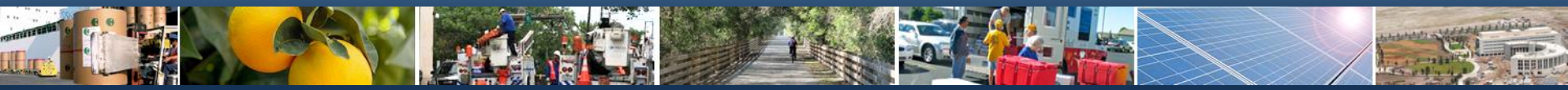

June 15, 2021

Building a Resilient Transportation System

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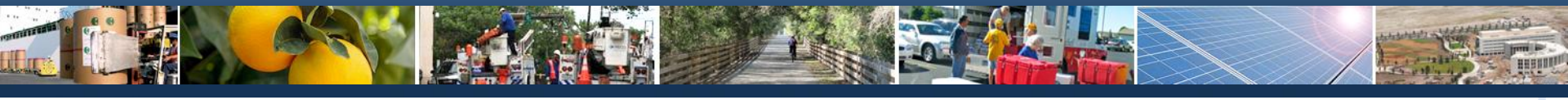
Citizen Advisory Committee (CAC)
Technical Coordinating Committee (TCC)

What Does Resiliency Mean?



- **<u>Resiliency:</u> the ability to mitigate, prepare for, respond to, and recover from disruptive events** (flooding, hurricane impacts, wildfires, or major traffic incidents)
- **It is important for our transportation system to be resilient to maximize its reliability to move people and goods**

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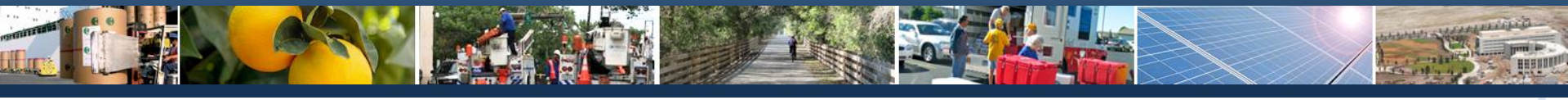
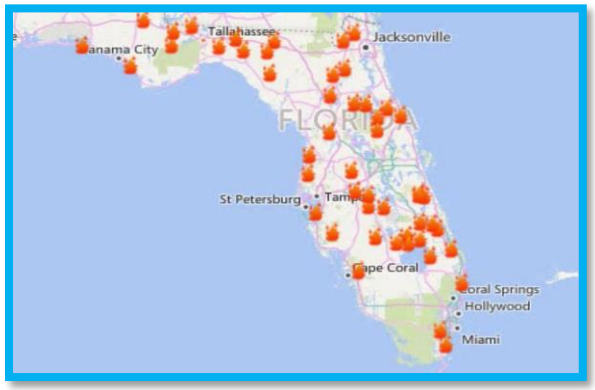
Importance to River to Sea TPO



Potential Impacts to Transportation Systems



Increased flooding (tidal & heavy rainfall)

- *Loss of roadway capacity*
- *Impacts evacuation routes*
- *Degradation of infrastructure*
- *Impedes access to facilities (fleet fueling & storage; evac centers)*

Compromised stormwater systems

- *Malfunctioning canals and drainage*

Action requires: $ $ $

- *strengthening of the existing system*
- *robust construction of new facilities*
- *more careful planning & forecasting*
- *development of alternate routes*

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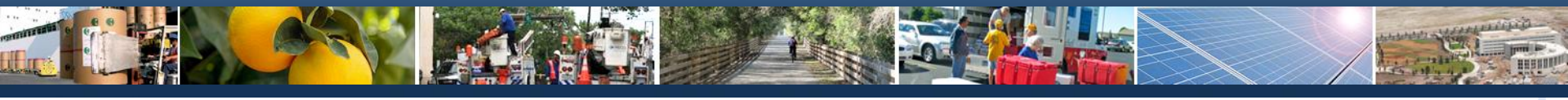
Importance to River to Sea TPO



Some related projections and trends to consider…

- Florida has been impacted by **40% of all U.S. hurricanes**
- **Six million people evacuated** during Hurricane Irma, the largest evacuation in U.S. history
- Tidal flooding across Florida has i**ncreased by more than 350%** since 2000
- Wildfires of 1998 burned more than **$300 million in timber resources** and cost more than $80 million in firefighting efforts ($600 million in Florida overall)
- Nationally, the total annual cost from temperature & precipitation related **damage to paved roads is estimated to be $20 billion**

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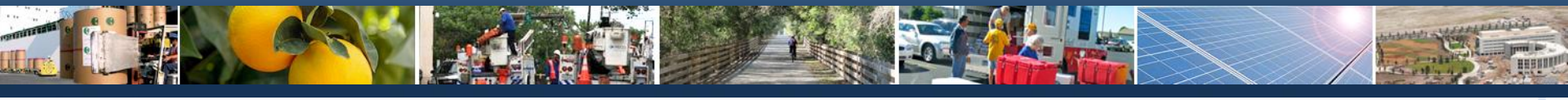
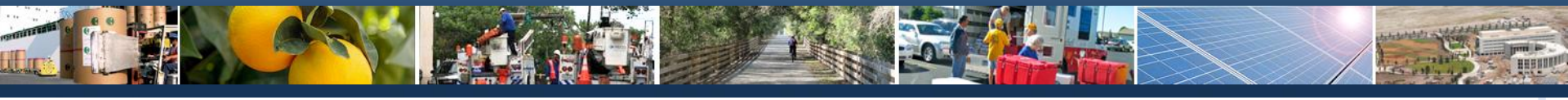
Importance to River to Sea TPO



- **Florida Community Planning Act (HB 720) - 2011**
- **Florida (SB 1954) – Statewide Flooding and Sea Level Rise Resilience - 2021**
- **Florida Senate Bill 1094 - Peril Flood - 2015**
- **Executive Order 14008 – Tackling the Climate Crisis at Home and Abroad – January 2021**
- **Fixing America's Surface Transportation (FAST) Act:**
  - expands the focus on the resiliency of the transportation system as well as activities to reduce stormwater runoff from transportation infrastructure; and
  - requires strategies to reduce the vulnerability of existing transportation infrastructure to natural disasters. [23 U.S.C. 134(d)(3) & (i)(2)(G)]

(Florida Sea Grant photo by Thomas Ruppert)

Getting Our Feet Wet



Efforts of the River to Sea TPO

- **Initial Vulnerability Assessment** (2016)
- **TPO Annual Planning Retreat** (2017)
- **Vulnerability Assessments** (2017 & 2018)
- **Adopt Sea Level Rise Rate Policy** (2020)
- **Regional Resiliency Collaborative** (ongoing)
- **LRTP Scenario Planning** (2020)
- **Project Ranking Criteria** (2019)
- **Flagler County's FDEP Florida Resilient Coastline Program (FRCP) Grant** (2020)

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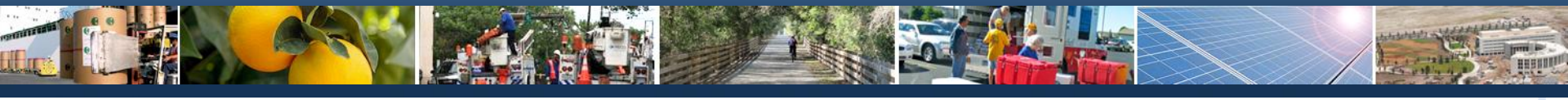
Local and Regional Resiliency Efforts



Many government agencies are working on resiliency

East Central Florida Regional Planning Council

Southwest Florida Regional Planning Council

West Florida Regional Planning Council

NOAA DigitalCoast
OFFICE FOR COASTAL MANAGEMENT

North Central Florida Regional Planning Council

Northeast Florida Regional Council

FDOT

GeoPlan Center

Volusia County FLORIDA

Tampa Bay Regional Planning Council

SFRC South Florida Regional Council

CFRPC

Treasure Coast Regional Planning Council
TCRPC
"Regionalism One Neighborhood At A Time" – Est. 1976

DEO Florida Department of Economic Opportunity

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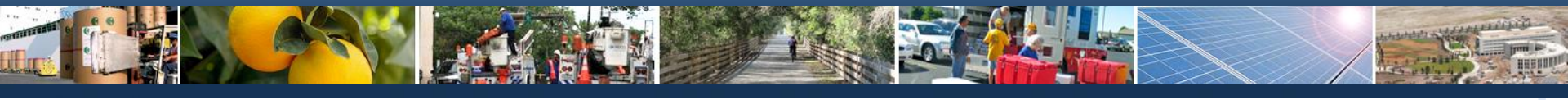
Project Overview



SEA LEVEL SCENARIO
SKETCH PLANNING TOOL

FDOT

GEOPLAN CENTER

UF UNIVERSITY of FLORIDA

Volusia Atlantic Coast and Flagler County

Mean High High Water – Flagler County and Volusia County (Atlantic Coast)
Mean High Water – Volusia County (Indian River Lagoon)

USACE Low, Intermediate and High Projection Rate Curves
Planning Horizon: 2040, 2070, 2100

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Volusia County | Evacuation Routes

Roadway	Year and Estimated Miles Inundated *(by Projection Rate Curve)*								
	Low			Medium			High		
	2040	2070	2100	2040	2070	2100	2040	2070	2100
CANAL STREET									*<0.25 mi*
CR 4019 (LPGA BLVD.)						*0.2 mi*			*0.6 mi*
STATE HIGHWAY A1A			*<0.25 mi*			*<0.25 mi*	*0.5 mi*		*8.5 mi*
INTERSTATE 4			*<0.25 mi*			*<0.25 mi*			*0.3 mi*
INTERSTATE 95			*<0.25 mi*			*<0.25 mi*			*0.3 mi*
PENINSULA AVE.						*0.3 mi*			*1 mi*
SILVER BEACH / ORANGE AVE.			*<0.25 mi*			*<0.25 mi*			*0.3 mi*
STATE ROAD 40						*<0.25 mi*			*0.4 mi*
STATE ROAD 415			*<0.25 mi*			*<0.25 mi*			*0.9 mi*
STATE ROAD 421									*<0.25 mi*
STATE ROAD 430						*<0.25 mi*			*0.8 mi*
STATE ROAD 44									*0.7 mi*
STATE ROAD 46			*<0.25 mi*			*<0.25 mi*			*<0.25 mi*
STATE ROAD 5A									*<0.25 mi*
US HIGHWAY 1			*<0.25 mi*			*<0.25 mi*	*<0.25 mi*		*11 mi*
US HIGHWAY 92						*<0.25 mi*			*0.5 mi*

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Flagler County | Evacuation Routes

Roadway	Year and Estimated Miles Inundated *(by Projection Rate Curve)*								
	Low			Medium			High		
	2040	2070	2100	2040	2070	2100	2040	2070	2100
Hammock Dunes Parkway									*0.18 mi*
Moody Boulevard									*0.15 mi*
Oceanshore Boulevard									*0.31 mi*
Palm Coast Parkway									*0.58 mi*
State Highway 100			*<0.25 mi*			*<0.25 mi*			*0.75 mi*
State Highway 5									*0.09 mi*
State Highway A1A			*<0.25 mi*			*0.3 mi*			*4.31 mi*
Surfview Drive									*0.41 mi*

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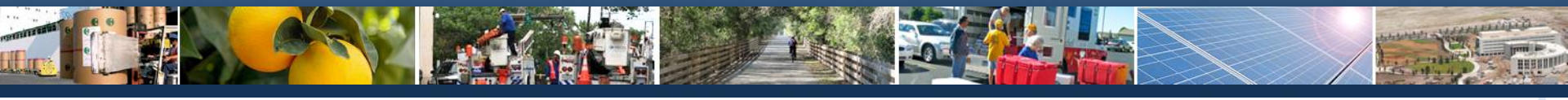
Other Potential Activities of the R2CTPO



As a planning agency & partner we provide support and information that's helpful in decision-making.

- **Update Vulnerability Assessments/Scenario Planning**
- **Continued Regional Collaboration**
- **Project Prioritization / Ranking Criteria**
- **Continue to Raise Awareness**
- **Additional Policy Direction** (more proactive?)

We are required to ensure a 3-C planning process
(Continuing, Cooperative, Comprehensive)

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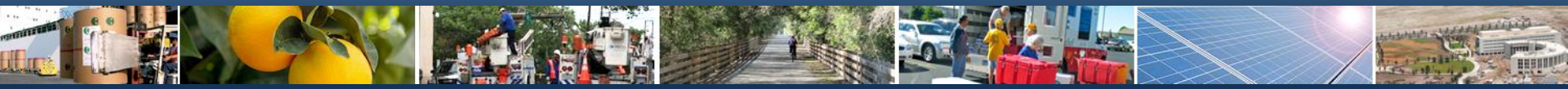

Thank You

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