

Sea Level Rise

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Agenda

- Definition of Sea Level Rise
- Anticipated Impacts on York
 - Sea Level Rise Maps
 - Residual Property/Loss of Real Estate Revenues
 - Roads
- Studies and Actions of Other Governments
- Flood Insurance

What is Sea Level Rise?

“Relative Sea Level Rise” =
+ “Global Sea Level Rise”
+ “Land Subsidence”
+ rise from “Ocean Circulation”

Sea Level Rise

- Global Sea Level Rise
 - increase in quantity and volume of water
 - estimated 6” in 20th century
- Land Subsidence
 - Sinking Land
 - sediment compaction or extraction of subsurface liquids like water or oil.
- [rise from changes in] Ocean Circulation
 - Gulf Stream slowing down, allowing more ocean water remaining in the Mid Atlantic



Anticipated Impacts on York

Current HRPDC Recommendations

1.5 feet	2020-2050	Height above High Tide (MHHW)
3.0 feet	2050-2080	
4.5 feet	2080-2100	

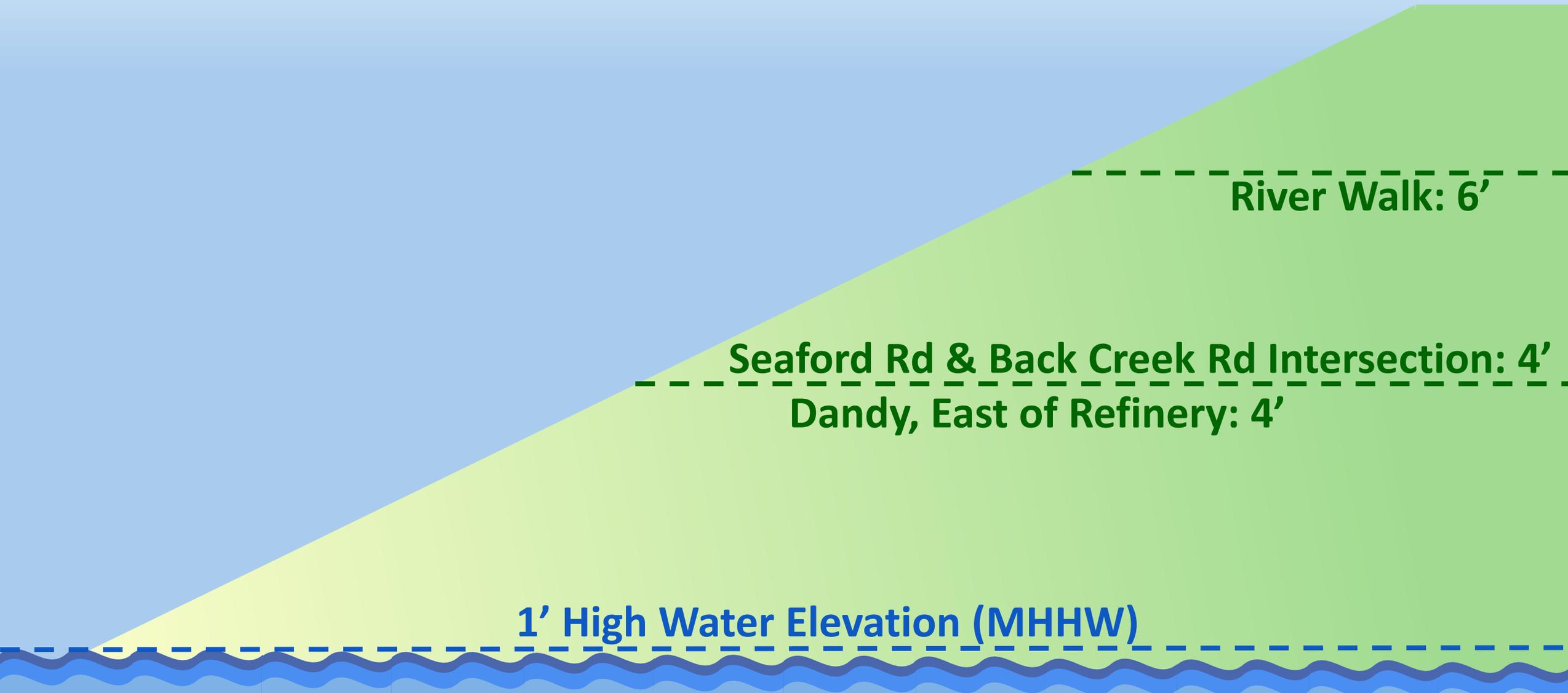
Not
From
HRPDC

6 feet Severe Storm Surge

- 15% multi-year risk of at least one flood exceeding 6 feet from 2016 to 2030,
- 50% risk from 2030 to 2050,
- 100% risk by 2100.

www.ClimateCentral.org

Predicted Sea Level Rises



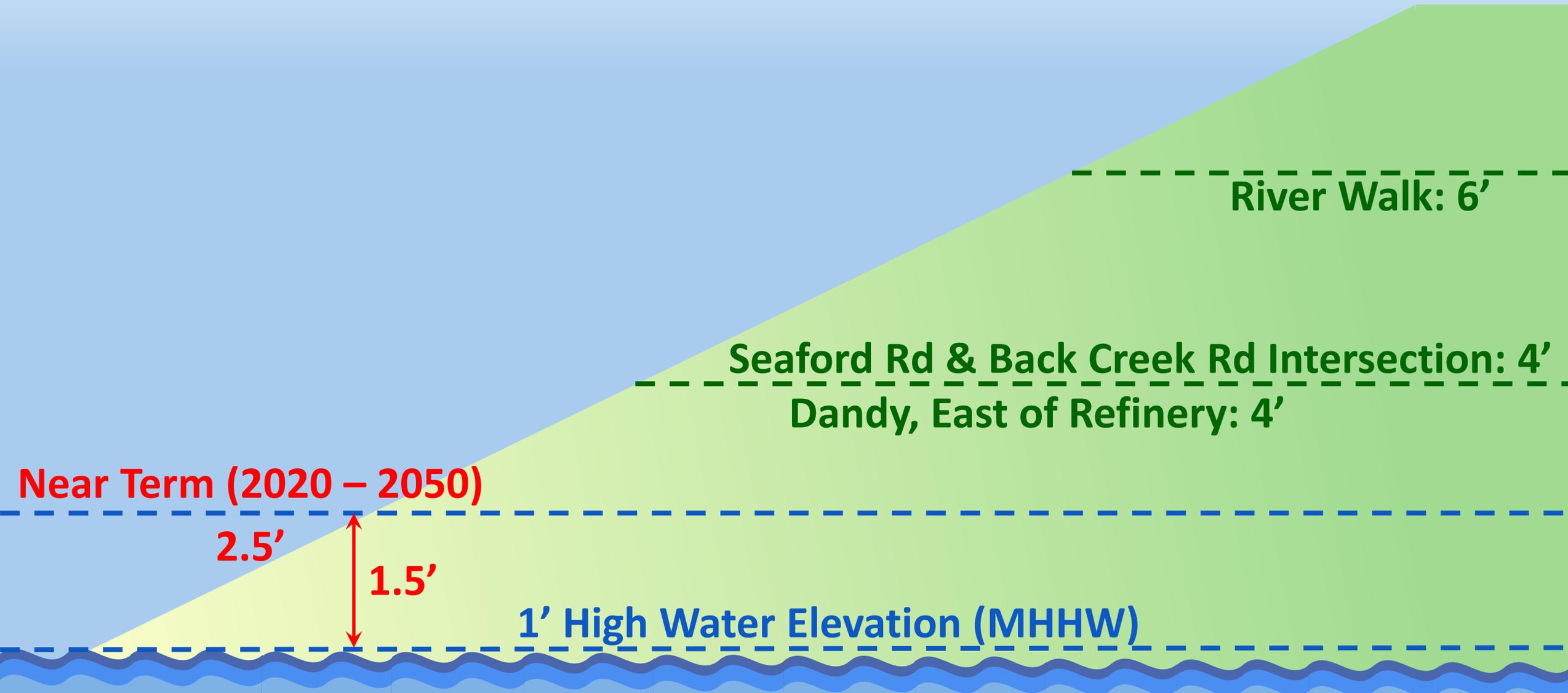
River Walk: 6'

Seaford Rd & Back Creek Rd Intersection: 4'

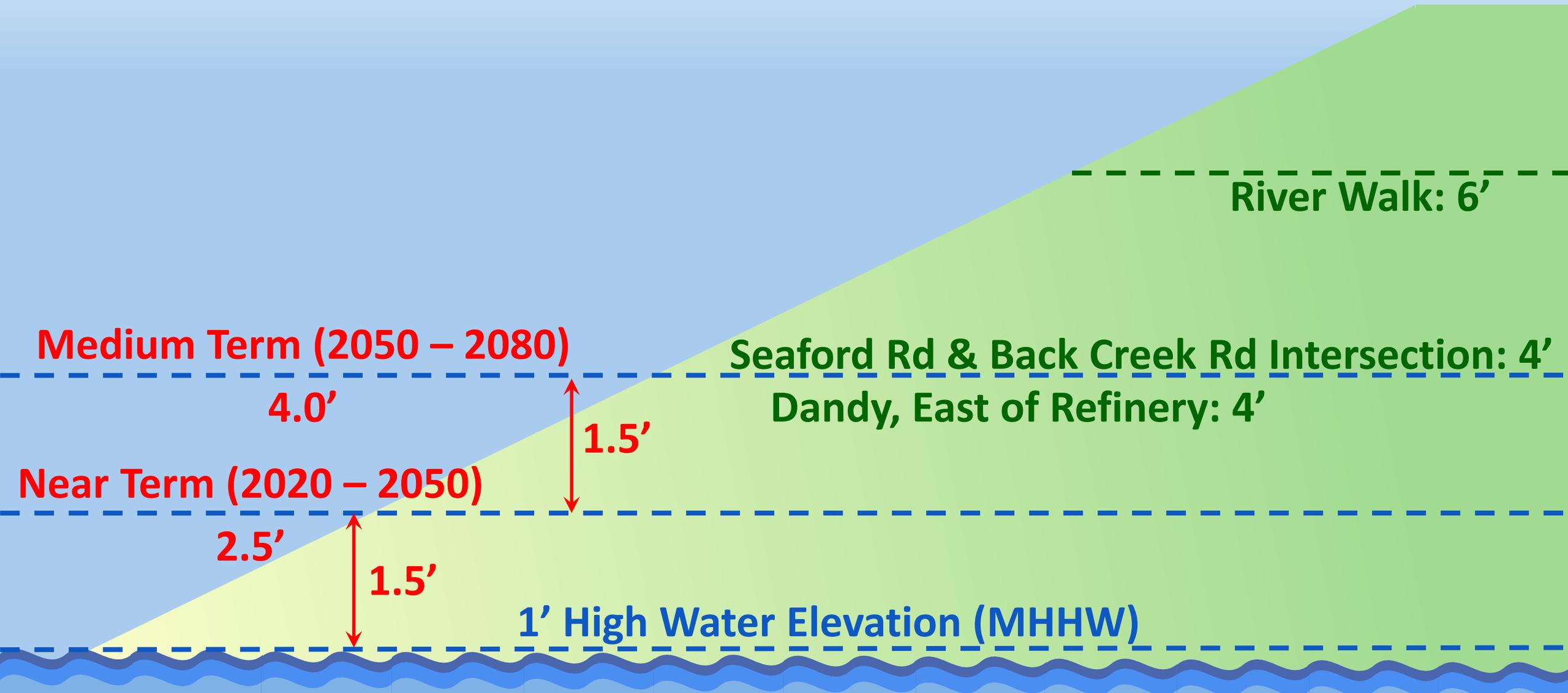
Dandy, East of Refinery: 4'

1' High Water Elevation (MHHW)

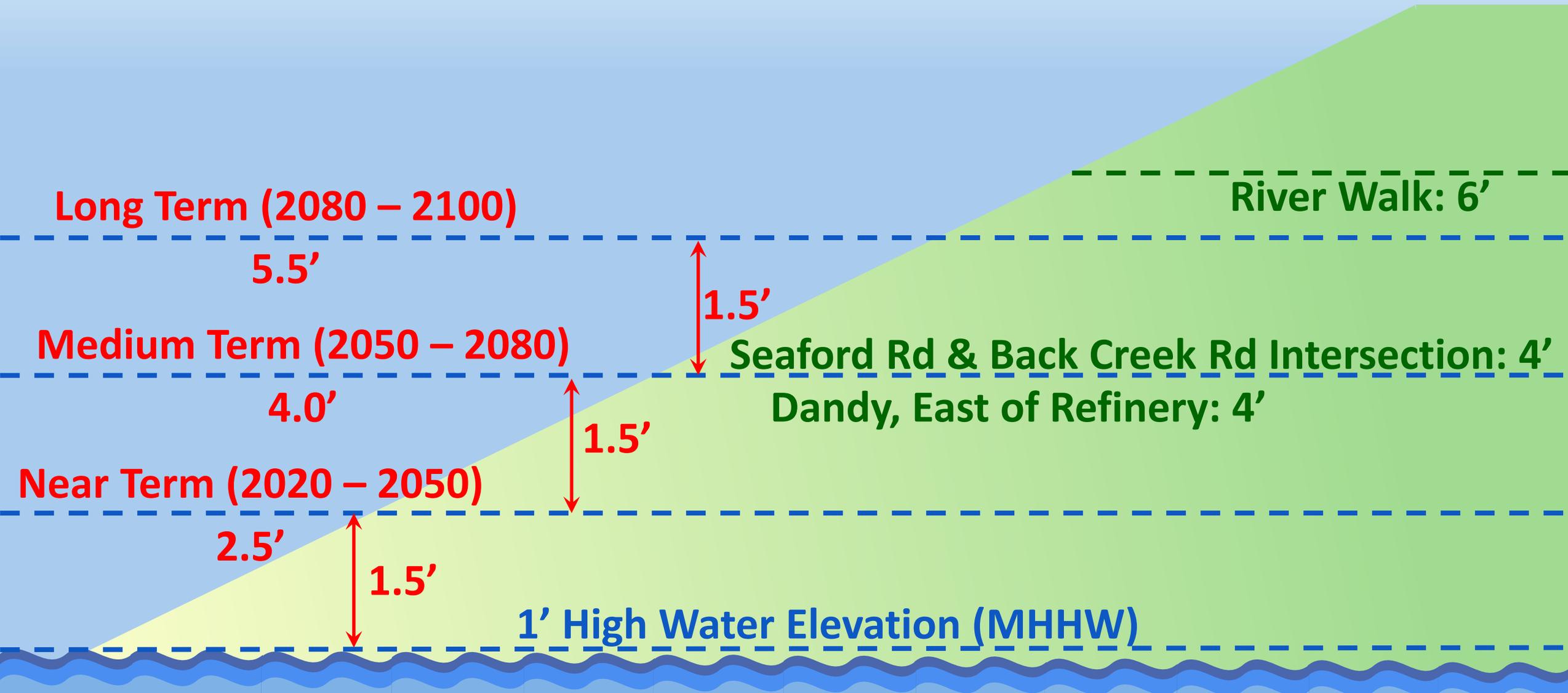
Predicted Sea Level Rises



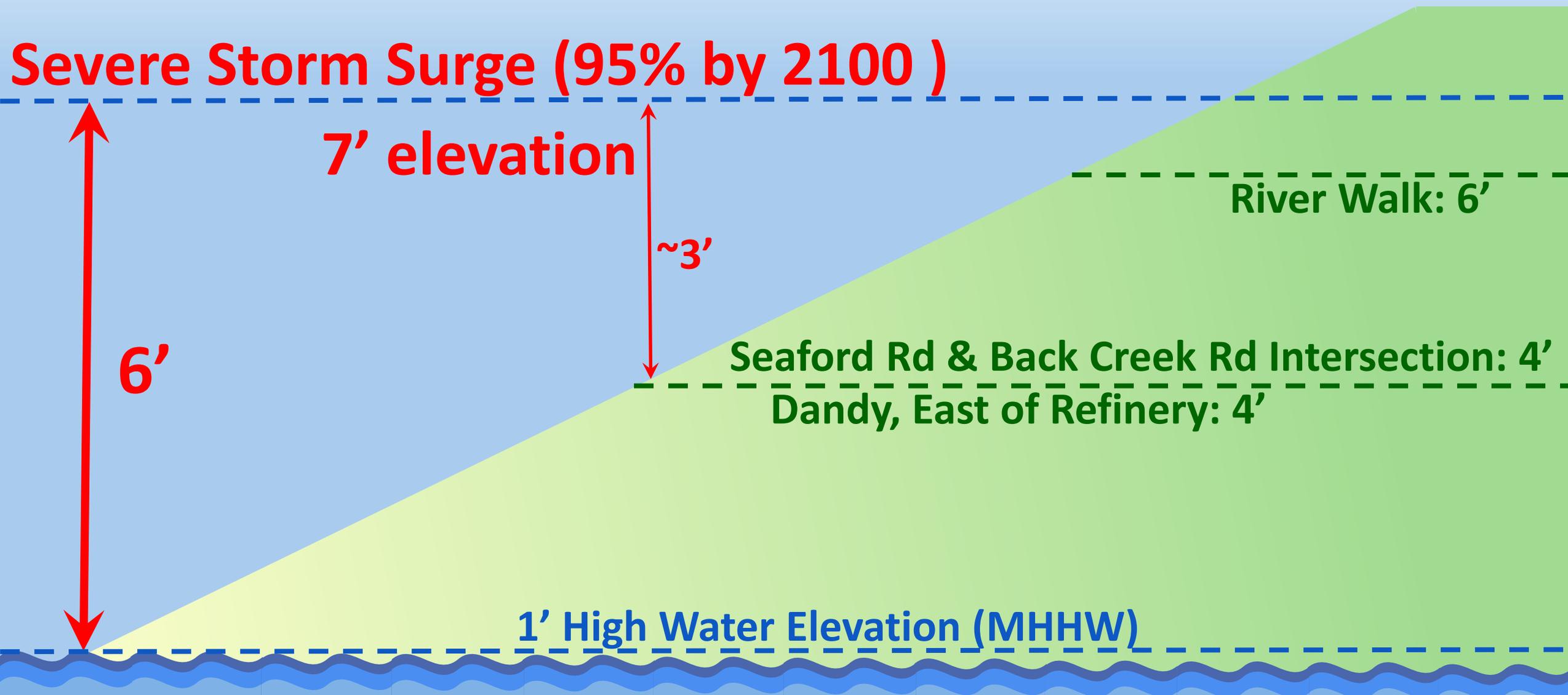
Predicted Sea Level Rises



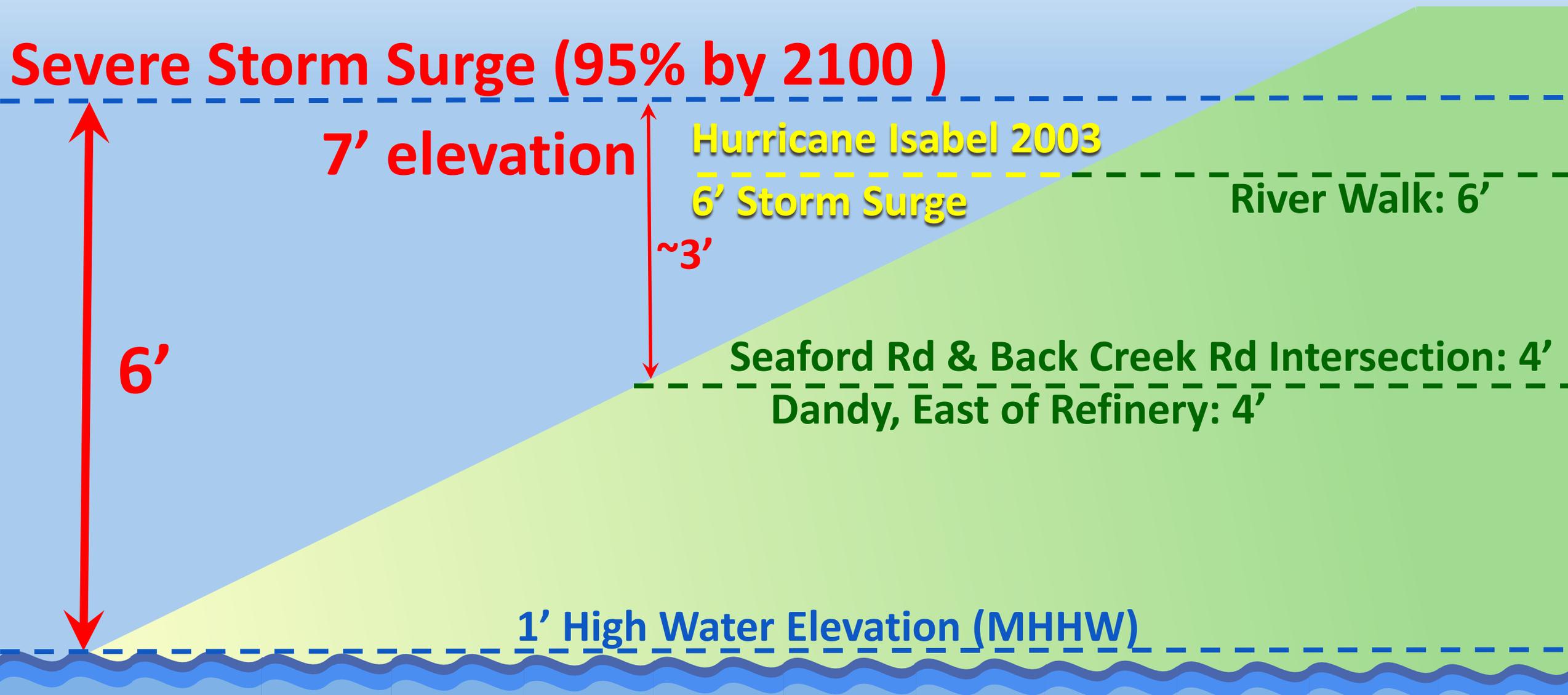
Predicted Sea Level Rises



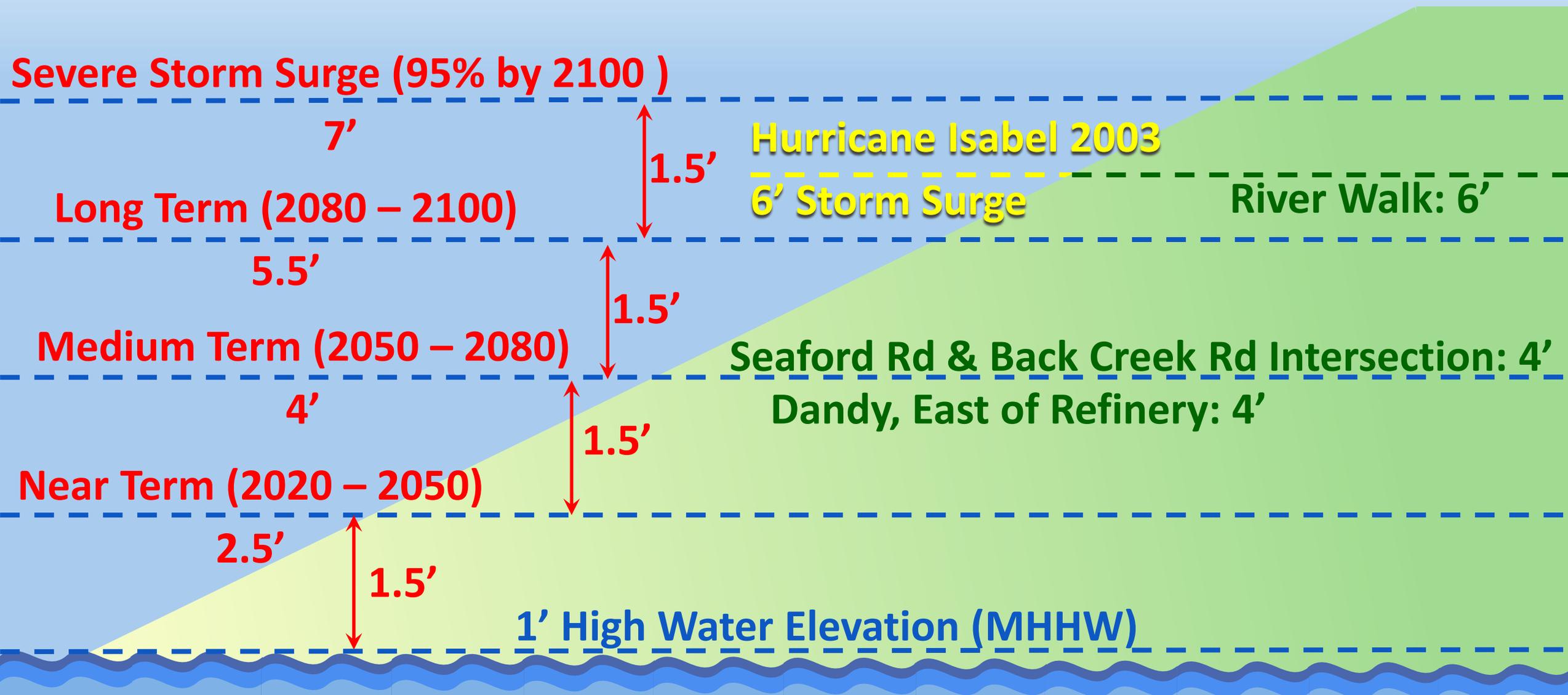
Predicted Storm Surge and Extreme Scenario

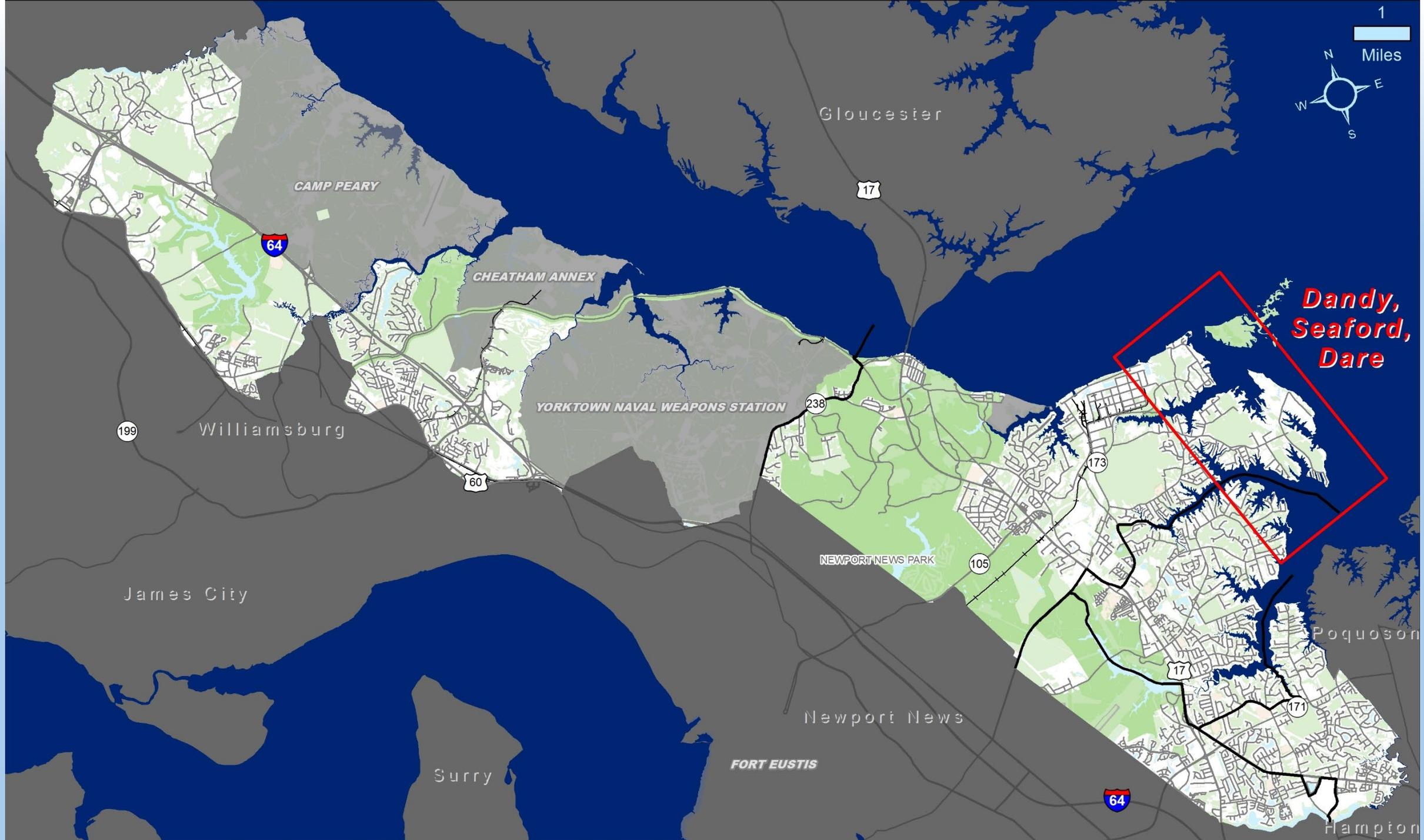


Predicted Storm Surge and Extreme Scenario



Predicted Sea Level Rises & 6' Storm Surge





Gloucester

CAMP PEARY

CHEATHAM ANNEX

YORKTOWN NAVAL WEAPONS STATION

NEWPORT NEWS PARK

**Dandy,
Seaford,
Dare**

Williamsburg

James City

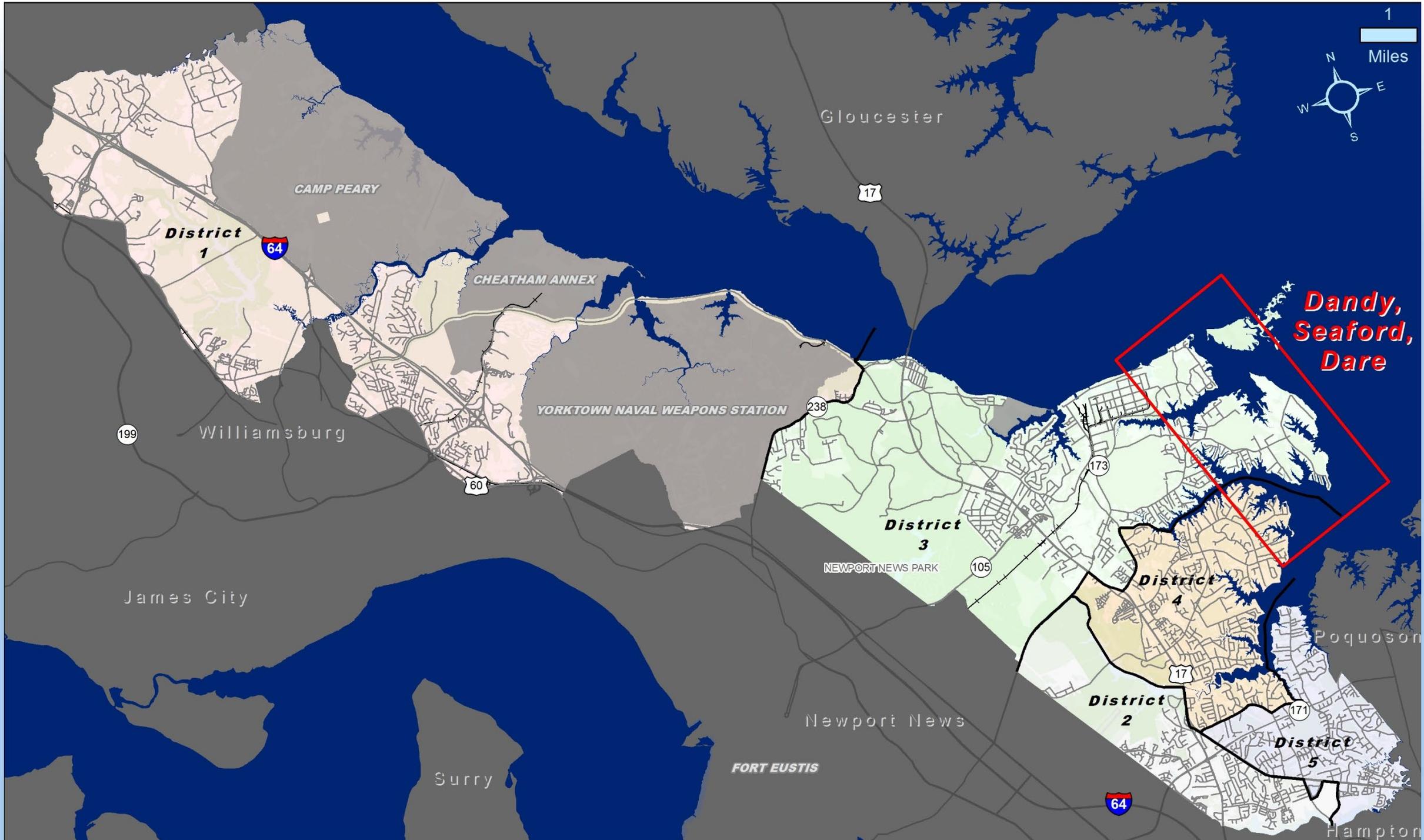
Newport News

Surry

FORT EUSTIS

Poquoson

Hampton

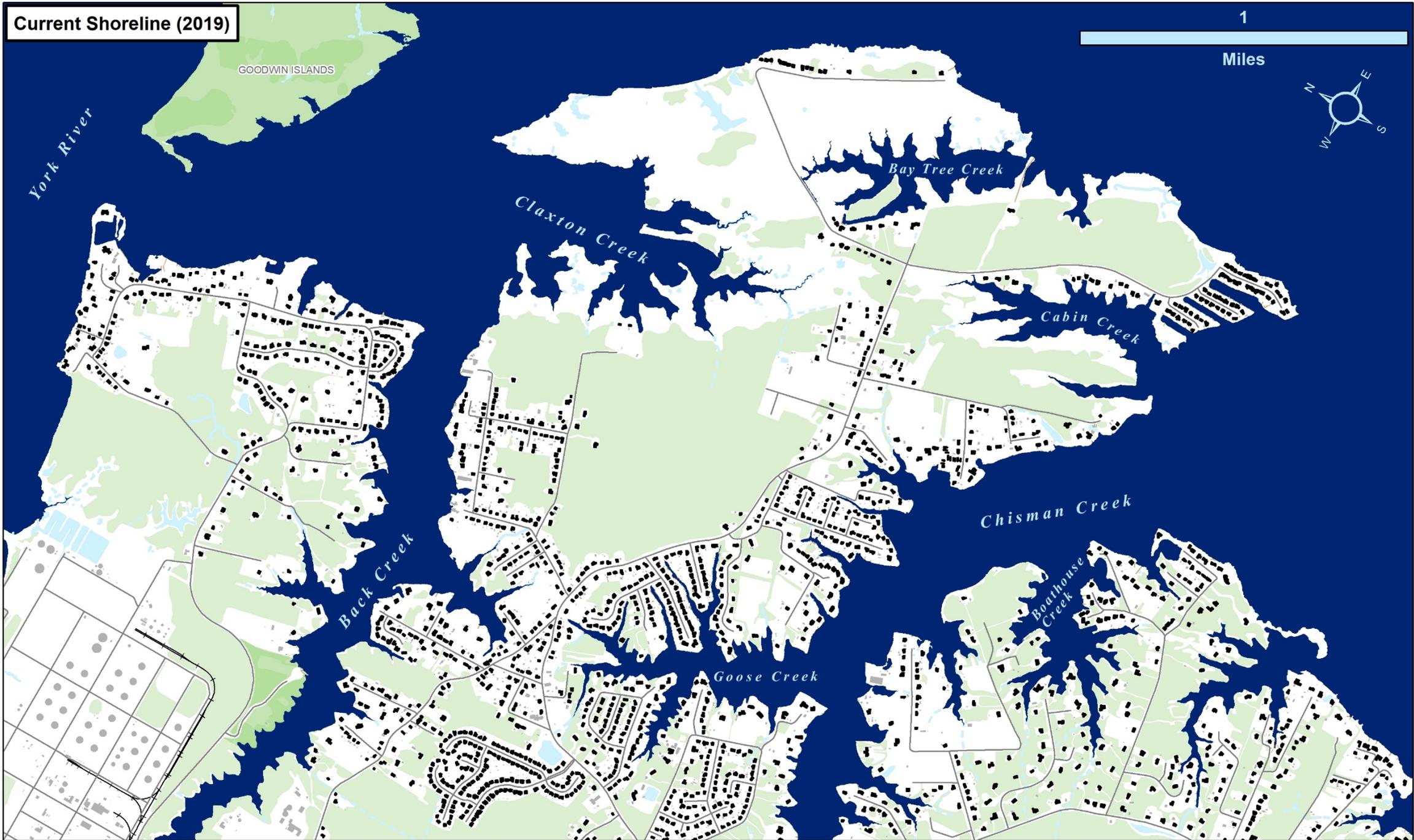


Current Shoreline (2019)

1



Miles



GOODWIN ISLANDS

York River

Bay Tree Creek

Claxton Creek

Cabin Creek

Chisman Creek

Boathouse
Creek

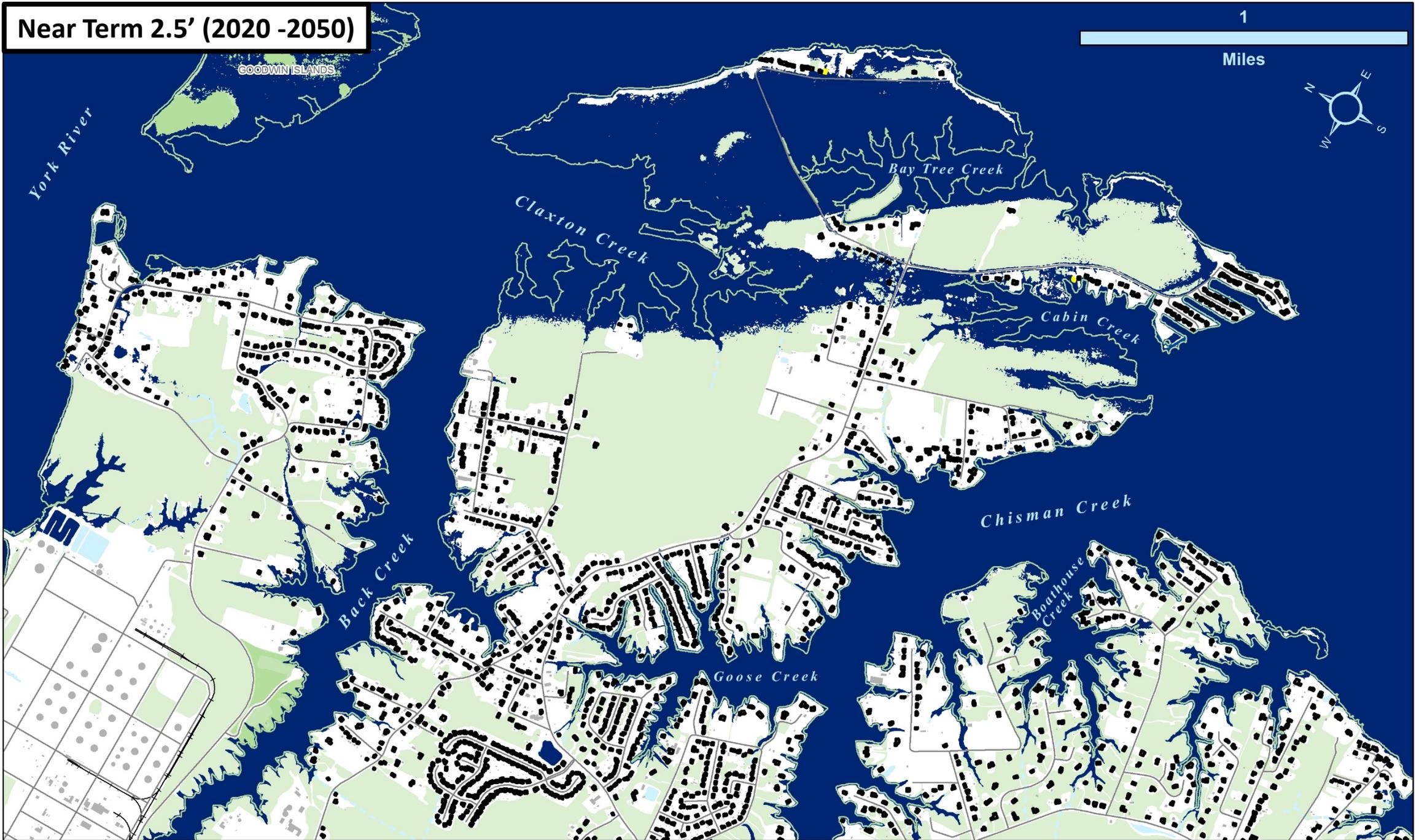
Goose Creek

Back Creek

Near Term 2.5' (2020 -2050)

1

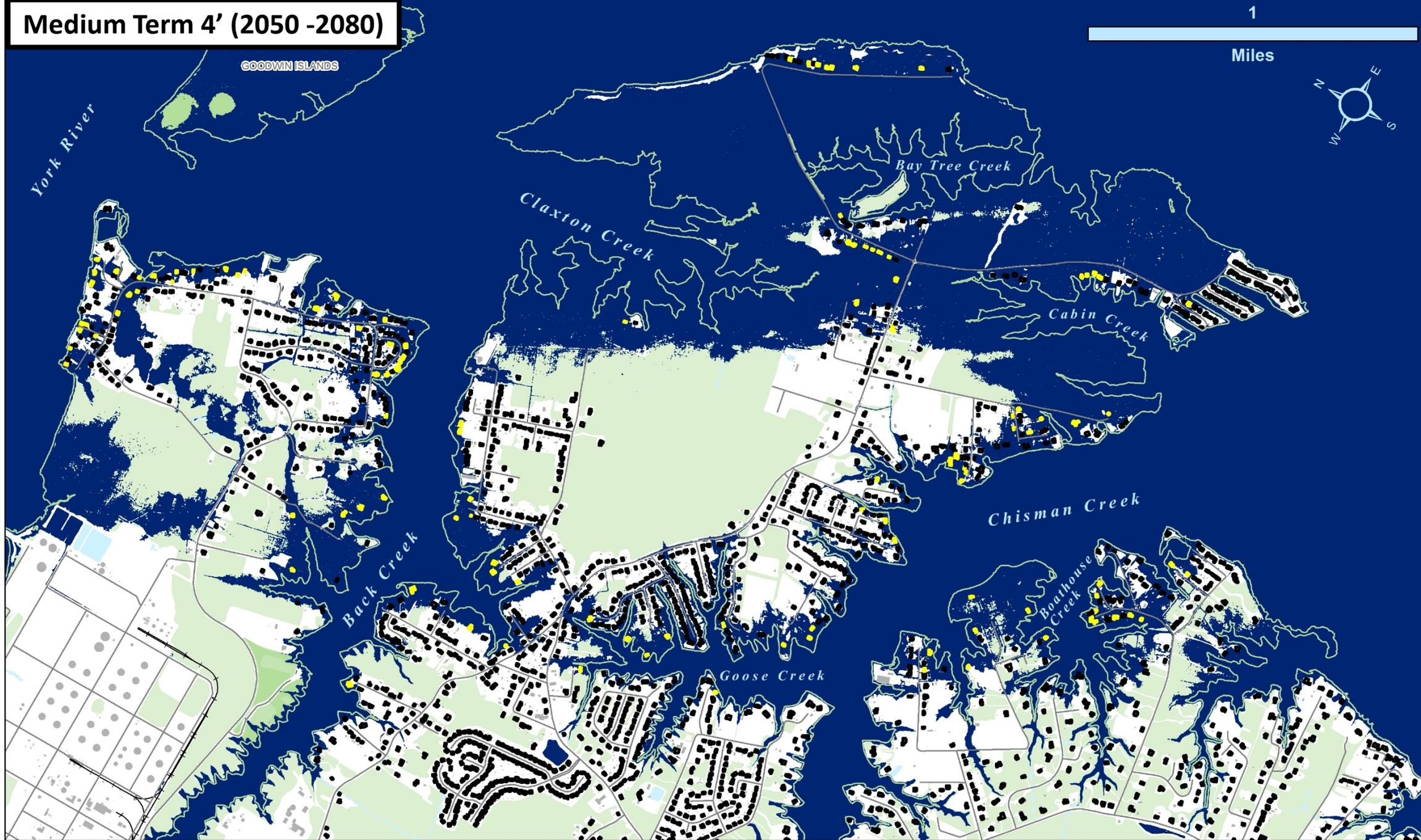
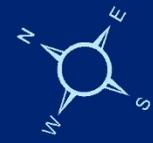
Miles



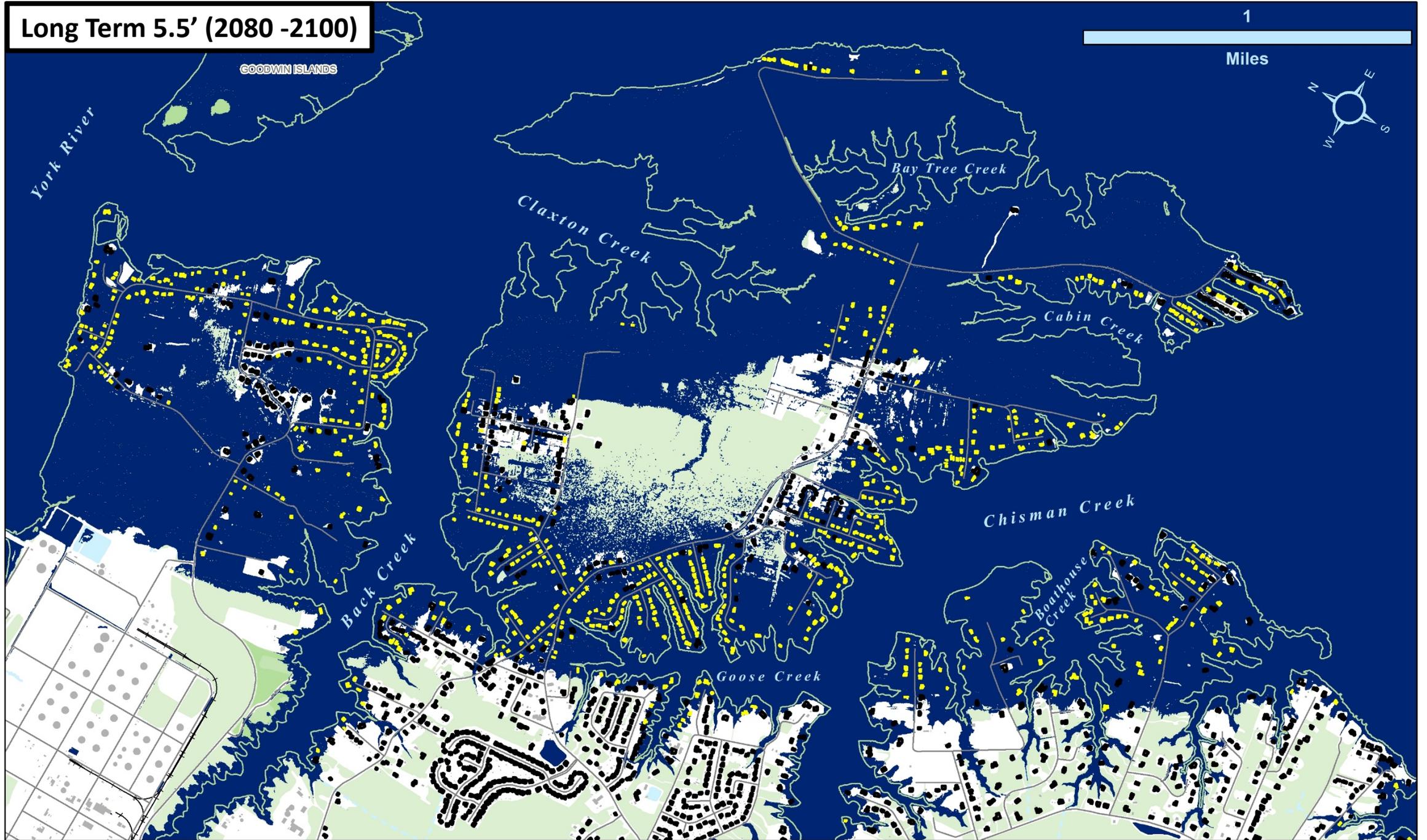
Medium Term 4' (2050 -2080)

1

Miles



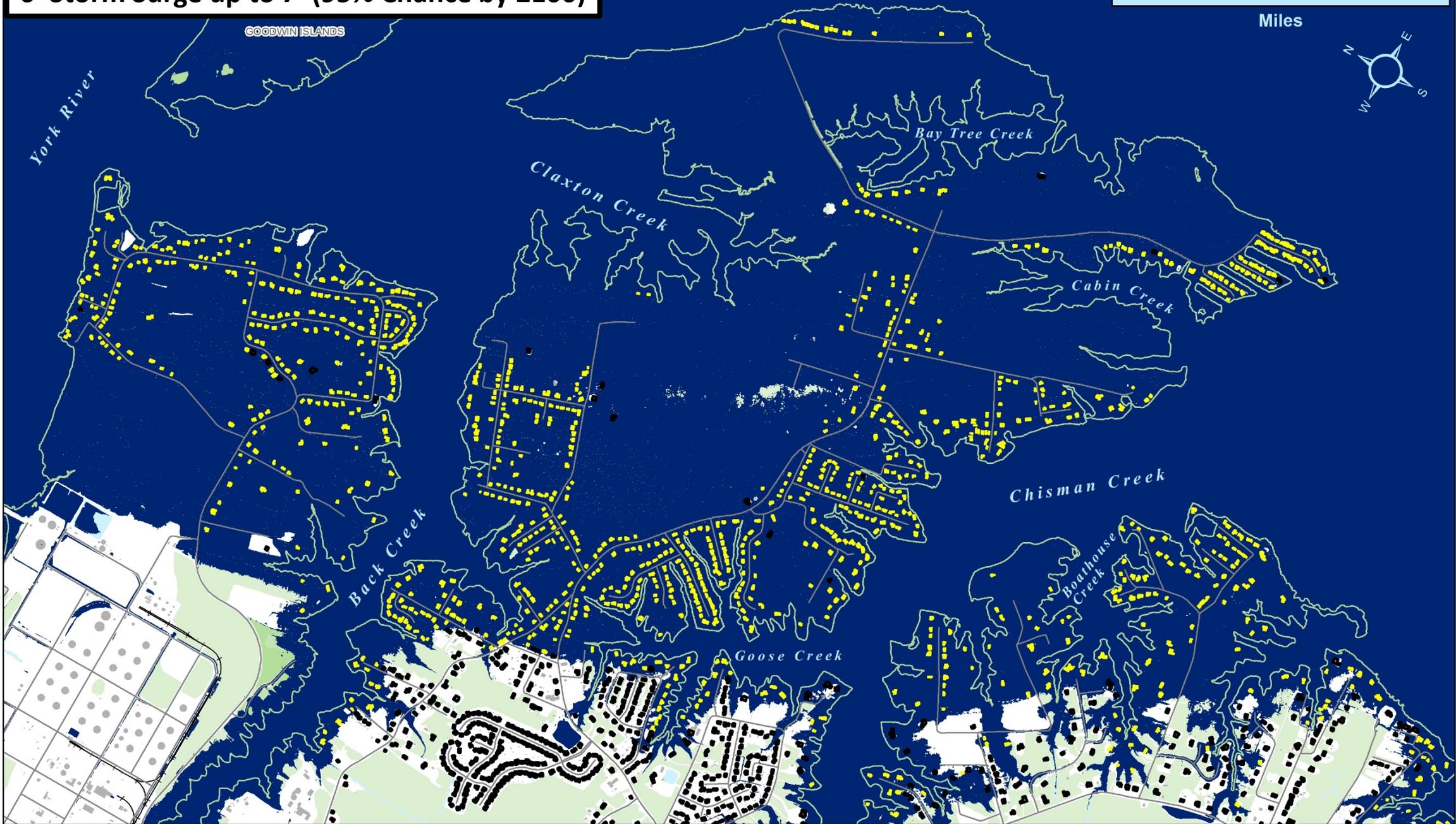
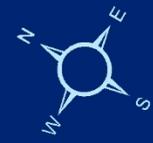
Long Term 5.5' (2080 -2100)



6' Storm Surge up to 7' (95% Chance by 2100)

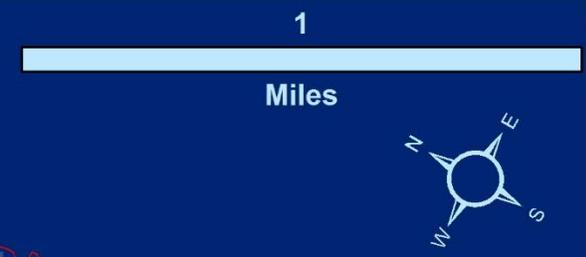
1

Miles

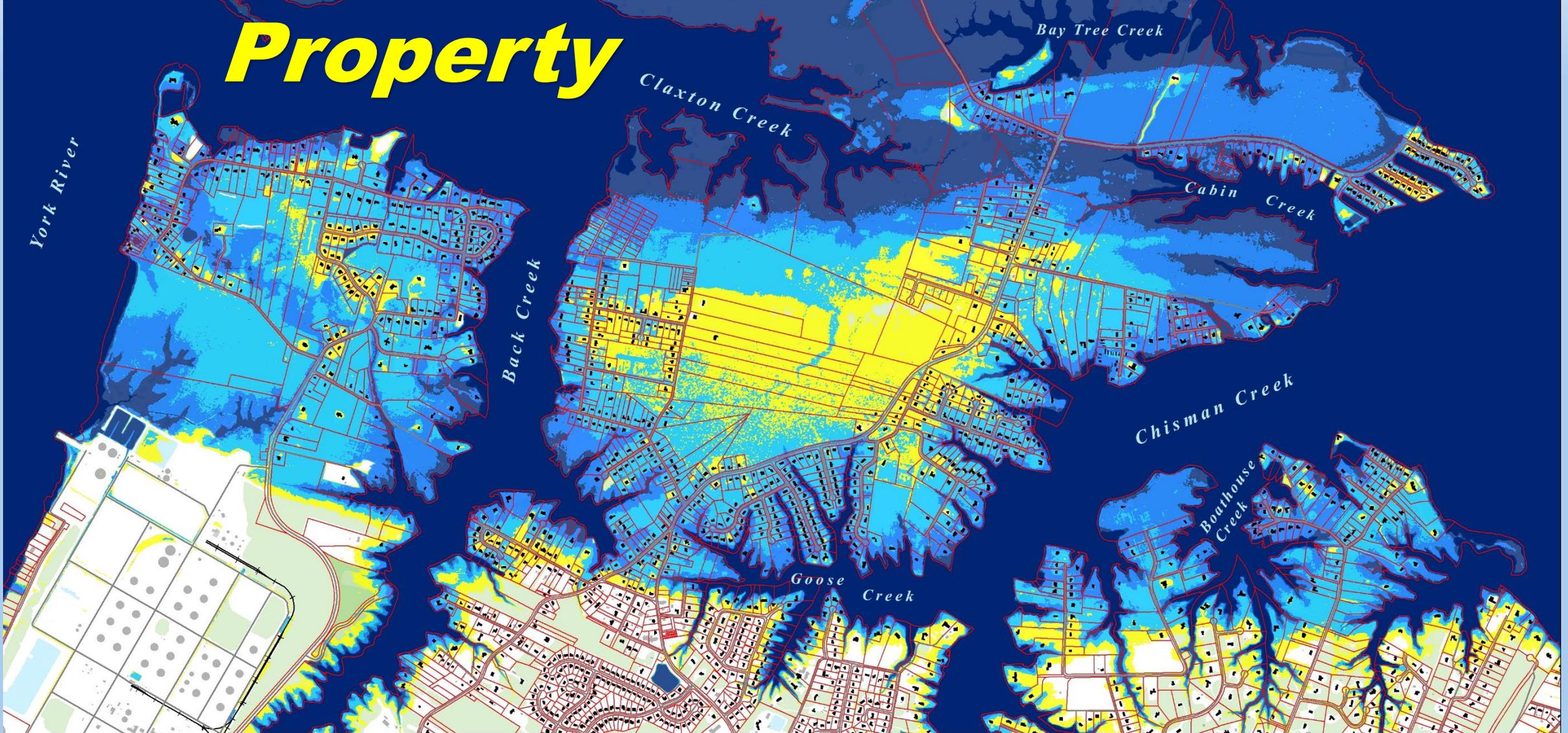




SRL Zone	Homes	Estimated Total	Estimated Tax Impact	Acres Affected
Near Term (1.5')	32	\$16,649,000	\$132,360	1,000
Medium Term (3')	394	\$176,232,600	\$1,400,000	2,000
Long Term (4.5')	1,174	\$504,471,700	\$4,010,550	3,000
6' Storm Surge	1,783	\$780,088,500	\$6,201,700	4,000

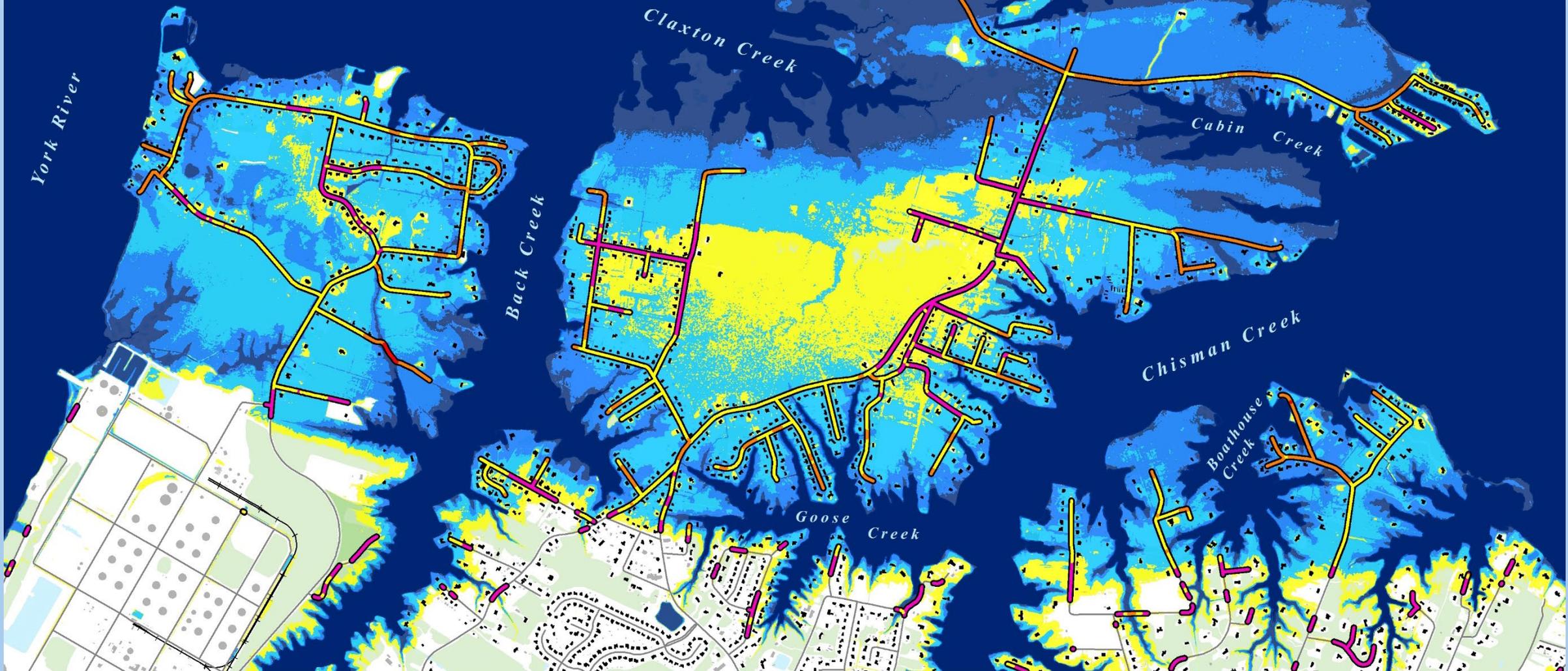
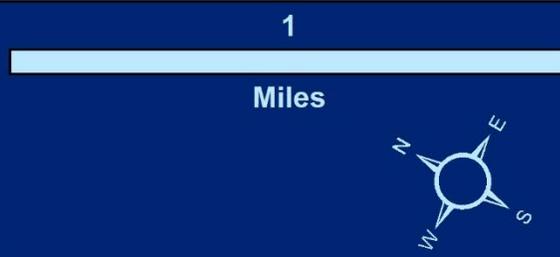


Property



SRL Zone	Miles
Near Term (2.5')	0.63
Medium Term (4.)	5.80
Long Term (5.5')	18.29
6' Storm Surge (7')	31.91

Roads



Studies and Actions of Other Governments, and Flood Insurance

State Government Actions

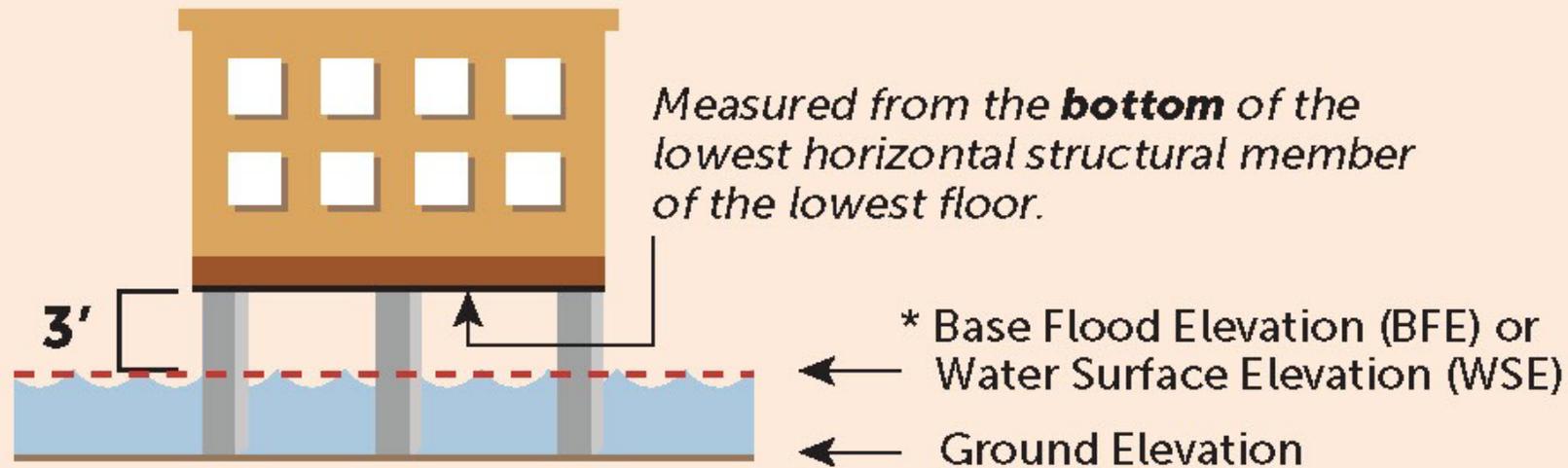
- Executive Order 24 – Increasing Virginia’s Resilience to Sea Level Rise and Natural Hazards – November, 2018
 - Designated the Secretary of Natural Resources as the Chief Resilience Officer
 - Requires research of the vulnerability of Commonwealth owned buildings

State Government Actions

- Executive Order 45 – Virginia Flood Risk Management Standard – November, 2019
 - Country’s strongest flood protection for state owned property.
 - Creates standards for Development of State-owned property in flood prone areas

Freeboard Standards

Coastal Special Flood Hazard Area or Shaded X Zone



Partial Exemption from Real Property Taxes for Flood Mitigation Efforts

- In 2019 the General Assembly amended the Code to allow partial exemptions.
- The Enabling Legislation allows the localities to set the parameters in the ordinance for the requirements for the exemption.

City of Hampton

- Living with Water Hampton: A Holistic Approach to Addressing Sea Level Rise and Resiliency
- The Report represents the first phase of analysis and recommendations







SWIFT – Sustainable Water Initiative for Tomorrow, HRSD Water Treatment Initiative

- Benefits of Swift
 - Slow the rate of land subsidence, slow the rate of sea level rise
 - Restore the water supply in the aquifers
 - Help the Chesapeake Bay by reducing the amount of nutrients

ODU Public Awareness Event

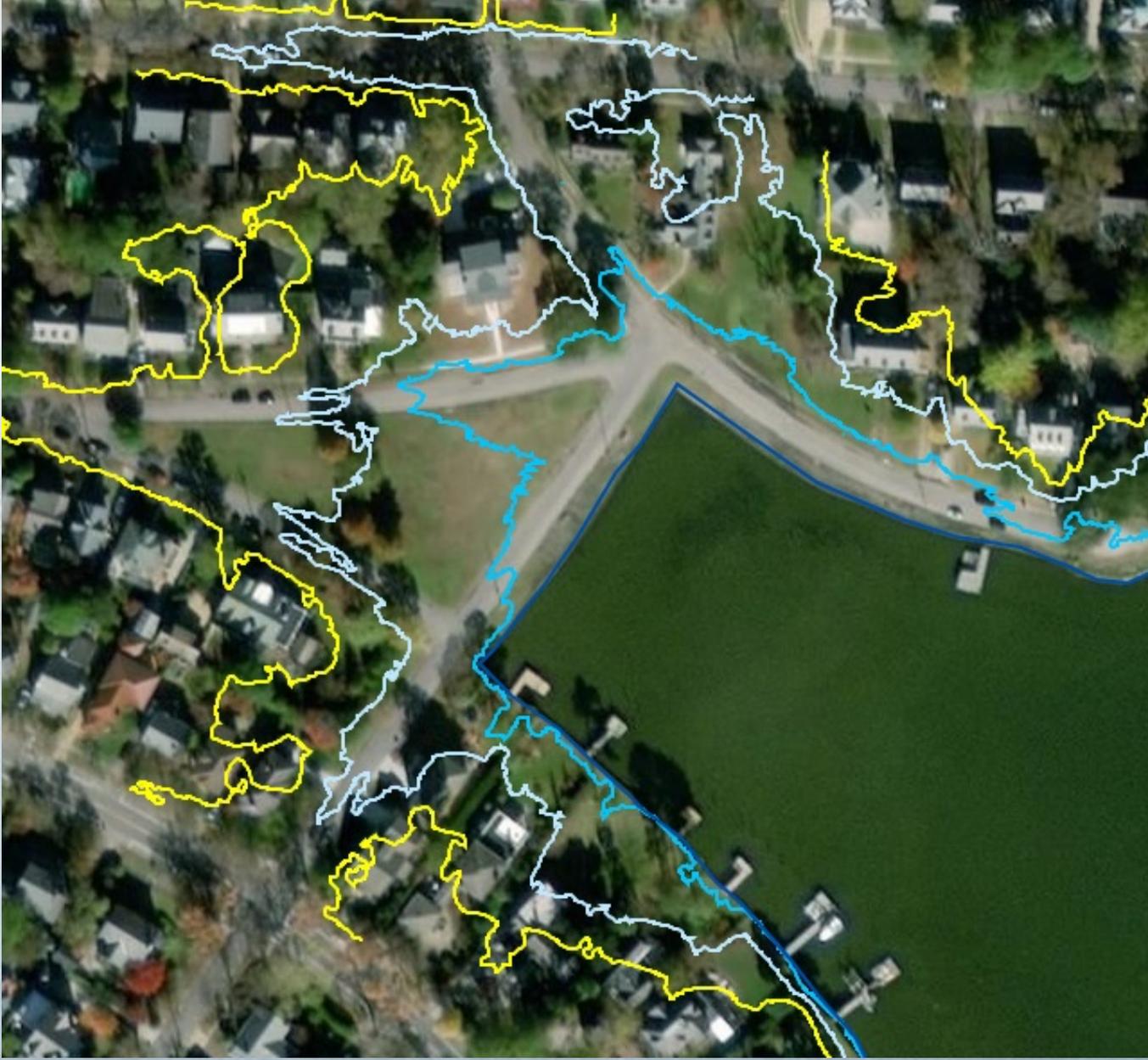
- ODU Blue Line Project
 - ODU faculty, students and the City of Norfolk
 - Used paint, flags and chalk to show projected high tides
 - Effort to prompt community conversation about resilience and adaptation

— 2100

— 2080

— 2050

— 2020



Flood Insurance

- Biggert-Waters Flood Insurance Reform Act of 2012
- Homeowner Flood Insurance Affordability Act of 2014
- National Flood Insurance Program Risk Rating 2.0

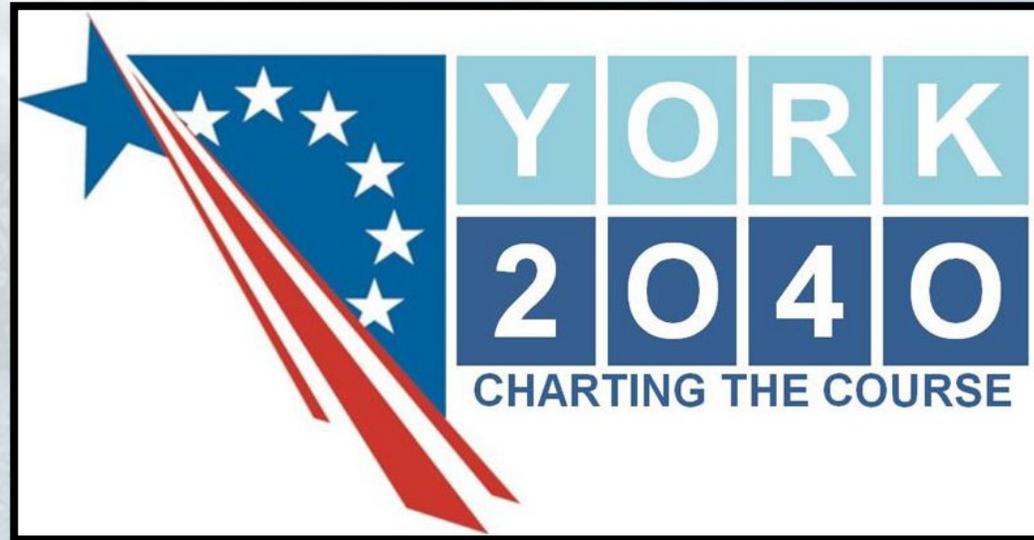
Community Rating System

- Class 7
- 15% discount



FEMA

Comprehensive Plan Update



Questions?

