January 8, 2024

St. George Community Resilience Committee Presentation

to the

Select Board

Interim Status Report

1. The Maine Climate Council Sea Level Rise Recommendations.

2. Several State, Town and Private roads around town are vulnerable to flooding from Sea Level Rise.

3. The Resiliency Committee Recommendations.

1. The Maine Climate Council Recommendations

from Maine Climate Council Scientific and Technical Subcommittee report

https://www.maine.gov/future/sites/maine.gov.future/files/inline-files/GOPIF_STS_REPORT_092320.pdf

The committee recommends, p.11, etc.:

- Commit to manage for an intermediate Sea Level Rise (SLR) scenario of 1.5 feet by 2050 and 3.9 feet by 2100 - these are most-likely estimates for "intermediate" greenhouse gas emission scenario (50% chance they will be higher or lower).
- Prepare to manage for a high SLR scenario of 3.0 feet by 2050 and 8.8 feet by 2100, depending on the risk tolerance of different kinds of infrastructure.

LD 1572, signed by the Governor 6/15/2021, called on State Agencies - DoT, EMA, DMR, etc - to implement these recommendations.

From the report, p.83

On Sea Level Rise

Year	Central Estimate 50% Probability SLR meets or exceeds	Likely Range 67% Probability SLR is between
2030	0.8	0.6-1.0
2050	1.5	1.1-1.8
2070	2.4	1.8-2.8
2100	3.9	3.0-4.6

Table 7a. Relative sea level rise values (in feet, starting in 2000) based on the intermediate sea level rise scenario from Sweet et al. (2017) averaged for Portland, Bar Harbor, and Eastport. Values have been rounded to tenths of a foot. Presented are the central estimates and likely range values for State of Maine commitment to adaptation planning.

From the report, p.85

On Storm Surges

Recurrence Interval	% Annual Chance	Storm Surge (feet)		
		Portland	Bar Harbor	Eastport
1	100%	2.0	1.8	2.0
5	20%	2.9	2.8	2.9
10	10%	3.3	3.3	3.3
25	4%	3.9	3.9	3.9
50	2%	4.3	4.3	4.3
100	1%	4.7	4.7	4.7

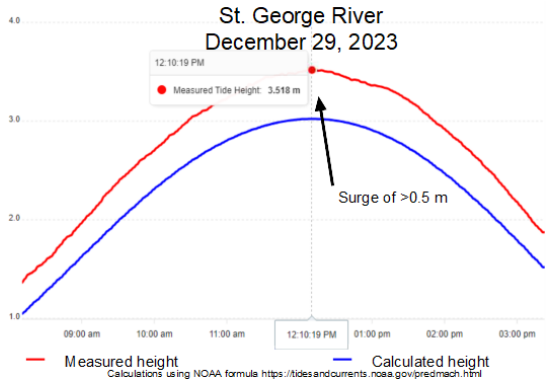
Table 8. Calculated recurrence intervals in years for storm surges at Portland, Bar Harbor, and Eastport based on best-fit equations and annualized surge data. Data through December 31, 2019 from NOAA CO-OPs.

Surges occur regularly

e.g. 12/29/23 high tide on the river at the Narrows was more than 1'6" higher than calculated by the NOAA tide model.

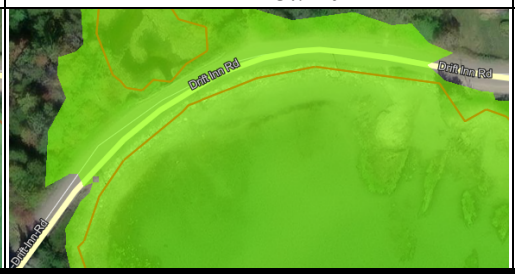
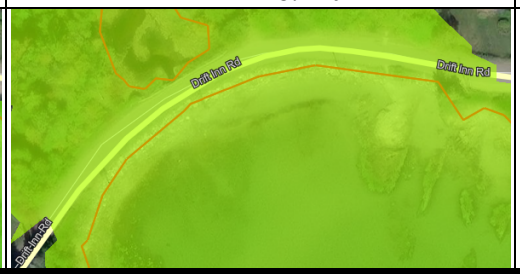
Similar data measured at Portland

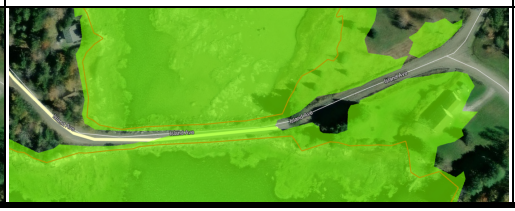
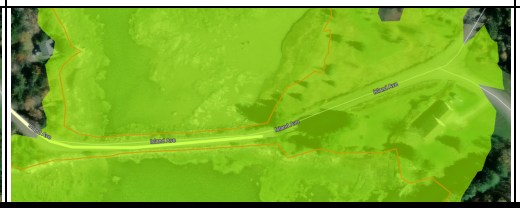
http://tinyurl.com/tide-surge



2. Examples of Roads around Town Vulnerable to Flooding

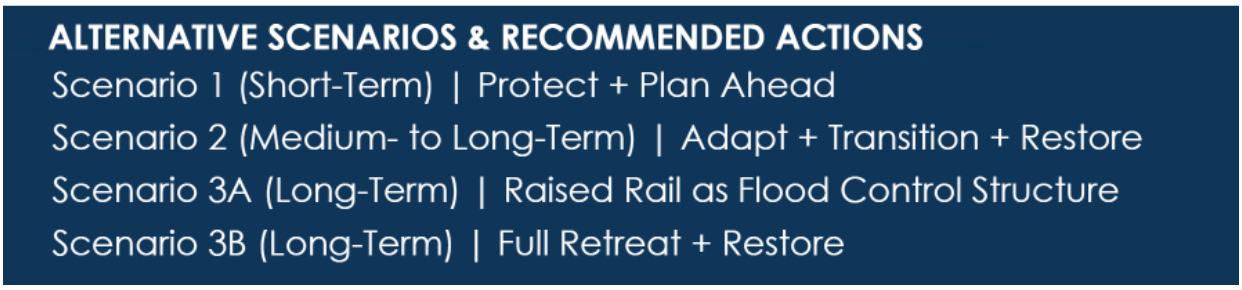
State: Route 131 at Martinsville Mill Pond					
HAT + 1.6 ft	HAT + 3.9 ft	HAT + 6.1 ft	Vuln'	Impact	Cost
			5	5	5

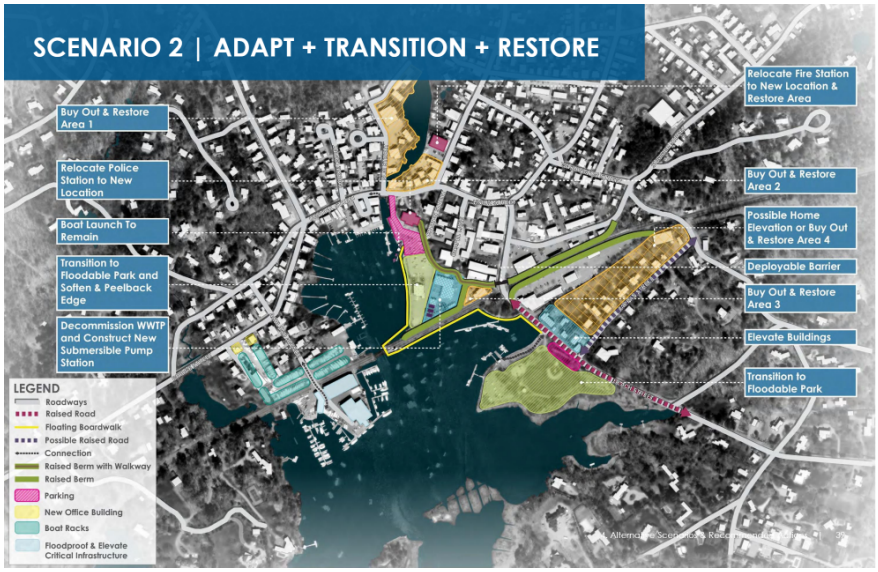
Town: Drift Inn Beach Road					
HAT + 1.6 ft	HAT + 3.9 ft	HAT + 6.1 ft	Vuln'	Impact	Cost
			4	1	4

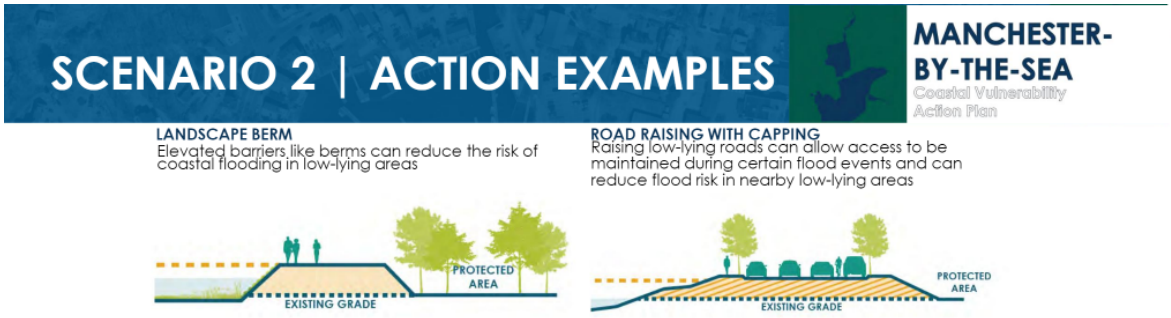
Town: Rackliff Island Causeway					
HAT + 1.6 ft	HAT + 3.9 ft	HAT + 6.1 ft	Vuln'	Impact	Cost
			4	5	5

3 St. George Coastal Vulnerability Action Plan for Coastal Resilience

- The Town needs a phased approach for identifying and responding to resiliency issues.
- Plans by towns like Manchester-by-the-Sea exemplify good practice that generate alternative scenarios and recommendations, for example Fuss & O'Neill's "Coastal Vulnerability Action Plan for Manchester-by-the-Sea"







Interim Status Report - Summary

1. The Maine Climate Council Recommendations:

1.1. The State should commit to manage for an intermediate Sea Level Rise (SLR) scenario of 1.5 feet by 2050 and 3.9 feet by 2100 - these are most-likely estimates for "intermediate" Greenhouse Gas emission scenario (50% chance they will be higher or lower). State Agencies - DoT, EMA, DMR, etc - have been charged to implement these recommendations.

1.2. Prepare to manage for a high SLR scenario of 3.0 feet by 2050 and 8.8 feet by 2100, depending on the risk tolerance of different kinds of infrastructure.

2. Several roads around town are vulnerable to flooding from SLR:

2.1. Calculations have been made for Town, State and Private roads using the bathtub model, developed by Knox County EMA and based on Maine Geological Survey elevation data.

2.2. Storm Surges, especially when coincident with high tides, will increase the severity of these vulnerabilities.

2.3. If we do nothing, this "nuisance flooding" will only become more frequent and more expensive to repair.

3. The Resiliency Committee Recommendations:

3.1. The Town tells the State our concerns for the Rt 131 vulnerabilites.

3.2. The Town monitors the vulnerable town roads during extreme tide & weather events for the next two years, to gather more data.

3.3. The Town encourages people to study the map of vulnerable areas <http://tinyurl.com/stg-slr >

3.4. The Town's past budget contributions to the Energy Efficiency Reserve for the Transfer Station Solar Panels henceforth go to the Community Resilience Reserve.

3.5. The Town identifies funding so that it can engage Fuss & O'Neill to generate a Vulnerability Action Plan.