



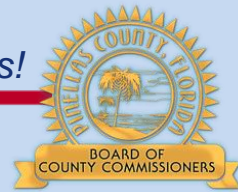
Doing Things!

**San Martin Boulevard over Riviera Bay &
Dunedin Causeway Bridges
Sea Level Rise (SLR) Evaluations**

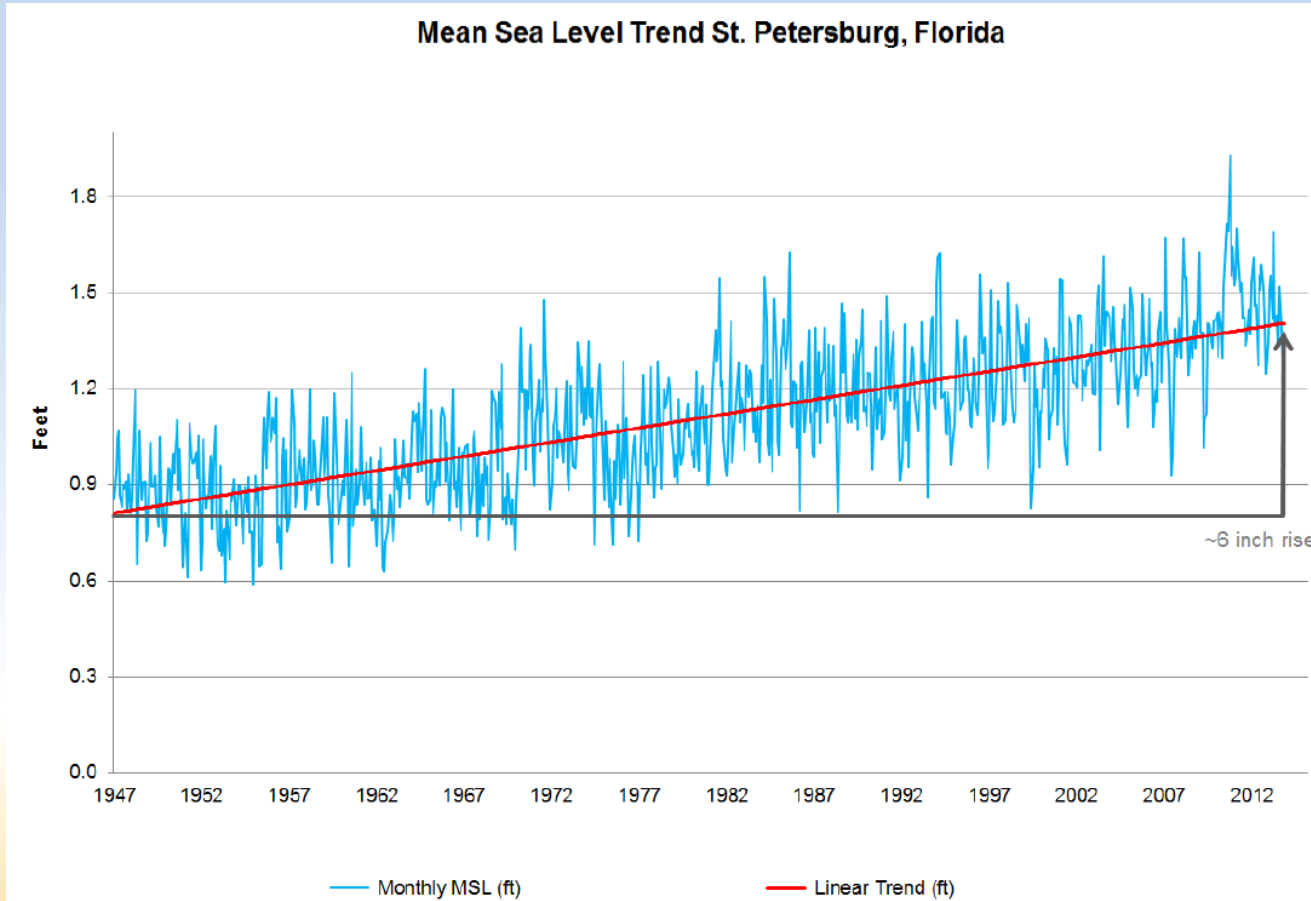


June 12, 2018





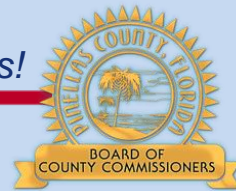
Why?



Mean Sea Level Trend (relative to Mean Lower Low Water) in St. Petersburg, Florida, NOAA Tide Gauge #8726520.
Source: 2015 CSAP Recommended Projection of Sea Level Rise in the Tampa Bay Region

Tampa Bay Climate Science Advisory Panel (CSAP)

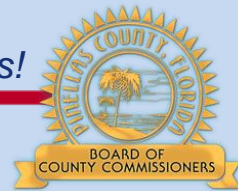
- Formed in spring 2014 – scientists & resource managers
- Tampa Bay region representation (Pinellas, Hillsborough, Manatee & Pasco)
- Three key recommendations:
 - Adaptation planning should employ a scenario-based approach that considers, at a minimum, location, time horizon, and risk tolerance.
 - Projections of SLR should be consistent with present and future National Climate Assessment estimates and methods.
 - Projections of SLR should be regionally corrected using the St. Petersburg tide gauge data.



Tampa Bay Climate Science Advisory Panel (CSAP)

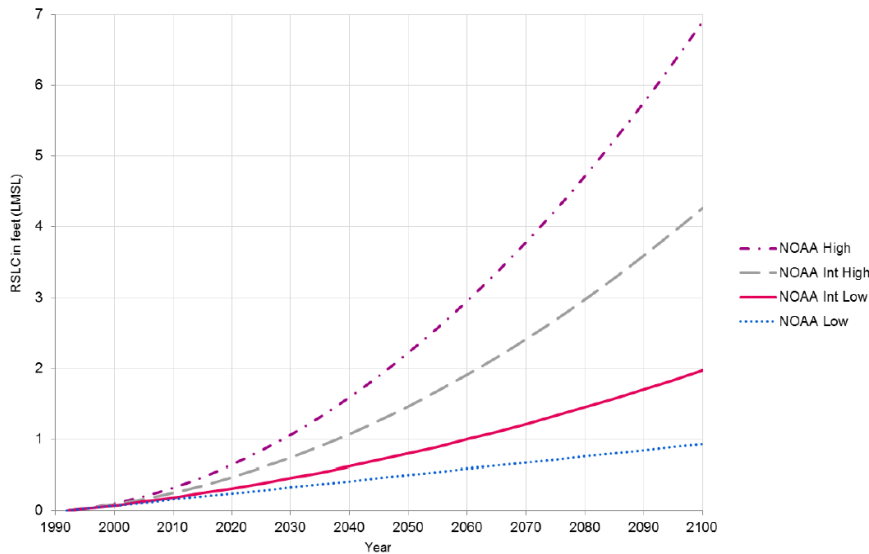
Tampa Bay Climate Science Advisory Panel

Organization	Representative	Designated Alternate
UF/IFAS Extension, Florida Sea Grant	Libby Carnahan (Facilitator)	
Tampa Bay Regional Planning Council	Maya Burke	Brady Smith, AICP
Tampa Bay Estuary Program	Lindsay Cross	Ed Sherwood
Tampa Bay Water	Dr. Alison Adams, P.E.	Dr. Tirusew Asefa, P.E., D.WRE
Southwest Florida Water Management District	John Ferguson, P.G.	James Golden, AICP
Florida Climate Institute	Dr. Gary Mitchum	
US Geological Survey	Dr. Nathaniel Plant	Dr. Hilary Stockdon
NOAA National Weather Service, Tampa Bay	Dr. Charlie Paxton	
University of South Florida, School of Public Affairs	Dr. Mark Hafen	
University of South Florida, College of Marine Science	Dr. Mark Luther	Dr. Steve Meyers
NOAA Office for Coastal Management, Gulf Coast	Heidi Stiller	Kristen Laursen
Florida Sea Grant	Thomas Ruppert, Esq.	
Pinellas County	Kelli Hammer-Levy	Andy Squires
Environmental Protection Commission of Hillsborough County	Margaret Rush	Tom Ash
Manatee County	Rob Brown	
Pasco County	Melissa Charbonneau	Keith Wiley, Curtis Franklin
US Army Corps of Engineers	Glenn Landers (Technical Advisor, ex officio)	



Tampa Bay Regional Projections

Relative Sea Level Change Projections - Gauge 8726520, St. Petersburg, FL



Year	NOAA Low (Feet)	NOAA Int Low (Feet)	NOAA Int High (Feet)	NOAA High (Feet)
1992 ¹³	0.00	0.00	0.00	0.00
2025	0.28	0.38	0.60	0.84
2035	0.37	0.53	0.90	1.31
2050	0.50	0.80	1.46	2.22
2065	0.63	1.10	2.15	3.35
2075	0.71	1.33	2.68	4.23
2100	0.93	1.97	4.26	6.89

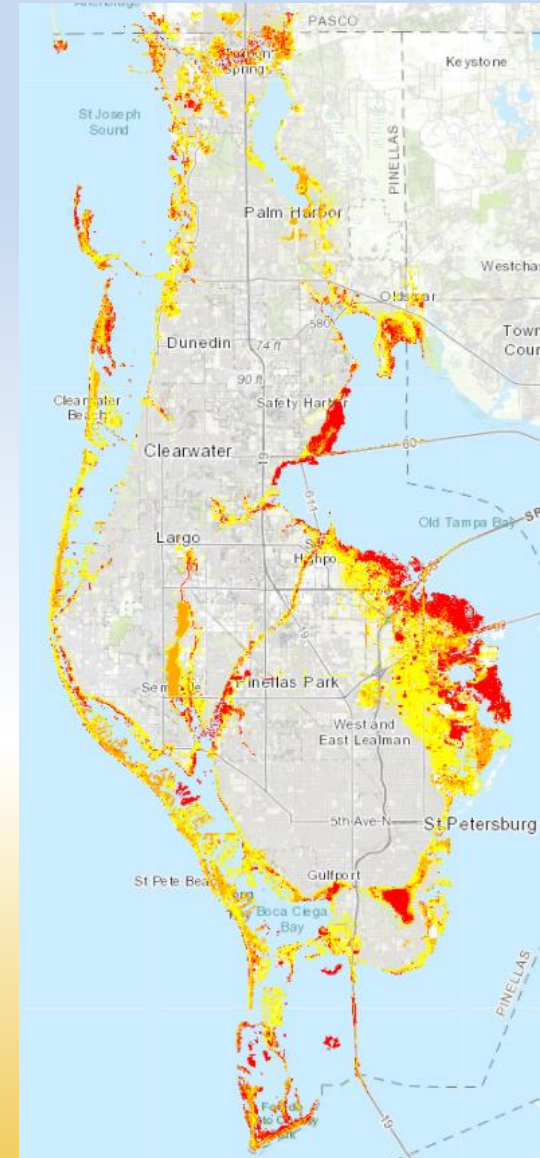
Graphic Relative Sea Level Change (RSLC) Scenarios for St. Petersburg, Florida, as calculated using the NOAA projections and regional corrections.

Source: 2015 CSAP Recommended Projection of Sea Level Rise in the Tampa Bay Region

Our Vision: To Be the Standard for Public Service in America

Bridge Projects Evaluation

- CSAP recommended projections
- Bridges and adjacent land use impacts
- 1 - 6 feet of SLR evaluated
- Impacts graphically depicted compared to each options' useful life



Guidance for Incorporating SLR into Capital Projects

- SLR Tool:
 - Vulnerability Assessment
 - Exposure
 - Sensitivity
 - Adaptive capacity
 - Risk Assessment
 - Anticipated level of damage
 - Service disruption
 - Cost to repair/replace for public health and safety
 - Adaptive Strategies

