UF UNIVERSITY of FLORIDA

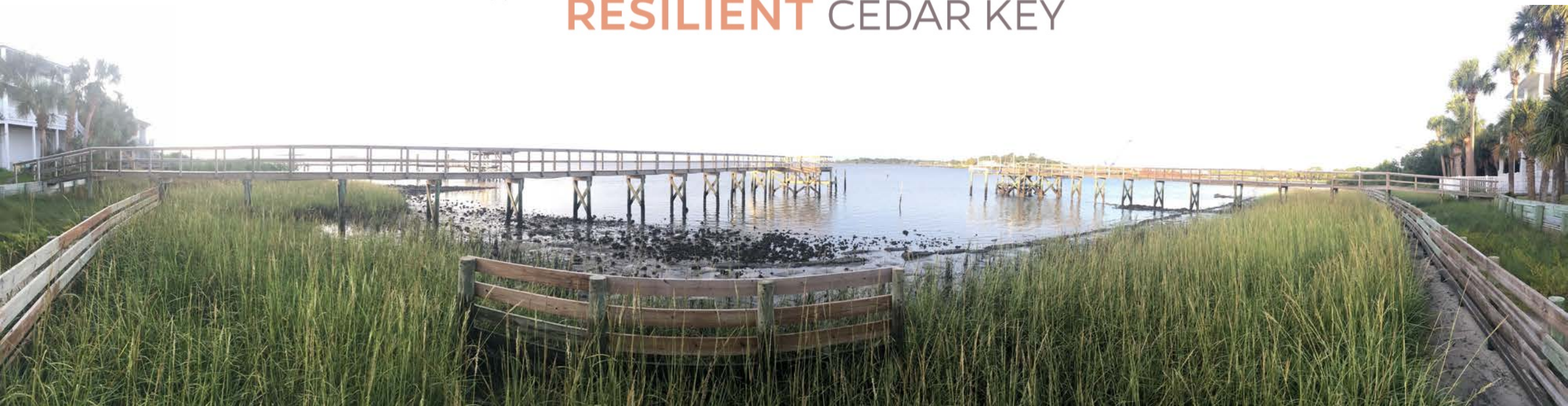
FLORIDA RESILIENT CITIES

Sea Grant Florida

FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION

CITY OF CEDAR KEY LEVY COUNTY, FLORIDA

RESILIENT CEDAR KEY



Project Collaborators

Partnership between:

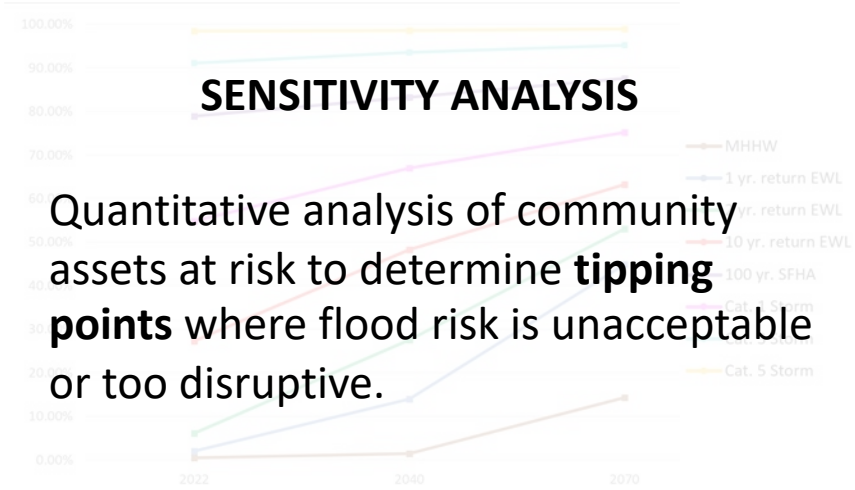
- City of Cedar Key
- UF Florida Institute for Built Environment Resilience (FIBER)
- UF Center for Landscape Conservation Planning (CLCP)
- UF Shimberg Center for Housing Studies
- UF/IFAS Nature Coast Biological Station
- UF/IFAS Food and Resource Economics Dept.
- Florida Sea Grant

Exposure + Sensitivity Analysis

EXPOSURE ANALYSIS

Map demonstrates the **location** of assets at risk from flooding given different time horizons and flood scenarios.

SENSITIVITY ANALYSIS



Quantitative analysis of community assets at risk to determine **tipping points** where flood risk is unacceptable or too disruptive.

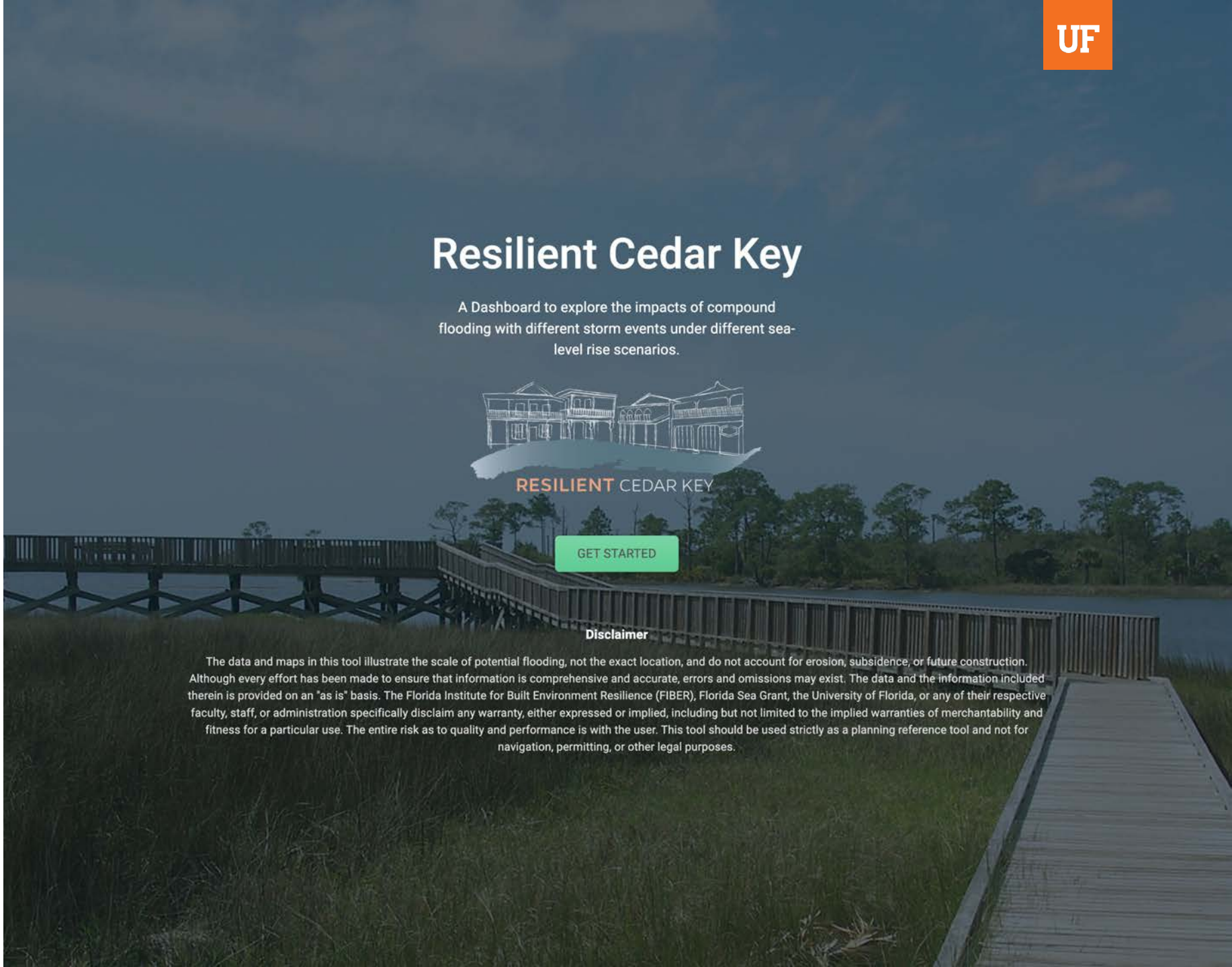
RESILIENT CEDAR KEY

Datasets Used

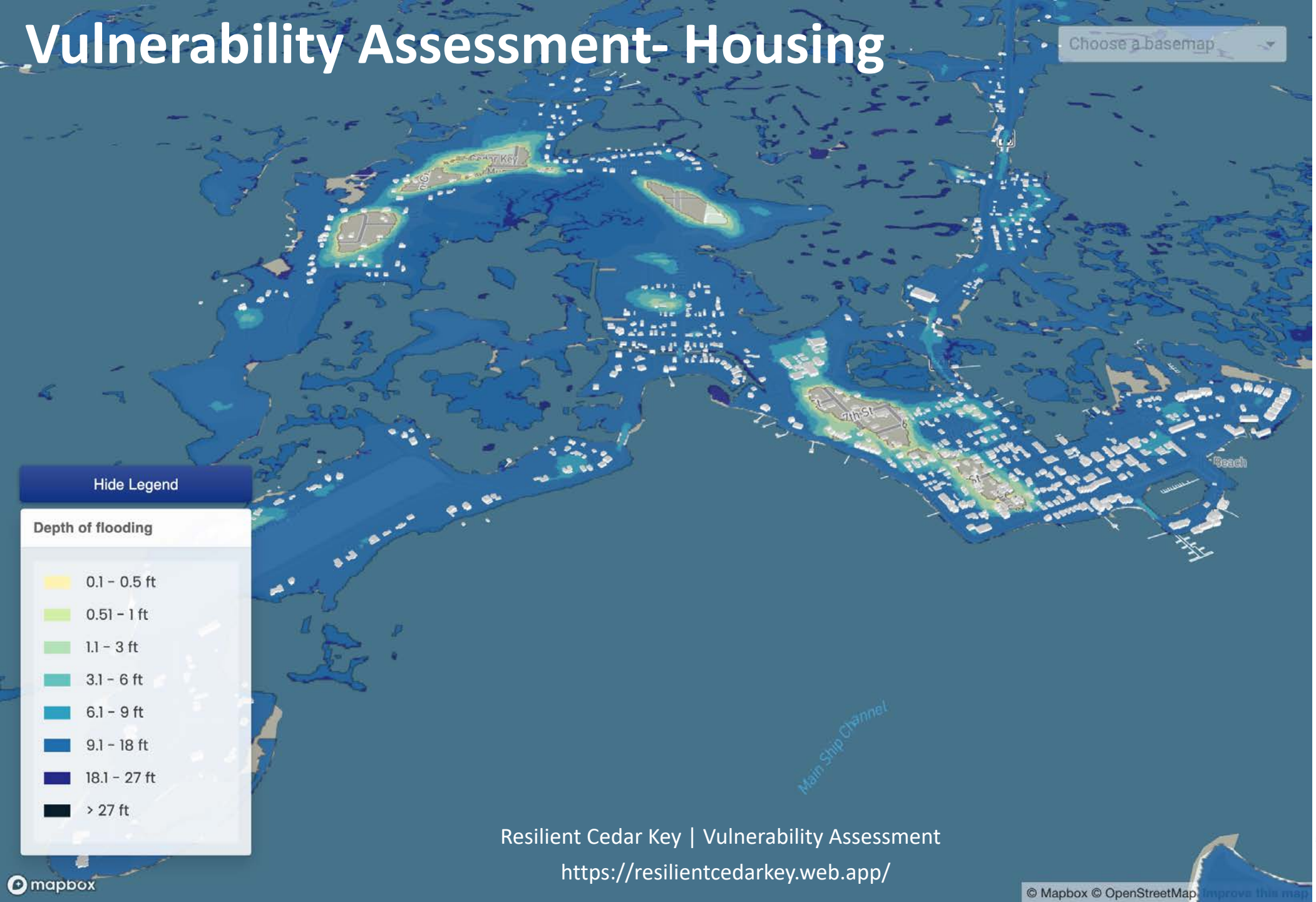
- **Topography.** A digital elevation model (DEM) was obtained for Cedar Key from the United States Geological Survey's (USGS) 1-meter National Elevation Dataset, published in October, 2022. The team used the most recently available topography data at the time the flood modeling process was performed to ensure that the flood depth models most accurately represented current conditions.
- **Storm surge.** Storm surge data was obtained from the NOAA's National Weather Service in the form of a conical grid. This data provided mean and high SLOSH storm surge heights for each hurricane category, referenced as a height above NAVD88. This data was interpolated and compared to the DEM to create a surface layer showing the extent and depth of flooding from storm surge in the region.
- **Critical assets.** Using local and statewide data sources, the team assembled an inventory of locally and regionally significant assets relating to transportation, critical infrastructure, critical community and emergency facilities, and natural, cultural, and historic resources, consistent with FDEP guidelines. GIS data was used to visually depict the location of these assets and to describe their attributes. All assets were reviewed through a QA/QC process to ensure their accuracy and relevance to the study.

Vulnerability Assessment- Category 3 Hurricane

- The following includes results from the impacts of a Category 3 storm on Cedar Key. Storm surge data was obtained from NOAA's National Weather Service.
- This **does **not** depict the projected impacts of Hurricane Idalia** specifically. However, this information may be useful for context to understand the risks CK faces.
- For more, visit: https://resilientcedarkey.web.app/



Vulnerability Assessment- Housing



A Category 3 Storm would flood nearly **86% of residential structures** in the city limits.

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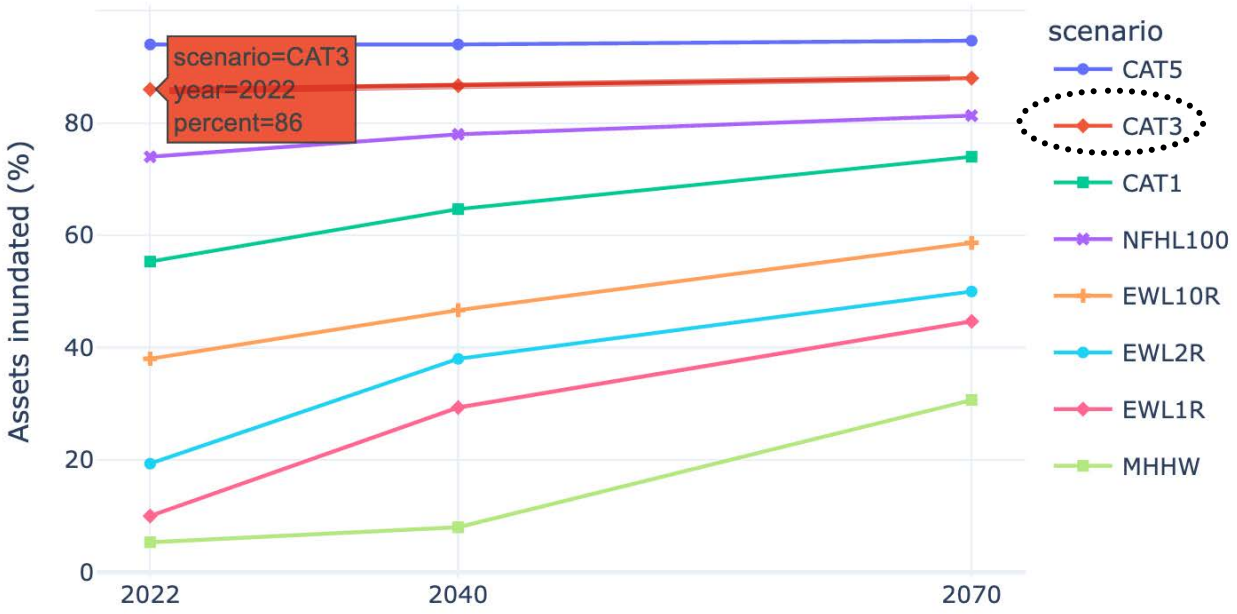
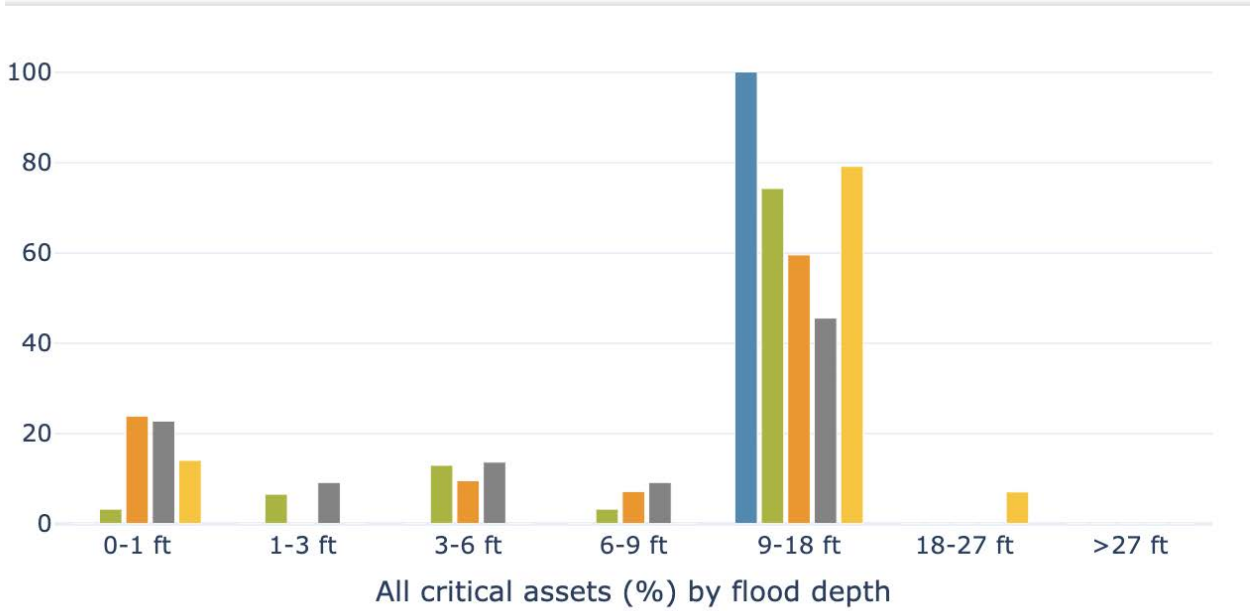
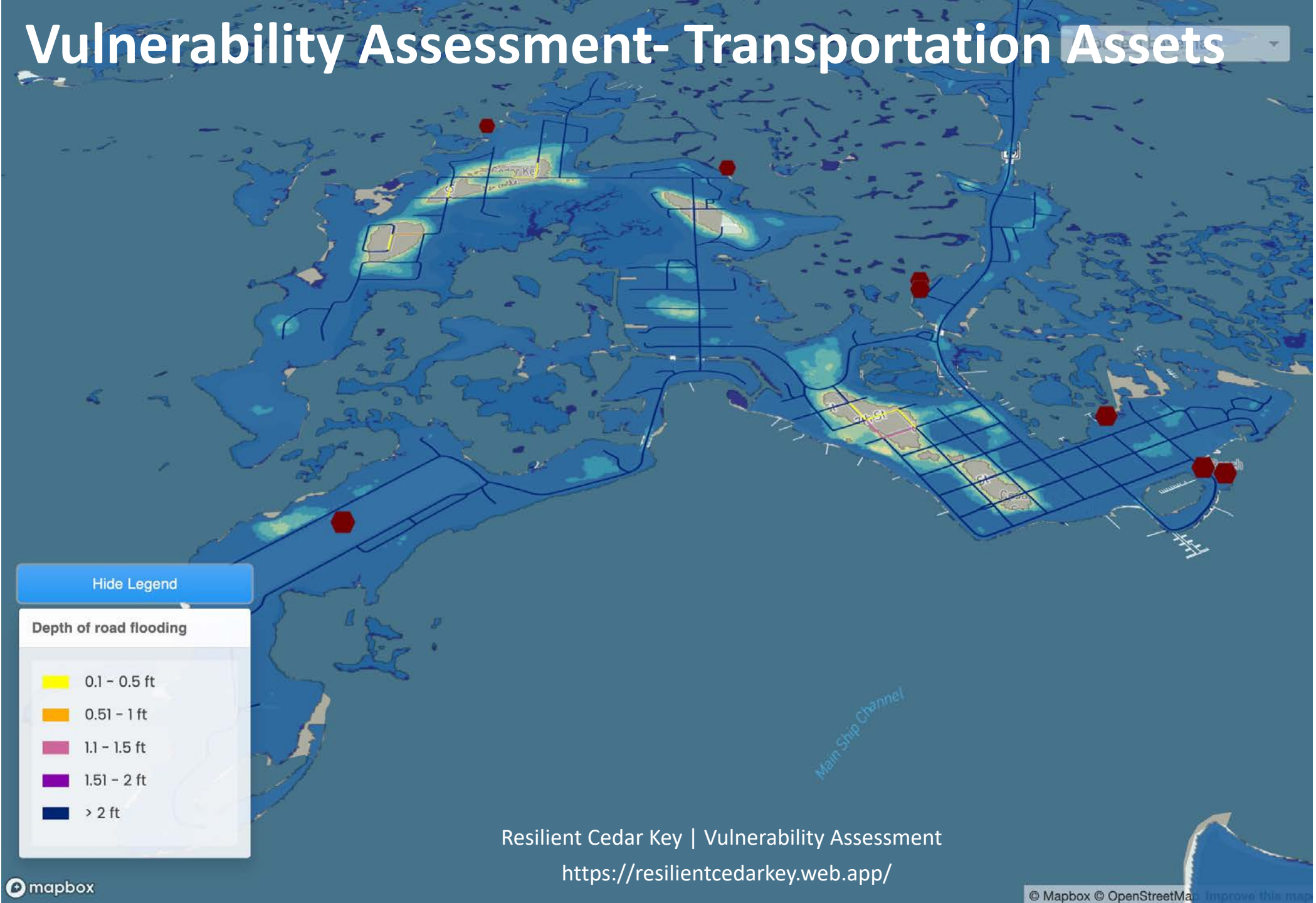
Vulnerability Assessment- Housing (Cat 3)





Vulnerability Assessment- Transportation Assets



A Category 3 Storm would flood nearly **100% of transportation assets** in the city limits.

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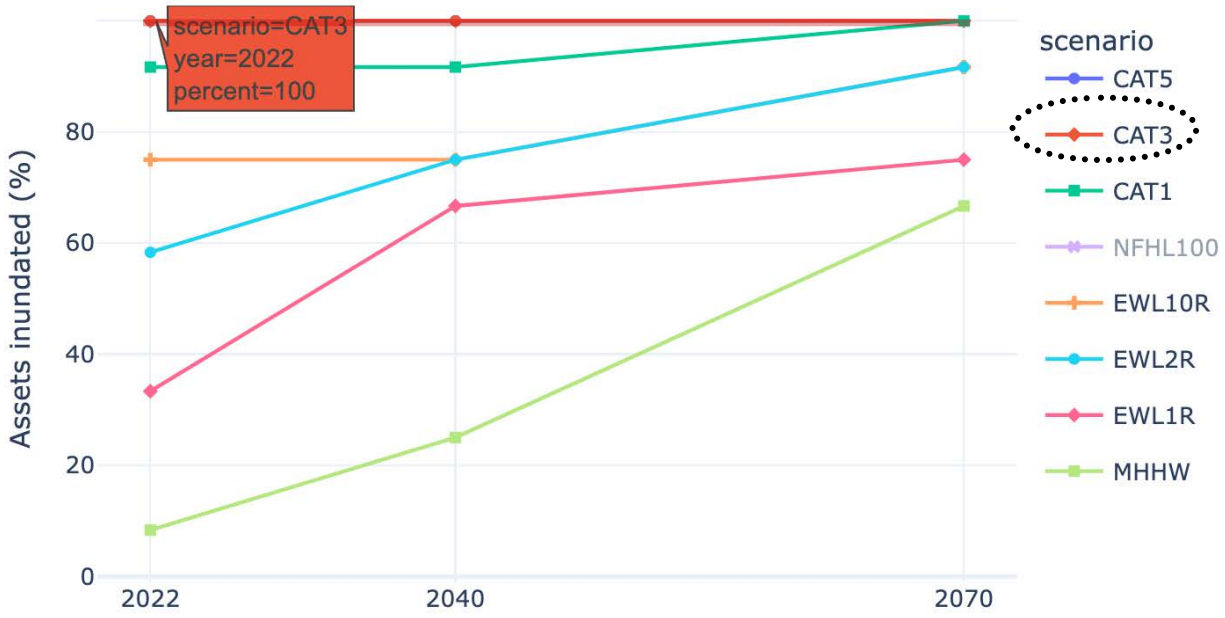
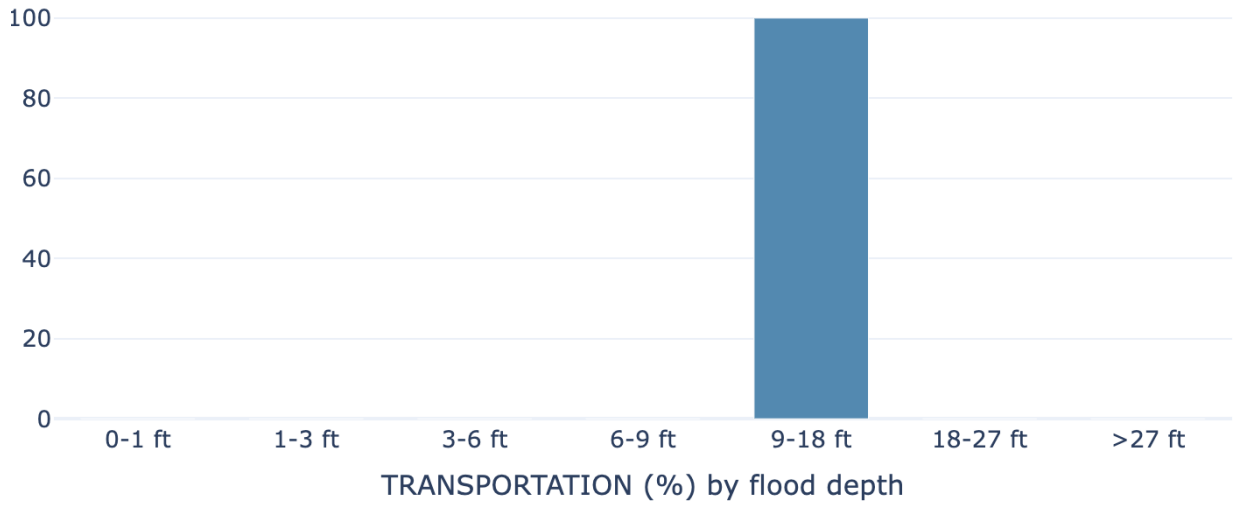
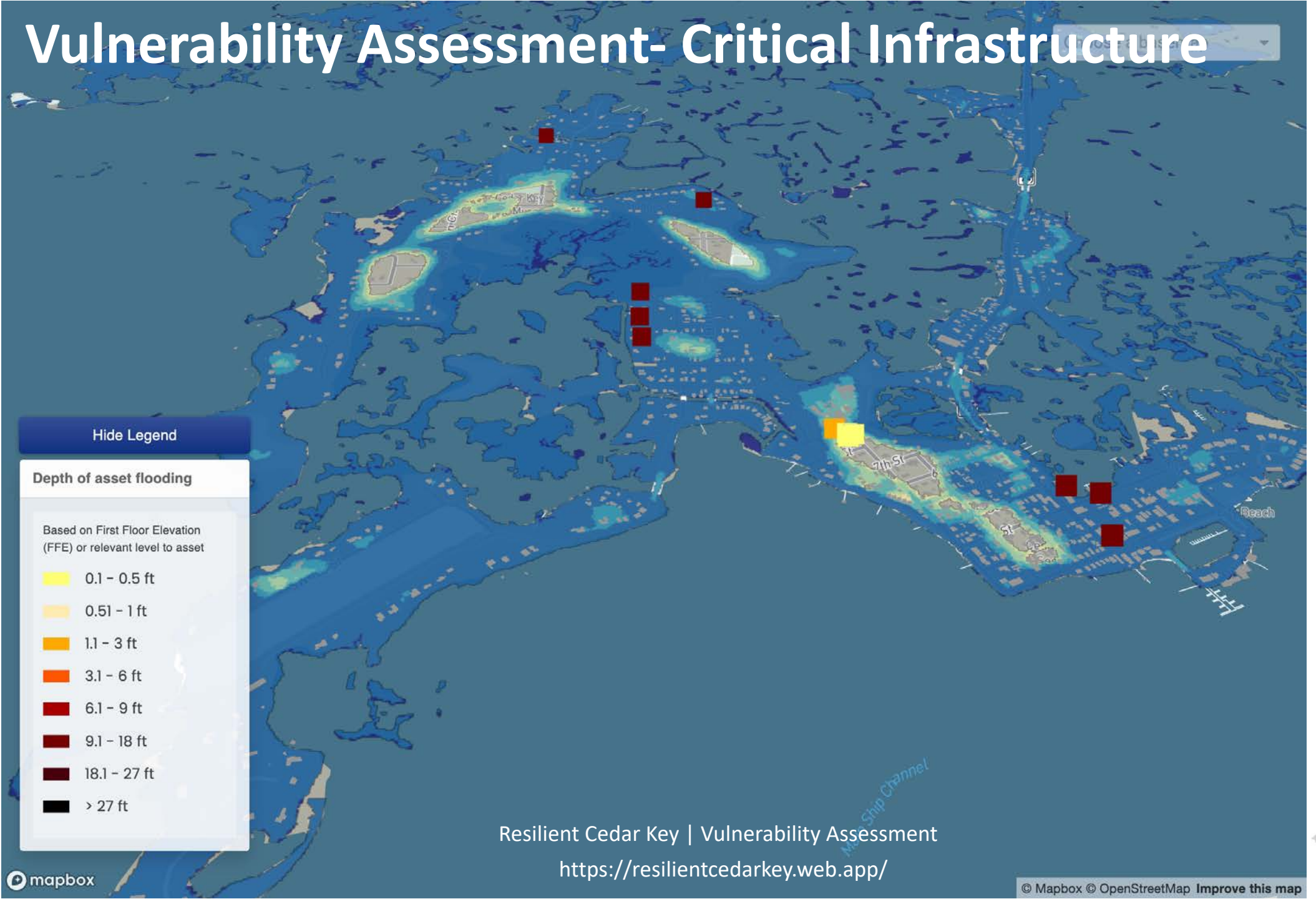
Vulnerability Assessment- Transportation Assets (Cat 3)





Vulnerability Assessment- Critical Infrastructure



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A Category 3 Storm would flood nearly **97% of critical infrastructure** in the city limits.

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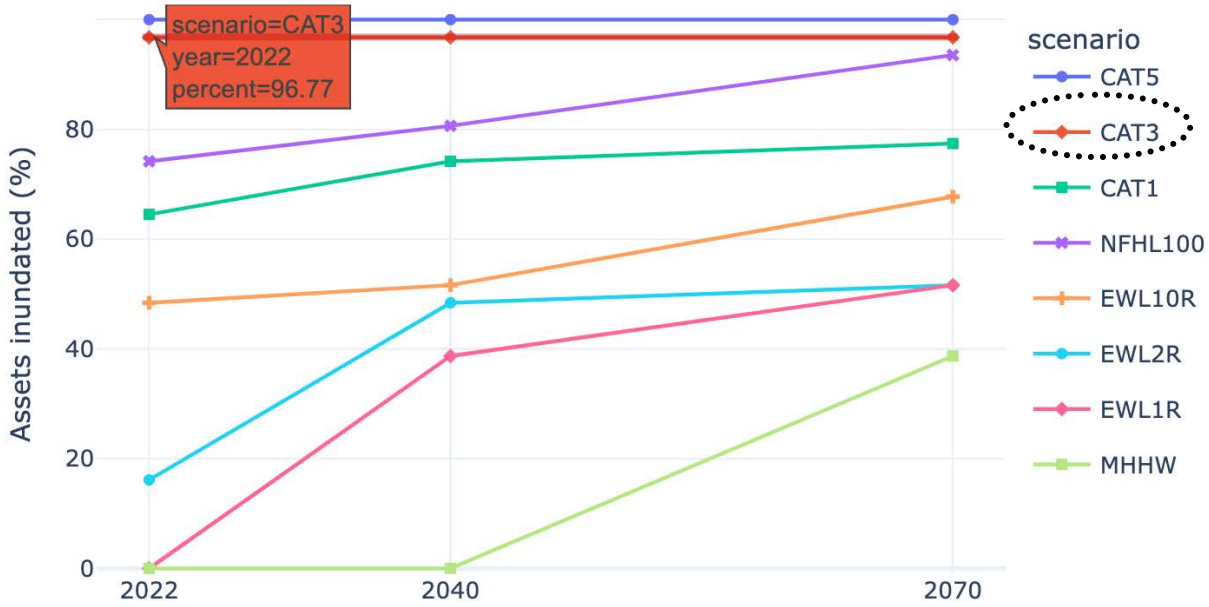
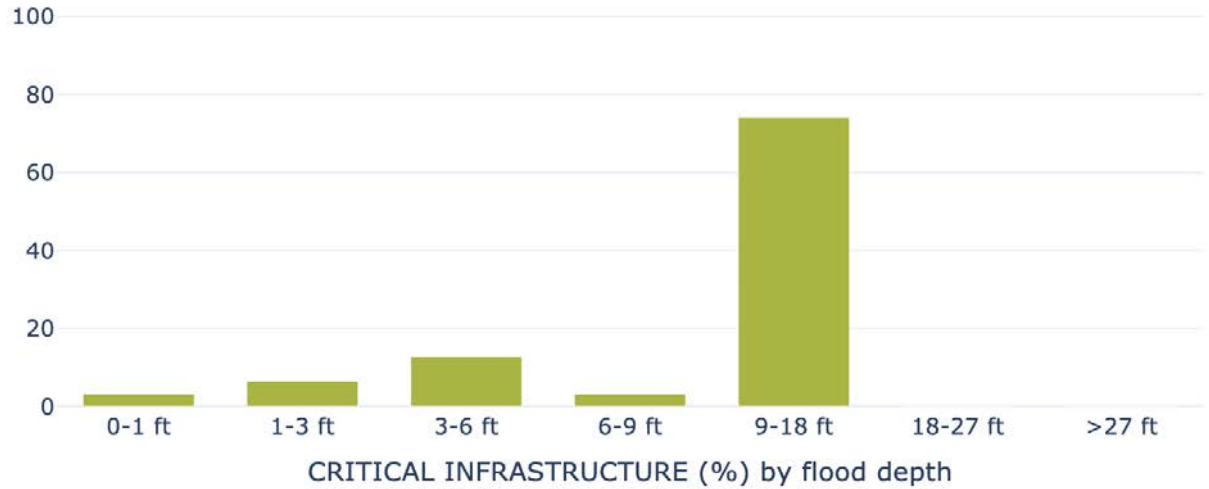
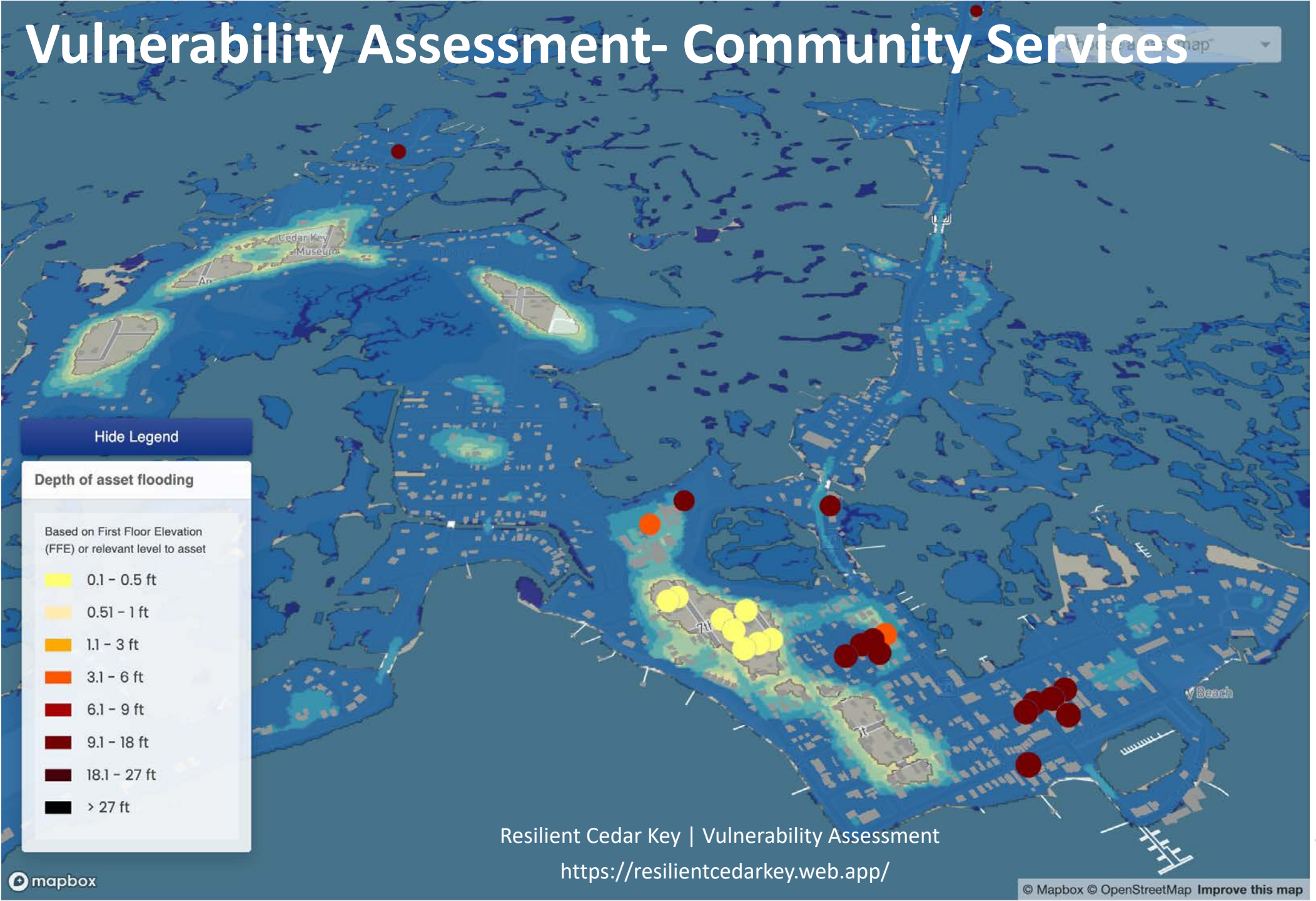
Vulnerability Assessment- Critical Infrastructure (Cat 3)





Vulnerability Assessment- Community Services



Resilient Cedar Key | Vulnerability Assessment

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A Category 3 Storm would flood nearly **86% of community service assets** in the city limits.

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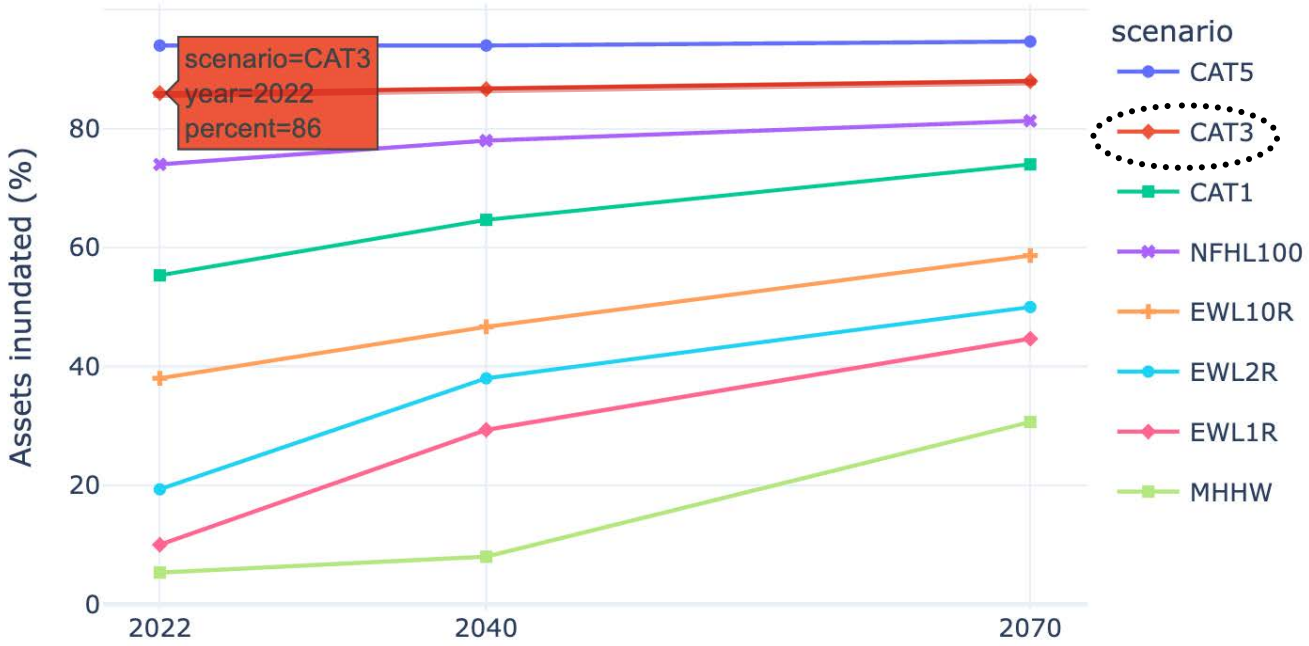
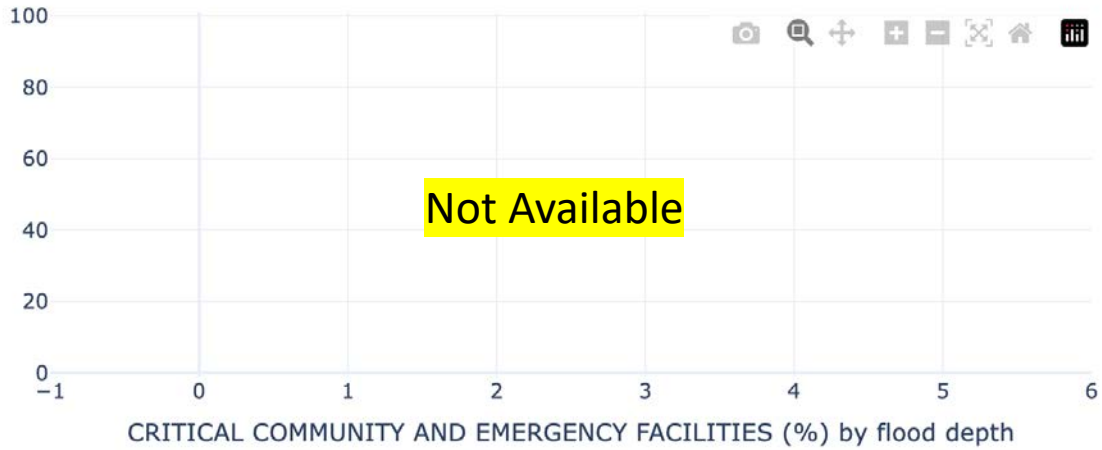
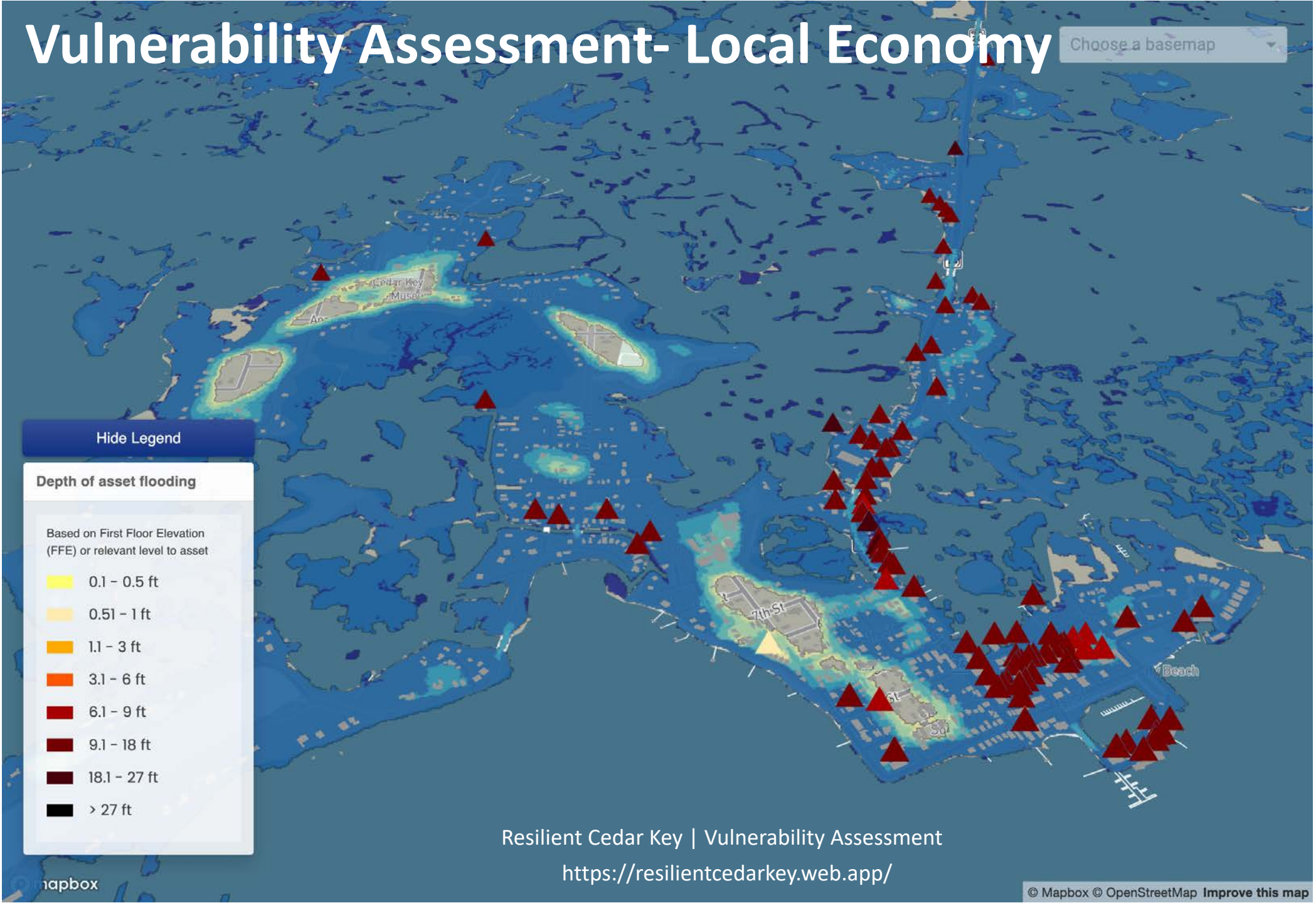
Vulnerability Assessment- Community Services (Cat 3)





Vulnerability Assessment- Local Economy



A Category 3 Storm would flood nearly **86% of economic assets** in the city limits.

Resilient Cedar Key | Vulnerability Assessment

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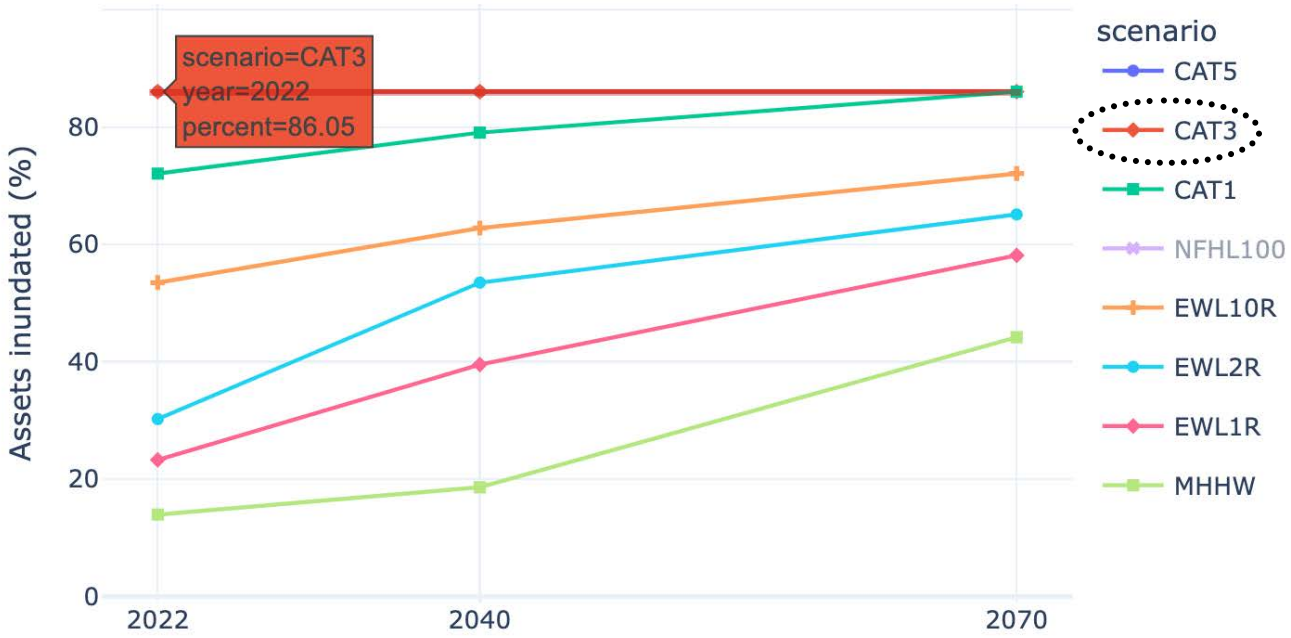
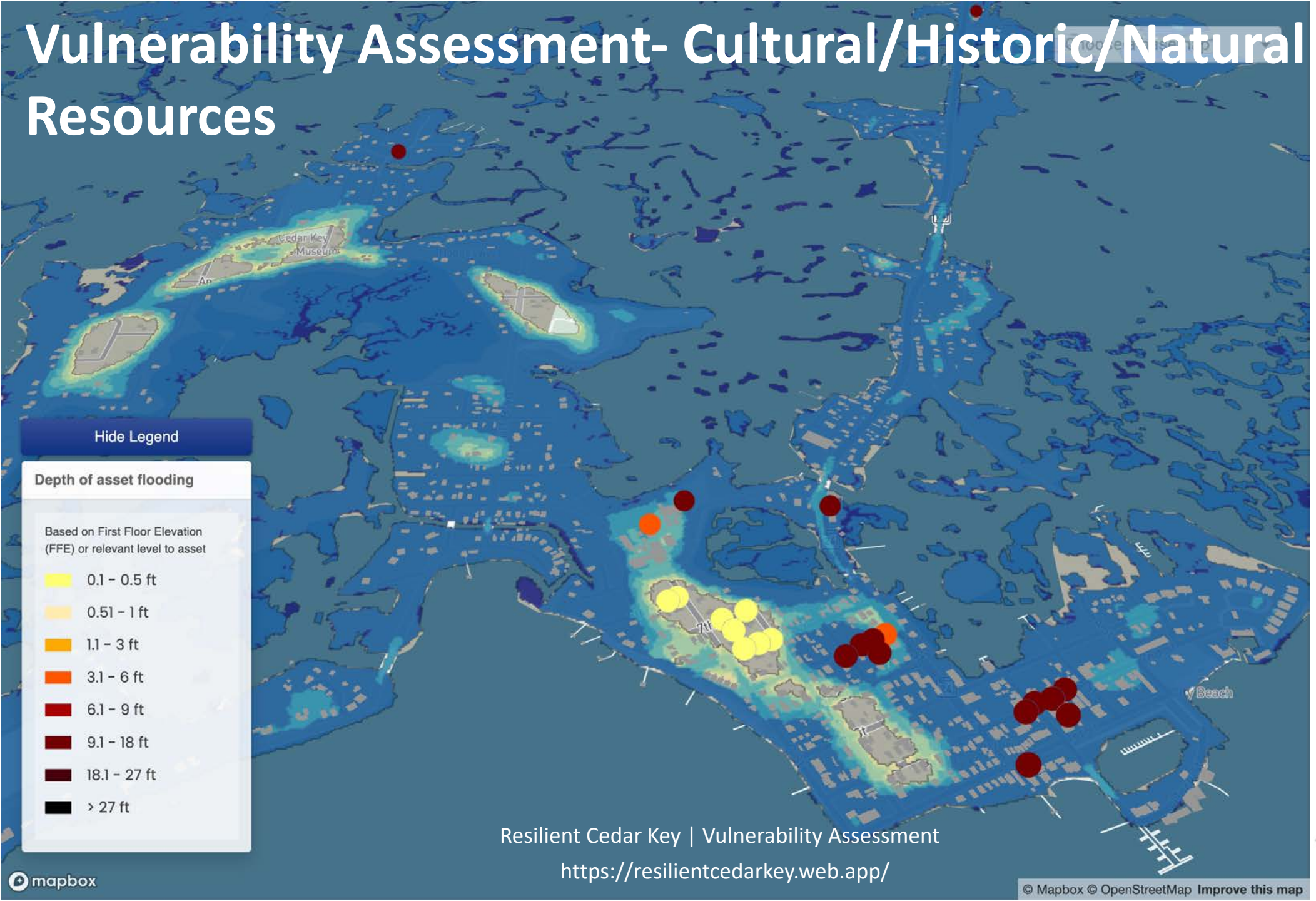
RESILIENT CEDAR KEY

Vulnerability Assessment- Local Economy (Cat 3)



Vulnerability Assessment- Cultural/Historic/Natural Resources



Resilient Cedar Key | Vulnerability Assessment

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A Category 3 Storm would flood nearly **82% of cultural, historic, or natural resource assets** in the city limits.

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Vulnerability Assessment- Cultural/Historic/Natural Resources (Cat 3)