodel	Significant civil site work and new courtroom courthouse and renovations to RL Anderson existing building	Completed with general funds
SC18	Pinkey/Fire Station 20 Wash Rack System	Construct concrete pad and install wash rack system	Deferred due to funding and prioritization
SC19	Sheriff's Office Administrative Headquarters	Acquisition and equip land and building for use as Sarasota Sheriff's Office Administrative Headquarters	Completed with general funds
SC20	South County Safety Building Renovations Upgrades and Replacements	Systematic repair, renovation upgrade installation and replacement of key operating systems including roofing system upgrade and generator	Deferred due to funding and prioritization
SC21	Computer & Circulation Materials Purchase Program	Augments collection of books and other materials, update systems user database	Completed with general funds
SC22	Library Technology and Books Program	Increase Library computer system and add materials to collection	Completed with general funds
SC23	Venice Library	Replace former library facility at 300 S Nokomis Ave site	Deferred due to funding

Mitigation Action#	Action Title	Action Description	Current Status (Completed, In Progress, Deleted, Deferred due to ...)
SC24	Old Miakka - Davidson ESLPP Parcel Acquisition & Start UP	20 acre parcel within Old Miakka Protection priority site	Deferred due to funding and prioritization
SC25	Spoil Island Restoration Program	Restore degraded coastal habitat	Completed with special funds
SC26	Repetitive Loss Properties and Severe Repetitive Loss Properties	Current 212 Properties Total repetitive flooding require mitigation Addresses under protection Federal Privacy Act 1974 see CRS Coordinator for list	Ongoing
SC27	Bee Ridge WRF Renovation Replacement and Upgrade Program	Renovations, replacements and upgrades to operate 24/7	Construction in progress
SC28	Central County WRF Improvements	Rehabilitation and improvements to enhance operational capabilities at CCWRF	Completed with special funds
SC29	Honore Ave Reclaimed Extension	Reuse extension project multi- year multiphase to extend reclaimed service to future development south of SR681	Ongoing
SC30	Venice Gardens WRF Renovation Replacement and Upgrade	Renovations replacements and upgrades of equipment components and system at the VG Water Reclamation Facility	Construction in progress
SC31	Venice Gardens WTP Renovation Replacement and Upgrade Program	Renovate Venice Garden Water Treatment Plant	Construction in progress
SC32	Wastewater Pump Stations Resiliency Improvement Program	Resiliency Improvements including fixed generators	Ongoing
SC33	Bee Ridge WRF Reclaimed Systems Improvements	Design permit and construct exploratory well to determine aquifer conditions underlying the Bee Ridge Water Reclamation Facility site	Complete

Mitigation Action#	Action Title	Action Description	Current Status (Completed, In Progress, Deleted, Deferred due to ...)
SC34	Carlton WTF Replacement of 3 EDR Units	End of useful life needs to be rehabilitated with current EDR technology Phases I and II of CIP 55983 replace 5 of 10 EDR units and corrected structural deficiencies Phase III remove 5 units and add 3 new EDR	Completed with special funds
SC35	Carlton WTF Replacement of Final 2 EDR Units	Final Phase will add two units total count to 10 (previous CIP 55983 and 88050 removed all 10 and replaced 8 new EDR units)	Completed with special funds
SC36	East Venice Ave Water Line	Construct 7,400 ft of water line along E Venice Ave between Wading Bird Drive and Lee Road	Completed with general funds
SC37	Fruitville Water Reclamation Facility Demolition	Decommission Fruitville WRF, remove all equipment, buildings, tanks, infrastructure, fencing, etc.	In progress
SC38	Infiltration & Inflow Reduction Program	Replace or rehabilitate beyond routine maintenance existing sewer gravity mains sewer force mains, manholes, terminal sewer connections as necessary	Ongoing
SC39	Interconnect Reuse Main Improvements	Design, permit, construct reuse transmission interconnect between Bee Ridge Water Reclamation Facility and Central County Water Reclamation Facility	Deferred due to funding and prioritization
SC40	Interconnect Water Main Improvements Peace River	Extend potable water main along Clark and Proctor from future terminus of Peace River Manasota Regional Water Supply Authority	Complete
SC41	Oversizing Reuse Facilities Program	Enlarge extend or oversize reuse water facilities concurrent w/new development to promote extension of facilities	Deferred due to funding and prioritization
SC42	Radio Telemetry Wastewater Upgrade Program	Current SCADA system requires upgrades and integration with service hub at Carlton Water Treatment facility to allow system wide monitoring	Ongoing

Mitigation Action#	Action Title	Action Description	Current Status (Completed, In Progress, Deleted, Deferred due to ...)
SC43	Radio Telemetry Water Upgrade Program	Upgrades new instrumentation network and control systems for water distribution system Carlton WTF, Venice Gardens WTF all pump stations and water distribution monitoring systems	Ongoing
SC44	Reuse System Rehabilitation Program	Rehabilitation beyond normal maintenance of existing reuse mains, valves, connections, and pumps throughout the County	Ongoing
SC45	South Gate MPS Pumps and Parallel Force Main	Improvements to long-term transfer of wastewater flows from South Gate and Siesta Key	Deferred due to funding and prioritization
SC46	US41 Venice Bypass Water Relocates	Utility relocation associated with Florida Department of Transportation (FDOT) road widening project. A 12-inch water main will replace existing water mains along US 41 corridor	Deferred due to funding and prioritization
SC47	Wastewater System Rehabilitation Program	Rehabilitate beyond normal maintenance existing wastewater force mains, valves connections and pump stations in County	Ongoing
SC48	Waterline extension Area M West	Design and construct a central water distribution system to serve approximately 84 customers in Phillippi Creek Septic System Replacement Program Area. The entire Area M includes approximately 1,340 homeowners converting from septic tanks to central sewer	Deferred due to funding and prioritization
SC49	Bee Ridge WRF Expansion from 9 to 12 MGD	Improvements to expand Bee Ridge Wastewater Reclamation Facility from 9 million gallons per day (MGD) to 12 MGD	Aligned to SC27, Construction in Progress
SC50	Carlton Water Treatment Facility Design & Replacement of 5 EDR Units	Rehabilitate Carlton Water Treatment Facility (WTF) using current electro dialysis reversal (EDR) technology. Phases I and II will replace 5 of the existing 10 equipment trains	Duplicate SC 35

Mitigation Action#	Action Title	Action Description	Current Status (Completed, In Progress, Deleted, Deferred due to ...)
SC51	Central County WRF Expansion	Expand and Upgrade Central County Wastewater Reclamation Facility from 4.8MGD to 8.0 MGD + construct 10MG effluent storage tank	Duplicate SC 28
SC52	Dona Bay Storage Facility	Multiple Phases including phase II future potable water supply. Construct a conveyance system to divert fresh water from Cow Pen Slough to Venice Minerals storage site	Phases 1&2 complete, 3-4-5 under construction
SC53	Gulf Gate Master Pump Station	Improvements include vehicular access and upgrades to the supervisory control and data acquisition (SCADA) system	Complete
SC54	LWR Blvd. Water Improvements	Reimburse Lakewood Rand Stewardship District for 360 lineal feet of 24-inch and 3,400 lineal ft of 16-inch water transmission main	Deleted
SC55	Nokomis Sewer Main	Extend low pressure wastewater line from existing lift station US 41 into a portion of commercial area designated in Nokomis Revitalization Plan	Ongoing
SC56	North County ASR Reuse	Multiple long-term project to locate design permit construct operationally test an aquifer storage recovery well for underground storage of reclaimed water during wet weather.	Deferred due to funding and prioritization
SC57	Septic System Replacement Program Area D	Phase 4 planning connection of 118 residences to central sewer via Interlocal Agreement with City of Sarasota estimate 2.2M	Complete
SC58	Septic System Replacement Program Area D Mineola Dr River Ridge Rd	Total connects 1,162 Phases I, II completed Phase III will Connect 78 residences to central sewer	Complete
SC59	Septic System Replacement Program Area I and J1	Design infrastructure to connect 1,030 residences to central sewers in Areas I and J1 as part of the Phillippi Creek Septic System Replacement Program	Ongoing program

Mitigation Action#	Action Title	Action Description	Current Status (Completed, In Progress, Deleted, Deferred due to ...)
SC60	Septic System Replacement Program Area M West	Infrastructure to connect approximately 1,340 residences to central sewer	Ongoing program
SC61	Septic System Replacement Program Area O and P	Connect 1,185 residences to central sewer No includes 739 connections from Area O and 446 connections from Area P. Area P can be served from one vacuum pump station	Ongoing program
SC62	Siesta Key Intracoastal Water Main	Construct new potable water transmission main under an intracoastal waterway to replace aging infrastructure, and reconstruct water mains, facilities, and service along route of proposed force main west of US 41	Construction in progress
SC63	Siesta Key Master Pump Station and Force Main	Design, permit and construct master pump station located at Siesta Key advanced wastewater treatment plant	Complete
SC64	SMR Sewer Telemetry Improvements	Water and Wastewater System Utility Agreement w/Schroeder–Manatee Ranch, SMR 2050, and Lakewood Ranch stewardship district reimburse for design and installation of 34,00 lineal ft. of fiber network infrastructure etc.	Deleted
SC65	Water Line Extension PCSSRP Area D	Phase 4 planning connect 100 residences to 3,200 LF of water distribution lines via Interlocal Agreement with the City of Sarasota	Ongoing program
SC66	Waterline Extension Area 1 Design	Design central water distribution system to serve 368 additional customers in Phillippi Creek Septic System Replacement	Ongoing program
SC67	Wendell Kent Master Pump Station	Replace existing water storage tank and high pumping service facility on Siesta Key	Construction in progress
SC68	Bayfront Coastal Stormwater Improvements	Design stormwater improvements in coastal bayfront downtown Sarasota to address flood protection LOS and improve stormwater quality	Completed

Mitigation Action#	Action Title	Action Description	Current Status (Completed, In Progress, Deleted, Deferred due to ...)
SC69	Midnight Pass Stormwater Improvements	Design stormwater improvements to address coastal barrier island flooding LOS deficiencies and improve stormwater quality along Midnight Pass Road on Siesta Key	In progress
SC70	Whitaker Basin Stormwater Improvements	Design stormwater improvements in the Whitaker Basin to address flood protection loss of service deficiencies and improve stormwater quality	Completed
SC71	Bahia Vista Levee Improvements Design	Evaluation of Bahia Vista Levee system relative to FEMA 44 CFR 65.10 for FEMA accreditation	Deleted
SC72	Dona Bay Phase 4 & 5 Weir Replacement Design	Preliminary design report replacement of Kingsgate Weir in Cow Pen Slough and feasibility of a low flow weir in Blackburn Canal to reduce volume of fresh water discharging to Dona Bay from Cow Pen Slough and Curry Creek	Deleted/Replaced by other projects
SC73	River Road Widening	Improve hurricane evacuation of network to provide road capacity for planned growth in Sarasota County and Charlotte County 6 miles north south construct 6 lanes Segment 2 ctr Rd to I-75 4 lanes	In progress, approximately 50% complete. Being funded through County general funds.
SC74	Sediment Abatement and Stabilization Program	Program to reshape stormwater conveyance systems to more gentle slopes stabilized with vegetation matting or other material to prevent erosion throughout the County	In progress
SC75	Venice East Blvd. Improvements	Right of way design permit and construct 1.45 miles of new two-lane road within four lanes of right of way w/medians, sidewalks and bicycle lanes	Deferred due to funding and prioritization
SC76	Casey Key Roadway Improvements	South Casey Key Road Stabilization Project	Deleted/replaced by storm repair projects
SC77	Ocean Blvd./Higel Rd.	Design drainage improvements from Ocean, via Higel, though Lotus to the Grand Canal	In progress

Mitigation Action#	Action Title	Action Description	Current Status (Completed, In Progress, Deleted, Deferred due to ...)
SC78	Harbor Acres Analysis	Study, design, permit and construct stormwater improvements	In progress
SC79	Indian Beach Sapphire Shores LID	Neighborhood/Sarasota Bay Estuary Program initiated bioretention project; demonstrate replicable low impact development technique in older urban area	Deferred due to funding and prioritization
SC80	Phillippi Dam Removal	Design and construction to remove historic dam and restore habitat	Deleted due to project reconfiguration.
SC81	Sea level rise vulnerability assessment	Assess impact on critical structures, public health and safety, natural systems, and economy from effects of sea level rise	Complete through the Resilient SRQ program. Funded through Community Development Block Grant – Disaster Recovery program.
SC82	Public Utilities D.O.C.	Construct Department Emergency Operation Center for Public Utilities	Deferred due to funding and prioritization
SC83	River Road Regional Interstate Connector	Raise roadbed, add traffic lanes for evacuation route. US41 to West Villages Parkway	In progress, approximately 50% complete. Being funded through County's general funds. The project is being completed in tandem with project SC73.
SC84	Alligator Creek Phase 1 & 2	Pipe and swale improvements	Completed
SC85	Country Woods	Rehabilitate existing drainage	Completed
SC86	Stormwater Asset & Infrastructure Mgmt. System	Protect critical infrastructure through technology	Completed
SC87	Colonial Gables	Rehabilitate existing drainage	Completed
SC88	Beach Road Drainage Improvements	Rehabilitate existing drainage	In progress

Mitigation Action#	Action Title	Action Description	Current Status (Completed, In Progress, Deleted, Deferred due to ...)
SC89	Repetitive Loss Program	Implement recommendations per FEMA guidelines	Deleted to be reconfigured into a new project.
SC90	911/EOC Center	Construct new building	Completed with a combination of general funds and federal grant funds.
SC91	Fire Station 12	Remove and replace current fire station	Complete
SC92	Fire Station 14	Remove and replace current fire station	Complete
SC93	Fire Station 19	Remove and replace current fire station	Deferred due to funding and prioritization
SC94	Fire Station 16	Remove and replace current fire station	Complete
SC95	Fire Station 17	Construct new building	Complete
SC96	Fire Station 9	Construct new building	Deleted, this project is a duplicate of the completed project SC4.
SC97	North Beach Road	Public Access and Shore Line Protection	Deleted / replaced by storm repair projects
SC98	Fire Station 27	Construct new building	In design
SC99	Siesta Key Master Pump Station	Master pump station to transfer flow off island	Duplicate SC63
SC100	Critical Care Tower	hardening of both buildings and windows (retrofit)	Deferred due to funding and prioritization
SC101	Public Outreach	Public outreach programs for all jurisdictions	In progress

City of North Port Previous Mitigation Actions

Table 76: City of North Port Previous Actions

Mitigation Action#	Action Title	Action Description	Current Status (Completed, In Progress, Deleted, Deferred due to ...)
NP1	Purchase lots along the Myakkahatchee Creek	Purchase lots to reduce flood vulnerability	Deferred due to commission guidance; using CDBG-DR to purchase parcels potentially, referred homeowners in area to the Elevate Florida program
NP2	Deer Prairie Creek Bridge	Install bridge in order to decrease response time	Complete: A bridge over R36 was constructed in conjunction with Sarasota County and the Legacy Trail Expansion.
NP3	City EOC/Fire Rescue HQ/Data Center/PD 911 Dispatch/Property Evidence Building	Build a new facility to accommodate emergency operations center to include showers, and back-up emergency power to entire building	In progress of building a new EOC – deferred due to funding
NP4	North Port Utilities Admin/Field Operations	Replace buildings with hardened structures	In progress – under construction
NP5	North Port Utilities construction of additional source for R/O	To add additional wells to the current wellfield to increase drought tolerance and protect the existing system	Deferred - This project is not yet designed. A Water Source Study was completed in 2024 and this project is a potential future project. Significant planning and testing is required to confirm new well locations.
NP6	Hardening of water & sewer utility structures	Upgrade utility structures at bridge crossings, etc.	In progress - Critical pipes have been completed. Several less critical pipe replacements remain.
NP7	Additional emergency water interconnect	12" Potable water emergency inter-connect between Sarasota and NP	Completed

Mitigation Action#	Action Title	Action Description	Current Status (Completed, In Progress, Deleted, Deferred due to ...)
NP8	Lazy River Water and Wastewater Lines Replacement Project	Replacement of shallow depth water and wastewater lines at Lazy River	Completed
NP9	Inflow & Infiltration Project	Inflow & Infiltration in identified areas of the city	In progress- projects have been completed each year to rehabilitate older pipes and manholes to reduce inflow and infiltration, but more are rehabilitation is needed.
NP10	Lift station #12 Rehabilitation Project	Vault style master pumping lift station #12 rehabilitation to ground level	Completed
NP11	Phase 1 Water Treatment Plant Rehabilitation Project	Phase 1 Water Treatment Plant rehabilitation of Flocculation #1	Completed
NP12	Distribution Line Installation Project	Distribution line installation to serve the Western reaches of the city based on hydraulic modeling	Completed
NP13	Lift Station Rehabilitation Projects	Rehabilitation of lift stations that are 30 plus years old that have been identified in need	In progress - The oldest and most critical lift stations have been rehabilitated. Lift stations will continue rehabilitation each year to maintain facilities.
NP14	Water Treatment Plant VFD Installation Project	VFDs installed on current raw water intake structures at the Water Treatment Plant	Completed
NP15	SCADA Analyzer at Water Treatment Plant Installation Project	Installation of additional analyzers and integration to SCADA to achieve 24-hour operations at the Water Treatment Plant	Completed
NP16	Wastewater Treatment Plant Control Panel Upgrade	Upgrade the 14-year-old control panel at the Wastewater Treatment	Completed

Mitigation Action#	Action Title	Action Description	Current Status (Completed, In Progress, Deleted, Deferred due to ...)
		Plant to improve operational efficiency	
NP17	Public Works Administration Building	Replace buildings with hardened structures	In progress - Project is in design, however funding has not been identified to complete construction.
NP18	Pipe lining on major outfalls	CMP pipes that are difficult to replace can be lined. Only those that are deemed structurally sufficient can be lined. All others will need to be replaced.	In progress - The City has completed over 26,760 linear feet of pipe lining and has address many of the critical areas.
NP19	Design 4 Lane Price Blvd. Sumter to Toledo Blade	Four-lane and elevate roadway.	Complete
NP20	Construct 4 Lane Price Blvd. Sumter to Toledo Blade	Four-lane and elevate roadway.	In progress
NP21	Design 4 Lane Price Blvd. Sumter to West of North Port High School	Four-lane and elevate roadway.	Deferred due to funding. Design is underway from Sumter to the Myakkahatchee Creek Bridge. Grant funding has been identified for the bridge replacement. Funding for the roadway has not been identified. One change to this project, the expansion is only to Butler Park and not completely to the High School.
NP22	Construct 4 Lane Price Blvd. Sumter to West of North Port High School	Four-lane and elevate roadway.	Deferred until design phase is complete.
NP23	Design 4 Lane Price Blvd. Toledo Blade to Haberland	Four-lane and elevate roadway.	Deferred – This is a phase of the Price Widening Plan; however, it has not started.
NP24	Construct 4 Lane Price Blvd. Toledo Blade to Haberland	Four-lane and elevate roadway.	Deferred – This is a phase of the Price Widening Plan; however, it has not started.

Mitigation Action#	Action Title	Action Description	Current Status (Completed, In Progress, Deleted, Deferred due to ...)
NP25	Design 4 Lane Price Blvd. Haberland to Veterans	Four-lane and elevate roadway.	Deferred – This is a phase of the Price Widening Plan; however, it has not started.
NP26	Construct 4 Lane Price Blvd. Haberland to Veterans	Four-lane and elevate roadway.	Deferred – This is a phase of the Price Widening Plan; however, it has not started.
NP27	Toledo Blade Blvd. Extension, Tropicaire Blvd. to SR72	Roadway extension	Deferred due to planning
NP28	Big Slough Flood Reduction Study	Consultant to recommend solutions to reduce flooding in 2 areas	In progress – The evaluation did not provide cost effective solutions for stormwater. The next step is to consider plans in conjunction with utilities and other departments to see if there is synergy that will make solutions more financially feasible.
NP29	Design replacement for flood control structure #115	Corroded Structure Need to rehab, replace for flood protection	Complete
NP30	Construct replacement for flood control structure #115	Corroded Structure Need to rehab, replace for flood protection	Complete
NP31	Design replacement for flood control structure #106	Corroded Structure Need to rehab, replace for flood protection	Complete
NP32	Construct replacement for flood control structure #106	Corroded Structure Need to rehab, replace for flood protection	Complete
NP33	Design replacement for flood control structure #108	Corroded Structure Need to rehab, replace for flood protection	Complete
NP34	Construct replacement for flood control structure #108	Corroded Structure Need to rehab, replace for flood protection	Complete

Mitigation Action#	Action Title	Action Description	Current Status (Completed, In Progress, Deleted, Deferred due to ...)
NP35	Design replacement for flood control structure #113	Corroded Structure Need to rehab, replace for flood protection	Complete
NP36	Construct replacement for flood control structure #113	Corroded Structure Need to rehab, replace for flood protection	Complete
NP37	Design replacement for flood control structure #114	Corroded Structure Need to rehab, replace for flood protection	Complete
NP38	Construct replacement for flood control structure #114	Corroded Structure Need to rehab, replace for flood protection	Deferred for funding
NP39	Design replacement for flood control structure #157	Corroded structure. Needs rehabilitated and replaced for flood protection.	In progress - Design underway
NP40	Construct replacement for flood control structure #157	Corroded structure. Needs rehabilitated and replaced for flood protection.	Deferred for funding
NP41	Design replacement for other flood control structures	Corroded Structure Need to rehab, replace for flood protection	In progress - Design for 157, 158 are underway and further funding is being applied for. Design for 121 and 130 are underway with grant funding identified. Grant funding potential for 120 is currently being explored and design will begin once identified.
NP42	Construct replacement for other flood control structures	Corroded Structure Need to rehab, replace for flood protection	Deferred until designs are completed.
NP43	Drainage System Improvements	Rehab and replacement of swales, ditches, pipes, outfalls and canals	In progress - work being completed.
NP44	Bridge Rehabilitation and Repairs	Repairs to evacuation route bridges	Completed - Pan American and North Port Boulevard bridges will be rehabilitated in 2025

Mitigation Action#	Action Title	Action Description	Current Status (Completed, In Progress, Deleted, Deferred due to ...)
NP45	Big Slough Flood Reduction Projects	Implementation of projects to reduce flooding	Myakkahatchee Creek Clearing project completed in FY2025 which removed over 10,000 cubic yards of debris. R36 dredged in 2024-2025.
NP46	Property Maintenance Yard	Replace buildings with hardened structures	In progress - Buildings have been transferred to Parks and Recreation and there is a plan in place to demolish them.
NP47	Generator for City Hall	Add emergency power to entire building	Complete
NP48	Lift station bypass pump project	Upgrade existing lift stations to include bypass pumps at all major stations.	In progress – Many upgrades have been completed. The City continues install bypass pumps on older lift stations each year and will do so until all lift stations have bypass pumps.
NP49	North Port THIRA Update	Update to the THIRA Plan	Complete
NP50	Design replacement for other flood control structures	Corroded structure needs to be rehabilitated and replaced for flood protection.	Complete

City of Sarasota Previous Mitigation Actions

Table 77: City of Sarasota Previous Mitigation Actions

Mitigation Action#	Mitigation Title	Mitigation Description	Current Status (Completed, In Progress, Deleted, Deferred due to ...)
SRQ1	Reconstruction of Failing Seawalls	Reconstruct existing seawalls City-wide	Deleted

Mitigation Action#	Mitigation Title	Mitigation Description	Current Status (Completed, In Progress, Deleted, Deferred due to ...)
SRQ2	Bayfront Park Seawall	Reconstruct existing seawalls	In progress – the project has been submitted for funding.
SRQ3	10th Street Seawall	Reconstruct existing seawalls	Complete
SRQ4	12th Street Complex Upgrade	Construct new building	In progress
SRQ5	Stormwater Utility Projects	Construct improvement to existing storm drainage system	Deleted
SRQ6	Indian Beach Stormwater Project	Make enhancements to existing storm drainage system (Bio)	Deleted
SRQ7	City-wide Traffic Signalization	Replace wire line attachment with mast	In progress
SRQ8	MLK/Old Bradenton Int.	Replace wire line attachment with mast	Complete
SRQ9	MLK/Cocoanut Int.	Replace wire line attachment with mast	Complete
SRQ10	MLK/Central Int.	Replace wire line attachment with mast	Complete
SRQ11	Coon Key Utility Line Undergrounding	Remove overhead power lines and install underground	Deleted
SRQ12	Lift Station 87 & 13	Relocate and construct new lift station	
SRQ13	Facilities Structural Eval	Structural Evaluation of City Buildings	
SRQ14	RLT Fixed Generator	Install fixed generator at major critical facility	
SRQ15	Portable Generator Lift Station 33	Portable generator for major lift station w/o land area for fixed	
SRQ16	Portable Generator Lift Station 21	Portable generator for major lift station w/o land area for fixed	

Mitigation Action#	Mitigation Title	Mitigation Description	Current Status (Completed, In Progress, Deleted, Deferred due to ...)
SRQ17	Portable Generator Lift Station 27	Portable generator for major lift station w/o land area for fixed	
SRQ18	Portable Generator Lift Station 30	Portable generator for major lift station w/o land area for fixed	
SRQ19	Rep/Loss Study	Repetitive loss study on identified locations	
SRQ20	Public Outreach	Public outreach programs for all jurisdictions	In progress

City of Venice Previous Mitigation Actions

Table 78: City of Venice Previous Mitigation Actions

Mitigation Action#	Mitigation Title	Mitigation Description	Current Status (Completed, In Progress, Deleted, Deferred due to ...)
CV1	Police Dept. Relocate and EOC construction	Reconstruct PD facility to include City Command EOC	Completed
CV2	Relocate Fire Station #2	Construct new fire station outside flood zone	In progress
CV3	Directional signs for island evacuation	Acquire four signs for three bridges and roadways	Deferred for funding
CV4	Fire Station #51 and City Hall generator	Emergency operations for city communications	Complete
CV5	Radio upgrade for the city department	Provide optimum radio communications	Deferred for funding
CV6	Second House Program	Partner coastal with inland residents during emergencies	Unknown
CV7	Relocate water plant elevated tank	Upgrade support system to prevent against flood and wind	Deferred for funding

Mitigation Action#	Mitigation Title	Mitigation Description	Current Status (Completed, In Progress, Deleted, Deferred due to ...)
CV8	Upgrade Chuck Reiter elevated tank	Upgrade support system to prevent against flood and wind	Deferred for funding
CV9	Modify Pinebrook booster station	Waterproof and upgrade communication system	Deferred for funding
CV10	Coastal Area Redevelopment Study	Post disaster study	Unknown
CV11	Coastal Compliance Program	Public education for retrofit and construction activities	Unknown
CV12	Coastal Land Acquisition Program	Purchase properties and preserve for open space	Deferred for funding
CV13	Relocate RO Water Plant	Construct facility out of the flood zone	Deferred for funding
CV14	Ajax property 2.0-3.0MGD booster station	Provide service to the east side of town, construct interconnect with county	In progress
CV15	Venice Evacuation Study	Study to address the need for hurricane shelters in city	Unknown
CV16	Fire Station 1 Replacement	Upgrade facility to meet current storm criteria	Completed
CV17	Relocate PW to PD after new PD complete	Harden Structure and retrofit for PW Admin.	Completed
CV18	Hurricane Tolerant Handbook	Update the 1994 hurricane study	Unknown
CV19	New Solid Waste and Recycling Complex	Relocate facility east and construct to hurricane codes	Deferred for funding
CV20	Purchase Portable Generators for Lift Station	Provide emergency backup power outage	In progress
CV21	Hurricane Louvers for Water Plant	Secure building for hurricanes	Completed
CV22	City Hall Reroof	Rebuild roof to code and to improve current deteriorating condition	Completed

Mitigation Action#	Mitigation Title	Mitigation Description	Current Status (Completed, In Progress, Deleted, Deferred due to ...)
CV23	2nd sanitary force main under Intracoastal	Add a secondary force main to add to secondary redundancy	In progress
CV24	2nd sanitary force main under I-75	Add a secondary force main to add to secondary redundancy	Completed
CV25	Reinforce Airport Hangars	Reinforce existing airport to meet hurricane standards	Deferred for funding
CV26	Construct New T-Hangars	Construct new T-Hangars meeting hurricane standards	Not in capital improvement plan
CV27	Relocate Airport Maintenance Facility	Relocate existing Airport Maintenance. Facility to meet hurricane standards	Current maintenance building was built to hurricane codes
CV28	Airport Avenue Drainage Project	Upgrade existing drainage facilities to mitigate flood in evacuation route	Deferred for funding
CV29	Live Oak Dr. Stormwater Improvements	Upsize existing stormwater pipes to reduce flooding	Completed
CV30	Nokomis Ave. South Stormwater	Upsize existing stormwater pipes to reduce flooding	Completed
CV31	Outfall 9 Improvement	Study the drainage basin and increase the infiltration pond size	Deferred for funding
CV32	Golf Dr. Stormwater Improvements	Upsize existing stormwater pipes to reduce flooding	Deferred for funding
CV33	Beach Erosion Hot Spot Alternatives	Alternate erosion evaluation and construction	Deferred for funding
CV34	Mobile Command Unit	Design and Purchase a Mobile Command Unit for use during special events and emergencies.	Deferred for funding
CV35	Valencia Rd. Stormwater Improvements	Upsize existing stormwater pipes to reduce flooding	Deferred for funding
CV36	Circle Drive Drainage Improvement	Upsize existing stormwater pipes to reduce flooding	Deferred for funding

Mitigation Action#	Mitigation Title	Mitigation Description	Current Status (Completed, In Progress, Deleted, Deferred due to ...)
CV37	Church St. Drainage Improvement	Upsize existing stormwater pipes to reduce flooding	Deferred for funding
CV38	Parkdale & Parkside Dr. Drainage Improvement	Upsize existing stormwater pipes to reduce flooding	Deferred for funding
CV39	Venice Fire Station 3 EOC	Provide Equipment for Venice EOC at Fire Station 3 to allow for Emergency Management Operations	Not started – relocation is on the list but not funding for EOC equipment
CV40	Lightning and Surge Protection	Provide Lightning and Surge Protection to provide protection to City Technology and infrastructure.	Unknown
CV41	Construct 8E production well	Enhance system reliability	In progress
CV42	Water Plant Generator	Purchase new generator for water plant for backup power	In progress
CV43	Fire Station #2 Hardening	Harden Facility for Storm Protection	Unknown
CV44	Public Outreach	Public outreach programs for all jurisdictions	In progress

Town of Longboat Key Previous Mitigation Actions

Table 79: Town of Longboat Key Previous Mitigation Action

Mitigation Action#	Title	Description	Current Status (Completed, In Progress, Deleted, Deferred due to...)
LBK1	Streets and Drainage Improvements	Provide additional drainage and retention in suitable locations	In progress – improvements have begun on streets in 3 neighborhoods
LBK2	Purchase Generators	Reduce dependency on rental equipment	In progress – Grant funding is being sought for 8 generators
LBK3	North Shore Groins	Reduce beach erosion	Completed

Mitigation Action#	Title	Description	Current Status (Completed, In Progress, Deleted, Deferred due to...)
LBK4	North Potable Water Connection	Replace existing potable water connection to community	Complete
LBK 5	South Fire Station 92	Renovate or replace current fire station	Complete
LBK 6	Wastewater Force Main	Replace existing wastewater connection to Manatee County	In progress – Project is currently in permitting – projecting construction FY27
LBK 7	Lift station E renovations	Upgrade motors, controls, roof, and exterior of building	Complete
LBK 8	Town Hall Renovations	Hurricane shutters and generator upgrade	Complete
LBK 9	North Fire Renovations	Hurricane shutters and upgrade apparatus bay doors	Complete
LBK 10	Police Department Renovations	Hurricane shutters and exterior of building	Complete
LBK11	Public Outreach	Public outreach programs for all jurisdictions	In progress – This is an ongoing project that continues yearly.

Sarasota Memorial Hospital Previous Mitigation Actions

Table 80: Sarasota Memorial Hospital Previous Mitigation Actions

Mitigation Action#	Mitigation Title	Mitigation Description	Current Status (Completed, In Progress, Deleted, Deferred due to...)
SMH1	Critical Care Tower	Hardening of both building and windows (retrofit)	Deferred due to budget constraints
SMH2	South, Central & Northwest wings	Hardening of windows (retrofit)	Deferred due to budget constraints

Mitigation Action#	Mitigation Title	Mitigation Description	Current Status (Completed, In Progress, Deleted, Deferred due to...)
SMH3	North Port Emergency Rm	Generator capacity upgrade	Deferred due to budget constraints
SMH4	West Bayside Behavioral	Generator capacity upgrade	Deleted as the facility is no longer in operation.
SMH5	Public Outreach	Public outreach programs for all jurisdictions	In progress – this action is ongoing and occurs yearly.

2025 Comprehensive Range of Mitigation Actions

Table 81: 2025 Mitigation Actions

Mitigation Action #	Project Title	Description of Project	Hazards Mitigated	Mitigation Benefit	Responsible Department	Jurisdiction	Cost Estimate	Funding Sources	Estimated Timeline	Priority
EFD1	EFD Headquarters/DOC Generator	The Englewood Fire Department (EFD) is seeking to purchase and install a permanent emergency generator at the Englewood Fire Department Headquarters, which also serves as the Department Operations Center (DOC) during emergency incidents. This facility is a critical hub for emergency response coordination, public safety operations, and community support during disasters and severe weather events.	Flood, Severe Storms, Tornadoes, Tropical Cyclone	This project will provide several key mitigation benefits. Most importantly, it will ensure the continuity of emergency operations during power outages, allowing the department to maintain critical command, control, and communication functions.	Fire Chief	Englewood Fire District	Less than \$500,000	Hazard Mitigation Grant Program (HMGP), General Funds	Medium-term	130.4
EFD2	Fire Station 71 Replacement	This project will replace Fire Station 71, located at 599 S. Indiana Ave, Englewood, FL, with a two-story facility designed to meet current and future operational needs. The new station will be constructed to the latest hurricane-rated standards, ensuring the safety and continuity of emergency services during severe weather events.	Flooding, Severe Storms, Tornadoes, Tropical Cyclones	The current facility has been repeatedly compromised by storm surge and flooding during Hurricanes Ian, Helene, and Milton. In each of these events, floodwaters inundated the station, damaging equipment, disrupting operations, and threatening the safety of personnel. These experiences have made it clear that a more resilient design is required—one that can withstand the impact of severe weather and quickly return to full operation in the aftermath. A hardened, two-story replacement station will address these vulnerabilities head-on.	Fire Chief	Englewood Fire District	More than \$5 million	HMGP, General Funds	Medium-term	116.8
EFD3	Protect Critical Facilities and Equipment from Lightning Damage	Install lightning protection devices on critical facilities	Severe Storms	Protects critical facilities from lightning damage	Fire Chief	Englewood Fire District	Less than \$500,000	HMGP, General Funds	Medium-term	75.2
EFD4	Drought Emergency Plan	Develop a plan on how the Fire District will take actions prior to and during a drought emergency.	Drought	Sets clear steps on how the District will mitigate the impacts of severe drought, both internally and in collaboration with partnering organizations.	Fire Chief	Englewood Fire District	Less than \$500,000	HMGP, General Funds	Short-term	68.4
EFD5	Data Collection and Mapping Hazards	Gather geographic information system (GIS) data on a range of hazards to inform mitigation planning for Englewood Fire District. Create GIS data where current datasets do not exist.	Flooding, Land Subsidence and Sinkholes, Wildland Fire	Provides detailed hazard information that Englewood Fire District will use to continue mitigation planning	Fire Chief	Englewood Fire District	Less than \$500,000	HMGP, General Funds	Short-term	67.6

Mitigation Action #	Project Title	Description of Project	Hazards Mitigated	Mitigation Benefit	Responsible Department	Jurisdiction	Cost Estimate	Funding Sources	Estimated Timeline	Priority
EFD6	Coordinate on Fuels Management Program	Work with Sarasota County and the Florida Forestry Service to identify programs and areas for fuel reduction. This will include removing under brush and other forest fuels to reduce the severity of wildland fire.	Wildland Fire	Working with county and state partners will bring additional resources to reducing wildfire intensity in the District.	Fire Chief	Englewood Fire District	Less than \$500,000	HMGP, General Funds	Short-term	63.6
EFD7	Wildfire Education	Organize yearly trainings for residents to highlight mitigation efforts they can employ at their residences. Training materials will be posted on the Englewood Fire District website.	Wildland Fire	Gives residents the tools to mitigate the impact of wildfire on their property.	Fire Chief	Englewood Fire District	Less than \$500,000	HMGP, General Funds	Short-term	62.4
EFD8	Conduct Lightning Awareness Programs	Provide information about lightning safety through outreach programs	Severe Storms	Provides necessary information to the public on lightning safety	Fire Chief	Englewood Fire District	Less than \$500,000	HMGP, General Funds	Short-term	60.4
CV1	Parkdale & Parkside Drainage Improvement	Upsizing existing stormwater pipes to reduce flooding	Flooding, Tropical Cyclones	The upper extents of the drainage basin experience flooding. Upsizing pipes and adding a baffle box will improve flooding conditions and provide water quality benefit.	Stormwater Engineering	City of Venice	\$500,000–\$1 million	HMGP - Helene Priority #1	Short-term	126.4
CV2	Flamingo Ditch Flood Mitigation	Design and construct flood mitigation improvements on city owned or maintained facilities.	Flooding, Tropical Cyclone	Mitigate flood impacts, increase resiliency and reduce repetitive flood losses in the Flamingo Ditch area.	Stormwater Engineering	City of Venice	\$500,000–\$1 million	HMGP, Hurricane Milton #1 Priority, Stormwater fees	Medium-term	125.2
CV3	Water Treatment Plant Master Plan and Feasibility Study	Determine if the existing Water Treatment Plant (WTP) property is adequately mitigated to natural hazards.	Flooding, Tornadoes, Tropical Cyclones, Severe Storms, Wildfire	Evaluate the existing water treatment facility condition and capacity with relation to hazard mitigation and resiliency. Existing water plant is located in the Special Flood Hazard Area (SFHA) and is vulnerable to flooding, storm surge and wind impacts. Evacuation and shutdown of the existing facility has been required during Tropical Storm Events for protection of staff and critical infrastructure	Utilities Director	City of Venice	\$500,000–\$1 million	Utilities Enterprise Funds, HMGP	Short-term	89.6
CV4	Resilient City-Wide Fiber Optic Loop	Create fiber optic loop that connects all City of Venice facilities including 3 Fire station, Police Station, Airport, Water Production, Water Treatment, Public Works and City Hall.	Flood, Tropical Cyclones, Severe Storms, Winter Weather, Wildland Fire	Protects critical fiber connection which is currently vulnerable to a single point of break that would take the entire city operation off-line and thereby impact critical life safety communications, Utility operations and disaster preparation & recover. EOC and First Responders rely on fiber network.	IT Director	City of Venice	\$500,000–\$1 million	HMGP, General Funds	Medium-term	89.2

Mitigation Action #	Project Title	Description of Project	Hazards Mitigated	Mitigation Benefit	Responsible Department	Jurisdiction	Cost Estimate	Funding Sources	Estimated Timeline	Priority
CV5	Modify Pinebrook Booster Station	Waterproof the Pinebrook booster station and upgrade communication system located there to mitigate potential flood and wind damage.	Flooding, Tornadoes, Tropical Cyclones, Severe Storms	Pinebrook Booster Station provides critical storage, pressure and pumping capacity of drinking water. Also provides redundancy to critical facilities during water plant outage and severe storm events. Critical IT communication facilities are also located in this facility. These upgrades would make sure the Booster Station can function during extreme weather events.	Utilities Director	City of Venice	Less than \$500,000	HMGP, Utilities Enterprise Funds	Short-term	88
CV6	Water Reclamation Facility Equalization Tank	Construction of a 3 million gallon (MG) equalization tank at the Water Reclamation Plant	Flooding, Tropical Cyclones	This project provides additional storage to reduce the potential for sanitary sewer overflows during flooding events. It improves operational efficiency of the wastewater treatment plant and mitigates potential discharges of wastewater as well as reduces energy use.	Utilities Director	City of Venice	Greater than \$5 million	HMGP, Utilities Enterprise Funds	Short-term	86.4
CV7	Relocate Fire Station #2	Construct new fire station outside special flood hazard area.	Flooding, Tropical Cyclones	Removes critical facility from SFHA and provides first responder services during all hazard events.	Fire Chief	City of Venice	\$24 million	Bonds, General Fund	Short-term	84
CV8	Hatchett Creek Stormwater Improvements	Restore drainage facility to reduce flooding and improve water quality	Flooding	Maintenance dredge of the open channel waterway will increase the cross-sectional area of the facility, reduce flooding, and remove nutrient rich sediment to improve water quality.	Stormwater Engineering	City of Venice	Less than \$500,000	HMGP, Stormwater Enterprise Funds	Short-term	76
CV9	North Nokomis Outfall Improvements Assessments	Install additional baffle boxes.	Flooding	Remove nutrient rich sediment to improve water quality.	Stormwater Engineering	City of Venice	\$500,000–\$1 million	HMGP, Stormwater Enterprise Funds	Medium-term	76
CV10	Relocate Reverse Osmosis Water Plant	Construct new Water Plant and associated facilities outside the SFHA.	Flooding, Tropical Cyclones	Protects critical drinking water supply and fire protection for the entire city and ability to provide interconnect with other jurisdictions. Due to the current location of the water plant within the SFHA, the facility is vulnerable to storm surge, flooding and wind impacts. During tropical cyclones, the water plant has been evacuated and shutdown for staff and infrastructure safety.	Utilities Director	City of Venice	Greater than \$5 million	HMGP, Utilities Enterprise Funds	Long-term	75.6
CV11	Mitigation of Hangar Doors	Installation of hurricane bolts on hangar doors or replacement of hangar doors with ones that are rated for 150+ mph wind.	Severe Storms, Tropical Cyclones, Tornadoes	This project protects against tropical cyclones, tornadoes & high wind damage. There have been repetitive losses experienced due to winds at the airport	Airport Manager	City of Venice	\$2 million–\$5 million	HMGP, Airport Enterprise Funds	Medium-term	74.8

Mitigation Action #	Project Title	Description of Project	Hazards Mitigated	Mitigation Benefit	Responsible Department	Jurisdiction	Cost Estimate	Funding Sources	Estimated Timeline	Priority
				and this project would reduce those losses. Failure of hangar doors has caused significant financial impact, loss of use and damage of property.						
CV12	Curry Creek Drainage Improvements	Restore drainage facilities to reduce flooding and improve water quality	Flooding	Maintenance dredge of the open channel waterway will increase the cross-sectional area of the facility, reduce flooding, and remove nutrient rich sediment to improve water quality.	Stormwater Engineering	City of Venice	Less than \$500,000	HMGP, Stormwater Enterprise Funds	Long-term	73.6
CV13	Airport Intracoastal Waterway Outfall Improvements	Improve drainage facility to reduce flooding and improve water quality.	Flooding	Maintenance dredge of the open channel waterway will increase the cross-sectional area of the facility, reduce flooding, and remove nutrient rich sediment to improve water quality.	Stormwater Engineering	City of Venice	Less than \$500,000	HMGP, Stormwater Enterprise Funds	Long-term	72.4
CV14	Deertown Gully Upgrades	Improve drainage facility to reduce flooding and improve water quality.	Flooding	Maintenance dredge of the open channel waterway will increase the cross-sectional area of the facility, reduce flooding, and remove nutrient rich sediment to improve water quality.	Stormwater Engineering	City of Venice	\$500,000–\$1 million	HMGP, Stormwater Enterprise Funds	Long-term	70
CV15	Seaboard Area Outfall Improvements	Improve drainage facility to reduce flooding and improve water quality.	Flooding	The Seaboard Master Plan is underway and will develop plans for outfall improvements. Overall, these projects will improve drainage, mitigate flooding, and improve water quality.	Stormwater Engineering	City of Venice	\$500,000–\$1 million	HMGP, Capital Improvement Project Funds, Stormwater Funds	Long-term	70
CV16	New Airport Terminal Building Generator and Underground Utilities	Acquisition and installation of power generator for the new terminal building.	Flood, Tropical Cyclones, Severe Storms, Winter Weather	Provide power services during power outages due to Tropical Cyclones and other events for airport operations.	Airport Manager	City of Venice	\$500,000–\$1 million	HMGP, Airport Funds	Medium-term	70
CV17	Golf Drive Stormwater Improvements	Improve drainage facility to reduce flooding and improve water quality.	Flooding	Maintenance dredge of the open channel waterway will increase the cross-sectional area of the facility, reduce flooding, and remove nutrient rich sediment to improve water quality.	Stormwater Engineer	City of Venice	Less than \$500,000	HMGP, Stormwater Enterprise Funds	Long-term	68.8
CV18	Coastal Land Acquisition Program	Purchase properties and preserve for open space (especially repetitive loss properties or with known drainage issues)	Flooding, Tropical Cyclones, Severe Storms	Mitigates flood losses to coastal properties.	CRS Coordinator	City of Venice	Less than \$500,000	HMGP	Long-term	65.6
CV19	Watershed Master Plan (WMP)	Complete a WMP for the jurisdiction.	Drought, Flooding, Tropical Cyclones	Identifies future mitigation recommendations in the watersheds of City of Venice.	CRS Coordinator	City of Venice	Less than \$500,000	Submitted for HMGP	Short-term	65.6

Mitigation Action #	Project Title	Description of Project	Hazards Mitigated	Mitigation Benefit	Responsible Department	Jurisdiction	Cost Estimate	Funding Sources	Estimated Timeline	Priority
CV20	New Solid Waste and Recycling Complex	Relocate the facility to a location less exposed to hurricanes and constructed to hurricane codes.	Severe Storms, Tropical Cyclones, Tornadoes	Management of solid waste is an essential part of storm recovery. The Solid Waste and Recycling Complex will be upgraded so that it is protected to hurricane and wind standards and can function immediately after a storm hits.	Fleets and Facilities Manager	City of Venice	\$2 million–\$5 million	HMGP, General Funds	Short-term	65.6
CV21	Venezia Park Stormwater Upgrades	Improve drainage facility to reduce flooding and improve water quality.	Flooding	Flooding was experienced along Harbor Drive and adjacent areas. By diverting stormwater into the proposed retention facility in Venezia Park, peak stage decreases downstream are anticipated in addition to the water quality benefit.	Stormwater Engineering	City of Venice	\$500,000–\$1 million	HMGP, Stormwater Enterprise Funds	Long-term	65.6
CV22	Osprey Ditch Stormwater Improvements	Upsize existing stormwater pipes to reduce flooding & add water quality improvements	Flooding	By upsizing stormwater pipes and adding water quality improvements, flooding and environmental impacts are mitigated.	Stormwater Engineering	City of Venice	\$500,000 – \$1 million	HMGP, Stormwater Enterprise Funds	Long-term	64
CV23	Valencia Road Stormwater Improvements	Improve drainage facility to reduce flooding and improve water quality	Flooding	Maintenance dredge of the open channel waterway will increase the cross-sectional area of the facility, reduce flooding, and remove nutrient rich sediment to improve water quality.	Stormwater Engineering	City of Venice	\$500,000–\$1 million	HMPG	Long-term	58.8
CV24	Beach Erosion Hot Spot Alternatives	Coastal improvements in known erosion hot spots to provide additional protection.	Land Subsidence and Sinkholes	Enhances coastal hardening to mitigate the erosion issues caused by tropical cyclones and high winds.	Stormwater Engineering	City of Venice	\$2 million–\$5 million	HMGP, General Funds	Long-term	54.8
CV25	Humphris Park Reconstruction	Restoration of Humphris Park for Public Use	Flooding, Tropical Cyclones, Severe Storms	Humphris Park will soon be ready to be reopened and upgraded with resilient improvements. The concession/restroom building was damaged and removed. Parking areas and concrete pads will be established to provide staging areas and restroom facilities that can be removed prior to storm events. These upgrades will reduce the impacts and costs from natural hazards on the park.	Public Works	City of Venice	\$2 million–\$5 million	HMGP, General Funds	Long-term	50
SRQ1	Replacement/Upgrade of Automatic Doors	Replace 21 sets of automatic glass doors across front of SRQ airport terminal with impact-resistant hurricane rated materials and installation method	Severe Storms, Tropical Cyclones, Tornadoes and Waterspouts	Will allow doors to withstand severe wind and blowing debris to protect and preserve the building envelope	Facilities	Sarasota Manatee Airport	Less than \$500,000	FEMA HMGP as FDEM sub-recipient	Short-term	122
SRQ2	Replacement/Upgrade of Baggage Wind Roof	Replace existing finish roof, skylights, vents and louvers over Baggage Wing on SRQ airport terminal with 80 mil material	Flooding, Severe Storms, Tropical Cyclones,	Will allow roof section to withstand severe windstorms to protect and preserve the building envelope	Facilities	Sarasota Manatee Airport	\$500,000–\$1 million	FEMA HMGP as FDEM sub-recipient	Short-term	119.6

Mitigation Action #	Project Title	Description of Project	Hazards Mitigated	Mitigation Benefit	Responsible Department	Jurisdiction	Cost Estimate	Funding Sources	Estimated Timeline	Priority
		and recommended installation method for hurricane resistance.	Tornadoes and Waterspouts							
SRQ3	Hurricane Risk Building Assessment	Assessment of design and construction integrity of airport terminal building	Flooding, Severe Storms, Tornadoes & Waterspouts, Tropical Cyclones, Winter Weather	Determine the suitability of the SRQ airport terminal for future mitigation projects and identify project priorities	Risk Management	Sarasota Manatee Airport	Less than \$500,000	Airport Net Operating Revenue	Short-term	68.8
NP1	Water Control System 120	This project will replace Fixed Weir 120 to a water control structure that enhances stormwater management and flood protection. A fixed water control structure will convey larger quantities of water and mitigate flooding of the surrounding areas.	Drought, Flooding, Tropical Cyclones	Replacing a fixed weir with a water control structure in North Port, Florida significantly enhances stormwater management and flood protection. Unlike fixed weirs, which allow only passive flow, water control structures can be actively adjusted to manage varying water levels and storm intensities. During heavy rainfall or tropical storms, gates or valves can be opened to release excess water in a controlled manner, reducing the risk of canal overtopping and neighborhood flooding. This flexibility also allows for better drainage of streets and properties, minimizing damage and disruption. In dry conditions, the structure can retain water to support groundwater recharge and maintain ecological balance.	City Engineer	City of North Port	\$2 million-\$5 million	HMGP, Public Works Local Fund	Medium-term	127.2
NP2	Utilities Lift Station Bypass Pumps	Project is to install a permanent diesel bypass pump on 25 sanitary sewer lift stations.	Flood, Tropical Cyclones	Ensures the uninterrupted flow of wastewater, even in the event of flooding or heavy rains. Power failure or submersible pump failure at lift stations can mean wastewater overflow, infiltration, and infrastructure damage. Installing bypass pumps adds redundancy to the system to avoid damage and contamination under high flow events.	Assistant Utilities Director	City of North Port	\$2 million-\$5 million	HMGP, Utilities Enterprise Fund	Medium-term	127.2
NP3	Fire Station 83 Hardening	Project is to harden existing fire station 83 to bring it up to current code. Project hardening would include: Replacement of the roof system with a standing-seam galvalume roof; Additional bracing to the trusses (most likely); New lightning protection, gutters and downspouts;	Flood, Severe Storms, Tropical Cyclones, Winter Weather, Tornadoes	Hardening the facility would allow the fire station to serve as a responder shelter for fire rescue crews. Ensuring the safety of this facility would allow crews to remain inside and begin response operations immediately following the passing of a storm, maximizing response times and	North Port Fire Department	City of North Port	\$1 million-\$2 million	HMGP, Fire District Funding	Medium-term	85.2

Mitigation Action #	Project Title	Description of Project	Hazards Mitigated	Mitigation Benefit	Responsible Department	Jurisdiction	Cost Estimate	Funding Sources	Estimated Timeline	Priority
		Remove and replace all Windows/storefront with insulated, tinted Level E assemblies; Remove and replace all man-doors, including frame, hardware, painting, etc.; Remove and replace (4) apparatus bay doors to include new garage door openers; Remove and replace louvers/ exhaust fans as needed.		ensuring the greatest extent of life saving measures.						
NP4	Fire Station 84 Hardening	Project is to harden existing fire station 84 to bring it up to current code. Project hardening would include: Replacement of the roof system with a standing-seam galvalume roof; Additional bracing to the trusses (most likely); New lightning protection, gutters and downspouts; Remove and replace all Windows/storefront with insulated, tinted Level E assemblies; Remove and replace all man-doors, including frame, hardware, painting, etc.; Remove and replace (6) apparatus bay doors to include new garage door openers; Remove and replace louvers/ exhaust fans as needed	Flood, Severe Storms, Tropical Cyclones, Winter Weather, Tornadoes	Hardening the facility would allow the fire station to serve as a responder shelter for fire rescue crews. Ensuring the safety of this facility would allow crews to remain inside and begin response operations immediately following the passing of a storm, maximizing response times and ensuring the greatest extent of life saving measures.	North Port Fire Department	City of North Port	\$1 million–\$2 million	HMGP, Fire District Funding	Medium-term	83.2
NP5	Effluent Pipe	This project includes effluent pump station upgrades and new effluent force main. This project will provide adequate pump and pipe capacity to dispose of higher flows during storm events.	Flood, Severe Storms, Tropical Cyclones	Upgrading the effluent lines and pump stations will provide critical mitigation benefits by significantly reducing the risk of system failures, overflows, and untreated wastewater discharges during extreme weather events, such as hurricanes, floods, and heavy rainfall. These infrastructure improvements will enhance the resilience and reliability of the wastewater system, ensuring continued operation under hazard conditions and minimizing the potential for environmental contamination and public health threats.	Assistant Utilities Director	City of North Port	Greater than \$5 million	Utility Enterprise Funding	Short-term	75.2
NP6	Fuel Reduction Program	Mechanical clearing of underbrush in the Constitution Drive, Myakkahatchee Creek, and Atwater Drive areas.	Wildland Fire	The clearing of dense underbrush will reduce the risk of severe wildfires in the wildland-urban interface.	North Port Fire Department	City of North Port	Less than \$500,000	HMPG, Fire District Funding	Short-term	67.6

Mitigation Action #	Project Title	Description of Project	Hazards Mitigated	Mitigation Benefit	Responsible Department	Jurisdiction	Cost Estimate	Funding Sources	Estimated Timeline	Priority
LBK1	Public Works Generator	This project will provide a generator to the Public Works facility so it can function after the impacts of natural hazards.	Flooding, Severe Storms, Tornadoes, Tropical Cyclones	Purchasing a generator for the Public Works Department will ensure essential operations continue during and after hurricanes, enhancing Longboat Key's resilience. This backup power source will enable debris removal, drainage maintenance, and road clearing, ensuring safe access and reducing prolonged flooding. It will also support emergency response by keeping communication systems, fuel stations, and critical equipment operational. By minimizing service disruptions and improving disaster response, this project strengthens the town's ability to withstand and recover from storms, benefiting residents, businesses, and emergency personnel.	Public Works	Town of Longboat Key	Less than \$500,000	HMGP	Short-term	133.6
LBK2	Small-Scale Distribution Main Replacement	Upgrading sections of aging distribution mains that have a history of leaks to improve overall system reliability.	Flooding, Tropical Cyclones, Drought	Targeting the replacement of aging distribution mains not only stabilizes our system but also mitigates the risk of leaks that can disrupt services amidst severe weather. Upgrading these mains enhances our ability to provide consistent water services, reducing the likelihood of service failures during storms.	Public Utilities	Town of Longboat Key	\$1 million–\$2 million	HMGP	Medium-term	107.6
LBK3	Valve Rehabilitation	Upgrading aging valves in the water distribution system to reduce leaks and improve flow control.	Drought, Flooding, Tropical Cyclones	By inspecting and upgrading aging valves, we can significantly reduce leaks and enhance flow control, optimizing our distribution system's resilience against unexpected weather impacts. This rehabilitation directly contributes to mitigation by preventing water loss and ensuring that our system can handle increased demand or changes in water distribution during emergencies.	Public Utilities	Town of Longboat Key	\$500,000–\$1 million	HMGP	Medium-term	107.6
LBK4	Manhole Rehabilitation Project	This project involves the inspection and upgrading of aging manholes to prevent infiltration, improve structural integrity, and enhance overall wastewater system performance.	Flooding, Tropical Cyclones	This project addresses the critical need for inspecting and upgrading aging manholes, which prevents infiltration and improves the structural integrity of our wastewater system. By mitigating leaks and improving performance, we protect against potential public health hazards	Public Utilities	Town of Longboat Key	Less than \$500,000	HMGP	Short-term	97.6

Mitigation Action #	Project Title	Description of Project	Hazards Mitigated	Mitigation Benefit	Responsible Department	Jurisdiction	Cost Estimate	Funding Sources	Estimated Timeline	Priority
				that could emerge during heavy rainfall or flooding.						
LBK5	Purchase of Back-up Generators	Acquiring backup generators to ensure continuous power supply to critical water and wastewater facilities during power outages, which is essential for maintaining operations during emergencies.	Flooding, Severe Storms, Tornadoes, Tropical Cyclones	This project mitigates the risk of service interruptions that can jeopardize public health and safety during severe weather events, thus enhancing our community's resilience.	Public Utilities	Town of Longboat Key	Less than \$500,000	HMGP	Short-term	97.6
LBK6	Hydrant Replacement Program	Upgrade depreciated or damaged fire hydrants to ensure adequate fire protection and improve water service reliability for emergency responders.	Tropical Cyclones, Wildland Fire	Replacing obsolete fire hydrants is essential for ensuring reliable emergency response capabilities during storm events. This project mitigates risks associated with fire emergencies by guaranteeing that emergency responders have access to fully functional hydrants, thereby enhancing public safety and preparedness.	Public Utilities	Town of Longboat Key	\$500,000–\$1 million	HMGP	Short-term	92.8
LBK7	Emergency Sewer Bypass Pumps	The Town of Longboat Key is seeking grant funding to purchase seven bypass pumps for our sewer lift stations in Sarasota. With 21 lift stations in Sarasota County, enhancing our infrastructure is crucial to ensuring smooth operations during power outages and severe weather. We have experienced saltwater flooding the control panels during strong surge events, rendering many stations inoperable. Currently, only two of our lift stations are equipped with bypass pumps, leaving us vulnerable during emergencies caused by wind and storm surges.	Flooding, Severe Storms, Tropical Cyclones	Procuring these bypass pumps will significantly improve our ability to manage wastewater and prevent sanitary sewer overflows that can negatively impact public health, property and the environment. By acquiring this reliable equipment, we can temporarily divert wastewater when necessary, helping us maintain operations and protect our community. This project addresses critical weaknesses in our infrastructure that have become increasingly apparent with severe weather, ultimately enhancing our resilience for the future. We believe that obtaining grant funding for this initiative is essential for the health and safety of our residents and the environment.	Public Utilities	Town of Longboat Key	Less than \$500,000	HMGP	Short-term	90.4
CS1	Coastal Hardening & Stormwater Mitigation Initiative	The City-Wide Coastal Hardening & Stormwater Mitigation Initiative aims to enhance Sarasota's coastal infrastructure by strengthening shorelines, improving stormwater drainage, and implementing flood mitigation measures at multiple city-owned assets along the Sarasota coastline. These upgrades address	Drought, Flooding, Severe Storms, Tropical Cyclones	1. Reduction of coastal erosion and storm surge impact. 2. Improved flood resilience for critical city infrastructure and public assets. 3. Protection of public parks, roadways, and community facilities.	Public Works, Parks and Recreation	City of Sarasota	Greater than \$5 million	HMGP, Pre-Disaster Mitigation Grant (PDM), Local Capital Improvement Funds	Medium-term	

Mitigation Action #	Project Title	Description of Project	Hazards Mitigated	Mitigation Benefit	Responsible Department	Jurisdiction	Cost Estimate	Funding Sources	Estimated Timeline	Priority
		damage caused by Hurricanes Helene and Milton (2024) and will improve resilience against future storm events and sea-level rise.		4. Enhanced water retention and quality through improved stormwater management.						
CS2	Seawall Protection Project	The Citywide Sea Wall Rehabilitation Project is a comprehensive hazard mitigation initiative aimed at stabilizing and protecting Sarasota’s artificial shoreline infrastructure. The project includes repairs, reinforcement, and replacement of failing and deteriorating seawalls across 33 city-owned locations, totaling 20,460 linear feet of shoreline protection.	Flooding, Land Subsidence, Severe Storms, Tropical Cyclones	1. Prevents catastrophic seawall failures that could lead to flooding and erosion. 2. Protects public infrastructure, roadways, and critical assets along the coastline. 3. Enhances storm surge resistance and reduces flood insurance costs. 4. Supports long-term climate resilience and adaptation for Sarasota’s coastal areas	Public Works	City of Sarasota	Greater than \$5 million	HMGP, PDM, Local Capital Improvement Funds	Long-term	
CS3	Hudson Bayou Resiliency & Stormwater Mitigation Project	The Hudson Bayou Resiliency & Stormwater Mitigation Project is a critical flood mitigation and water quality improvement initiative designed to restore stormwater conveyance capacity and reduce flood risks in the Hudson Bayou area.	Flooding, Land Subsidence, Severe Storms, Tropical Cyclones	1. Reduces flood risks for surrounding neighborhoods and properties. 2. Enhances water quality by removing sediment and trapped pollutants. 3. Improves ecological health of the Hudson Bayou system. 4. Protects public and private infrastructure from further flood damage.	Public Works, Parks and Recreation	City of Sarasota	Greater than \$5 million	HMGP, PDM, Local Capital Improvement Funds	Long-term	
CS4	Lido Beach Dune Project	The Lido Beach Dune Project is a coastal resilience initiative aimed at stabilizing and protecting Lido Beach from erosion, storm surge, and the impacts of sea-level rise. The project will use natural dune restoration techniques to enhance the storm resilience of Sarasota’s coastal infrastructure and habitats.	Flooding, Land Subsidence, Severe Storms, Tropical Cyclones	1. Reduces beach erosion and storm surge impacts on coastal infrastructure. 2. Enhances flood protection for properties and roadways along Lido Beach. 3. Preserves natural ecosystems and wildlife habitats. 4. Improves public safety by maintaining a stable, resilient beach environment.	Public Works	City of Sarasota	\$2 million–\$5 million	HMGP, PDM, Local Capital Improvement Funds	Long-term	
CS5	Span-wire to Mast Arms Conversions	This project will convert existing span-wire traffic signal installations to mast-arm configurations at three high-priority intersections in the City of Sarasota: Bahia Vista & Euclid, Bahia Vista & Shade, and Osprey & South. The conversion of span-wire signals to mast arms enhances traffic safety, improves resilience to extreme weather conditions, and ensures compliance with	Severe Storms, Tornadoes and Waterspouts, Tropical Cyclones	1. Enhanced Wind Resilience: Mast arms are significantly more resistant to hurricane-force winds compared to span-wire signals, reducing the risk of signal failure during extreme weather events. 2. Improved Public Safety: Reduces the likelihood of traffic signal failure, preventing accidents and ensuring the safe movement of vehicles and pedestrians.	Public Works	City of Sarasota	\$2 million–\$5 million	HMGP, PDM, Local Capital Improvement Funds	Medium-term	

Mitigation Action #	Project Title	Description of Project	Hazards Mitigated	Mitigation Benefit	Responsible Department	Jurisdiction	Cost Estimate	Funding Sources	Estimated Timeline	Priority
		modern standards for hurricane and storm protection.		<p>3. Extended Infrastructure Lifespan: Mast arms have a longer service life with lower maintenance costs compared to span-wire systems.</p> <p>4. Compliance with Modern Standards: Aligns with FDOT and Sarasota County's goal of transitioning to more resilient traffic infrastructure.</p>						
CS6	St. Armands Resiliency & Flood Mitigation Project	<p>The St. Armands Resiliency & Flood Mitigation Project is a critical infrastructure effort to reduce storm-related flooding, strengthen stormwater systems, and enhance coastal resilience for one of Sarasota's most important commercial and residential hubs.</p> <p>As storm intensity increases and sea levels rise, St. Armands Key faces repeated flooding threats that endanger public safety, evacuation routes, and economic stability. This project integrates stormwater engineering upgrades, roadway protection measures, and deployable flood barriers to provide multi-layered flood mitigation.</p>	Flooding, Land Subsidence, Severe Storms, Tropical Cyclones	<p>1. Protects critical evacuation routes from storm surge flooding.</p> <p>2. Reduces flood damage to businesses, homes, and public spaces in St. Armands Circle.</p> <p>3. Enhances stormwater system performance, reducing nuisance and extreme weather flooding.</p> <p>4. Provides scalable and adaptable protection for future climate challenges.</p>	Public Works	City of Sarasota	Greater than \$5 million	HMGP, PDM, Local Capital Improvement Funds	Long-term	
CS7	Stormwater Resiliency & Flood Mitigation Initiative	<p>The City of Sarasota Stormwater Resiliency & Flood Mitigation Initiative is a comprehensive flood mitigation and stormwater management project targeting key flood-prone locations. The initiative will enhance flood protection, improve stormwater retention and conveyance, and reduce pollution entering Sarasota Bay and Phillippi Creek.</p>	Flooding, Land Subsidence, Severe Storms, Tropical Cyclones	<p>1. Reduction of flood risks along evacuation routes and critical infrastructure.</p> <p>2. Improved stormwater quality through pollutant removal measures.</p> <p>3. Increased climate resilience through enhanced drainage and sediment control.</p> <p>4. Protection of residential and commercial properties from repetitive flood damage.</p>	Public Works	City of Sarasota	Greater than \$5 million	HMGP, PDM, Local Capital Improvement Funds	Long-term	
CS8	Van Wezel Performing Arts Hall Hazard Mitigation	<p>The Van Wezel Performing Arts Hall, a cultural and economic landmark located along Sarasota Bay, faces significant flooding risks due to its shoreline proximity. The 2024 hurricane season (Hurricanes Debby, Helene, and Milton) caused substantial flooding and structural damage, underscoring the urgent need for hazard mitigation. This</p>	Flooding, Tropical Cyclones	<p>1. Reduces flood risk and structural damage during extreme weather events.</p> <p>2. Preserves a key economic and cultural institution for Sarasota.</p> <p>3. Ensures continuity of events and performances, preventing economic losses.</p>	Public Works, Van Wezel Staff	City of Sarasota	\$2 million–\$5 million	HMGP, PDM, Local Capital Improvement Funds	Medium-term	

Mitigation Action #	Project Title	Description of Project	Hazards Mitigated	Mitigation Benefit	Responsible Department	Jurisdiction	Cost Estimate	Funding Sources	Estimated Timeline	Priority
		project will implement critical flood protection and storm mitigation measures to preserve the facility, ensure visitor safety, and protect the local economy.		4. Protects public safety by preventing storm surge-related building failures.						
CS9	Whitaker Bayou Resiliency & Flood Mitigation Project	The Whitaker Bayou Resiliency & Flood Mitigation Project is a comprehensive flood control and environmental restoration initiative aimed at reducing flood risks, improving water quality, and restoring natural hydrology in the Whitaker Bayou watershed. Whitaker Bayou serves as a primary stormwater conveyance system for several Sarasota neighborhoods, but its reduced drainage capacity, sediment buildup, and outdated stormwater infrastructure have increased flooding risks. This project will restore the Bayou's stormwater management capacity, stabilize eroded banks, and enhance ecological resilience.	Flooding, Land Subsidence, Severe Storms, Tropical Cyclones	<ol style="list-style-type: none"> 1. Reduces flood risks in vulnerable Sarasota neighborhoods. 2. Improves stormwater drainage and reduces property damage from repetitive flooding. 3. Enhances water quality by reducing sediment and pollution levels. 4. Restores natural hydrology and protects coastal ecosystems. 5. Aligns with Sarasota's long-term climate adaptation strategy. 	Public Works	City of Sarasota	Greater than \$5 million	HMGP, PDM, Local Capital Improvement Funds	Long term	
RM1	Campuswide Distributed Generation System	The proposed Campuswide Distributed Generation System includes the purchase and installation of seven distributed generation systems, new natural gas infrastructure, and the provision of complete campus back-up power.	Flooding, Severe Storms, Tropical Cyclones, Tornadoes and Water Spouts	Primary benefits of the project include campuswide electrical resiliency during natural hazard events, code compliant and elevated equipment installation to protect against impacts from natural hazards, and development of a hardened distribution system better able to withstand the impacts from natural hazards. Secondary benefits include cleaner fuel use and a fuel source which is less vulnerable to supply chain disruptions in the aftermath of a natural hazard event.	Jean Evans, Deputy Director	Ringling Museum	Greater than \$5 million	HMGP	Short-term	98.4
RM2	New Mechanical and Electrical System Design for Ca' d'Zan	The mechanical systems for the Ca' d'Zan house were located in the basement and severely damaged during flooding from Hurricane Helene. The design process will develop options to protect mechanical and electrical systems from flooding damage in the future.	Flooding, Tropical Cyclones	This project will provide insights into how the Ca' d'Zan can improve the design and construction of the critical mechanical and electrical systems. The final design can then be constructed to reduce natural hazard risk.	Jean Evans, Deputy Director	Ringling Museum	Greater than \$5 million	HMGP	Short-term	63.6
RM3	Museum of Art Replacement Roof	This project would upgrade the roof and mechanical systems located there on the Ringling Museum of Art. These systems	Flooding, Severe Storms, Tropical Cyclones,	This project protects the roof system and mechanical equipment located there from	Jean Evans, Deputy Director	Ringling Museum	Greater than \$5 million	HMGP	Medium-term	63.2

Mitigation Action #	Project Title	Description of Project	Hazards Mitigated	Mitigation Benefit	Responsible Department	Jurisdiction	Cost Estimate	Funding Sources	Estimated Timeline	Priority
		would be more resistant to damage from flooding, wind, and other impacts.	Tornadoes and Water Spouts	water infiltration and wind damage from a range of hazards.						
RM4	Designing Mitigation Projects for the Ca' d'Zan Terrace	The terrace of the Ca' d'Zan was heavily damaged by Hurricane Helene due to storm surge. The design process will highlight options to mitigate impacts on the terrace from similar storms and flooding.	Flooding, Severe Storms, Tropical Cyclones	This project will provide insights into how the Ca' d'Zan terrace can implement sustainable mitigation to impacts. The final design can then be constructed to reduce natural hazard risk.	Jean Evans, Deputy Director	Ringling Museum	\$2 million-\$5 million	HMGP	Short-term	55.6
SMH1	Venice Urgent Care Center Wind Retrofit	Hurricane shutter installation at critical Sarasota Memorial Hospital (SMH) facility	Severe Storms (Wind), Tropical Cyclones, Tornadoes and Waterspouts	This project will reduce the vulnerability of a critical healthcare facility to hurricane and high-wind events by installing impact-rated storm shutters on unprotected windows and doors. By hardening the building envelope against windborne debris and wind pressure, the project helps prevent structural failure, water intrusion, and interior damage that could compromise life safety, disrupt patient care, or force evacuation. The shutter installation is designed to meet or exceed Florida Building Code and ASCE 7 wind load requirements for healthcare facilities classified as Risk Category III or IV. By enabling the facility to safely shelter in place and maintain operations during storms, the project supports emergency medical services continuity, reduces potential post-disaster recovery costs, and enhances the long-term resilience of the healthcare system.	Hospital Emergency Management	Sarasota Memorial Hospital	\$1 million-\$2 million	Hurricane Ian Mitigation Funds	Short-term	118
SMH2	Sarasota Memorial Community Specialty Clinic Building Retrofits	Hurricane shutter installation at critical SMH facility	Severe Storms (Wind), Tropical Cyclones, Tornadoes and Waterspouts	This project will reduce the vulnerability of a critical healthcare facility to hurricane and high-wind events by installing impact-rated storm shutters on unprotected windows and doors. By hardening the building envelope against windborne debris and wind pressure, the project helps prevent structural failure, water intrusion, and interior damage that could compromise life safety, disrupt patient care, or force evacuation. The shutter installation is designed to meet or exceed Florida Building Code and ASCE 7 wind load requirements for healthcare	Hospital Emergency Management	Sarasota Memorial Hospital	Less than \$500,000	Hurricane Ian Mitigation Funds	Short-term	122.8

Mitigation Action #	Project Title	Description of Project	Hazards Mitigated	Mitigation Benefit	Responsible Department	Jurisdiction	Cost Estimate	Funding Sources	Estimated Timeline	Priority
				facilities classified as Risk Category III or IV. By enabling the facility to safely shelter in place and maintain operations during storms, the project supports emergency medical services continuity, reduces potential post-disaster recovery costs, and enhances the long-term resilience of the healthcare system.						
SMH3	Generator for Urgent Care at St. Armands	Emergency generator installation at critical SMH facility	Flooding, Severe Storms, Tropical and Cyclones, Winter Weather	This project will enhance the resilience of a critical outpatient medical facility by installing a permanent emergency generator to maintain power during utility outages caused by hurricanes, severe storms, or other hazard events. These facilities play an essential role in stabilizing patients, treating injuries, and managing acute medical needs when hospitals are overwhelmed or inaccessible. A loss of power can disrupt vital functions such as lighting, diagnostic equipment, refrigeration for medications, electronic medical records, and patient intake systems. The proposed generator will ensure uninterrupted operation of these critical systems, allowing the facility to remain open and accessible when the surrounding community is most in need of immediate medical care. By reducing the likelihood of service interruptions and preventing costly closures or evacuations, the project helps protect public health and strengthens the local healthcare system's capacity to respond during and after disasters.	Hospital Emergency Management	Sarasota Memorial Hospital	\$1 million–\$2 million	HMGP, General Funds	Medium-term	78
SMH4	Generators for Urgent Care Centers	Emergency generator installation at critical SMH facility	Flooding, Severe Storms, Tropical and Cyclones, Winter Weather	This project will enhance the resilience of critical outpatient medical facilities (University Parkway UC, Centergate UC, Stickney Point UC) by installing a permanent emergency generator to maintain power during utility outages caused by hurricanes, severe storms, or other hazard events. These facilities play an essential role in stabilizing patients, treating injuries, and managing acute	Hospital Emergency Management	Sarasota Memorial Hospital	\$1 million–\$2 million	HMGP, General Funds	Medium-term	78

Mitigation Action #	Project Title	Description of Project	Hazards Mitigated	Mitigation Benefit	Responsible Department	Jurisdiction	Cost Estimate	Funding Sources	Estimated Timeline	Priority
				medical needs when hospitals are overwhelmed or inaccessible. A loss of power can disrupt vital functions such as lighting, diagnostic equipment, refrigeration for medications, electronic medical records, and patient intake systems. The proposed generator will ensure uninterrupted operation of these critical systems, allowing the facility to remain open and accessible when the surrounding community is most in need of immediate medical care. By reducing the likelihood of service interruptions and preventing costly closures or evacuations, the project helps protect public health and strengthens the local healthcare system’s capacity to respond during and after disasters.						
SMH5	Generator for Urgent Care Heritage Harbour	Emergency generator installation at critical SMH facility	Flooding, Severe Storms, Tropical and Cyclones, Winter Weather	This project will enhance the resilience of a critical outpatient medical facility by installing a permanent emergency generator to maintain power during utility outages caused by hurricanes, severe storms, or other hazard events. These facilities play an essential role in stabilizing patients, treating injuries, and managing acute medical needs when hospitals are overwhelmed or inaccessible. A loss of power can disrupt vital functions such as lighting, diagnostic equipment, refrigeration for medications, electronic medical records, and patient intake systems. The proposed generator will ensure uninterrupted operation of these critical systems, allowing the facility to remain open and accessible when the surrounding community is most in need of immediate medical care. By reducing the likelihood of service interruptions and preventing costly closures or evacuations, the project helps protect public health and strengthens the local healthcare system’s capacity to respond during and after disasters.	Hospital Emergency Management	Sarasota Memorial Hospital	\$2 million–\$5 million	HMGP, General Funds	Medium-term	75.6

Mitigation Action #	Project Title	Description of Project	Hazards Mitigated	Mitigation Benefit	Responsible Department	Jurisdiction	Cost Estimate	Funding Sources	Estimated Timeline	Priority
SMH6	Generator for Health Care Center Blackburn Point	Emergency generator installation at critical SMH facility	Flooding, Severe Storms, Tropical and Cyclones, Winter Weather	This project will enhance the resilience of a critical outpatient medical facility by installing a permanent emergency generator to maintain power during utility outages caused by hurricanes, severe storms, or other hazard events. These facilities play an essential role in stabilizing patients, treating injuries, and managing acute medical needs when hospitals are overwhelmed or inaccessible. A loss of power can disrupt vital functions such as lighting, diagnostic equipment, refrigeration for medications, electronic medical records, and patient intake systems. The proposed generator will ensure uninterrupted operation of these critical systems, allowing the facility to remain open and accessible when the surrounding community is most in need of immediate medical care. By reducing the likelihood of service interruptions and preventing costly closures or evacuations, the project helps protect public health and strengthens the local healthcare system's capacity to respond during and after disasters.	Hospital Emergency Management	Sarasota Memorial Hospital	\$1 million–\$2 million	HMGP, General Funds	Medium-term	78
SMH7	Generator for Venice Medical Office Building	Emergency generator installation at critical SMH facility	Flooding, Severe Storms, Tropical and Cyclones, Winter Weather	This project will improve the operational resilience of a medical office building that delivers essential outpatient services, including diagnostics, consultations, and follow-up care. By installing a permanent emergency generator, the facility will be able to maintain power during utility outages caused by hurricanes, severe storms, or other hazards. Power loss at outpatient facilities can result in canceled appointments, delayed diagnoses, disrupted treatment plans, and the inability to access electronic medical records or operate clinical equipment. The proposed generator will ensure continuity of operations, allowing the facility to continue serving patients safely and effectively during and after hazard events.	Hospital Emergency Management	Sarasota Memorial Hospital	\$1 million–\$2 million	HMGP, General Funds	Medium-term	78

Mitigation Action #	Project Title	Description of Project	Hazards Mitigated	Mitigation Benefit	Responsible Department	Jurisdiction	Cost Estimate	Funding Sources	Estimated Timeline	Priority
				By reducing downtime and preserving access to routine and preventive care, the project supports community health outcomes and contributes to the overall resilience of the regional healthcare delivery system.						
SMH8	North Port Care Center and Emergency Room Wind Retrofit	Hurricane shutter installation at critical SMH facility	Severe Storms (Wind), Tropical Cyclones, Tornadoes and Waterspouts	This project will reduce the vulnerability of a critical healthcare facility to hurricane and high-wind events by installing impact-rated storm shutters on unprotected windows and doors. By hardening the building envelope against windborne debris and wind pressure, the project helps prevent structural failure, water intrusion, and interior damage that could compromise life safety, disrupt patient care, or force evacuation. The shutter installation is designed to meet or exceed Florida Building Code and ASCE 7 wind load requirements for healthcare facilities classified as Risk Category III or IV. By enabling the facility to safely shelter in place and maintain operations during storms, the project supports continuity of emergency medical services, reduces potential post-disaster recovery costs, and enhances the long-term resilience of the healthcare system.	Hospital Emergency Management	Sarasota Memorial Hospital	Less than \$500,000	Hurricane Ian Mitigation Funds	Short-term	122.8
SMH9	Pine Tree Center Wind Retrofit	Hurricane shutter installation at critical SMH facility	Severe Storms (Wind), Tropical Cyclones, Tornadoes and Waterspouts	This project will reduce the vulnerability of a critical healthcare facility to hurricane and high-wind events by installing impact-rated storm shutters on unprotected windows and doors. By hardening the building envelope against windborne debris and wind pressure, the project helps prevent structural failure, water intrusion, and interior damage that could compromise life safety, disrupt patient care, or force evacuation. The shutter installation is designed to meet or exceed Florida Building Code and ASCE 7 wind load requirements for healthcare facilities classified as Risk Category III or IV. By enabling the facility to safely shelter	Hospital Emergency Management	Sarasota Memorial Hospital	Less than \$500,000	Hurricane Ian Mitigation Funds	Short-term	122.8

Mitigation Action #	Project Title	Description of Project	Hazards Mitigated	Mitigation Benefit	Responsible Department	Jurisdiction	Cost Estimate	Funding Sources	Estimated Timeline	Priority
				in place and maintain operations during storms, the project supports emergency medical services continuity, reduces potential post-disaster recovery costs, and enhances the long-term resilience of the healthcare system.						
SMH10	Wind Protection Retrofit – Storm Shutters at Sarasota Memorial Nursing and Rehabilitation Center	Hurricane shutter installation at critical SMH facility	Severe Storms (Wind), Tropical Cyclones, Tornadoes and Waterspouts	This project will mitigate the risk of windborne debris impacts and structural damage at the Sarasota Memorial Nursing and Rehabilitation Center by installing impact-rated storm shutters on all unprotected windows and hardening select exterior doors and sidelights. These improvements will protect the building envelope against wind pressures and flying debris during hurricanes and severe wind events, consistent with ASCE 7-22 standards for Risk Category III healthcare facilities. By preventing window failure, water intrusion, and interior damage, the project safeguards 120 medically vulnerable residents and up to 200 staff from the cascading effects of building compromise, including potential evacuation, service disruption, and loss of continuity of care. The proposed retrofit ensures that the facility can shelter in place during high-wind events, supporting both life safety and long-term resilience.	Hospital Emergency Management	Sarasota Memorial Hospital	Less than \$500,000	Hurricane Helene Mitigation Funds	Short-term	122.8
SMH11	Water Resiliency at Sarasota Memorial Hospital – Venice Campus	This project will harden water infrastructure at Sarasota Memorial Hospital’s Venice Campus by installing an emergency potable water tanker connection and modifying the irrigation pump system to provide backup mechanical water supply to the cooling towers during municipal water service disruptions.	Drought, Flooding, Severe Storms, Tropical Cyclones	This project provides critical mitigation benefits by ensuring uninterrupted water supply to Sarasota Memorial Hospital, Venice Campus, a 212-bed acute care facility that serves over 100,000 residents in South Sarasota County, by installing permanent backup systems that protect against municipal water disruptions. Without these improvements, events like Hurricane Milton could again result in loss of water pressure, compromising infection control, surgical procedures, HVAC cooling, and fire suppression, and potentially forcing evacuation or	Hospital Emergency Management	Sarasota Memorial Hospital	Less than \$500,000	Hurricane Milton Mitigation Funds	Medium Term	122.8

Mitigation Action #	Project Title	Description of Project	Hazards Mitigated	Mitigation Benefit	Responsible Department	Jurisdiction	Cost Estimate	Funding Sources	Estimated Timeline	Priority
				shutdown of the critical hospital during a disaster.						
SMH12	Flood Resiliency Sarasota Memorial Hospital – Venice Campus	This project proposes the design and construction of stormwater detention infrastructure to reduce flood risk at the Sarasota Memorial Hospital Venice campus. The facility is vulnerable to localized flooding during extreme rainfall events, which can threaten critical systems and access routes. The project would include strategically located detention ponds to capture and temporarily store excess stormwater runoff, reducing peak flow rates and mitigating flood impacts across the campus. By improving on-site water management capacity, this project will enhance the hospital's ability to remain operational during heavy rainfall events and protect essential healthcare services from flood-related disruption.	Flooding, Tropical Cyclones	This project will mitigate the risk of flooding at the Sarasota Memorial Hospital Venice campus by constructing stormwater detention ponds to manage runoff during heavy rainfall events. The hospital campus has experienced localized flooding during severe storms, threatening access roads, utility infrastructure, and critical medical operations. By capturing and temporarily storing stormwater on-site, the detention ponds will reduce peak discharge volumes, lower the risk of water pooling near buildings and entrances, and alleviate pressure on downstream drainage systems. These flood mitigation measures will help ensure the hospital remains accessible and fully functional during hazard events, reducing the likelihood of service disruptions, patient evacuations, and costly flood damage. The project provides long-term risk reduction by addressing known vulnerabilities and enhancing the facility's ability to sustain operations during future extreme weather.	Hospital Emergency Management	Sarasota Memorial Hospital	\$2 million–\$5 million	HMGP, General Funds	Medium-term	73.6
SMH13	Emergency Power Redundancy Framework for Critical Hospital Facilities	This mitigation action provides a framework for planning, funding, and implementing emergency power system upgrades across Sarasota Memorial Health Care System facilities. The intent of this action is to ensure continuity of critical medical operations during utility power outages caused by hurricanes, severe storms, or other hazard events. Projects carried out under this action may include the installation or replacement of permanent emergency generators, automatic transfer switches (ATS), generator docking stations, load management upgrades, or supporting electrical infrastructure improvements.	Flooding, Severe Storms, Tropical and Cyclones, Winter Weather	This action will reduce the vulnerability of Sarasota Memorial Health Care System facilities to power outages caused by hurricanes, severe storms, or other hazard events. Loss of electricity can lead to the shutdown of critical systems that support life safety, patient care, communications, refrigeration, climate control, and emergency response operations. By ensuring reliable backup power through the installation or upgrade of generators, ATS units, and related electrical infrastructure, this action helps maintain essential healthcare services during outages. The ability to remain operational reduces the risk of evacuation, preserves	Hospital Emergency Management	Sarasota Memorial Hospital	Less than \$500,000	HMGP, General Funds	Medium-term	73.6

Mitigation Action #	Project Title	Description of Project	Hazards Mitigated	Mitigation Benefit	Responsible Department	Jurisdiction	Cost Estimate	Funding Sources	Estimated Timeline	Priority
		These measures will enable facilities to maintain life safety systems, climate control, electronic health records, refrigeration, and essential patient care functions during and after power loss. This action applies to hospitals, outpatient centers, nursing and rehabilitation facilities, urgent care clinics, and other SMH-operated buildings.		continuity of care for medically vulnerable populations, and strengthens the healthcare system’s capacity to respond to disasters. These improvements also lessen the burden on nearby hospitals and emergency shelters by allowing SMH facilities to serve patients in place.						
SHM14	Wind Resiliency Approach for Critical Hospital Facilities	This mitigation action establishes a system-wide approach to strengthening the wind resistance of Sarasota Memorial Health Care System facilities. The intent is to reduce the risk of damage and operational disruption from hurricanes and severe wind events by retrofitting vulnerable building components. Eligible activities under this action may include the installation of impact-rated storm shutters, replacement of non-rated windows and doors with code-compliant assemblies, roof reinforcements, anchoring of rooftop equipment, and other structural or envelope hardening measures in accordance with American Society of Civil Engineers 7 standard and Florida Building Code standards. These improvements will help ensure the safety of patients and staff, preserve facility integrity, and reduce post-disaster recovery costs. This action is applicable to any SMH-owned or operated medical or administrative facility that is found to have wind vulnerabilities.	Severe Storms (Wind), Tropical Cyclones, Tornadoes and Waterspouts	This action will reduce the risk of structural damage, service disruption, and life safety threats at Sarasota Memorial Health Care System facilities during hurricanes and high-wind events. Many buildings have unprotected openings or outdated structural components that are vulnerable to windborne debris and pressure-related failure. Wind resilience retrofits, including impact-rated shutters, code-compliant glazing systems, and structural anchoring, will protect these facilities from physical damage and water intrusion. These measures will preserve building functionality, reduce repair and recovery costs, and allow medical services to continue during and after storm events. By hardening key healthcare infrastructure, this action also supports community health, safety, and emergency response capacity during Florida’s most frequent and damaging hazard events.	Hospital Emergency Management	Sarasota Memorial Hospital	Less than \$500,000	HMGP, General Funds	Medium-term	73.6
SMH15	Flood Resiliency for Sarasota Memorial Hospital – Sarasota Campus	This project proposes the design and construction of stormwater detention infrastructure to reduce flood risk at the Sarasota Memorial Hospital Sarasota campus. The facility is vulnerable to localized flooding during extreme rainfall events, which can threaten critical systems and access routes. The project would include strategically located	Flooding, Tropical Cyclones	This project will mitigate the risk of flooding at the Sarasota Memorial Hospital Venice campus by constructing stormwater detention ponds to manage runoff during heavy rainfall events. The hospital campus has experienced localized flooding during severe storms, threatening access roads, utility infrastructure, and critical medical	Hospital Emergency Management	Sarasota Memorial Hospital	\$2 million–\$5 million	HMGP, General Funds	Medium-term	73.6

Mitigation Action #	Project Title	Description of Project	Hazards Mitigated	Mitigation Benefit	Responsible Department	Jurisdiction	Cost Estimate	Funding Sources	Estimated Timeline	Priority
		detention ponds to capture and temporarily store excess stormwater runoff, reducing peak flow rates and mitigating flood impacts across the campus. By improving on-site water management capacity, this project will enhance the hospital's ability to remain operational during heavy rainfall events and protect essential healthcare services from flood-related disruption.		operations. By capturing and temporarily storing stormwater on-site, the detention ponds will reduce peak discharge volumes, lower the risk of water pooling near buildings and entrances, and alleviate pressure on downstream drainage systems. These flood mitigation measures will help ensure the hospital remains accessible and fully functional during hazard events, reducing the likelihood of service disruptions, patient evacuations, and costly flood damage. The project provides long-term risk reduction by addressing known vulnerabilities and enhancing the facility's ability to sustain operations during future extreme weather.						
SMH16	Flood Resiliency Framework for Critical Hospital Facilities	This mitigation action provides a system-wide framework for identifying and implementing flood mitigation strategies across Sarasota Memorial Health Care System facilities. The intent is to reduce the risk of flood-related damage and service disruptions caused by heavy rainfall, storm surge, or localized drainage issues. Eligible activities may include the installation of flood barriers, backflow preventers, floodproof doors and louvers, dry and wet floodproofing systems, elevation of critical mechanical or electrical systems, stormwater detention improvements, or site drainage enhancements. These measures are intended to protect healthcare infrastructure, preserve access and functionality, and ensure that medical services can continue during and after flood events. This action applies to any SMH-owned or operated facility identified as vulnerable to flooding, including hospitals, outpatient centers, administrative buildings, and long-term care sites.	Flooding, Tropical Cyclones	This action will reduce the vulnerability of Sarasota Memorial Health Care System facilities to flood-related damage and disruption. Flooding can impact building access, damage medical and mechanical systems, and force healthcare services to shut down when they are needed most. By implementing targeted flood mitigation strategies such as floodproofing, drainage improvements, and elevation of critical infrastructure, this action helps ensure that SMH facilities can remain operational and accessible during severe weather events. These improvements will protect medically vulnerable populations, reduce the need for emergency evacuations, and limit long-term recovery costs, ultimately supporting a more resilient healthcare delivery system.	Hospital Emergency Management	Sarasota Memorial Hospital	Less than \$500,000	HMGP, General Funds	Medium-term	73.6

Mitigation Action #	Project Title	Description of Project	Hazards Mitigated	Mitigation Benefit	Responsible Department	Jurisdiction	Cost Estimate	Funding Sources	Estimated Timeline	Priority
SC1	Community Wildland Protection plan	Create a community wildland protection plan to address risks and vulnerabilities associated with wildland fires, and to identify key areas for protection along the urban-wildland interface.	Wildland Fire	Provides a detailed understanding of where wildland fire mitigation is needed, actions to be taken, and agency responsibilities.	Emergency Services	Sarasota County	<\$300,000	USDA/USFS Grant	Short-term	High
SC2	Monitor Burn Ban Ordinance	Review efficacy and recommend adjustments to County Ordinance 58-2 where appropriate.	Wildland Fire	Reduces the risk of wildland fire.	Emergency Services	Sarasota County	<\$50,000	County General Fund	Short-term	Medium
SC3	Public Warming Centers	Enhance existing operating guides for the opening of public warming centers and overnight shelters in the event of extended-duration freezing conditions.	Severe Winter Weather	Reduces the risk of injury and death to vulnerable populations due to cold temperatures.	Emergency Services	Sarasota County	<\$500,000	County General Fund	Medium-term	
SC4	Community Wildland Protection Plan	Create a community wildland protection plan to address risks and vulnerabilities associated with wildland fires, and to identify key areas for protection along the urban-wildland interface.	Drought	Identifies drought vulnerable areas that contribute to wildland degradation and increased wildfire risk, recommends corrective action, and identifies agency responsibilities.	Emergency Services	Sarasota County	<\$300,000	USDA/USFS Grant	Short-term	
SC5	Water System Upgrades	Upgrade water delivery systems to reduce leakages.	Drought	Inefficient water delivery systems can worsen droughts. These upgrades will ensure that less water is lost throughout the water system.	Public Utilities	Sarasota County	\$1 million–\$3 million	HMGP, PDM, User Fees	Medium-term	
SC6	Land Subsidence and Sinkhole Mapping	Map and assess areas at high risk for sinkholes and land subsidence.	Land Subsidence and Sinkhole	Provides an understanding of where land subsidence and sinkholes are most likely to occur in the jurisdiction.	Transportation	Sarasota County	<\$1 million	HMGP, PDM	Medium-term	
SC7	Elevate Florida	Enhance resilience through residential home elevation, performed by allocating County-specific HMGP to the Statewide residential elevation initiative.	Tropical Cyclones, Fresh Water Flooding	Reduces the risk of injury and property loss through the elevation of inhabited structures.	Emergency Services	Sarasota County / All Jurisdictions	\$6 million	HMGP	Medium-term	High
SC8	Colonial Oaks Park Generator	Install a permanent generator at the events hall to allow for use of the center as a post-disaster shelter for displaced populations.	Tropical Cyclones (+all hazards)	Establishes the facility as a pre-identified location for use as a shelter for all hazards, with an emphasis on transitional sheltering in the aftermath of a tropical cyclone.	Emergency Services	Sarasota County	<\$400,000	HMGP, County General Fund	Medium-term	High
SC9	Elevate Florida	Enhance resilience through residential home elevation, performed by allocating County-specific HMGP to the statewide residential elevation initiative	Tropical Cyclones, Flooding	Reduce the risk of injury and property loss through the elevation of inhabited structures.	Emergency Services	Sarasota County / All Jurisdictions	\$6 million	HMGP	Medium-term	High
SC10	Cowpen Slough North Berm	Construct a berm to reduce the risk of flood inundation through enhancement	Flooding	Reduce the risk of flood inundation through enhancement of identified critical	Stormwater	Sarasota County	\$6.4 million	HMGP, County General Fund	Medium-term	High

Mitigation Action #	Project Title	Description of Project	Hazards Mitigated	Mitigation Benefit	Responsible Department	Jurisdiction	Cost Estimate	Funding Sources	Estimated Timeline	Priority
		of identified critical flood control structures at the Cowpen Slough.		flood control structures at the Cowpen Slough.						
SCS1	Lift Station and Well Generators	Install lift station and well generators at Lemarque and Tatum Ridge.	All hazards, including Flooding and Wildland Fire	The project for lift station and well generators at Lemarque and Tatum Ridge mitigates against all hazards as it services our medical dependent shelters.	Executive Director Facilities	Sarasota County Schools		HMGP	Medium-term	118
SCS2	Hardening and generators for Suncoast Technical College	Harden facilities and install generators for Suncoast Technical College.	Severe Storms and Tropical Cyclones	Actions will mitigate against severe storms and tropical cyclones.	Executive Director Facilities	Sarasota County Schools		HMGP	Medium-term	112

Plan Maintenance and Integration

The Sarasota County Local Mitigation Strategy (LMS) Working Group emphasizes four key components to keep the LMS plan up to date (see Figure 46):

- Plan Monitoring
- Community Involvement
- Plan Evaluation
- Plan Integration



Figure 46: Plan Maintenance and Integration Process

Plan Monitoring and Implementation

The LMS Chair holds primary responsibility for overseeing and supporting the implementation of the LMS Plan. This role includes providing both technical and administrative assistance to aid the LMS Working Group in its efforts. Throughout the year, the Chair will coordinate with the LMS Working Group to review proposed and existing mitigation projects supported by the LMS and conduct formal plan assessments annually. These evaluations will measure the plan’s effectiveness, monitor progress against the criteria established by both the LMS Working Group and the Florida Division of Emergency Management, and determine if any modifications are needed.

If this preliminary review indicates that a comprehensive update is required, the LMS Working Group Chair will arrange a meeting of the LMS Plan Committee to conduct a formal evaluation. Furthermore, should a significant event occur in Sarasota County, potentially making an LMS-supported project eligible for grant funding, the Chair will call a special meeting of the LMS Plan Committee to address the matter.

Community Involvement

The Sarasota County LMS Working Group is committed to ensuring public engagement in the hazard mitigation planning and review process while continuously seeking ways to enhance community participation. Public outreach and opportunities for feedback are essential components of this effort, providing residents with a voice in shaping local mitigation strategies. After the plan approval, the LMS Working Group will continue to seek public participation throughout the implementation, monitoring, and evaluation periods by inviting public feedback at all quarterly and special LMS meetings.

To encourage public involvement, the LMS Working Group advertised all quarterly and special meetings and employed various outreach methods to keep the community informed. This includes utilizing web-based platforms such as the Sarasota County website, where the most up-to-date documents, meeting dates, and contact information will be readily available. All comments from the meetings and public surveys were reviewed and incorporated into the plan text, goals, and prioritized mitigation actions list. At a minimum, public outreach strategies and engagement opportunities will be discussed during at least one quarterly LMS meeting to ensure continuous improvement in reaching the community.

To maximize participation, the LMS Working Group implemented a range of outreach initiatives. These included presentations at community events such as Community Emergency Response Team (CERT) training courses, schools, clubs, churches, and fairs, where residents learned about the progress of mitigation efforts. Additionally, questionnaires and surveys were distributed to assess public awareness and understanding of the plan. Feedback from these public surveys was analyzed, reviewed by Sarasota County, and considered in relation to future mitigation actions. Public meetings offered opportunities for direct feedback, while social media and other web-based platforms served as accessible channels for updates and engagement.

A key partnership between the LMS Working Group and the Regional Floodplain Management Planning and Coordination Committee has further enhanced public involvement, particularly in activities such as the adoption of new Flood Insurance Rate Maps for Sarasota County. This collaboration has led to the formation of a joint public outreach committee, which aims to integrate mitigation education and Community Rating System (CRS) outreach efforts into a single, streamlined initiative. By doing so, the committee can reduce costs, improve efficiency, and expand its reach to a greater number of Sarasota County residents.

Plan Evaluation

If no modifications are identified during the monitoring phase, the LMS Plan Committee, under the direction of the LMS Chair, will convene at least once per year to assess and review the LMS Plan in

accordance with evaluation criteria established by the Florida Division of Emergency Management (FDEM) and the LMS Working Group. This annual evaluation will take place within the first quarter of each calendar year and will be completed no later than the second quarter to ensure the review is finalized before the beginning of the hurricane season.

The LMS Working Group and/or the LMS Plan Committee will apply specific evaluation criteria when reviewing the plan. These criteria include, but are not limited to, the following:

- Identifying any new or revised laws, regulations, or policies that may necessitate updates to the LMS
- Determining whether any mandates from Federal, State, or local agencies require modifications to the LMS
- Assessing whether the goals and objectives of the LMS Working Group continue to align with current and anticipated conditions in Sarasota County
- Evaluating whether there have been significant changes in nature, severity, or types of risks affecting the county
- Reviewing the adequacy of available resources for effective plan implementation
- Identifying any technical, political, legal, financial, or interagency coordination challenges that may hinder implementation
- Determining whether the anticipated outcomes have been achieved as expected
- Reviewing the participation of jurisdictions and other partners to ensure alignment with the original plan
- Considering recommendations or lessons learned from incidents or events that occurred during the review cycle

This evaluation process ensures that the LMS remains relevant, effective, and aligned with evolving risks, regulatory requirements, and operational challenges within Sarasota County. If modifications are identified, the LMS Working Group will draft revisions to the plan text and mitigation action list. The revisions will be circulated for stakeholder and public review upon the LMS Working Group approval and submit updates to FDEM for acknowledgement or approval. The final version will then be posted on the County website. In all cases, a formal LMS Plan update is required not to exceed every five years.

Key Partnership

The Sarasota County LMS Working Group is dedicated to ensuring that hazard mitigation planning remains an ongoing and integrated process across all participating jurisdictions. As part of the group's regular activities, at least one quarterly meeting is dedicated to reviewing the plan's goals, objectives, priorities, and projects to ensure they are incorporated into local planning efforts. If any element is found to be misaligned or ineffective, it is the responsibility of each jurisdiction's representative to initiate changes through their own municipal process.

Each jurisdiction involved in the LMS Working Group (including Sarasota County, the City of Sarasota, the City of North Port, the City of Venice, and the Town of Longboat Key) has committed to following a structured approach for integrating mitigation efforts into their respective planning mechanisms. The group fosters collaboration, providing guidance and resources to ensure consistency across jurisdictions while allowing each member to tailor implementation to its specific needs.

Previous Plan Integration

The LMS Working Group has actively incorporated mitigation strategies into various planning mechanisms to streamline efforts, improve efficiency, and avoid duplication. A key example of this integration is the combination of the LMS Plan and the Floodplain Management Plan into a single document. In the past, these were separate plans, each requiring its jurisdictional board resolution. By consolidating them, the LMS Working Group has reduced redundancy, simplified the approval process, and created a more cohesive mitigation strategy. To ensure multi-jurisdictional integration, each participating jurisdiction in the planning area will incorporate its LMS actions into existing local mechanisms using its established internal process. The jurisdiction's LMS representative will coordinate with the appropriate departments to draft and advance any needed amendments through the regular staff and governing body procedures, ensuring the actions are incorporated during routine update cycles.

Additionally, the Sarasota County Comprehensive Emergency Management Plan (CEMP) has been shaped by previous LMS efforts. Many LMS Working Group members were directly involved in updating the 2019 CEMP, ensuring that jurisdictional descriptions and risk assessments aligned with hazard mitigation priorities. The risk assessment in the CEMP was originally based on the 2010 LMS Plan, and as it evolved, it became the foundation for the current LMS update, ensuring a data-driven and consistent approach to risk evaluation.

Another area where LMS strategies have been successfully integrated is in the Comprehensive Plans of each jurisdiction. Florida law mandates that municipalities submit an Evaluation and Appraisal Report (EAR) to the Florida Department of Community Affairs for approval. Several jurisdictions, including North Port, Venice, and Sarasota County, are currently undergoing this review, while Sarasota and Longboat Key are set to begin theirs in the upcoming year. The staggered timing of these reviews benefits the LMS Working Group, allowing the team to focus on supporting one or two jurisdictions at a time rather than managing all updates simultaneously.

Future Plan Integration

The responsibility for integrating LMS strategies into existing and future planning mechanisms lies with each jurisdiction's LMS representative. In that role, the representative works with the appropriate departments to identify needed amendments and move them through the normal staff review and governing body approval processes to ensure that LMS actions are incorporated during routine update cycles. The process for each begins with an audit of each jurisdiction's existing plans to determine which are scheduled for review. These findings are presented at LMS quarterly meetings, allowing jurisdictions to collaborate and develop a coordinated approach to mitigation strategy integration, leveraging the LMS

Plan to inform other plans. While the State of Florida Statutes and Administrative Law dictate specific procedures for amending certain plans, the LMS Working Group plays an essential role in facilitating discussions, outlining best practices, and providing technical support.

To integrate the plan's data, information, and mitigation goals and actions into other planning mechanisms, Sarasota County and each participating jurisdiction apply the LMS risk assessment datasets and findings during scheduled updates to their comprehensive plan elements, Land Development Code, Capital Improvement Program, Stormwater and Transportation Plans, and Floodplain Management/CRS Procedures. The jurisdiction's LMS representative coordinates with local officials to link specific LMS goals and prioritized actions to the element to be amended, works with the owning department to draft language or project entries, and advances them through the normal staff review and governing body adoption processes to ensure they are incorporated during routine update cycles.

One of the strengths of the LMS Working Group is its diverse membership, which includes professionals in urban planning, engineering, public works, emergency management, and zoning administration. These experts bring valuable insights and resources to the mitigation planning process. For example, some members serve as CRS coordinators, while others function as floodplain managers or public works officials. This broad range of expertise ensures that LMS strategies are integrated into relevant policies, programs, and planning documents in a meaningful and effective manner.

The LMS Working Group also works collaboratively with the Regional Floodplain Management Planning and Coordination Committee, further expanding opportunities for integration. This partnership has led to the creation of a joint public outreach committee, which merges mitigation education and CRS outreach efforts into a unified initiative. By combining these efforts, the group reduces costs, increases public awareness, and strengthens regional mitigation efforts.

By leveraging the collective expertise of its members, the LMS Working Group will continue to strengthen hazard mitigation strategies by integrating them into relevant planning mechanisms. Through collaborative efforts and ongoing assessments, Sarasota County and its municipalities will ensure that local mitigation priorities remain a key component of future planning, enhancing disaster resilience and community preparedness.

JURISDICTION-SPECIFIC PLAN INTEGRATION

Each planning participant is encouraged to integrate the LMS into their respective planning mechanisms within their own jurisdiction through a collaborative process. This begins with identifying relevant actions from the mitigation strategy that align with their department's or jurisdiction's goals, responsibilities, and ongoing initiatives. Participants then assess how these actions can be incorporated into existing or future plans, such as comprehensive plans, capital improvement plans, emergency operations plans, and land-use development.

Integration is achieved by reviewing plans, identifying alignment opportunities, and incorporating mitigation priorities into routine planning updates. This process ensures that hazard mitigation is not treated as a standalone effort but as a core component of long-term community planning, infrastructure

development, and regulatory decision-making. Regular communication and coordination across departments and jurisdictions further support consistent implementation and accountability. Ultimately, each jurisdiction retains the authority to formally adopt mitigation-related policies, programs, and plans through its governing body. The structure of these decision-making entities varies by jurisdiction/member:

- Sarasota County operates under a five-member Board of County Commissioners (Commission/County Administrator system).
- The City of Sarasota is governed by a five-member City Commission, including a Mayor and Vice-Mayor (City Commissioner/City Manager system).
- The City of North Port functions under a five-member City Commission, including a Mayor and Vice-Mayor (City Commissioner/City Manager system).
- The City of Venice follows a seven-member City Council structure, including a Mayor and Vice-Mayor (Council/Manager system).
- Town of Longboat Key is governed by a seven-member Town Commission, including a Mayor and Vice-Mayor (Town Commission/Town Manager system).
- Sarasota Bradenton International Airport is owned and operated by the Sarasota Manatee Airport Authority (SMAA), which is a public agency created by the State of Florida; it is composed of six commissioners who are appointed by the Governor.
- Englewood Fire Control District is comprised of five elected Fire Commissioners who serve four-year terms.
- Sarasota County Schools is governed by the Sarasota County School Board, which is composed of five members who are elected countywide.
- Sarasota Memorial Hospital is governed by the Sarasota County Public Hospital Board, which is composed of nine publicly elected citizens.

Update Schedule

As discussed earlier, the LMS Plan Committee will convene at least once per year to assess and review the LMS Plan in accordance with evaluation criteria established by FDEM and the LMS Working Group. This annual evaluation will take place within the first quarter of each calendar year and will be completed no later than the second quarter to ensure the review is finalized before the beginning of the hurricane season.

If the LMS Plan Committee determines that an update or modification to the LMS Plan is necessary, the committee will draft the proposed changes along with the relevant supporting documentation. This information will then be presented to the LMS Working Group for review. The presentation of these updates can take place during a regularly scheduled meeting, or a special session convened by the Chair as needed.

The LMS Working Group will determine the appropriate course of action based on the significance of the proposed changes. If the modifications are considered minor, as determined by the County Administrator, City/Town Manager, or Working Group Chair, the LMS Working Group voting members can approve and adopt the changes directly. However, if the modifications are classified as major, also determined by the County Administrator, City/Town Manager, or Working Group Chair, the LMS Working Group voting members may approve the updates, but each jurisdiction must then follow its respective Resolution process to formally adopt the changes.

In accordance with the Sarasota County Emergency Management Strategic Plan Document Maintenance Program, the LMS Committee Chair will be responsible for overseeing plan updates, and will follow formal update schedules set out in State and Federal guidelines for review and approval by FDEM and FEMA.

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Appendix A: Comprehensive Hazard Analysis

Appendix A: Comprehensive Hazard Analysis

The County has conducted a Threat Hazard Identification and Risk Assessment (THIRA) in accordance with the Department of Homeland Security (DHS) Comprehensive Planning Guide (CPG) 201. For the Sarasota County THIRA, the stakeholder group collaboratively analyzed more than 40 threats and hazards across the three standardized categories: Natural, Technological, and Human-Caused. Each item was evaluated for both likelihood and impact. Not all possible hazards are included in the THIRA; rather, these threats must meet the “reasonably likely” threshold per the CPG. The THIRA identifies 10 threats and hazards of concern for Sarasota County:

1. Tropical Cyclone
2. Flood
3. Wildland Fire
4. Hazardous Materials Release
5. Cyberattack on Data
6. Pandemic
7. Structural Collapse (Building)
8. Chemical/Biological/Nuclear/Radiological Terrorism
9. Active Assailant
10. Marine Traffic Incident

Items 1, 2, and 3 are natural hazards that are profiled in detail within the main body of the Local Mitigation Strategy Plan. Additional information on the Human-caused and Technological threats and hazards of concern is provided here to ensure a comprehensive record of hazards facing the community.

Hazardous Materials

Table 82 presents a comprehensive consequence analysis of the effects of hazardous materials (HAZMAT) incidents, detailing its impact on the public, first responders, continuity of operations (COOP), property, infrastructure, the environment, economic conditions, and public confidence.

Table 82: Consequence Analysis of a Hazardous Materials Incident

Area Affected	Consequences
Public	<ul style="list-style-type: none"> • Housing: Residential areas near the release site may require shelter-in-place orders, evacuation, or long-term relocation depending on the severity and type of material released. Contaminated homes may need extensive decontamination or demolition, and returning may not be immediately safe.

Area Affected	Consequences
	<ul style="list-style-type: none"> • Casualties/Fatalities: HAZMATs can cause serious injury or death through inhalation, skin contact, or ingestion. Vulnerable individuals, such as children, seniors, and those with preexisting conditions, face elevated risks during toxic exposures. • Work: Businesses in the affected zone may close due to safety concerns or contamination. Employees may be at risk during the initial release, and cleanup timelines could significantly delay reopening, impacting livelihoods. • Food/Water: Contamination of agricultural fields, livestock, or local water supplies can lead to food insecurity. Products may be deemed unsafe for consumption, requiring destruction and rerouting of supply chains until safety is confirmed.
First Responders	<ul style="list-style-type: none"> • HAZMAT incidents require trained personnel equipped with specialized protective gear. Firefighters, emergency medical services, and law enforcement may be exposed to chemical, biological, or radiological hazards during response. Long-term health monitoring may be necessary for those who responded in the “hot zone.” The need for coordination between local, state, and federal response teams is often high.
Continuity of Operations	<ul style="list-style-type: none"> • Government facilities located within or near the impact zone may be temporarily shut down. Critical services—such as public health, emergency coordination, or utilities—may operate in limited capacity or shift to alternate locations. Agencies must rely on emergency response plans to maintain vital functions throughout the incident and recovery phases.
Property, Facility, and Infrastructure	<ul style="list-style-type: none"> • Structures: Facilities directly exposed to hazardous substances may face structural damage, material corrosion, or contamination that renders them unusable. Cleanup and certification can take months or longer depending on the severity • Utilities: Water treatment plants, electrical systems, or gas lines near the release area may be compromised. In some cases, entire networks may be shut down to prevent spread or ignition. • Transportation Systems: A HAZMAT spill on a roadway, railway, or at an industrial site can lead to extended closures, rerouting, and economic delays. Railcars, trucks, and pipelines involved in the release may be permanently decommissioned.
Environment	<ul style="list-style-type: none"> • HAZMATs can seep into soil, groundwater, and surface water, posing long-term ecological threats. Wildlife may be poisoned, and plant life destroyed. Depending on the material, persistent environmental damage may last years and require ongoing remediation, monitoring, and habitat restoration.
Economic Conditions	<ul style="list-style-type: none"> • Economic disruption may be felt immediately through business closures, emergency response costs, and supply chain interruptions. Agriculture, manufacturing, and transportation sectors are especially vulnerable. Property values in affected areas may drop, and insurance premiums may rise. Prolonged cleanup periods can lead to lasting regional economic instability.

Area Affected	Consequences
Public Confidence	<ul style="list-style-type: none"> Community trust hinges on how effectively and transparently officials respond. Delays in communication, poor risk messaging, or visible safety failures can trigger fear, protest, or resistance to reentry orders. Long-term credibility depends on consistent public updates, health screenings, and environmental testing results being clearly shared with the community.

Cyberattack on Data

Table 83 presents a comprehensive consequence analysis of the effects of a data cyberattack incident, detailing its impact on the public, first responders, COOP, property, infrastructure, the environment, economic conditions, and public confidence.

Table 83: Consequence Analysis of a Data Cyberattack Incident

Area Affected	Consequences
Public	<ul style="list-style-type: none"> People: Individuals could suffer identity theft or financial loss if personal data (e.g., Social Security numbers, banking information, health records) is compromised. Access to essential digital services, such as utilities or public benefit portals, may be disrupted. Casualties/Fatalities: Although cyberattacks rarely cause direct physical harm, attacks on healthcare or critical infrastructure systems (like emergency dispatch) can delay medical response, potentially contributing to loss of life in extreme scenarios. Work: Employees may be locked out of workplace systems, experience payroll delays, or be subject to layoffs if company operations are significantly impacted. Widespread breaches may force temporary business closures, especially in data-reliant sectors.
First Responders	<ul style="list-style-type: none"> Emergency services may face limited access to dispatch systems, mapping tools, or communication networks. Law enforcement, fire departments, and EMS units may be forced to revert to manual processes, slowing response times. If internal systems are compromised, responders may also be targets of phishing or ransomware threats.
Continuity of Operations	<ul style="list-style-type: none"> Government entities risk losing access to vital records, financial systems, and communication platforms. Affected agencies may need to activate backup systems, initiate manual workflows, or suspend non-essential services. Without pre-established cyber incident response plans, delays in service restoration can severely hinder governance.
Property, Facility, and Infrastructure	<ul style="list-style-type: none"> Structures: Physical buildings may remain intact, but operations within are often paralyzed by loss of access to electronic systems, data servers, and building management platforms (e.g., HVAC, access control). Utilities: Industrial control systems, like those managing power grids or water treatment facilities, are potential targets. A breach could cause outages, system malfunctions, or data corruption.

Area Affected	Consequences
	<ul style="list-style-type: none"> • Transportation Systems: Railways, airports, and shipping operations reliant on automated systems may experience delays, cancellations, or safety protocol failures.
Environment	<ul style="list-style-type: none"> • Although environmental impacts are usually indirect, a cyberattack on wastewater treatment or chemical plants could result in improper discharge or hazardous releases. System failures that delay early warning notifications for wildfires, air quality, or hazardous spills can also elevate environmental risk.
Economic Conditions	<ul style="list-style-type: none"> • The financial fallout of a major cyberattack includes business interruption losses, data recovery costs, regulatory fines, and customer attrition. Smaller businesses often struggle to recover. For large-scale incidents, investor confidence, credit markets, and regional economies can be affected for weeks or months.
Public Confidence	<ul style="list-style-type: none"> • The public's perception of digital security depends on the speed and transparency of the response. Delays in notifying victims, lack of support for identity protection, or vague messaging can erode trust in institutions. Rebuilding public confidence requires clear communication, accountability, and visible security upgrades.

Pandemic

Table 84 presents a comprehensive consequence analysis of the effects of a pandemic, detailing its impact on the public, first responders, COOP, property, infrastructure, the environment, economic conditions, and public confidence.

Table 84: Consequence Analysis of a Pandemic

Area Affected	Consequences
Public	<ul style="list-style-type: none"> • Housing: Households may be required to quarantine or isolate, especially in multi-family dwellings where the spread of illness is more likely. Access to services such as maintenance, food delivery, or healthcare may be limited due to workforce shortages or restrictions. • Casualties/Fatalities: A widespread outbreak can overwhelm hospitals, leading to increased mortality, particularly among vulnerable populations such as the elderly or those with preexisting health issues. Delays in care for both pandemic-related and unrelated conditions can contribute to fatal outcomes. • Work: Many businesses face closures or limited operations due to stay-at-home orders, illness among employees, or supply chain interruptions. Remote work becomes essential for some industries, while others—particularly service and manual labor sectors—experience mass layoffs or reduced hours. • Food/Water: Panic buying, labor shortages, and transport restrictions can interrupt the supply of groceries and clean water. Food insecurity may rise as the economic impacts of the pandemic deepen and assistance programs become strained.

Area Affected	Consequences
First Responders	<ul style="list-style-type: none"> Emergency personnel face heightened risk of infection, particularly early in a pandemic before protective measures are widely adopted. Staffing shortages due to illness or quarantine protocols can reduce response capacity. Mental and physical fatigue from prolonged crisis operations can affect performance and well-being.
Continuity of Operations	<ul style="list-style-type: none"> Government agencies may need to shift to remote or limited service delivery models. COOP plans must support sustained functioning despite absenteeism and public health restrictions. Critical services such as public safety, health, and sanitation require prioritization, and alternative staffing models may be needed.
Property, Facility, and Infrastructure	<ul style="list-style-type: none"> Structures: Public buildings like schools, libraries, and offices may close to prevent transmission. Reopening often requires retrofitting for improved ventilation, sanitation stations, and physical distancing. Utilities: Infrastructure services typically remain active but may experience delays due to sick staff or supply shortages. Maintaining electric, water, and internet access becomes essential for homebound populations.
Environment	<ul style="list-style-type: none"> Reduced travel and industrial activity can temporarily improve air and water quality. However, increased medical waste, including masks, gloves, and testing materials, presents a new environmental challenge. Wildlife habitats may be affected by changes in human activity, both positive and negative.
Economic Conditions	<ul style="list-style-type: none"> A pandemic can trigger widespread economic instability. Small businesses are especially vulnerable, and unemployment rates often spike. Markets may respond with volatility, and government stimulus efforts are often required to stabilize the economy. Recovery timelines vary depending on the duration and severity of the outbreak.
Public Confidence	<ul style="list-style-type: none"> Public trust in institutions depends heavily on the clarity, accuracy, and consistency of official communication. Conflicting guidelines, misinformation, or unequal access to healthcare can erode confidence. Transparent leadership, coordinated messaging, and community support resources are critical for maintaining social cohesion and compliance with public health measures.

Structural Building Collapse

Table 85 presents a comprehensive consequence analysis of the effects of a structural building collapse, detailing its impact on the public, first responders, COOP, property, infrastructure, the environment, economic conditions, and public confidence.

Table 85: Consequence Analysis of a Structural Building Collapse

Area Affected	Consequences
Public	<ul style="list-style-type: none"> Housing: When residential buildings collapse, occupants may be killed, injured, or displaced, often without warning. Even neighboring structures may be

Area Affected	Consequences
	<p>declared unsafe until inspections are completed. Survivors may face long-term housing instability, especially if affordable alternatives are limited.</p> <ul style="list-style-type: none"> • Casualties/Fatalities: Structural failures often lead to immediate injuries or fatalities due to falling debris, entrapment, or secondary hazards such as fire or gas leaks. Search and rescue operations must move quickly to save those trapped beneath rubble, often under unstable conditions. • Work: If a commercial or office building collapses, on-site workers may be injured or killed. Businesses may suffer long-term disruptions, layoffs, or permanent closure due to asset loss, liability claims, or building code violations uncovered during the investigation.
First Responders	<ul style="list-style-type: none"> • Firefighters, search and rescue teams, and EMS must act quickly but cautiously to locate survivors while avoiding secondary collapses. Specialized tools and structural engineers are often required to support operations. These events are physically and emotionally demanding, especially when fatalities are high or children are involved.
Continuity of Operations	<ul style="list-style-type: none"> • Government services may be disrupted if municipal buildings or public housing structures are affected. Temporary relocation of departments and employees may be necessary. Essential operations must continue despite possible damage to IT infrastructure, physical records, or centralized emergency functions.
Property, Facility, and Infrastructure	<ul style="list-style-type: none"> • Structures: A collapsed building typically results in total loss. Nearby properties may also suffer damage due to falling debris, shockwaves, or fire spread. Inspections may uncover further safety concerns in adjacent facilities. • Utilities: Gas, electric, and water lines may be severed during the collapse, increasing the risk of fire, flooding, or electrocution. Restoration is often delayed until debris is cleared and safety can be confirmed. • Transportation Systems: Collapses near roadways, train lines, or transit hubs can block travel routes and create safety hazards. Emergency access routes may need to be rerouted while rubble removal and stabilization efforts are underway.
Environment	<ul style="list-style-type: none"> • Structural collapse may result in the release of HAZMATs, such as asbestos, lead paint, or industrial chemicals. Dust and debris can pollute local air and water sources, especially in urban environments. Environmental remediation may be required before redevelopment or reoccupation.
Economic Conditions	<ul style="list-style-type: none"> • A major collapse can carry significant financial consequences. Property loss, legal liability, insurance claims, and lawsuits may financially devastate property owners, developers, and municipalities. Local economies may feel ripple effects, particularly if a prominent building or employer is affected.
Public Confidence	<ul style="list-style-type: none"> • The public's trust in local government, developers, and safety inspectors often suffers after a collapse, especially if negligence, poor construction practices, or regulatory failure is involved. Transparent investigations, accountability, and swift action to inspect similar structures are critical to restoring confidence.

Chemical/Biological/Radiological/Nuclear Terrorism

Table 86 presents a comprehensive consequence analysis of the effects of a CBRN terrorism incident, detailing its impact on the public, first responders, COOP, property, infrastructure, the environment, economic conditions, and public confidence.

Table 86: Consequence Analysis of a Chemical/Biological/Radiological/Nuclear Terrorism Incident

Area Affected	Consequences
Public	<ul style="list-style-type: none"> • Housing: Residences near the attack zone may require evacuation, decontamination, or long-term abandonment- especially in radiological or biological scenarios. Chemical agents may seep into buildings, necessitating extensive cleanup before re-occupancy. • Casualties/Fatalities: CBRN attacks can result in mass injuries or fatalities depending on the agent used. Victims may suffer from acute symptoms or develop long-term illnesses, with delayed health effects particularly common in radiation and biological exposures. • Work: Workplaces in or near the impacted area may close for an extended period due to contamination risk, investigation, or cleanup. Employees may face exposure, psychological trauma, or displacement, leading to long-term absenteeism and reduced productivity. • Food/Water: Affected regions may see contamination of water supplies, crops, or livestock. Depending on the agent involved, authorities may need to destroy food stocks or restrict water use to prevent further spread or ingestion of harmful substances.
First Responders	<ul style="list-style-type: none"> • Responding to a CBRN (chemical, biological, radiological, and nuclear) incident requires specialized training and protective equipment. HAZMAT teams, public health officials, and law enforcement must coordinate closely. High-risk exposure levels may limit time spent on scene, and responder safety is a priority. After the initial response, long-term medical monitoring may be necessary for those who entered contaminated zones.
Continuity of Operations	<ul style="list-style-type: none"> • Government functions may be interrupted if key facilities are exposed or if employees require quarantine or evacuation. Vital records, communications infrastructure, and emergency coordination centers must remain operational, preferably from alternate sites. Preparedness plans for mass casualty management and continuity of leadership are critical during extended disruptions.
Property, Facility, and Infrastructure	<ul style="list-style-type: none"> • Structures: Buildings in the affected zone may be rendered unsafe due to contamination. Decontamination is time-consuming, expensive, and may involve destruction of materials that cannot be cleaned. • Utilities: Power, water, and HVAC (heating, ventilation, and air conditioning) systems may spread contaminants if not promptly shut down or filtered. Infrastructure must be inspected for chemical or radiological residues before resuming operations.

Area Affected	Consequences
	<ul style="list-style-type: none"> • Transportation Systems: Highways, airports, and transit hubs may shut down during and after the incident to contain the spread, facilitate decontamination, or support response logistics.
Environment	<ul style="list-style-type: none"> • CBRN agents can persist in soil, water, and air, with varying degrees of toxicity and half-life. Wildlife and ecosystems may suffer long-term consequences, especially from radioactive fallout or persistent chemicals. Cleanup efforts must consider both immediate containment and long-term ecological monitoring.
Economic Conditions	<ul style="list-style-type: none"> • Regional economies may experience major downturns due to evacuations, business closures, and loss of consumer confidence. Agricultural or industrial sectors may face export restrictions if contamination is suspected. Recovery costs are typically very high, especially for large-scale biological or radiological releases.
Public Confidence	<ul style="list-style-type: none"> • Trust in government and public health institutions is shaped by how quickly and effectively the response unfolds. Inadequate communication, delays in treatment, or visible gaps in preparedness can undermine public confidence. Long-term psychological effects and misinformation may persist, requiring sustained engagement and transparency.

Active Assailant

Table 87 presents a comprehensive consequence analysis of the effects of an active assailant event, detailing its impact on the public, first responders, COOP, property, infrastructure, the environment, economic conditions, and public confidence.

Table 87: Consequence Analysis of an Active Assailant Event

Area Affected	Consequences
Public	<ul style="list-style-type: none"> • Housing: While residential structures are generally not the primary targets in active assailant events, those located near high-risk areas (e.g., schools, commercial centers) may face indirect impacts such as lockdowns or restricted access. Residents of these structures may also face psychological trauma. • Casualties/Fatalities: Active assailant incidents often result in multiple injuries or deaths before law enforcement intervention. Civilians without access to secure shelter or timely warning systems are at greater risk. • Work: Businesses located at or near the site of an attack may face closures during investigations or during the recovery phase. Employee safety concerns and long-term mental health effects can impact workforce stability.
First Responders	<ul style="list-style-type: none"> • Law enforcement, emergency medical services (EMS), and fire services must respond rapidly to neutralize the threat and secure the area. These situations are highly dangerous and emotionally taxing. Coordinated response with specialized units (e.g., SWAT or tactical EMS) is often necessary. Delays or inadequate response can result in increased casualties. Responder mental health and trauma exposure remain critical considerations during recovery.

Area Affected	Consequences
Continuity of Operations	<ul style="list-style-type: none"> Government offices and agencies may face disruption if targeted directly or located near the incident. Security assessments, evacuations, or investigations can delay services. Robust COOP protocols enable agencies to maintain critical functions even in the wake of a security breach or prolonged facility closure.
Property, Facility, and Infrastructure	<ul style="list-style-type: none"> Structures: Physical damage may result from gunfire, forced entry, or tactical interventions. Buildings may be shut down for forensic investigations and repairs. Schools, entertainment venues, and public buildings often require significant retrofitting or redesigns to enhance future safety. Electricity and Utilities: Utility disruptions are uncommon but possible if the event leads to damage of building systems or necessitates a shutdown for safety. Transportation Infrastructure: Nearby streets and transit systems may be closed during emergency response or investigations, restricting movement and delaying commutes or deliveries.
Environment	<ul style="list-style-type: none"> Environmental impacts are typically minimal, but hazardous materials (e.g., in labs or industrial settings) could pose risks if breached during an incident. Bloodborne pathogens and trauma-related biohazards may require specialized cleanup procedures.
Economic Conditions	<ul style="list-style-type: none"> Local economies may suffer due to closures, reduced consumer confidence, or tourism impacts if the event gains media attention. Businesses in the area may struggle to recover, especially small operations lacking insurance or emergency funds. Reputational damage can affect economic activity long after the event.
Public Confidence	<ul style="list-style-type: none"> The effectiveness of the emergency response and the transparency of public communication significantly influence community trust. Delays in providing information, support services, or security enhancements can erode confidence in local institutions. Long-term recovery often requires mental health outreach and public reassurance campaigns.

Marine Traffic Incident

Table 88 presents a comprehensive consequence analysis of the effects of a marine traffic incident, detailing its impact on the public, first responders, COOP, property, infrastructure, the environment, economic conditions, and public confidence.

Table 88: Consequence Analysis of a Marine Traffic Incident

Area Affected	Consequences
Public	<ul style="list-style-type: none"> Housing: Coastal communities near a marine traffic incident involving hazardous cargo, oil, or fuel may face evacuations or health advisories due to air or waterborne contaminants. In some cases, waterfront property use may be restricted due to contamination, access limitations, or environmental hazards.

Area Affected	Consequences
	<ul style="list-style-type: none"> • Casualties/Fatalities: Accidents involving passenger vessels can result in injuries or fatalities, particularly if evacuation is delayed or safety systems fail. Collisions and groundings may also pose risks to nearby recreational boaters and coastal populations. • Work: Local economies reliant on ports, shipping, or tourism may experience temporary shutdowns or long-term slowdowns. Disrupted ferry service, port closures, or beach contamination can impact jobs in transport, logistics, fishing, and hospitality sectors.
First Responders	<ul style="list-style-type: none"> • Response operations often require coordination between the Coast Guard, local marine units, environmental agencies, and fire/rescue personnel. Marine traffic accidents involving hazardous substances require specialized containment, firefighting, or rescue equipment. Rescue conditions are often challenging due to weather, water conditions, and the size or type of vessel involved.
Continuity of Operations	<ul style="list-style-type: none"> • Port authorities and maritime agencies may suspend operations following an incident, affecting customs, shipping logistics, and emergency services. Damage to port infrastructure or loss of shipping channels can limit the movement of essential goods. Emergency management plans must address alternate supply routes and maintain core services if critical imports are delayed.
Property, Facility, and Infrastructure	<ul style="list-style-type: none"> • Structures: Docks, piers, navigational aids, and moored vessels may be damaged or destroyed in collisions or accidents. Oil spills or cargo loss may contaminate port infrastructure, requiring significant cleanup. • Utilities: Coastal utilities like desalination plants, waterfront pumping stations, or marine energy systems may be temporarily shut down due to contamination risk or debris. • Transportation Systems: Shipping lanes may close during investigation and cleanup. Disrupted ferry routes or port delays can ripple across land-based transportation networks, particularly in island or coastal regions where marine transit is vital.
Environment	<ul style="list-style-type: none"> • Marine incidents can lead to serious ecological harm, including oil or HAZMAT spills. Coastal habitats—such as coral reefs, wetlands, and estuaries—may suffer long-term degradation. Wildlife including fish, birds, and marine mammals may be killed or displaced. Cleanup efforts are often complex and prolonged, particularly in sensitive ecosystems.
Economic Conditions	<ul style="list-style-type: none"> • Economic losses can include port revenue disruption, damaged goods, and commercial fishery closures. Tourism-dependent regions may suffer declines due to beach contamination, boating restrictions, or negative media coverage. Insurance claims and vessel salvage operations can be costly and time-consuming.
Public Confidence	<ul style="list-style-type: none"> • The community’s faith in maritime oversight and environmental stewardship often depends on how swiftly and transparently the response unfolds. Poor communication, environmental damage, or extended disruptions may result in frustration, activism, or litigation. Clear updates, visible cleanup progress, and accountability are key to restoring trust.

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