



Critical Infrastructure Flood Vulnerability Assessment

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Pinellas County Flood Vulnerability Assessment (VA)

- State-mandated for compliance with Resilient FL Statute 380.093
- Funded by the Resilient Florida Grant Program
- \$100M awarded Statewide each year by FDEP

VA Objectives

- Inform communities about the flood vulnerability of their public assets
- Prioritize the flooding related risks to public infrastructure
- Recommend adaptation planning strategies for flood mitigation
- Ensure communities are eligible to apply for Resilient FL related grant funding

What is the Vulnerability Assessment (VA)?



A **countywide** study that evaluates flooding impacts to critical infrastructure over time

- Includes public assets owned/maintained by the County and the communities shown here



- Technical reviewers: Pinellas County asset owners, consultants, non-profits, and stakeholders



What is the Community Benefit?



Achieves compliance with RF Program Statute*

- Ensures eligibility for RF Program funding

Maps out critical public infrastructure with associated flood risk scenarios

Helps communities prioritize and plan for infrastructure investments

Emphasizes resilient infrastructure design and operation

* Resilient Florida (RF) Program Statute: 380.093

Public Engagement 2023 - 2026



Countywide VA Workshop

- > 50 participants from local agencies

Online and in-person surveys

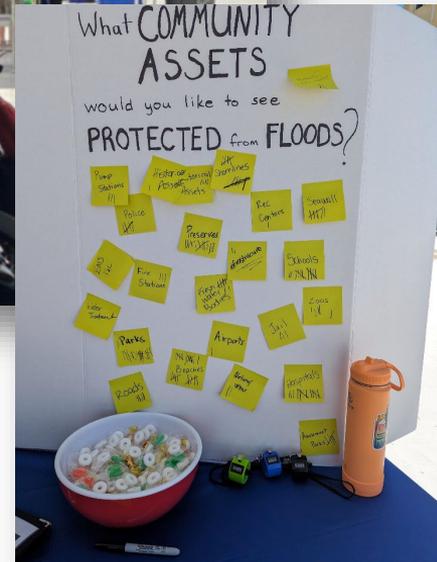
- > 500 responses

Multiple events across the county

- Attended 10 community events
- Spoke directly with over 600 people

Virtual public meeting

- Presented draft results; answered questions
- 62 registrants



Community Survey - Summer 2024



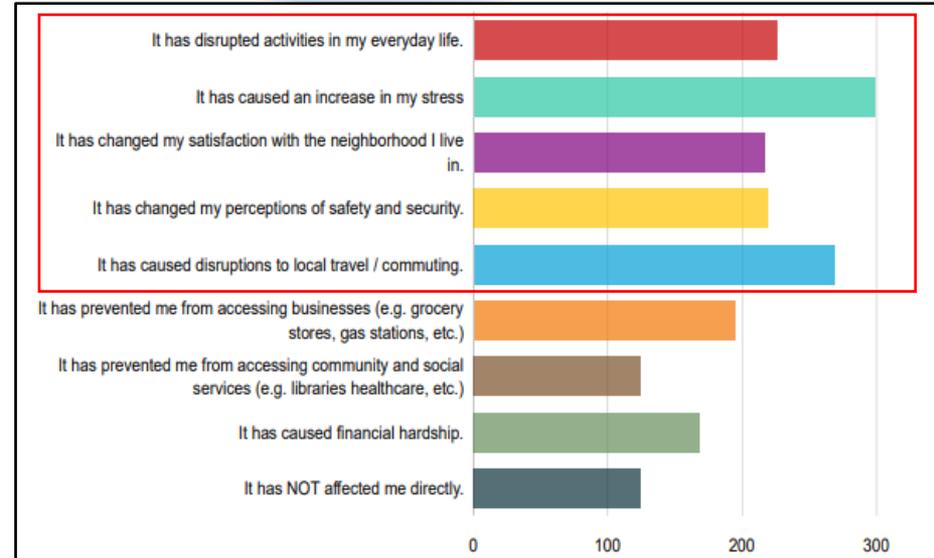
Flooding has been very disruptive

50% consider flooding when deciding:

- Where to live; how to travel

Highest level of concern for:

- Roads, electricity, communications, buildings



Vulnerability Assessment Steps

Asset Data Collection *

- Critical Community and Emergency Facilities
- Critical Infrastructure
- Natural, Cultural, & Historical Resources
- Transportation & Evacuation Routes

Exposure

- Asset impacts due to flooding
 - 21 flood scenarios
 - 2018 base year, 2040, 2070

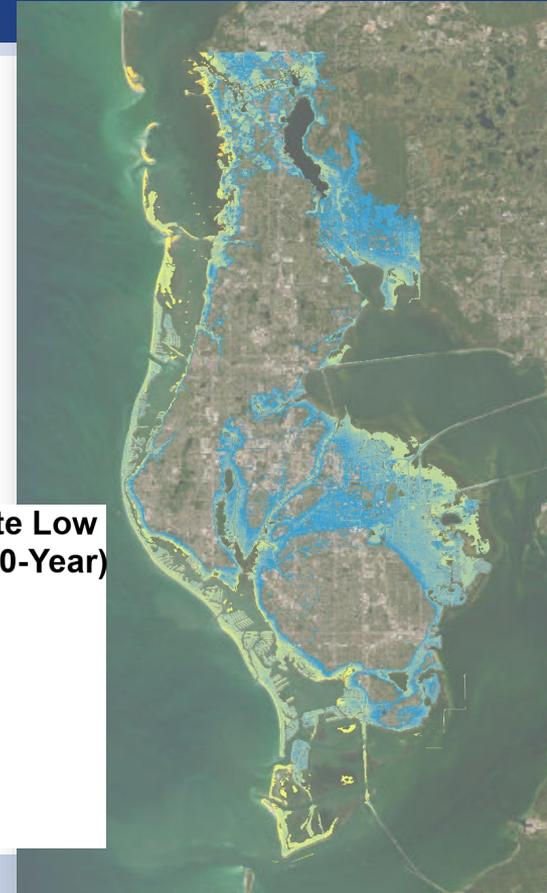
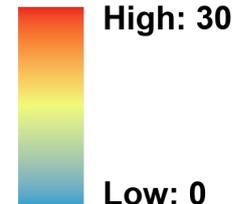
Sensitivity

- Flood severity + criticality of an asset

* Public/regionally significant assets, not private homes or businesses

2040 Intermediate Low
Storm Surge (100-Year)

Value



Exposure and Sensitivity



+7' flood depth for Storm Surge 500 YR 2070 IH Scenario

+3.7' flood depth for Storm Surge 500 YR 2018 Scenario

+1' flood depth for Storm Surge 100 YR IL 2040 Scenario

11' ground elevation at building's center

5' ground elevation at roadway entrance

Not to scale/survey



ANCLOTE KEY PRESERVE STATE PARK



Pinellas Countywide View
Tidal Flooding
2018 2040 IH 2070 IH



ANCLOTE KEY PRESERVE STATE PARK



Pinellas Countywide View
Storm Surge (100-year)
2018 2040 IH 2070 IH



ANCLOTE KEY PRESERVE STATE PARK



Pinellas Countywide View
Extreme Rainfall
2040 2070 IH



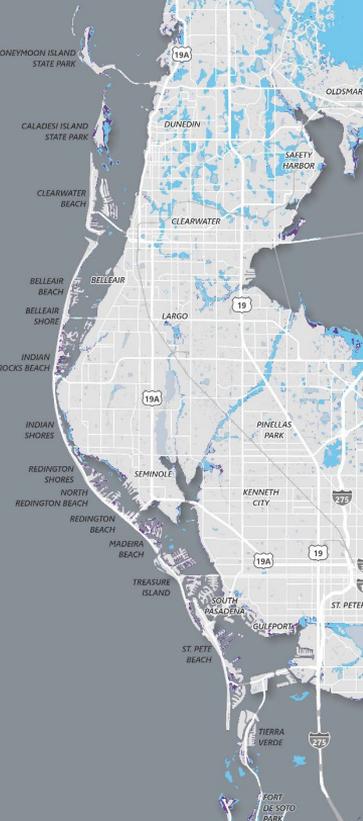
ANCLOTE KEY PRESERVE STATE PARK



Pinellas Countywide View
Groundwater
2040 2070



ANCLOTE KEY PRESERVE STATE PARK



Pinellas Countywide View
Groundwater
2040 2070

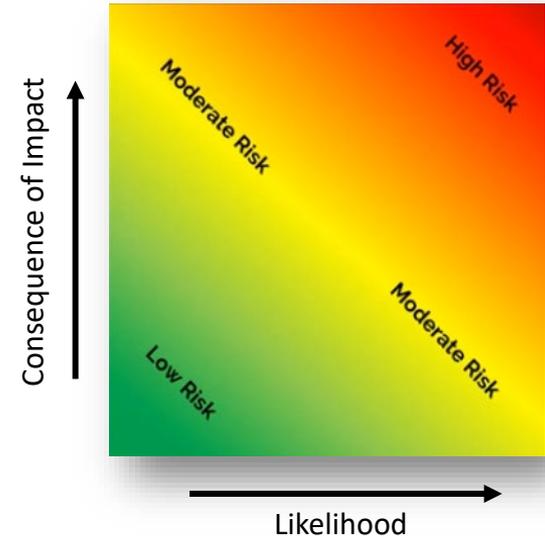
Countywide Takeaways

Storm Surge has higher flood severity and impacts compared to tidal flooding, extreme rainfall, or groundwater.

Many regionally significant assets have flood impacts across most scenarios, including:

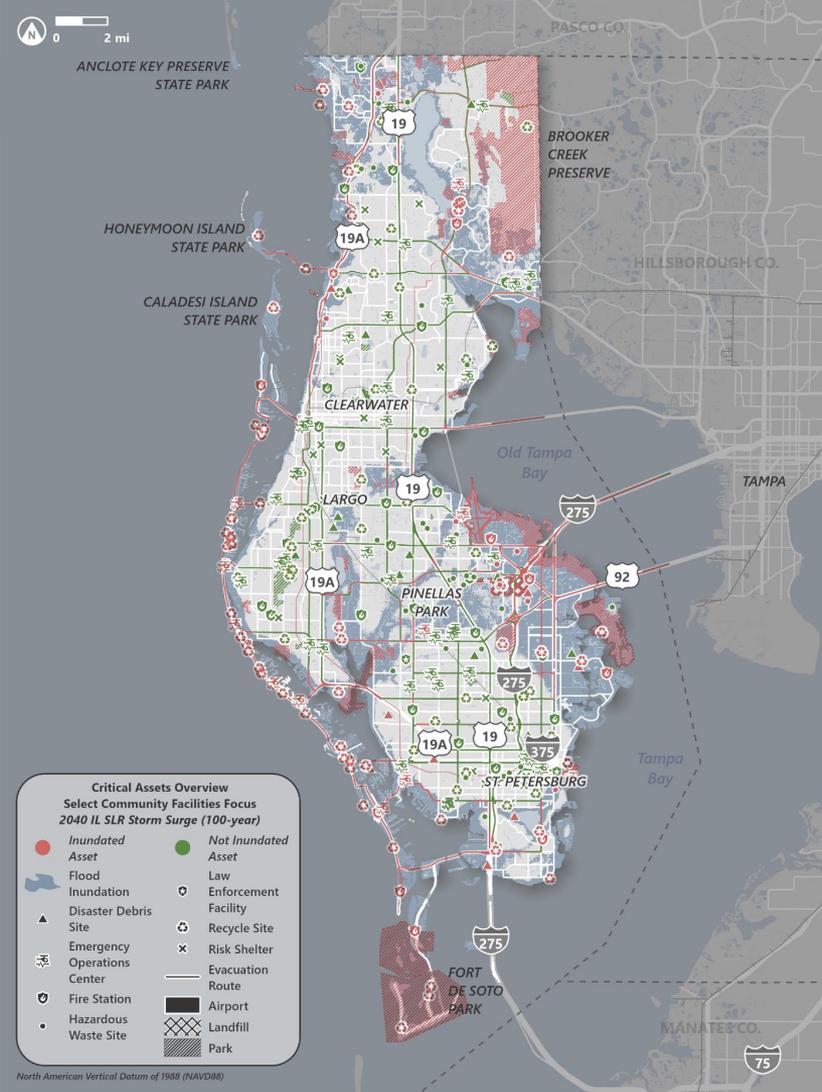
- St. Pete-Clearwater International Airport, County Solid Waste Disposal Complex, and evacuation routes

Significant numbers of assets across all classes are impacted: one **emergency shelter with potential impacts.**



Likely Scenarios Snapshot

Asset Type	Total	Storm Surge IL 2040 Assets Exposed	% of Assets	Extreme Rainfall 2040 Assets Exposed	% of Assets
Emergency Operations Center	56	12	21%	0	0%
Fire Station	66	16	24%	2	3%
Law Enforcement Facility	15	3	20%	0	0%
Risk Shelter	26	0	0%	0	0%
Drinking Water Facility	405	74	18%	131	32%
Park	67	42	63%	31	46%



Next Steps



Focus areas and adaptation planning

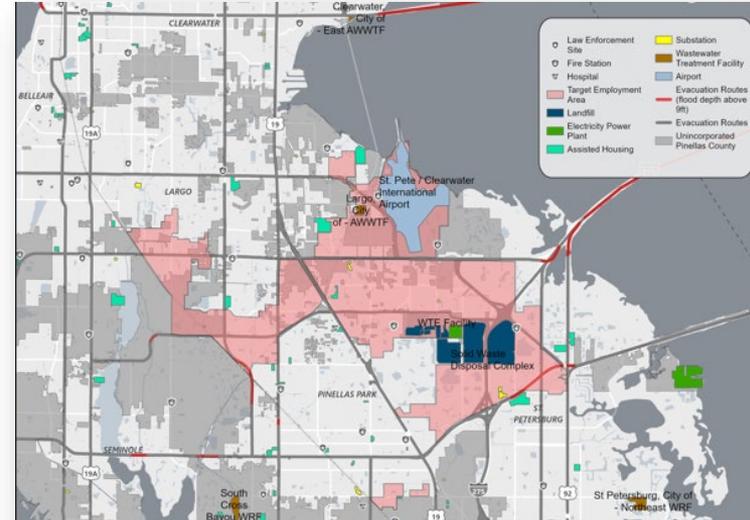
Submit final VA to FDEP

- March 2026

Submit Adaptation Plan to FDEP

- September 2026

Ongoing Resilient FI grant applications



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