

ADMINISTRATIVE MEMORANDUM NO. 20 - 153

TO: Planning and Zoning Board
VIA: David L. Recor, ICMA-CM, Director of Development Services
VIA: Jennifer Gomez, AICP, Assistant Development Services Director *JG*
FROM: Jean E. Dolan, AICP, CFM, Principal Planner *JED*
SUBJECT: 2019 Sea Level Rise Projection Update
DATE: June 11, 2020

The Southeast Florida Climate Change Compact has issued the 2019 update to the 2015 sea level rise projections to be adopted for planning purposes (see attached Exhibit A). Adoption of the updated projections is consistent with proposed Comprehensive Plan policies 07B.01.01 (Climate Change Element); Policy 08.08.01 (Stormwater Element) and Policy 11.06.12 (Coastal Zone Management Element).

The comparison of the 2015 and 2019 projections from the sea level rise projection guidance document is shown below. Sea level rise projections have increased for every time frame and with every methodology. Projections for 2030 are up by 2 inches and increases for 2060 range from 3 inches to 7 inches higher than projected in 2015.

TABLE 2: Comparison of Unified Projection in 2015 and 2019 at Key West

UNIFIED SEA LEVEL RISE PROJECTION COMPARISON						
Year	High Adaptability		←————→		Low Adaptability	
	2015	2019	2015	2019	2015	2019
	IPCC Median Global (inches)	IPCC Median Regional (inches)	USACE High (inches)	NOAA Intermediate High (inches)	NOAA High (inches)	NOAA High (inches)
2030	6	8	10	12	12	14
2060	14	17	26	31	34	41
2100	31	33	61	74	81	103

In the short term, sea level rise is projected to be 10 to 17 inches by 2040 and 21 to 54 inches by 2070 (above the 2000 mean sea level in Key West, Florida).

The 2019 Unified Sea Level Rise Projection includes three curves for application, in descending order, the NOAA High Curve, the NOAA Intermediate High Curve, and the curve corresponding to the median of the Intergovernmental Panel on Climate Change (IPCC) AR5 RCP 8.5 scenario. A fourth curve, the NOAA Extreme curve, is included for informational purposes, not for application, illustrating the possible upper limit of sea level rise in response to potential massive ice sheet collapse in the latter part of the century. This

curve underscores that without imminent and substantial reductions in greenhouse gas emissions, much greater sea level rise is possible more than 100 years from now.

The SLR projection guidance document describes the recommended application of the projection as it relates to both high-and low-risk projects and short- and long-term planning efforts.

Staff Recommendation:

Staff recommends the following motion:

Consistent with the policies proposed in the updated Comprehensive Plan, the Planning and Zoning Board recommends the City Commission adopt the 2019 sea level rise projections presented by the Southeast Florida Climate Change Compact for future planning purposes.

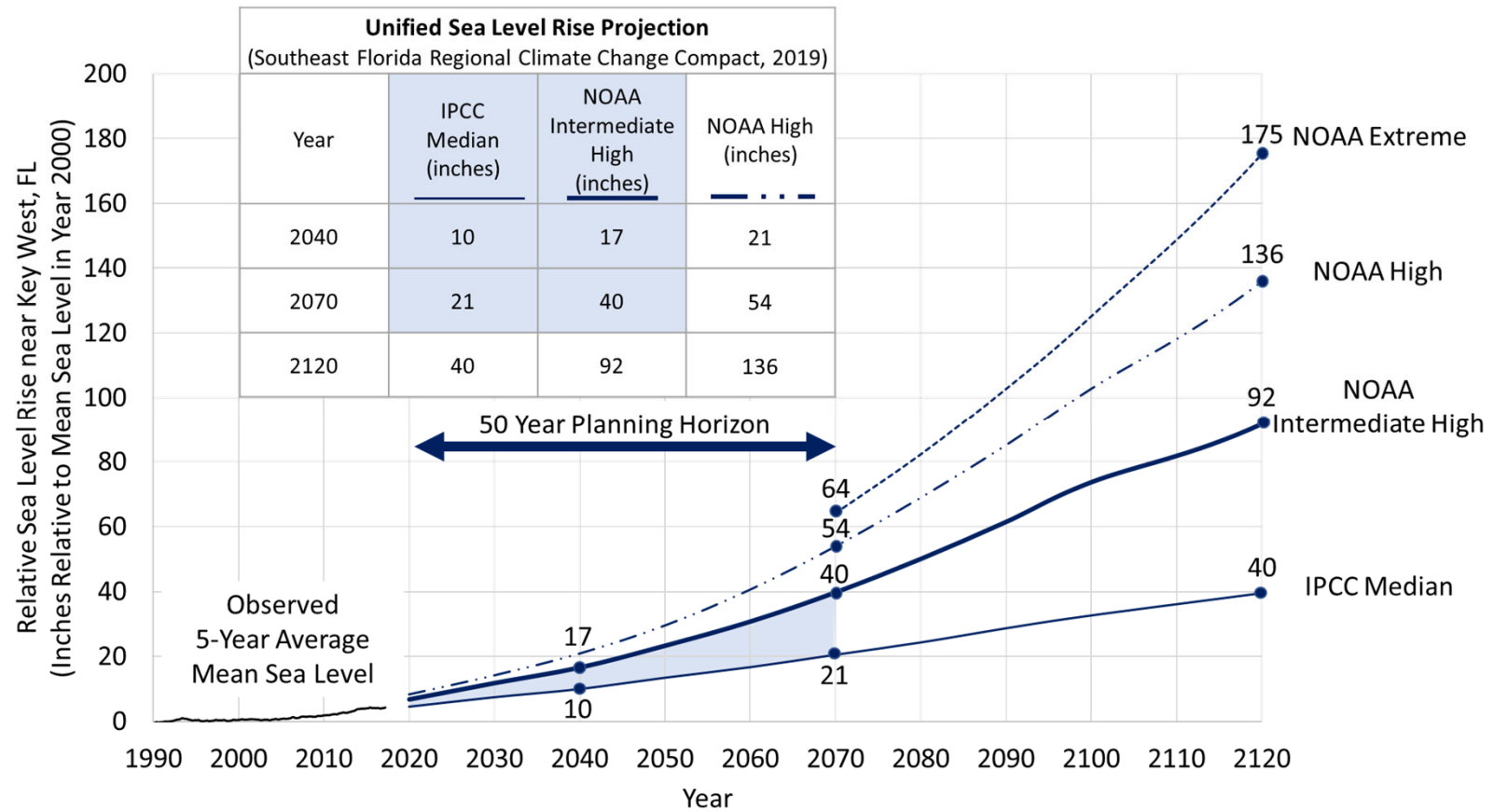


Figure 1: Unified Sea Level Rise Projection. These projections start from zero in year 2000 and are referenced to mean sea level at the Key West tide gauge. Based on the 5 year average of mean sea level, approximately 3.9 inches of sea level rise has occurred from 2000 to 2017 (see historic sea level section of guidance document). The projection includes global curves adapted for regional application: the median of the IPCC AR5 RCP8.5 scenario (Growing Emissions Scenario) as the lowest boundary (solid thin curve), the NOAA Intermediate High curve as the upper boundary for short term use until 2070 (solid thick line), the NOAA High curve as the upper boundary for medium and long term use (dash dot curve). The shaded zone between the IPCC AR5 RCP8.5 median curve and the NOAA Intermediate High is recommended to be generally applied to most projects within a short-term planning horizon. Beyond 2070, the adaptability, interdependencies and costs of the infrastructure should be weighed to select a projection value between the IPCC Median and the NOAA High curves. The NOAA Extreme curve (dash curve) brackets the published upper range of possible sea level rise under an accelerated ice melt scenario. Emissions reductions could reduce the rate of sea level rise significantly.