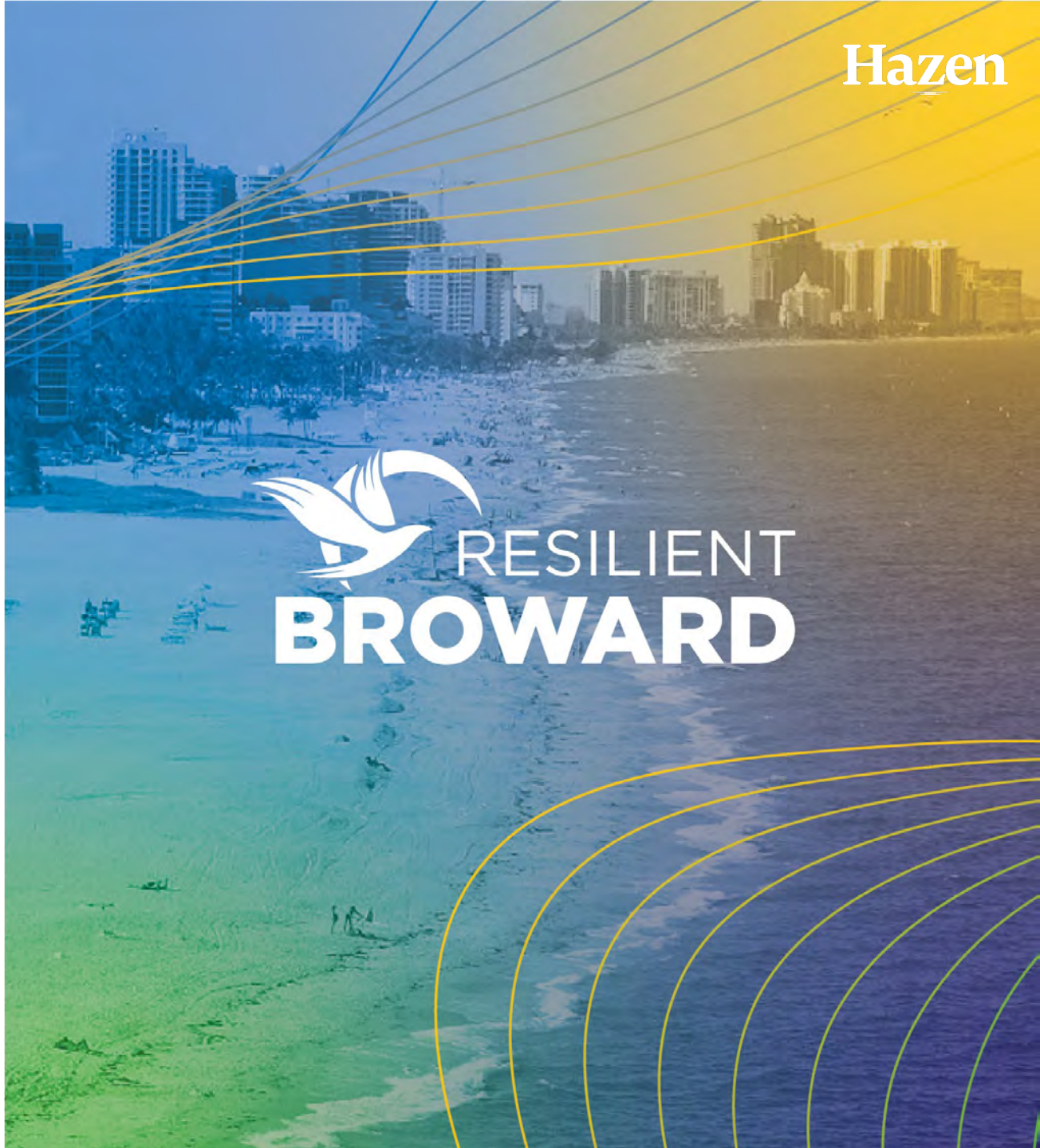
COUNTYWIDE RISK ASSESSMENT AND RESILIENCE PLAN

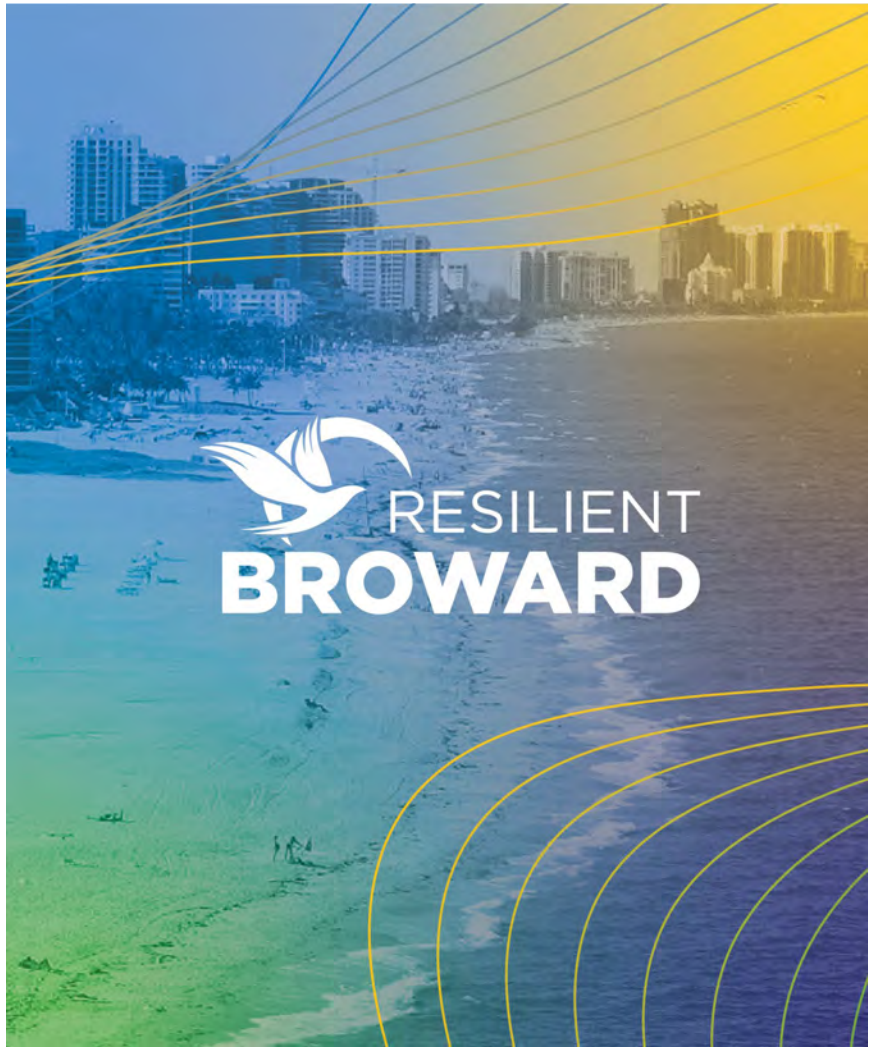
Resilience Plan Steering Committee

April 12, 2023



Outline

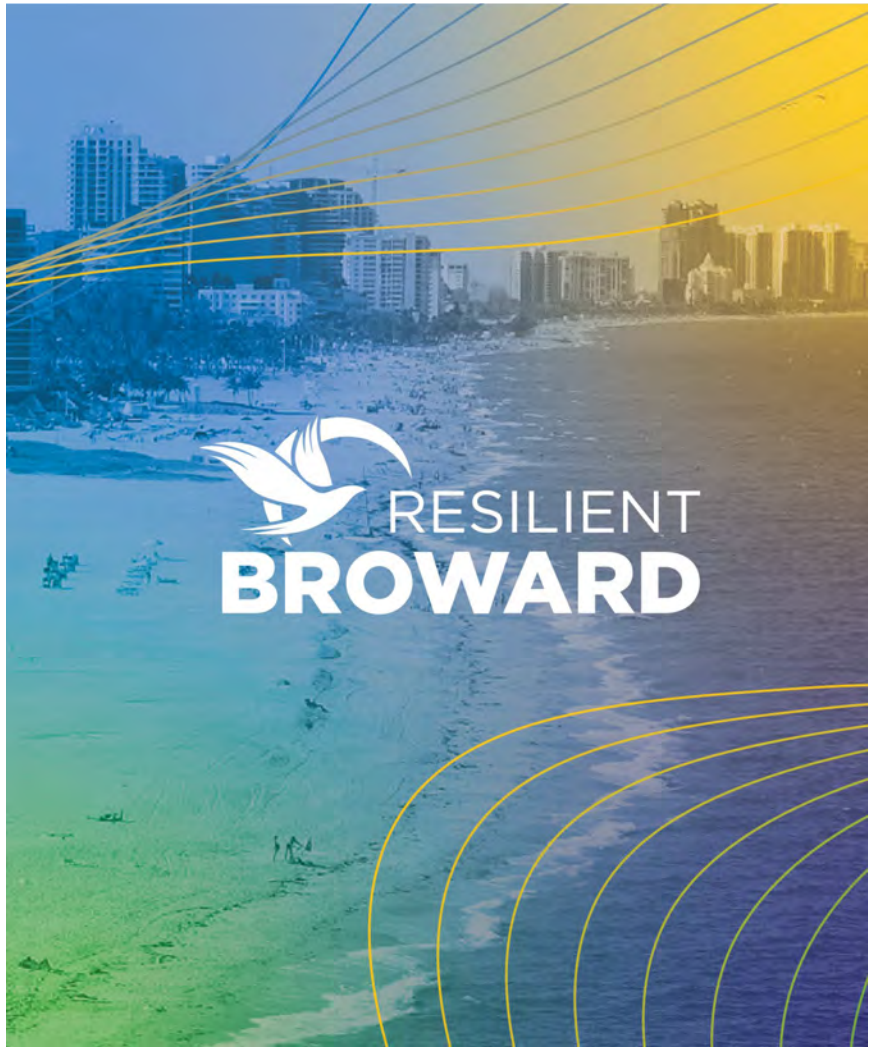
1. Welcome
2. Roll Call
3. Summary and Discussion on Economic Modeling Methodology Memo
4. Demonstration of Initial Stakeholder Comparison Review Tool
5. Review of County Asset Analysis Kickoff and Progress
6. Next Steps/Coming Attractions
    - *Sub-regional* Stakeholder Review Workshops
    - *Demonstration* of Updated *Boston Water and Sewer Commission (BWSC) Platform*



1

Welcome

Hazen



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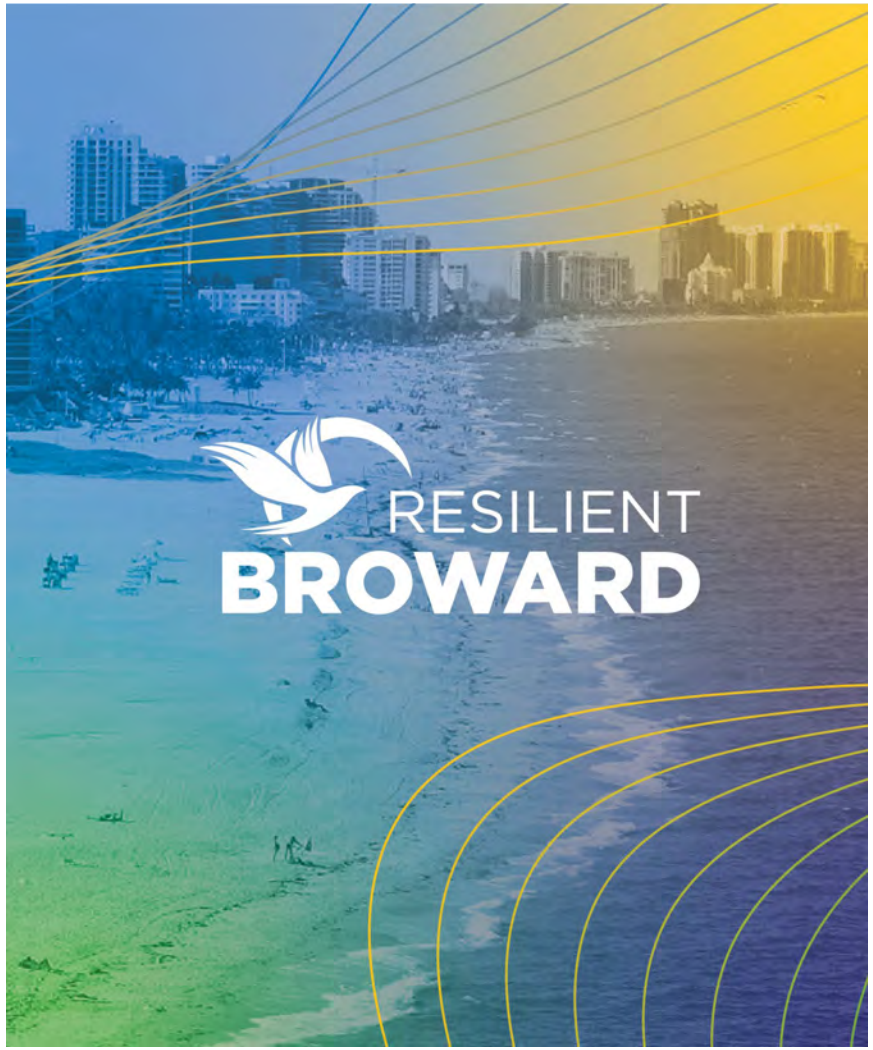
Roll Call

Hazen



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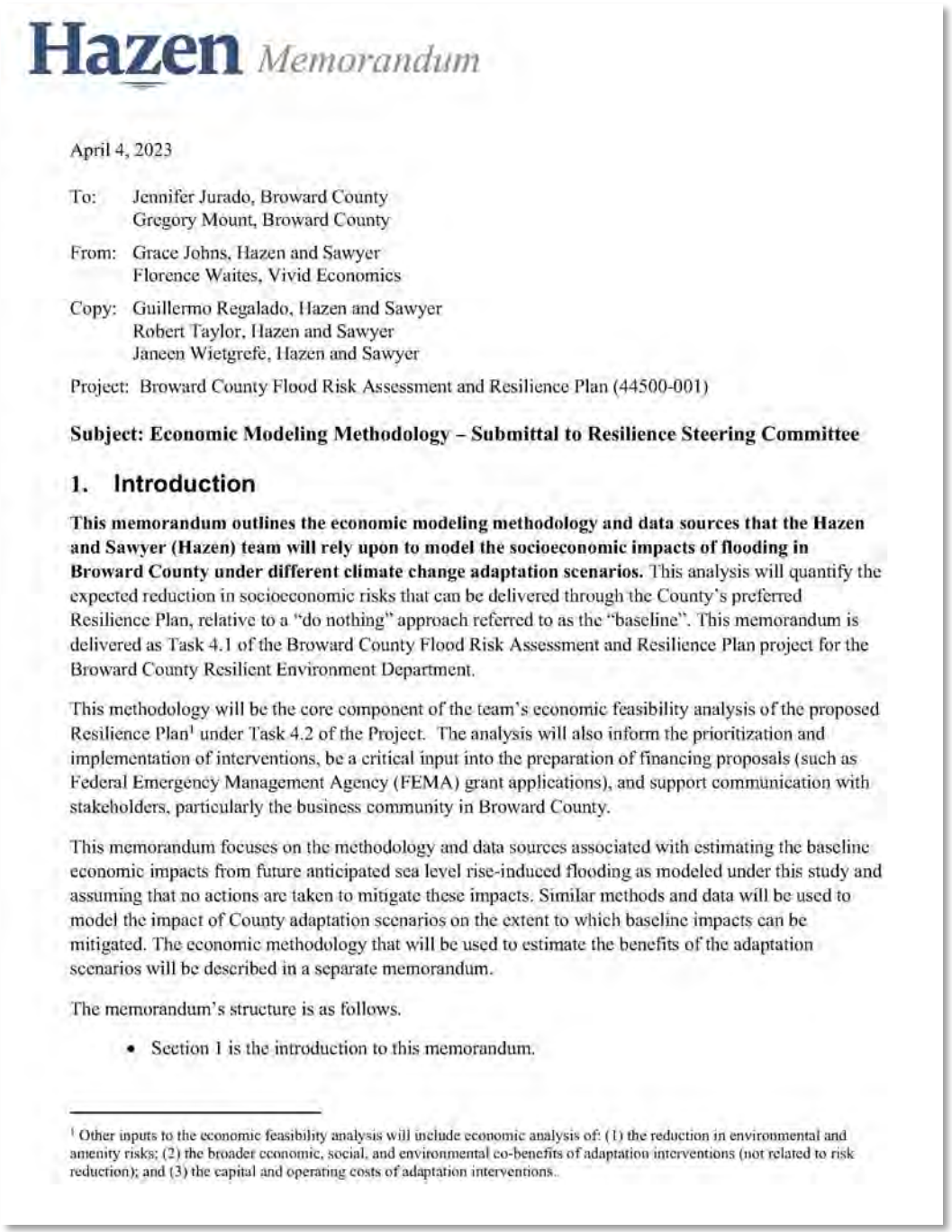
Summary and Discussion on Economic Modeling Methodology Memo

Hazen

Presentation will summarize topics of each section and solicit committee questions and comments:

Section 1	Introduction
Section 2	Mechanisms by which increasing flood risk from sea level rise could impact Broward's economy
Section 3	Inputs to the analysis obtained from the hydraulic modelling
Sections 4-7	Methodology and data sources to be used for each of the four impact areas to be quantitatively analyzed



Hazen *Memorandum*

April 4, 2023

To: Jennifer Jurado, Broward County
Gregory Mount, Broward County

From: Grace Johns, Hazen and Sawyer
Florence Waites, Vivid Economics

Copy: Guillermo Regalado, Hazen and Sawyer
Robert Taylor, Hazen and Sawyer
Janeen Wietgrefe, Hazen and Sawyer

Project: Broward County Flood Risk Assessment and Resilience Plan (44500-001)

Subject: Economic Modeling Methodology – Submittal to Resilience Steering Committee

1. Introduction

This memorandum outlines the economic modeling methodology and data sources that the Hazen and Sawyer (Hazen) team will rely upon to model the socioeconomic impacts of flooding in Broward County under different climate change adaptation scenarios. This analysis will quantify the expected reduction in socioeconomic risks that can be delivered through the County's preferred Resilience Plan, relative to a "do nothing" approach referred to as the "baseline". This memorandum is delivered as Task 4.1 of the Broward County Flood Risk Assessment and Resilience Plan project for the Broward County Resilient Environment Department.

This methodology will be the core component of the team's economic feasibility analysis of the proposed Resilience Plan[1] under Task 4.2 of the Project. The analysis will also inform the prioritization and implementation of interventions, be a critical input into the preparation of financing proposals (such as Federal Emergency Management Agency (FEMA) grant applications), and support communication with stakeholders, particularly the business community in Broward County.

This memorandum focuses on the methodology and data sources associated with estimating the baseline economic impacts from future anticipated sea level rise-induced flooding as modeled under this study and assuming that no actions are taken to mitigate these impacts. Similar methods and data will be used to model the impact of County adaptation scenarios on the extent to which baseline impacts can be mitigated. The economic methodology that will be used to estimate the benefits of the adaptation scenarios will be described in a separate memorandum.

The memorandum's structure is as follows.

- Section 1 is the introduction to this memorandum.

[1] Other inputs to the economic feasibility analysis will include economic analysis of: (1) the reduction in environmental and amenity risks; (2) the broader economic, social, and environmental co-benefits of adaptation interventions (not related to risk reduction); and (3) the capital and operating costs of adaptation interventions.

Section 2 - Socioeconomic impacts of climate-induced increasing flood risk

Quantitative Analysis:

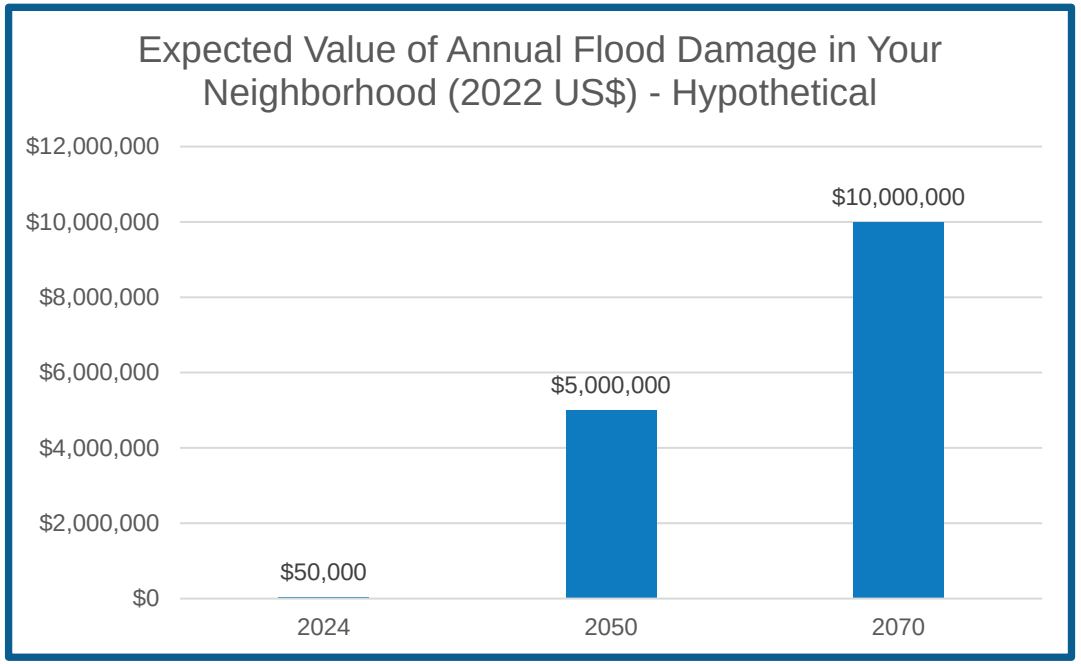
1. Short-term economic losses
2. Increased insurance premia / reduced insurance affordability
3. Lowered real estate values
4. Heightened fiscal risks to the County

Qualitative Research:

1. Disruption to public services
2. Reduced investment
3. Demographic change
4. Reduced tourism
5. Human capital impacts

Section 3 - Hydrologic modelling workstream results needed to assess economic impacts and benefits

- Average annual dollar value of flood damage by geographic area and land use will be calculated:
  - *Under current conditions*
  - *In 2050*
  - *In 2070*
- The value of these damages will be expressed in US$ and represents the estimated repair and replacement cost associated with the flood damage.
- The hydrologic analysis assumes the future land use adopted by the County for runoff calculations.
- However, the flood damage estimates will assume there is no change in land use or property values from current conditions to 2070. To the extent possible, the areas of land use change will be identified, and the potential property damage will be estimated.



Section 3 - Input Sources

A. Hydrologic results used:

1. *The probability of each flood event occurring under current conditions, in 2050, and in 2070*
2. *Flood extent depth-duration maps for each of the flood events*

B. Other data:

3. *Market value of the land use parcel - From property appraiser*
4. *Dollar damage functions provided by the SFWMD*

NOTE – All economic benefits and impacts will be calculated in current (2023) dollars, unless otherwise noted.

Section 4 - Short-term economic losses

- Three components of short-term economic losses will be estimated:
  1. *Revenue loss through business downtime*
  2. *Economic loss generated through transport system disruption*
  3. *Indirect impacts of flooding (propagation of direct impacts through supply chain)*
- Vivid- Adaptive Regional Input Output (V-ARIO) model will be used to estimate the economic impact of flood events.
- V-ARIO model:
  1. *Simulates path of economic activity from a "shock" (a flood event), until the economy returns to equilibrium, capturing the disrupted economic activity as businesses impacted by flooding demand less from upstream suppliers and are less able to provide inputs to downstream consumers.*
  2. *Captures boost in economic activity from repair and reconstruction expected in future years.*
  3. *Provides estimates of the expected recovery time from flood events and the impact of changes in economic activity on labor market and tax revenue.*

Section 4.2.1 - Short-term economic losses: Revenue loss through business downtime

Summary of approach: Estimate expected days of business downtime (being unable to open due to repair needs) for each flood event for each land use parcel. The expected loss in revenue from each flood event will be estimated as the estimated average daily revenue of each land use parcel.

4.2.1 Revenue loss through business downtime	
Flood risk inputs:	Damages from individual flood events at the land parcel level
Other data inputs:	FEMA damage-downtime curves, ESRI business analyst revenue data, Social Vulnerability Index
Raw outputs:	Expected loss in sales revenue for individual flood events, by land parcel
Outputs:	Average annual loss of sales revenue, by census tract, currently, in 2050 and in 2070 relative to no flood damage

Social Vulnerability Index – Identify neighborhoods; Index based on US Census data on poverty, vehicle access, and crowded housing conditions.

Section 4.2.2 - Short-term economic losses - Economic Loss Generated Through Transport System Disruption

Summary of approach: The team will overlay:

(1) Maps of flood extent and

(2) Estimates of road damages

with the road network, to estimate the proportional increase in journey time associated with different flood events, for a defined set of routes.

The increased journey time will be input into the V-ARIO Model to estimate economic impacts.

4.2.2 Transport Disruption	
Flood risk inputs:	Flood extent map
Other data inputs:	USGS National Transportation Dataset
Raw outputs:	Proportional increase in journey time for different routes, by flood event
Outputs:	Expected increase in journey time by journey type, by flood event

Section 4.2.3 - Short-term economic losses: Indirect Economic Losses From Flooding

Summary of approach: Input dollar value of flood damages from individual flood events by land use type and area into the V-ARIO Model representing the Broward County economy. Model provides estimated economic impact of flood events to County residents and governments.

4.2.3 Indirect Economic Losses from Flooding	
Flood risk inputs:	Damages from individual flood events, Broward County, by land use type (US Dollars)
Other data inputs:	IMPLAN Broward County input-output table – IMPLAN is an economic input-output model. A valuable part of this model is the availability of complete economic data by US county.
Raw outputs:	Time path of sector GVA (USD), income (USD) and employment (number, by income group), firm profits (USD) and tax revenue (USD, by tax category), recovery time (days), all at the Broward County level
Outputs:	Output indicators above, downscaled to municipality level, for flood events and expressed as an average annual value for current climate, 2050, and 2070

Section 4 - Short-term economic losses – Key Modeling Assumptions

1. The estimated flood damages and the economic benefits and impacts estimated during this study assume that the business sector and annual revenue for each land parcel remain constant over time.
    - *The rationale is to remove the uncertainties associated with projecting future land uses while demonstrating the impacts to existing land uses over time.*
    - *Future research can address alternative land use projection scenarios.*

2. Similar to 1 above: The economic activity and the structure of the economy remain constant over time, other than economic impacts of the flood mitigation investments and the impact of flooding.

3. The only shocks that V-ARIO captures are the damages to economic capital and transport disruption, focusing only on the direct damage within Broward County. The analysis will not capture:
    - *Losses attributable to other network-based infrastructure disruption (e.g. electricity grids)*
    - *Flood damages outside the county*
    - *Reduction in household expenditure due to a loss in household wealth from uninsured flood damages*
    - *These aspects can be addressed through future research*

Section 5 - Increased flood insurance premia

- The quantitative analysis of the flood insurance premia will have three components:
  1. *Expected increase in flood insurance premia*
  2. *Expected reduction in flood insurance coverage due to increased premia*
  3. *Expected uninsured property damages due to lower insurance coverage*
- The focus will be limited to the insurance impacts associated with the National Flood Insurance Program (NFIP).
- **Limitations to the analysis:** The impacts of flood events on the private flood insurance market will not be considered in the analysis, due to a lack of data. Private flood insurance providers would be expected to increase premia in response to increasing flood risk and may withdraw from the market. Severe events may cause insurance providers to experience major losses, which could discourage growth of the sector and limit reinsurance capacity. The private flood insurance market impacts could be an area of future research.

Section 5.2.1 – Increased Flood Insurance Premia – Expected Increase

Summary of approach: National Flood Insurance Program (NFIP) premia is assumed to increase linearly with average annual damages, reflecting the Risk Rating 2.0 expectation of risk reflective pricing

5.2.1 Expected Increase in Flood Insurance Premia	
Flood risk inputs:	Average annual damages (US$), aggregated to census tract level
Other data inputs:	Average NFIP premia by census tract (US$, available from NFIP Open Data, disaggregated by average occupancy type in the census tract), Expected increase in NFIP premia for Broward County (%, American Society of Floodplain Managers), Property value, Social Vulnerability Index data
Raw outputs:	NFIP premia in 2050 and 2070 by census tract (US$)
Outputs:	Insurance affordability (ratio between NFIP insurance premia and property value) by census tract

Section 5.2.2 – Increased Flood Insurance Premia – Expected reduction in flood insurance coverage

Summary of approach: The price elasticity of flood insurance will be applied to the expected increases in NFIP premia to estimate the expected reduction in NFIP coverage.

5.2.2 Expected Reduction in Flood Insurance Coverage	
Flood risk inputs:	No direct inputs used because they are incorporated into the Other Data Inputs
Other data inputs:	Expected increased in NFIP premia by 2050 and 2070 by census tract (US$, see 5.2.1), average NFIP coverage by census tract, disaggregated by occupancy type (US$), price elasticity of flood insurance, property value (see 6.2.1)
Raw outputs:	Average NFIP coverage under current climate conditions, 2050 and 2070 by census tract (US$)
Outputs:	Rates of underinsurance (ratio of NFIP coverage to property value) by census tract

Section 5.2.3 – Increased Flood Insurance Premia – Expected uninsured property damages

Summary of approach: Uninsured damages for each land parcel will be estimated for the individual flood events by subtracting the NFIP coverage from the expected damages.

5.2.3 Expected Reduction in Flood Insurance Coverage	
Flood risk inputs:	Property damages from individual flood events at the land parcel level (US$)
Other data inputs:	Expected average NFIP coverage by census tract (US$), Social Vulnerability Index data
Raw outputs:	Expected uninsured property damages at the land parcel level for individual flood events (US$)
Outputs:	Average annual uninsured property damages, by land parcel and census tract, in 2050 and 2070

Section 5 – Increased flood insurance premia – Key Modeling Assumptions

- The risk-reflective pricing assumes that NFIP premia will increase in line with average annual damages. However, the FEMA methodology for calculating premia has not been made public.
- No changes to NFIP policy are assumed in the future, or any other factors which would increase NFIP premia.
- The approach assumes that the price elasticity for flood insurance holds for NFIP insurance.
- Within a census tract, all households will have the same NFIP coverage.
- Households do not purchase private flood insurance to supplement NFIP coverage.

Section 6 - Lowered Real Estate Value

- The quantitative analysis of the flood impact to the real estate market will have two components:
  1. Expected loss in net operating income attributable to **property downtime**; and,
  2. Expected reduction in real estate value.

- Overall methodology – As the flood induced impacts to properties increases the cost to own a property, the market value of the property will fall as a linear function of the increased ownership cost.

Market Value with increased flooding events EQUALS:

Market value without increased flooding events MINUS

[**Increased Ownership Cost** DIVIDED BY Capitalization Rate (0.04 to 0.10)]

- **Increased Ownership Cost** is equal to increases in uninsured losses and insurance premia (estimated elsewhere in study), and **property downtime**

Section 6.2.1 – Lowered Real Estate Value – Expected loss in net operating income attributable to property downtime

Summary of approach:

1. Map the CBRE property categories to the land use categories.

2. Multiply the property value by the CBRE capitalization rate to estimate the Net Operating Income for each land parcel.

3. Multiply the Net Operating Income by the percent of functional downtime days (from 4.2.1) for each land parcel for individual flood events.

4. Aggregate the results to estimate the average annual loss of net operating income by land parcel, for current climate conditions, 2050 and 2070.

Section 6.2.2 – Lowered Real Estate Value: Expected real estate value reduction

Summary of approach: Estimate the expected change in Ownership Cost for each property due to increased flood risk, considering increased: (1) NFIP premia; (2) uninsured damages; and (3) property downtime losses in net operating income. The Ownership Cost will be converted to property value using capitalization rates.

6.2.2 Expected Reduction in Real Estate Value	
Flood risk inputs:	n/a – see Other Data Inputs
Other data inputs:	Average increase in NFIP premia relative to current NFIP, by census tract, in 2050 and 2070 (see 5.2.1); increase in average annual uninsured property damages relative to current climate conditions, by land parcel, for 2050 and 2070 (see 5.2.3); average annual loss in Net Operating Income attributable to property downtime relative to current climate conditions, by land parcel, in 2050 and 2070 (see 6.2.1); property value by land use parcel; CBRE capitalization rates; Social Vulnerability Index data
Raw outputs:	Expected loss in property value by land use parcel relative to current climate conditions in 2050 and 2070 (US$)
Outputs:	Expected loss in property value by census tract relative to current climate conditions in 2050 and 2070 (US$)

Section 6 – Lowered Real Estate Value – Key Modeling Assumptions

- The lower real estate values are not instantaneous but will be realized incrementally over time as prospective property owners become more informed about the flood risk to properties in Broward County.

- No other changes to real estate market value are projected such as those that might occur during economic recessions and expansions, market bubbles, changes in property owner preferences, upgrades to properties, improved neighborhood schools, etc. Only the increased flood impacts and the benefits of adaptation strategies will be included in the analysis of property values.

- Other mechanisms by which increased flood risk might lower property values are not included. For example, the increased risk of loss in local amenities might also reduce property attractiveness and therefore value.

Section 7 – Fiscal Risks to the County

The quantitative analysis of the fiscal risk impacts on the County has two components:

1. Short-term losses in tax revenue – Sales tax and Tourist Development Tax revenue collected will be estimated using the results of the methodology described in Section 4.2.3 – Indirect Economic Impacts from Flooding as it relates to the revenue impacts to businesses and transient boarding facilities that pay sales taxes and the tourist development tax.
2. The expected reduction in property tax revenue (focus of Section 7)

Section 7.2.1 – Fiscal Risks to the County

Summary of approach: The team will develop a property tax revenue model that reflects the impact of changing property values on the revenue collected from ad valorem property taxes in Broward County. This model will reflect the current structure of Florida's property tax code applied to real properties in Broward County. The estimated loss in property value will be input into this equation to obtain estimates of the expected changes in property tax revenue over time as flooding worsens under the baseline.

7.2.1 Expected Reduction in Ad Valorem Property Tax Revenue	
Flood risk inputs:	n/a
Other data inputs:	Expected loss in property value by land use parcel relative to current climate conditions in 2050 and 2070 (US$, Section 6.2.2); marginal Broward County property tax millage rates
Raw outputs:	Expected loss in property tax revenue by land use parcel relative to current climate conditions, in 2050, and 2070 (US$)
Outputs:	Expected loss in property tax revenue to Broward County governments relative to current climate conditions, in 2050, and 2070 (US$)

Section 7 - Fiscal Risks to the County – Key Assumption and Limitations

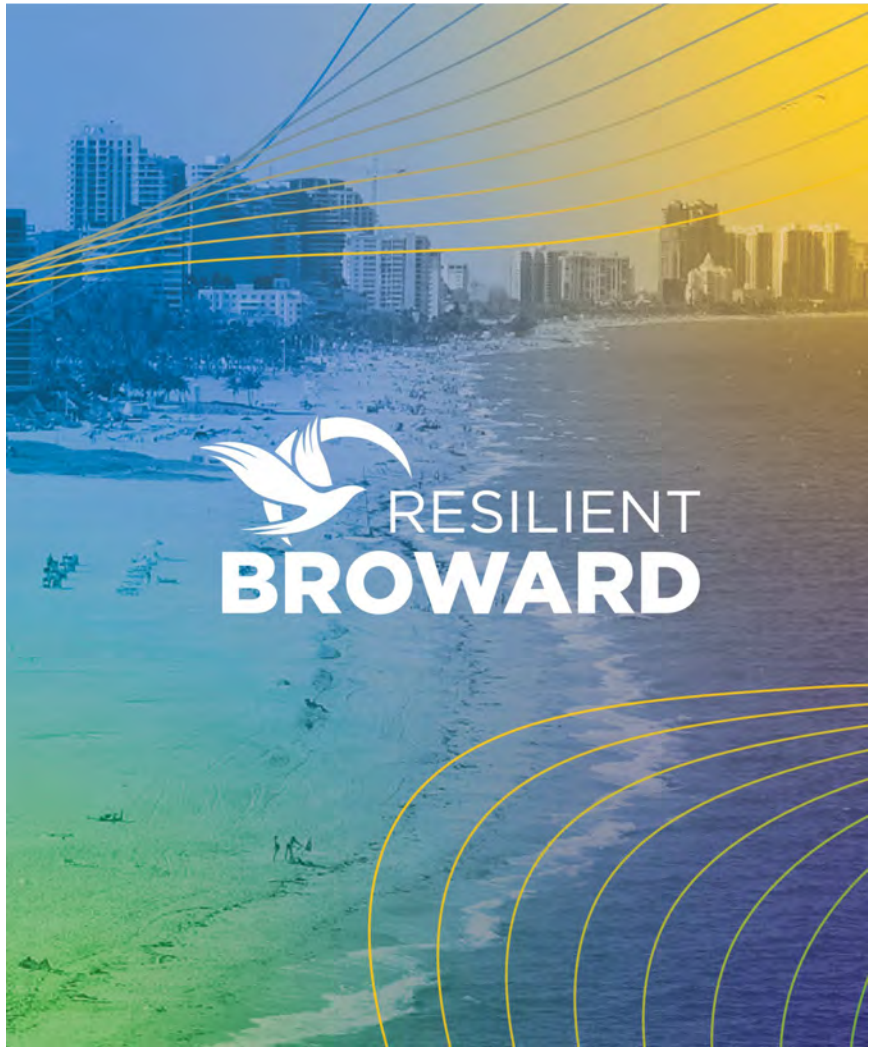
- Broward County millage rates and Florida's property tax code represents the year 2022 throughout the study period.

- Limitations: Other impacts that increased flood risk can have on the County's fiscal position can be addressed in future research:

  1. County expenditure on disaster relief and recovery – Costs are typically shared between Federal, State, and local governments

  2. Longer-term impacts of flood risk on investment, economic structure, and demographics can impact public service needs and tax revenue collected

  3. Changes in perceived County fiscal sustainability could impact the County's credit rating



4

Demonstration of Initial Stakeholder Comparison Review Tool

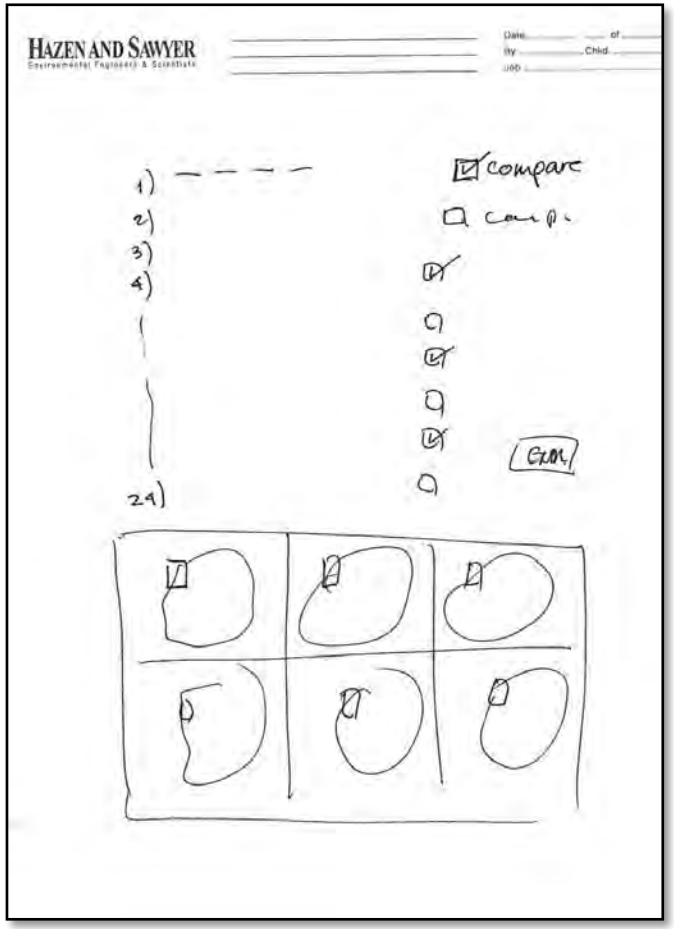
Hazen

We are ready to begin reviewing results with Stakeholders

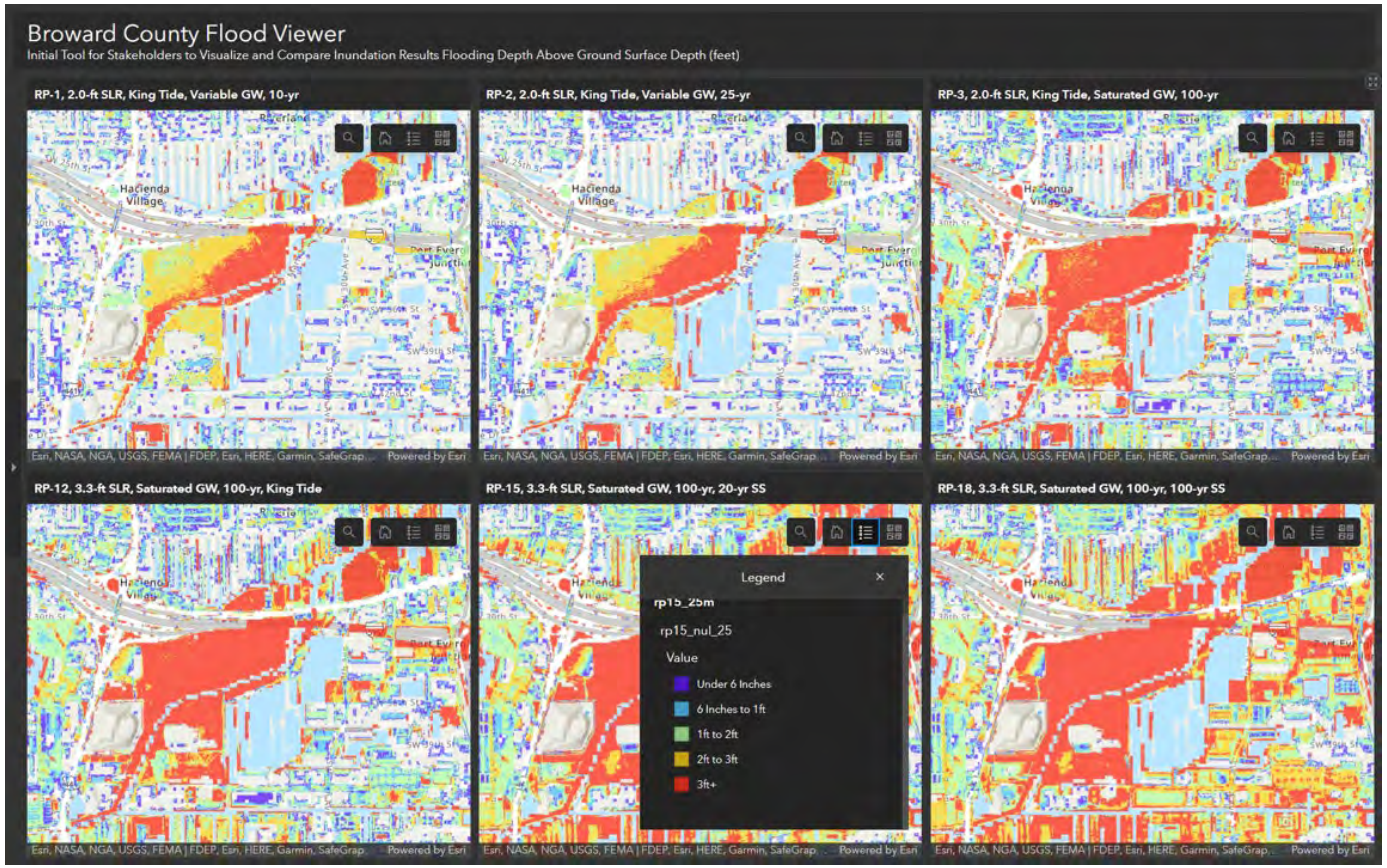
- Critical to note that "Stakeholders" in this context refers to municipal Public Works/Utilities and Planning Directors, as well as Water Control District Officials
- This information is not intended to be shared with other entities or the General Public
- The intent is to obtain some level of corroboration on problem flooding areas and other local nuances, as well as what adaptation approaches might be successful

The Team (including County) deliberated on how best to share results, facilitating both group and individual review. Key criteria were established.

- Electronic format in lieu of "paper exhibits"
- Future utility on the "Platform"
- Easy menu option for scenario selections
- Ability for side-by-side comparison of independent variables (6 viewports)
- Synchronized zoom capabilities
- "Point and hover" features for data drill-down



Demonstration of Flood Viewer for Stakeholder Review



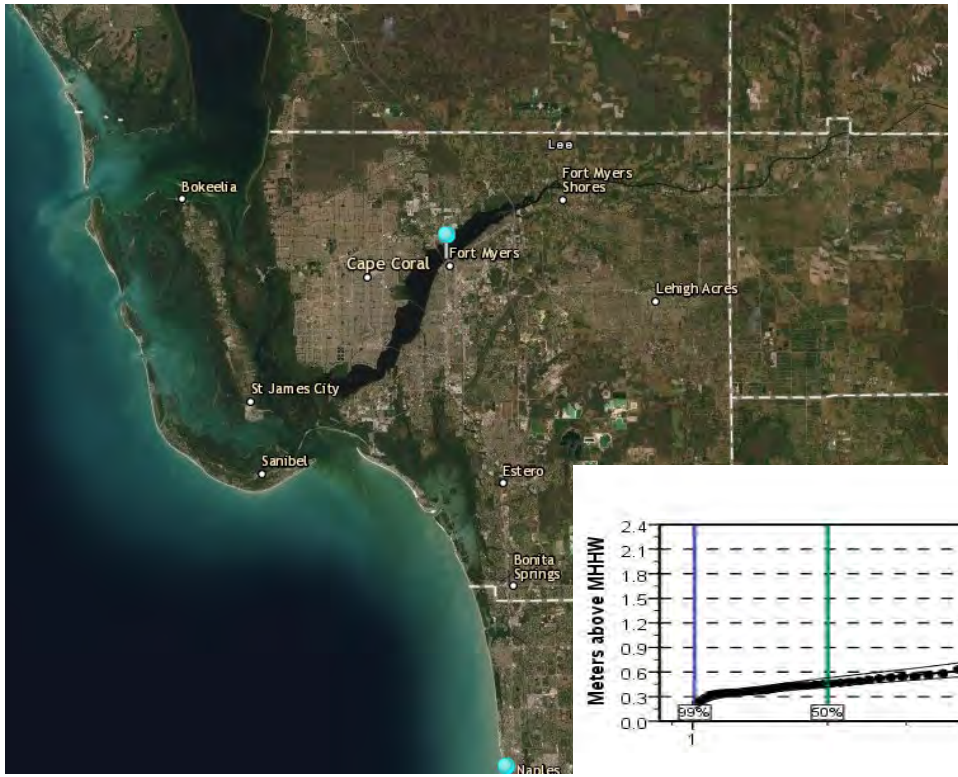
This viewer was built to share initial results with main stakeholders. This is NOT the visualization tool for the platform. However, the platform will include a comparison feature similar to what is shown today, in addition to other visualization features.

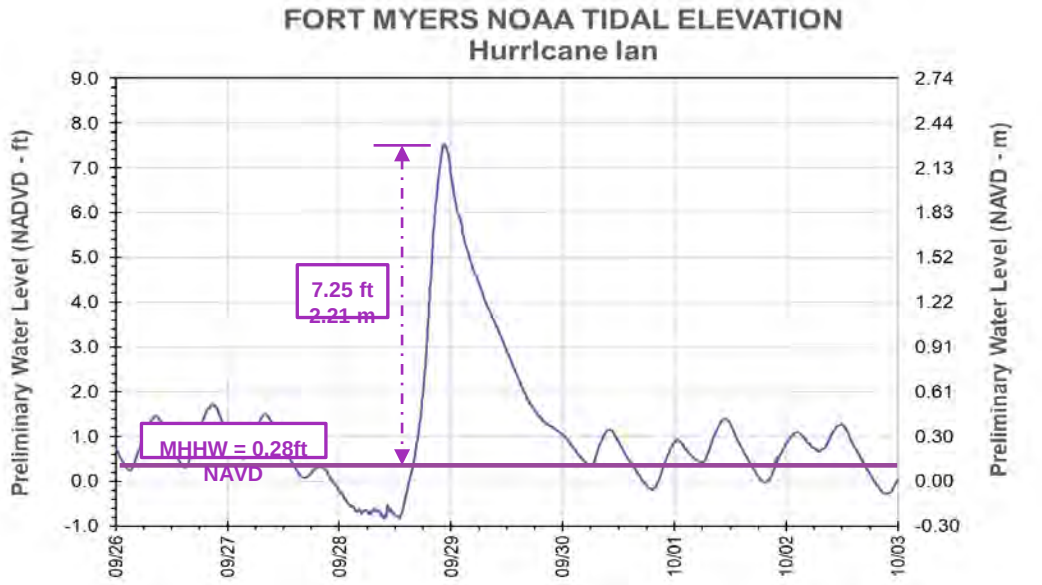
Takeaways from the results comparisons that we found interesting and informative

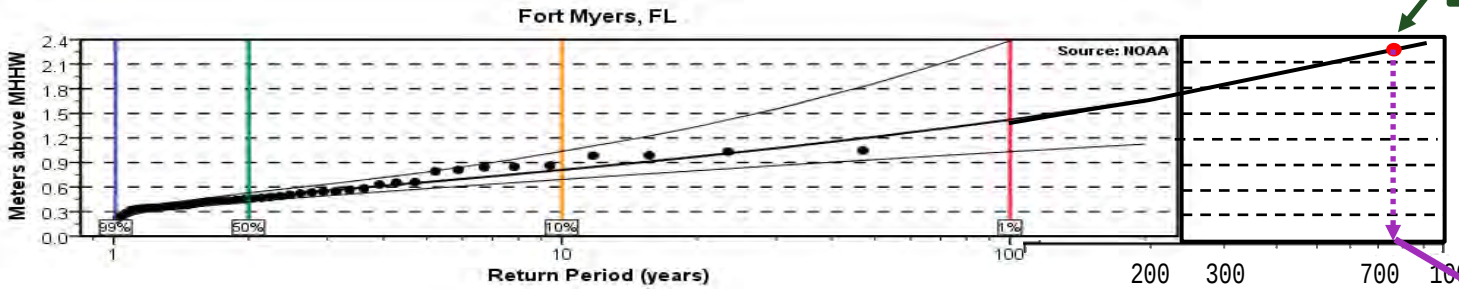
- Storm surge effects do not extend too far upstream of the tidal control structures.
- Low density residential areas in the west have significant "storage" capability in higher rainfall events without substantially greater impact on structures and infrastructure
- Results for the 100-yr storm event matches what was observed during Tropical Storm/Hurricane Eta, showing large extent of road flooding with limited impact to buildings.
- Expectedly, strong correlation between SLR/surge impacts and locations of primary system coastal structures
- Elements of the Secondary Canal system that do not use pumps to discharge to the Primary Canal system show the most impacts during large storm events

Looking back at our Analysis of Hurricane Ian Surge in Fort Myers

Coastal Inundation Dashboard





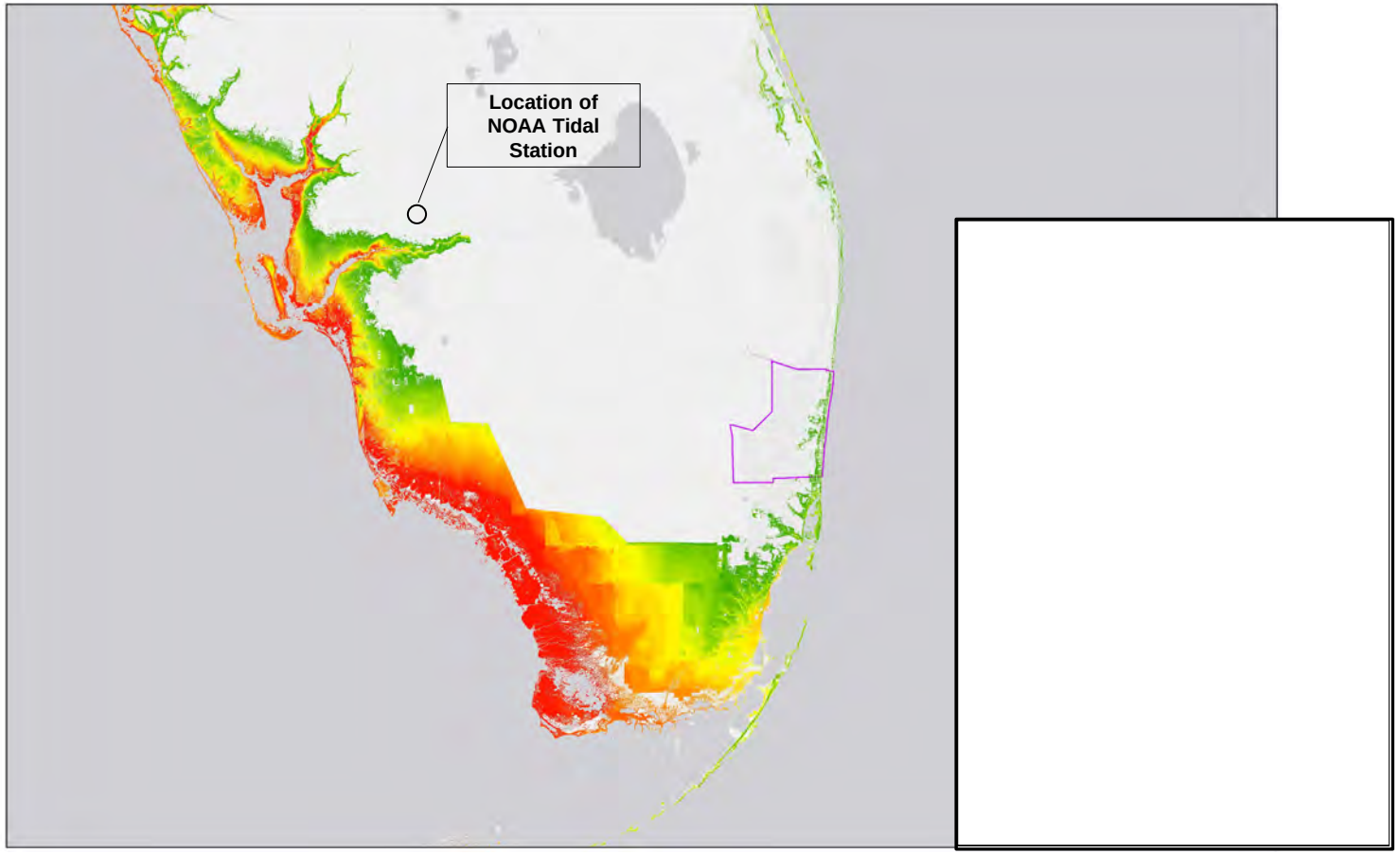


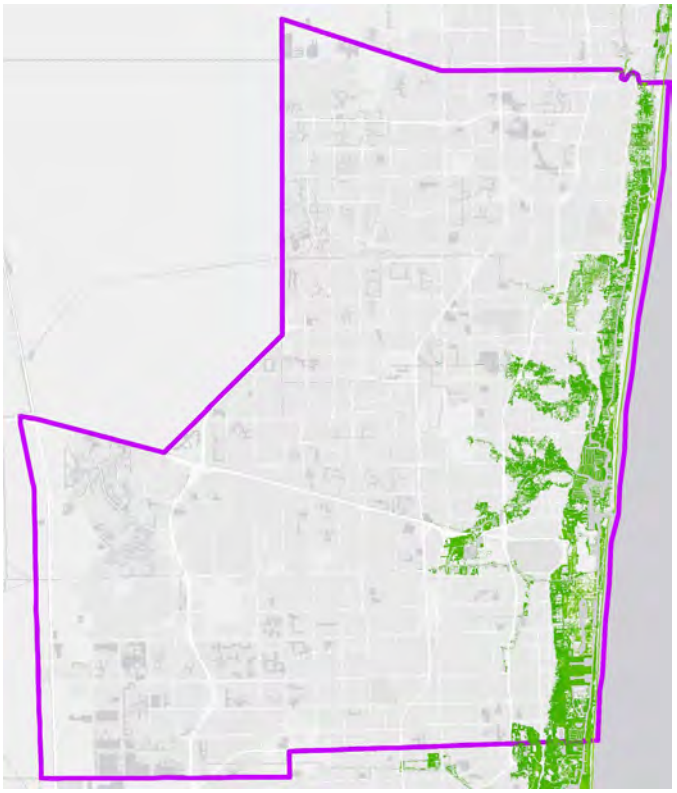
2.21 meters above the MHHW

Return Period 700 800 years

We showed that NOAA estimates for the surge produced by a Category 4 Hurricane matched what was observed and that the effects on the East Coast were expected to be lower.

NOAA Sea, Lakes and Overland Surges for Hurricanes (SLOSH)
Category 4, Max of Max, V3 Model Results





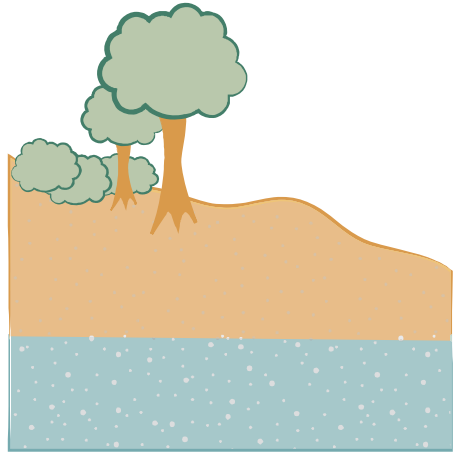
Results obtained with the Refined MIKE SHE – MIKE HYDRO model match the SLOSH results

What struck you as interesting/informative about the results?

Extreme Rainfall Event

Storm Surge

Extreme Tides



Antecedent Conditions

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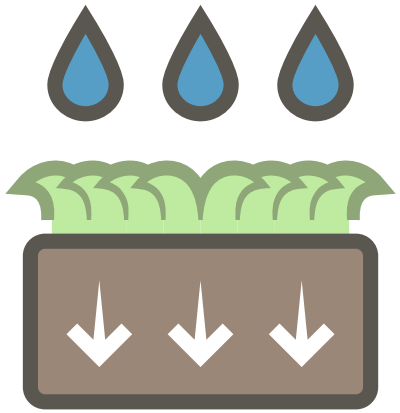
A toolbox of adaptation strategies has been developed

Initial considerations have been developed by the team via internal meetings dating back to December 16, 2022.

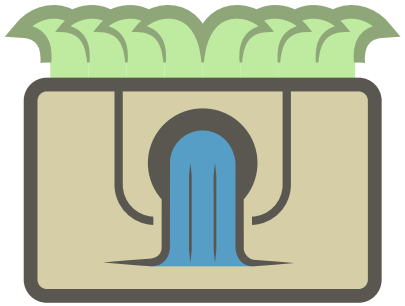
Recent discussions have resulted in a time-based toolbox.

- **Policy**
- **Infrastructure**
- **Procedures**
- **Regulation**

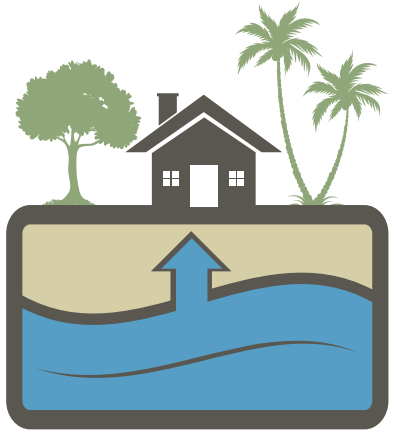


Runoff Reduction

Runoff Storage



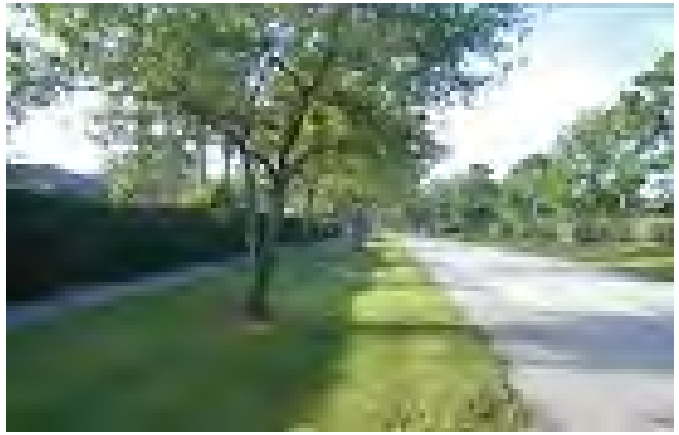
Strategic Conveyance/ Discharge

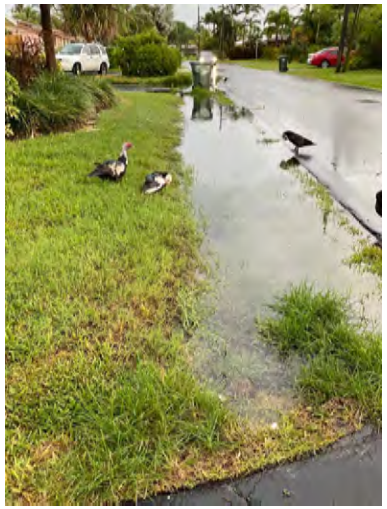


Adapting to Water

Programmatic Improvement Implementation/Follow-through is Critical

- Swales and Rights of Way
- Trees
- Natural Barriers



Timeframe of Implementation

Adaptation Drivers: Rainfall, Sea Level Rise, Storm Surge

Short-term

- Increase Storage
- Stormwater Infrastructure Extension, Interconnections and Improvements
- Facility Adaptations
- Traditional BMPs
- Green Infrastructure and Materials
- Coastal Management and Protection
- Improve Culvert Crossings
- Improve Conveyance
- Planning New Approaches to Development and Redevelopment
- Optimize SOPs of Existing Structures (throughout county, private, public)

Mid-term

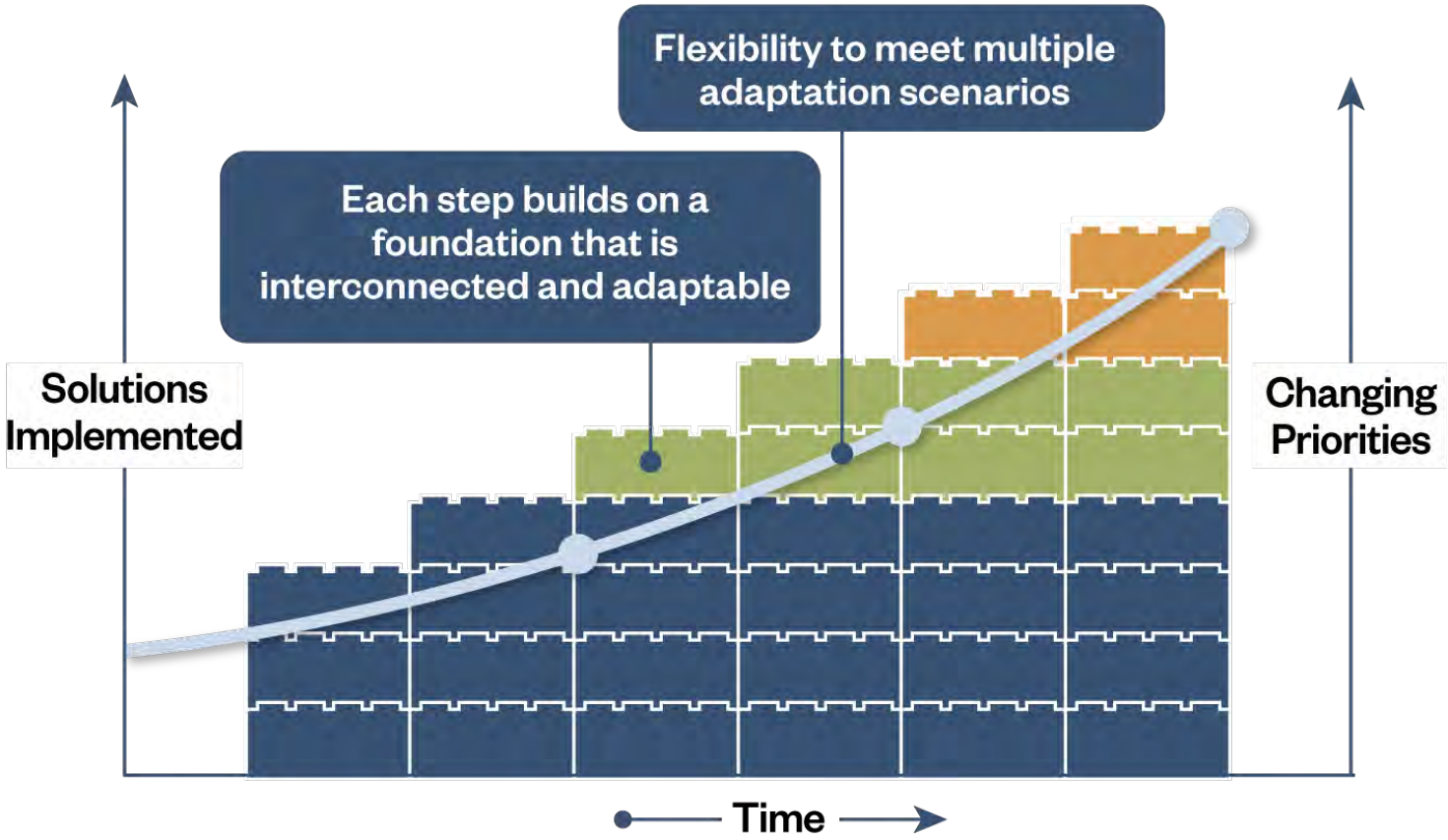
- Roadway Improvements
- Coastal Structures
- Refined Approach to Development and Redevelopment
- Reduce Overall Impervious to Pervious Ratio

Long-term

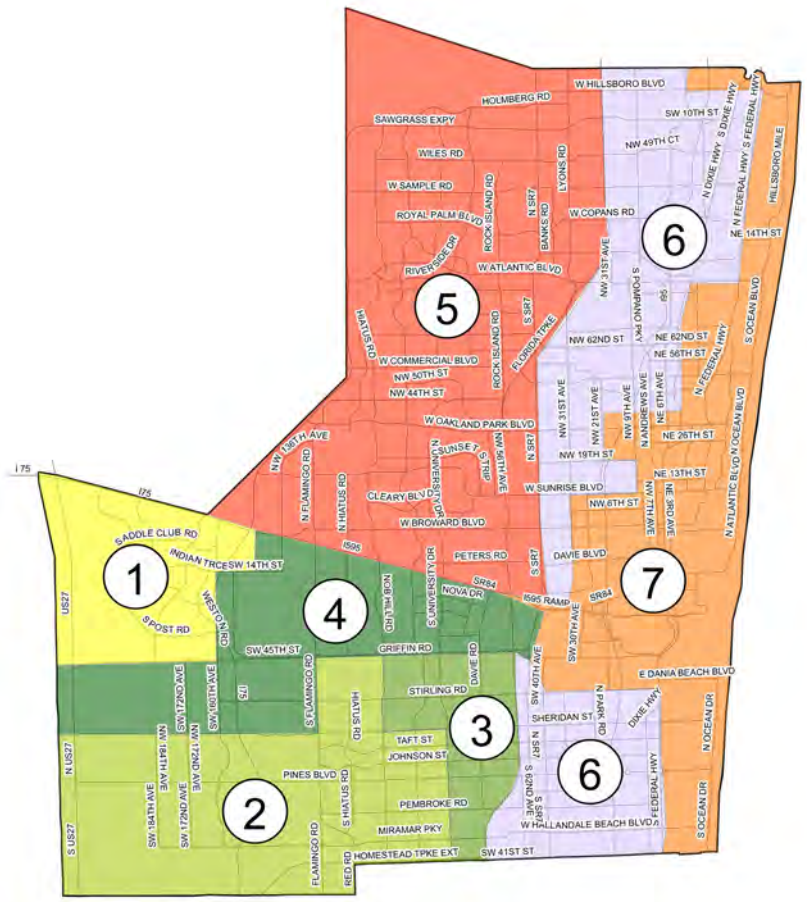
- Groundwater Barriers
- Coastal Barriers
- Managed Retreat and Reclamation of Floodplain

The timeframe of implementation closely correlated to event or scenario probability of occurrence.

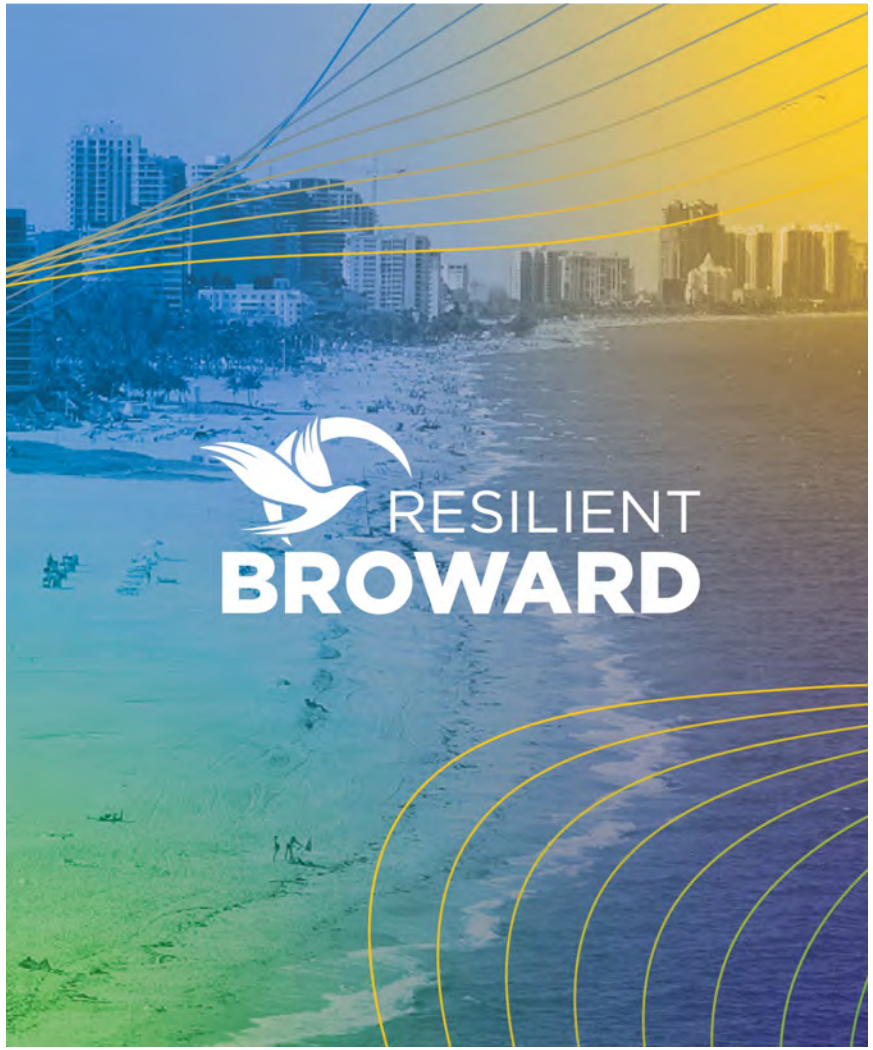
Implementation of Adaptable Solutions



Baseline model results have informed our working sessions on adaptation strategies



Zone	Preliminary Strategy
1	• Explore Pre-storm operations to gain storage ahead of the storm. • Manage discharges to allow other areas to drain.
2	• Explore Pre-storm operations to gain storage ahead of the storm. • Manage discharges to allow other areas to drain. • Maintain beneficial site storage.
3	• Add conveyance improvements, probably based on energy. • Identify storage opportunities.
4	• Maintain beneficial site storage. • Target flooding spots based on cost of damages. • Explore Pre-Storm Operations to gain storage.
5	• Identify storage to reduce runoff. • Manage storage ahead of the storm.
6	• Minor opportunities for storage. • Improve gravity-based conveyance. • Add energy.
7	• Manage and protect coast. • Add artificial and natural barriers. • Incorporate energy-based conveyance improvements.

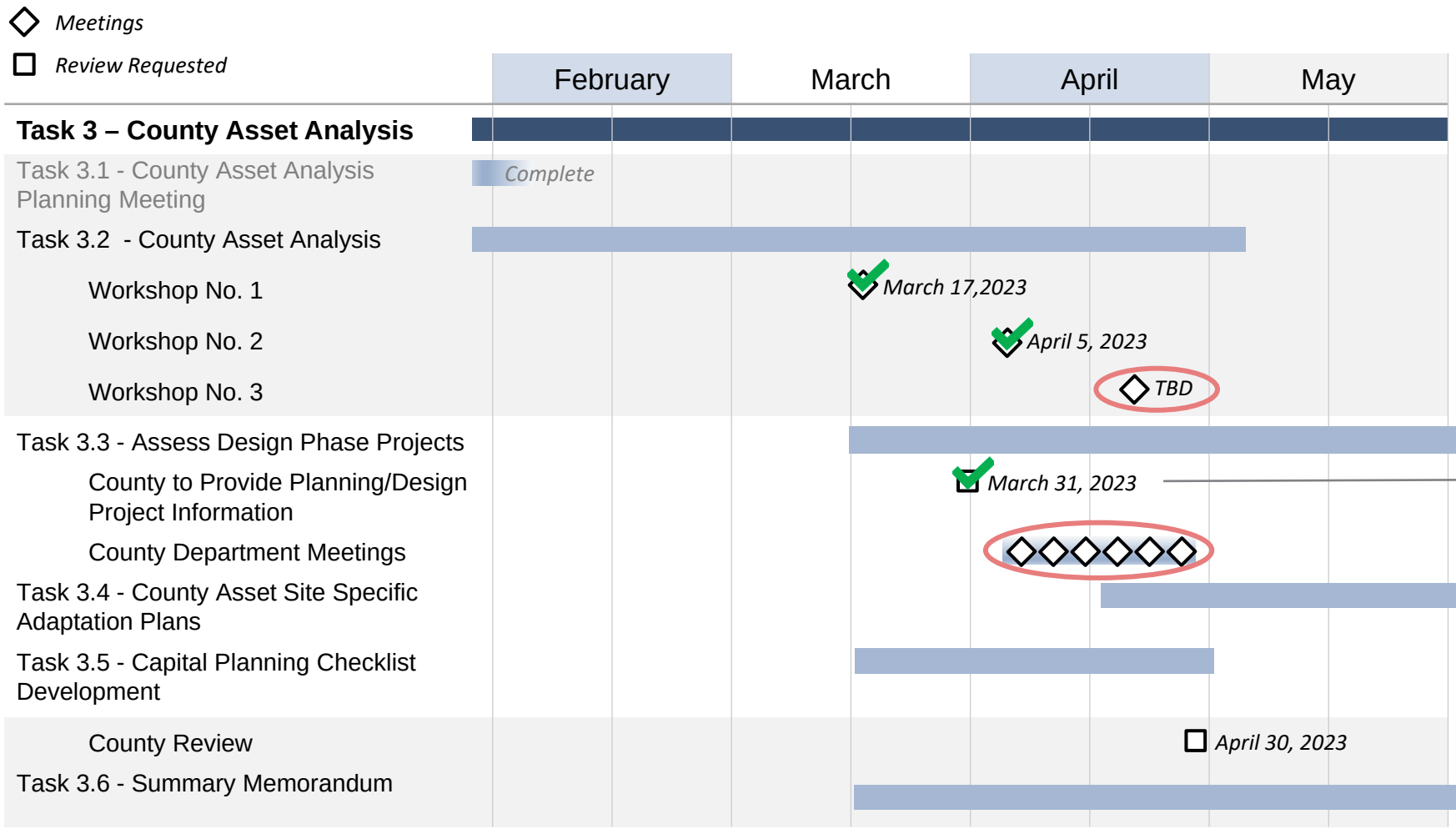


5

Review of County Asset Analysis Kickoff and Progress

Hazen

Schedule at a Glance



Planning/Design Project Information

- Location
- Description
- Project Schedule
- Cost Estimate
- Proposed Finished Floor Elevation or Critical Elevation
- Other Information to Consider

This task involves input and review from multiple County agencies…

- Parks Planning and Design
- Transit/Streets and Highways
- Construction Management Division
- Critical Infrastructure – Facilities
- Port and Airport

…to determine the criticality of the infrastructure.

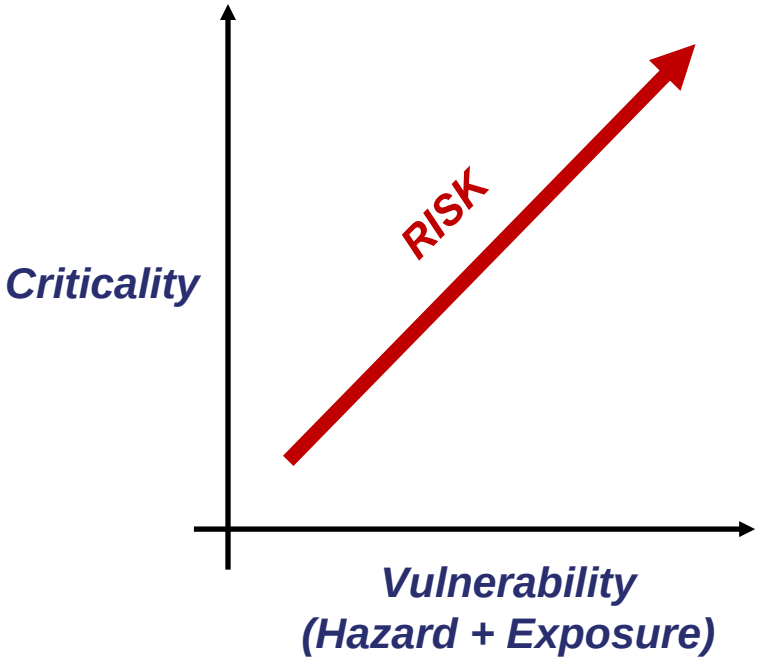
Risk Factor is calculated based on the Staff's input for the criticality…

***Risk Factor* is a numerical value by which the County's assets are prioritized, accounting for the vulnerability and criticality of the asset.**

Risk Factors will account for:

- Flooding Depth/Duration
- Asset value
- Remaining service life*
- Severity of impacts to services*
- Economic Impacts*
- Criticality of services provided*

** Requires information from County Departments*



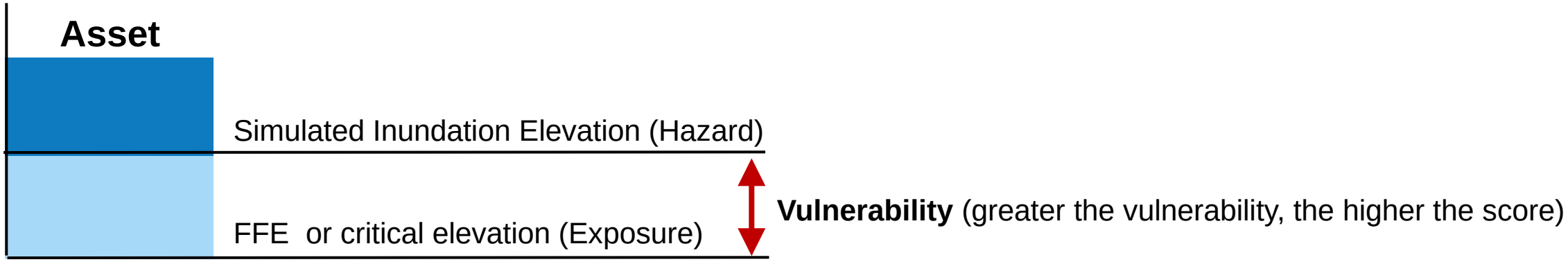
…and the Team's calculation of vulnerability.

Risk Factor

Calculation Procedures

Risk Factor = **Vulnerability Score** + Criticality Score

Vulnerability score designates how **exposed** an asset is to flooding **hazards**. This is informed by the results of the County's inundation model and the Finished Floor Elevation (FFE) or critical elevation of each asset.

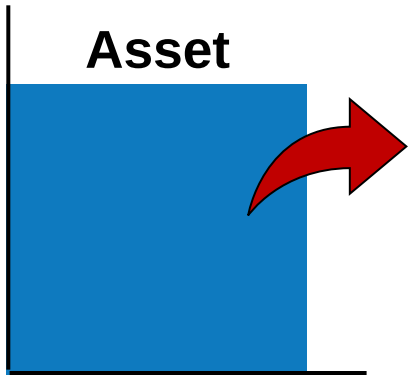


Risk Factor

Calculation Procedures

Risk Factor = Vulnerability Score + Criticality Score

Criticality score designates how critical an asset is. This is informed by the County's insight, the asset's overall value and consequence of failure. Criticality is relative based on a comparison analysis to other assets. Consider all the critical assets (schools, hospitals, evacuation routes, etc.). The aim of the criticality score is to rank the assets from least to most critical.



Asset Characteristics:

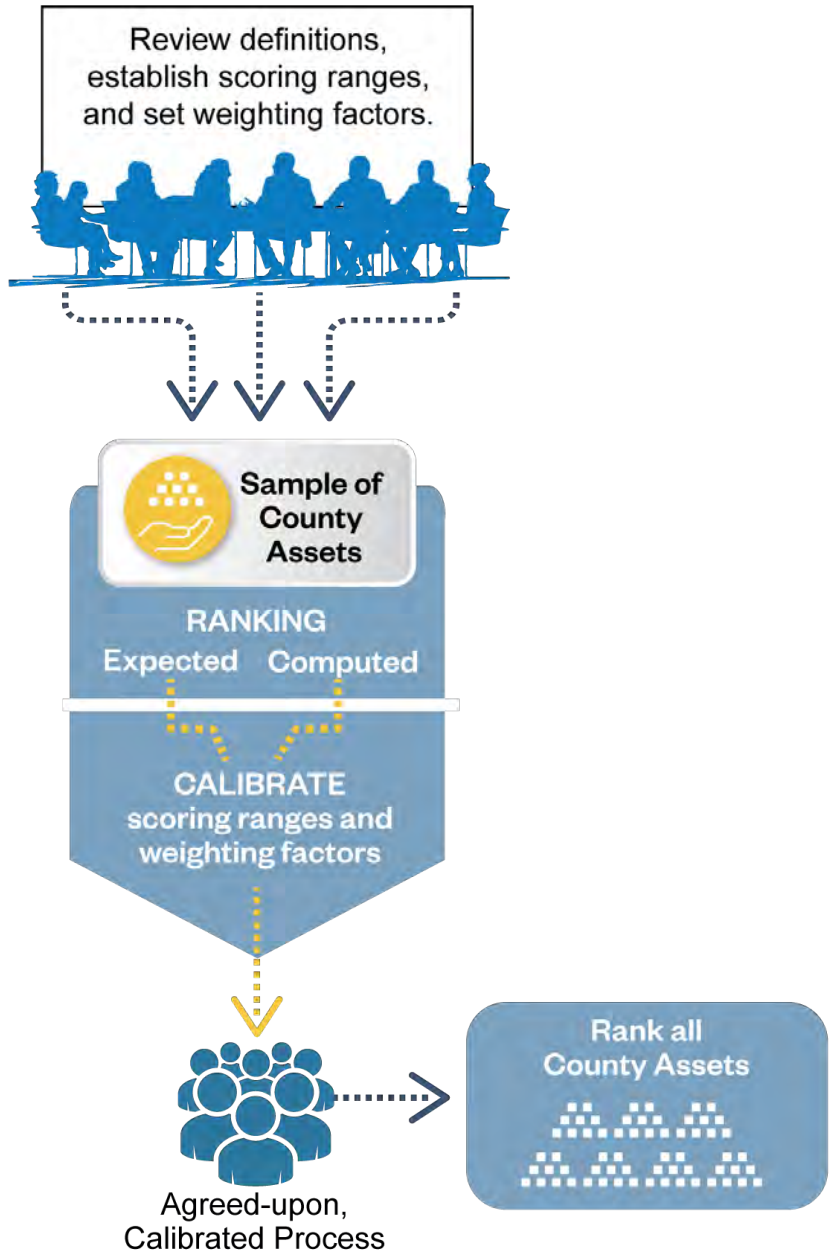
- Remaining service life*
- Severity of impacts to services*
- Economic impacts*
- Criticality of services provided*

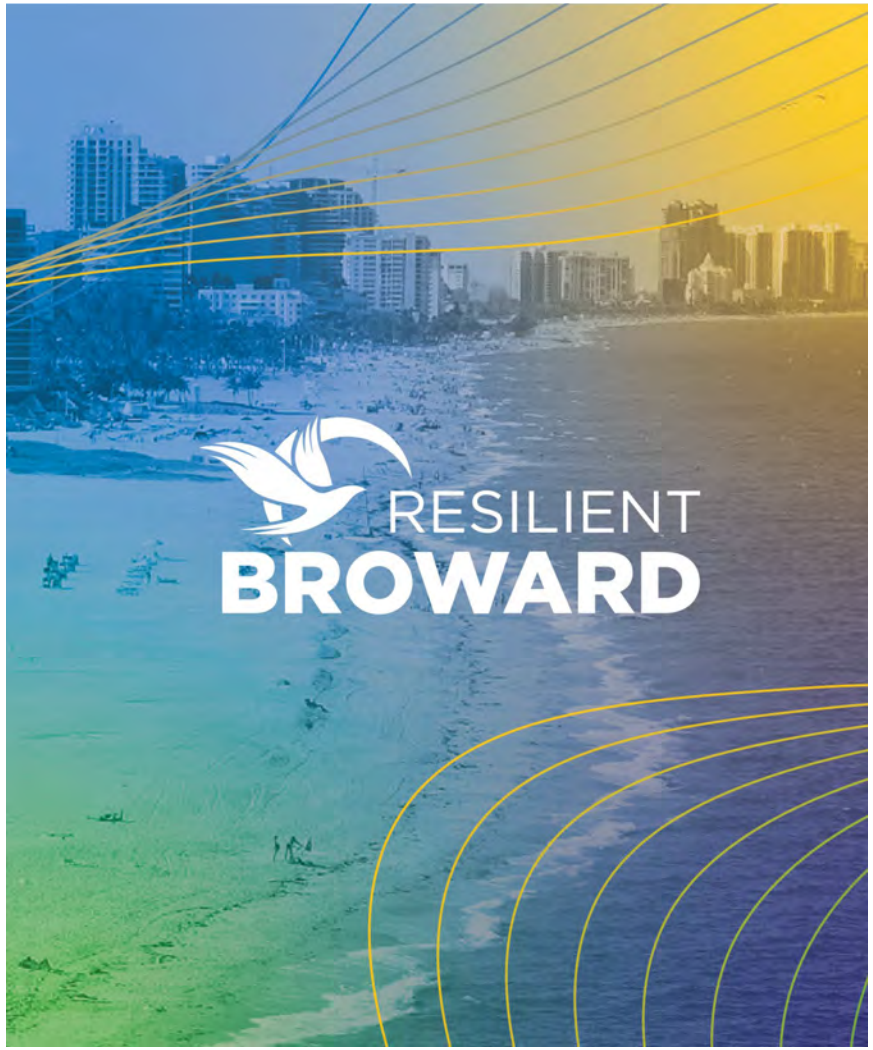
Criticality
(greater the criticality, the higher the criticality score)

** Requires information from County Departments*

An appropriately methodical process has been conceived for implementation of the prioritization process

- Host an in-person meeting to review definitions, establish scoring ranges, and set weighting factors.
- Apply agreed criteria to a reasonable sample of easily identifiable County assets to achieve initial ranking.
- Use "expected" versus "computed" ranking as a means of "calibrating" the process (scoring ranges and weighting factors).
- Once the calibrated process is agreed to by the group (including representatives from County Administration), use the process to rank all relevant assets.





6

Next Steps/Coming Attractions

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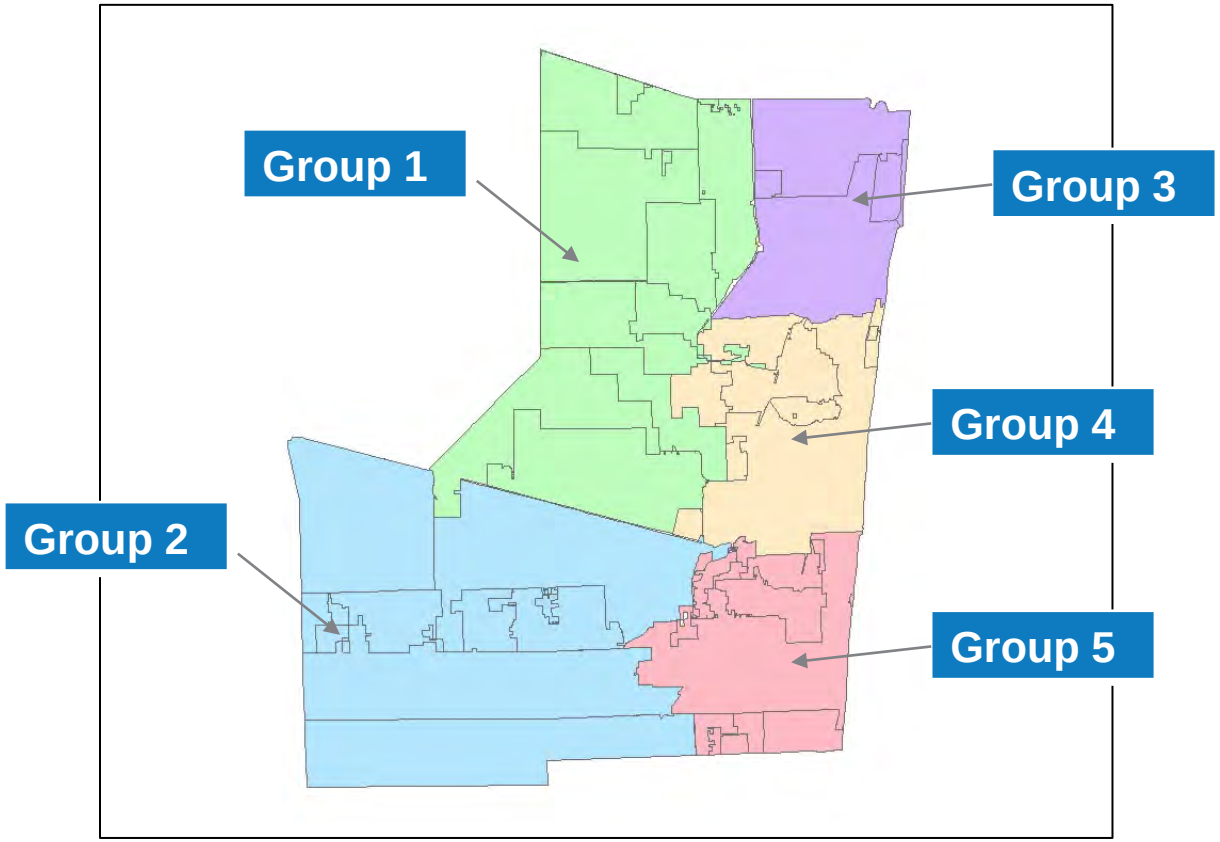
The Team will host Sub-regional Stakeholder Review Workshops

- Regions were defined based on similar physical/land use features and expected flooding conditions



Meetings will be scheduled for **April/May**

The Team will host Sub-regional Stakeholder Review Workshops

- Grouping of Water Control Districts and Municipalities is proposed as shown below.

GROUP 1

North Lauderdale
Coral Springs
Coconut Creek
Tamarac
Parkland
Plantation
Lauderhill
Margate
Sunrise
Seminole Tribe of Florida
NSID WCD
Old Plantation WCD
Plantation Acres WCD
Pine Tree WCD
Cocomar WCD
Turtle Run WCD
Sunshine WCD
Coral Springs WCD
Coral Bay WCD
Cypress Cove WCD
North Lauderdale WCD

GROUP 2

Davie
Southwest Ranches
Weston
Pembroke Pines
Miramar
Cooper City
South Broward WCD
Indian Trace WCD
Bonaventure WCD
Central Broward WCD
Tindall Hammock WCD

GROUP 3

Pompano Beach
Deerfield Beach
Hillsboro Beach
Lighthouse Point
Broward WCD

GROUP 4

Fort Lauderdale
Lauderdale Lakes
Wilton Manors
Lauderdale-By-The Sea
Sea Ranch Lakes
Lazy Lake
Oakland Park
Lauderdale Isles WCD

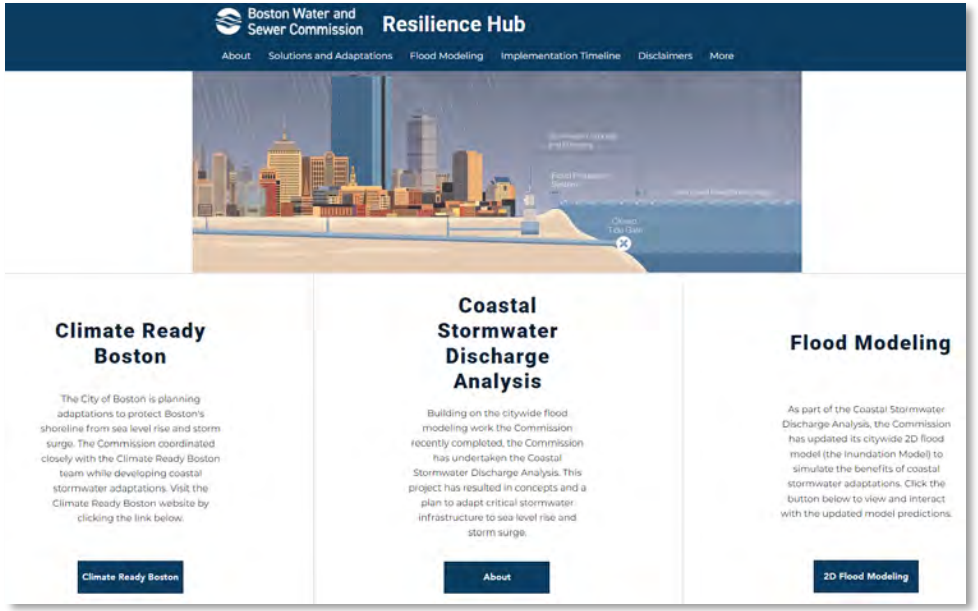
GROUP 5

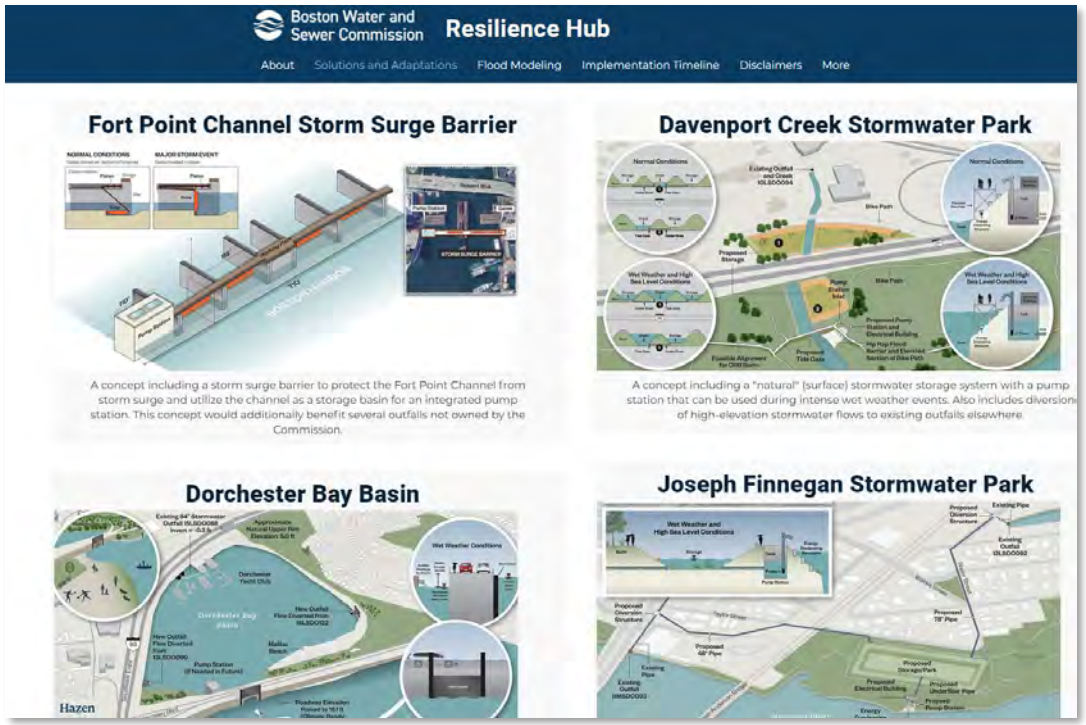
Dania Beach
Hollywood
Hallandale Beach
West Park
Pembroke Park
Seminole Tribe of Florida
Oakridge WCD
Twin Lakes WCD

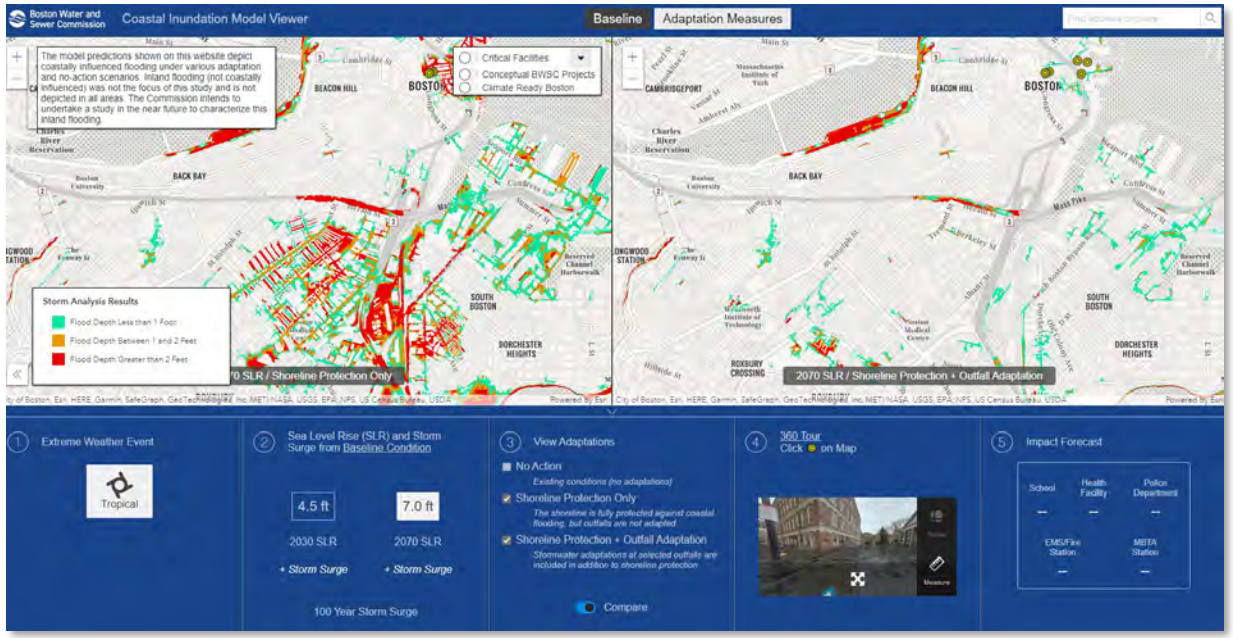
Feedback on Stakeholder groupings?

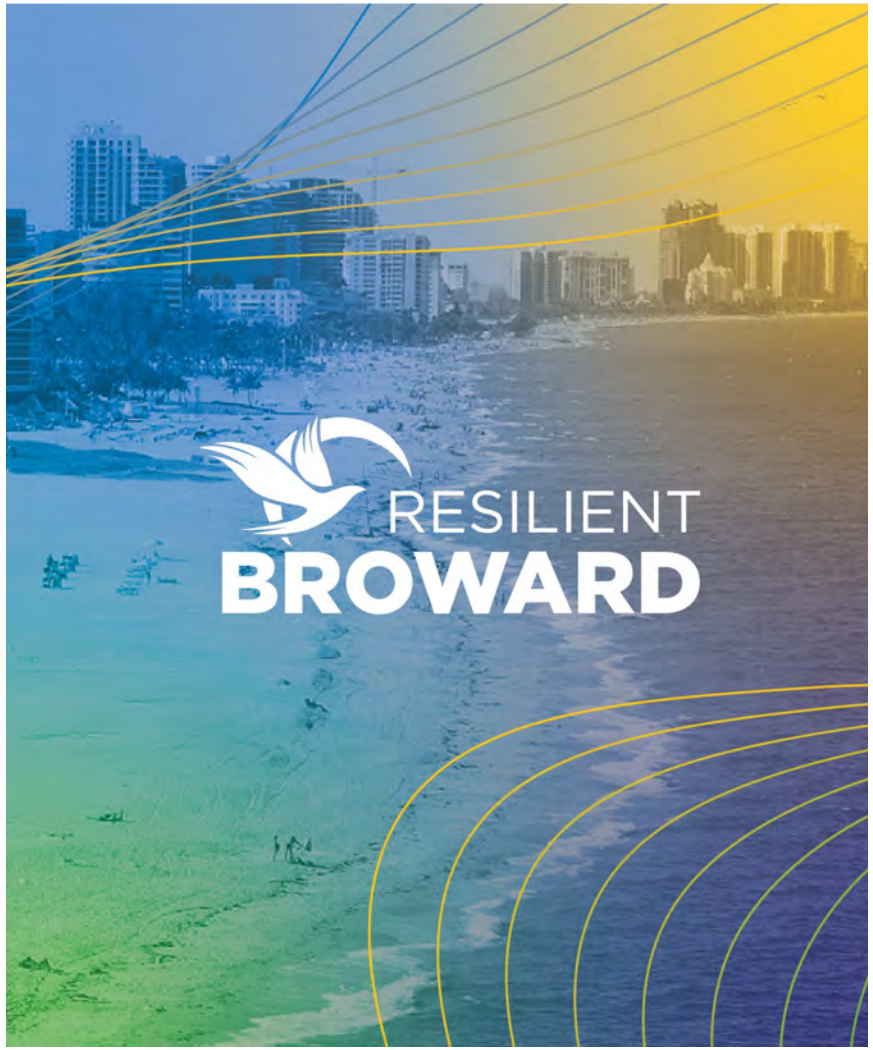
Demonstration of the Updated Boston Water and Sewer Commission Platform

- Will demonstrate at the June RSC meeting
- Update on progress of Broward Platform









7

Adjournment – Thank You!

Hazen