

March 2026

DeSoto County Vulnerability Assessment

FDEP AGREEMENT: 23PLN109



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FDEP AGREEMENT NO. 23PLN109

DESOTO COUNTY VULNERABILITY ASSESSMENT INCLUDING ARCADIA



March 31, 2026

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Cover Page Image references:

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- <https://www.wusf.org/culture/2014-08-09/arcadia-moves-on-10-years-after-hurricane-charley>
- <https://www.news-press.com/story/news/state/2024/01/16/florida-floods-cost-feds-hundreds-of-millions-in-rebuild-costs/72192111007/>

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EXECUTIVE SUMMARY

Project Title

DeSoto County Vulnerability Assessment including Arcadia

Project Location

The project is located in DeSoto County, Florida. A location map outlining the DeSoto County study area for the project has been provided in Figure 1.

DeSoto County, designated as one of Florida's Rural Areas of Opportunity (section 288.0656(d), Florida Statutes), is a rural, inland county in southwest central Florida, covering approximately 637 square miles. Known for its strong agricultural heritage, the county is a major hub for cattle ranching, citrus production, and row crops. Arcadia, the county seat, serves as the cultural and economic center of DeSoto County, hosting historic sites, local markets, and the annual Arcadia Rodeo, which celebrates the region's deep-rooted ranching traditions. The 2025 estimated population of DeSoto County was 35,947 (University of Florida Bureau of Economic and Business Research).

The Peace River flows through DeSoto County, providing vital water resources for agriculture, wildlife, and recreation. This river is a key feature of the county's landscape, supporting diverse ecosystems and serving as a popular destination for fishing, kayaking, and fossil hunting. However, the Peace River also poses flood risks, particularly during heavy rainfall and tropical systems. Low-lying areas and communities near the river are especially vulnerable to flooding, which can impact homes, infrastructure, and agricultural operations.

DeSoto County has faced significant flooding events in recent years due to hurricanes and tropical storms. In 2017, Hurricane Irma caused the Peace River to crest at historic levels, leading to widespread flooding and damage. More recently, in September 2022, Hurricane Ian brought record-breaking rainfall, causing severe river flooding that displaced residents and inundated roadways. These events highlight the county's ongoing challenges with flood management and the importance of resilience planning to mitigate future risks while preserving the region's agricultural and natural resources.

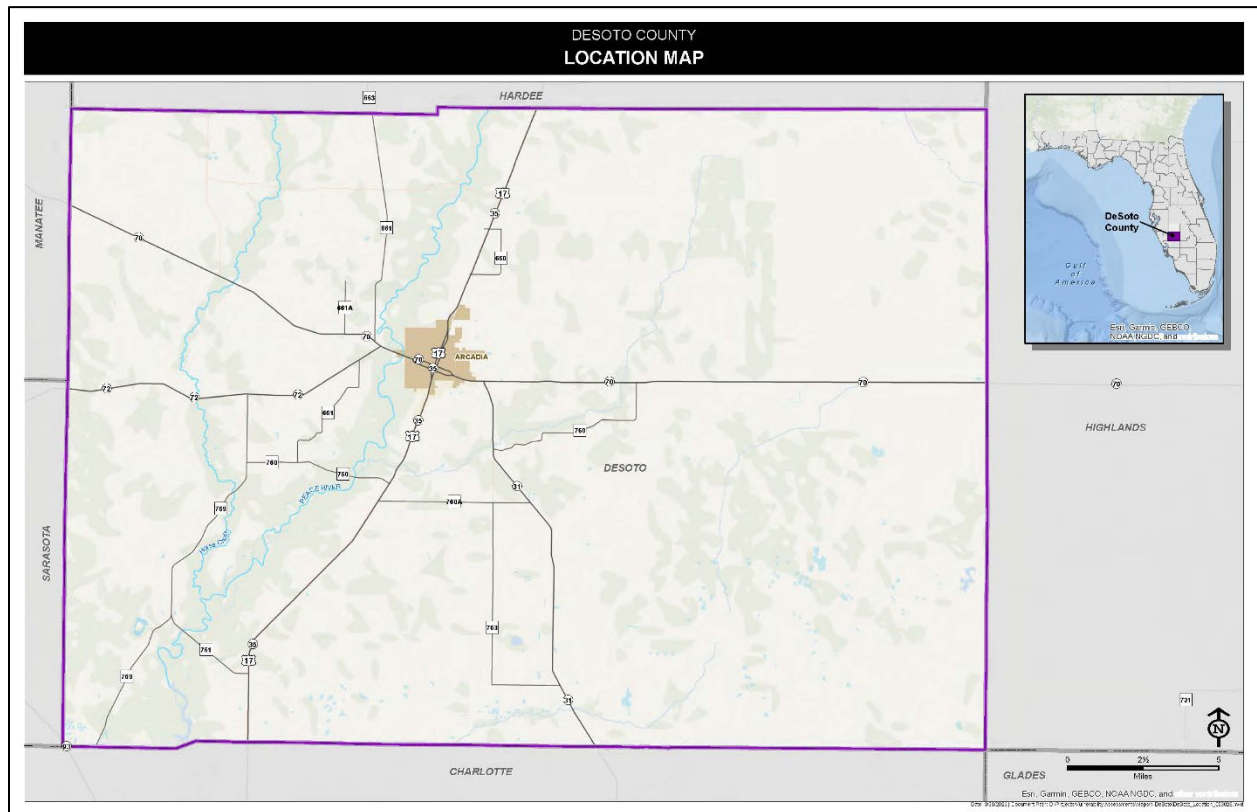
Project Description

DeSoto County Board of County Commissioners, in partnership with the Central Florida Regional Planning Council, completed the DeSoto County Vulnerability Assessment (VA) including Arcadia Project to include a comprehensive Vulnerability Assessment (VA) pursuant to Section 380.093, Florida Statutes (F.S.). The Project included public outreach and stakeholder engagement.

Purpose

This document is provided to ensure state-funded Vulnerability Assessments (VAs) are standardized to meet the requirements of the statute, s. 380.093, F.S., and to maximize funding for the Florida Department of Environmental Protection's Resilient Florida Program grant awardees. The standardized scope of work guidance is designed to assist local governments, both coastal and noncoastal, in developing the project and project cost estimates, and assist with communicating requirements to consultants, when applicable, in the preparation of a statutorily compliant VA. Additionally, a minimum standard for locally performed VAs are necessary to provide a common framework for the development of a statewide assessment. This guidance will refer to the "project team" which represents either the local government and/or any contracted third parties including consultants, project managers, GIS professionals, engineers, hydrologists, etc.

Figure 1: DeSoto County Location Map



ACRONYMS & ABBREVIATIONS

Table 1: Acronyms and Abbreviations

500-year Flood Event	.2% Annual Chance
200-year Flood Event	.5% Annual Chance
100-year Flood Event	1% Annual Chance
AAA	Adaptation Action Area
CA	Critical Asset
CCVI	Climate Change Vulnerability Index
CFRPC	Central Florida Regional Planning Council
CHHA	Coastal High Hazard Area
CIP	Capital Improvement Plan
CPA	Community Planning Act
CRS	Community Rating System
CVI	Coastal Vulnerability Index
DCIA	Directly Connected Impervious Area
DEM	Digital Elevation Model
DSAS	Digital Shoreline Analysis System
EAR	Evaluation and Appraisal Review
EPA	United States Environmental Protection Agency
F.S.	Florida Statutes
FDEM	Florida Division of Emergency Management
FDEP	Florida Department of Environmental Protection
FDOT	Florida Department of Transportation
FEMA	Federal Emergency Management Agency
FFE	First Floor Elevation
FIRM	Flood Insurance Rate Map
GDB	Geodatabase
GI	Green Infrastructure
GIS	Geographic Information System
LID	Low Impact Development
LiDAR	Light Detection and Ranging
LMS	Local Mitigation Strategy
MHHW	Mean Higher High Water
NFIP	National Flood Insurance Program
NHM	National Hydrologic Model
NOAA	National Oceanic and Atmospheric Administration
SFHA	Special Flood Hazard Area
SLOSH	Sea, Lake, and Overland Surges from Hurricanes
SLR	Sea Level Rise
TDR	Transfer of Development Rights
TIA	Total Impervious Area
USACE	United States Army Corps of Engineers
USGS	United States Geological Survey
VA	Vulnerability Assessment
WTP	Water Treatment Plant
WWTP	Wastewater Treatment Plant

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COMMITTEE AND MEETINGS

Kick Off Meeting

A project kickoff meeting was convened on March 25, 2024, with key stakeholders representing DeSoto County, and the Central Florida Regional Planning Council. The purpose of this meeting was to formally initiate the vulnerability assessment process, confirm project objectives, and ensure alignment among participating agencies. During the session, the project team presented and reviewed the proposed scope of work, including key technical components such as hazard identification, exposure analysis, and risk characterization. The project schedule, including major milestones, deliverables, and coordination checkpoints, was also discussed to establish a clear timeline for completion and to ensure compliance with applicable state guidance and funding requirements.

In addition, the project team provided an overview of the datasets compiled prior to the kickoff meeting, including baseline geographic, infrastructure, and environmental data intended to support the assessment. Stakeholders engaged in a collaborative discussion to identify additional data needs, verify data accuracy, and highlight any existing data gaps that could affect the robustness of the analysis. Specific datasets related to critical assets, hydrologic conditions, and hazard modeling were requested to enhance the technical foundation of the study. Furthermore, potential members of a project steering committee were identified to support ongoing coordination, provide subject matter expertise, and guide key decision-making throughout the assessment process. This early coordination effort established a strong framework for interagency collaboration and data-driven analysis moving forward.

Steering Committee Meeting

Steering Committee members were identified, vetted, and formally confirmed during the initial committee meeting held on April 18, 2024. This meeting established the foundation for a coordinated, multi-agency governance structure to guide the vulnerability assessment process. Participation included representatives from DeSoto County, regional partners, the Florida Department of Transportation, the Southwest Florida Water Management District, the City of Arcadia, and technical subject matter experts to ensure a comprehensive and interdisciplinary approach.



Figure 2: DeSoto County Steering Committee Meeting April 18, 2024

Following these initial meetings, the Steering Committee convened regularly throughout the duration of the project to review interim findings, evaluate draft deliverables, and provide technical guidance on key analytical components. These iterative meetings facilitated a transparent and collaborative review process, allowing for refinement of methodologies, validation of results, and incorporation of local knowledge. To support stakeholder engagement and enhance data accessibility, an interactive map viewer was developed to visualize spatial datasets, hazard scenarios, and exposure results in a user-friendly format. This tool enabled committee members to explore and assess vulnerabilities in real time, strengthening informed decision-making, and ensuring that the final assessment reflects both robust technical analysis and stakeholder input.

Public Outreach Meetings and Presentations



Figure 3: DeSoto County VA Public Engagement
March 19, 2026

The first public outreach meeting was held on April 18, 2024, at the Turner Agri-Civic Center Exhibit Hall. This meeting served as the initial opportunity for community members to participate in the vulnerability assessment process during the early data collection phase. The purpose of the meeting was to gather local knowledge, identify community priorities, and better understand perceived risks and vulnerabilities from a public perspective. Attendees provided valuable input on key guiding factors, including areas of concern related to

flooding, infrastructure resilience, and environmental conditions, as well as the identification of critical community assets for further evaluation.

To support effective outreach and encourage meaningful participation, the County prepared a comprehensive suite of engagement materials. These materials included public notices, social media announcements, meeting invitations, presentations, graphics, and other supporting documentation designed to clearly communicate project objectives and facilitate informed discussion. During the outreach meetings, the project also showcased the project's interactive map viewer, which allowed participants to explore spatial data, view preliminary hazard information, and provide location-specific feedback in real time. This engagement ensured that both technical data and community perspectives informed the assessment process from the onset. Additional outreach meetings and presentations were conducted throughout the project to provide updates on progress, share preliminary findings, and solicit ongoing feedback from stakeholders and the public. The continued use of the interactive map viewer throughout these meetings enhanced transparency and accessibility by enabling stakeholders to visualize vulnerabilities and proposed analysis results. These efforts helped foster community trust, encourage informed dialogue, and ensure that public input was meaningfully incorporated into the final vulnerability assessment.

ACQUIRE BACKGROUND DATA

The acquisition of background data is a critical foundational step in the development of the Vulnerability Assessment (VA) and was conducted in accordance with the requirements outlined in Section 380.093, Florida Statutes. This task involved the identification, research, and compilation of all relevant datasets necessary to support a comprehensive and technically sound assessment. Consistent with state guidance, three primary categories of data were required:

1. *An inventory of critical and regionally significant assets,*
2. *Topographic and elevation data, and*
3. *Flood scenario-related data.*

For DeSoto County, the flood scenario analysis focused on inland flooding conditions, including rainfall-driven flooding and associated hydrologic responses. Even though DeSoto County is not a coastal county, it is influenced by sea level rise and storm surge, and these scenarios are included in this assessment.

The analysis emphasized precipitation-based flooding and localized flood risk conditions relevant to the County's geography and watershed characteristics. Geographic Information System (GIS) data and associated metadata were developed to include distinct layers representing each of the four asset classes defined in section 380.093(2)(a)1–4, Florida Statutes, ensuring consistency with statewide standards. All GIS files and metadata adhere to the Resilient Florida Program's GIS Data Standards, and original data sources are documented within the metadata to maintain transparency and reproducibility.

Data Gathering Methodology

The County, in partnership with the Central Florida Regional Planning Council, facilitated a series of meetings to support the project's data development and ensure stakeholder engagement. The project team prepared all necessary materials for the meeting, including public notices and social media notifications, meeting invitations, presentations, graphics, and other supporting documents.

Data Collection Meetings

Throughout the data collection process, coordination occurred among the project steering committee, technical staff, DeSoto County, and the City of Arcadia to identify data needs, validate available datasets, and ensure consistency across jurisdictions. This collaborative effort also facilitated the identification of data gaps, including missing, outdated, or low-resolution datasets that may influence the extent or accuracy of the analysis. These gaps were documented and, where feasible, supplemented with the best available data to support a robust and defensible assessment.

During the internal kickoff meeting, the project's scope and schedule were reviewed, and an overview of data compiled prior to project initiation was presented to establish a baseline for analysis. Key datasets required to support the VA were identified, including critical and regionally significant asset inventories, topographic and elevation data, and flood scenario-related datasets relevant to inland flooding conditions. The kickoff meeting also facilitated discussion on additional data needs, identification of existing data gaps, and the selection of potential Steering Committee members to support ongoing coordination and technical review.

The first Steering Committee meeting focused on formally introducing the project, establishing key points of contact, and providing context on local hazard impacts, including significant agricultural losses that underscore the County's vulnerability to weather events. An overview of the VA was presented, including its purpose and alignment with the Resilient Florida framework. A subsequent meeting, which included an opportunity for public participation, supported the data collection phase by gathering input on critical community assets and key factors influencing vulnerability. Additional Steering Committee meetings were conducted to review progress, review the inland rainfall modeling results for the current year and future years of 2040 and 2070, sea level rise, storm surge, and for including the presentation of an interactive GIS-based map viewer and preliminary model results for planning horizons.

The County facilitated a series of public meetings to support the project's data development and ensure stakeholder engagement. The project team prepared all necessary materials for the meeting, including public notices and social media notifications, meeting invitations, presentations, graphics, and other supporting documents.

To support ongoing data coordination, DeSoto County and CFRPC staff conducted bi-weekly leadership meetings to track project progress, coordinate data requests, and identify appropriate data sources from the County and surrounding municipalities in accordance with Section 380.093, F.S. This structured, meeting-based approach ensured that data collection was iterative, collaborative, and reflective of both technical requirements and stakeholder input.

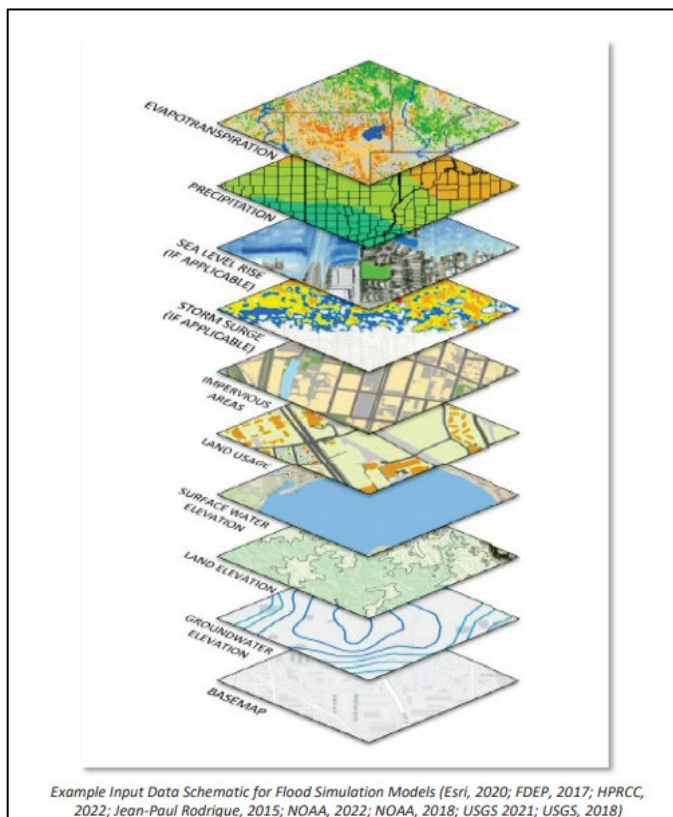


Figure 4: Example Input Data Schematic for Flood Simulation Models

Vulnerability Assessment Data Collected

Per Section 380.093, F.S., the following data in Table 2: Source Data was collected and evaluated for relevance and use in the Vulnerability Assessment. All data was sourced prior to September 19, 2025.

Multiple sources were utilized in developing the DeSoto County's Critical Assets Database. These same sources were also used in verifying and vetting the Statewide Dataset provided by the Florida Department of Environmental Protection and data provided by various jurisdictions and public/private agencies. Reference data and geodata were provided by various sources. The City of Arcadia, DeSoto County's only municipality, participated throughout this project.

The stakeholders reviewed existing data and developed an inventory of critical assets owned and/or maintained by DeSoto County and its municipality. A data gap analysis was conducted to check for completeness and applicability of the data.

Source Data Table

Table 2: Source Data

Data Type	Source	VA Data Submission	Source Data
Precipitation Data	NOAA Atlas 14 (PFDS)	Yes	https://hdsc.nws.noaa.gov/pfds
Groundwater Level Data	USGS NWIS (Groundwater Levels)	No	https://waterdata.usgs.gov/nwis/gw
Sea Level Rise (SLR) Projections	NOAA SLR Viewer (context only)	N/A	https://coast.noaa.gov/slr
Tidal Datums and Tidal Flooding	NOAA CO-OPS (context only)	N/A	https://tidesandcurrents.noaa.gov
Storm Surge	NOAA SLOSH/Probabilistic Surge (context only)	N/A	https://www.nhc.noaa.gov/nationalsurge
Hydro Stratigraphic Information	SWFWMD Geohydrologic Data	No	https://www.swfwmd.state.fl.us/resources/data-maps/geohydrologic-data
River Channel Cross-Section	USGS Gages (WDFN) / StreamStats	No	https://waterdata.usgs.gov/nwis ; https://streamstats.usgs.gov
Land Use Data	FDEP FLUCCS (Statewide LULC)	Yes	https://geodata.dep.state.fl.us
Evapotranspiration Data	FAWN Reference ET; USGS SSEBop	No	https://fawn.ifas.ufl.edu/tools/et ; https://earlywarning.usgs.gov/ssebop
Digital Elevation Model (DEM)	USGS 3DEP (The National Map)	Yes	https://apps.nationalmap.gov/downloader
Soils (Hydrologic Soil Groups, Ksat)	NRCS SSURGO / Web Soil Survey	Yes	https://websoilsurvey.sc.egov.usda.gov
Hydrography (Streams/Waterbodies)	USGS NHDPlus HR	Yes	https://www.usgs.gov/national-hydrography/nhdplus-high-resolution
Watershed Boundaries	USGS WBD (HUCs)	Yes	https://www.usgs.gov/national-hydrography/watershed-boundary-dataset
Road Centerlines	FDOT GIS / County GIS	Yes	https://gis-fdot.opendata.arcgis.com
Structures (Bridges/Culverts)	FDOT Structures / Local Inventory	Yes	https://gis-fdot.opendata.arcgis.com
Lake/Water-Level Control Points	SWFWMD Hydrologic Data	Yes	https://www.swfwmd.state.fl.us/resources/data-maps/hydrologic-data
Change-Factor Rasters (Mid/End-Century)	CFRPC Scenario Inputs (Internal)	Yes	VA Project Data
2040 (100-Year, 24 Hour Storm Event)	CFRPC	Yes	VA Project Data
2070 (100-Year, 24 Hour Storm Event)	CFRPC	Yes	VA Project Data
FEMA 500 Year	FEMA NFHL / MSC	Yes	https://msc.fema.gov/nfhl

Critical Assets

GIS data containing critical assets as defined in section 380.093, F.S. was downloaded from the Florida Department of Environmental Protection Geospatial Open Data portal. Additional data used to verify and update the statewide dataset was provided by DeSoto County and City of Arcadia. As-built information was not available for any of the listed assets at the time of development of this Assessment.

According to section 380.093, F.S. critical assets should be grouped with the four asset classes as defined in statute:

- **Transportation Assets and Evacuation Routes**
Including airports, bridges, bus terminals, ports, major roadways, marinas, rail facilities, and railroad bridges.
- **Critical Infrastructure**
Including wastewater treatment facilities and lift stations, stormwater treatment facilities and pump stations, drinking water facilities, water utility conveyance systems, electric production and supply facilities, solid and hazardous waste facilities, military installations, communications facilities, and disaster debris management sites.
- **Critical Community and Emergency Facilities**
Including schools, colleges, universities, community centers, correctional facilities, disaster recovery centers, emergency medical service facilities, emergency operation centers, fire stations, health care facilities, hospitals, law enforcement facilities, local government facilities, logistical staging areas, affordable public housing, risk shelter inventory, and state government facilities.
- **Natural, Cultural, and Historical Resources**
Including conservation lands, parks, shorelines, surface waters, wetlands, and historical and cultural assets.

Data obtained was reviewed to determine relevancy and completeness based on statute guidelines.

Tables 3 – 6 provide the available data based on the asset type for the jurisdiction.

- *Yes* indicates the data was available
- *N/A* indicates not applicable to the jurisdiction
- *No* indicates data was not available.

Table 3: Transportation Assets and Evacuation Routes in DeSoto County

Asset Type	Unincorporated	City of Arcadia
Airports	Yes	Yes
Bridges	Yes	Yes
Bus Terminals	N/A	N/A
Major Roadways	Yes	Yes
Marinas	Yes	N/A
Ports	N/A	N/A
Rail Facilities	Yes	Yes
Railroad Bridges	Yes	Yes

Table 4: Critical Infrastructure Assets

Asset Type	Unincorporated	City of Arcadia
Communications Facilities	Yes	Yes
Disaster Debris Management Sites	Yes	N/A
Drinking Water Facilities	Yes	Yes
Electric Production and Supply Facilities	Yes	Yes
Military Installations	N/A	N/A
Solid and Hazardous Waste Facilities	Yes	Yes
Stormwater Treatment Facilities and Pump Stations	Yes	N/A
Wastewater Treatment Facilities and Lift Stations	Yes	Yes
Water Utility Conveyance Systems	Yes	Yes

Table 5: Critical Community and Emergency Facilities Assets

Asset Type	Unincorporated	City of Arcadia
Affordable Public Housing	Yes	Yes
Colleges / Universities	Yes	N/A
Community Centers	Yes	Yes
Correctional Facilities	Yes	Yes
Disaster Recovery Centers	N/A	Yes
Emergency Medical Service Facilities	Yes	Yes
Emergency Operation Centers	Yes	N/A
Fire Stations	Yes	Yes
Health Care Facilities	Yes	Yes
Hospitals	N/A	Yes
Law Enforcement Facilities	N/A	Yes
Local Government Facilities	Yes	Yes
Logistical Staging Areas	N/A	N/A
Risk Shelter Inventory	Yes	Yes
Schools	Yes	Yes
State Government Facilities	Yes	Yes

Table 6: Natural, Cultural, and Historical Resources Assets

Asset Type	Unincorporated	City of Arcadia
Conservation Lands	Yes	Yes
Historical and Cultural Assets	Yes	Yes
Parks	Yes	Yes
Shorelines	Yes	Yes
Surface Waters	Yes	Yes
Wetlands	Yes	Yes

Critical Asset Dataset

The County's vulnerability assessment database formed the foundation for developing the list of critical assets for DeSoto County and the City of Arcadia. The following overview will outline the data, timeline, and considerations made during the development phase.

The initial data utilized was provided by the Florida Division of Emergency Management (FDEM) in 2022. FDEM provided Critical Asset Data for all Florida counties as part of the project Advancing Mitigation Assessment and Planning Through Resilience Collaboration (CDBG-MIT), a collaborative effort between the CFRPC and five other Regional Planning Councils. This data was reviewed and corrected with the project stakeholders for DeSoto County, City of Arcadia, and other agencies throughout the County.

In 2023, the County, through the CFRPC, had the opportunity to work with the Florida Department of Environmental Protection (FDEP) to determine which elements of the Statewide Vulnerability Assessment (Balmoral Dataset) would be classified as regional or local. As part of the DeSoto County Vulnerability Assessment, CFRPC staff and the stakeholders began identifying features within the Statewide Vulnerability Assessment – Balmoral Dataset that intersected with DeSoto County. These identified features served as the baseline comparison between this data, the local data received, and the FDEM's Critical Asset data.

Table 7: Critical Asset Related Data Table

Data Type	Source	Location
Points	CFRPC	VA GIS Database
Polygons	CFRPC	VA GIS Database
Polylines	CFRPC	VA GIS Database
Polylines Transportation	CFRPC	VA GIS Database

Next, the project categorized various asset types, including but not limited to community centers, correctional facilities, health care facilities, law enforcement facilities, schools, historical and cultural assets, airports, marinas, communications facilities, and utility infrastructure. Additionally, some assets were divided into detailed subtypes. Finally, the data was organized into point, polyline, polylines transportation, and polygon datasets for easier analysis.

Figures 5 - 12 identify critical asset points, polylines, polylines transportation and polygons by municipality countywide. Refer to Appendix B for the full Vulnerability Assessment Exposure Map Series or Appendix D for Vulnerability Assessment Sensitivity Map Series.

Point Assets are identified as: critical infrastructure - Wastewater treatment facilities; lift stations; stormwater treatment facilities; pump stations; drinking water facilities; water utility conveyance systems; electric production and supply facilities; solid and hazardous waste facilities; military installations (none in DeSoto County); communications facilities; disaster debris management sites; critical community and emergency facilities - schools, colleges, universities, community centers, correctional facilities, disaster recovery centers, emergency medical service facilities, emergency operation centers, fire stations, health care facilities, hospitals, law enforcement facilities, local government facilities, logistical staging areas, affordable public housing, risk shelter inventory, and state government facilities; and Natural, Cultural, and Historical Resources - Conservation lands, parks, shorelines, surface waters, wetlands, and historical and cultural assets.

Polyline Assets which are identified as general linear assets and include: electric production and supply facilities; stormwater treatment facilities and pump stations; historical and cultural assets; shorelines; and surface waters.

Transportation Polyline Assets which are identified as transportation linear assets. These assets include: bridges; major roadways; and rail facilities.

Polygon Assets which are identified as: stormwater treatment facilities and pump stations; conservation lands; historical and cultural assets; parks; surface waters; and wetlands.

Figure 5: DeSoto County Critical Assets Points

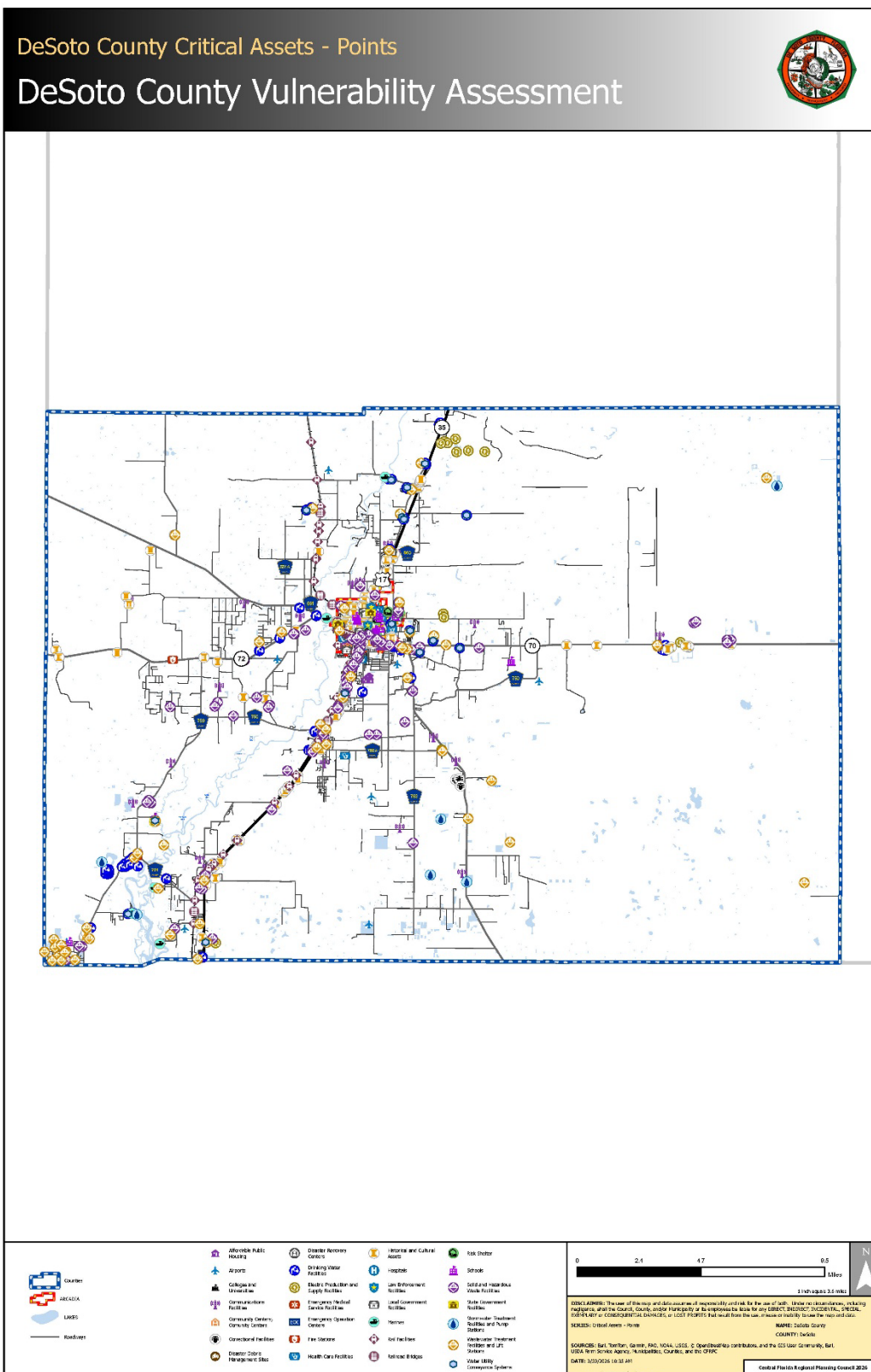




Figure 7: DeSoto County Critical Assets Polygons

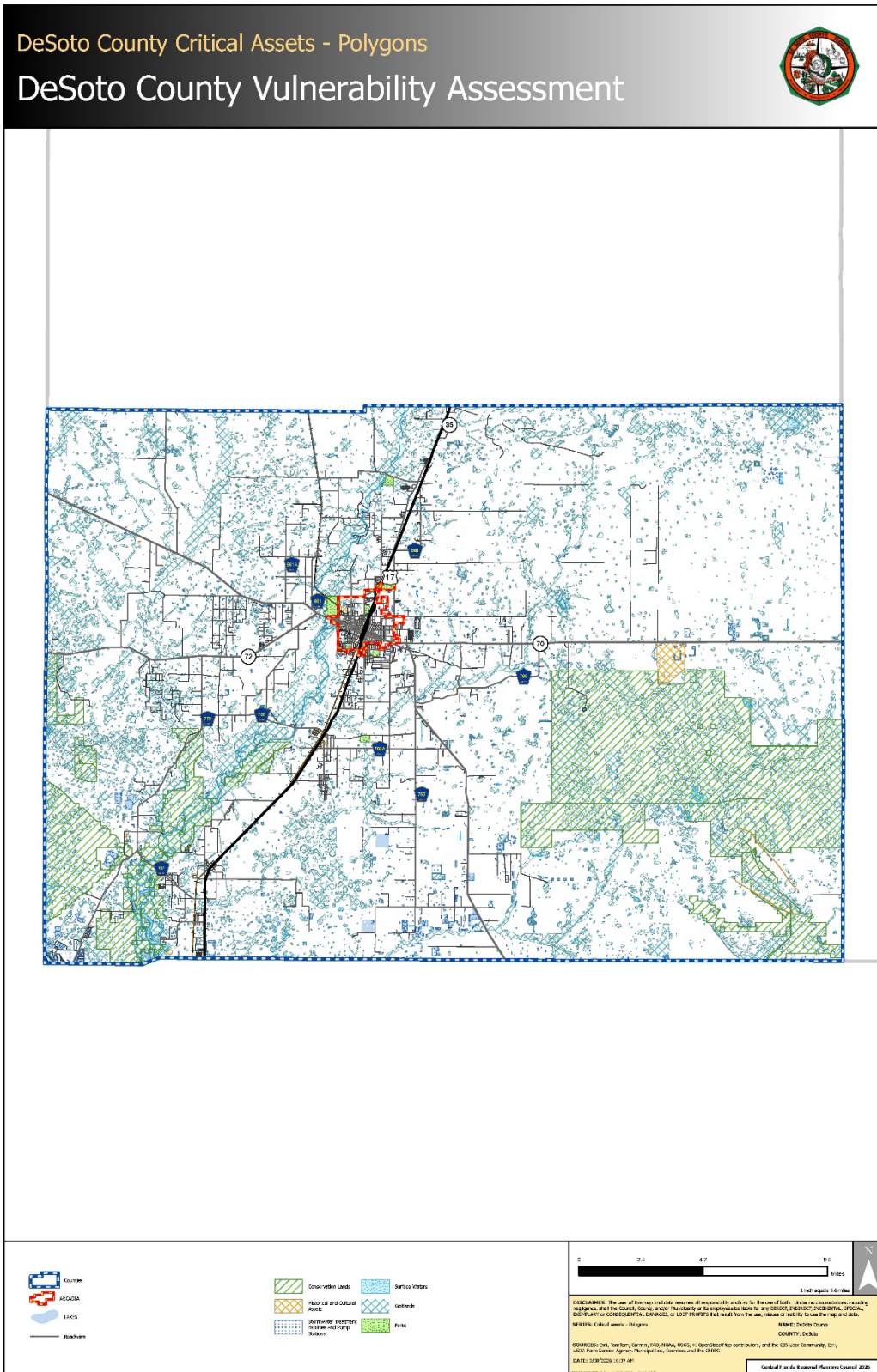




Figure 9: Arcadia Critical Assets Points

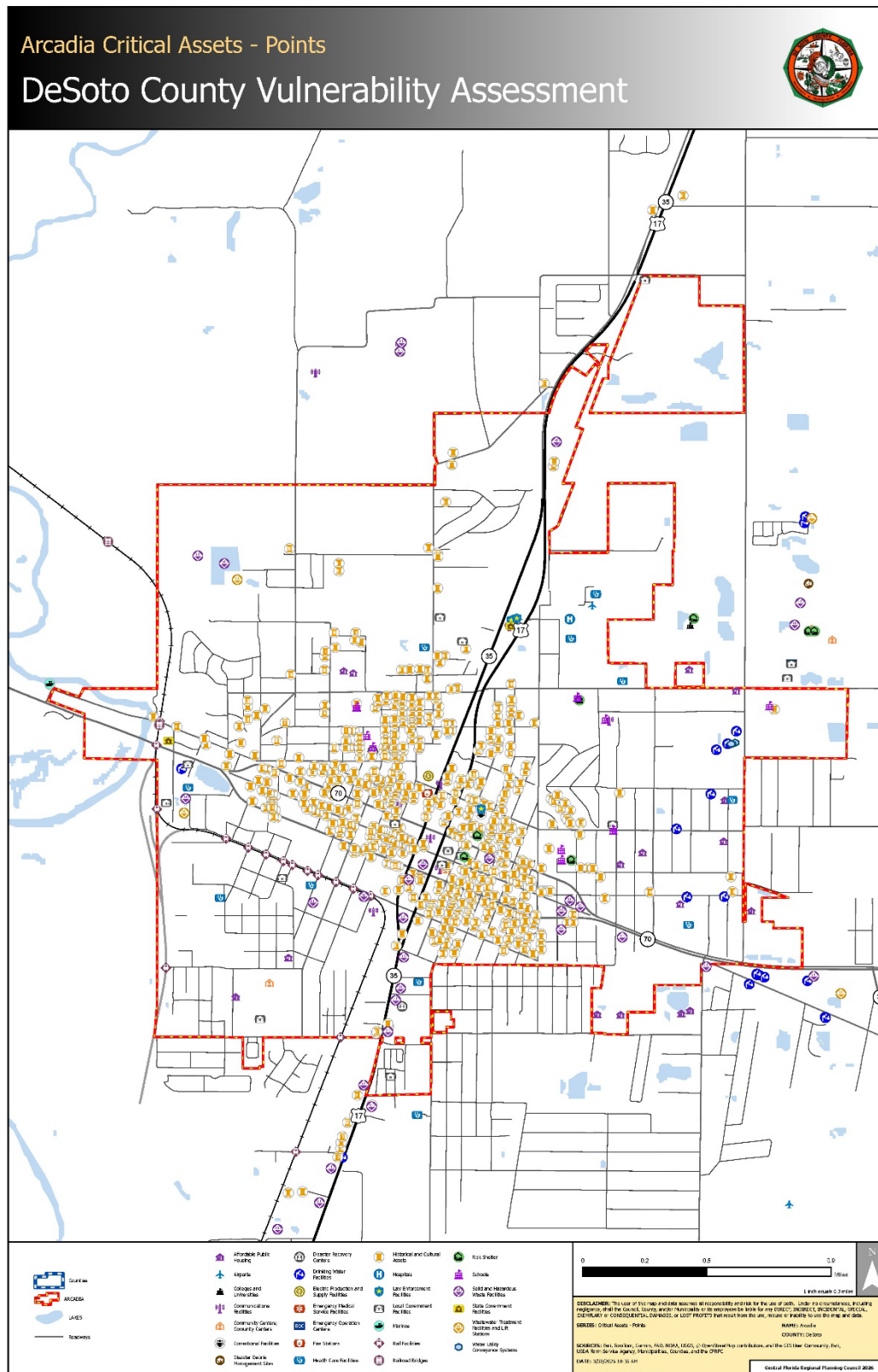


Figure 11: Arcadia Critical Assets Polylines

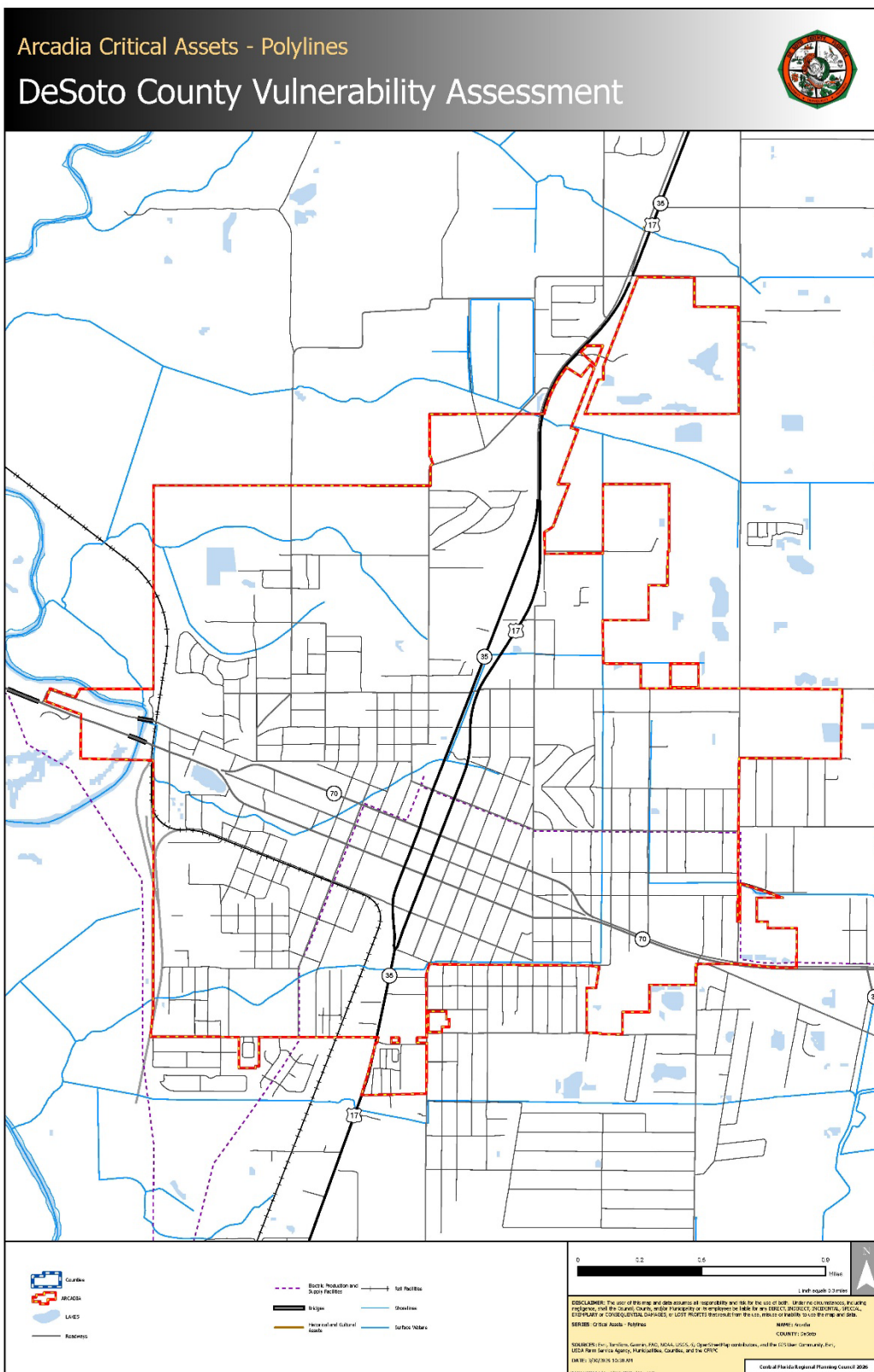
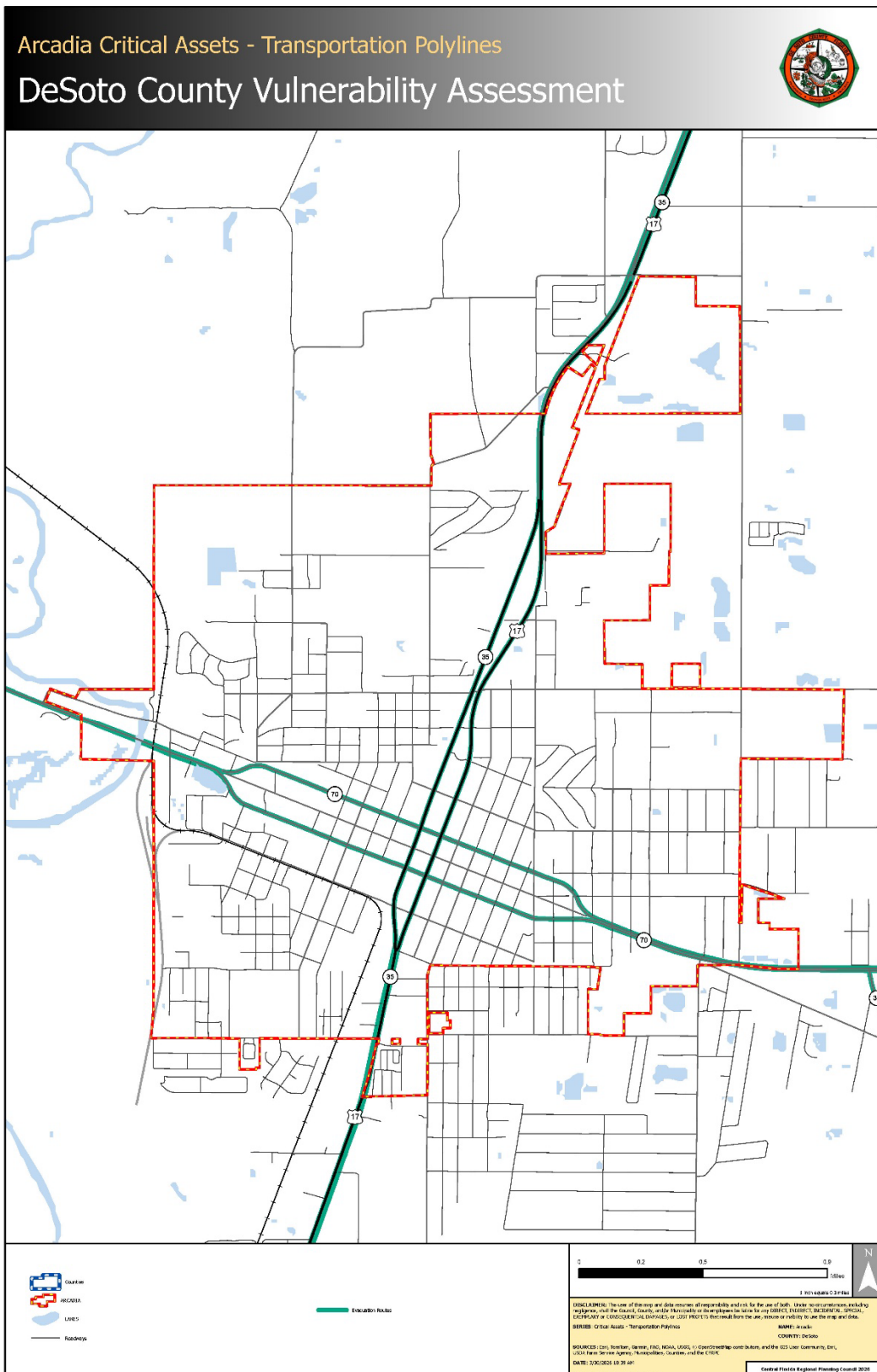


Figure 12: Arcadia Critical Assets Polylines Transportation



ACQUIRE BACKGROUND DATA

The following tables list the critical assets countywide. These have been identified by category type, then by asset type, for each jurisdiction.

Table 8: Total Count of Asset Points Countywide

Category	Asset Type	City of Arcadia	Unincorporated	Total
Critical Community and Emergency Facilities	Affordable Public Housing	14	6	20
Critical Community and Emergency Facilities	Colleges and Universities	0	1	1
Critical Community and Emergency Facilities	Community Centers	3	2	5
Critical Community and Emergency Facilities	Correctional Facilities	1	7	8
Critical Community and Emergency Facilities	Disaster Recovery Centers	2	0	2
Critical Community and Emergency Facilities	Emergency Medical Service Facilities	1	2	3
Critical Community and Emergency Facilities	Emergency Operation Centers	0	1	1
Critical Community and Emergency Facilities	Fire Stations	2	2	4
Critical Community and Emergency Facilities	Health Care Facilities	10	3	13
Critical Community and Emergency Facilities	Hospitals	1	0	1
Critical Community and Emergency Facilities	Law Enforcement Facilities	3	0	3
Critical Community and Emergency Facilities	Local Government Facilities	23	4	27
Critical Community and Emergency Facilities	Logistical Staging Areas	0	0	0
Critical Community and Emergency Facilities	Risk Shelter Inventory	4	3	7
Critical Community and Emergency Facilities	Schools	9	5	14
Critical Community and Emergency Facilities	State Government Facilities	2	1	3
Critical Infrastructure	Communications Facilities	7	21	28
Critical Infrastructure	Disaster Debris Management Sites	0	2	2
Critical Infrastructure	Drinking Water Facilities	8	109	117
Critical Infrastructure	Electric Production and Supply Facilities	1	12	13
Critical Infrastructure	Solid and Hazardous Waste Facilities	22	67	89
Critical Infrastructure	Stormwater Treatment Facilities and Pump Stations	0	6	6
Critical Infrastructure	Wastewater Treatment Facilities and Lift Stations	2	52	54

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Category	Asset Type	City of Arcadia	Unincorporated	Total
Critical Infrastructure	Water Utility Conveyance Systems	3	27	30
Natural, Cultural, and Historical Resources	Historical and Cultural Assets	573	158	731
Transportation and Evacuation Routes	Airports	1	8	9
Transportation and Evacuation Routes	Bus Terminals	0	0	0
Transportation and Evacuation Routes	Marinas	0	5	5
Transportation and Evacuation Routes	Ports	0	0	0
Transportation and Evacuation Routes	Rail Facilities	15	29	44
Transportation and Evacuation Routes	Railroad Bridges	1	5	6
	Total	708	538	1,246

Table 9: Total Miles of Asset Polylines Countywide

Category	Asset Type	City of Arcadia	Unincorporated	Total Miles
Critical Infrastructure	Electric Production and Supply Facilities	2.96	135.88	138.84
Critical Infrastructure	Stormwater Treatment Facilities and Pump Stations	0.00	22.19	22.19
Natural, Cultural, and Historical Resources	Historical and Cultural Assets	0.04	0.41	0.45
Natural, Cultural, and Historical Resources	Shorelines	0.21	94.88	95.09
Natural, Cultural, and Historical Resources	Surface Waters	9.55	2,549.94	2,559.49
Transportation and Evacuation Routes	Bridges	0.09	1.42	1.51
Transportation and Evacuation Routes	Major Roadways	63.36	665.51	728.87
Transportation and Evacuation Routes	Rail Facilities	2.06	23.92	25.98
	Total	78.27	3,494.15	3,572.42

Table 10: Total Square Miles of Asset Polygons Countywide

Category	Asset Type	City of Arcadia	Unincorporated	Total Sq. Miles
Critical Infrastructure	Military Installations	0.00	0.00	0.00
Critical Infrastructure	Stormwater Treatment Facilities and Pump Stations	0.03	5.23	5.26
Natural, Cultural, and Historical Resources	Conservation Lands	0.07	92.25	92.32
Natural, Cultural, and Historical Resources	Historical and Cultural Assets	0.50	2.66	3.16
Natural, Cultural, and Historical Resources	Parks	0.70	1.04	1.74
Natural, Cultural, and Historical Resources	Ports	0.00	0.00	0.00
Natural, Cultural, and Historical Resources	Surface Waters	0.02	3.57	3.59
Natural, Cultural, and Historical Resources	Wetlands	0.22	134.82	135.04
	Total	1.54	239.57	241.11

The next step in the process was to evaluate the assets' relevancy. Assets were classified as either locally or regionally significant based on the definitions in Florida Statutes. Asset classes that matched those in F.S. 380.093(4)(e) (water resource facilities, regional medical centers, emergency operations centers, regional utilities, major transportation hubs and corridors, airports, and seaports) were automatically designated as regionally significant. For asset types in the regional dataset not explicitly listed in the statute, an evaluation was conducted based on their functional role. If an asset class could reasonably be understood to serve multiple jurisdictions, it was designated as regionally significant. For example, the dataset included "Colleges and Universities" and "Hospitals." Although these are not specifically listed in the statute, both serve multiple jurisdictions; in particular, hospitals fulfill the role of regional medical centers.

Data type is identified by the following:

- Point
- Polyline
- Polyline Transportation
- Polygon

Table 11: DeSoto County's Critical Community and Emergency Facilities Asset Relevancy

Data Type	Critical Community and Emergency Facilities	Asset Relevancy
•	Affordable Public Housing	Locally Significant
•	Colleges and Universities	Regionally Significant
•	Community Centers	Regionally Significant
•	Correction Facilities	Regionally Significant
•	Disaster Recovery Centers	Regionally Significant
•	Emergency Medical Service Facilities	Regionally Significant
•	Emergency Operation Centers	Regionally Significant
•	Fire Stations	Regionally Significant
•	Health Care Facilities	Regionally Significant > Public Health Clinic, Rural Health Clinic, Blood Bank, Crisis Stab. Unit / Locally Significant > Everything Else
•	Hospitals	Regionally Significant
•	Law Enforcement Facilities	Regionally Significant
•	Local Government Facilities	Regionally Significant
•	Logistical Staging Areas	Regionally Significant
•	Risk Shelters	Regionally Significant
•	Schools	Regionally Significant
•	State Government Facilities	Regionally Significant

Table 12: DeSoto County's Natural, Cultural, and Historical Resources Asset Relevancy

Data Type	Natural, Cultural, and Historical Resources	Asset Relevancy
•	* Historical and Cultural Assets	Regionally Significant > Church/Cemetery Complex, City Hall, Commercial, Courthouse, House of Worship, Meetinghouse, Museum, Temple, / Locally Significant > Everything Else
—	* Historical and Cultural Assets	Regionally Significant > Bridges along State Corridors / Locally Significant > Everything Else
▫	* Historical and Cultural Assets	Regionally Significant
—	Shorelines	Regionally Significant
—	* Surface Waters	Regionally Significant > Rivers / Locally Significant > Everything Else
▫	* Surface Waters	Regionally Significant > Large Lakes, Features impacting Multiple Counties / Locally Significant > Everything Else
▫	Conservation Lands	Regionally Significant
▫	Parks	Regionally Significant
▫	Wetlands	Regionally Significant

Table 13: DeSoto County's Transportation and Evacuation Routes Asset Relevancy

Data Type	Transportation and Evacuation Routes	Asset Relevancy
•	Airports	Regionally Significant
•	Bus Terminals	Regionally Significant
•	Marinas	Regionally Significant > Marinas / Locally Significant > Boat Ramps
•	* Ports	N/A
▫	* Ports	N/A
•	* Rail Facilities	Regionally Significant
—	* Rail Facilities	Regionally Significant
•	Railroad Bridges	Regionally Significant
—	Bridges	Regionally Significant > State Highways / Locally Significant > Non-State Highways
—	Major Roadways (FDOT)	Regionally Significant > SIS & Evacuation Routes; Locally Significant > Non-Evac. & Non-SIS
—	Major Roadways (NTD)	Locally Significant
	Evacuation Routes	Identified in Major Highways (FDOT)

With respect to transportation and evacuation routes, the statewide dataset did not include any geospatial data (point or polygon) for ports in DeSoto County. Evacuation routes identified by the Florida Division of Emergency Management were incorporated through the Major Highways dataset provided by FDOT. To streamline and optimize the analysis, major roadways were used to represent evacuation routes and identify regionally significant transportation assets.

Table 14: DeSoto County’s Critical Infrastructure Asset Relevancy

Data Type	Critical Infrastructure	Asset Relevancy
•	Communications Facilities	Regionally Significant
•	Drinking Water Facilities	Regionally Significant
•	* Electric Production and Supply Facilities	Regionally Significant
—	* Electric Production and Supply Facilities	Regionally Significant
•	Disaster Debris Management Sites	Regionally Significant
•	* Solid and Hazardous Waste Facilities	Regionally Significant > Local, Municipal, County, State, Federal / Locally Significant > Private
•	* Solid and Hazardous Waste Facilities (SQG)	Locally Significant
•	* Solid and Hazardous Waste Facilities (TSD)	Regionally Significant
•	* Solid and Hazardous Waste Facilities (SB)	Locally Significant
•	Wastewater Treatment Facilities and Lift Stations	Regionally Significant
•	Water Utility Conveyance Systems	Regionally Significant
•	* Stormwater Treatment Facilities and Pump Stations	Regionally Significant
—	* Stormwater Treatment Facilities and Pump Stations	Regionally Significant
□	* Stormwater Treatment Facilities and Pump Stations	Regionally Significant
□	Military Installations	N/A

The remaining assets classes were evaluated on a feature-by-feature basis. For features requiring this level of review, the asset name was a primary consideration. For example, names indicating service to multiple jurisdictions—such as “Courthouse”—supported a designation of regional significance.

Additional factors included the size of the facility, as observed in recent aerial imagery, and its potential role in evacuation routes or as an emergency shelter for large populations.

Next, the County compiled a Critical Asset Dataset in coordination with the local jurisdictions. The locally procured and developed asset dataset was used to verify and supplement the FDEP statewide dataset. As a result, notes were added to the dataset to track any changes, including additions, edits, and deletions of

features. Modifications included adjustments to geography, corrections to asset classifications, and the addition of new regionally significant assets. The statewide categories were then organized into data types, with DeSoto County recommending that certain assets be reclassified as either regionally significant or locally significant.

Regionally Significant Assets

The following tables (Table 15-17) list the regionally significant Critical Assets countywide. These have been identified by category type, then by asset type, for each jurisdiction.

Table 15: Total Count of Regionally Significant Asset Points Countywide

Category	Asset Type	City of Arcadia	Unincorporated	Total
Critical Community and Emergency Facilities	Colleges and Universities	0	1	1
Critical Community and Emergency Facilities	Community Centers	3	2	5
Critical Community and Emergency Facilities	Correctional Facilities	1	7	8
Critical Community and Emergency Facilities	Disaster Recovery Centers	2	0	2
Critical Community and Emergency Facilities	Emergency Medical Service Facilities	1	2	3
Critical Community and Emergency Facilities	Emergency Operation Centers	0	1	1
Critical Community and Emergency Facilities	Fire Stations	2	2	4
Critical Community and Emergency Facilities	Health Care Facilities	2	0	2
Critical Community and Emergency Facilities	Hospitals	1	0	1
Critical Community and Emergency Facilities	Law Enforcement Facilities	3	0	3
Critical Community and Emergency Facilities	Local Government Facilities	23	4	27
Critical Community and Emergency Facilities	Logistical Staging Areas	0	0	0
Critical Community and Emergency Facilities	Risk Shelter Inventory	4	3	7
Critical Community and Emergency Facilities	Schools	9	5	14
Critical Community and Emergency Facilities	State Government Facilities	2	1	3
Critical Infrastructure	Communications Facilities	7	20	27
Critical Infrastructure	Disaster Debris Management Sites	0	2	2
Critical Infrastructure	Drinking Water Facilities	8	109	117
Critical Infrastructure	Electric Production and Supply Facilities	1	12	13
Critical Infrastructure	Solid and Hazardous Waste Facilities	5	19	24
Critical Infrastructure	Stormwater Treatment Facilities and Pump Stations	0	6	6
Critical Infrastructure	Wastewater Treatment Facilities and Lift Stations	2	52	54
Critical Infrastructure	Water Utility Conveyance Systems	3	27	30
Transportation and Evacuation Routes	Bus Terminals	0	0	0
Natural, Cultural, and Historical Resources	Historical and Cultural Assets	38	8	46

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Category	Asset Type	City of Arcadia	Unincorporated	Total
Transportation and Evacuation Routes	Airports	1	8	9
Transportation and Evacuation Routes	Marinas	0	0	0
Transportation and Evacuation Routes	Rail Facilities	15	29	44
Transportation and Evacuation Routes	Railroad Bridges	1	5	6
	Total	134	325	459

Table 16: Total Miles of Regionally Significant Asset Polylines Countywide

Category	Asset Type	City of Arcadia	Unincorporated	Total Miles
Critical Infrastructure	Electric Production and Supply Facilities	2.96	135.88	138.84
Critical Infrastructure	Stormwater Treatment Facilities and Pump Stations	0.00	22.19	22.19
Natural, Cultural, and Historical Resources	Historical and Cultural Assets	0.04	0.16	0.20
Natural, Cultural, and Historical Resources	Shorelines	0.21	94.88	95.09
Natural, Cultural, and Historical Resources	Surface Waters	4.54	374.65	379.19
Transportation and Evacuation Routes	Bridges	0.05	0.56	0.61
Transportation and Evacuation Routes	Major Roadways	9.51	114.12	123.63
Transportation and Evacuation Routes	Rail Facilities	2.06	23.92	25.98
	Total	19.37	766.36	785.73

Table 17: Total Square Miles of Regionally Significant Asset Polygons Countywide

Category	Asset Type	City of Arcadia	Unincorporated	Total Square Miles
Critical Infrastructure	Military Installations	0.00	0.00	0.00
Critical Infrastructure	Stormwater Treatment Facilities and Pump Stations	0.03	5.23	5.26
Natural, Cultural, and Historical Resources	Conservation Lands	0.07	92.25	92.32
Natural, Cultural, and Historical Resources	Historical and Cultural Assets	0.50	2.66	3.16

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Natural, Cultural, and Historical Resources	Parks	0.70	1.04	1.74
Natural, Cultural, and Historical Resources	Surface Waters	0.01	2.42	2.43
Natural, Cultural, and Historical Resources	Wetlands	0.22	134.82	135.04
	Total	1.53	238.42	239.95

Topographic Data

In accordance with Florida Statute 380.093, the NOAA Lidar data (2018-2020 USGS Lidar: Florida Peninsular FDEM-1) was utilized. Lidar provides precise elevation measurements that enable the creation of detailed digital elevation models (DEMs), which are used to simulate surface water flow, storm surge, and other flood-related impacts. The NOAA Lidar mapping utilizes the NAV88 vertical datum. All topographic and flood related scenario data is referenced in feet and relative to the North American Datum of 1998 (ft-NGVD88).

Table 18 provides the available data based on the topographic data for the jurisdictions.

- *Yes* indicates the data was available
- *N/A* indicates not applicable to the jurisdiction
- *No* indicates data was not available

Table 18: Topographic Data

Data Type	DeSoto County	City of Arcadia
FDEM Florida Elevation Certificates	No	No
Digital Elevation Model (DEM)	Yes	Yes

Flood Scenario-Related Data

Multiple data sources were used for flood scenario-related data, as shown in the table below.

Table 19 provides the available data based on the flood scenario-related data for the jurisdictions.

- *Yes* indicates the data was available
- *N/A* indicates not applicable to the jurisdiction
- *No* indicates data was not available.

Table 19: Flood Scenario-Related Data

Data Type	DeSoto County	City of Arcadia
Precipitation Data	Yes	Yes
Groundwater Level Data	No	No
Sea Level Rise (SLR) Projections	Yes	Yes
Tidal Datums and Tidal Flooding	No	No
Storm Surge	Yes	Yes
Hydro Stratigraphic Information	No	No
River Channel Cross-Section	No	No
Land Use Data	Yes	Yes
Evapotranspiration Data	No	No
Modeled Current (100-Year, 24 Hour Storm Event)	Yes	Yes
Modeled 2040 (100-Year, 24 Hour Storm Event)	Yes	Yes
Modeled 2070 (100-Year, 24 Hour Storm Event)	Yes	Yes
Modeled Current (200-Year, 24 Hour Storm Event)	Yes	Yes
Modeled 2040 (200-Year, 24 Hour Storm Event)	Yes	Yes
Modeled 2070 (200-Year, 24 Hour Storm Event)	Yes	Yes

Modeled Current (500-Year, 24 Hour Storm Event)	Yes	Yes
Modeled 2040 (500-Year, 24 Hour Storm Event)	Yes	Yes
Modeled 2070 (500-Year, 24 Hour Storm Event)	Yes	Yes

EXPOSURE ANALYSIS

The exposure analysis for the DeSoto County Comprehensive Vulnerability Assessment evaluates the potential impacts of inland flooding using modeled 24-hour rainfall events for the 100-year, 200-year, and 500-year 24-hour storm frequencies under current conditions and future planning horizons of 2040 and 2070. The Exposure Analysis utilizes sea level rise projections based on the 2017 NOAA intermediate-high and intermediate-low projections for 2040 and 2070. It also integrates storm surge data that meets or exceeds the 100-year return period (1% annual chance) flood event; and completes a compound flooding analysis. This analysis serves as the exposure component of the Vulnerability Assessment, providing a clear, data-driven understanding of which assets may be physically impacted by floodwaters under varying storm conditions. Critical asset data was compiled and organized into Geographic Information System (GIS) feature classes, including points, polylines, transportation polylines, and polygons. GIS datasets and associated metadata incorporate the four asset classes defined in Florida Statute 380.093 (2)(a)1–4, and all data products adhere to the Resilient Florida Program’s GIS Data Standards to ensure consistency, transparency, and reproducibility.



The purpose of this analysis is to move beyond generalized assumptions and establish a standardized, technically robust framework for evaluating flood exposure and supporting local decision-making. Specifically, the exposure analysis is intended to:

Figure 13: Fallen Water Tower in Arcadia from Hurricane Charley in August 2004 (Mott, 2014)

-
- (1) Establish a baseline understanding of rainfall-driven flood risk affecting critical assets across DeSoto County.*
 - (2) Evaluate how future conditions may influence the extent and severity of impacts to those assets.*
 - (3) Provide defensible, data-supported justification for prioritizing projects and seeking funding through the Resilient Florida Program.*
-

In addition, the results of this analysis inform adaptation planning by identifying the depth, extent, and frequency of potential flooding, enabling engineers, planners, and decision-makers to determine appropriate resilience strategies, including protection, accommodation, or relocation of vulnerable assets.

Methodology for Exposure Analysis

The intent of the methodology for exposure analysis is to provide a single, defensible technical reference describing how rainfall-driven flood exposure was evaluated and integrated to support planning, prioritization, and decision-making.

The Exposure Analysis quantifies modeled flood depths and spatial extent of inundation at the asset level using depth rasters for multiple rainfall return periods and planning horizons. This analysis ensures that the critical assets are evaluated for physical exposure.

Data Inputs

Critical Assets Datasets

Critical assets for DeSoto County are organized into the following feature classes:

Table 20: VA Feature Classes

Point Assets	CFRPC_PT: critical assets: points
Polygon (Area) Assets	CFRPC_PG: critical assets: polygon areas
Polyline (Linear) Assets	CFRPC_PL: critical assets: general linear assets CFRPC_PL_TRANS: critical assets: transportation linear assets
All asset classes share a common unique identifier	CFRPC_ID — unique number for all critical assets and is the primary key used for all joining of data, summaries, and cross-dataset relationships.

Rainfall, Flood, and Inundation Inputs

These input/rasters represent rainfall-driven flooding based on modeling exclusively created for the 100-, 200-, and 500-year events for the current year, and 2040 and 2070 forecast years' exposure analysis by HighTide (subcontractor for the CFRPC).

All raster datasets were harmonized to a common coordinate system, resolution, and vertical unit (feet, Foot_US) prior to analysis.

These storm scenarios and planning horizons were selected to comply with the requirements set forth in section 380.093, Florida Statutes. These datasets represent rainfall-driven flood response based on HighTide's proprietary modeling and were used exclusively for each rainfall event surface for exposure analysis.

- **100-Year Rainfall Events (Current, 2040, 2070):** For the 100-year rainfall event, the analysis relies on the modeling completed by HighTide developed for the 100-year rainfall event surfaces for:
 - Current-year conditions
 - 2040 forecast conditions
 - 2070 forecast conditions
- **200-Year Rainfall Events (Current, 2040, 2070):** For the 200-year rainfall event, the analysis relies on the modeling completed by HighTide developed for the 200-year rainfall event surfaces for:
 - Current-year conditions
 - 2040 forecast conditions
 - 2070 forecast conditions

- **500-Year Rainfall Events (Current, 2040, 2070):** For the 500-year rainfall event, the analysis relies on the modeling completed by HighTide developed for the 500-year rainfall event surfaces for:
 - Current-year conditions
 - 2040 forecast conditions
 - 2070 forecast conditions

Asset Geometry Representation for Exposure Analysis

Critical assets exposure analysis within the County uses four primary geometry types (Points, Polylines, Transportation Polylines, and Polygons) to quantify modeled flood depths and spatial extent of inundation at the asset level using modeled flood rasters for multiple rainfall return periods and planning horizons. Each geometry type was handled in a consistent and intentional manner to support the exposure analysis.

Point Assets

Point features represent assets with a discrete geographic location (e.g., facilities or site-specific infrastructure). These locations were used directly in the exposure analysis, with flood exposure values extracted at each point. Each point was assigned the rainfall depth value of the raster cell in which it falls. Points located outside the raster extent or within NoData cells were assigned a null value.

Exposure Analysis Specific Fields include:

- **100-Year**
 - RF_100YR_2025 (Rain flow 100-Year 2025 Scenario)
 - RF_100YR_2040 (Rain flow 100-Year 2040 Scenario)
 - RF_100YR_2070 (Rain flow 100-Year 2070 Scenario)
- **200-Year**
 - RF_200YR_2025 (Rain flow 200-Year 2025 Scenario)
 - RF_200YR_2040 (Rain flow 200-Year 2040 Scenario)
 - RF_200YR_2070 (Rain flow 200-Year 2070 Scenario)
- **500-Year**
 - RF_500YR_2025 (Rain flow 500-Year 2025 Scenario)
 - RF_500YR_2040 (Rain flow 500-Year 2040 Scenario)
 - RF_500YR_2070 (Rain flow 500-Year 2070 Scenario)

Polyline Assets

General polyline features represent linear assets such as utilities or irrigation canals. For exposure purposes, a single representative point was generated at the midpoint of each polyline feature. This midpoint was used to sample modeled flood exposure value.

Exposure Analysis Specific Fields include:

- **100-Year**
 - RF_100YR_2025 (Rain flow 100-Year 2025 Scenario)
 - RF_100YR_2040 (Rain flow 100-Year 2040 Scenario)
 - RF_100YR_2070 (Rain flow 100-Year 2070 Scenario)
- **200-Year**
 - RF_200YR_2025 (Rain flow 200-Year 2025 Scenario)
 - RF_200YR_2040 (Rain flow 200-Year 2040 Scenario)
 - RF_200YR_2070 (Rain flow 200-Year 2070 Scenario)
- **500-Year**
 - RF_500YR_2025 (Rain flow 500-Year 2025 Scenario)
 - RF_500YR_2040 (Rain flow 500-Year 2040 Scenario)
 - RF_500YR_2070 (Rain flow 500-Year 2070 Scenario)

Transportation Polyline Assets

Transportation features (e.g., roads, rail) were treated consistently with other linear assets. A midpoint was generated for each transportation polyline, and that midpoint served as the representative location for both exposure extractions. This approach ensures uniform treatment across linear asset classes while maintaining a clear, defensible spatial reference.

Exposure Analysis Specific Fields include:

- **100-Year**
 - RF_100YR_2025 (Rain flow 100-Year 2025 Scenario)
 - RF_100YR_2040 (Rain flow 100-Year 2040 Scenario)
 - RF_100YR_2070 (Rain flow 100-Year 2070 Scenario)
- **200-Year**
 - RF_200YR_2025 (Rain flow 200-Year 2025 Scenario)
 - RF_200YR_2040 (Rain flow 200-Year 2040 Scenario)
 - RF_200YR_2070 (Rain flow 200-Year 2070 Scenario)
- **500-Year**
 - RF_500YR_2025 (Rain flow 500-Year 2025 Scenario)
 - RF_500YR_2040 (Rain flow 500-Year 2040 Scenario)
 - RF_500YR_2070 (Rain flow 500-Year 2070 Scenario)

Polygon Assets

Polygon features represent real assets such as facilities, campuses, or other spatially extensive features. For the exposure analyses, a centroid was calculated for each polygon. The centroid location was used to extract flood exposure value.

Exposure Analysis Specific Fields include:

- **100-Year**
 - RF_100YR_2025 (Rain flow 100-Year 2025 Scenario)
 - RF_100YR_2040 (Rain flow 100-Year 2040 Scenario)
 - RF_100YR_2070 (Rain flow 100-Year 2070 Scenario)
- **200-Year**
 - RF_200YR_2025 (Rain flow 200-Year 2025 Scenario)
 - RF_200YR_2040 (Rain flow 200-Year 2040 Scenario)
 - RF_200YR_2070 (Rain flow 200-Year 2070 Scenario)
- **500-Year**
 - RF_500YR_2025 (Rain flow 500-Year 2025 Scenario)
 - RF_500YR_2040 (Rain flow 500-Year 2040 Scenario)
 - RF_500YR_2070 (Rain flow 500-Year 2070 Scenario)

Rationale

Using a single representative point for each asset ensures methodological consistency across asset types, simplifies exposure results, and supports clear interpretation at the planning scale. This approach allows every asset, regardless of geometry, to be evaluated uniformly within the flood exposure modeling framework.

Limitations and Appropriate Use

This methodology is subject to the following considerations:

- Modeled flood depths represent scenario-based conditions, not observed events
- Results should be interpreted as planning-level indicators, not site-specific engineering determinations.

Despite these limitations, the combined exposure framework provides a robust, transparent, and defensible basis for regional vulnerability assessment and mitigation planning across the County.

Inundation Scenarios

As part of an effort to identify vulnerabilities due to precipitation events at specific sites of interest throughout DeSoto County, the CFRPC contracted with HighTide who contracted with RSS-Hydro to develop a two-dimensional (2D) hydraulic model using United States Army Corps of Engineers (USACE) Hydraulic Engineering Center River Analysis System (HEC-RAS) Version 6.6. The model provided flood depths, water surface elevations, and a visualization of flooding extents to mitigate flood hazard and aid the vulnerability assessment of the county's assets and resources.

A rain-on-mesh modeling approach was used in HEC-RAS to minimize assumptions in developing hydrologic parameters. This method is particularly well-suited for flat terrain, as it allows the model to emphasize terrain-driven flow processes. Rainfall hyetographs are applied at each time step across every mesh cell, incorporating soil infiltration rates and estimated hydrologic losses. These inputs generate a spatially and temporally distributed runoff volume, which HEC-RAS then routes directly through the hydraulic model.

Rainfall is distributed across the computational grid using NOAA Atlas 14 precipitation frequencies at the stations across the watershed. The latest rainfall projection coefficients were downloaded from the USGS Science Base-Catalog. The Florida Flood Hub for Applied Research and Innovation was consulted to get advice on the best dataset to retrieve the projections estimation. The Localized Constructed Analogues version 2 (LOCA2) was the recommended dataset. This dataset contains coefficients retrieved from different weather models for each rain gauge in Florida and defined for several return periods and future year projections. A 100-year (1% annual chance), 200-year (0.5% annual chance) and 500-year (0.2% annual chance) storm events were modeled, consistent with the vulnerability assessment's requirement to simulate future rainfall-induced flooding. The 100-year event was also run for validation purposes. Additionally, medium-time horizon (2040) and long-time horizon (2070) scenarios were modeled to understand the potential flood risk in the future.

The rainfall duration was set to 24 hours, and the temporal distribution was obtained from the NOAA Atlas 14 for each station used.

Precipitation data was applied to the model as a Meteorological Station Point Time Series. The precipitation was consulted in all the stations in DeSoto and other counties included upstream within the Peace River Watershed. The rainfall gauging station with the highest precipitation was chosen to obtain conservative results.

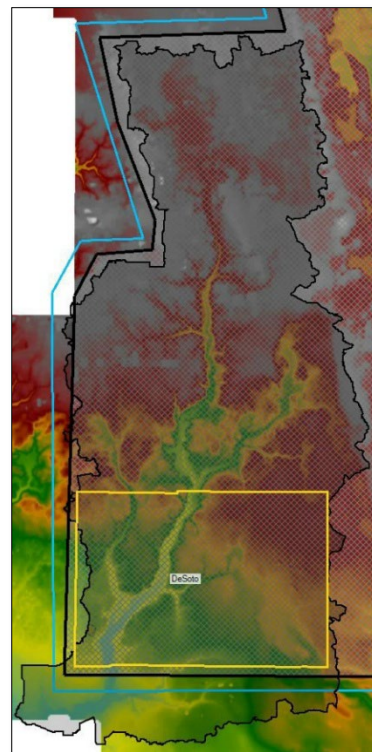


Figure 14: Peace River Watershed Model Mesh

Appendix C includes hydrology and hydraulics assumptions and methods as well as a map series used to assess current flood risks throughout DeSoto County for the 100-yr, 200-yr and 500-yr return periods for 3 scenarios: current (2025), 2040 and 2070 projections.

Current Scenario Rainfall Induced Flooding

For the 100-year return period, the highest depths are located, as expected, along the watercourses of the county. The Peace River shows a fairly constant flood extent of approximately 2 km (1.24 mi) along its way to the county. Depths are expected to be over 2 m (6.5 feet) over most of the floodplain. Similar depth values can be found at Joshua Creek and Hawthorne Creek with a flood extent of 0.4 km (0.24mi) width. Horse Creek presents slightly lower depth values, between 1 and 2 m (3-6.5 feet).

Accumulation of rain can also be seen across the county, filling lakes and small depressions, and eventually flowing towards the south. Depth values are mostly in the range between 0.05 and 0.2 m (0.15 – 0.65 feet).

In the north-east portion of the county, agricultural land can be seen to produce a significant amount of runoff flowing towards the south and accumulating to the north of State Road 70. Part of the water from the north flows into the southern part contributing water to the system of small lakes around the creeks, already filled by rainfall runoff. Depths, however, stay mostly below 0.5m (1.6 feet) only showing values over 1 m (3.1 feet) at the creeks' channels.

For the 200-year and 500-year return period, the flooding is similar to the 100-year. However, flood depth increases proportionally to the amount of rainfall for each return period. Flood extents at the Peace River and the creeks reach depth values mostly over 2 meters (6.5 feet) along and across their floodplains.

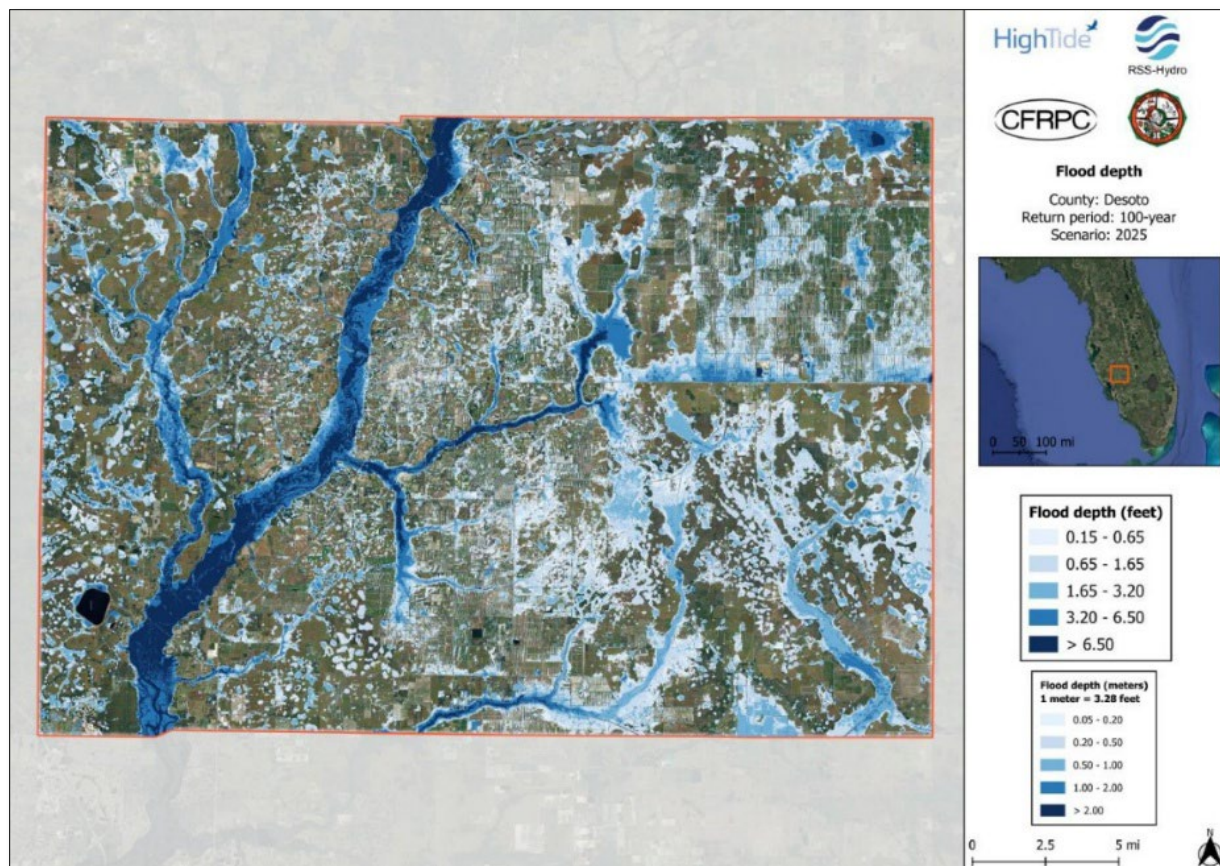


Figure 15: 100 Year Current Scenario Example

2040 and 2070 Rainfall Induced Flooding

For both 2040 and 2070 projections, rainfall is expected to be between 1.5 and 3 times higher. This is reflected in the flood depth results.

Hydraulic behaviors remain the same. Water courses maintain similar floodplain extent with increasing depths. The eastern area of the county is predicted to be significantly covered by rainfall runoff, adding water depth to the areas that were also flooded in the current scenarios. It is noted that the 100-year 2040 scenario shows similar results as the current 500-year scenario since they have similar precipitation values.

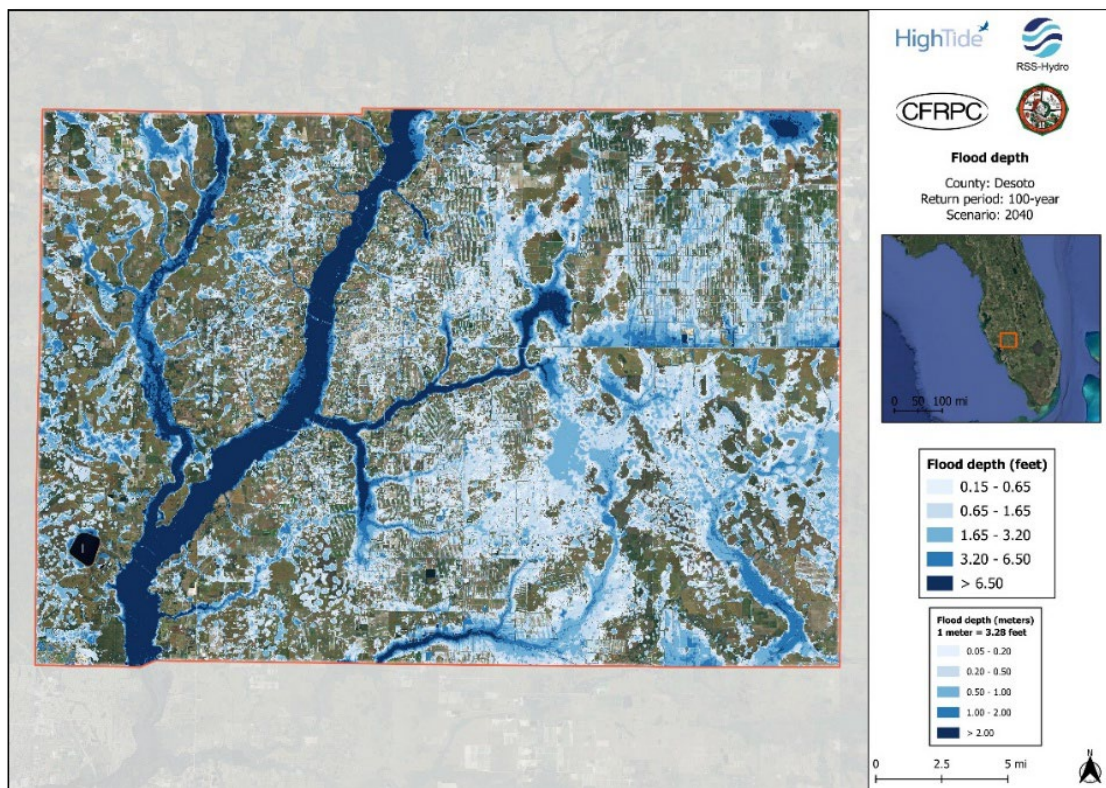


Figure 16: 100 Year 2040 Scenario Example

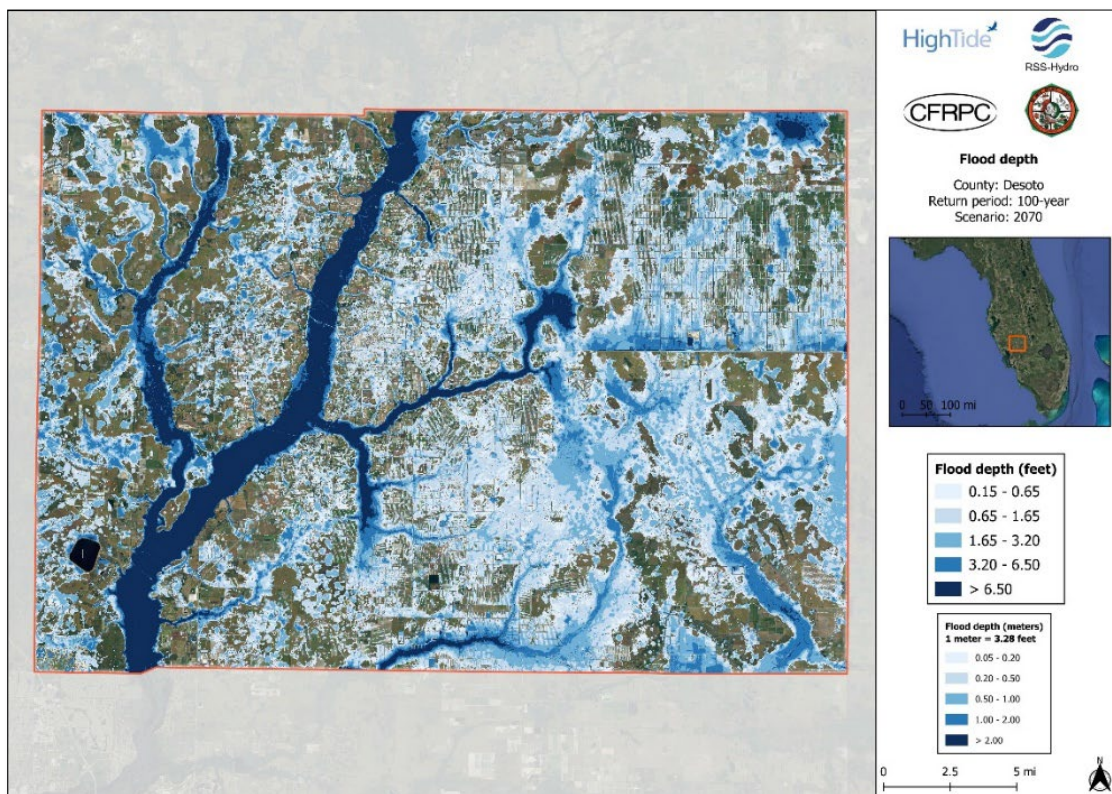


Figure 17: 100 Year 2070 Scenario Example

Storm Surge Flooding

Storm surge is defined as the abnormal rise of water generated by a tropical storm or hurricane, over and above predicted astronomical tides. Storm surge poses a significant flooding hazard to coastal and low-lying inland areas, particularly during major storm events. Storm surge impacts may occur rapidly and can extend inland along rivers, canals, and drainage systems, resulting in damages in and throughout a community.

The maximum amount of storm surge for a particular location depends on several factors. Storm surge is a very complex phenomenon because it is sensitive to the slightest changes in storm intensity, forward speed, size (radius of maximum winds), angle of approach to the coast, and the shape and characteristics of the coastline.

- Storm Intensity (Wind Speed)
 - Stronger winds will produce a higher storm surge.
- Forward Speed
 - While a faster storm will produce a higher surge at the immediate coastline, a slower storm will produce a surge that penetrates farther inland.
- Size (Radius of Maximum Winds)
 - A larger storm will produce a higher surge. There are two reasons for this. First, the winds in a larger storm push on a larger ocean area. Second, the strong winds in a larger storm will tend to affect an area longer than in a smaller storm.
- Angle of Approach
 - The angle at which a storm approaches a coastline can affect the amount of storm surge pushed over land. A storm that moves onshore perpendicular to the coast is more likely to produce a higher storm surge than one that moves parallel to the coast or inland at an oblique angle.
- Width and Slope of the Ocean Bottom
 - A wide, gently sloping continental shelf will allow for a higher storm surge. In contrast, a narrow, steeply sloping shelf will allow more difficulty creating storm surge.
- Shape of the Coastline and Local Features
 - Storm surge will be higher when a storm makes landfall on a concave coastline (curved inward, such as Apalachee Bay in Florida) than a convex coastline (curved outward, such as the Outer Banks of North Carolina). Storm surge is also highly dependent on local features and barriers that affect the flow of water.

To provide a complete overview of potential impacts from Storm Surge Scenarios, each category of hurricane (Cat 1 to Cat 5) and corresponding impacts was applied to all affected critical facilities in the county.

Scenarios include:

- Storm Surge - Cat 1
- Storm Surge - Cat 2
- Storm Surge - Cat 3
- Storm Surge - Cat 4
- Storm Surge - Cat 5

The Sea, Lake, and Overland Surges from Hurricanes (SLOSH) model is a computerized numerical model developed by the National Weather Service (NWS) to estimate storm surge heights from historical, hypothetical, or forecasted hurricanes. The model accounts for factors such as atmospheric pressure, storm size, forward speed, and track.

This analysis uses Maximum of Maximum (MOM) SLOSH data. A Maximum Envelope of Water (MEOW) represents the composite result of multiple hypothetical SLOSH simulations with the same storm category, forward speed, and direction. The MOM is then derived by combining MEOWs for a given hurricane category and selecting the maximum surge values across all scenarios.

Resulting inundation depths are categorized into the following ranges: 0–3 feet, 3–6 feet, 6–9 feet, and greater than 9 feet.

Appendix A and B includes the detailed sea level rise, storm surge, and compounding exposure result tables and maps for DeSoto County.

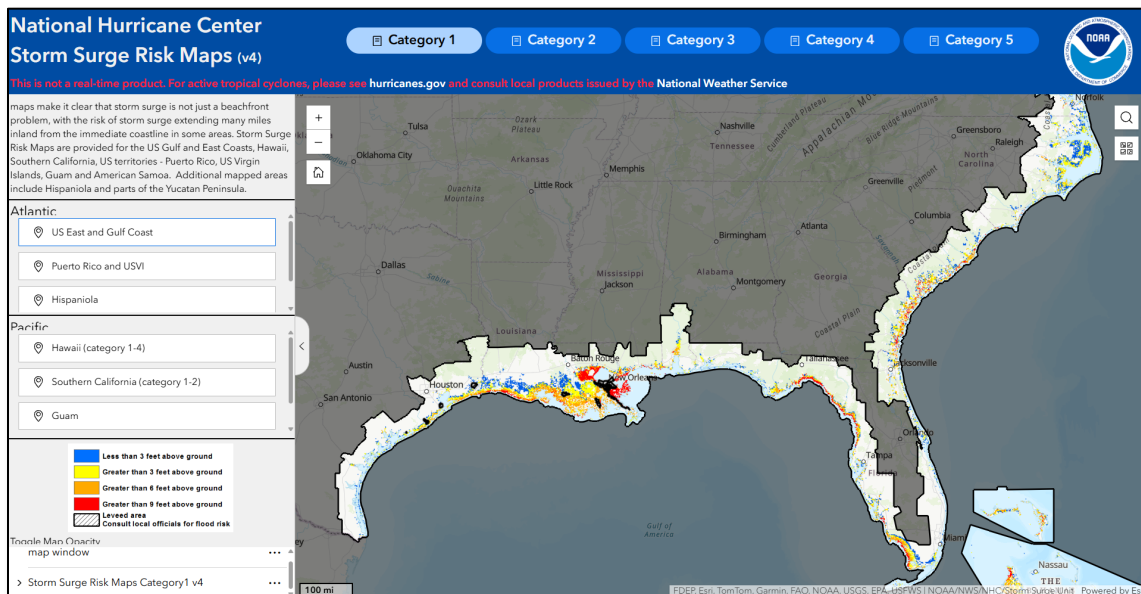


Figure 18: National Hurricane Center Storm Surge Risk Map (NOAA, NHC SS Risk Map, 2026)

Sea Level Rise Flooding

Although DeSoto County is inland, sea level rise can still increase flood risk by influencing river levels and drainage within the Peace River basin. Accordingly, this analysis considers the potential impacts of sea level rise on critical assets within the county.

According to the National Oceanic and Atmospheric Administration (NOAA), sea levels are rising and will continue to rise for centuries. Sea level rise refers to the increase in the average height of the ocean's surface relative to land overtime. It is an observed global trend and is also described as relative sea level change when measured at specific coastal locations. NOAA explains that sea level change at any location may be higher or lower than the global average because of local factors, such as land subsidence, ocean currents, or changes in regional wind patterns.

NOAA Technical Report NOS CO-OPS 086 (NOAA, 2018) examines historical patterns and future projections of high tide (nuisance) flooding along the U.S. coastline using long-term tide gauge records and a nationally consistent flood-impact threshold. The report shows that the frequency of high tide flooding has increased at most coastal locations, driven primarily by relative sea level rise, which raises baseline water levels and allows ordinary tides to exceed flooding thresholds more often. To support consistent analysis nationwide, NOAA develops a common methodology for defining minor flooding levels at locations with and without established thresholds. Applying sea level rise scenarios, the report projects substantial increases in the number of high tide flooding days through mid-century and beyond, particularly along the Atlantic and Gulf coasts, highlighting growing impacts to infrastructure, transportation, and coastal communities even in the absence of storms.

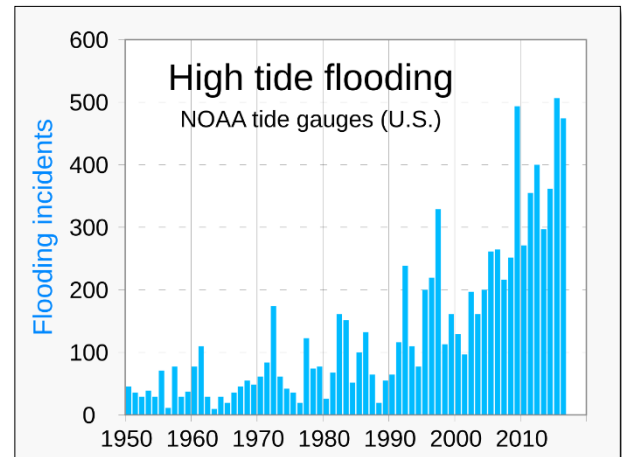


Figure 19: NOAA Tide Gauge Flooding Incidents (Sweet, Dusek, Obeysekera, & Marra, 2018)

Per Florida Statutes, statewide vulnerability assessments are required to use the 2017 sea level rise projections developed by the U.S. Global Change Research Program. Ft. Myers (Gauge - Station 1106) is the tidal gauge location that is the closest gauge to DeSoto County (via the Peace River). Forecast years of **2040** and **2070** are required and included in the analysis.

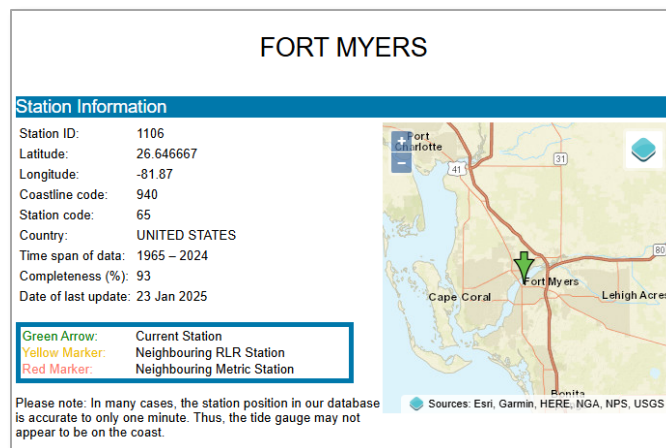


Figure 20: Fort Myers Station (N.O.S, 2025)

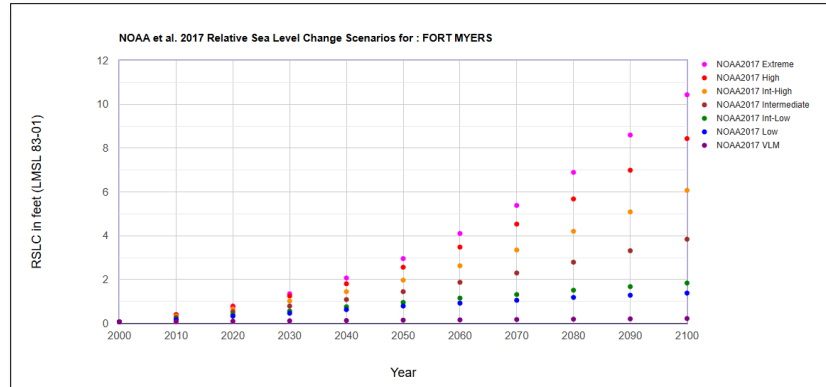


Figure 21: USACE NOAA 2017 Sea Level Change Curve Calculator

Scenarios for Ft. Myers							
All values expressed in Feet							
Year	NOAA 2017 VLM	NOAA 2017 Low	NOAA 2017 Int-Low	NOAA 2017 Intermediate	NOAA 2017 Int-High	NOAA 2017 High	NOAA 2017 Extreme
2000	0.07	0.07	0.07	0.07	0.07	0.07	0.07
2010	0.08	0.17	0.20	0.26	0.33	0.39	0.39
2020	0.10	0.33	0.39	0.53	0.66	0.76	0.79
2030	0.11	0.46	0.56	0.79	1.02	1.25	1.35
2040	0.13	0.62	0.76	1.08	1.44	1.81	2.07
2050	0.14	0.79	0.95	1.44	1.97	2.56	2.95
2060	0.16	0.92	1.15	1.87	2.63	3.48	4.10
2070	0.17	1.05	1.31	2.30	3.35	4.53	5.38
2080	0.19	1.18	1.51	2.79	4.20	5.68	6.89
2090	0.22	1.28	1.67	3.31	5.09	6.99	8.60
2100	0.22	1.38	1.84	3.84	6.07	8.43	10.43

Water level: MSL
 Proj. Source: NOAA et al. 2017
 Interval: 10 year

Figure 22: USACE NOAA Sea Level Change Curve Calculator (Table)

In determining the impact of each sea level rise scenario, depth analysis will utilize NOAA Sea Level Rise Inundation Depths (rasters).

- NOAA 0.5 Feet Sea Level Rise Inundation Depths
- NOAA 1.0 Feet Sea Level Rise Inundation Depths
- NOAA 1.5 Feet Sea Level Rise Inundation Depths
- NOAA 2.0 Feet Sea Level Rise Inundation Depths
- NOAA 2.5 Feet Sea Level Rise Inundation Depths
- NOAA 3.0 Feet Sea Level Rise Inundation Depths
- NOAA 3.5 Feet Sea Level Rise Inundation Depths

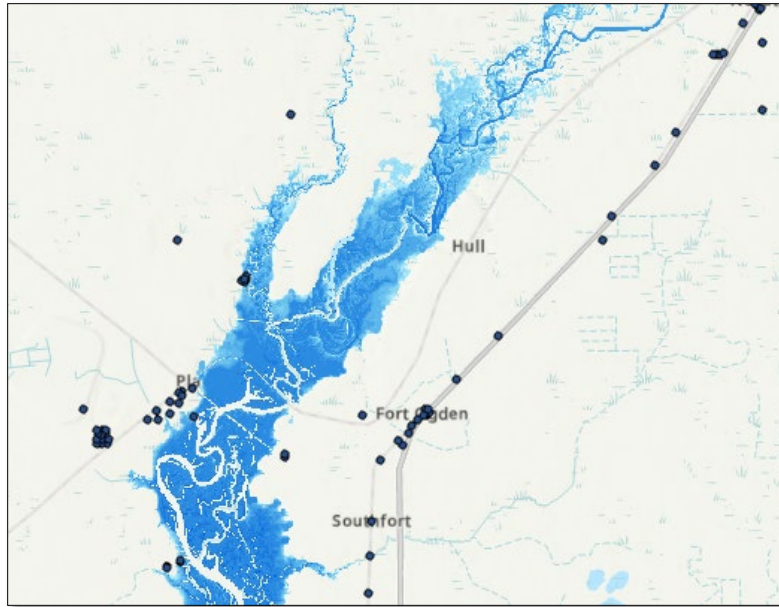


Figure 23: Sea Level Flooding Raster (NOAA)

NOAA 2017 Sea Level Rise values for analysis:

- 2040 Intermediate Low > 0.76
 - Analysis > 0.5 ft. (min) and 1.0 ft. (max) raster
- 2040 Intermediate High > 1.44
 - Analysis > 1.0 ft. (min) and 1.5 ft. (max) raster
- 2070 Intermediate Low > 1.31
 - Analysis > 1.0 ft. (min) and 1.5 ft. (max) raster
- 2070 Intermediate High > 3.35
 - Analysis > 3.0 ft. (min) and 3.5 ft. (max) raster

In DeSoto County, sea level rise can contribute to:

- Higher river stages and slower drainage in the Peace River basin.
- More frequent and prolonged flooding, especially after heavy rainfall.
- Backwater effects, where elevated downstream water levels prevent rivers and canals from draining efficiently.
- Increased stress on roads, bridges, drainage systems, and utilities.
- Greater flood risk to agricultural lands and rural communities.

Compound Flooding

While DeSoto County is inland, sea level rise and storm surge affect the community through the river levels and drainage in the Peace River basin. Therefore, there is a need to analyze the compound of these scenarios against the critical assets within the County, known as Compound Flooding.

The section below explains the integrated framework for evaluating: static tidal flooding driven by ocean water levels; rainfall-driven flooding; and compound flooding conditions where multiple drivers may impact an asset. The methodology is designed for planning-level flood risk assessment and GIS-based analysis.

Mean Higher High Water (MHHW)

Mean Higher High Water (MHHW) is the average height of the higher of the two daily high tides over a standard 19-year tidal epoch. It represents the “normal” high-tide line, based on long-term observations.

Key Characteristics:

- It is a baseline ocean surface.
- It is a tidal datum, not flooding.
- It is a reference tidal water level, not flooding.
- It represents where the ocean *normally* sits at high tide.
- It is a baseline water surface, not a depth.
- It serves as the reference plane for sea-level rise analysis.

In practical terms:

- MHHW defines where the ocean normally sits at high tide for a specific location.
- MHHW is 2.19 ft above Mean Lower Low Water (MLLW)
- NOAA lists NAVD88 as 1.55 ft above Mean Lower Low Water (MLLW) at this station.

$$MHHW \text{ NAVD88} \sim 2.19 - 1.55 = 0.64 \text{ ft (NAVD88)}$$

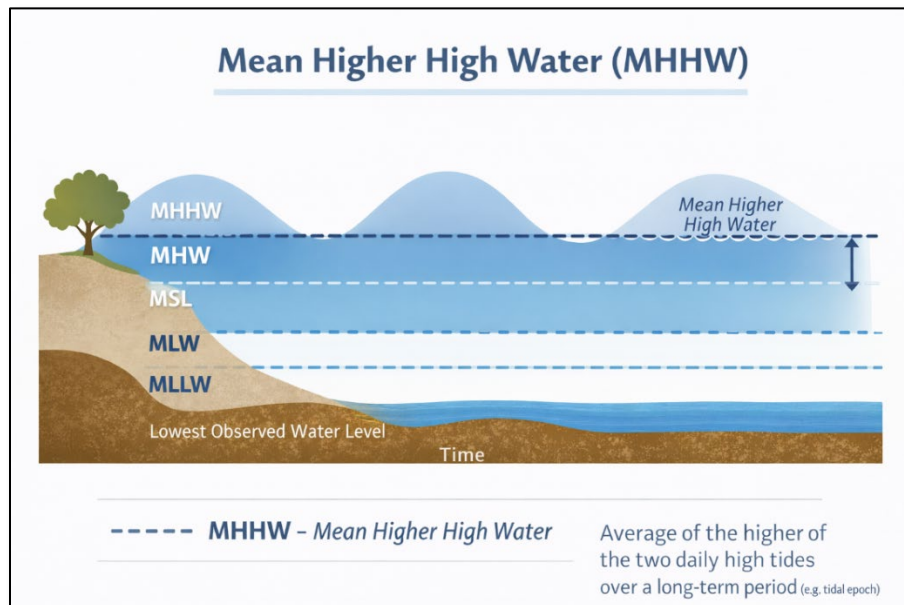


Figure 24: Mean Higher High Water Graphic

Sea Level Rise (SLR)

Sea Level Rise (SLR) represents the projected vertical increase in ocean water levels above the historical tidal datum. It functions as an offset added to MHHW to estimate future tidal conditions.

Static Tidal Flooding

Water Surface Definition

The elevation of the water level at a given location under still-water (non-wave) conditions, typically expressed relative to a vertical datum (such as NAVD88), representing the height that tidal or coastal waters reach during a flooding event.

Future Tidal Water Surface: $WaterSurface = MHHW + SLR$

Tidal Flood Depth Calculation

$$TidalFloodDepth = (MHHW + SLR) - AssetElevation$$

Where:

- Asset Elevation = ground or structure elevation (same vertical datum as MHHW)
- Positive result → Flooding occurs
- Zero or negative → No flooding

Interpretation

Tidal flooding occurs when Water Surface is greater than Asset Elevation

Flood depth is the vertical exceedance of water above land. This model represents static tidal conditions and does not include rainfall, storm surge, or riverine interaction.

Rainfall-Driven Flooding

Rainfall flooding is derived from modeled precipitation events (e.g., 100-year rainfall scenarios).

It represents:

- Surface ponding
- Drainflow accumulation
- Riverine expansion due to precipitation

Rainfall flood depth is typically modeled independently from tidal influences using hydraulic or hydrologic models.

Compound Flooding Framework

Compound flooding occurs when more than one flood driver may impact an asset. In this methodology, compound flooding is evaluated using a governing-driver approach, meaning the most severe water depth controls.

Inputs:

1. Rainfall Flood Depth
2. Tidal Flood Depth

Compound Flood Depth Calculation

$$\text{CompoundFloodDepth} = \max(\text{RainfallDepth}, \text{TidalFloodDepth})$$

This approach:

- Does not sum water depths.
- Does not simulate hydraulic interaction.
- Selects the controlling flood mechanism.

Conceptual Differences

Table 21: Flood Type Conceptual Differences

Flood Type	Driver	Formula Structure	Interpretation
Tidal Flooding	Ocean level (MHHW + SLR)	Subtraction	Datum exceedance
Rainfall Flooding	Precipitation	Modeled inundation	Surface accumulation
Compound Flooding	Rain + Tide	MAX function	Governing condition

Important Technical Clarification

This compound methodology represents:

- Combined hazard screening, not hydrodynamic interaction modeling. True hydraulic compounding (e.g., tide blocking drainage and increasing rainfall depth) would require:
 - Coupled hydraulic simulation.
 - Boundary condition adjustments.
 - Dynamic water surface modeling.
- The current framework is appropriate for:
 - Planning-level vulnerability analysis.
 - GIS-based screening.
 - Comparative risk ranking

Full Integrated Logic Flow

Step 1:

Calculate Tidal Flood Depth

$$\text{TidalFloodDepth} = (\text{MHHW} + \text{SLR}) - \text{AssetElevation}$$

Step 2:
Obtain Rainfall Flood Depth (modeled)

Step 3:
Select governing depth

$$\text{CompoundFloodDepth} = \max(\text{RainfallDepth}, \text{TidalFloodDepth})$$

Step 4:
If CompoundFloodDepth > 0 → Asset is flooded

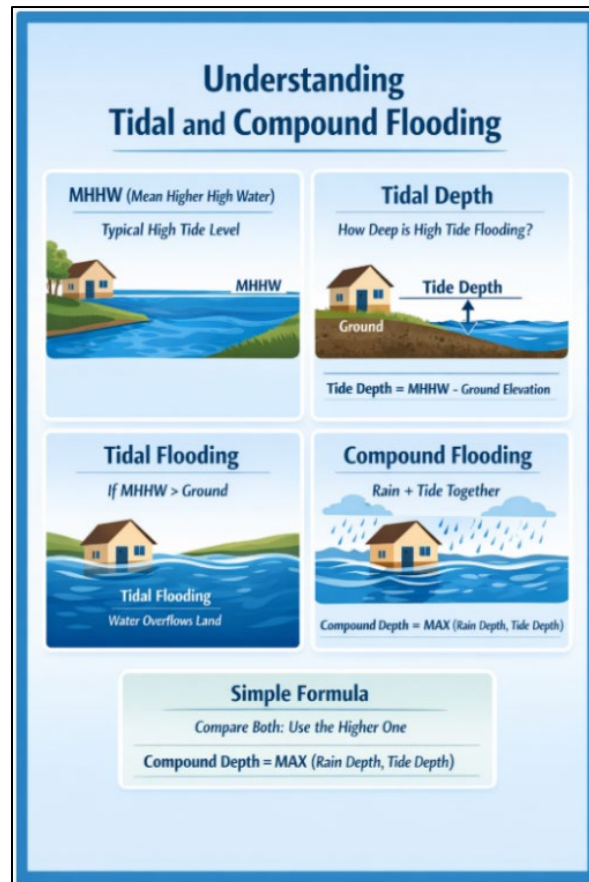


Figure 25: Understanding Tidal and Compound Flooding

Compound Flooding Summarized in this Analysis

Table 22: Compound Flooding Table Summarized

Name	Value	Definition	Info
RainDepth	Multiple: Use most severe is 500yr - 2070	100, 200, 500yr Rainfall Events (for 2025, 2040, 2070)	Height of rainfall
Ground Elevation	Z Value	Z Value derived from DEMs	Actual elevation of ground surface
*MHHW	0.64	Mean Higher High Water	MHHW (Mean Higher High Water) is the average height of the higher daily high tide.
Tidal Depth	Tidal Depth = (SLR + MHHW) – Ground Elevation	Height of water from high tide above the ground	NOTE: If the result is negative → use 0 (no flooding).
Tidal Flooding	If Tidal Depth > Ground Elevation	High tide water above Z Value (ground)	The flooding depth is simply the difference.
Compound Flooding	CompoundDepth = MAX(RainDepth, Tide Flooding Depth)	Rainfall Flood Depth vs. Tidal Flood Depth	Whichever is larger is the compound flood depth.

A multi-hazard maximum-depth envelope was generated by selecting the highest inundation depth per location across modeled hazard surfaces.

Critical Asset Exposure Data

DeSoto County's Critical Asset Exposure data can be found in the tables below and in Appendix A as well as the provided GIS Geodatabase. The Geodatabase includes the Asset Points, Asset Polylines, Asset Polygons Transportation, Asset Polygons and the above-mentioned Rainfall Induced Flooding Rasters.

Summary Exposure Totals

The Critical Asset Exposure Summary Data Tables were developed to document and quantify the results of the Vulnerability Assessment exposure analysis. These tables identify and categorize critical assets within the County and summarize their potential exposure to applicable hazard scenarios over relevant planning horizons.

The summary tables shown in this section are for the Assets Points. The Asset Polygons, Asset Polylines, and Asset Polygons Transportation can be found in Appendix A.

- Appendix A includes the detailed exposure tables.
- Appendix B includes each mapped scenario with exposure results.

Point Assets by 100-Year Scenarios

The tables in this section represent the number of asset points affected by Asset Group in the 100-year scenarios. Appendix A includes detailed tables by Asset Group and Asset Type.

Table 23: 100-Year Summary Table for Unincorporated Point Assets by Asset Group

Unincorporated Asset Points						
Asset Group	Rainfall Year	NONE	SHALLOW	MEDIUM	DEEP	TOTAL
Critical Community and Emergency Facilities	100 Year 2025 Totals	33	1	4	0	38
	100 Year 2040 Totals	28	4	2	4	38
	100 Year 2070 Totals	27	5	2	4	38
Critical Infrastructure	100 Year 2025 Totals	220	51	12	12	295
	100 Year 2040 Totals	186	71	21	17	295
	100 Year 2070 Totals	166	84	28	17	295
Natural, Cultural, and Historical Resources	100 Year 2025 Totals	115	40	3	0	158
	100 Year 2040 Totals	98	48	12	0	158
	100 Year 2070 Totals	88	56	14	0	158
Transportation and Evacuation Routes	100 Year 2025 Totals	33	3	2	9	47
	100 Year 2040 Totals	32	4	0	11	47
	100 Year 2070 Totals	30	6	0	11	47
100 Year 2025 Totals		401	95	21	21	538
100 Year 2040 Totals		344	127	35	32	538
100 Year 2070 Totals		311	151	44	32	538

Table 24: 100-Year Summary Table for City of Arcadia Point Assets by Asset Group

City of Arcadia Asset Points						
Asset Group	Rainfall Year	NONE	SHALLOW	MEDIUM	DEEP	TOTAL
Critical Community and Emergency Facilities	100 Year 2025 Totals	50	15	0	0	65
	100 Year 2040 Totals	46	17	2	0	65
	100 Year 2070 Totals	40	22	3	0	65
Critical Infrastructure	100 Year 2025 Totals	28	15	0	0	43
	100 Year 2040 Totals	24	18	1		43
	100 Year 2070 Totals	22	20	1	0	43
Natural, Cultural, and Historical Resources	100 Year 2025 Totals	407	147	18	1	573
	100 Year 2040 Totals	309	236	25	3	573
	100 Year 2070 Totals	263	272	29	9	573
Transportation and Evacuation Routes	100 Year 2025 Totals	13	4	0	0	17
	100 Year 2040 Totals	9	4	4	0	17
	100 Year 2070 Totals	8	6	3	0	17
100 Year 2025 Totals		498	181	18	1	698
100 Year 2040 Totals		388	275	32	3	698
100 Year 2070 Totals		333	320	36	9	698

Point Assets by 200-Year Scenarios

The tables in this section represent the number of asset points affected by Asset Group in the 200-year scenarios. Appendix A includes detailed tables by Asset Group and Asset Type.

Table 25: 200-Year Summary Table for Unincorporated Point Assets by Asset Group

Unincorporated Asset Points						
Asset Group	Rainfall Year	NONE	SHALLOW	MEDIUM	DEEP	TOTAL
Critical Community and Emergency Facilities	200 Year 2025 Totals	33	1	0	4	38
	200 Year 2040 Totals	27	5	2	4	38
	200 Year 2070 Totals	24	6	3	5	38
Critical Infrastructure	200 Year 2025 Totals	209	62	12	12	295
	200 Year 2040 Totals	168	82	25	20	295
	200 Year 2070 Totals	146	97	28	24	295
Natural, Cultural, and Historical Resources	200 Year 2025 Totals	110	44	4	0	158
	200 Year 2040 Totals	89	56	13	0	158
	200 Year 2070 Totals	85	54	18	1	158
Transportation and Evacuation Routes	200 Year 2025 Totals	33	3	0	11	47
	200 Year 2040 Totals	30	6	0	11	47
	200 Year 2070 Totals	30	6	0	11	47
200 Year 2025 Totals		385	110	16	27	538
200 Year 2040 Totals		314	149	40	35	538
200 Year 2070 Totals		285	163	49	41	538

EXPOSURE ANALYSIS

Table 26: 200-Year Summary Table for City of Arcadia Point Assets by Asset Group

City of Arcadia Asset Points						
Asset Group	Rainfall Year	NONE	SHALLOW	MEDIUM	DEEP	TOTAL
Critical Community and Emergency Facilities	200 Year 2025 Totals	50	14	1	0	65
	200 Year 2040 Totals	42	19	4	0	65
	200 Year 2070 Totals	38	20	7	0	65
Critical Infrastructure	200 Year 2025 Totals	27	16	0	0	43
	200 Year 2040 Totals	23	16	4	0	43
	200 Year 2070 Totals	17	19	7	0	43
Natural, Cultural, and Historical Resources	200 Year 2025 Totals	385	165	21	2	573
	200 Year 2040 Totals	278	258	31	6	573
	200 Year 2070 Totals	220	291	47	15	573
Transportation and Evacuation Routes	200 Year 2025 Totals	12	3	2	0	17
	200 Year 2040 Totals	9	3	2	3	17
	200 Year 2070 Totals	7	5	2	3	17
200 Year 2025 Totals		474	198	24	2	698
200 Year 2040 Totals		352	296	41	9	698
200 Year 2070 Totals		282	335	63	18	698

Point Assets by 500-Year Scenarios

The tables in this section represent the number of asset points affected by Asset Group in the 500-year scenarios. Appendix A includes detailed tables by Asset Group and Asset Type.

Table 27: 500-Year Summary Table for Unincorporated Point Assets by Asset Group

Unincorporated Asset Points Summary						
Asset Group	Rainfall Year	NONE	SHALLOW	MEDIUM	DEEP	TOTAL
Critical Community and Emergency Facilities	500 Year 2025 Totals	33	1	0	4	38
	500 Year 2040 Totals	27	5	2	4	38
	500 Year 2070 Totals	24	6	3	5	38
Critical Infrastructure	500 Year 2025 Totals	194	66	20	15	295
	500 Year 2040 Totals	149	92	29	25	295
	500 Year 2070 Totals	122	94	48	31	295
Natural, Cultural, and Historical Resources	500 Year 2025 Totals	102	49	7	0	158
	500 Year 2040 Totals	87	55	15	1	158
	500 Year 2070 Totals	72	63	22	1	158
Transportation and Evacuation Routes	500 Year 2025 Totals	32	4	0	11	47
	500 Year 2040 Totals	30	6	0	11	47
	500 Year 2070 Totals	28	8	0	11	47
500 Year 2025 Totals		361	120	27	30	538
500 Year 2040 Totals		293	158	46	41	538
500 Year 2070 Totals		246	171	73	48	538

EXPOSURE ANALYSIS

Table 28: 500-Year Summary Table for City of Arcadia Assets Points by Asset Group

City of Arcadia Asset Points Summary						
Asset Group	Rainfall Year	NONE	SHALLOW	MEDIUM	DEEP	TOTAL
Critical Community and Emergency Facilities	500 Year 2025 Totals	47	16	2	0	65
	500 Year 2040 Totals	38	19	5	3	65
	500 Year 2070 Totals	33	22	7	3	65
Critical Infrastructure	500 Year 2025 Totals	25	18	0	0	43
	500 Year 2040 Totals	18	18	4	3	43
	500 Year 2070 Totals	16	16	8	3	43
Natural, Cultural, and Historical Resources	500 Year 2025 Totals	350	197	23	3	573
	500 Year 2040 Totals	228	285	46	14	573
	500 Year 2070 Totals	162	301	93	17	573
Transportation and Evacuation Routes	500 Year 2025 Totals	11	2	4	0	17
	500 Year 2040 Totals	8	4	0	5	17
	500 Year 2070 Totals	5	6	1	5	17
500 Year 2025 Totals		433	233	29	3	698
500 Year 2040 Totals		292	326	55	25	698
500 Year 2070 Totals		216	345	109	28	698

Top 10 Exposure Assets

The top ten assets were filtered based on the 500-Year 2070 Scenario, which provides the most flooding impacts to the County as mentioned earlier in this report.

Table 29: Countywide Top 10 Exposure Point Assets

Asset Group	Asset Type	CFRPC ID	Asset Name	Asset Relevancy	500 Year 2070
Transportation and Evacuation Routes	Railroad Bridges	CFRPC_PT:019581	PEACE RIVER	Regionally Significant	27.33
Transportation and Evacuation Routes	Railroad Bridges	CFRPC_PT:019586	JOSHUA CREEK	Regionally Significant	27.18
Critical Infrastructure	Wastewater Treatment Facilities and Lift Stations	CFRPC_PT:019805	Lift Station Preserve 1	Regionally Significant	22.21
Transportation and Evacuation Routes	Marinas	CFRPC_PT:033376	BROWNVILLE PARK	Locally Significant	20.09
Transportation and Evacuation Routes	Marinas	CFRPC_PT:033377	DeSoto Park Public Boat Launch	Locally Significant	19.63
Critical Infrastructure	Drinking Water Facilities	CFRPC_PT:002627	PEACE RIVER REG WATER PLANT	Regionally Significant	19.37
Critical Infrastructure	Drinking Water Facilities	CFRPC_PT:001795	BROWNVILLE PARK	Regionally Significant	18.46
Critical Infrastructure	Wastewater Treatment Facilities and Lift Stations	CFRPC_PT:009066	Horse Creek WWTF	Regionally Significant	18.43
Critical Infrastructure	Solid and Hazardous Waste Facilities	CFRPC_PT:033279	SPRING LAKE YOUTH ACADEMY	Locally Significant	18.42
Critical Infrastructure	Drinking Water Facilities	CFRPC_PT:002629	HORSE CREEK	Regionally Significant	18.38

EXPOSURE ANALYSIS

Table 30: Countywide Top 10 Exposure Polyline Assets

Asset Group	Asset Type	CFRPC ID	Asset Name	Asset Relevancy	500 Year 2070
Natural, Cultural, and Historical Resources	Surface Waters	CFRPC_PL:091540	Peace River	Locally Significant	30.12
Natural, Cultural, and Historical Resources	Surface Waters	CFRPC_PL:085457	(blank)	Locally Significant	30.10
Natural, Cultural, and Historical Resources	Surface Waters	CFRPC_PL:058427	Peace River	Locally Significant	30.10
Natural, Cultural, and Historical Resources	Surface Waters	CFRPC_PL:054899	Peace River	Locally Significant	30.06
Natural, Cultural, and Historical Resources	Surface Waters	CFRPC_PL:097383	Peace River	Locally Significant	30.04
Natural, Cultural, and Historical Resources	Surface Waters	CFRPC_PL:099162	Sand Gully	Locally Significant	30.01
Transportation and Evacuation Routes	Bridges	CFRPC_PL:000088	040005	Locally Significant	30.01
Natural, Cultural, and Historical Resources	Surface Waters	CFRPC_PL:091958	Peace River	Locally Significant	30.00
Natural, Cultural, and Historical Resources	Surface Waters	CFRPC_PL:100363	(blank)	Locally Significant	29.99
Natural, Cultural, and Historical Resources	Surface Waters	CFRPC_PL:058683	(blank)	Locally Significant	29.95

Table 31: Countywide Top 10 Exposure Polyline Transportation Assets

Asset Group	Asset Type	CFRPC ID	Asset Name	Asset Relevancy	500 Year 2070
Transportation and Evacuation Routes	Roadways	CFRPC_PLT:111884	W OAK ST	Regionally Significant	26.23
Transportation and Evacuation Routes	Roadways	CFRPC_PLT:111035	W OAK ST	Regionally Significant	26.20
Transportation and Evacuation Routes	Roadways	CFRPC_PLT:099898	CR-769	Regionally Significant	25.49
Transportation and Evacuation Routes	Roadways	CFRPC_PLT:099119	NE BROWNVILLE ST	Locally Significant	25.22
Transportation and Evacuation Routes	Roadways	CFRPC_PLT:071369		Locally Significant	24.76
Transportation and Evacuation Routes	Roadways	CFRPC_PLT:099401	CR-760A	Locally Significant	23.83
Transportation and Evacuation Routes	Roadways	CFRPC_PLT:030056	120TH ST	Locally Significant	23.47
Transportation and Evacuation Routes	Roadways	CFRPC_PLT:111577	CR-761	Locally Significant	23.13
Transportation and Evacuation Routes	Roadways	CFRPC_PLT:111574	CR-761	Locally Significant	22.91
Transportation and Evacuation Routes	Roadways	CFRPC_PLT:053469	SR-70	Regionally Significant	20.57

Table 32: Countywide Top 10 Exposure Polygon Assets

Asset Group	Asset Type	CFRPC ID	Asset Name	Asset Relevancy	500 Year 2070
Natural, Cultural, and Historical Resources	Surface Waters	CFRPC_PG:021331	(blank)	Locally Significant	28.30
Natural, Cultural, and Historical Resources	Wetlands	CFRPC_PG:023679	6100: Wetland Hardwood Forests	Regionally Significant	27.97
Natural, Cultural, and Historical Resources	Surface Waters	CFRPC_PG:021046	(blank)	Locally Significant	27.65
Natural, Cultural, and Historical Resources	Wetlands	CFRPC_PG:077766	6440: Emergent Aquatic Vegetation	Regionally Significant	27.56
Natural, Cultural, and Historical Resources	Surface Waters	CFRPC_PG:021022	(blank)	Locally Significant	27.56
Natural, Cultural, and Historical Resources	Wetlands	CFRPC_PG:046449	6410: Freshwater Marshes	Regionally Significant	26.99
Natural, Cultural, and Historical Resources	Surface Waters	CFRPC_PG:021351	(blank)	Locally Significant	26.96
Natural, Cultural, and Historical Resources	Surface Waters	CFRPC_PG:021262	(blank)	Locally Significant	26.94
Natural, Cultural, and Historical Resources	Surface Waters	CFRPC_PG:021125	Johnson Lake	Locally Significant	26.93
Natural, Cultural, and Historical Resources	Surface Waters	CFRPC_PG:021263	(blank)	Locally Significant	26.90

Countywide to Include Municipalities Total Exposure Assets

The detailed tables can be found in Appendix A for the full details.

Sea Level Rise and Storm Surge Asset Exposure Data

Summary Sea Level Rise Exposure Totals

The Sea Level Rise Exposure Summary Data Tables were developed to document and quantify the results of the Vulnerability Assessment exposure analysis in regard to Sea level Rise impacts.

The City of Arcadia does not have any Point Assets, Polyline Assets, or Polyline Transportation Assets affected by sea level rise.

Appendix A includes the detailed exposure result tables.

Appendix B includes each mapped scenario and exposure result.

EXPOSURE ANALYSIS

Table 33: Unincorporated Point Assets Affected by Sea Level Rise

Unincorporated Asset Points Affected by Sea Level Rise – Asset Depth Shown								
	Affected Assets	Sea Level Rise 0.5 ft	Sea Level Rise 1.0 ft	Sea Level Rise 1.5 ft	Sea Level Rise 2.0 ft	Sea Level Rise 2.5 ft	Sea Level Rise 3.0 ft	Sea Level Rise 3.5 ft
		2040 IML SLR MIN	2040 IML SLR MAX					
			2040 IMH SLR MIN	2040 IMH SLR MAX				
			2070 IML SLR MIN	2070 IML SLR MAX			2070 IMH SLR MIN	2070 IMH SLR MAX
Critical Community and Emergency Facilities	0	-	-	-	-	-	-	-
Critical Infrastructure	3	0.22	1.09	1.40	2.90	4.23	5.73	7.23
Drinking Water Facilities	1							
PEACE RIVER REG WATER PLANT	1	0.14	0.64	0.17	0.67	1.00	1.50	2.00
Stormwater Treatment Facilities and Pump Stations	1	-	-	0.27	0.77	1.27	1.77	2.27
Desoto Pond Dam	1	-	-	0.27	0.77	1.27	1.77	2.27
Wastewater Treatment Facilities and Lift Stations	1	0.08	0.45	0.95	1.45	1.95	2.45	2.95
Lift Station Preserve 1	1	0.08	0.45	0.95	1.45	1.95	2.45	2.95
Natural, Cultural, and Historical Resources	0	-	-	-	-	-	-	-

Unincorporated Asset Points Affected by Sea Level Rise – Asset Depth Shown								
	Affected Assets	Sea Level Rise 0.5 ft	Sea Level Rise 1.0 ft	Sea Level Rise 1.5 ft	Sea Level Rise 2.0 ft	Sea Level Rise 2.5 ft	Sea Level Rise 3.0 ft	Sea Level Rise 3.5 ft
		2040 IML SLR MIN	2040 IML SLR MAX					
			2040 IMH SLR MIN	2040 IMH SLR MAX				
			2070 IML SLR MIN	2070 IML SLR MAX			2070 IMH SLR MIN	2070 IMH SLR MAX
Transportation and Evacuation Routes	3	0.50	0.13	0.57	1.22	2.22	2.35	3.83
Marinas	3	0.50	0.13	0.57	1.22	2.22	2.35	3.83
Lettuce Lake Public Boat Ramp	1	-	-	-	0.29	0.79	0.17	0.67
Liverpool Park	1	-	-	-	-	-	0.25	0.73
Lower Peace River Corridor Public Boat Ramp	1	0.50	0.13	0.57	0.93	1.43	1.93	2.43

EXPOSURE ANALYSIS

Sea Level Polyline Asset Tables

Table 34: Number of Unincorporated Polyline Assets Affected by Sea Level Rise

Count of Unincorporated Polyline Assets Affected by Sea Level Rise							
	Sea Level Rise 0.5 ft	Sea Level Rise 1.0 ft	Sea Level Rise 1.5 ft	Sea Level Rise 2.0 ft	Sea Level Rise 2.5 ft	Sea Level Rise 3.0 ft	Sea Level Rise 3.5 ft
	2040 IML SLR MIN	2040 IML SLR MAX					
		2040 IMH SLR MIN	2040 IMH SLR MAX				
		2070 IML SLR MIN	2070 IML SLR MAX			2070 IMH SLR MIN	2070 IMH SLR MAX
Critical Infrastructure							
Electric Production and Supply Facilities	-	-	-	-	-	-	-
Stormwater Treatment Facilities and Pump Stations	-	-	-	-	-	-	-
Natural, Cultural, and Historical Resources							
Historical and Cultural Assets	-	-	1	1	1	1	1
Shorelines	89	95	104	104	104	106	106
Surface Waters	240	267	308	313	319	348	348
Transportation and Evacuation Routes							
Bridges	2	2	3	3	3	4	4
Rail Facilities	-	-	-	-	-	-	-
Grand Total	331	364	416	421	427	459	459

Sea Level Polyline Transportation Asset Tables

Table 35: Number of Unincorporated Polyline Transportation Assets Affected by Sea Level Rise

Count of Unincorporated Polyline Transportation Assets Affected by Sea Level Rise							
	Sea Level Rise 0.5 ft	Sea Level Rise 1.0 ft	Sea Level Rise 1.5 ft	Sea Level Rise 2.0 ft	Sea Level Rise 2.5 ft	Sea Level Rise 3.0 ft	Sea Level Rise 3.5 ft
	2040 IML SLR MIN	2040 IML SLR MAX					
		2040 IMH SLR MIN	2040 IMH SLR MAX				
		2070 IML SLR MIN	2070 IML SLR MAX			2070 IMH SLR MIN	2070 IMH SLR MAX
Transportation and Evacuation Routes							
Roadways	6	5	6	6	6	18	21
Evacuation Route	-	-	-	-	-	1	1
Evacuation Route - SIS	-	-	-	-	-	-	-
Non-Evacuation Route	6	5	6	6	6	17	20
Grand Total	6	5	6	6	6	18	21

Sea Level Polygon Asset Tables

Table 36: Number of Unincorporated Polygon Assets Affected by Sea Level Rise

Count of Unincorporated Polygon Assets Affected by Sea Level Rise							
	Sea Level Rise 0.5 ft	Sea Level Rise 1.0 ft	Sea Level Rise 1.5 ft	Sea Level Rise 2.0 ft	Sea Level Rise 2.5 ft	Sea Level Rise 3.0 ft	Sea Level Rise 3.5 ft
	2040 IML SLR MIN	2040 IML SLR MAX					
		2040 IMH SLR MIN	2040 IMH SLR MAX				
		2070 IML SLR MIN	2070 IML SLR MAX			2070 IMH SLR MIN	2070 IMH SLR MAX
Critical Infrastructure	-	-	-	1	2	2	2
Stormwater Treatment Facilities and Pump Stations	-	-	-	1	2	2	2
Natural, Cultural, and Historical Resources	56	85	106	126	138	149	162
Conservation Lands	-	-	-	-	-	-	-
Historical and Cultural Assets	-	-	-	-	-	-	-
Surface Waters	13	17	24	33	39	42	49
Wetlands	43	68	82	93	99	107	113
Grand Total	56	85	106	127	140	151	164

EXPOSURE ANALYSIS

Table 37: Number of City of Arcadia Polygon Assets Affected by Sea Level Rise

Count of City of Arcadia Polygon Assets Affected by Sea Level Rise							
	Sea Level Rise 0.5 ft	Sea Level Rise 1.0 ft	Sea Level Rise 1.5 ft	Sea Level Rise 2.0 ft	Sea Level Rise 2.5 ft	Sea Level Rise 3.0 ft	Sea Level Rise 3.5 ft
	2040 IML SLR MIN	2040 IML SLR MAX					
		2040 IMH SLR MIN	2040 IMH SLR MAX				
		2070 IML SLR MIN	2070 IML SLR MAX			2070 IMH SLR MIN	2070 IMH SLR MAX
Critical Infrastructure	-	-	-	-	-	-	-
Stormwater Treatment Facilities and Pump Stations	-	-	-	-	-	-	-
Natural, Cultural, and Historical Resources	1	1	1	1	1	2	2
Conservation Lands	-	-	-	-	-	-	-
Historical and Cultural Assets	-	-	-	-	-	-	-
Parks	-	-	-	-	-	1	1
Surface Waters	1	1	1	1	1	1	1
Wetlands	-	-	-	-	-	-	-
Grand Total	1	1	1	1	1	2	2

Summary Storm Surge Exposure Totals

The Storm Surge Exposure Summary Data Tables were developed to document and quantify the results of the Vulnerability Assessment exposure analysis in regard to Storm Surge impacts.

Appendix A includes the detailed exposure result tables.

Appendix B includes each mapped scenario and exposure result.

Storm Surge Point Asset Tables

Table 38: Unincorporated Point Assets Affected by Storm Surge

Unincorporated Point Assets Affected by Storm Surge – Asset Depth Shown					
	Storm Surge Category 1	Storm Surge Category 2	Storm Surge Category 3	Storm Surge Category 4	Storm Surge Category 5
Critical Community and Emergency Facilities	-	-	-	-	-
Communications Facilities	-	1.00	5.11	12.56	18.00
CELL TOWER	-	1.00	5.11	12.56	18.00
Correctional Facilities	1.07	6.00	10.47	17.00	21.00
SPRING LAKE YOUTH ACADEMY	1.07	6.00	10.47	17.00	21.00
Emergency Medical Service Facilities	-	-	-	8.00	13.00
DESOTO COUNTY EMS ST 2	-	-	-	8.00	13.00
Fire Stations	-	-	-	8.00	13.00
DESOTO COUNTY FIRE RESCUE ST 2	-	-	-	8.00	13.00
Schools	2.13	12.00	20.94	34.00	46.00
Faith Preparatory School of Lake Suzy	-	-	-	-	4.00
SPRING LAKE YOUTH ACADEMY	2.13	12.00	20.94	34.00	42.00
State Government Facilities	1.07	6.00	10.47	17.00	21.00
SPRING LAKE YOUTH ACADEMY	1.07	6.00	10.47	17.00	21.00
Critical Infrastructure	-	-	-	-	-

Unincorporated Point Assets Affected by Storm Surge – Asset Depth Shown					
	Storm Surge Category 1	Storm Surge Category 2	Storm Surge Category 3	Storm Surge Category 4	Storm Surge Category 5
Communications Facilities	-	-	-	-	7.44
ALLTEL WIRELESS HOLDINGS, LLC	-	-	-	-	5.00
CLEARSHOT COMMUNICATIONS, LLC	-	-	-	-	2.44
Drinking Water Facilities	18.87	48.25	87.09	194.08	312.08
BROWNVILLE PARK	-	-	-	-	5.86
DEEP CREEK PARK	-	8.00	17.28	31.41	42.00
HORSE CREEK	4.35	13.16	23.16	35.58	42.00
LAKE SUZY SUBDIVISION	-	-	-	-	5.00
LIVE OAK RV RESORT	-	-	-	3.00	18.36
NAVAGATOR GRILL	8.01	16.19	25.49	40.00	42.00
PEACE RIVER REG WATER PLANT	6.52	10.90	19.16	67.41	125.59
S. 761 GROCERY	-	-	2.00	14.68	26.14
SUPER STOP EXPRESS III	-	-	-	2.00	5.13
Solid and Hazardous Waste Facilities	2.05	7.02	11.59	28.70	69.11
DESOTO SAND & FILL, INC.	-	-	-	2.62	18.57
DESOTO SAND AND FILL	-	-	-	-	4.67
ENVIRONMENTAL LEARNING LAB	-	-	-	3.07	3.95
KINGSWAY COUNTRY CLUB	-	-	-	-	2.81
PARADISE GOLF COURSE	-	-	-	5.00	10.02
SOUTHWEST FLORIDA VETERINARY SERVICES, P.A.	-	-	-	-	2.95
SPRING LAKE YOUTH ACADEMY	2.05	7.02	11.59	18.02	21.00
WINSLOW LIFE RAFT COMPANY	-	-	-	-	3.14
Stormwater Treatment Facilities and Pump Stations	7.09	11.09	16.08	21.00	21.00
Desoto Pond Dam	7.09	11.09	16.08	21.00	21.00

Unincorporated Point Assets Affected by Storm Surge – Asset Depth Shown					
	Storm Surge Category 1	Storm Surge Category 2	Storm Surge Category 3	Storm Surge Category 4	Storm Surge Category 5
Wastewater Treatment Facilities and Lift Stations	9.61	19.00	35.71	69.47	150.98
Golden Ranch Farms, LLC	-	-	-	-	4.08
Horse Creek WWTF	2.26	7.00	12.00	18.26	21.00
Lift Station 01	-	-	-	-	3.30
Lift Station 02	-	-	-	-	4.99
Lift Station 03	-	-	-	-	3.00
Lift Station 04	-	-	-	-	5.42
Lift Station 05	-	-	-	-	4.89
Lift Station 06	-	-	-	2.00	4.33
Lift Station 07	-	-	-	-	3.26
Lift Station 08	-	-	-	-	3.78
Lift Station 09	-	-	-	-	6.01
Lift Station 15	-	-	-	-	3.59
Lift Station 16	-	-	2.36	8.21	13.21
Lift Station 17	-	-	2.00	9.00	14.89
Lift Station 18	-	-	3.00	10.00	16.00
Lift Station 19	-	-	-	-	5.20
Lift Station Preserve 1	7.35	12.00	16.35	21.00	21.00
Lift Station Preserve 2	-	-	-	1.00	5.05
LIVE OAK RV RESORT	-	-	-	-	3.97
Peace River Regional Water Supply Facility	-	-	-	-	4.00
Water Utility Conveyance Systems	6.50	28.00	52.73	84.59	105.00
DEEP CREEK PARK - B/1	-	4.00	8.73	15.72	21.00
HORSE CREEK - BLADDER TANK #1	1.77	6.00	11.00	17.28	21.00

Unincorporated Point Assets Affected by Storm Surge – Asset Depth Shown					
	Storm Surge Category 1	Storm Surge Category 2	Storm Surge Category 3	Storm Surge Category 4	Storm Surge Category 5
HORSE CREEK - BLADDER TANK #2	1.61	6.00	11.00	17.16	21.00
HORSE CREEK - BLADDER TANK #3	1.56	6.00	11.00	17.27	21.00
HORSE CREEK - BLADDER TANK #4	1.55	6.00	11.00	17.17	21.00
Natural, Cultural, and Historical Resources	-	-	-	-	-
Historical and Cultural Assets	-	-	-	2.02	28.51
11768 SW CR 769	-	-	-	1.02	7.02
11920 SW CR 769	-	-	-	-	6.11
11922 SW CR 769	-	-	-	1.00	6.14
11950 SW CR 769	-	-	-	-	5.16
12154 HWY 17 SW	-	-	-	-	2.84
3702 SW US HIGHWAY 17	-	-	-	-	1.24
Transportation and Evacuation Routes	-	-	-	-	-
Airports	-	-	-	2.00	12.09
LAKE SUZY ESTATES AIRPORT	-	-	-	-	4.09
SUNNY BREEZE AIRPORT	-	-	-	2.00	8.00
Marinas	20.84	34.55	50.32	70.95	83.50
BROWNVILLE PARK	-	-	-	1.92	8.47
DeSoto Park Public Boat Launch	-	-	3.00	6.68	12.03
Lettuce Lake Public Boat Ramp	5.85	10.33	14.61	20.35	21.00
Liverpool Park	7.09	11.83	15.83	21.00	21.00
Lower Peace River Corridor Public Boat Ramp	7.90	12.39	16.88	21.00	21.00
Rail Facilities	-	-	-	1.03	9.78

Unincorporated Point Assets Affected by Storm Surge – Asset Depth Shown					
	Storm Surge Category 1	Storm Surge Category 2	Storm Surge Category 3	Storm Surge Category 4	Storm Surge Category 5
(blank)	-	-	-	1.03	9.78
Railroad Bridges	2.00	5.66	16.64	37.95	48.17
JOSHUA CREEK	-	1.00	6.99	14.72	18.72
NONE	-	-	-	6.58	8.58
THORNTON BRANCH	2.00	4.66	9.65	16.66	20.87

Table 39: City of Arcadia Point Assets Affected by Storm Surge

City of Arcadia Point Assets Affected by Storm Surge – Asset Depth Shown					
	Storm Surge Category 1	Storm Surge Category 2	Storm Surge Category 3	Storm Surge Category 4	Storm Surge Category 5
Critical Community and Emergency Facilities	-	-	-	-	-
Health Care Facilities	-	-	-	-	2.00
DESOTO COUNTY HEALTH DEPARTMENT	-	-	-	-	2.00
Local Government Facilities	-	-	-	-	3.18
CITY OF ARCADIA GOVERNMENT - Public Works Yard #1	-	-	-	-	2.18
City of Arcadia Lake Catherine Park	-	-	-	-	1.00
State Government Facilities	-	-	-	-	3.01
DEPT OF TRANSPORTATION DISTRICT - OPERATIONS	-	-	-	-	3.01
FLORIDA HIGHWAY PATROL TROOP F	-	-	-	-	-
Critical Infrastructure	-	-	-	-	-
Drinking Water Facilities	-	-	-	-	2.15
Remote Ground Storage Well #11	-	-	-	-	2.15
Solid and Hazardous Waste Facilities	-	-	-	-	3.00

City of Arcadia Point Assets Affected by Storm Surge – Asset Depth Shown					
	Storm Surge Category 1	Storm Surge Category 2	Storm Surge Category 3	Storm Surge Category 4	Storm Surge Category 5
ARCADIA HOUSING AUTHORITY	-	-	-	-	3.00
Wastewater Treatment Facilities and Lift Stations	-	-	-	-	2.00
Arcadia City of - William Tyson WWTF	-	-	-	-	2.00
Natural, Cultural, and Historical Resources	-	-	-	-	-
Historical and Cultural Assets	-	1.34	6.34	13.34	7.83
PUMP STATION BUILDING	-	1.34	6.34	13.34	7.83
Transportation and Evacuation Routes	-	-	-	-	-
Rail Facilities	-	-	-	-	16.56
(blank)	-	-	-	-	16.56
Railroad Bridges	-	-	4.00	8.47	8.37
NONE	-	-	4.00	8.47	8.37

Storm Surge Polyline Asset Tables

Table 40: Number of Unincorporated Polyline Assets Affected by Storm Surge

Count of Unincorporated Polyline Assets Affected by Storm Surge					
	Storm Surge Category 1	Storm Surge Category 2	Storm Surge Category 3	Storm Surge Category 4	Storm Surge Category 5
Critical Infrastructure	0	0	1	1	1
Electric Production and Supply Facilities	0	0	1	1	1
Stormwater Treatment Facilities and Pump Stations	0	0	0	0	0
Natural, Cultural, and Historical Resources	353	448	627	933	1319

Count of Unincorporated Polyline Assets Affected by Storm Surge					
	Storm Surge Category 1	Storm Surge Category 2	Storm Surge Category 3	Storm Surge Category 4	Storm Surge Category 5
Historical and Cultural Assets	0	2	3	3	3
Shorelines	94	107	108	108	108
Surface Waters	259	339	516	822	1208
Transportation and Evacuation Routes	2	10	15	17	21
Bridges	2	9	14	16	20
Rail Facilities	0	1	1	1	1
Grand Total	355	458	643	951	1341

Table 41: Number of City of Arcadia Polyline Assets Affected by Storm Surge

Count of City of Arcadia Polyline Assets Affected by Storm Surge					
	Storm Surge Category 1	Storm Surge Category 2	Storm Surge Category 3	Storm Surge Category 4	Storm Surge Category 5
Critical Infrastructure	0	0	0	0	0
Electric Production and Supply Facilities	0	0	0	0	0
Natural, Cultural, and Historical Resources	0	8	8	10	13
Historical and Cultural Assets	0	1	1	1	1
Shorelines	0	1	1	1	1
Surface Waters	0	6	6	8	11
Transportation and Evacuation Routes	1	2	3	3	3
Bridges	0	1	2	2	2
Rail Facilities	1	1	1	1	1
Grand Total	1	10	11	13	16

Storm Surge Polyline Transportation Asset Tables

Table 42: Number of Unincorporated Polyline Transportation Assets Affected by Storm Surge

Count of Unincorporated Polyline Transportation Assets Affected by Storm Surge					
	Storm Surge Category 1	Storm Surge Category 2	Storm Surge Category 3	Storm Surge Category 4	Storm Surge Category 5
Transportation and Evacuation Routes	60	141	253	721	1084
Roadways	60	141	253	721	1084
Evacuation Route	0	3	13	57	103
Evacuation Route - SIS	0	4	7	37	82
Non-Evacuation Route	60	134	233	627	899
Grand Total	60	141	253	721	1084

Table 43: Number of City of Arcadia Polyline Transportation Assets Affected by Storm Surge

Count of City of Arcadia Polyline Transportation Assets Affected by Storm Surge					
	Storm Surge Category 1	Storm Surge Category 2	Storm Surge Category 3	Storm Surge Category 4	Storm Surge Category 5
Transportation and Evacuation Routes	0	3	4	10	62
Roadways	0	3	4	10	62
Evacuation Route	0	0	0	0	1
Evacuation Route - SIS	0	2	2	2	13
Non-Evacuation Route	0	1	2	8	48
Grand Total	0	3	4	10	62

Storm Surge Polygon Asset Tables

Table 44: Number of Unincorporated Polygon Assets Affected by Storm Surge

Count of Unincorporated Polygon Assets Affected by Storm Surge					
	Storm Surge Category 1	Storm Surge Category 2	Storm Surge Category 3	Storm Surge Category 4	Storm Surge Category 5
Critical Infrastructure	9	27	63	322	322
Stormwater Treatment Facilities and Pump Stations	9	27	63	322	322
Natural, Cultural, and Historical Resources	197	308	429	1018	1018
Conservation Lands	4	4	4	6	6
Historical and Cultural Assets	1	1	1	3	3
Surface Waters	46	88	117	148	148
Wetlands	146	215	307	861	861
Grand Total	206	335	492	1340	1340

Table 45: Number of Unincorporated Polygon Assets Affected by Storm Surge

Count of City of Arcadia Polygon Assets Affected by Storm Surge					
	Storm Surge Category 1	Storm Surge Category 2	Storm Surge Category 3	Storm Surge Category 4	Storm Surge Category 5
Critical Infrastructure	0	0	0	0	0
Stormwater Treatment Facilities and Pump Stations	0	0	0	0	0
Natural, Cultural, and Historical Resources	3	9	15	20	20
Conservation Lands	0	1	1	1	1
Historical and Cultural Assets	0	1	1	1	1

Count of City of Arcadia Polygon Assets Affected by Storm Surge					
	Storm Surge Category 1	Storm Surge Category 2	Storm Surge Category 3	Storm Surge Category 4	Storm Surge Category 5
Parks	3	5	8	12	12
Surface Waters	0	0	0	0	0
Wetlands	0	2	5	6	6
Grand Total	3	9	15	20	20

Compound Flooding Exposure Data

Summary Compound Flooding Exposure Totals

The Compound Flooding Critical Asset Exposure Summary Data Tables were developed to document and quantify the results of the Vulnerability Assessment exposure analysis related to Compound Flooding.

Appendix A includes the detailed exposure result tables.

Appendix B includes each mapped scenario and exposure result.

Compound Exposure for Point Assets

Table 46: Number of Unincorporated Point Assets Affected by Compound Flooding

Number of Unincorporated Point Assets Affected by Compound Flooding		
	Lower Compounding Exposure (100-Year 2025 Rainfall, 0.5 FT Sea Level Rise)	Higher Compounding Exposure (500-Year 2070 Rainfall, 3.5 FT Sea Level Rise)
Critical Community and Emergency Facilities	5	17
Affordable Public Housing	0	2
Colleges and Universities	0	0
Communications Facilities	0	1
Community Centers	0	0
Correctional Facilities	2	2

EXPOSURE ANALYSIS

Number of Unincorporated Point Assets Affected by Compound Flooding		
	Lower Compounding Exposure (100-Year 2025 Rainfall, 0.5 FT Sea Level Rise)	Higher Compounding Exposure (500-Year 2070 Rainfall, 3.5 FT Sea Level Rise)
Emergency Medical Service Facilities	0	2
Emergency Operation Centers	0	0
Fire Stations	0	2
Health Care Facilities	0	2
Local Government Facilities	0	1
Risk Shelter Inventory	0	0
Schools	2	4
State Government Facilities	1	1
Critical Infrastructure	75	173
Communications Facilities	3	14
Disaster Debris Management Sites	1	1
Drinking Water Facilities	36	78
Electric Production and Supply Facilities	1	6
Solid and Hazardous Waste Facilities	16	32
Stormwater Treatment Facilities and Pump Stations	1	2
Wastewater Treatment Facilities and Lift Stations	5	21
Water Utility Conveyance Systems	12	19
Natural, Cultural, and Historical Resources	43	86
Historical and Cultural Assets	43	86
Transportation and Evacuation Routes	14	19
Airports	2	5
Marinas	5	5

Number of Unincorporated Point Assets Affected by Compound Flooding		
	Lower Compounding Exposure (100-Year 2025 Rainfall, 0.5 FT Sea Level Rise)	Higher Compounding Exposure (500-Year 2070 Rainfall, 3.5 FT Sea Level Rise)
Rail Facilities	2	4
Railroad Bridges	5	5
Grand Total	137	295

Table 47: Number of City of Arcadia Point Assets Affected by Compound Flooding

Number of Unincorporated Point Assets Affected by Compound Flooding		
	Lower Compounding Exposure (100-Year 2025 Rainfall, 0.5 FT Sea Level Rise)	Higher Compounding Exposure (500-Year 2070 Rainfall, 3.5 FT Sea Level Rise)
Critical Community and Emergency Facilities	15	32
Affordable Public Housing	5	8
Community Centers	0	2
Correctional Facilities	0	0
Disaster Recovery Centers	0	1
Emergency Medical Service Facilities	0	0
Fire Stations	0	1
Health Care Facilities	3	7
Hospitals	0	0
Law Enforcement Facilities	1	1
Local Government Facilities	3	7
Risk Shelter Inventory	0	0
Schools	1	3
State Government Facilities	2	2

Number of Unincorporated Point Assets Affected by Compound Flooding		
	Lower Compounding Exposure (100-Year 2025 Rainfall, 0.5 FT Sea Level Rise)	Higher Compounding Exposure (500-Year 2070 Rainfall, 3.5 FT Sea Level Rise)
Critical Infrastructure	15	27
Communications Facilities	4	4
Drinking Water Facilities	4	6
Electric Production and Supply Facilities	0	1
Solid and Hazardous Waste Facilities	6	15
Wastewater Treatment Facilities and Lift Stations	1	1
Water Utility Conveyance Systems	0	0
Natural, Cultural, and Historical Resources	166	411
Historical and Cultural Assets	166	411
Transportation and Evacuation Routes	4	12
Airports	0	0
Rail Facilities	3	11
Railroad Bridges	1	1
Grand Total	200	482

Compound Exposure for Polyline Assets

Table 48: Number of Unincorporated Polyline Assets Affected by Compound Flooding

Number of Unincorporated Polyline Assets Affected by Compound Flooding		
	Lower Compounding Exposure (100-Year 2025 Rainfall, 0.5 FT Sea Level Rise)	Higher Compounding Exposure (500-Year 2070 Rainfall, 3.5 FT Sea Level Rise)
Critical Infrastructure	13	14
Electric Production and Supply Facilities	11	12
Stormwater Treatment Facilities and Pump Stations	2	2
Natural, Cultural, and Historical Resources	9,705	9,748
Historical and Cultural Assets	10	10
Shorelines	124	124
Surface Waters	9,571	9,614
Transportation and Evacuation Routes	29	30
Bridges	28	29
Rail Facilities	1	1
Grand Total	9,747	9,792

EXPOSURE ANALYSIS

Table 49: Number of City of Arcadia Polyline Assets Affected by Compound Flooding

Number of Arcadia Polyline Assets Affected by Compound Flooding		
	Lower Compounding Exposure (100-Year 2025 Rainfall, 0.5 FT Sea Level Rise)	Higher Compounding Exposure (500-Year 2070 Rainfall, 3.5 FT Sea Level Rise)
Critical Infrastructure	1	1
Electric Production and Supply Facilities	1	1
Natural, Cultural, and Historical Resources	31	31
Historical and Cultural Assets	1	1
Shorelines	1	1
Surface Waters	29	29
Transportation and Evacuation Routes	2	2
Bridges	2	2
Rail Facilities	0	0
Grand Total	34	34

Compound Exposure for Polyline Transportation Assets

Table 50: Number of Unincorporated Polyline Transportation Assets Affected by Compound Flooding

Number of Unincorporated Polyline Transportation Assets Affected by Compound Flooding		
	Lower Compounding Exposure (100-Year 2025 Rainfall, 0.5 FT Sea Level Rise)	Higher Compounding Exposure (500-Year 2070 Rainfall, 3.5 FT Sea Level Rise)
Transportation and Evacuation Routes	1,766	3,675
Roadways	1,766	3,675
Evacuation Route	24	123

Number of Unincorporated Polyline Transportation Assets Affected by Compound Flooding		
	Lower Compounding Exposure (100-Year 2025 Rainfall, 0.5 FT Sea Level Rise)	Higher Compounding Exposure (500-Year 2070 Rainfall, 3.5 FT Sea Level Rise)
Evacuation Route - SIS	86	320
Non-Evacuation Route	1,656	3,232
Grand Total	1,766	3,675

Table 51: Number of City of Arcadia Polyline Transportation Assets Affected by Compound Flooding

Number of Arcadia Polyline Transportation Assets Affected by Compound Flooding		
	Lower Compounding Exposure (100-Year 2025 Rainfall, 0.5 FT Sea Level Rise)	Higher Compounding Exposure (500-Year 2070 Rainfall, 3.5 FT Sea Level Rise)
Transportation and Evacuation Routes	817	1,214
Roadways	817	1,214
Evacuation Route	7	11
Evacuation Route - SIS	138	213
Non-Evacuation Route	672	990
Grand Total	817	1,214

Compound Exposure for Polygon Assets

Table 52: Number of Unincorporated Polygon Assets Affected by Compound Flooding

Number of Unincorporated Polygon Assets Affected by Compound Flooding		
	Lower Compounding Exposure (100-Year 2025 Rainfall, 0.5 FT Sea Level Rise)	Higher Compounding Exposure (500-Year 2070 Rainfall, 3.5 FT Sea Level Rise)
Critical Infrastructure	3,115	3,046
Stormwater Treatment Facilities and Pump Stations	3,115	3,046
Natural, Cultural, and Historical Resources	8,663	8,483
Conservation Lands	18	17
Historical and Cultural Assets	20	10
Surface Waters	316	314
Wetlands	8,309	8,142
Grand Total	11,778	11,529

Table 53: Number of City of Arcadia Polygon Assets Affected by Compound Flooding

Number of Arcadia Polygon Assets Affected by Compound Flooding		
	Lower Compounding Exposure (100-Year 2025 Rainfall, 0.5 FT Sea Level Rise)	Higher Compounding Exposure (500-Year 2070 Rainfall, 3.5 FT Sea Level Rise)
Critical Infrastructure	26	24
Stormwater Treatment Facilities and Pump Stations	26	24
Natural, Cultural, and Historical Resources	53	47
Conservation Lands	1	1
Historical and Cultural Assets	4	2

Number of Arcadia Polygon Assets Affected by Compound Flooding		
	Lower Compounding Exposure (100-Year 2025 Rainfall, 0.5 FT Sea Level Rise)	Higher Compounding Exposure (500-Year 2070 Rainfall, 3.5 FT Sea Level Rise)
Parks	29	25
Surface Waters	2	2
Wetlands	17	17
Grand Total	79	71

Regionally Significant Asset Exposure Data

Summary Exposure Totals

The Regionally Significant Critical Asset Exposure Summary Data Tables were developed to document and quantify the results of the Vulnerability Assessment exposure analysis. These tables identify and categorize the regionally significant critical assets within the County and summarize their potential exposure to applicable hazard scenarios over relevant planning horizons.

Appendix A includes the detailed exposure result tables.

Appendix B includes each mapped scenario and exposure result.

Regionally Significant Affected Point Assets by Asset Group and Asset Subtype

Table 54: Regionally Significant Summary Table for Unincorporated Point Assets by Asset Group and Asset Subtype

Unincorporated Regionally Significant Asset Point Assets										
	Total Assets	100 Year 2025	100 Year 2040	100 Year 2070	200 Year 2025	200 Year 2040	200 Year 2070	500 Year 2025	500 Year 2040	500 Year 2070
Critical Community and Emergency Facilities	29	29	29	29	29	29	29	29	29	29
Colleges and Universities	1	1	1	1	1	1	1	1	1	1
Communications Facilities	1	1	1	1	1	1	1	1	1	1
Community Centers	2	2	2	2	2	2	2	2	2	2

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Unincorporated Regionally Significant Asset Point Assets										
	Total Assets	100 Year 2025	100 Year 2040	100 Year 2070	200 Year 2025	200 Year 2040	200 Year 2070	500 Year 2025	500 Year 2040	500 Year 2070
Correctional Facilities	7	7	7	7	7	7	7	7	7	7
Emergency Medical Service Facilities	2	2	2	2	2	2	2	2	2	2
Emergency Operation Centers	1	1	1	1	1	1	1	1	1	1
Fire Stations	2	2	2	2	2	2	2	2	2	2
Local Government Facilities	4	4	4	4	4	4	4	4	4	4
Risk Shelter Inventory	3	3	3	3	3	3	3	3	3	3
Schools	5	5	5	5	5	5	5	5	5	5
State Government Facilities	1	1	1	1	1	1	1	1	1	1
Critical Infrastructure	247	218	229	229	224	229	232	229	232	229
Communications Facilities	20	18	18	18	18	18	18	18	18	18
Disaster Debris Management Sites	2	1	1	1	1	1	1	1	1	1
Drinking Water Facilities	109	96	101	101	99	101	102	101	102	101
Electric Production and Supply Facilities	12	11	12	12	12	12	12	12	12	12
Solid and Hazardous Waste Facilities	19	15	17	17	15	17	17	17	17	17
Stormwater Treatment Facilities and Pump Stations	6	6	6	6	6	6	6	6	6	6
Wastewater Treatment Facilities and Lift Stations	52	45	48	48	47	48	49	48	49	48
Water Utility Conveyance Systems	27	26	26	26	26	26	27	26	27	26
Natural, Cultural, and Historical Resources	8	7	7	7	7	7	7	7	7	7
Historical and Cultural Assets	8	7	7	7	7	7	7	7	7	7
Transportation and Evacuation Routes	42	8	8	8	8	8	8	8	8	8
Airports	8	8	8	8	8	8	8	8	8	8
Rail Facilities	29	0	0	0	0	0	0	0	0	0
Railroad Bridges	5	0	0	0	0	0	0	0	0	0
Grand Total	326	262	273	273	268	273	276	273	276	273

Table 55: Regionally Significant Summary Table for Arcadia Point Assets by Asset Group and Asset Subtype

City of Arcadia Regionally Significant Asset Point Assets										
	Total Assets	100 Year 2025	100 Year 2040	100 Year 2070	200 Year 2025	200 Year 2040	200 Year 2070	500 Year 2025	500 Year 2040	500 Year 2070
Critical Community and Emergency Facilities	43	41	43	43	42	43	43	43	43	43
Community Centers	3	3	3	3	3	3	3	3	3	3
Correctional Facilities	1	1	1	1	1	1	1	1	1	1
Disaster Recovery Centers	2	2	2	2	2	2	2	2	2	2
Emergency Medical Service Facilities	1	1	1	1	1	1	1	1	1	1
Fire Stations	2	2	2	2	2	2	2	2	2	2
Health Care Facilities	2	2	2	2	2	2	2	2	2	2
Hospitals	1	1	1	1	1	1	1	1	1	1
Law Enforcement Facilities	3	3	3	3	3	3	3	3	3	3
Local Government Facilities	13	11	13	13	12	13	13	13	13	13
Risk Shelter Inventory	4	4	4	4	4	4	4	4	4	4
Schools	9	9	9	9	9	9	9	9	9	9
State Government Facilities	2	2	2	2	2	2	2	2	2	2
Critical Infrastructure	26	22	22	22	22	22	22	22	22	22
Communications Facilities	7	6	6	6	6	6	6	6	6	6
Drinking Water Facilities	8	5	5	5	5	5	5	5	5	5
Electric Production and Supply Facilities	1	1	1	1	1	1	1	1	1	1
Solid and Hazardous Waste Facilities	5	5	5	5	5	5	5	5	5	5
Wastewater Treatment Facilities and Lift Stations	2	2	2	2	2	2	2	2	2	2
Water Utility Conveyance Systems	3	3	3	3	3	3	3	3	3	3
Natural, Cultural, and Historical Resources	38	27	32	33	27	33	35	29	35	36
Historical and Cultural Assets	38	27	32	33	27	33	35	29	35	36
Transportation and Evacuation Routes	17	4	4	4	4	4	4	4	4	4
Airports	1	1	1	1	1	1	1	1	1	1

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City of Arcadia Regionally Significant Asset Point Assets										
	Total Assets	100 Year 2025	100 Year 2040	100 Year 2070	200 Year 2025	200 Year 2040	200 Year 2070	500 Year 2025	500 Year 2040	500 Year 2070
Rail Facilities	15	2	2	2	2	2	2	2	2	2
Railroad Bridges	1	1	1	1	1	1	1	1	1	1
Grand Total	124	94	101	102	95	102	104	98	104	105

Regionally Significant Affected Polyline Assets by Asset Group and Asset Subtype

Table 56: Regionally Significant Summary Table for Unincorporated Polyline Assets by Asset Group and Asset Subtype

Unincorporated Regionally Significant Affected Polyline Assets										
	Total Assets	100 Year 2025	100 Year 2040	100 Year 2070	200 Year 2025	200 Year 2040	200 Year 2070	500 Year 2025	500 Year 2040	500 Year 2070
Critical Infrastructure	13	12	13	13	12	13	13	12	13	13
Electric Production and Supply Facilities	11	10	11	11	10	11	11	10	11	11
Stormwater Treatment Facilities and Pump Stations	2	2	2	2	2	2	2	2	2	2
Natural, Cultural, and Historical Resources	1,605	1,578	1,593	1,595	1,587	1,595	1,600	1,590	1,601	1,601
Historical and Cultural Assets	5	4	4	4	4	4	4	4	4	4
Shorelines	124	124	124	124	124	124	124	124	124	124
Surface Waters	1,476	1,450	1,465	1,467	1,459	1,467	1,472	1,462	1,473	1,473
Transportation and Evacuation Routes	12	12	12	12	12	12	12	12	12	12
Bridges	11	11	11	11	11	11	11	11	11	11
Rail Facilities	1	1	1	1	1	1	1	1	1	1
Grand Total	1,630	1,602	1,618	1,620	1,611	1,620	1,625	1,614	1,626	1,626

Table 57: Regionally Significant Summary Table for Arcadia Polyline Assets by Asset Group and Asset Subtype

City of Arcadia Regionally Significant Affected Polyline Assets										
	Total Assets	100 Year 2025	100 Year 2040	100 Year 2070	200 Year 2025	200 Year 2040	200 Year 2070	500 Year 2025	500 Year 2040	500 Year 2070
Critical Infrastructure	2	2	2	2	2	2	2	2	2	2
Electric Production and Supply Facilities	2	2	2	2	2	2	2	2	2	2
Natural, Cultural, and Historical Resources	17	17	17	17	17	17	17	17	17	17
Historical and Cultural Assets	1	1	1	1	1	1	1	1	1	1
Shorelines	1	1	1	1	1	1	1	1	1	1
Surface Waters	15	15	15	15	15	15	15	15	15	15
Transportation and Evacuation Routes	2	2	2	2	2	2	2	2	2	2
Bridges	1	1	1	1	1	1	1	1	1	1
Rail Facilities	1	1	1	1	1	1	1	1	1	1
Grand Total	21	21	21	21	21	21	21	21	21	21

Regionally Significant Affected Polyline Transportation Assets by Asset Group and Asset Subtype

Table 58: Regionally Significant Summary Table for Unincorporated Polyline Transportation Assets by Asset Group and Asset Subtype

Unincorporated Regionally Significant Affected Polyline Transportation Assets										
	Total Assets	100 Year 2025	100 Year 2040	100 Year 2070	200 Year 2025	200 Year 2040	200 Year 2070	500 Year 2025	500 Year 2040	500 Year 2070
Transportation and Evacuation Routes	1,045	165	263	309	202	298	383	230	387	497
Roadways	1,045	165	263	309	202	298	383	230	387	497
Evacuation Route	316	41	70	83	50	80	103	60	103	157
Evacuation Route - SIS	729	124	193	226	152	218	280	170	284	340
Grand Total	1,045	165	263	309	202	298	383	230	387	497

EXPOSURE ANALYSIS

Table 59: Regionally Significant Summary Table for Arcadia Polyline Transportation Assets by Asset Group and Asset Subtype

City of Arcadia Regionally Significant Affected Polyline Transportation Assets										
	Total Assets	100 Year 2025	100 Year 2040	100 Year 2070	200 Year 2025	200 Year 2040	200 Year 2070	500 Year 2025	500 Year 2040	500 Year 2070
Transportation and Evacuation Routes	271	163	190	199	172	197	209	184	211	227
Roadways	271	163	190	199	172	197	209	184	211	227
Evacuation Route	12	10	10	10	10	10	11	10	11	12
Evacuation Route - SIS	259	153	180	189	162	187	198	174	200	215
Grand Total	271	163	190	199	172	197	209	184	211	227

Regionally Significant Affected Polygon Assets by Asset Group and Asset Subtype

Table 60: Regionally Significant Summary Table for Unincorporated Polygon Assets by Asset Group and Asset Subtype

Unincorporated Regionally Significant Affected Polygon Assets										
	Total Assets	100 Year 2025	100 Year 2040	100 Year 2070	200 Year 2025	200 Year 2040	200 Year 2070	500 Year 2025	500 Year 2040	500 Year 2070
Critical Infrastructure	3,112	2,975	2,912	3,002	2,924	3,004	3,037	2,963	3,041	3,070
Stormwater Treatment Facilities and Pump Stations	3,112	2,975	2,912	3,002	2,924	3,004	3,037	2,963	3,041	3,070
Natural, Cultural, and Historical Resources	8,329	8,111	7,949	8,161	7,999	8,165	8,240	8,078	8,245	8,285
Conservation Lands	16	16	16	16	16	16	16	16	16	16
Historical and Cultural Assets	19	15	12	16	15	16	17	15	17	17
Surface Waters	11	11	11	11	11	11	11	11	11	11
Wetlands	8,283	8,069	7,910	8,118	7,957	8,122	8,196	8,036	8,201	8,241
Grand Total	11,441	11,086	10,861	11,163	10,923	11,169	11,277	11,041	11,286	11,355

Table 61: Regionally Significant Summary Table for Arcadia Polygon Assets by Asset Group and Asset Subtype

City of Arcadia Regionally Significant Affected Polygon Assets										
	Total Assets	100 Year 2025	100 Year 2040	100 Year 2070	200 Year 2025	200 Year 2040	200 Year 2070	500 Year 2025	500 Year 2040	500 Year 2070
Critical Infrastructure	26	25	25	25	25	25	25	25	25	25
Stormwater Treatment Facilities and Pump Stations	26	25	25	25	25	25	25	25	25	25
Natural, Cultural, and Historical Resources	52	49	47	50	47	50	51	48	51	51
Conservation Lands	1	1	1	1	1	1	1	1	1	1
Historical and Cultural Assets	4	4	4	4	4	4	4	4	4	4
Parks	29	26	24	27	24	27	28	25	28	28
Surface Waters	1	1	1	1	1	1	1	1	1	1
Wetlands	17	17	17	17	17	17	17	17	17	17
Grand Total	78	74	72	75	72	75	76	73	76	76

SENSITIVITY ANALYSIS

The Sensitivity Analysis evaluates the severity of flooding across each asset class and flood scenario by assigning risk levels based on the percentage of land area inundated and the number of critical assets affected. This analysis supports the identification of relative vulnerability among asset types and geographic areas, allowing for prioritization of those most at risk. By applying consistent metrics across scenarios, the Sensitivity Analysis provides a structured approach to comparing how different flood conditions influence asset exposure throughout DeSoto County.

The objective of this task is to quantify and spatially represent the variation in risk levels associated with rainfall-driven flooding hazards and their interaction with critical assets identified by DeSoto County stakeholders. This task serves as the sensitivity and mapping component of the Vulnerability Assessment, producing GIS-based outputs that illustrate how changes in flood extent and depth affect overall risk. The critical asset data was organized into Geographic Information System (GIS) feature classes, including points, polylines, transportation polylines, and polygons. GIS datasets and associated metadata incorporate the four asset classes defined in Florida Statute 380.093 (2)(a)1–4, F.S., and adhere to the Resilient Florida Program’s GIS Data Standards to ensure consistency and reproducibility.

The purpose of the Sensitivity Analysis is to evaluate how variations in key assumptions, datasets, and modeling inputs used in the Vulnerability Assessment may influence flood exposure results and the identification of vulnerable assets. This analysis provides important context regarding the level of uncertainty associated with the assessment and helps validate that the results are reasonable and consistent with methodologies recommended under the Resilient Florida Program. By strengthening confidence in the findings, the Sensitivity Analysis supports informed, data-driven decision-making and reduces reliance on generalized assumptions in resilience planning.

Methodology for Sensitivity Analysis

This section presents a Sensitivity Analysis Methodology applied consistently to all critical assets in DeSoto County, Florida. The intent is to provide a single, technical reference describing how rainfall-driven flood exposure and regional sensitivity were evaluated and integrated into planning, prioritization, and decision-making. Together, these analyses ensure that the critical assets included are evaluated for physical exposure to rainfall-driven flooding as well as the social, environmental (hydrological), and hazard sensitivity context.

The sensitivity analysis characterizes relative regional sensitivity using a framework incorporating social vulnerability (SOVI), population distribution, FEMA flood hazard extent, and natural environmental (hydrological - canals, ditches, stormwater facilities, lakes, rivers, and streams) features, and exposure inundation.

The sensitivity analysis applies to a standardized framework where the inputs are used to derive a relative sensitivity index representing baseline conditions for each exposure rainfall event and forecast year. The inputs needed to determine the Sensitivity Analysis include the following inputs:

- Social Vulnerability (SOVI)
- Population Distribution
- FEMA Flood Hazard Extent
- Natural Environmental features
- Exposure Inundation

Tables 62 through 65 used hexagon grid frameworks to ensure uniform comparison across the County. Hexagons intersecting the regional boundary were retained while open-water areas (lakes, reservoirs) were removed. Wetlands were also retained. Each hexagon serves as a container for aggregated scores derived from multiple assets. Table 66 was developed by computing inundation exposure percentages.

Social Vulnerability (SOVI)

SOVI data at the Census tract level were spatially joined to a hexagon grid. Each hexagon was assigned a SOVI score based on a five-class system from low to high.

Table 62: SOVI Scoring

SOVI Class	Score
Low	1
Medium Low	2
Medium	3
Medium High	4
High	5

Population Distribution

Population was estimated using Census block data and redistributed into hexagons through a weighted point-based approach. Hexagon population totals were then classified into a five-tier score reflecting relative population concentration.

Table 63: Population Scoring

Score	Population
1	0 to 100
2	101 - 400
3	401 - 700
4	701 – 1,000
5	1,001 – 4,100

FEMA Flood Hazard Extent

FEMA 100-year and 500-year flood zones were combined and summarized within each hexagon after removing open-water areas. The percentage of each hexagon intersecting flood hazard zones was calculated and translated into five-class flood sensitivity scores.

Table 64: FEMA Scoring

Score	Percentage Flood Zone
1	0 - 1%
2	1.01 - 25%
3	25.01 - 49.99%
4	50 - 74.99%
5	75 - 100%

Natural Environmental (Hydrology) Factors

Environmental sensitivity was captured by incremental scoring hexagons intersecting natural environmental hydrological features including wetlands, lakes, and rivers. Coastal boundaries and coastal erosion/critical erosion zones are not applicable as DeSoto County is an inland county.

Table 65: Intersecting Natural Hydrology Scoring

Boundary Touching	Score	Coastal
Every Hexagon	1	-
Lakes and Wetlands	2	-
River	3	-
Ocean and Lagoons	4	<i>Not applicable</i>
Coastline	5	<i>Not applicable</i>

Exposure Inundation

Inundation Hazard Inputs (Rainfall-Based Surfaces Only)

Flood exposure is derived from modeled rainfall depth rasters as discussed earlier representing storm intensity and projected climate conditions. Surfaces were generated for the following:

Storm Recurrence Intervals (provided for each planning horizon)

- 100-year
- 200-year
- 500-year

Planning Horizons

- Current
- 2040
- 2070

The rasters represent expected rainfall depth and intensity under present and future climate scenarios. They serve as the foundation hazard layer for inundation analysis.

Percent Inundation Computation (Raster-to-Polygon Method)

To compute inundation percentages, rainfall depth rasters were first converted into area polygon surfaces. This provides for area-based spatial intersection with critical asset geometries. The process is described as follows. The asset polygons are separated from various area polygon surfaces used for analysis. Different analyses were run on the four asset groups utilizing various geoprocesses, scripts, tools, temporary features, and tables. Ultimately, the analyses and results are always ascribed and populated back to the primary four asset features. Any working and temporary tables or asset features (like the area polygon surfaces) used during analysis processes are temporary and simply are referenced to clarify the process used. The geometries refer to the Point Assets (PT), Polyline Assets (PL), Transportation Polyline (PLT), and Polygon Assets (PG).

Process Overview

- ✓ Rainfall depth rasters were converted to polygon flood extent layers.
- ✓ Each asset geometry was spatially intersected with the inundation polygons.
- ✓ The area of inundated portions was calculated.
- ✓ Percent inundation was computed as:

$$\text{Percent Inundated} = (\text{Area of Asset Intersecting Flood Polygon}) / (\text{Total Asset Area}) \times 100$$

Advantages to this Approach

This method produces proportional inundation, avoiding sampling bias, and ensuring percentage exposure values which are important for large polygons and complex asset footprints.

Scenario-Specific Fields include:

- 100-Year
 - PCT_100_C (Percent 100-Year Current Scenario)
 - PCT_100_40 (Percent 100-Year 2040 Scenario)
 - PCT_100_70 (Percent 100-Year 2070 Scenario)
- 200-Year
 - PCT_200_C (Percent 200-Year Current Scenario)
 - PCT_100_40 (Percent 200-Year 2040 Scenario)
 - PCT_100_70 (Percent 200-Year 2070 Scenario)
- 500-Year
 - PCT_500_C (Percent 500-Year Current Scenario)
 - PCT_100_40 (Percent 500-Year 2040 Scenario)
 - PCT_100_70 (Percent 500-Year 2070 Scenario)

Risk-Sensitive Exposure Scoring (0-5 Scale)

Percent inundation values are translated into a non-linear risk-sensitive exposure score, indicating that higher flood coverage increases risk at an accelerated rate. The scale in Table 66 ensures partial flooding does not over inflate risk, while near-total inundation is prioritized.

Table 66: Percent Inundated Exposure Score Interpretation

Percentage %	Score	Level of Exposure
0%	0	None
>0 – 10%	1	Minimal
>10 – 30%	2	Low
>30 – 60%	3	Moderate
>60 – 90%	4	High
>90 – 100%	5	Severe

Sensitivity Calculation

The final sensitivity score integrates: Social Vulnerability (1-5), Population Distribution (1-5), FEMA Flood Hazard Extent (1-5), Natural Environmental (Hydrology) features (1-5), and exposure Inundation (0-5).

$$\text{Sensitivity} = \text{Social Vulnerability (1-5)} + \text{Population Distribution (1-5)} + \text{FEMA Flood Hazard Extent (1-5)} + \text{Natural Environmental (Hydrology) features (1-5)} + \text{Exposure Inundation (0-5)}$$

Table 67: Sensitivity Scoring

Factor	Scoring
SOVI	1-5
Population Distribution	1-5
FEMA Flood Hazard Extent	1-5
Natural Environmental (Hydrology) Features	1-5
Exposure Inundation	0-5
Total Possible Sensitivity Score	Up to 25

Scenario-specific total score fields include:

- 100-Year
 - STOT_100_C (Sensitivity Total 100-Year Current Scenario)
 - STOT_100_40 (Sensitivity Total 100-Year 2040 Scenario)
 - STOT_100_70 (Sensitivity Total 100-Year 2070 Scenario)

- 200-Year
 - STOT_200_C (Sensitivity Total 200-Year Current Scenario)
 - STOT_100_40 (Sensitivity Total 200-Year 2040 Scenario)
 - STOT_100_70 (Sensitivity Total 200-Year 2070 Scenario)
- 500-Year
 - STOT_500_C (Sensitivity Total 500-Year Current Scenario)
 - STOT_100_40 (Sensitivity Total 500-Year 2040 Scenario)
 - STOT_100_70 (Sensitivity Total 500-Year 2070 Scenario)

This provides that:

- ✓ Highly sensitive assets escalate in priority.
- ✓ Moderate flood exposure can yield high overall risk.
- ✓ Final rankings reflect both hazard magnitude and asset consequences.

Priority Rating (0-225 Scale)

The priority rating is based on the summation of each Scenario Specific Sensitivity Score out of a total of 225 (9 Scenarios times 25 total points). This score is then broken into priority rating categories found in Table 8. The Priority Rating can be found on each asset in the Vulnerability Assessment. Appendix C includes the details of each asset where each jurisdiction is sorted from the highest rating to lowest rating.

Table 68: Priority Rating

Sensitivity Rating Values	Priority Rating Categories
0-45	Very Low
46-90	Low
91-135	Moderate
136-180	High
181-225	Very High

Summary Tables

DeSoto County's Critical Asset Sensitivity data can be found in the tables below and in the Appendix C as well as the provided GIS Geodatabase. The Geodatabase includes Asset Points, Asset Polygons, Asset Polygons Transportation, and Asset Polygons.

The Critical Asset Sensitivity Summary Data Tables were developed to document and quantify the results of the Vulnerability Assessment sensitivity analysis. These tables identify and categorize critical assets within the County and summarize their potential sensitivity to applicable hazard scenarios over relevant planning horizons.

The summary tables shown in this section are for the Assets Points. The Asset Polygons, Asset Polygons, and Asset Polygons Transportation can be found in Appendix C.

Appendix C: DeSoto Countywide Detailed Sensitivity Tables

Appendix D: DeSoto Countywide Sensitivity Maps

Summary Table – Top Sensitivity Assets – DeSoto County

The top assets were filtered based on the Sensitivity for the 500-Year 2070 Scenario which provides the greatest sensitivity to the County as mentioned in Section 5 of this report.

Table 69: Unincorporated Top Sensitivity Point Assets - Critical, Community and Emergency Facilities

Unincorporated Top Sensitivity Point Assets					
Critical Community and Emergency Facilities					
500 Year 2070					
Asset Type	CFRPC ID	Asset Name	Asset Relevancy	Sensitivity Score	Inundation Percentage
Correctional Facilities	CFRPC_PT:000234	ARCADIA ROAD PRISON	Regionally Significant	15	99.9
Correctional Facilities	CFRPC_PT:000240	SPRING LAKE YOUTH ACADEMY	Regionally Significant	15	100
Schools	CFRPC_PT:000930	SPRING LAKE YOUTH ACADEMY	Regionally Significant	15	100

Unincorporated Top Sensitivity Point Assets					
Critical Community and Emergency Facilities					
500 Year 2070					
Asset Type	CFRPC ID	Asset Name	Asset Relevancy	Sensitivity Score	Inundation Percentage
Schools	CFRPC_PT:020256	ARCADIA GIRLS ACADEMY	Regionally Significant	15	100
Schools	CFRPC_PT:020258	SPRING LAKE YOUTH ACADEMY	Regionally Significant	15	100
State Government Facilities	CFRPC_PT:001197	SPRING LAKE YOUTH ACADEMY	Regionally Significant	15	100
Communications Facilities	CFRPC_PT:019736	CELL TOWER	Regionally Significant	14	99.9
Correctional Facilities	CFRPC_PT:000237	DESOTO CORRECTIONAL INSTITUTE	Regionally Significant	14	88.3
Correctional Facilities	CFRPC_PT:000238	DESOTO CORRECTIONAL INSTITUTE - STATE MENTAL HOSPITAL	Regionally Significant	14	88.3
Emergency Medical Service Facilities	CFRPC_PT:000281	DESOTO COUNTY EMS ST 3	Regionally Significant	14	100
Emergency Medical Service Facilities	CFRPC_PT:000282	DESOTO COUNTY EMS ST 2	Regionally Significant	14	99.9
Fire Stations	CFRPC_PT:000323	DESOTO COUNTY FIRE RESCUE ST 2	Regionally Significant	14	99.9
Fire Stations	CFRPC_PT:000324	DESOTO COUNTY FIRE RESCUE ST 3	Regionally Significant	14	100

Table 70: Unincorporated Top Sensitivity Point Assets – Critical Infrastructure

Unincorporated Top Sensitivity Point Assets					
Critical Infrastructure					
500 Year 2070					
Asset Type	CFRPC ID	Asset Name	Asset Relevancy	Sensitivity Score	Inundation Percentage
Wastewater Treatment Facilities and Lift Stations	CFRPC_PT:009080	Pine Island Dairy	Regionally Significant	16	94.9
Drinking Water Facilities	CFRPC_PT:001769	DESOTO CORRECTIONAL INST	Regionally Significant	15	100
Drinking Water Facilities	CFRPC_PT:001774	HORSE CREEK	Regionally Significant	15	100
Drinking Water Facilities	CFRPC_PT:001780	SUPER STOP EXPRESS III	Regionally Significant	15	100
Drinking Water Facilities	CFRPC_PT:002629	HORSE CREEK	Regionally Significant	15	100
Drinking Water Facilities	CFRPC_PT:002633	SUPER STOP EXPRESS III	Regionally Significant	15	100
Solid and Hazardous Waste Facilities	CFRPC_PT:033279	SPRING LAKE YOUTH ACADEMY	Locally Significant	15	100
Wastewater Treatment Facilities and Lift Stations	CFRPC_PT:009066	Horse Creek WWTF	Regionally Significant	15	100
Wastewater Treatment Facilities and Lift Stations	CFRPC_PT:019791	Lift Station 18	Regionally Significant	15	70.8
Water Utility Conveyance Systems	CFRPC_PT:009441	HORSE CREEK - BLADDER TANK #1	Regionally Significant	15	100
Water Utility Conveyance Systems	CFRPC_PT:009442	HORSE CREEK - BLADDER TANK #2	Regionally Significant	15	100
Water Utility Conveyance Systems	CFRPC_PT:009443	HORSE CREEK - BLADDER TANK #3	Regionally Significant	15	100

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Unincorporated Top Sensitivity Point Assets					
Critical Infrastructure					
500 Year 2070					
Asset Type	CFRPC ID	Asset Name	Asset Relevancy	Sensitivity Score	Inundation Percentage
Water Utility Conveyance Systems	CFRPC_PT:009444	HORSE CREEK - BLADDER TANK #4	Regionally Significant	15	100

Table 71: Unincorporated Top Sensitivity Point Assets – Natural, Cultural, and Historical Resources

Unincorporated Top Sensitivity Point Assets					
Natural, Cultural, and Historical Resources					
500 Year 2070					
Asset Type	CFRPC ID	Asset Name	Asset Relevancy	Sensitivity Score	Inundation Percentage
Historical and Cultural Assets	CFRPC_PT:020780	1299 SW US HIGHWAY 17	Locally Significant	15	93.9
Historical and Cultural Assets	CFRPC_PT:020371	DOGTROT HOMESTEAD	Locally Significant	14	99.6
Historical and Cultural Assets	CFRPC_PT:020495	1221 HIGHWAY 17 SW	Locally Significant	14	69
Historical and Cultural Assets	CFRPC_PT:020783	CARLTON CAMP HOUSE	Locally Significant	14	99.9
Historical and Cultural Assets	CFRPC_PT:020788	DESOTO CORRECTIONAL INST. WAREHOUSE	Locally Significant	14	88.3
Historical and Cultural Assets	CFRPC_PT:020789	RECREATION BUILDING	Locally Significant	14	88.3
Historical and Cultural Assets	CFRPC_PT:009794	2230 HIGHWAY 17 SW	Regionally Significant	13	100

Unincorporated Top Sensitivity Point Assets					
Natural, Cultural, and Historical Resources					
500 Year 2070					
Asset Type	CFRPC ID	Asset Name	Asset Relevancy	Sensitivity Score	Inundation Percentage
Historical and Cultural Assets	CFRPC_PT:020447	3604 HIGHWAY 17 SW	Locally Significant	13	100
Historical and Cultural Assets	CFRPC_PT:020496	1120 HIGHWAY 17 SW	Locally Significant	13	98.5
Historical and Cultural Assets	CFRPC_PT:020550	2990 HIGHWAY 17 SW	Locally Significant	13	98.1
Historical and Cultural Assets	CFRPC_PT:020556	2711 HIGHWAY 17 SW	Locally Significant	13	96.9
Historical and Cultural Assets	CFRPC_PT:020603	2197 HIGHWAY 17 SW	Locally Significant	13	96.9
Historical and Cultural Assets	CFRPC_PT:020604	2173 HIGHWAY 17 SW	Locally Significant	13	96.8
Historical and Cultural Assets	CFRPC_PT:020605	2169 SW PAYDRAS AVENUE	Locally Significant	13	98.5
Historical and Cultural Assets	CFRPC_PT:020606	2115 HIGHWAY 17 SW	Locally Significant	13	98.1
Historical and Cultural Assets	CFRPC_PT:020748	3702 SW US HIGHWAY 17	Locally Significant	13	100
Historical and Cultural Assets	CFRPC_PT:020785	6978 SW SR 72	Locally Significant	13	97.8
Historical and Cultural Assets	CFRPC_PT:020790	D-DORMITORY	Locally Significant	13	85.4
Historical and Cultural Assets	CFRPC_PT:020791	E-DORMITORY	Locally Significant	13	85.4

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Unincorporated Top Sensitivity Point Assets					
Natural, Cultural, and Historical Resources					
500 Year 2070					
Asset Type	CFRPC ID	Asset Name	Asset Relevancy	Sensitivity Score	Inundation Percentage
Historical and Cultural Assets	CFRPC_PT:020792	F-DORMITORY	Locally Significant	13	85.4

Table 72: Unincorporated Top Sensitivity Point Assets – Transportation and Evacuation Routes

Unincorporated Top Sensitivity Point Assets					
Transportation and Evacuation Routes					
500 Year 2070					
Asset Type	CFRPC ID	Asset Name	Asset Relevancy	Sensitivity Score	Inundation Percentage
Marinas	CFRPC_PT:033376	BROWNVILLE PARK	Locally Significant	15	100
Marinas	CFRPC_PT:033377	DeSoto Park Public Boat Launch	Locally Significant	15	100
Airports	CFRPC_PT:018687	BRIGHT HOUR RANCH AIRPORT	Regionally Significant	14	97
Airports	CFRPC_PT:018736	ARCADIA MUNICIPAL AIRPORT	Regionally Significant	14	83.1
Marinas	CFRPC_PT:033375	Lettuce Lake Public Boat Ramp	Locally Significant	14	100
Marinas	CFRPC_PT:033378	Lower Peace River Corridor Public Boat Ramp	Locally Significant	14	100

Unincorporated Top Sensitivity Point Assets					
Transportation and Evacuation Routes					
500 Year 2070					
Asset Type	CFRPC ID	Asset Name	Asset Relevancy	Sensitivity Score	Inundation Percentage
Railroad Bridges	CFRPC_PT:019581	PEACE RIVER	Regionally Significant	14	100
Airports	CFRPC_PT:018685	LAKE SUZY ESTATES AIRPORT	Regionally Significant	13	100
Airports	CFRPC_PT:018689	MCDONALDS FIELD	Regionally Significant	13	99.1
Marinas	CFRPC_PT:033374	Liverpool Park	Locally Significant	13	100
Rail Facilities	CFRPC_PT:018966	(blank)	Regionally Significant	13	100
Railroad Bridges	CFRPC_PT:019586	JOSHUA CREEK	Regionally Significant	13	100
Railroad Bridges	CFRPC_PT:019599	NONE	Regionally Significant	13	100

Table 73: Unincorporated Top Sensitivity Polyline Assets – Critical Infrastructure

Unincorporated Top Sensitivity Polyline Assets					
Critical Infrastructure					
500 Year 2070					
Asset Type	CFRPC ID	Asset Name	Asset Relevancy	Sensitivity Score	Inundation Percentage
Stormwater Treatment Facilities and Pump Stations	CFRPC_PL:050517	COW SLOUGH	Regionally Significant	15	99.7

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Unincorporated Top Sensitivity Polyline Assets					
Critical Infrastructure					
500 Year 2070					
Asset Type	CFRPC ID	Asset Name	Asset Relevancy	Sensitivity Score	Inundation Percentage
Stormwater Treatment Facilities and Pump Stations	CFRPC_PL:050443	PRAIRIE CREEK	Regionally Significant	14	71.7
Electric Production and Supply Facilities	CFRPC_PL:000460	ELECTRIC BULK POWER TRANSMISSION AND CONTROL, DESOTO COUNTY PLANT	Regionally Significant	13	100
Electric Production and Supply Facilities	CFRPC_PL:000508	ELECTRIC BULK POWER TRANSMISSION AND CONTROL, DESOTO COUNTY PLANT	Regionally Significant	13	100
Electric Production and Supply Facilities	CFRPC_PL:000509	ELECTRIC BULK POWER TRANSMISSION AND CONTROL, UNKNOWN108485	Regionally Significant	13	86.1
Electric Production and Supply Facilities	CFRPC_PL:000676	ELECTRIC BULK POWER TRANSMISSION AND CONTROL, UNKNOWN108486	Regionally Significant	13	72.6
Electric Production and Supply Facilities	CFRPC_PL:000674	ELECTRIC BULK POWER TRANSMISSION AND CONTROL, UNKNOWN108486	Regionally Significant	12	91.1
Electric Production and Supply Facilities	CFRPC_PL:000494	ELECTRIC BULK POWER TRANSMISSION AND CONTROL, DESOTO NEXT GENERATION SOLAR ENERGY	Regionally Significant	11	82
Electric Production and Supply Facilities	CFRPC_PL:000583	ELECTRIC BULK POWER TRANSMISSION AND CONTROL, CHARLOTTE	Regionally Significant	11	52.9
Electric Production and Supply Facilities	CFRPC_PL:000639	ELECTRIC BULK POWER TRANSMISSION AND CONTROL, DESOTO NEXT GENERATION SOLAR ENERGY	Regionally Significant	11	78.5
Electric Production and Supply Facilities	CFRPC_PL:000688	ELECTRIC BULK POWER TRANSMISSION AND CONTROL, DEEPCREEK	Regionally Significant	11	95.7

SENSITIVITY ANALYSIS

Table 74: Unincorporated Top Sensitivity Polyline Assets – Natural, Cultural, and Historical Resources

Unincorporated Top Sensitivity Polyline Assets					
Natural, Cultural, and Historical Resources					
500 Year 2070					
Asset Type	CFRPC ID	Asset Name	Asset Relevancy	Sensitivity Score	Inundation Percentage
Surface Waters	CFRPC_PL:051647	Tiger Bay Slough	Regionally Significant	18	100
Surface Waters	CFRPC_PL:053512	Tiger Bay Slough	Regionally Significant	18	100
Surface Waters	CFRPC_PL:054965	(blank)	Locally Significant	18	100
Surface Waters	CFRPC_PL:055357	(blank)	Regionally Significant	18	100
Surface Waters	CFRPC_PL:057068	(blank)	Locally Significant	18	100
Surface Waters	CFRPC_PL:058081	Tiger Bay Slough	Regionally Significant	18	100
Surface Waters	CFRPC_PL:058850	(blank)	Locally Significant	18	100
Surface Waters	CFRPC_PL:059233	(blank)	Regionally Significant	18	100
Surface Waters	CFRPC_PL:062024	(blank)	Regionally Significant	18	100
Surface Waters	CFRPC_PL:062832	Tiger Bay Slough	Regionally Significant	18	100
Surface Waters	CFRPC_PL:063062	Tippen Bay	Locally Significant	18	100
Surface Waters	CFRPC_PL:080027	Tiger Bay Slough	Regionally Significant	18	100

SENSITIVITY ANALYSIS

Unincorporated Top Sensitivity Polyline Assets					
Natural, Cultural, and Historical Resources					
500 Year 2070					
Asset Type	CFRPC ID	Asset Name	Asset Relevancy	Sensitivity Score	Inundation Percentage
Surface Waters	CFRPC_PL:080039	(blank)	Locally Significant	18	100
Surface Waters	CFRPC_PL:080136	(blank)	Locally Significant	18	100
Surface Waters	CFRPC_PL:083856	(blank)	Locally Significant	18	100
Surface Waters	CFRPC_PL:083857	(blank)	Regionally Significant	18	100
Surface Waters	CFRPC_PL:084720	Tiger Bay Slough	Regionally Significant	18	100
Surface Waters	CFRPC_PL:085434	(blank)	Regionally Significant	18	100
Surface Waters	CFRPC_PL:085879	(blank)	Regionally Significant	18	100
Surface Waters	CFRPC_PL:086482	(blank)	Locally Significant	18	100
Surface Waters	CFRPC_PL:089079	(blank)	Locally Significant	18	100
Surface Waters	CFRPC_PL:089281	(blank)	Locally Significant	18	100
Surface Waters	CFRPC_PL:089844	(blank)	Locally Significant	18	100
Surface Waters	CFRPC_PL:091780	Tiger Bay Slough	Regionally Significant	18	100
Surface Waters	CFRPC_PL:093974	(blank)	Locally Significant	18	100

SENSITIVITY ANALYSIS

Unincorporated Top Sensitivity Polyline Assets					
Natural, Cultural, and Historical Resources					
500 Year 2070					
Asset Type	CFRPC ID	Asset Name	Asset Relevancy	Sensitivity Score	Inundation Percentage
Surface Waters	CFRPC_PL:094342	(blank)	Regionally Significant	18	100
Surface Waters	CFRPC_PL:094908	Tiger Bay Slough	Locally Significant	18	100
Surface Waters	CFRPC_PL:094991	(blank)	Locally Significant	18	100
Surface Waters	CFRPC_PL:099782	(blank)	Regionally Significant	18	100
Surface Waters	CFRPC_PL:101871	Tiger Bay Slough	Regionally Significant	18	100
Surface Waters	CFRPC_PL:104439	(blank)	Locally Significant	18	100

Table 75: Unincorporated Top Sensitivity Polyline Assets – Transportation and Evacuation Routes

Unincorporated Top Sensitivity Polyline Assets					
Transportation and Evacuation Routes					
500 Year 2070					
Asset Type	CFRPC ID	Asset Name	Asset Relevancy	Sensitivity Score	Inundation Percentage
Bridges	CFRPC_PL:000062	040056	Regionally Significant	15	100
Bridges	CFRPC_PL:000228	040002	Regionally Significant	15	100

Unincorporated Top Sensitivity Polyline Assets					
Transportation and Evacuation Routes					
500 Year 2070					
Asset Type	CFRPC ID	Asset Name	Asset Relevancy	Sensitivity Score	Inundation Percentage
Bridges	CFRPC_PL:000238	040044	Locally Significant	15	100
Bridges	CFRPC_PL:000088	040005	Locally Significant	14	93.2
Bridges	CFRPC_PL:000109	040054	Regionally Significant	14	100
Bridges	CFRPC_PL:000191	040053	Regionally Significant	14	100
Bridges	CFRPC_PL:000404	044014	Locally Significant	14	100
Bridges	CFRPC_PL:000074	040052	Regionally Significant	13	100
Bridges	CFRPC_PL:000100	040004	Locally Significant	13	100
Bridges	CFRPC_PL:000150	040047	Regionally Significant	13	100
Bridges	CFRPC_PL:000158	040025	Locally Significant	13	100
Bridges	CFRPC_PL:000170	040030	Locally Significant	13	100
Bridges	CFRPC_PL:000181	040063	Regionally Significant	13	100
Bridges	CFRPC_PL:000209	044012	Locally Significant	13	100
Bridges	CFRPC_PL:000216	040010	Locally Significant	13	100

Unincorporated Top Sensitivity Polyline Assets					
Transportation and Evacuation Routes					
500 Year 2070					
Asset Type	CFRPC ID	Asset Name	Asset Relevancy	Sensitivity Score	Inundation Percentage
Bridges	CFRPC_PL:000372	040026	Locally Significant	13	100
Bridges	CFRPC_PL:000391	040022	Locally Significant	13	100

Table 76: Unincorporated Top Sensitivity Polyline Transportation Assets – Transportation and Evacuation Routes

Unincorporated Top Sensitivity Polyline Transportation Assets						
Transportation and Evacuation Routes						
500 Year 2070						
Asset Type	Asset Sub-Type	CFRPC ID	Asset Name	Asset Relevancy	Sensitivity Score	Inundation Percentage
Roadways	Non-Evacuation Route	CFRPC_PLT:048197	SW RIVERVIEW CIR	Locally Significant	17	100
Roadways	Non-Evacuation Route	CFRPC_PLT:053237		Locally Significant	17	100
Roadways	Non-Evacuation Route	CFRPC_PLT:071025	SE HALL DR	Locally Significant	17	100
Roadways	Non-Evacuation Route	CFRPC_PLT:071029	SE PINE ISLAND RD	Locally Significant	17	100
Roadways	Non-Evacuation Route	CFRPC_PLT:137028	SE PINE ISLAND RD	Locally Significant	17	100
Roadways	Non-Evacuation Route	CFRPC_PLT:137029	SE PINE ISLAND RD	Locally Significant	17	100

SENSITIVITY ANALYSIS

Unincorporated Top Sensitivity Polyline Transportation Assets						
Transportation and Evacuation Routes						
500 Year 2070						
Asset Type	Asset Sub-Type	CFRPC ID	Asset Name	Asset Relevancy	Sensitivity Score	Inundation Percentage
Roadways	Non-Evacuation Route	CFRPC_PLT:030192	SW LIVERPOOL RD	Locally Significant	16	100
Roadways	Non-Evacuation Route	CFRPC_PLT:030193	SW LIVERPOOL RD	Locally Significant	16	100
Roadways	Non-Evacuation Route	CFRPC_PLT:030194	SW RIVIERA DR	Locally Significant	16	100
Roadways	Non-Evacuation Route	CFRPC_PLT:047479	CR-760	Locally Significant	16	92.4
Roadways	Non-Evacuation Route	CFRPC_PLT:048381	RIVERVIEW OAKS TER	Locally Significant	16	100
Roadways	Non-Evacuation Route	CFRPC_PLT:048382	SW RIVERSIDE DR	Locally Significant	16	100
Roadways	Non-Evacuation Route	CFRPC_PLT:052708		Locally Significant	16	93.2
Roadways	Non-Evacuation Route	CFRPC_PLT:053238	SE PINE ISLAND RD	Locally Significant	16	96.9
Roadways	Non-Evacuation Route	CFRPC_PLT:070669	SW LIVERPOOL RD	Locally Significant	16	100
Roadways	Non-Evacuation Route	CFRPC_PLT:070681	SW SUNNYBREEZE RD	Locally Significant	16	100
Roadways	Non-Evacuation Route	CFRPC_PLT:070682	SW SILVER KING DR	Locally Significant	16	100
Roadways	Non-Evacuation Route	CFRPC_PLT:071026	SE BULL RUN RD	Locally Significant	16	100
Roadways	Non-Evacuation Route	CFRPC_PLT:071030	SE PINE ISLAND RD	Locally Significant	16	100

Unincorporated Top Sensitivity Polyline Transportation Assets						
Transportation and Evacuation Routes						
500 Year 2070						
Asset Type	Asset Sub-Type	CFRPC ID	Asset Name	Asset Relevancy	Sensitivity Score	Inundation Percentage
Roadways	Non-Evacuation Route	CFRPC_PLT:123000	SW BIMINI WAY	Locally Significant	16	100
Roadways	Non-Evacuation Route	CFRPC_PLT:123001	SW SAND CRANE CIR	Locally Significant	16	100
Roadways	Non-Evacuation Route	CFRPC_PLT:123002	SW SAND CRANE CIR	Locally Significant	16	100
Roadways	Non-Evacuation Route	CFRPC_PLT:123003	SW SAND CRANE CIR	Locally Significant	16	90.2
Roadways	Non-Evacuation Route	CFRPC_PLT:140838	SW SUNNYBREEZE RD	Locally Significant	16	100
Roadways	Non-Evacuation Route	CFRPC_PLT:140853		Locally Significant	16	100

Table 77: Unincorporated Top Sensitivity Polygon Assets – Critical Infrastructure

Unincorporated Top Sensitivity Polygon Assets					
Critical Infrastructure					
500 Year 2070					
Asset Type	CFRPC ID	Asset Name	Asset Relevancy	Sensitivity Score	Inundation Percentage
Stormwater Treatment Facilities and Pump Stations	CFRPC_PG:014654	(blank)	Regionally Significant	18	100
Stormwater Treatment Facilities and Pump Stations	CFRPC_PG:000576	(blank)	Regionally Significant	17	100

Unincorporated Top Sensitivity Polygon Assets					
Critical Infrastructure					
500 Year 2070					
Asset Type	CFRPC ID	Asset Name	Asset Relevancy	Sensitivity Score	Inundation Percentage
Stormwater Treatment Facilities and Pump Stations	CFRPC_PG:004686	(blank)	Regionally Significant	17	100
Stormwater Treatment Facilities and Pump Stations	CFRPC_PG:005597	(blank)	Regionally Significant	17	100
Stormwater Treatment Facilities and Pump Stations	CFRPC_PG:005650	(blank)	Regionally Significant	17	100
Stormwater Treatment Facilities and Pump Stations	CFRPC_PG:005715	(blank)	Regionally Significant	17	100
Stormwater Treatment Facilities and Pump Stations	CFRPC_PG:005750	(blank)	Regionally Significant	17	100
Stormwater Treatment Facilities and Pump Stations	CFRPC_PG:005751	(blank)	Regionally Significant	17	100
Stormwater Treatment Facilities and Pump Stations	CFRPC_PG:005780	(blank)	Regionally Significant	17	100
Stormwater Treatment Facilities and Pump Stations	CFRPC_PG:005805	(blank)	Regionally Significant	17	100
Stormwater Treatment Facilities and Pump Stations	CFRPC_PG:005823	(blank)	Regionally Significant	17	100
Stormwater Treatment Facilities and Pump Stations	CFRPC_PG:005935	(blank)	Regionally Significant	17	100
Stormwater Treatment Facilities and Pump Stations	CFRPC_PG:005936	(blank)	Regionally Significant	17	100
Stormwater Treatment Facilities and Pump Stations	CFRPC_PG:005982	(blank)	Regionally Significant	17	100
Stormwater Treatment Facilities and Pump Stations	CFRPC_PG:006066	(blank)	Regionally Significant	17	100

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Unincorporated Top Sensitivity Polygon Assets					
Critical Infrastructure					
500 Year 2070					
Asset Type	CFRPC ID	Asset Name	Asset Relevancy	Sensitivity Score	Inundation Percentage
Stormwater Treatment Facilities and Pump Stations	CFRPC_PG:006067	(blank)	Regionally Significant	17	100
Stormwater Treatment Facilities and Pump Stations	CFRPC_PG:006083	(blank)	Regionally Significant	17	100
Stormwater Treatment Facilities and Pump Stations	CFRPC_PG:008127	(blank)	Regionally Significant	17	100
Stormwater Treatment Facilities and Pump Stations	CFRPC_PG:008128	(blank)	Regionally Significant	17	100
Stormwater Treatment Facilities and Pump Stations	CFRPC_PG:008139	(blank)	Regionally Significant	17	100
Stormwater Treatment Facilities and Pump Stations	CFRPC_PG:008542	(blank)	Regionally Significant	17	100
Stormwater Treatment Facilities and Pump Stations	CFRPC_PG:008830	(blank)	Regionally Significant	17	100
Stormwater Treatment Facilities and Pump Stations	CFRPC_PG:010328	(blank)	Regionally Significant	17	100
Stormwater Treatment Facilities and Pump Stations	CFRPC_PG:010504	(blank)	Regionally Significant	17	100
Stormwater Treatment Facilities and Pump Stations	CFRPC_PG:010904	(blank)	Regionally Significant	17	100
Stormwater Treatment Facilities and Pump Stations	CFRPC_PG:011166	(blank)	Regionally Significant	17	100
Stormwater Treatment Facilities and Pump Stations	CFRPC_PG:011299	(blank)	Regionally Significant	17	100
Stormwater Treatment Facilities and Pump Stations	CFRPC_PG:011900	(blank)	Regionally Significant	17	100

Unincorporated Top Sensitivity Polygon Assets					
Critical Infrastructure					
500 Year 2070					
Asset Type	CFRPC ID	Asset Name	Asset Relevancy	Sensitivity Score	Inundation Percentage
Stormwater Treatment Facilities and Pump Stations	CFRPC_PG:011956	(blank)	Regionally Significant	17	100
Stormwater Treatment Facilities and Pump Stations	CFRPC_PG:012070	(blank)	Regionally Significant	17	100
Stormwater Treatment Facilities and Pump Stations	CFRPC_PG:012550	(blank)	Regionally Significant	17	100
Stormwater Treatment Facilities and Pump Stations	CFRPC_PG:013211	(blank)	Regionally Significant	17	100
Stormwater Treatment Facilities and Pump Stations	CFRPC_PG:013768	(blank)	Regionally Significant	17	100
Stormwater Treatment Facilities and Pump Stations	CFRPC_PG:016999	(blank)	Regionally Significant	17	100
Stormwater Treatment Facilities and Pump Stations	CFRPC_PG:019152	(blank)	Regionally Significant	17	100
Stormwater Treatment Facilities and Pump Stations	CFRPC_PG:019153	(blank)	Regionally Significant	17	100
Stormwater Treatment Facilities and Pump Stations	CFRPC_PG:019661	(blank)	Regionally Significant	17	100

Table 78: Unincorporated Top Sensitivity Polygon Assets – Natural, Cultural, and Historical Resources

Unincorporated Top Sensitivity Polygon Assets					
Natural, Cultural, and Historical Resources					
500 Year 2070					
Asset Type	CFRPC ID	Asset Name	Asset Relevancy	Sensitivity Score	Inundation Percentage
Surface Waters	CFRPC_PG:020459	(blank)	Locally Significant	18	100
Surface Waters	CFRPC_PG:020993	(blank)	Locally Significant	18	100
Surface Waters	CFRPC_PG:021048	(blank)	Locally Significant	18	100
Surface Waters	CFRPC_PG:021469	(blank)	Locally Significant	18	100
Surface Waters	CFRPC_PG:021663	(blank)	Locally Significant	18	100
Surface Waters	CFRPC_PG:022749	(blank)	Locally Significant	18	100
Surface Waters	CFRPC_PG:022899	(blank)	Locally Significant	18	100
Surface Waters	CFRPC_PG:022900	(blank)	Locally Significant	18	100
Wetlands	CFRPC_PG:026988	6150: Stream and Lake Swamps (bottomland)	Regionally Significant	18	100
Wetlands	CFRPC_PG:027212	6150: Stream and Lake Swamps (bottomland)	Regionally Significant	18	100
Wetlands	CFRPC_PG:031711	6210: Cypress	Regionally Significant	18	100

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Unincorporated Top Sensitivity Polygon Assets					
Natural, Cultural, and Historical Resources					
500 Year 2070					
Asset Type	CFRPC ID	Asset Name	Asset Relevancy	Sensitivity Score	Inundation Percentage
Wetlands	CFRPC_PG:043847	6410: Freshwater Marshes	Regionally Significant	18	100
Wetlands	CFRPC_PG:043902	6410: Freshwater Marshes	Regionally Significant	18	100
Wetlands	CFRPC_PG:044106	6410: Freshwater Marshes	Regionally Significant	18	100
Wetlands	CFRPC_PG:044215	6410: Freshwater Marshes	Regionally Significant	18	100
Wetlands	CFRPC_PG:044276	6410: Freshwater Marshes	Regionally Significant	18	100
Wetlands	CFRPC_PG:044294	6410: Freshwater Marshes	Regionally Significant	18	100
Wetlands	CFRPC_PG:044552	6410: Freshwater Marshes	Regionally Significant	18	100
Wetlands	CFRPC_PG:044575	6410: Freshwater Marshes	Regionally Significant	18	100
Wetlands	CFRPC_PG:045074	6410: Freshwater Marshes	Regionally Significant	18	100
Wetlands	CFRPC_PG:045102	6410: Freshwater Marshes	Regionally Significant	18	100
Wetlands	CFRPC_PG:045864	6410: Freshwater Marshes	Regionally Significant	18	100
Wetlands	CFRPC_PG:046195	6410: Freshwater Marshes	Regionally Significant	18	100

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Unincorporated Top Sensitivity Polygon Assets					
Natural, Cultural, and Historical Resources					
500 Year 2070					
Asset Type	CFRPC ID	Asset Name	Asset Relevancy	Sensitivity Score	Inundation Percentage
Wetlands	CFRPC_PG:046285	6410: Freshwater Marshes	Regionally Significant	18	100
Wetlands	CFRPC_PG:046328	6410: Freshwater Marshes	Regionally Significant	18	100
Wetlands	CFRPC_PG:046403	6410: Freshwater Marshes	Regionally Significant	18	100
Wetlands	CFRPC_PG:056136	6410: Freshwater Marshes	Regionally Significant	18	100
Wetlands	CFRPC_PG:056262	6410: Freshwater Marshes	Regionally Significant	18	100
Wetlands	CFRPC_PG:074878	6430: Wet Prairie	Regionally Significant	18	100
Wetlands	CFRPC_PG:075186	6430: Wet Prairie	Regionally Significant	18	100
Wetlands	CFRPC_PG:075857	6430: Wet Prairie	Regionally Significant	18	100
Wetlands	CFRPC_PG:076068	6430: Wet Prairie	Regionally Significant	18	100
Wetlands	CFRPC_PG:076081	6430: Wet Prairie	Regionally Significant	18	100
Wetlands	CFRPC_PG:076178	6430: Wet Prairie	Regionally Significant	18	100
Wetlands	CFRPC_PG:078617	6440: Emergent Aquatic Vegetation	Regionally Significant	18	100

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Unincorporated Top Sensitivity Polygon Assets					
Natural, Cultural, and Historical Resources					
500 Year 2070					
Asset Type	CFRPC ID	Asset Name	Asset Relevancy	Sensitivity Score	Inundation Percentage
Wetlands	CFRPC_PG:078618	6440: Emergent Aquatic Vegetation	Regionally Significant	18	100
Wetlands	CFRPC_PG:078619	6440: Emergent Aquatic Vegetation	Regionally Significant	18	100
Wetlands	CFRPC_PG:078691	6440: Emergent Aquatic Vegetation	Regionally Significant	18	100
Wetlands	CFRPC_PG:078746	6440: Emergent Aquatic Vegetation	Regionally Significant	18	100

Summary Table – Top Sensitivity Assets – Arcadia

The top assets were filtered based on the Sensitivity for the 500-Year 2070 Scenario which provides the greatest sensitivity to the County.

Table 79: Arcadia Top Sensitivity Point Assets - Critical Community and Emergency Facilities

City of Arcadia Top Sensitivity Point Assets					
Critical Community and Emergency Facilities					
500 Year 2070					
Asset Type	CFRPC ID	Asset Name	Asset Relevancy	Sensitivity Score	Inundation Percentage
Health Care Facilities	CFRPC_PT:020087	HOUSE HOPE #1	Locally Significant	16	99.8
Disaster Recovery Centers	CFRPC_PT:000266	DESOTO COUNTY FAIRGROUNDS WAREHOUSE	Regionally Significant	15	98.2
Health Care Facilities	CFRPC_PT:000446	DESOTO COUNTY HEALTH DEPARTMENT	Regionally Significant	15	100

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City of Arcadia Top Sensitivity Point Assets					
Critical Community and Emergency Facilities					
500 Year 2070					
Asset Type	CFRPC ID	Asset Name	Asset Relevancy	Sensitivity Score	Inundation Percentage
Health Care Facilities	CFRPC_PT:020081	JONES, DOROTHY G.	Locally Significant	15	100
Local Government Facilities	CFRPC_PT:033581	CITY OF ARCADIA GOVERNMENT - Public Works Yard #1	Regionally Significant	15	100
Local Government Facilities	CFRPC_PT:033586	City of Arcadia Lake Catherine Park	Regionally Significant	15	100
Local Government Facilities	CFRPC_PT:033591	City of Arcadia Mobile Home Park	Regionally Significant	15	98.9
State Government Facilities	CFRPC_PT:001170	DEPT OF TRANSPORTATION DISTRICT - OPERATIONS	Regionally Significant	15	100
Affordable Public Housing	CFRPC_PT:019932	Public Housing Authority	Locally Significant	15	63.6
Community Centers	CFRPC_PT:019682	Team Arcadia McSwain Center	Regionally Significant	14	99.95
Community Centers	CFRPC_PT:033582	BOYS AND GIRLS CLUB	Regionally Significant	14	53.6
Local Government Facilities	CFRPC_PT:033584	MCSWAIN PARK	Regionally Significant	14	96.21
Affordable Public Housing	CFRPC_PT:019933	The Palms	Locally Significant	14	38.4

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Table 80: Arcadia Top Sensitivity Point Assets - Critical Infrastructure

City of Arcadia Top Sensitivity Point Assets					
Critical Infrastructure					
500 Year 2070					
Asset Type	CFRPC ID	Asset Name	Asset Relevancy	Sensitivity Score	Inundation Percentage
Drinking Water Facilities	CFRPC_PT:033583	Remote Ground Storage Well #11	Regionally Significant	15	100
Solid and Hazardous Waste Facilities	CFRPC_PT:033186	JOSEPH SKATES	Locally Significant	15	100
Solid and Hazardous Waste Facilities	CFRPC_PT:033230	QUIRK & OBERLANDER DENTISTRY	Locally Significant	15	100
Solid and Hazardous Waste Facilities	CFRPC_PT:033232	PERFORMANCE AUTOMOTIVE	Locally Significant	15	100
Solid and Hazardous Waste Facilities	CFRPC_PT:033233	TIMON'S TIRE SHOP	Locally Significant	15	100
Solid and Hazardous Waste Facilities	CFRPC_PT:033234	ADVANCE AUTO PARTS #9127	Locally Significant	15	92.6
Solid and Hazardous Waste Facilities	CFRPC_PT:033237	L.A. FUSCO, DDS	Locally Significant	15	100
Solid and Hazardous Waste Facilities	CFRPC_PT:033239	DARRELL'S WRECKER SERVICE	Locally Significant	15	100
Solid and Hazardous Waste Facilities	CFRPC_PT:033264	MARATHON A.K.A. LUCKYS ARCADIA AMOCO	Locally Significant	15	99.2
Solid and Hazardous Waste Facilities	CFRPC_PT:033303	ARCADIA HOUSING AUTHORITY	Locally Significant	15	100
Wastewater Treatment Facilities and Lift Stations	CFRPC_PT:009018	Arcadia City of - William Tyson WWTF	Regionally Significant	15	100

Table 81: Arcadia Top Sensitivity Point Assets - Natural, Cultural, and Historical Resources

City of Arcadia Top Sensitivity Point Assets					
Natural, Cultural, and Historical Resources					
500 Year 2070					
Asset Type	CFRPC ID	Asset Name	Asset Relevancy	Sensitivity Score	Inundation Percentage
Historical and Cultural Assets	CFRPC_PT:020310	120 S PASCO AVE	Locally Significant	15	100
Historical and Cultural Assets	CFRPC_PT:020311	143 S PASCO AVE	Locally Significant	15	100
Historical and Cultural Assets	CFRPC_PT:020312	203 S PASCO AVE	Locally Significant	15	100
Historical and Cultural Assets	CFRPC_PT:020325	9-15 ROBINSON CT	Locally Significant	15	100
Historical and Cultural Assets	CFRPC_PT:020326	109 S SUMTER AVE	Locally Significant	15	100
Historical and Cultural Assets	CFRPC_PT:020328	129 S SUMTER AVE	Locally Significant	15	100
Historical and Cultural Assets	CFRPC_PT:020329	142 S SUMTER AVE	Locally Significant	15	100
Historical and Cultural Assets	CFRPC_PT:020330	143 S SUMTER AVE	Locally Significant	15	100
Historical and Cultural Assets	CFRPC_PT:020331	144 S SUMTER AVE	Locally Significant	15	100
Historical and Cultural Assets	CFRPC_PT:020332	147 S SUMTER AVE	Locally Significant	15	100
Historical and Cultural Assets	CFRPC_PT:020421	226 SOUTH HERNANDO AVENUE	Locally Significant	15	100

City of Arcadia Top Sensitivity Point Assets					
Natural, Cultural, and Historical Resources					
500 Year 2070					
Asset Type	CFRPC ID	Asset Name	Asset Relevancy	Sensitivity Score	Inundation Percentage
Historical and Cultural Assets	CFRPC_PT:020452	232 SOUTH HERNANDO AVENUE	Locally Significant	15	100
Historical and Cultural Assets	CFRPC_PT:020457	1002 EAST HICKORY STREET	Locally Significant	15	100
Historical and Cultural Assets	CFRPC_PT:020465	998 WEST HICKORY STREET	Locally Significant	15	100
Historical and Cultural Assets	CFRPC_PT:020497	663 SOUTH BREVARD AVENUE	Locally Significant	15	100
Historical and Cultural Assets	CFRPC_PT:020498	BBQ PIT	Locally Significant	15	100
Historical and Cultural Assets	CFRPC_PT:020499	584 S. BREVARD AVENUE (LULU'S TINY TOTS)	Locally Significant	15	100
Historical and Cultural Assets	CFRPC_PT:020500	585 BREVARD	Locally Significant	15	100
Historical and Cultural Assets	CFRPC_PT:020501	583 BREVARD	Locally Significant	15	100
Historical and Cultural Assets	CFRPC_PT:020517	222 SOUTH HILLSBOROUGH AVENUE	Locally Significant	15	100
Historical and Cultural Assets	CFRPC_PT:020519	243 SOUTH HILLSBOROUGH COUNTY	Locally Significant	15	100
Historical and Cultural Assets	CFRPC_PT:020574	831 EAST MAGNOLIA STREET	Locally Significant	15	100
Historical and Cultural Assets	CFRPC_PT:020616	129 SOUTH MILLS AVENUE	Locally Significant	15	100
Historical and Cultural Assets	CFRPC_PT:020617	SELEY SMITH HOUSE	Locally Significant	15	100

City of Arcadia Top Sensitivity Point Assets					
Natural, Cultural, and Historical Resources					
500 Year 2070					
Asset Type	CFRPC ID	Asset Name	Asset Relevancy	Sensitivity Score	Inundation Percentage
Historical and Cultural Assets	CFRPC_PT:020618	203 SOUTH MILLS AVENUE	Locally Significant	15	100
Historical and Cultural Assets	CFRPC_PT:020619	F.F. RHODE HOUSE	Locally Significant	15	100
Historical and Cultural Assets	CFRPC_PT:020620	216 SOUTH MILLS AVENUE	Locally Significant	15	100
Historical and Cultural Assets	CFRPC_PT:020711	1008 NORTH OAK STREET	Locally Significant	15	100
Historical and Cultural Assets	CFRPC_PT:020712	1291 NORTH OAK STREET	Locally Significant	15	100
Historical and Cultural Assets	CFRPC_PT:020737	628 E MAGNOLIA ST	Locally Significant	15	100
Historical and Cultural Assets	CFRPC_PT:020738	629 E MAGNOLIA ST	Locally Significant	15	100
Historical and Cultural Assets	CFRPC_PT:020751	903 PARKVIEW AVENUE	Locally Significant	15	100
Historical and Cultural Assets	CFRPC_PT:020952	123 SOUTH PASCO AVENUE	Locally Significant	15	100
Historical and Cultural Assets	CFRPC_PT:020953	137 SOUTH PASCO AVENUE	Locally Significant	15	100
Historical and Cultural Assets	CFRPC_PT:020980	PUMP STATION BUILDING	Locally Significant	15	100

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Table 82: Arcadia Top Sensitivity Point Assets – Transportation and Evacuation Routes

City of Arcadia Top Sensitivity Point Assets					
Transportation and Evacuation Routes					
500 Year 2070					
Asset Type	CFRPC ID	Asset Name	Asset Relevancy	Sensitivity Score	Inundation Percentage
Rail Facilities	CFRPC_PT:019309	(blank)	Regionally Significant	16	100
Rail Facilities	CFRPC_PT:019307	(blank)	Regionally Significant	15	100
Rail Facilities	CFRPC_PT:019308	(blank)	Regionally Significant	15	100
Rail Facilities	CFRPC_PT:019310	(blank)	Regionally Significant	15	100
Rail Facilities	CFRPC_PT:019312	(blank)	Regionally Significant	15	100
Rail Facilities	CFRPC_PT:019313	(blank)	Regionally Significant	15	100
Rail Facilities	CFRPC_PT:019318	(blank)	Regionally Significant	15	100
Railroad Bridges	CFRPC_PT:019580	NONE	Regionally Significant	15	100
Rail Facilities	CFRPC_PT:019311	(blank)	Regionally Significant	13	59.1
Rail Facilities	CFRPC_PT:019314	(blank)	Regionally Significant	13	100
Rail Facilities	CFRPC_PT:019315	(blank)	Regionally Significant	13	100
Rail Facilities	CFRPC_PT:019319	(blank)	Regionally Significant	13	100

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City of Arcadia Top Sensitivity Point Assets					
Transportation and Evacuation Routes					
500 Year 2070					
Asset Type	CFRPC ID	Asset Name	Asset Relevancy	Sensitivity Score	Inundation Percentage
Rail Facilities	CFRPC_PT:019321	(blank)	Regionally Significant	13	100

Table 83: Arcadia Top Sensitivity Polyline Assets – Critical Infrastructure

City of Arcadia Top Sensitivity Polyline Assets					
Critical Infrastructure					
500 Year 2070					
Asset Type	CFRPC ID	Asset Name	Asset Relevancy	Sensitivity Score	Inundation Percentage
Electric Production and Supply Facilities	CFRPC_PL:000674	ELECTRIC BULK POWER TRANSMISSION AND CONTROL, UNKNOWN108486	Regionally Significant	12	91.1
Electric Production and Supply Facilities	CFRPC_PL:000555	ELECTRIC BULK POWER TRANSMISSION AND CONTROL, CHARLOTTE	Regionally Significant	8	39.4

Table 84: Arcadia Top Sensitivity Polyline Assets – Natural, Cultural, and Historical Resources

City of Arcadia Top Sensitivity Polyline Assets					
Natural, Cultural, and Historical Resources					
500 Year 2070					
Asset Type	CFRPC ID	Asset Name	Asset Relevancy	Sensitivity Score	Inundation Percentage
Surface Waters	CFRPC_PL:062177	Peace River	Locally Significant	14	100
Surface Waters	CFRPC_PL:052295	(blank)	Locally Significant	13	98.4

City of Arcadia Top Sensitivity Polyline Assets					
Natural, Cultural, and Historical Resources					
500 Year 2070					
Asset Type	CFRPC ID	Asset Name	Asset Relevancy	Sensitivity Score	Inundation Percentage
Surface Waters	CFRPC_PL:061285	Peace River	Locally Significant	13	100
Surface Waters	CFRPC_PL:063423	(blank)	Regionally Significant	13	100
Surface Waters	CFRPC_PL:102010	(blank)	Regionally Significant	13	100
Surface Waters	CFRPC_PL:051588	(blank)	Locally Significant	12	97.8
Surface Waters	CFRPC_PL:055385	(blank)	Regionally Significant	12	93.4
Surface Waters	CFRPC_PL:102656	(blank)	Locally Significant	12	100

Table 85: Arcadia Top Sensitivity Polyline Assets – Transportation and Evacuation Routes

City of Arcadia Top Sensitivity Polyline Assets					
Transportation and Evacuation Routes					
500 Year 2070					
Asset Type	CFRPC ID	Asset Name	Asset Relevancy	Sensitivity Score	Inundation Percentage
Bridges	CFRPC_PL:000056	049001	Locally Significant	14	100
Bridges	CFRPC_PL:000385	040023	Regionally Significant	14	100
Rail Facilities	CFRPC_PL:050303	SGLR Mainline (AX) SG Rail Corridor	Regionally Significant	8	30.2

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Table 86: Arcadia Top Sensitivity Polyline Transportation Assets – Transportation and Evacuation Routes

City of Arcadia Top Sensitivity Polyline Transportation Assets						
Transportation and Evacuation Routes						
500 Year 2070						
Asset Type	Asset Sub-Type	CFRPC ID	Asset Name	Asset Relevancy	Sensitivity Score	Inundation Percentage
Roadways	Non-Evacuation Route	CFRPC_PLT:029311	BAY ST	Locally Significant	16	100
Roadways	Non-Evacuation Route	CFRPC_PLT:029312	CITRUS AVE	Locally Significant	16	100
Roadways	Non-Evacuation Route	CFRPC_PLT:029322	SINGLETON AVE	Locally Significant	16	100
Roadways	Non-Evacuation Route	CFRPC_PLT:029324	BAY ST	Locally Significant	16	100
Roadways	Non-Evacuation Route	CFRPC_PLT:029326	S LEE AVE	Locally Significant	16	100
Roadways	Non-Evacuation Route	CFRPC_PLT:029357	SPRING AVE	Locally Significant	16	100
Roadways	Non-Evacuation Route	CFRPC_PLT:029361	BOND ST	Locally Significant	16	100
Roadways	Non-Evacuation Route	CFRPC_PLT:029362	BOND ST	Locally Significant	16	100
Roadways	Non-Evacuation Route	CFRPC_PLT:029363	MADISON AVE	Locally Significant	16	100
Roadways	Non-Evacuation Route	CFRPC_PLT:029364	BOND ST	Locally Significant	16	100
Roadways	Non-Evacuation Route	CFRPC_PLT:029382	ALABAMA AVE	Locally Significant	16	100

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City of Arcadia Top Sensitivity Polyline Transportation Assets						
Transportation and Evacuation Routes						
500 Year 2070						
Asset Type	Asset Sub-Type	CFRPC ID	Asset Name	Asset Relevancy	Sensitivity Score	Inundation Percentage
Roadways	Non-Evacuation Route	CFRPC_PLT:029383	GORDON ST	Locally Significant	16	100
Roadways	Non-Evacuation Route	CFRPC_PLT:029391	WATSON AVE	Locally Significant	16	100
Roadways	Non-Evacuation Route	CFRPC_PLT:029392	GORDON ST	Locally Significant	16	100
Roadways	Non-Evacuation Route	CFRPC_PLT:029414	COURT ST	Locally Significant	16	100
Roadways	Non-Evacuation Route	CFRPC_PLT:029417	ALABAMA AVE	Locally Significant	16	100
Roadways	Non-Evacuation Route	CFRPC_PLT:029421	COURT ST	Locally Significant	16	100
Roadways	Non-Evacuation Route	CFRPC_PLT:029422	WATSON AVE	Locally Significant	16	100
Roadways	Non-Evacuation Route	CFRPC_PLT:029423	COURT ST	Locally Significant	16	100
Roadways	Non-Evacuation Route	CFRPC_PLT:029458	ALABAMA AVE	Locally Significant	16	100
Roadways	Non-Evacuation Route	CFRPC_PLT:029464	HARRIS RD	Locally Significant	16	100
Roadways	Non-Evacuation Route	CFRPC_PLT:029468	HARRIS RD	Locally Significant	16	100
Roadways	Non-Evacuation Route	CFRPC_PLT:029469	HARRIS RD	Locally Significant	16	100

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City of Arcadia Top Sensitivity Polyline Transportation Assets						
Transportation and Evacuation Routes						
500 Year 2070						
Asset Type	Asset Sub-Type	CFRPC ID	Asset Name	Asset Relevancy	Sensitivity Score	Inundation Percentage
Roadways	Non-Evacuation Route	CFRPC_PLT:029474	HARRIS RD	Locally Significant	16	100
Roadways	Non-Evacuation Route	CFRPC_PLT:029514	WASHINGTON AVE	Locally Significant	16	100
Roadways	Non-Evacuation Route	CFRPC_PLT:032593	POTTER AVE	Locally Significant	16	100
Roadways	Non-Evacuation Route	CFRPC_PLT:034157	LINCOLN AVE	Locally Significant	16	100
Roadways	Non-Evacuation Route	CFRPC_PLT:034159	GRIFFIN ST	Locally Significant	16	100
Roadways	Non-Evacuation Route	CFRPC_PLT:047610	GRIFFIN ST	Locally Significant	16	100
Roadways	Non-Evacuation Route	CFRPC_PLT:047669	COURT ST	Locally Significant	16	100
Roadways	Non-Evacuation Route	CFRPC_PLT:053773	BOND ST	Locally Significant	16	100
Roadways	Non-Evacuation Route	CFRPC_PLT:053774	BOND ST	Locally Significant	16	100
Roadways	Non-Evacuation Route	CFRPC_PLT:053775	BOND ST	Locally Significant	16	100
Roadways	Non-Evacuation Route	CFRPC_PLT:053776	BOND ST	Locally Significant	16	100
Roadways	Non-Evacuation Route	CFRPC_PLT:053777	ALABAMA AVE	Locally Significant	16	100

SENSITIVITY ANALYSIS

City of Arcadia Top Sensitivity Polyline Transportation Assets						
Transportation and Evacuation Routes						
500 Year 2070						
Asset Type	Asset Sub-Type	CFRPC ID	Asset Name	Asset Relevancy	Sensitivity Score	Inundation Percentage
Roadways	Non-Evacuation Route	CFRPC_PLT:053779	ALABAMA AVE	Locally Significant	16	100
Roadways	Non-Evacuation Route	CFRPC_PLT:053796	LINCOLN AVE	Locally Significant	16	100
Roadways	Non-Evacuation Route	CFRPC_PLT:070965	HARRIS RD	Locally Significant	16	100
Roadways	Non-Evacuation Route	CFRPC_PLT:070968	BAY ST	Locally Significant	16	100
Roadways	Non-Evacuation Route	CFRPC_PLT:090245	HARRIS RD	Locally Significant	16	100
Roadways	Non-Evacuation Route	CFRPC_PLT:090246	HARRIS RD	Locally Significant	16	100
Roadways	Non-Evacuation Route	CFRPC_PLT:123028	SCHOOL AVE	Locally Significant	16	100
Roadways	Non-Evacuation Route	CFRPC_PLT:123029	SCHOOL AVE	Locally Significant	16	100
Roadways	Non-Evacuation Route	CFRPC_PLT:123030	HARRIS RD	Locally Significant	16	100

SENSITIVITY ANALYSIS

Table 87: Arcadia Top Sensitivity Polygon Assets – Critical Infrastructure

City of Arcadia Top Sensitivity Polygon Assets					
Critical Infrastructure					
500 Year 2070					
Asset Type	CFRPC ID	Asset Name	Asset Relevancy	Sensitivity Score	Inundation Percentage
Stormwater Treatment Facilities and Pump Stations	CFRPC_PG:004721	(blank)	Regionally Significant	15	100
Stormwater Treatment Facilities and Pump Stations	CFRPC_PG:004961	(blank)	Regionally Significant	15	100
Stormwater Treatment Facilities and Pump Stations	CFRPC_PG:005006	(blank)	Regionally Significant	15	100
Stormwater Treatment Facilities and Pump Stations	CFRPC_PG:004967	(blank)	Regionally Significant	13	100
Stormwater Treatment Facilities and Pump Stations	CFRPC_PG:005008	(blank)	Regionally Significant	13	100
Stormwater Treatment Facilities and Pump Stations	CFRPC_PG:005009	(blank)	Regionally Significant	13	100
Stormwater Treatment Facilities and Pump Stations	CFRPC_PG:005081	(blank)	Regionally Significant	13	100
Stormwater Treatment Facilities and Pump Stations	CFRPC_PG:010588	(blank)	Regionally Significant	13	100
Stormwater Treatment Facilities and Pump Stations	CFRPC_PG:011525	(blank)	Regionally Significant	13	100
Stormwater Treatment Facilities and Pump Stations	CFRPC_PG:011783	(blank)	Regionally Significant	13	100
Stormwater Treatment Facilities and Pump Stations	CFRPC_PG:012693	(blank)	Regionally Significant	13	100
Stormwater Treatment Facilities and Pump Stations	CFRPC_PG:014251	(blank)	Regionally Significant	13	100

City of Arcadia Top Sensitivity Polygon Assets					
Critical Infrastructure					
500 Year 2070					
Asset Type	CFRPC ID	Asset Name	Asset Relevancy	Sensitivity Score	Inundation Percentage
Stormwater Treatment Facilities and Pump Stations	CFRPC_PG:015244	(blank)	Regionally Significant	13	100
Stormwater Treatment Facilities and Pump Stations	CFRPC_PG:019828	(blank)	Regionally Significant	13	99.1
Stormwater Treatment Facilities and Pump Stations	CFRPC_PG:016146	(blank)	Regionally Significant	13	94.3

Table 88: Arcadia Top Sensitivity Polygon Assets – Natural, Cultural, and Historical Resources

City of Arcadia Top Sensitivity Polygon Assets					
Natural, Cultural, and Historical Resources					
500 Year 2070					
Asset Type	CFRPC ID	Asset Name	Asset Relevancy	Sensitivity Score	Inundation Percentage
Wetlands	CFRPC_PG:027284	6150: Stream and Lake Swamps (bottomland)	Regionally Significant	16	99.5
Parks	CFRPC_PG:080978	MILLS & SUMTER AVENUES MINI-PARK	Regionally Significant	15	100
Parks	CFRPC_PG:080994	DESOTO COUNTY PARK & BOAT RAMP	Regionally Significant	15	100
Wetlands	CFRPC_PG:027118	6150: Stream and Lake Swamps (bottomland)	Regionally Significant	15	100
Wetlands	CFRPC_PG:048124	6410: Freshwater Marshes	Regionally Significant	15	100
Wetlands	CFRPC_PG:074289	6430: Wet Prairie	Regionally Significant	15	100

SENSITIVITY ANALYSIS

City of Arcadia Top Sensitivity Polygon Assets					
Natural, Cultural, and Historical Resources					
500 Year 2070					
Asset Type	CFRPC ID	Asset Name	Asset Relevancy	Sensitivity Score	Inundation Percentage
Parks	CFRPC_PG:081474	PEACE RIVER STATE FOREST - AURIN LAKE TRAIL TRAILHEAD (HORSEBACK RIDING)	Regionally Significant	15	99.9
Wetlands	CFRPC_PG:079683	6530: Intermittent Ponds	Regionally Significant	15	97.6
Wetlands	CFRPC_PG:027334	6150: Stream and Lake Swamps (bottomland)	Regionally Significant	15	97.5
Parks	CFRPC_PG:080974	LAKE KATHERINE PARK	Regionally Significant	15	94.8
Parks	CFRPC_PG:080977	HARRIS ROAD TOT LOT PARK	Regionally Significant	15	65.4

SUMMARY & RECOMMENDATIONS

Table 91 shows summaries of how exposure metrics and sensitivity are used together. Assets inherit the sensitivity score of the hexagon in which they are located, allowing asset-level exposure to be interpreted within a broader regional context.

Table 89: Exposure-Sensitivity Crosswalk Table

Component	Spatial Unit	Primary Metrics	Purpose
Exposure Analysis	Asset (point, line, polygon)	Depth (MIN / MEAN / MAX), % Exposed	Quantifies physical flood impact
Sensitivity Analysis	Hexagon	Composite sensitivity score (1–5)	Provides regional vulnerability context
Integrated Review	Asset + Hexagon	Exposure metrics + Sensitivity score	Supports prioritization and decision-making

Considerations and Appropriate Use

This methodology is subject to the following considerations.

- Modeled flood depths represent scenario-based conditions, not observed events.
- Sensitivity scores are relative, dependent on classification thresholds and input data resolution.
- SOVI represents baseline social conditions and does not reflect future demographic change.
- Results should be interpreted as planning-level indicators, not site-specific engineering determinations.

The sensitivity analysis produces a relative index. This is designed to support comparative planning, prioritization, and contextual interpretation. When paired with asset-level exposure results, the sensitivity analysis provides where exposure intersects with social, environmental, and hazard-related vulnerabilities, supporting more informed mitigation and investment strategies.

Integrating Exposure and Sensitivity Analyses for Planning Decisions

- Exposure and Sensitivity serve distinct, but complimentary roles within the modeling framework.
- Exposure analysis identifies how much flooding a critical asset could potentially experience under a given rainfall scenario.
- Sensitivity analysis identifies how sensitive the surrounding area is to flood impacts based on social vulnerability (SOVI), population distribution, FEMA flood hazard extent, natural environmental features (hydrological – canals, ditches, stormwater facilities, lakes, rivers, and streams), and exposure inundation.

- By evaluating exposure and sensitivity together, critical assets may be prioritized not solely on modeled depth, but on contextual importance and potential impacts. Example applications include:
 - Prioritizing mitigation for assets with high exposure located within high-sensitivity hexagons.
 - Identifying critical assets with moderate exposure but elevated social or environmental (hydrological) sensitivity.
 - Supporting funding, phasing, and project justification decisions.

DESOTO COUNTY FOCUS AREAS

The identification of geographic Focus Areas is an important step in the DeSoto County Vulnerability Assessment, providing a structured and targeted approach for advancing from analysis to adaptation planning. In accordance with the Resilient Florida Program requirements, Focus Areas were developed to highlight locations and assets that exhibit elevated vulnerability based on the results of the exposure and sensitivity analyses. This approach ensures that subsequent planning efforts are concentrated in areas where flood risks have the greatest potential to impact critical infrastructure, community functions, and economic activity.

The selection of Focus Areas was informed by both technical analysis and community input, consistent with the guidelines outlined in Chapter 2 of the Florida Adaptation Planning Guidebook. Feedback from stakeholders, County staff, City staff, and participating agencies was incorporated to validate areas of concern and identify locations where flooding and drainage issues are most pronounced. This process ensured the Focus Areas reflect not only modeled conditions, but also lived experience and operational knowledge, strengthening the overall reliability and relevance of the assessment.

Based on the combined results of the hazard, exposure, and sensitivity analyses, Focus Areas were assigned to specific locations and to assets that are particularly vulnerable and warrant the development of adaptation strategies. By focusing on these high-priority areas, the County is better positioned to develop targeted, cost-effective resilience solutions that address the most pressing risks.

All geospatial data developed to support the identification and analysis of Focus Areas have been prepared in accordance with the Resilient Florida Program's GIS Data Standards. GIS files include complete and standardized metadata documenting data sources, methodologies, and assumptions, ensuring transparency, consistency, and reproducibility of results. Raw data sources are clearly defined within the metadata, supporting future updates, coordination with state agencies, and the continued use of these datasets in planning and implementation efforts.

Following the identification process described above, three geographic Focus Areas were selected for detailed evaluation: West Arcadia, Southwest DeSoto, and McKay. These areas represent distinct geographic and functional conditions within DeSoto County and collectively capture the range of flood risks affecting the community, including riverine flooding, rainfall-driven inundation, and localized drainage challenges.

Each Focus Area was delineated based on a combination of modeled flood exposure, asset sensitivity, and stakeholder input, with particular emphasis on locations where critical infrastructure, economic assets, or essential government functions are at risk. The selected areas reflect both spatial concentrations of vulnerability and areas of operational importance, ensuring that the assessment addresses not only where flooding occurs, but where it has the greatest potential consequences.

The following sections provide detailed profiles of each Focus Area, including a description of location and boundaries, key characteristics, primary flood risks, and the presence of critical assets and infrastructure. These profiles are intended to support a more refined understanding of localized conditions and to inform subsequent risk evaluation and adaptation strategy development.

Together, these Focus Areas serve as the foundation for advancing the Vulnerability Assessment from broad, countywide analysis to targeted, place-based planning. The insights derived from each area will directly inform the identification of Adaptation Action Areas and the development of prioritized resilience projects, consistent with the objectives of the Resilient Florida Program. The Focus Areas can be found in Appendix F.

ADAPTATION ACTION AREA PLANS

Adaptation Action Areas (AAA) are defined in section 163.3177, Florida Statutes as geographic areas identified by a local government that experience coastal flooding and are prioritized for the funding and implementation of adaptation strategies to improve resilience. While AAAs are traditionally applied in coastal communities, the concept can be adapted for inland jurisdictions, such as DeSoto County, to identify areas subject to repetitive or high-risk flooding associated with rainfall events, drainage limitations, and watershed conditions.

For DeSoto County, potential AAAs were identified based on the results of the exposure and sensitivity analyses conducted as part of this Vulnerability Assessment. These areas represent locations where critical and regionally significant assets are subject to higher levels of flood exposure and risk under the VAs modeled storm scenario 500-year 2070. Factors considered in identifying these areas are identified in the methodology below. Although not formally designated through a comprehensive plan amendment as outlined in Florida Statutes, these areas serve as planning-level equivalents to AAAs and provide a framework for prioritizing resilience actions.

The identification of these priority areas supports targeted decision-making and aligns with the objectives of the Resilient Florida Program by providing a defensible basis for project development and funding. Areas identified through this process may be used to guide future infrastructure investments, stormwater management improvements, and hazard mitigation strategies. In addition, these areas may inform updates to local planning documents, including the comprehensive plan, capital improvement programs, and emergency management strategies.

By applying the AAA concept in an inland context, DeSoto County can proactively address flood risk, enhance community resilience, and position itself for future state and federal funding opportunities.

DeSoto County contracted with the Central Florida Regional Planning Council (CFRPC) to develop the Adaptation Action Areas (AAAs). CFRPC received funding for this effort from the Coastal & Heartland National Estuary Partnership through Bipartisan Infrastructure Law (BIL) funding provided by the U.S. Environmental Protection Agency. To support implementation, CFRPC engaged Kimley-Horn and Associates to assist with the development of the AAAs.

DeSoto County identified the top three Adaptation Action Areas. These plans can be found in Appendix G.

GAP ANALYSIS AND RECOMMENDATIONS

Throughout this project, every effort has been made to compile a comprehensive inventory of features designated as critical assets important to DeSoto County, the City of Arcadia and the DeSoto County Vulnerability Assessment Steering Committee members. It is important to note that the compiled dataset is the best available data and should not be seen as authoritative, or unchangeable.

Efforts have been made to avoid duplicated assets in the dataset. However, this does not guarantee the accuracy of feature locations, only that they have been considered. Ideally, features should be located in a parcel if suitable, rather than at the street level, although this may not always be feasible. Further review of such features is recommended.

Sensitive Data Gap

Some critical asset data required under Section 380.093, F.S., could not be obtained because of its sensitive nature. This includes critical infrastructure such as drinking water facilities, water utility systems, electric production, and supply facilities, which are part of the 16 critical infrastructure sectors identified by the Cybersecurity and Infrastructure Security Agency (CISA). Since these assets are essential to security, health, and the economy, detailed information is restricted and not publicly available. As a result, the vulnerability assessment is limited by the absence of certain sensitive datasets.

Sensitive Data Recommendation

Clear guidance should be established for handling datasets that are not publicly available, sensitive in nature, or pose national security risks. This guidance should outline appropriate methods for incorporating these datasets into vulnerability assessments without compromising security, such as anonymization or alternative representation strategies.

When sensitive assets cannot be mapped directly, visualization techniques such as heat maps can reveal patterns or concentrations of assets without exposing their exact locations. Another alternative is to allow grantees to conduct the required analysis internally but censor illustrative maps by providing the results in table format only, ensuring compliance without jeopardizing security.

General Data Gap

Many asset records contained incomplete, outdated, or missing address information, making it difficult to geocode accurately or link assets to parcel data, zoning, and jurisdictional boundaries. This limitation reduced the ability to evaluate potential impacts across jurisdictions. The issue is further complicated by the sensitive nature of certain critical infrastructure, as specific locations cannot always be disclosed due to national security concerns. The project team verified as much data as possible.

The initial dataset also lacked Florida Department of Environmental Protection (FDEP) identification numbers for facilities, which created confusion when matching records across systems or validating assets. Although IDs were later added, some workflows had already been built on incomplete or mismatched data. For sensitive assets, the absence of consistent identifiers presents additional challenges, since these records cannot always be verified or cross-referenced against publicly available information.

The vulnerability assessment also drew from multiple sources, including state agencies, utilities, and local governments, each using different formats, standards, and coordinate systems. This fragmentation resulted in inconsistent field names, missing values, and difficulties in integrating the data. Sensitive or restricted datasets further amplified these challenges, as some stakeholders were unable to share information openly, requiring reliance on proxy data or alternative representations. Collectively, these inconsistencies weakened the overall assessment and risk, leaving critical vulnerabilities underrepresented.

Several datasets lacked adequate metadata detailing their sources, update frequency, accuracy, or assumptions. Without this information, it is difficult to assess the reliability of the data or apply it consistently in planning. A metadata template should be created for all layers including source, date, accuracy, vertical datum, and update cycle. Then a QA/QC script should be run to flag missing fields, null values, or coordinate mismatches.

General Data Recommendation

All assets should be assigned a unique, persistent identifier - such as an FDEP ID - to ensure consistency, cross-system validation, and continuity over time. Standardized metadata requirements should also be implemented for all datasets, including documentation of source, update cycles, accuracy, and assumptions. These practices will strengthen reliability and ensure sensitive data is properly cataloged and understood by authorized users. In addition, asset data should be cross-referenced with parcel records or utility service areas to address missing or incomplete information.

Improved coordination with regional stakeholders, combined with greater investment in the initial data collection phase, will produce stronger and more consistent assessments. Standardizing formats, domains, and coded values for asset types, jurisdictions, and vulnerability scores will reduce inconsistencies and enhance the ability to integrate sensitive data securely and collaboratively.

Elevation Data Gap

Digital Elevation Models (DEMs) used for vulnerability analysis were outdated, incomplete, or missing, requiring manual input to fill gaps where LiDAR datasets were unavailable. This reduces precision in flood modeling, sensitivity scoring, and exposure analysis, particularly in low-lying areas. Because elevation data frequently intersects with critical infrastructure, outdated models pose both technical challenges and sensitivity risks, as public release of infrastructure vulnerabilities could be exploited if not carefully managed.

Elevation Data Recommendation

Elevation datasets should be updated with the latest LiDAR available from FDOT or county GIS portals, ensuring consistent use of NAVD88 and eliminating reliance on interpolated surfaces. Using more current and precise DEMs will improve flood and vulnerability modeling while reducing the risk of inaccurate exposure assessments, particularly in sensitive critical infrastructure areas.

Modeled Data Gap

Given the large spatial extent of the watershed and the volume of data processed, there are inherent limitations in the modeled rainfall-runoff simulations. While the elevation data is of high quality due to LiDAR acquisition, providing sufficient resolution to identify major infrastructure and topographic features, some drainage features may not be fully represented. Additionally, localized terrain modifications (e.g., grading, berms, or undocumented alterations) may not be captured within the available datasets.

To maintain computational efficiency and numerical stability across the full watershed, a relatively coarse mesh cell size was utilized in the model. While appropriate for regional-scale analysis, this resolution may not fully capture localized hydrologic and hydraulic processes, particularly those influencing overland flow paths and small-scale drainage behavior during rainfall events.

Modeled Data Recommendation

To improve the accuracy and reliability of rainfall-driven flood modeling, the development of a comprehensive drainage infrastructure dataset is recommended. This dataset should include feature type, dimensions, invert elevations, and connectivity of systems such as culverts, ditches, and stormwater networks. Incorporating these data would enhance the model's ability to simulate flow conveyance and storage throughout the watershed.

Additionally, refinement of the computational mesh, particularly in areas of interest or known flooding concerns, is recommended to better represent localized flow dynamics and flood extents. Targeted mesh refinement would allow for more detailed assessment of flood risk at the neighborhood or asset level while maintaining overall model performance.

OUTCOMES

The outcomes of the Vulnerability Assessment (VA) provide a standardized, data-driven evaluation of flood risk to critical and regionally significant assets within DeSoto County in accordance with section 380.093, Florida Statutes. Through the application of exposure and sensitivity analyses, this assessment identifies the extent, depth, and frequency of rainfall-driven flooding and its potential impacts on assets across the four statutorily defined asset classes. The results establish a defensible and reproducible methodology for determining which assets are most vulnerable under existing and future conditions, supporting consistency with Resilient Florida Program guidance and GIS Data Standards.

The VA outcomes support the identification and prioritization of assets and infrastructure that may require adaptation actions. Assets determined to have higher levels of exposure and sensitivity are considered candidates for further evaluation, including feasibility analyses and conceptual project development. These findings provide the technical basis for advancing resilience strategies such as protection, accommodation, or relocation, and directly support the County's ability to pursue implementation funding through the Resilient Florida Program and other applicable state and federal funding sources.

In addition, the assessment produces GIS-based datasets, metadata, and mapping products that enhance transparency and usability of results for ongoing planning and decision-making. These data products are structured to meet Resilient Florida Program GIS requirements and can be updated as new information becomes available. The outcomes of this assessment may also inform local and regional planning efforts, including capital improvement planning, stormwater management strategies, and hazard mitigation initiatives, ensuring that resilience considerations are integrated into future policy and investment decisions.

Project Identification and Planning Integration

While this Vulnerability Assessment (VA) does not include a standalone or prioritized list of specific mitigation or adaptation projects, the results of the assessment are intended to directly inform and support project identification and development through existing County, municipal, regional, and state planning frameworks. Consistent with the objectives of the Resilient Florida Program, the VA provides a data-driven foundation for understanding risk to critical assets and infrastructure, which can be used by DeSoto County and its partners to guide future resilience investments, policy decisions, and capital planning efforts. The findings of this assessment are designed to be actionable and transferable to other planning processes where project development and prioritization occur. Detailed Sensitivity Ratings on the VA's critical assets, including risk considerations, are documented in Appendix C – Detailed Sensitivity Tables and are intended to support the identification of priority areas and rating each asset to help identify resiliency/mitigation projects.

The VA is closely aligned with the County's Local Mitigation Strategy (LMS), coordinated through the County's LMS Working Group, and is intended to inform the identification and prioritization of mitigation projects included in the LMS. Additionally, the assessment supports DeSoto County and the City of Arcadia's Capital Improvement Program/Element (CIP/E) by providing critical risk information that can be incorporated into infrastructure planning, budgeting, and project scoping. The results may also be used to support updates to long term recovery plans, comprehensive plans, stormwater master plans, and other local planning efforts where resilience considerations are increasingly integrated.

At the regional and state level, the VA findings are compatible with and can support project development under planning initiatives led by agencies such as the Water Management Districts CIP and Resiliency Plans, particularly where watershed management, flood protection, and water resource planning intersect with identified vulnerabilities. The findings of this assessment will also be coordinated with the Heartland Regional Transportation Planning Organization to support the integration of resilience considerations into regional transportation planning efforts and future projects to the county. Coordination with municipalities, Central Florida Regional Planning Council's Heartland Resiliency Coalition, and other partner agencies further ensures the results of this assessment can be leveraged across jurisdictions to support a cohesive and strategic approach to resilience planning. Through these connections, the VA serves as a foundational tool to guide future project identification, prioritization, and funding pursuits without duplicating or replacing existing planning efforts.

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APPENDIX A

Vulnerability Assessment Detailed Exposure Tables

APPENDIX B

Vulnerability Assessment Exposure Maps

City of Arcadia
DeSoto County

APPENDIX C

Vulnerability Assessment Detailed Sensitivity Tables

APPENDIX D

Vulnerability Assessment Sensitivity Maps

City of Arcadia
DeSoto County

APPENDIX E

DeSoto County Inundation Flood Report

APPENDIX F

DeSoto County Focus Areas

APPENDIX G

DeSoto County Adaptation Action Areas

THIS IS A PLACE HOLDER FOR WHEN THE AAAs ARE COMPLETE NEAR SUMMER 2026