

An aerial photograph of Tampa Bay, Florida. The foreground shows a dark, calm body of water. In the middle ground, there is a lush green peninsula with several houses, palm trees, and a small lighthouse. The background features the Tampa city skyline with various high-rise buildings under a cloudy sky.

STATE OF SEA LEVEL RISE UPDATED PROJECTIONS FOR THE TAMPA BAY REGION

Tampa Bay Climate Science Advisory Panel

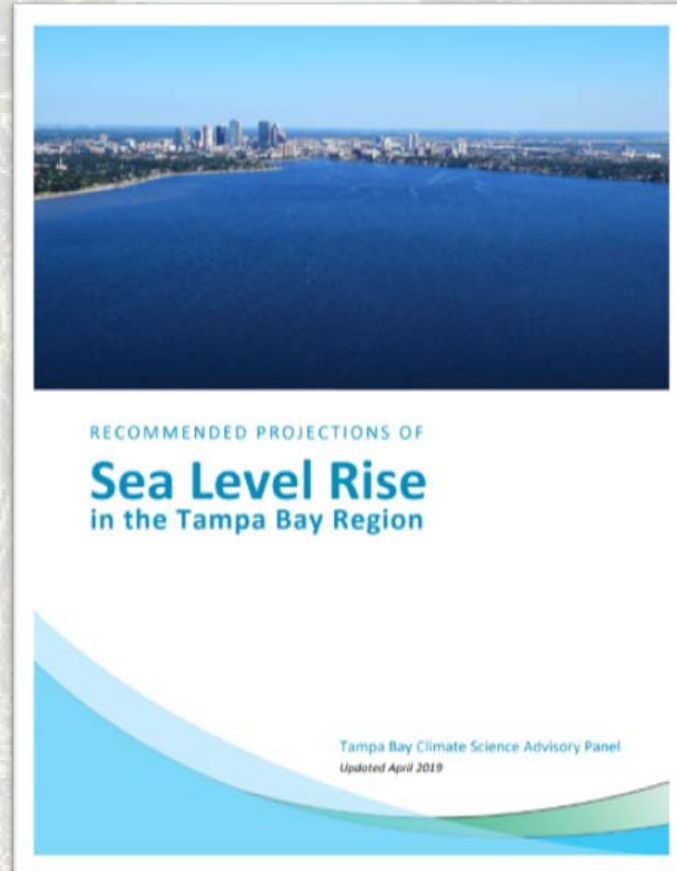
UF/IFAS Extension, Florida Sea Grant (convener)

- Ad Hoc Membership
 - Regional Agencies
 - Federal Agencies
 - Local Government Partners
 - Universities
 - Private Sector



OBJECTIVE

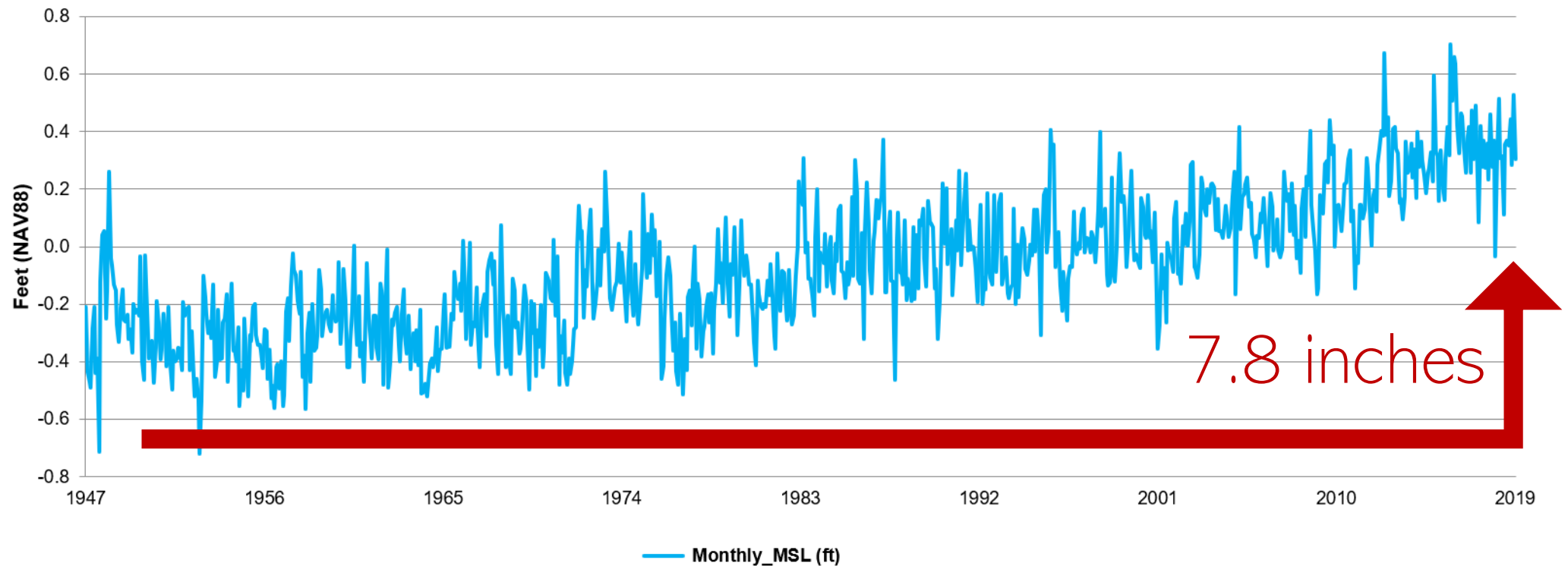
To provide scientific support to local governments planning for a changing climate.



Source: https://drive.google.com/file/d/1c_KTSJ4TgVX9IugnyDadr2Hc0gjAuQg2/view?usp=drivesdk

1. Sea Levels Are Already Rising

Monthly Mean Sea Level MSL (ft)
St. Petersburg, Florida



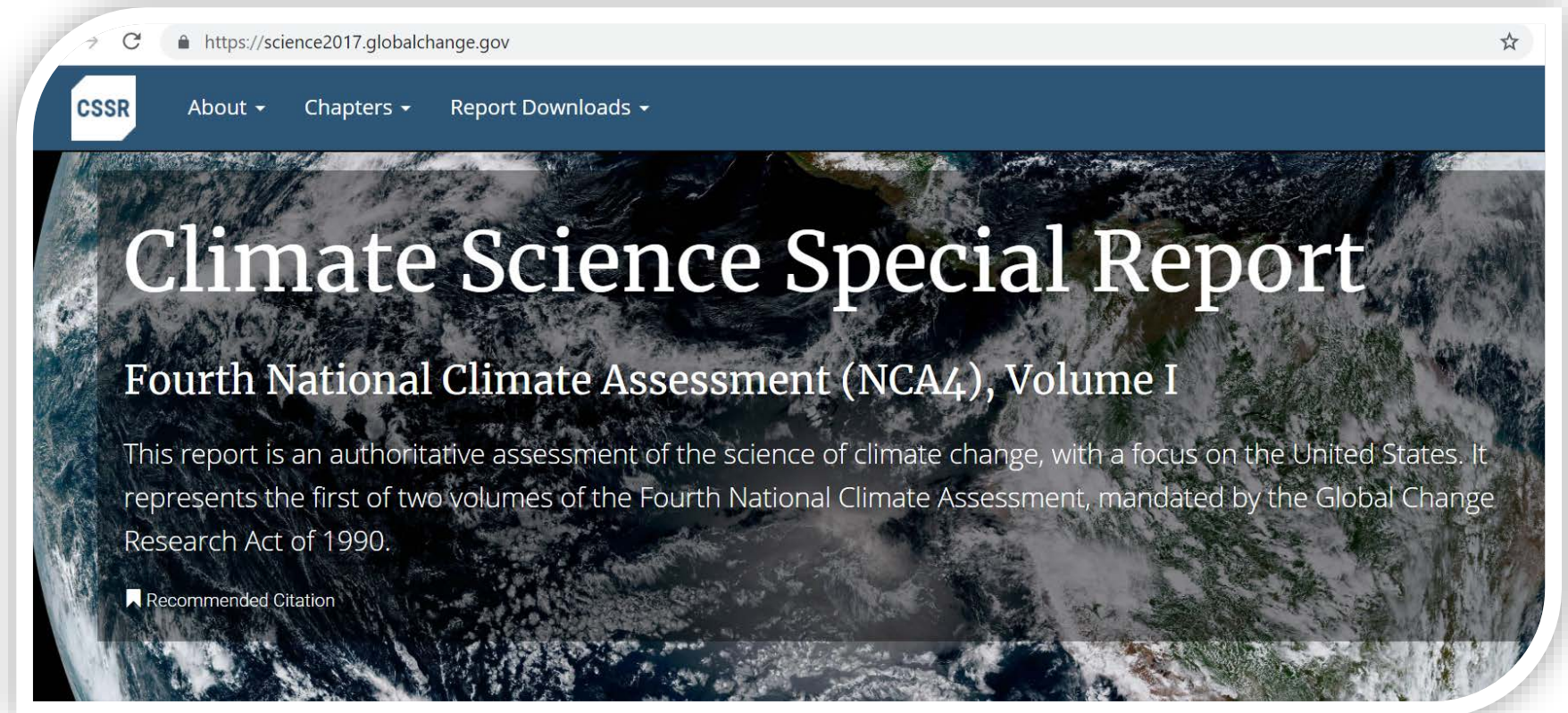
Source: https://tidesandcurrents.noaa.gov/sltrends/sltrends_station.shtml?id=8726520

2. Regionally Corrected

- St. Petersburg Gauge
 - Pasco, Pinellas,
Hillsborough (Tampa),
Manatee, Sarasota

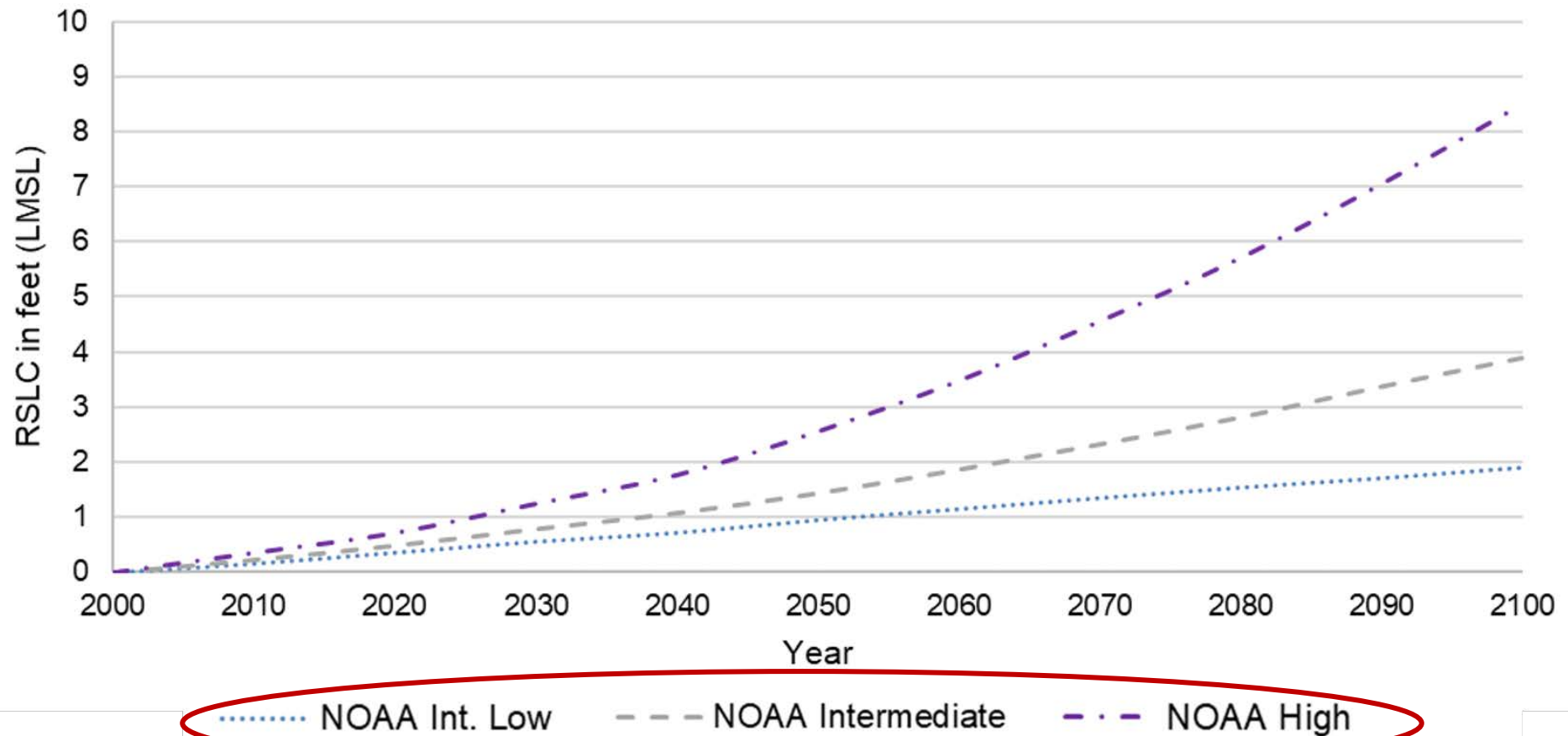


3. Consistent With National Climate Assessment



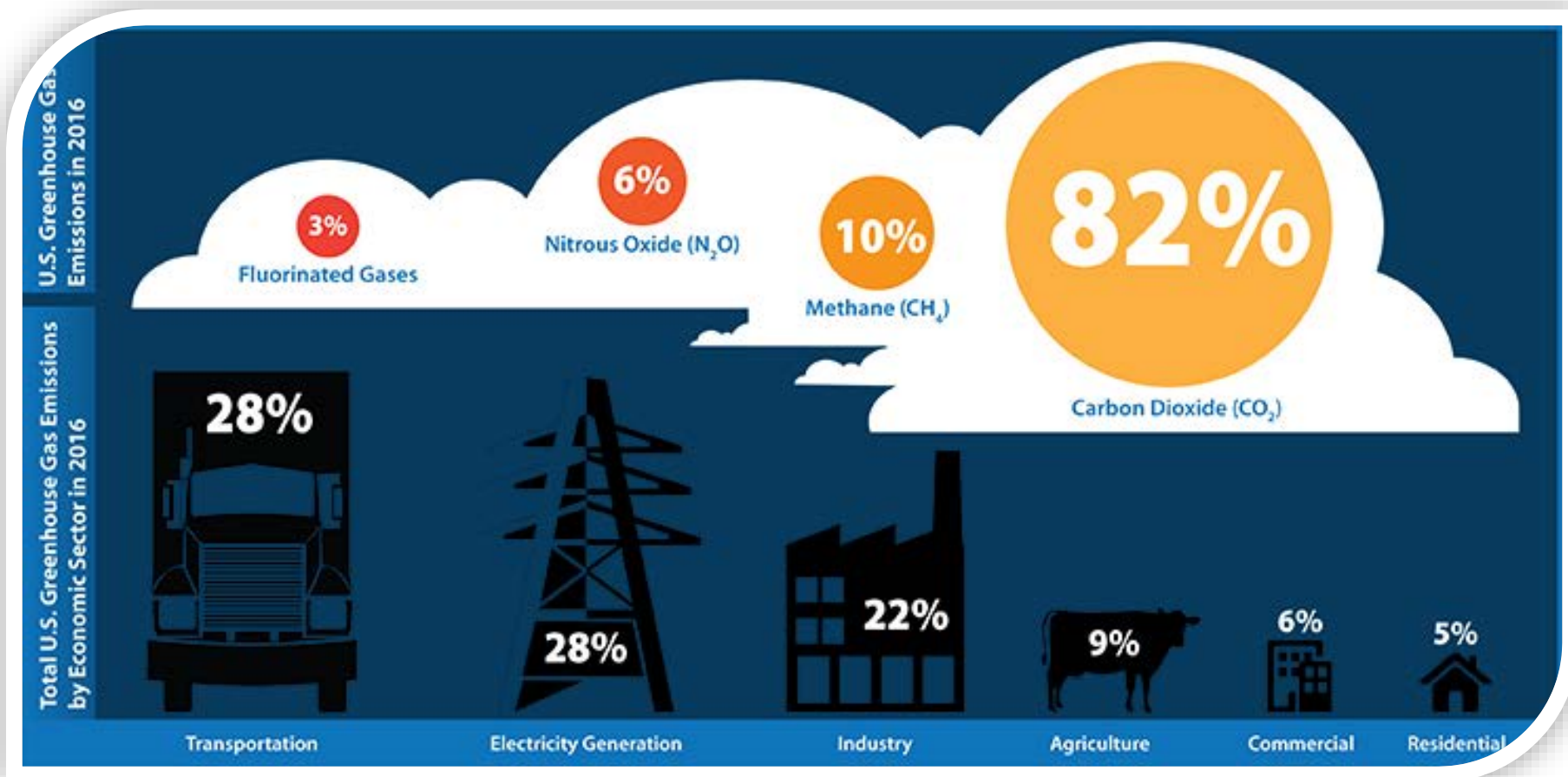
3 Curves Recommended

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

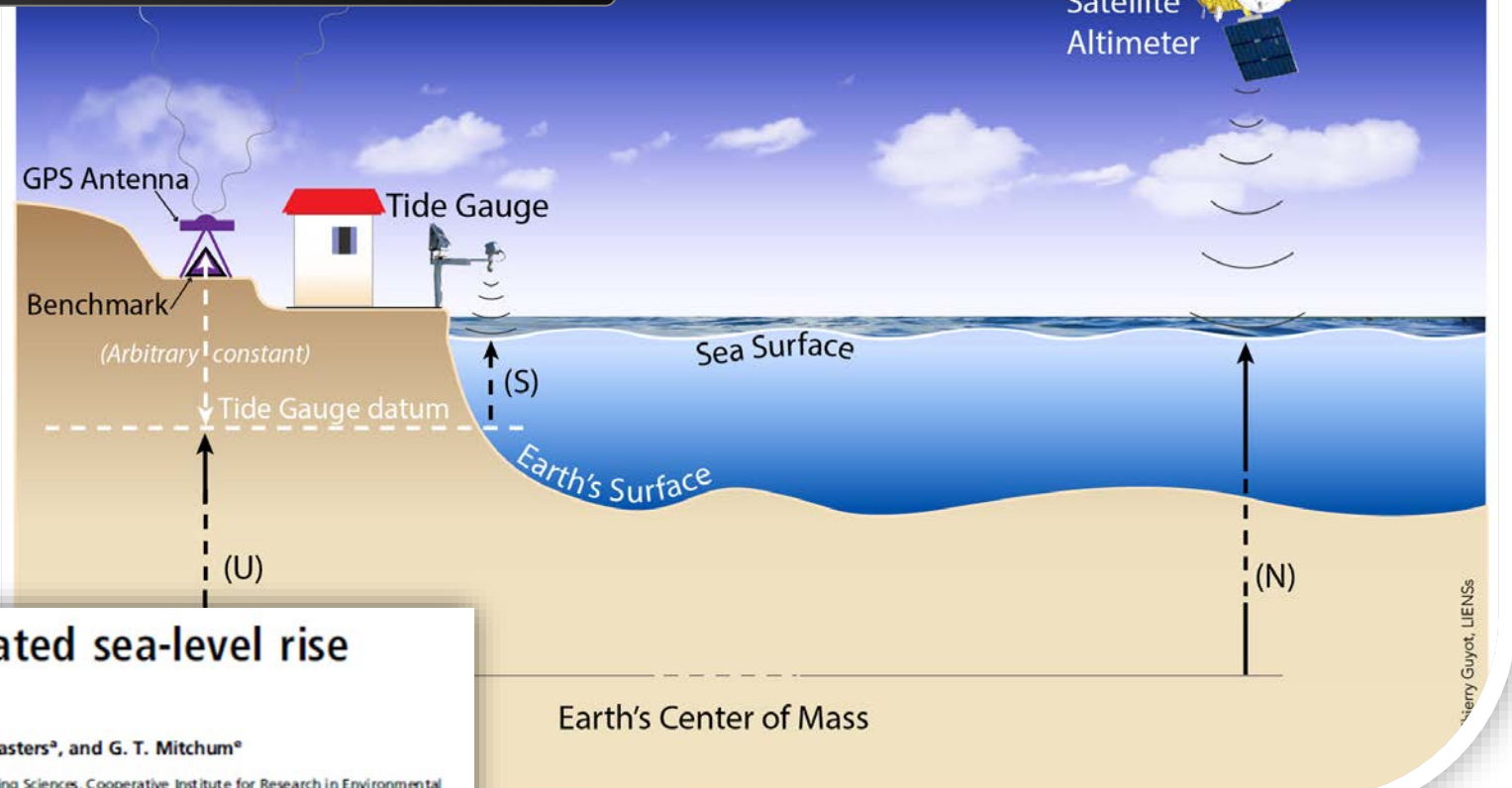


Likelihood Based on “Business As Usual” GHG Emissions

Representative Concentration Pathway (RCP)	Forcing compared to 1750 (Wm^{-2})	Climate policy associated with scenario	CO ₂ Equivalent (ppm)	Projected global average temperature increase from 1986-2005 (°C)
2.6	2.6	Mitigation	475	1.0
4.5	4.5	Stabilization	630	1.8
6.0	6.0	Stabilization	800	2.2
8.5	8.5	None	1313	3.7



Exclude NOAA Low Based on Observed Data



Climate-change-driven accelerated sea-level rise detected in the altimeter era

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Edited by Arny Cazenave, Centre National d'Etudes Spatiales, Toulouse, France, and approved January 9, 2018 (received for review October 2, 2017)

Updated Projections are 1 to 1.5 Feet Higher

Original Recommendation

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

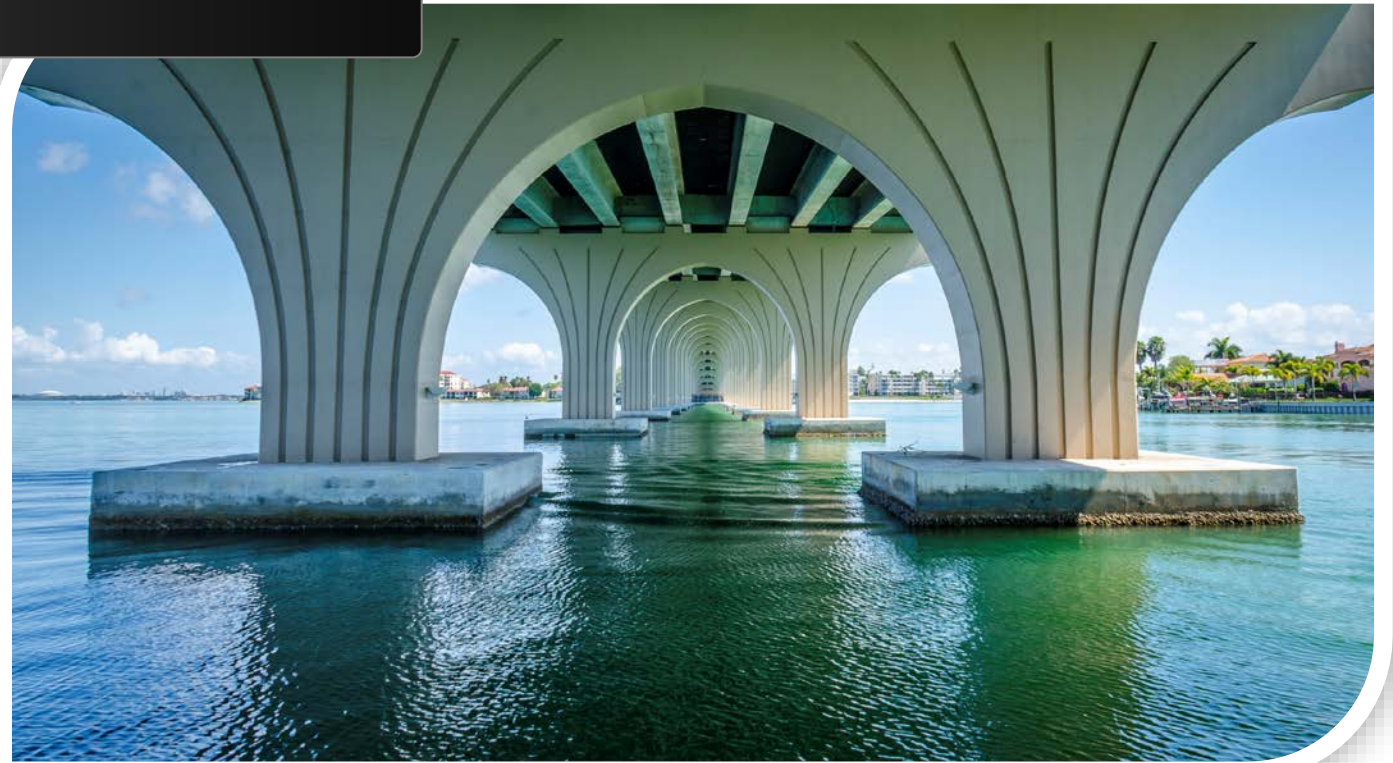
Updated Recommendation

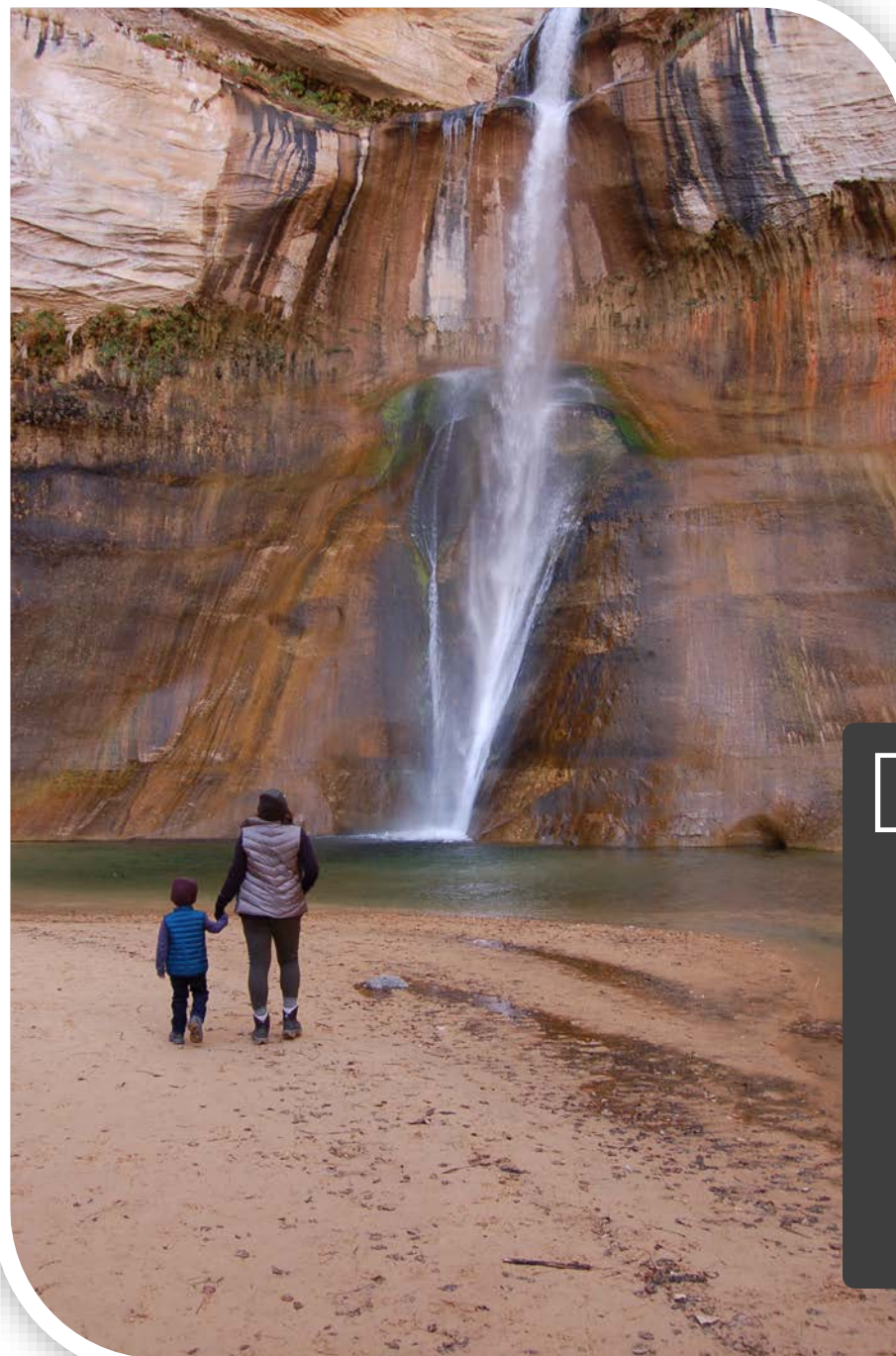
Year	NOAA Int-Low (feet)	NOAA Intermediate (feet)	NOAA High (feet)
2000 ³	0	0	0
2030	0.56	0.79	1.25
2040	0.72	1.08	1.77
2050	0.95	1.44	2.56
2060	1.15	1.87	3.48
2070	1.35	2.33	4.56
2080	1.54	2.82	5.71
2090	1.71	3.38	7.05
2100	1.90	3.90	8.50

Table 1. Sea Level Change Relative to the Year 2000 for St. Petersburg, Florida in Feet Above Local Mean Sea Level (LMSL)

4. Scenario-Based Adaptation Approach

- Location
- Project Life Cycle
- Risk Tolerance
- Cost
- Criticality of Function





Discussion?

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