

# Recommended Projection of Sea Level Rise in the Tampa Bay Region

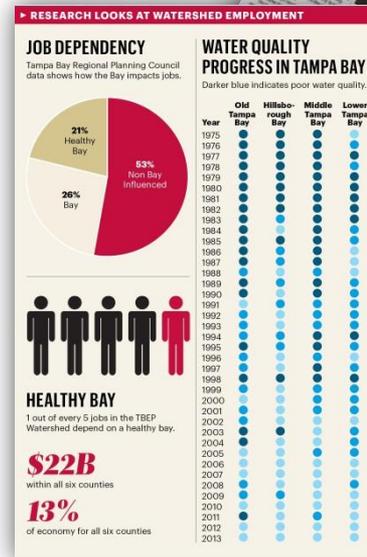
*Submitted to the Tampa Bay Regional Planning Council by the*

Tampa Bay Climate Science Advisory Panel



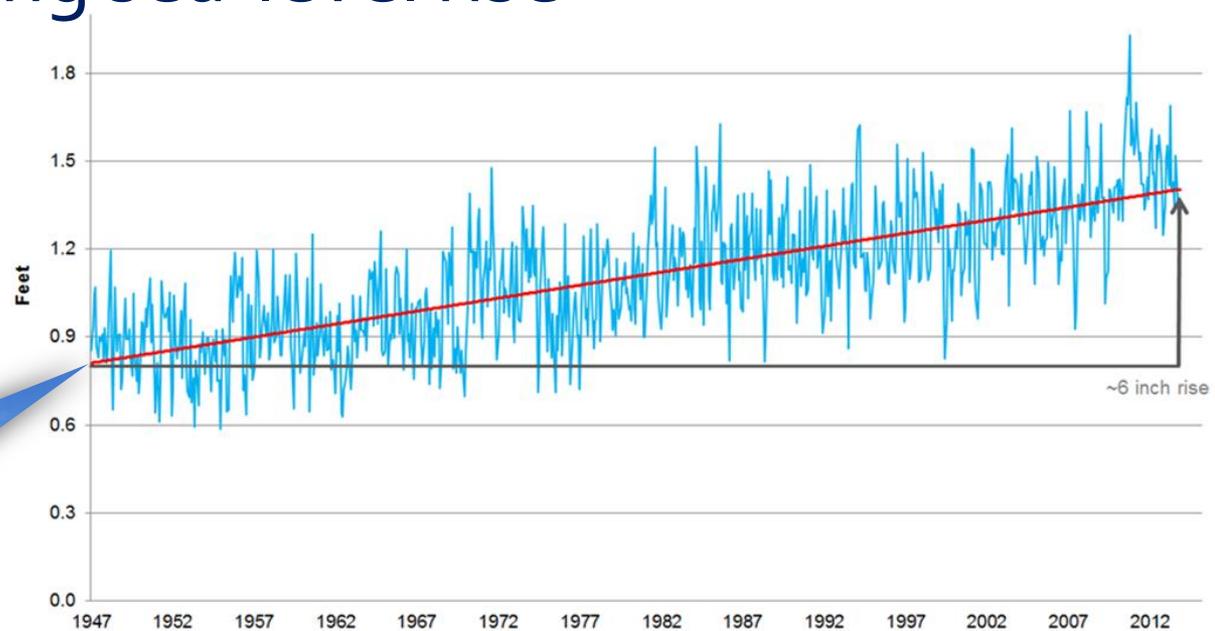
# Tampa Bay...today

- Regional economy valued at \$170 billion
- \$51 billion directly influenced by Tampa Bay



# Tampa Bay...today

- Scientific data shows region is already experiencing sea-level rise

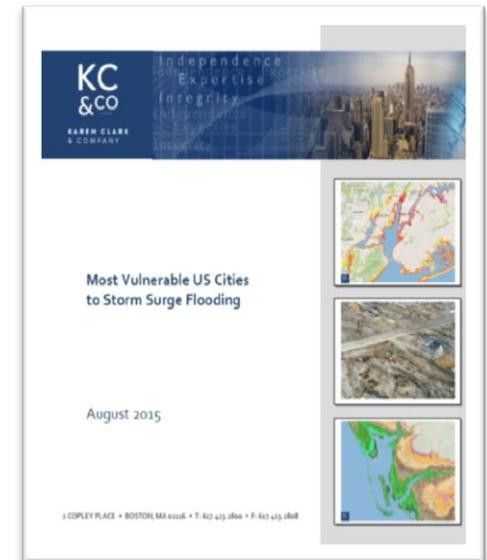


<http://tidesandcurrents.noaa.gov/stationhome.html?id=8726520>



# Tampa Bay...today

- Tampa/St. Petersburg is 1 of the 10 most vulnerable coastal metropolitan areas



# Tampa Bay Climate Science Advisory Panel

- Formed in 2014

- GOAL:

*Collaboratively develop recommendations for local governments and regional agencies as they respond to climate change and associated sea-level rise (SLR)*



# Scientific Membership

Convener- UF/IFAS Extension, Florida Sea Grant

- Federal, State, Regional Agencies
- Academic Institutions
- Local Governments



**UF** | IFAS Extension  
UNIVERSITY of FLORIDA

**Sea Grant**  
Florida



# Working Objective #1

Formulate a recommendation for a unified SLR projection in the Tampa Bay region

**☑ DONE!**



# Process

Facilitated Discussion



Literature Review



Context Speakers



# Recommendation Highlights

- 1) Projections of SLR should be “regionally corrected” using the St. Petersburg tide gauge.
- 2) Projections of SLR should be consistent with NCA (NOAA) estimates and methods.
- 3) Adaptation planning should employ a scenario-based approach that considers, at a minimum, location, time horizon and risk tolerance.



# Relative Sea Level Change Scenarios

St. Petersburg, FL (Feet), NOAA Station #8726520

All values are expressed in **feet** relative to LMSL

Year	NOAA Low (Feet)	NOAA Int Low (Feet)	NOAA Int High (Feet)	NOAA High (Feet)
1992 <sup>13</sup>	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

# Planning for Resilience

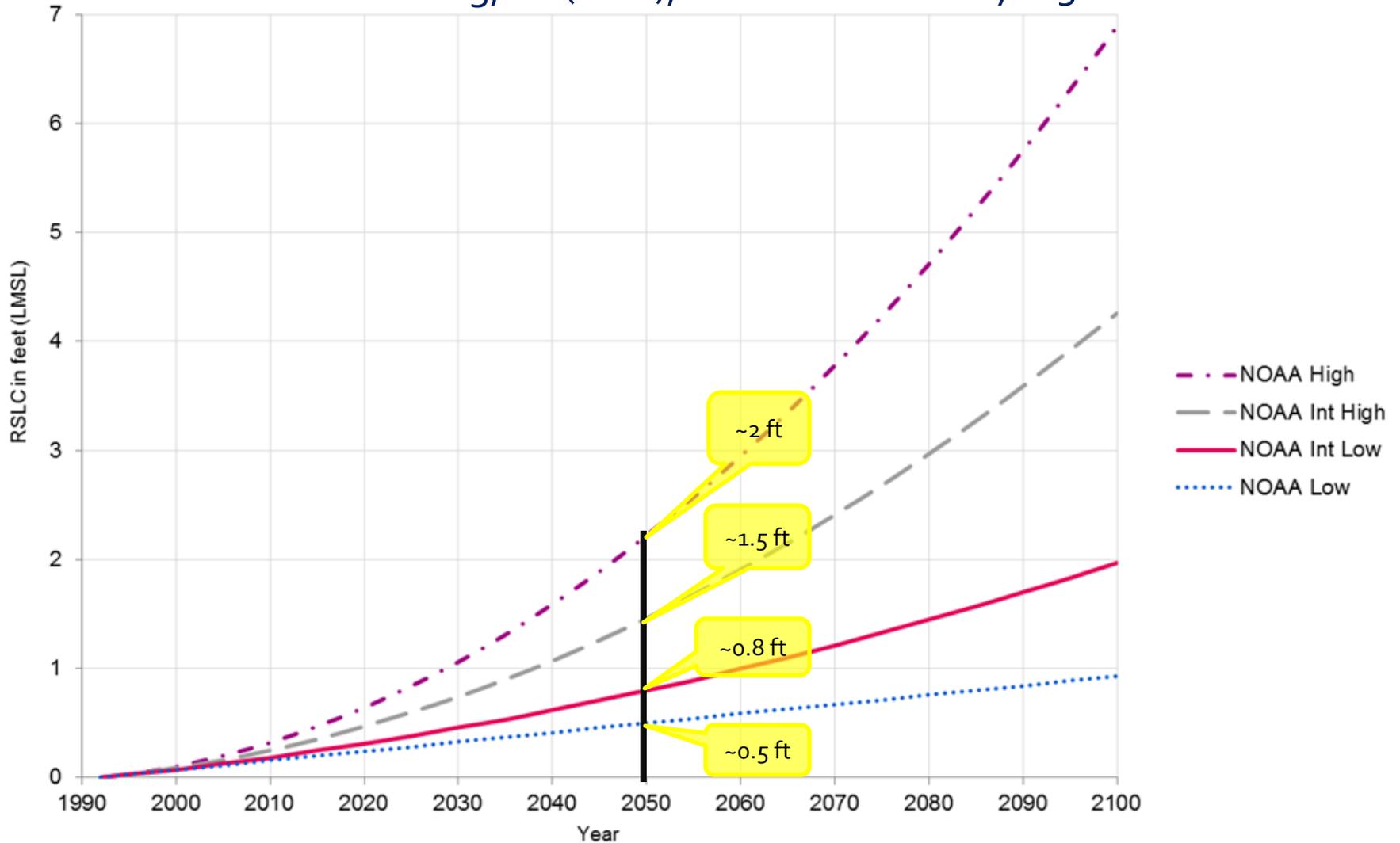
- ~ 35 year planning horizon to begin implementing measures to protect property; health, safety & welfare; and adapt to rising sea levels.

Decade(s) of Tipping Point Crossing under 4 Projections (0.5, 0.6, 0.8, 1.2 m) of Global Sea Level Rise by 2100*		
Location	Nuisance Flood Level (meters above MHHW)	>30 days/year with Nuisance Flooding
Wilmington, NC	0.25	Past
Annapolis, MD	0.29	Past
Washington D.C.	0.31	Past
Port Isabel, TX	0.34	By 2020
Charleston, SC	0.38	By 2020
Lewes, DE	0.41	By 2020
Baltimore, MD	0.41	By 2020
Atlantic City, NJ	0.43	By 2020
Sandy Hook, NJ	0.45	By 2020
Kings Point, NY	0.52	By 2020
Key West, FL	0.33	By 2030
San Francisco, CA	0.35	By 2030
Savannah (Ft. Pulaski), GA	0.46	By 2030
Philadelphia, PA	0.49	By 2030
Mayport, FL	0.44	2021-2040
La Jolla, CA	0.51	2021-2040
Norfolk, VA	0.53	2021-2040
Boston, MA	0.68	2021-2040
Montauk, NY	0.60	2021-2050
The Battery, NY	0.65	2021-2050
Fernandina Beach, FL	0.59	2031-2060
New London, CT	0.60	2031-2060
Providence, RI	0.66	2031-2060
Galveston Bay, TX	0.79	2041-2060
Seattle, WA	0.65	2051-2080
St. Petersburg, FL	0.84	2051-2100+

\* Sea level projections include local subsidence rates and regional gravity/circulation fingerprints of Kopp et al. (2014) and are based upon a 1.9 - 5.4°C range in future global warming under Regional Concentration Pathways (RCPs 2.6, 4.5, 8.5) for greenhouse gas emissions from the 5th Assessment of the Intergovernmental Panel on Climate Change (IPCC).

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# Next Steps



## ***Staff Recommendation:***

*Receive "Recommended Projection of Sea Level Rise in the Tampa Bay Region" and distribute to local governments.*

- Technical assistance implementing adaptation strategies & planning efforts through NOAA CRest grant
- CSAP to revisit SLR recommendation as additional information is available
  - Monitoring of measured sea level change at local tide gauges
  - 2018 National Climate Assessment
  - Other peer-reviewed scientific data

