

# THE COMMUNITY FOUNDATION FOR NORTHERN VIRGINIA

Building a community that works  
for everyone



[www.cfnova.org](http://www.cfnova.org)

THE  
community  
foundation  
FOR NORTHERN VIRGINIA

## Our Vision

To help build a community that works for everyone

## Our Mission

To advance equity across Northern Virginia through philanthropy and community leadership



## OUR VALUES

The Community Foundation for Northern Virginia is committed to building a community that works for everyone.

Our community is stronger when all people are respected, welcomed, and invited to share their assets and contributions in community building.

We are wholeheartedly devoted to our neediest neighbors and most vulnerable and marginalized populations and work tirelessly to better meet their needs.

We work to bring about a more equitable and inclusive prosperity that marries our economic strength with the full breadth of our diverse community.

*Pictured: Environment Fund Grantee Fairfax County Park Authority Foundation*



# OUR STRATEGIC PRIORITIES

## SOCIAL AND ECONOMIC MOBILITY

Ensuring equitable opportunities for upward mobility across all Northern Virginia's neighborhoods



## RACIAL JUSTICE AND EQUITY

Supporting policies and programs that seek to eradicate systemic discrimination



## INCLUSIVE ECONOMIC GROWTH

Increasing access to and resources for minority-owned and led businesses throughout Northern Virginia, with leadership reflecting the region's diversity



## COMMUNITY RESILIENCE

Helping the region adapt and transform in the face of change, uncertainty, unpredictability, and surprise



# The Environment Fund

## Protecting Northern Virginia's Natural Environment

The mission of the Environment Fund is to protect, restore and improve the natural environment of Northern Virginia, thereby enhancing the health and quality of life of its citizens and the economy of the region.



## Environment Fund Goals

- Support and encourage collaboration among nonprofits, businesses, governments, educational institutions, and private philanthropic donors to promote actions that will have a beneficial effect on the health of the natural environment and local economy.
- Support public awareness and public education about protecting the natural environment and the impact of public and private actions on the natural environment.
- Support the efforts of citizen engagement that helps improve and protect the natural environment.



*Pictured: Environment Fund Grantee Sustainability Matters*



# Environment Fund Impact

\$390,200 Awarded Since 2018

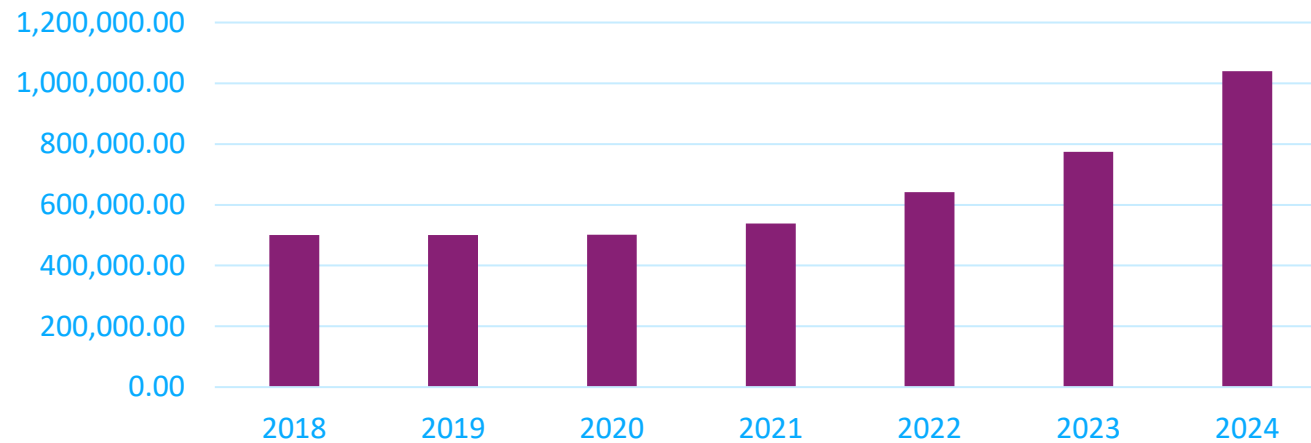
- Clean Fairfax Council, Inc.
- Coalition for Smarter Growth
- Earth Sangha
- Eco-Action Arlington
- Fairfax County Park Authority
- Fairfax County Public Schools: Get 2 Green
- Global Education Energy Environment Inc.
- Hands On Harvests
- NatureBridge
- Northern Virginia Families for Safe Streets
- PWCS Education Foundation
- Prince William Environmental Excellence Foundation
- Sustainability Matters



*Pictured: Environment Fund Grantee  
Clean Fairfax Council, Inc.*

# Environment Fund Milestone

## \$1 Million Endowment Mark





# FOR MORE INFORMATION

[www.cfnova.org](http://www.cfnova.org)

**Sari Raskin**

Vice President, Grants and Community Leadership

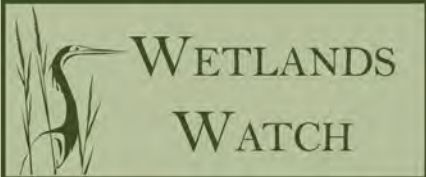
Community Foundation for Northern Virginia

[sari.raskin@cfnova.org](mailto:sari.raskin@cfnova.org)

# ESCALATING CLIMATE CHANGE IMPACTS THROUGHOUT VIRGINIA



Photo: Skip Stiles



Community Foundation for Northern Virginia  
August 21, 2024

# WETLANDS WATCH



**We work where land, communities, and water meet to conserve nature in a changing climate**

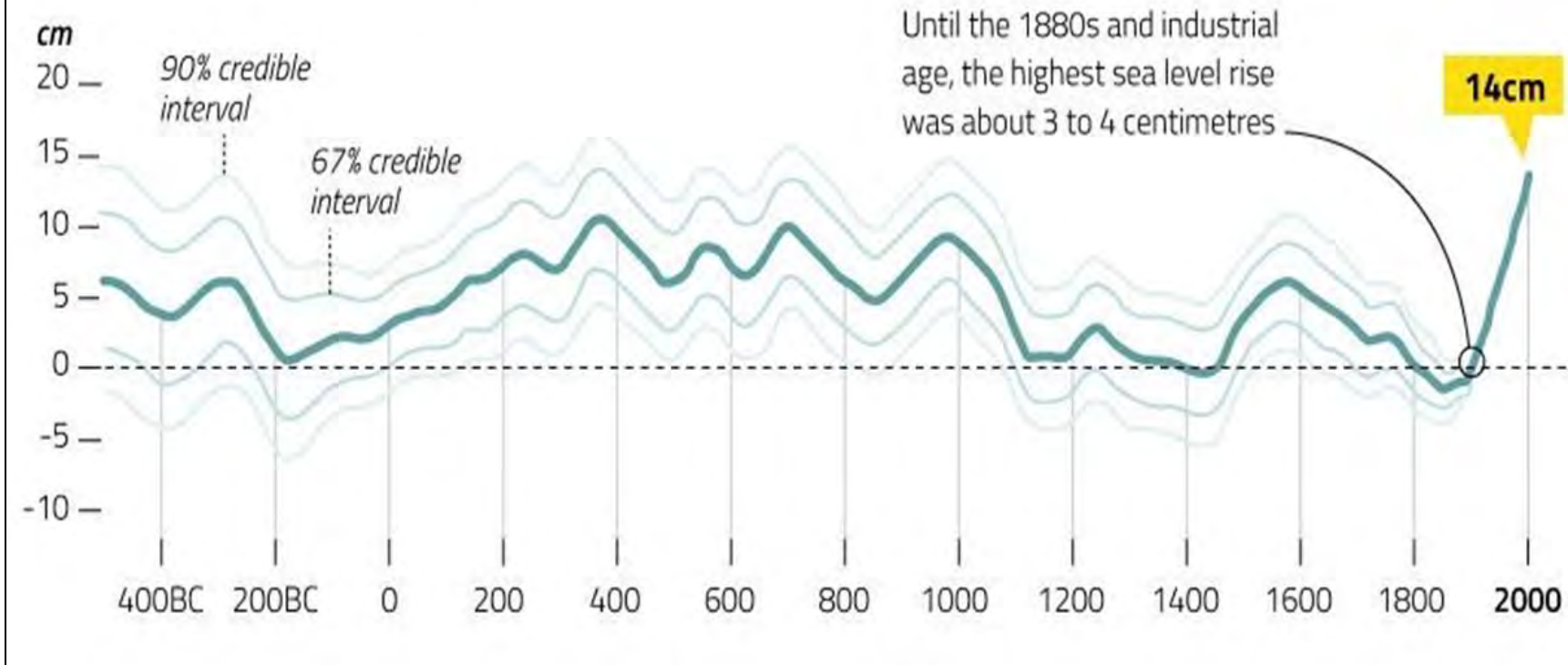




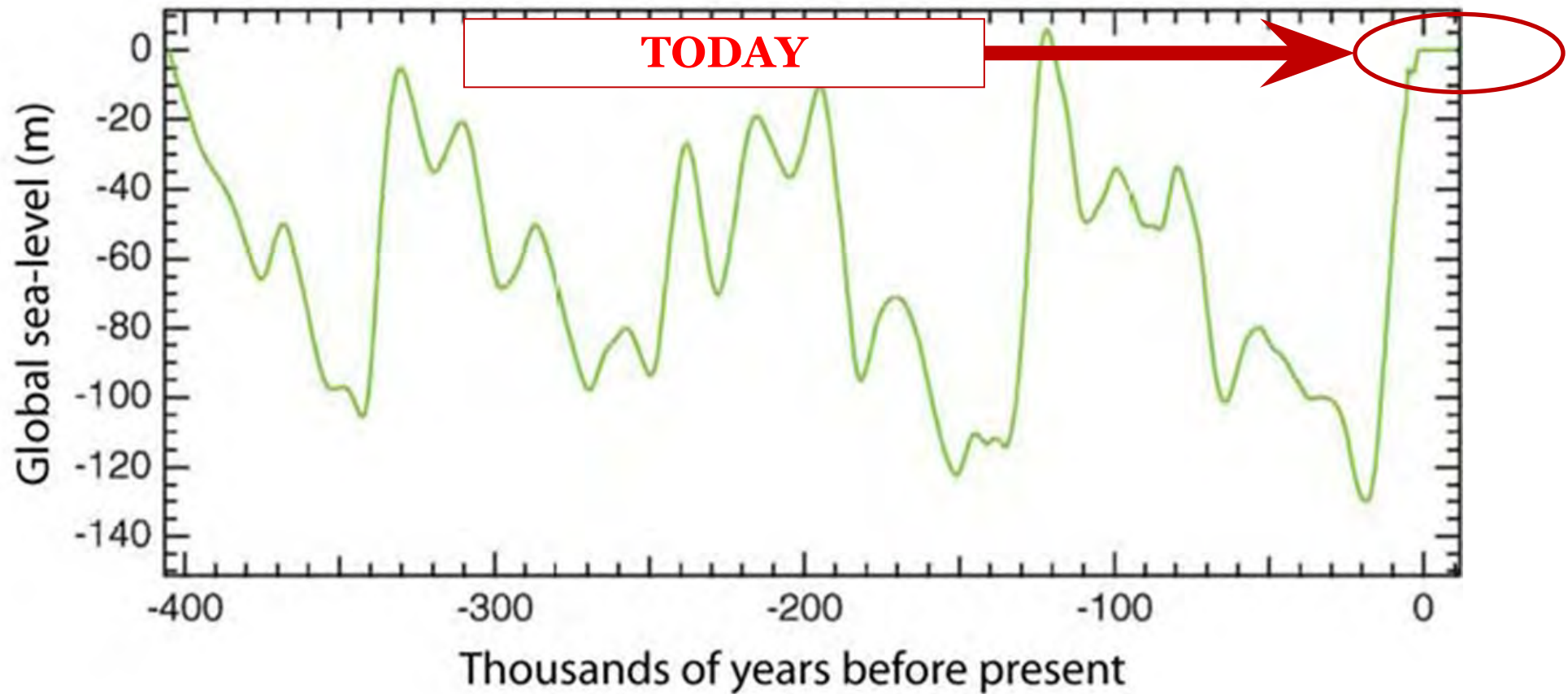
# IMPACT OF THE INDUSTRIAL REVOLUTION

## Sharp rise in sea levels in last two centuries

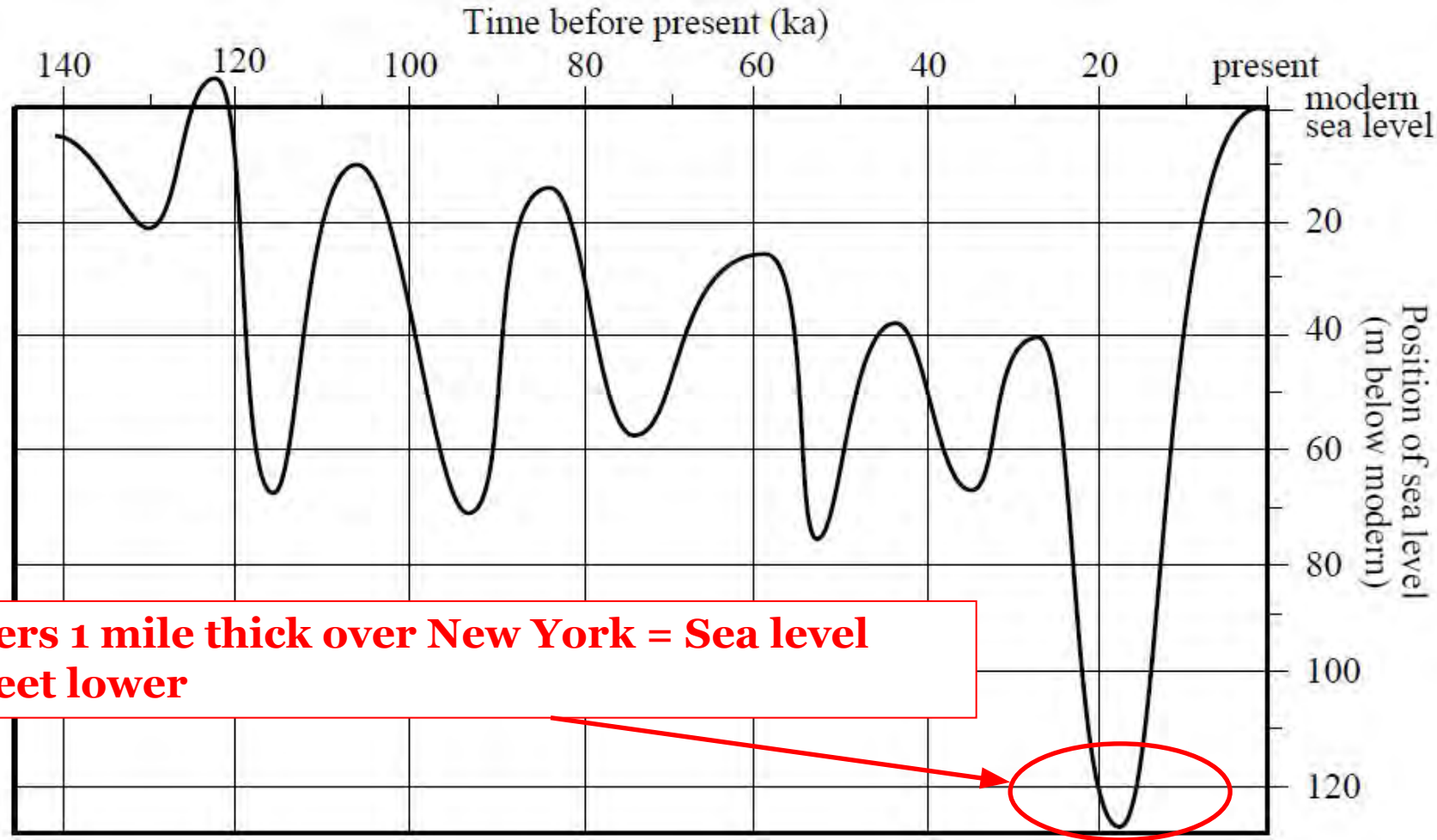
### ● Global sea level average



# HISTORICAL SEA LEVEL CHANGES



# LAST BIG CHILL: 20,000 YEARS AGO



**Glaciers 1 mile thick over New York = Sea level 360 feet lower**

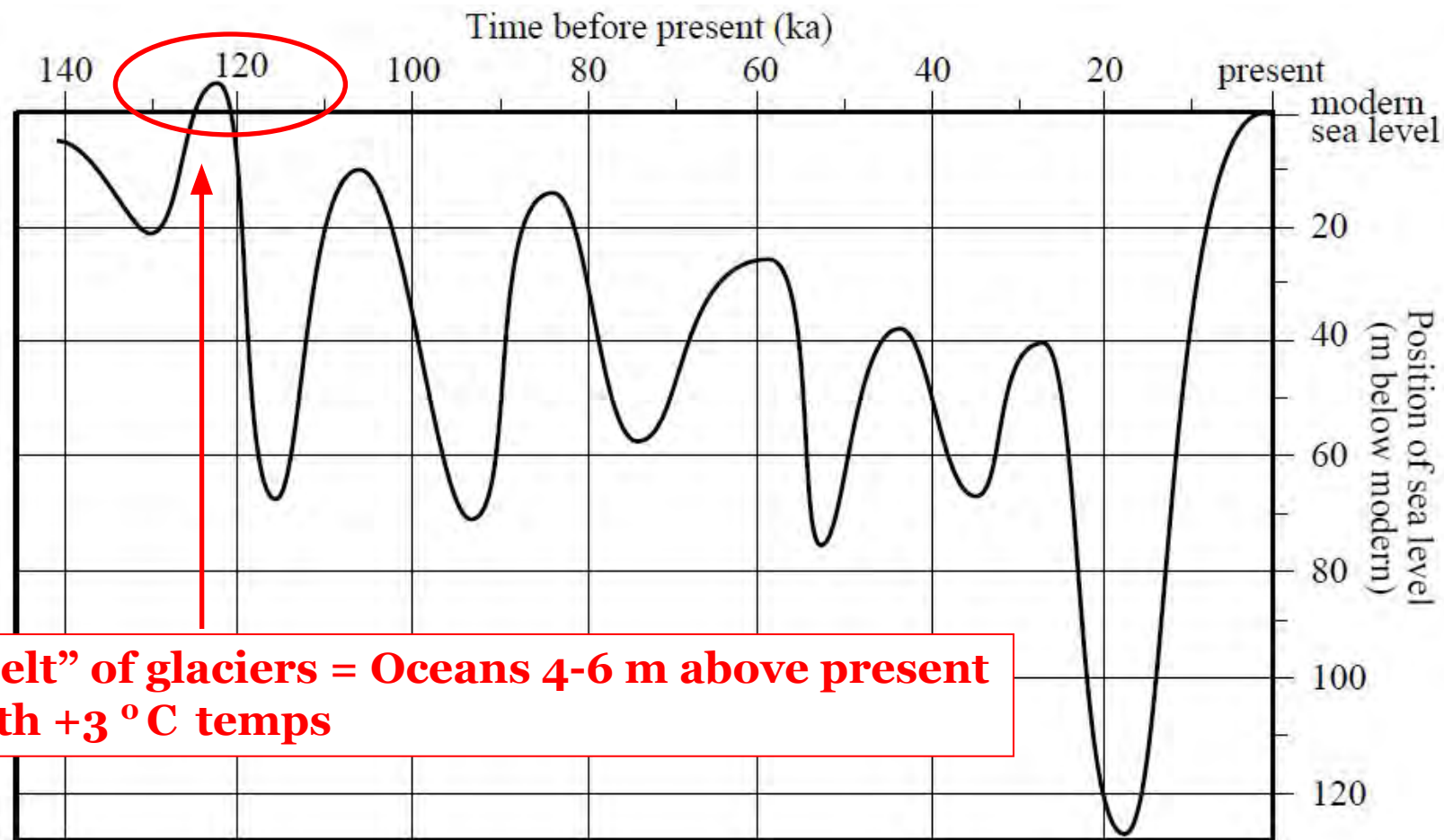


# LAST BIG CHILL: 20,000 YEARS AGO



**- 120 Meters  
(- 360 Feet)**

# LAST BIG MELT: 120,000 YEARS AGO



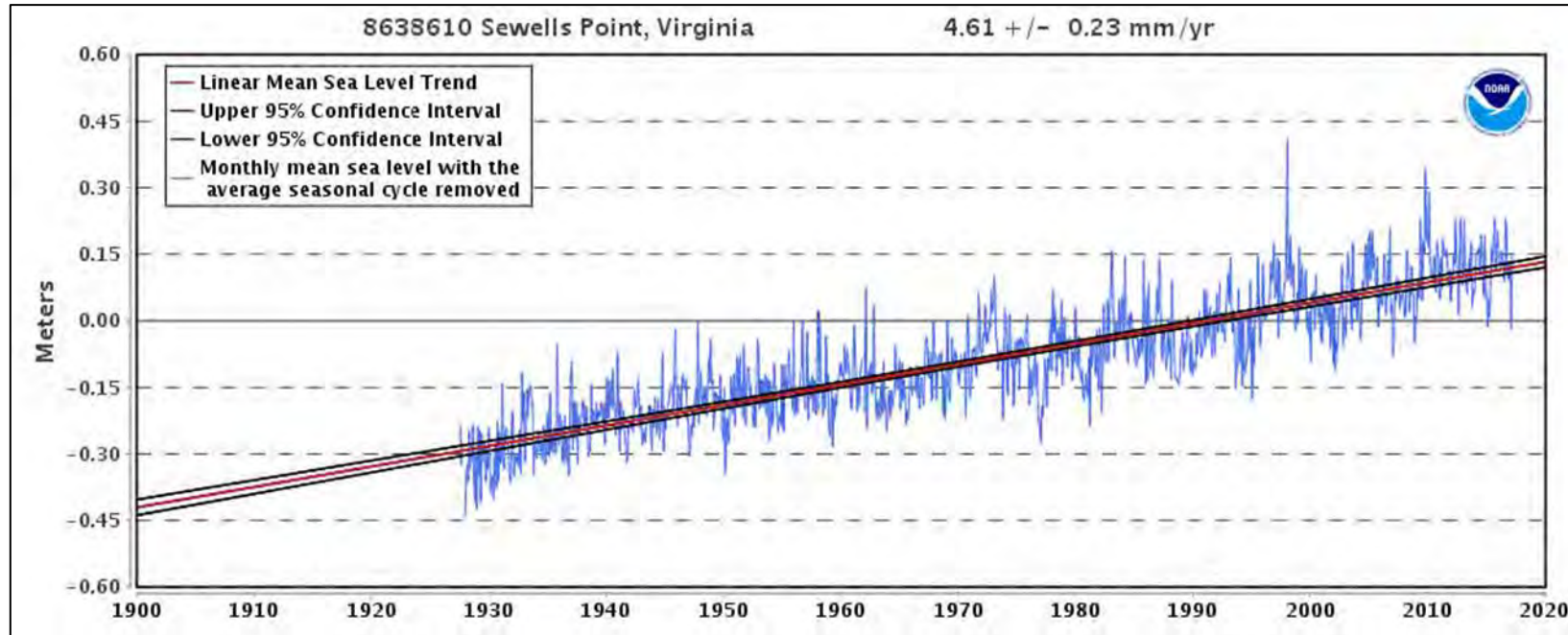
**Last “Big Melt” of glaciers = Oceans 4-6 m above present sea level with +3 °C temps**

# LAST BIG MELT: 120,000 YEARS AGO





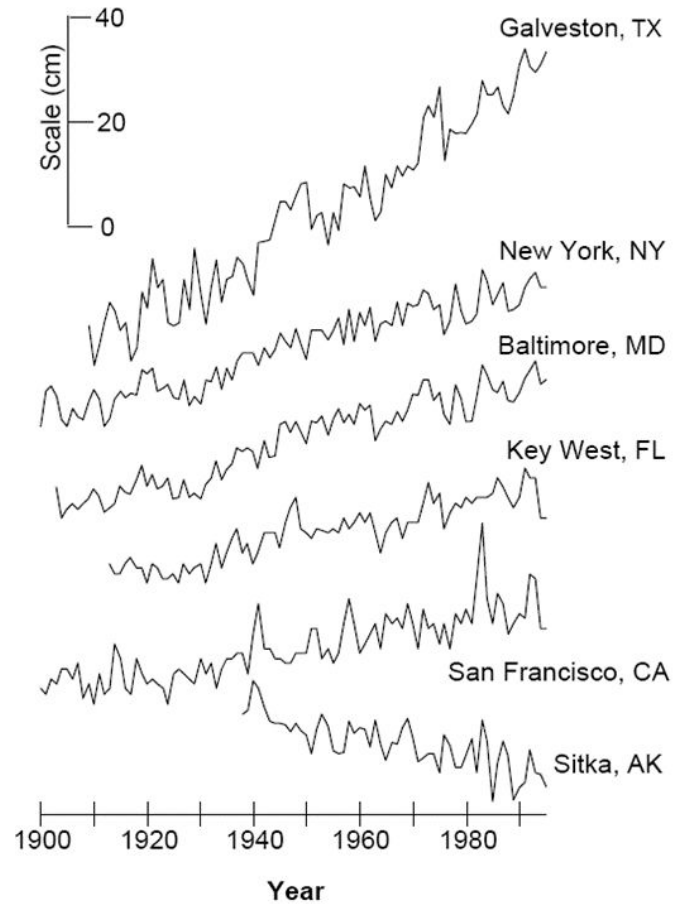
# HISTORICAL SEA LEVEL RISE: NORFOLK VA



Mean sea level trend = 4.42 millimeters/year  
1.45 feet/century = highest rate of relative SLR on Atlantic Coast

# RELATIVE SEA LEVEL RISE

U.S. Sea Level Trends: 1900-97

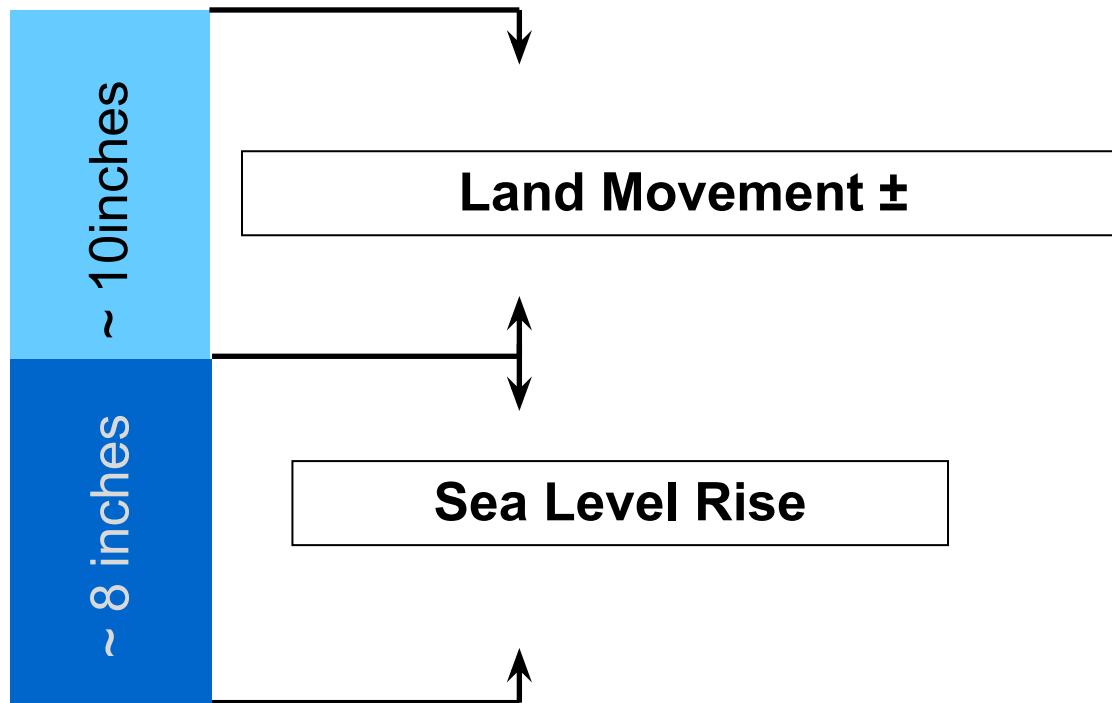


← Land Sinking

“Relative Sea Level Rise”  
What is the land doing?

← Land Rising

# WHAT MAKES UP OUR RELATIVE SEA LEVEL RISE?



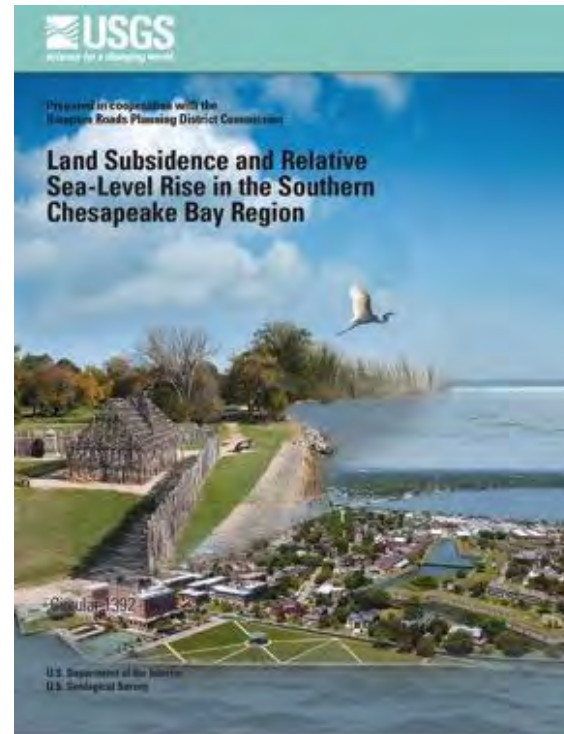
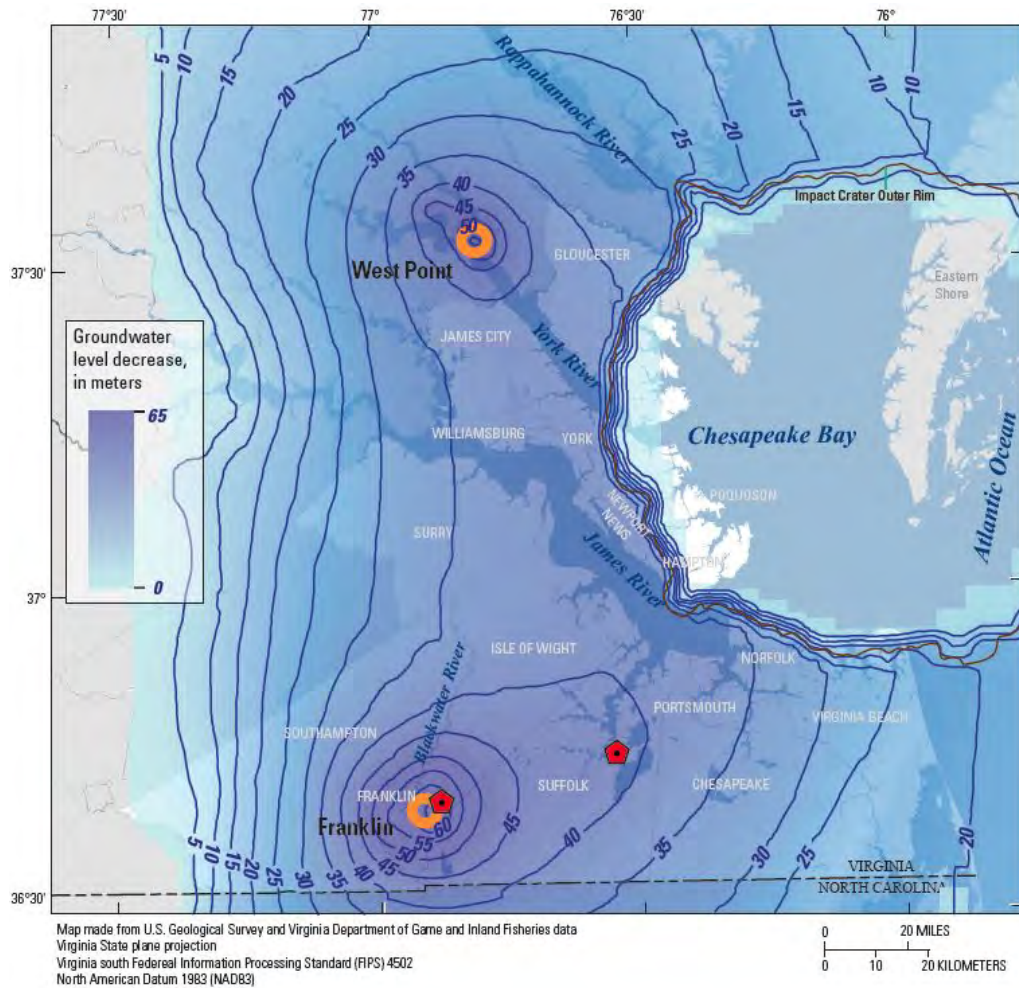
Isostatic Rebound – land is sinking after glaciers to north melted 20 thousand years ago

Groundwater Withdrawal – water table down 100-200 feet from pre-colonial times

Meteor Crater in southern Chesapeake Bay



# GROUNDWATER WITHDRAWAL = SUBSIDENCE



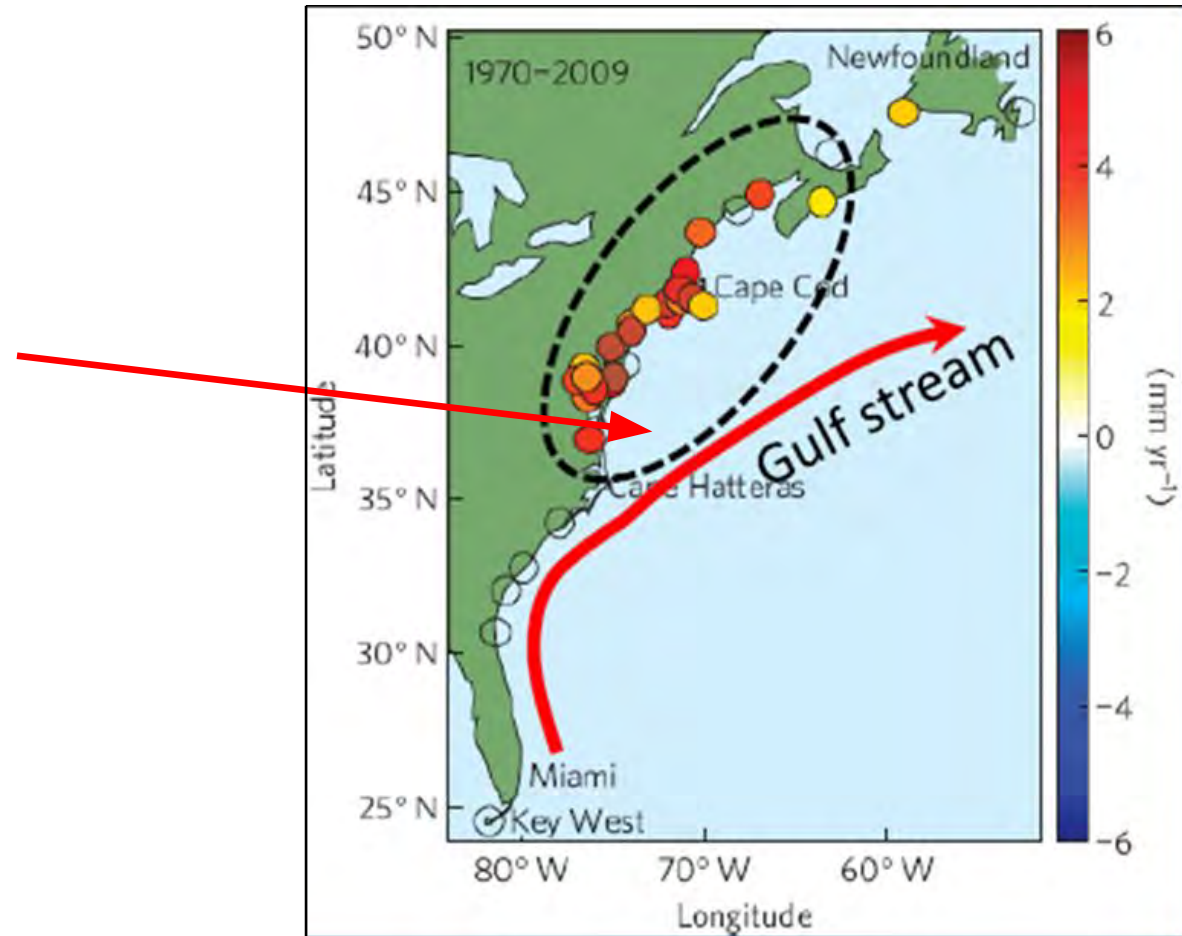
**Elevation Change:**  
1940 – 1971

4 mm/yr = 40 cm/100  
yrs = **15"/100 yrs**

# SLOWING GULF STREAM MEANS MORE WATER

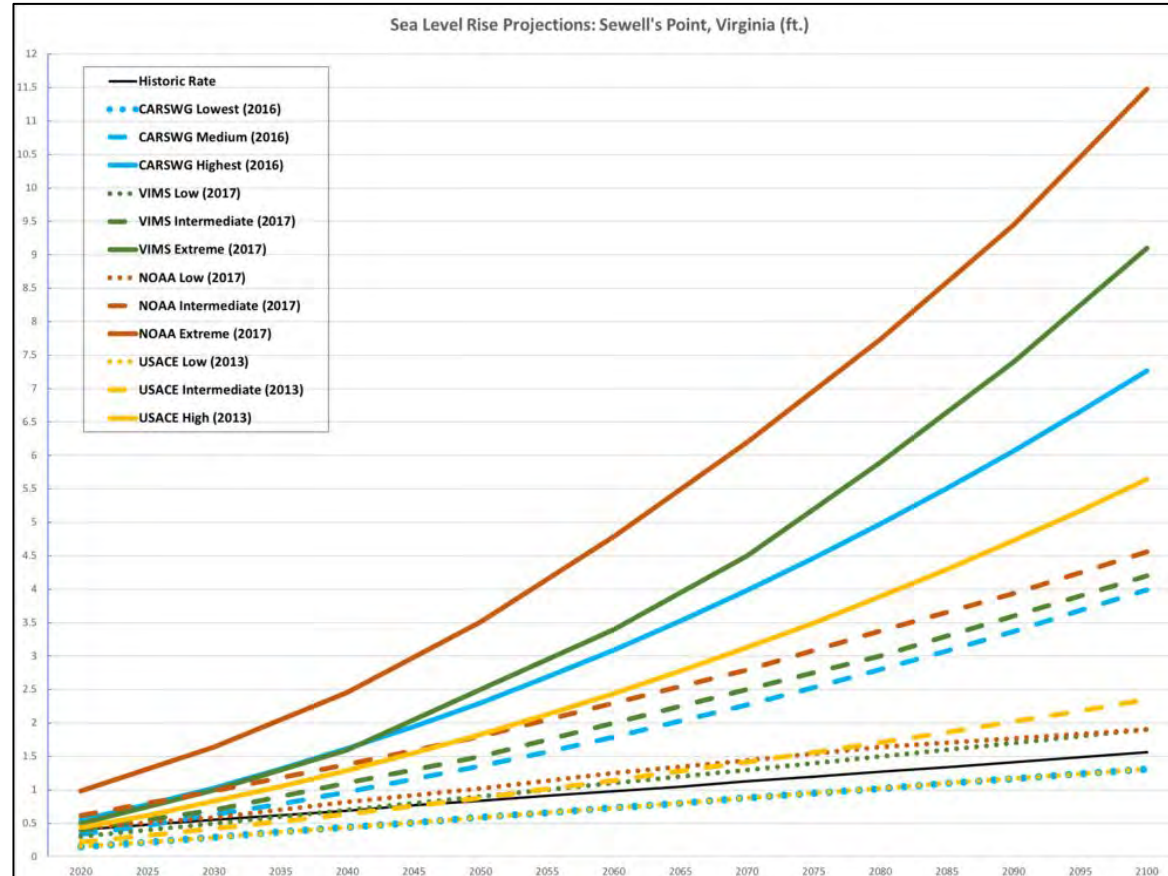
Virginia, close to Gulf Stream, experiences higher water already

Recently slowing Gulf Stream = more water



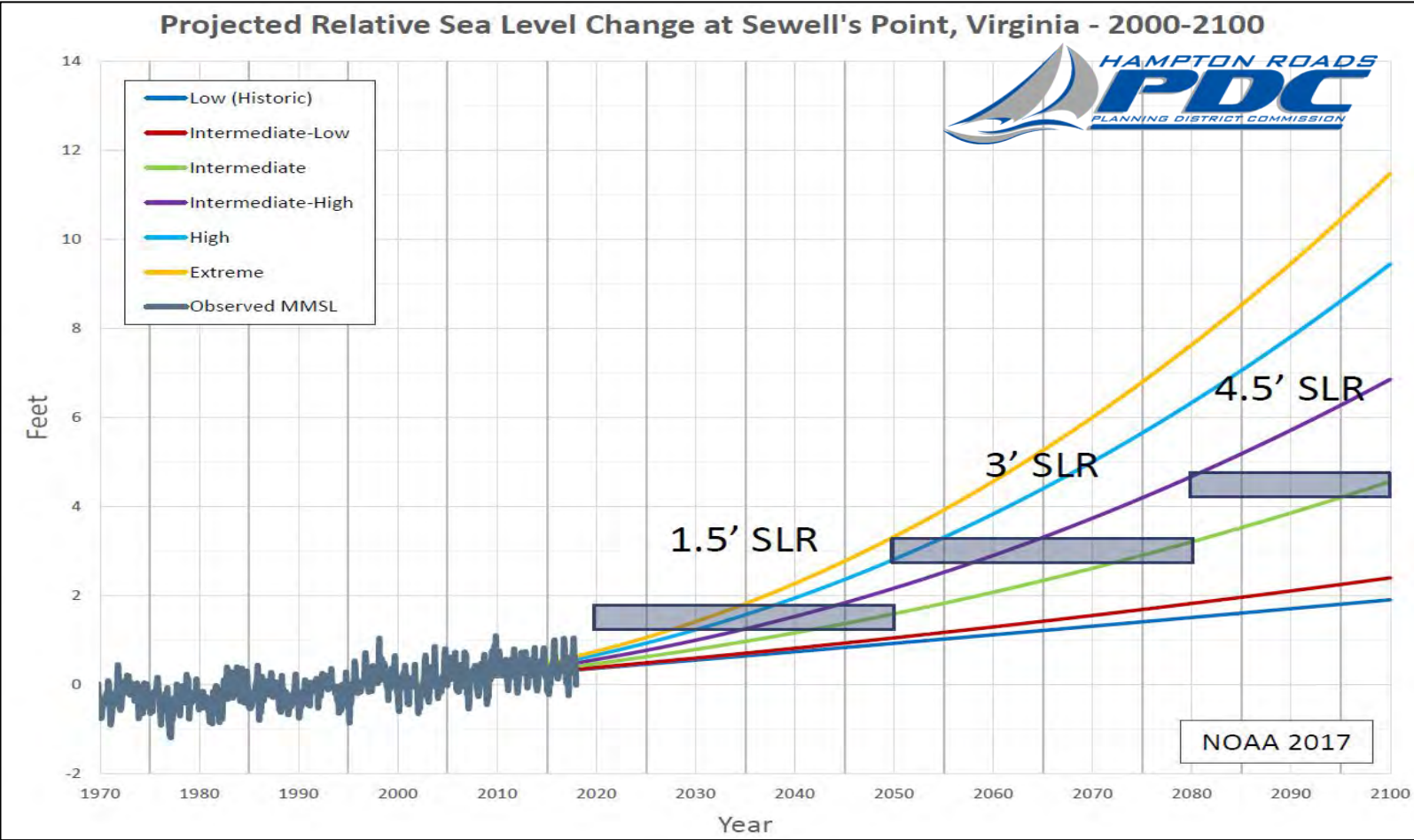
Ezer - ODU

# TOO MUCH CONFLICTING INFO: PICK A CURVE!





# GOVERNMENTS IN HAMPTON ROADS REGION ACTING TOGETHER





# PAST FLOOD EVENTS ARE WORSE WITH SEA LEVEL RISE

Sewells Pt (SWPV2) Historical Crests (P.O.R= Jul 1927-Present)						
Rank	Ft./MLLW	Ft./MHHW	NAVD88	Date	LST/LDT	Event (blue denotes Tropical)
1	8.02	5.26	6.41	8/23/1933	10:00	Ches-Potomac Hurricane
2	7.89	5.13	6.28	9/18/2003	17:00	Hurricane Isabel
3	7.74	4.98	6.13	11/12/2009	18:30	Ida Remnants *(6)
4	7.55	4.79	5.94	8/27/2011	20:18	Hurricane Irene
5	7.22	4.46	5.61	3/7/1962	10:00	Ash Wednesday Nor'easter
6	6.81	4.05	5.20	10/29/2012	9:12	Hurricane Sandy
7	6.77	4.01	5.16	11/22/2006	10:06	Nor'easter
8	6.72	3.96	5.11	9/18/1936	10:00	Hurricane 13
9	6.60	3.84	4.99	2/5/1998	4:00	Nor'easter *(3)
10	6.53	3.77	4.92	10/7/2006	9:30	Onshore Winds
11	6.50	3.74	4.89	10/4/2015	15:24	Hurricane Joaquin (offshore) *(2)
12	6.41	3.65	4.80	4/27/1978	0:01	
13	6.32	3.56	4.71	4/11/1956	22:00	
14	6.28	3.52	4.67	1/3/2022	10:18	Nor'easter
15	6.18	3.42	4.57	12/19/2009	11:30	Nor'easter

Purple Shading indicates "MAJOR" Flooding

Red Shading indicates "MODERATE" Flooding

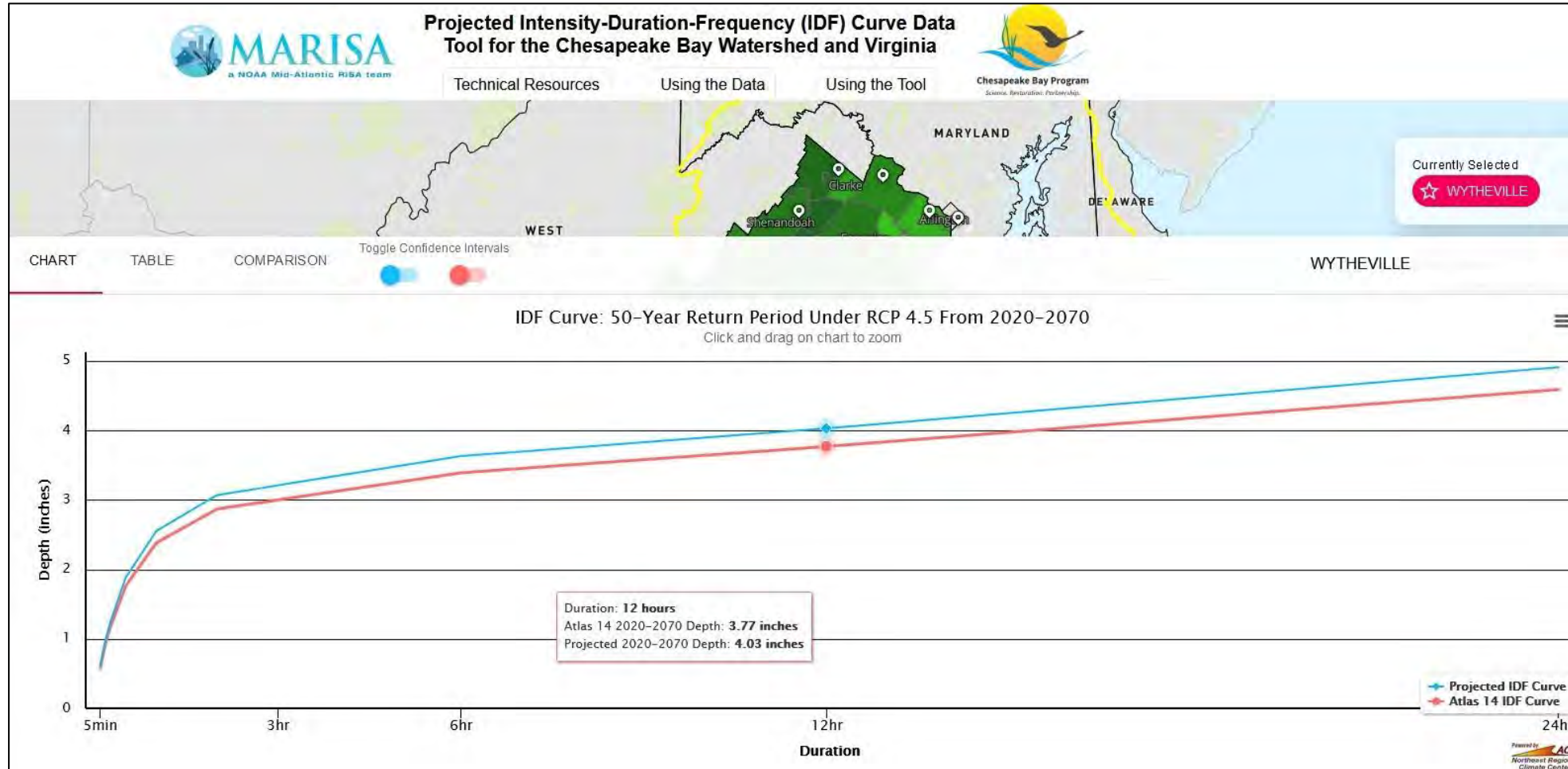
\*(number) in event column denotes multiple tides hit at least Moderate flood thresholds

All Water Levels use Verified 6-min data when available



**+2 feet by  
2050-2060**

# RAINFALL INCREASING: ~18% SINCE 2006



Source: MARISA



# TRANSPORTATION SYSTEM IMPACTS



# EDUCATION SYSTEM IMPACTS



Source: The Virginian-Pilot



# AVAILABLE / SAFE HOUSING IMPACTS



Photo: Sahar Coston-Hardy, ASLA



Photo: Skip Stiles



# AVAILABLE / SAFE HOUSING IMPACTS



Photo: Red Cross Virginia

# AVAILABLE / SAFE HOUSING IMPACTS





# BUSINESS DISRUPTION



Photo: James Cullum/ALXnow



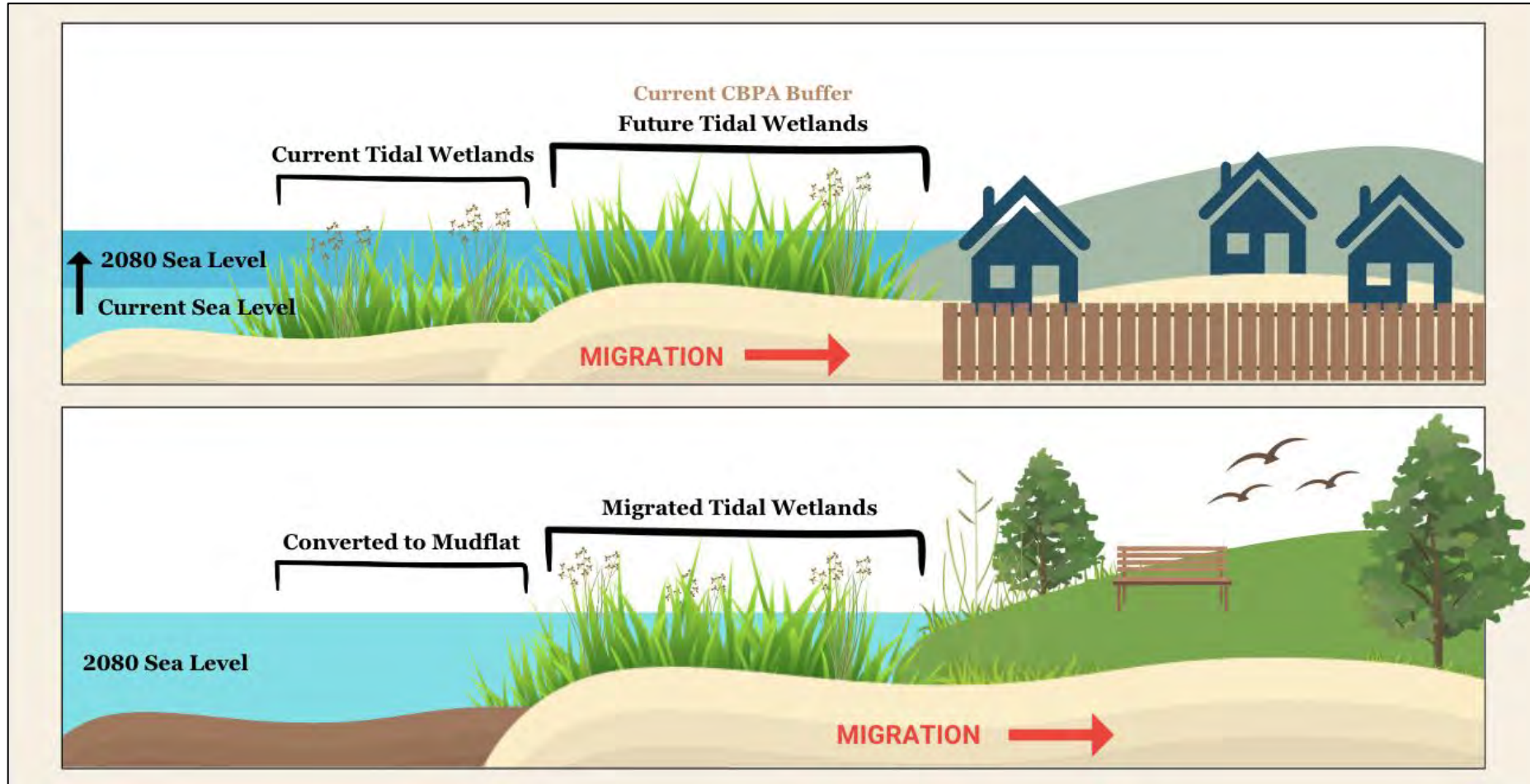
Photo: Christian Heilman



# NATURAL RESOURCE LOSS: “GHOST FORESTS”



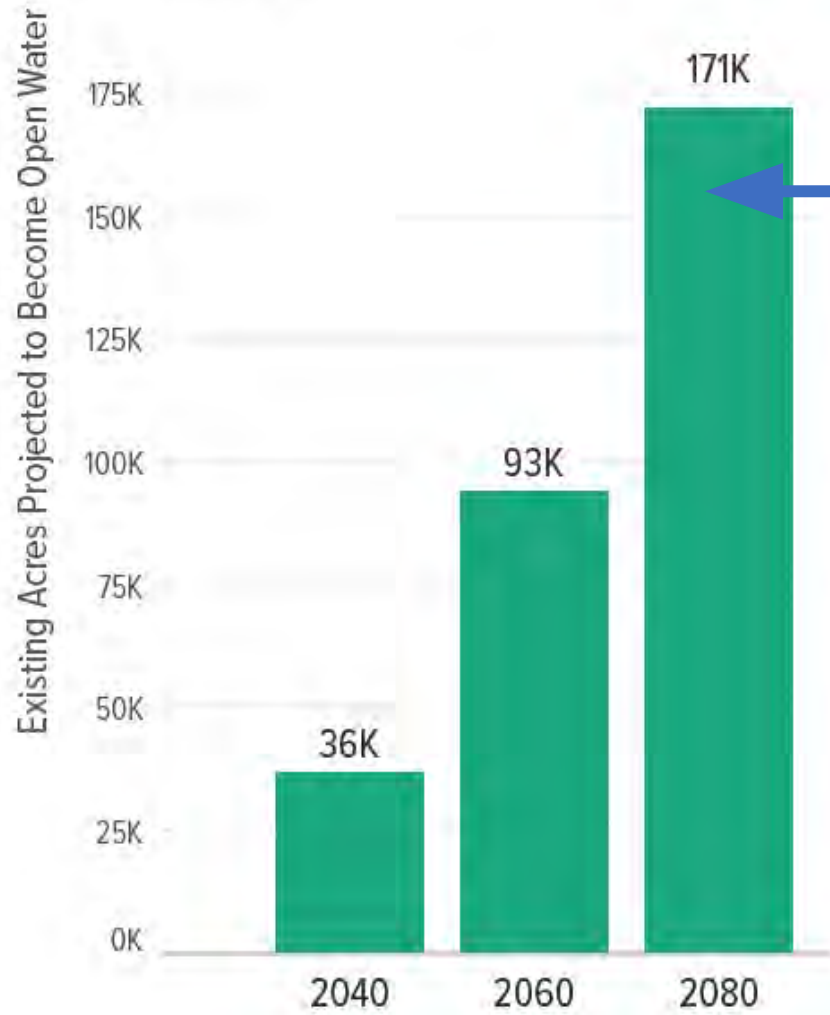
# SHORELINE ECOSYSTEMS CHANGE UNDER SEA LEVEL RISE: ZONES SHIFT & HABITAT LOSS





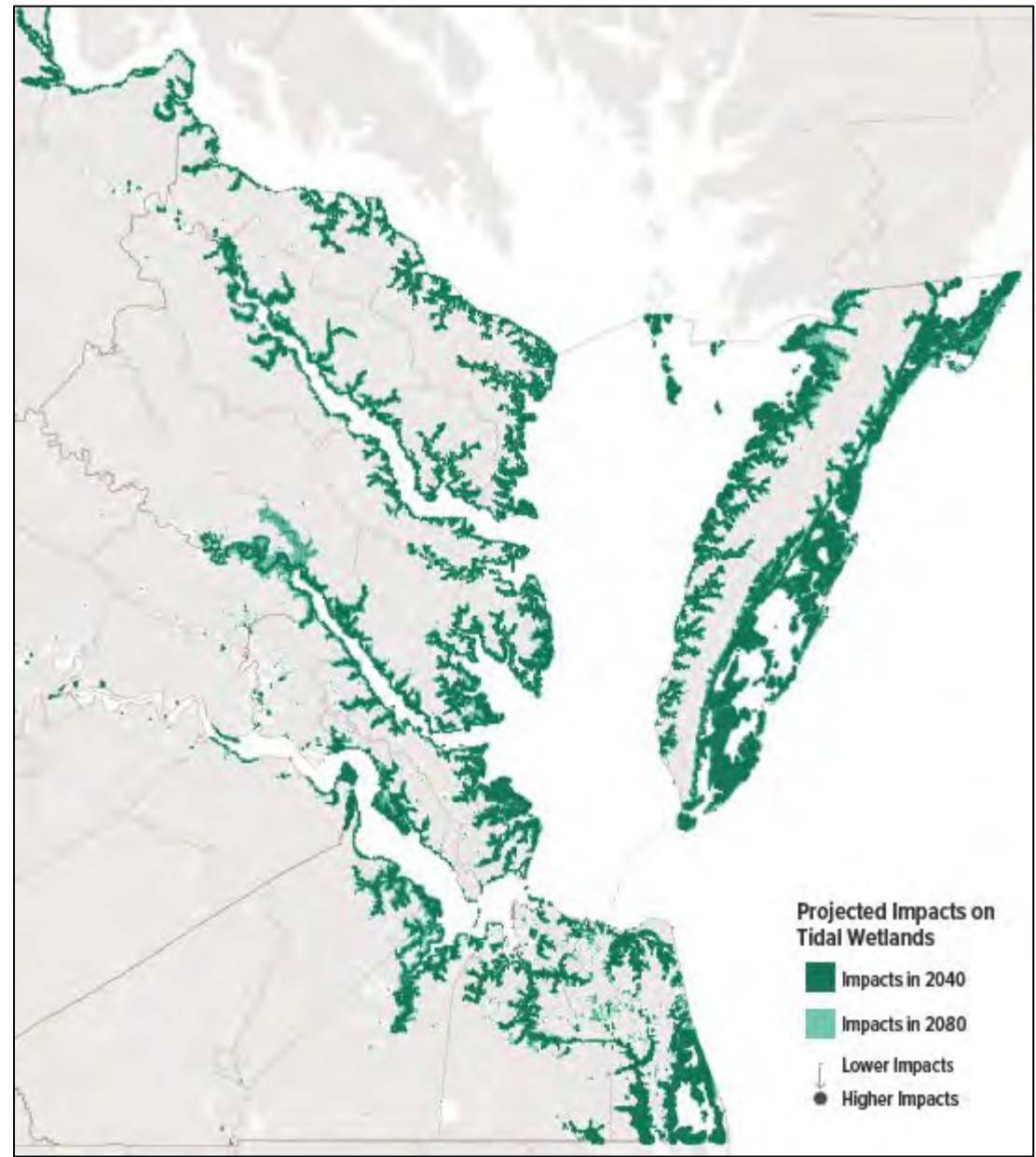
## Tidal Wetland Habitat Loss

Relative to habitat in 2020



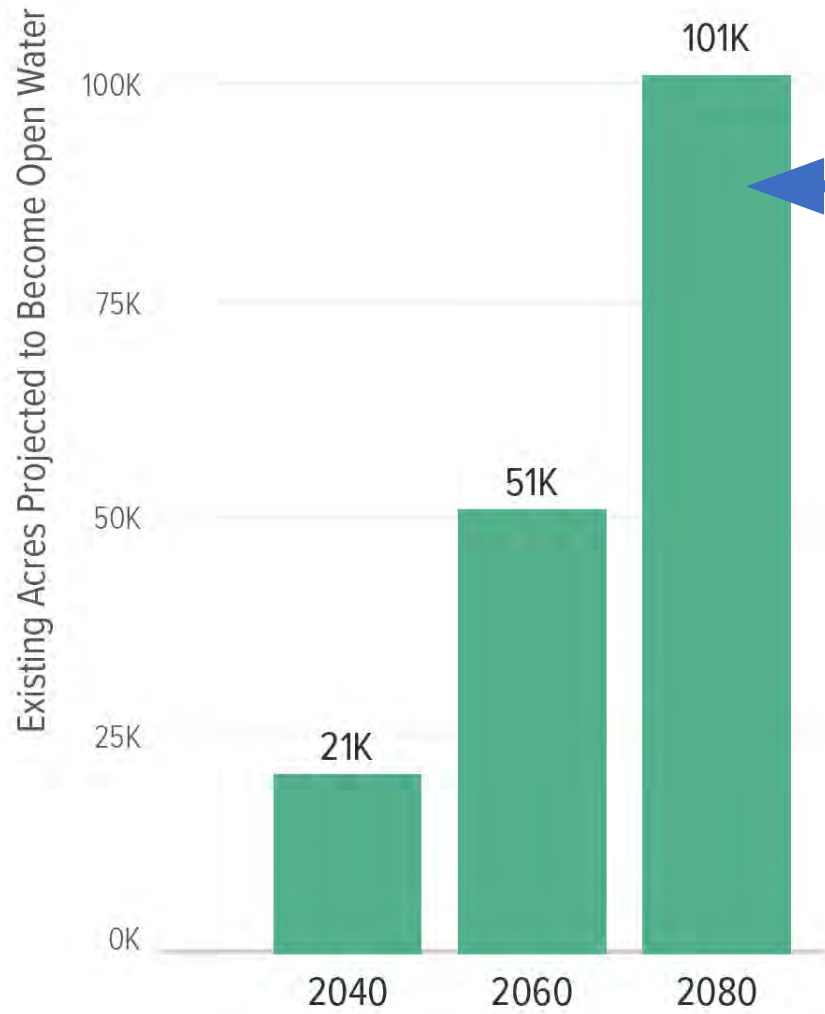
**89%**  
**loss**  
**in**  
**2080**

Source: VA Coastal Resilience Master Plan



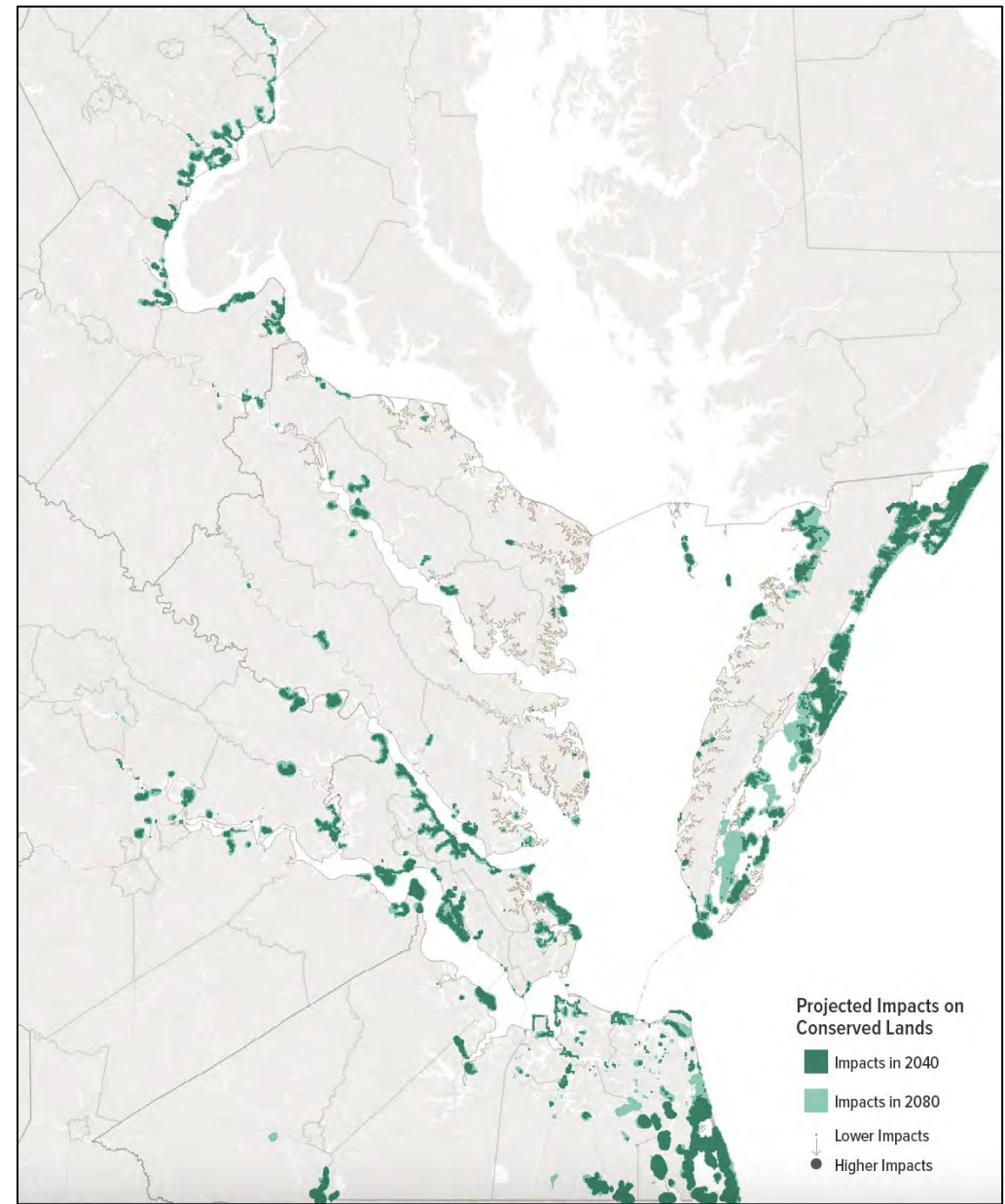
## Upland Habitat Loss

Relative to habitat in 2020



**51%**  
**loss**  
**in**  
**2080**

Source: VA Coastal Resilience Master Plan





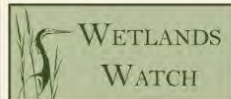
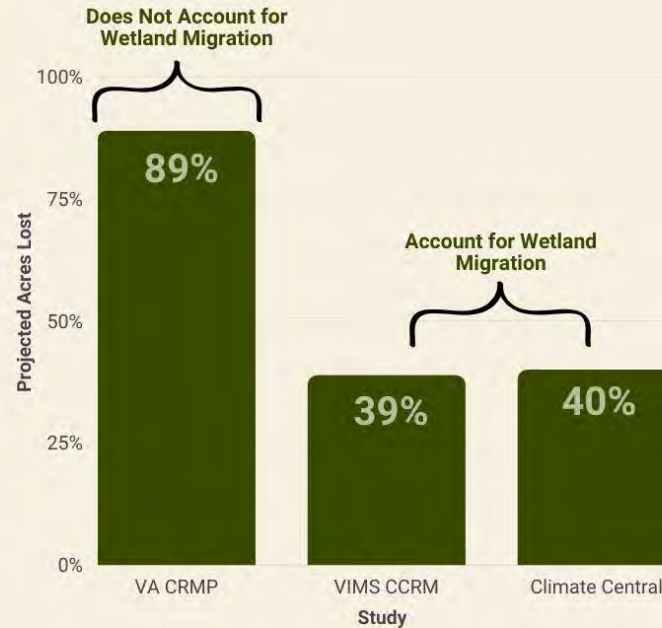
# WETLANDS LOSSES: ALL ABOUT MIGRATION

## The Variability in VA Wetlands Loss Projections by 2080

Recent studies paint an alarming picture of tidal wetland survivability as sea levels rise. Decision-makers have important conservation choices to make as we face the inevitable -- but which projection is best to use?

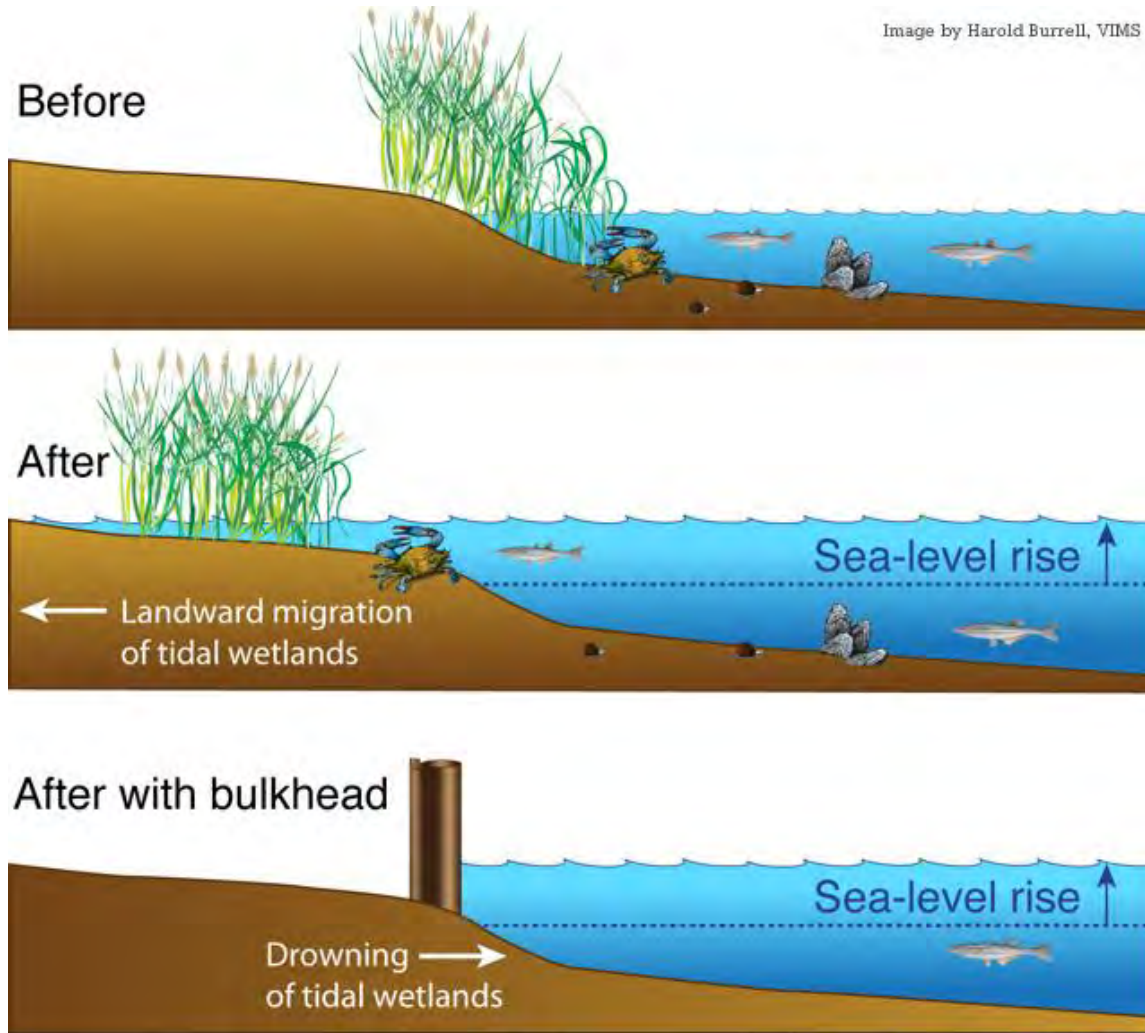
### Data Variability

A key difference between the Virginia Coastal Resilience Master Plan (VA CRMP), research from the Virginia Institute of Marine Science, and Climate Central is the consideration of marsh migration. As sea levels rise, tidal wetland plants can move landward on favorable slopes to escape high water -- but only if the built environment does not stand in the way.

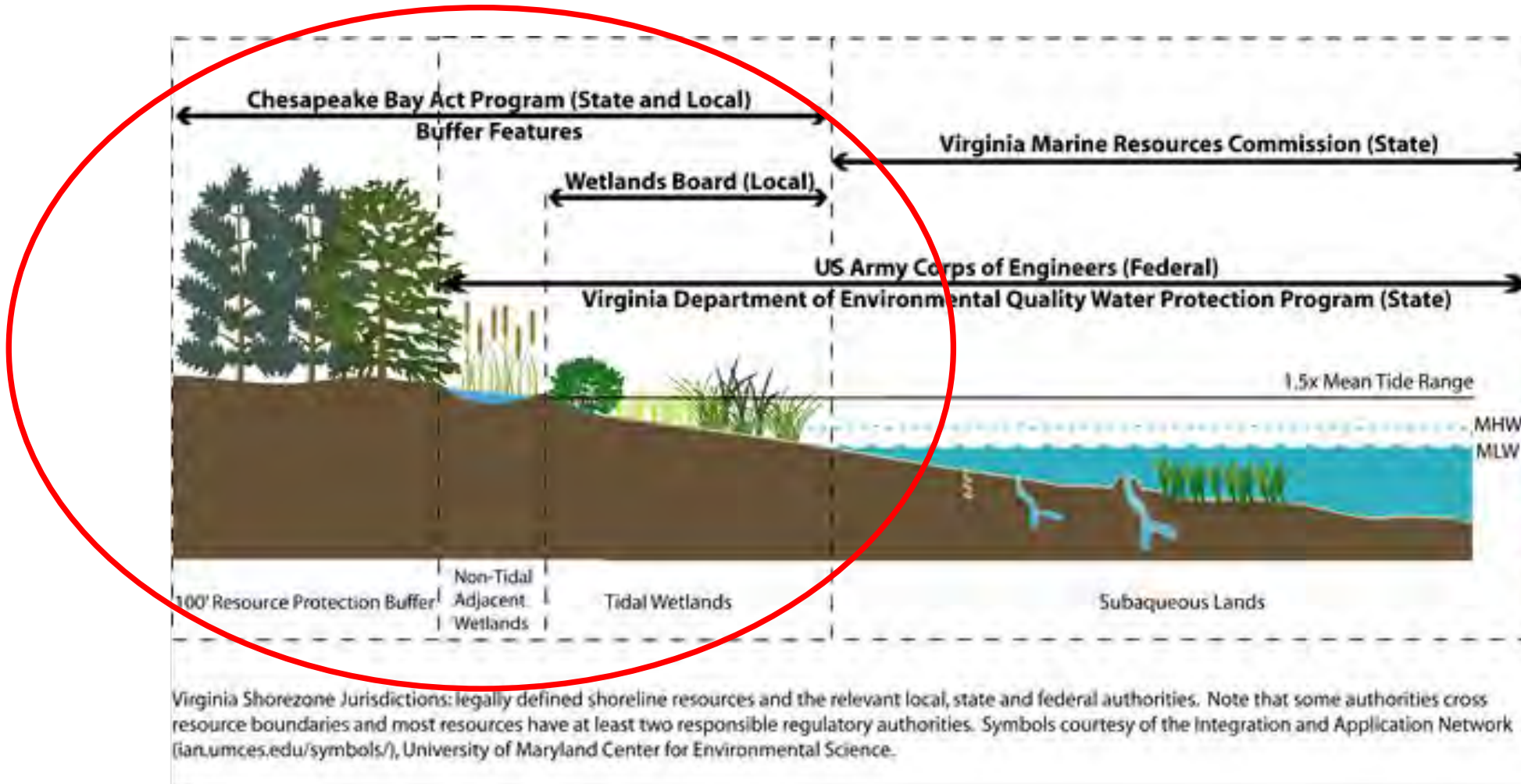


# MIGRATION EXAMPLE

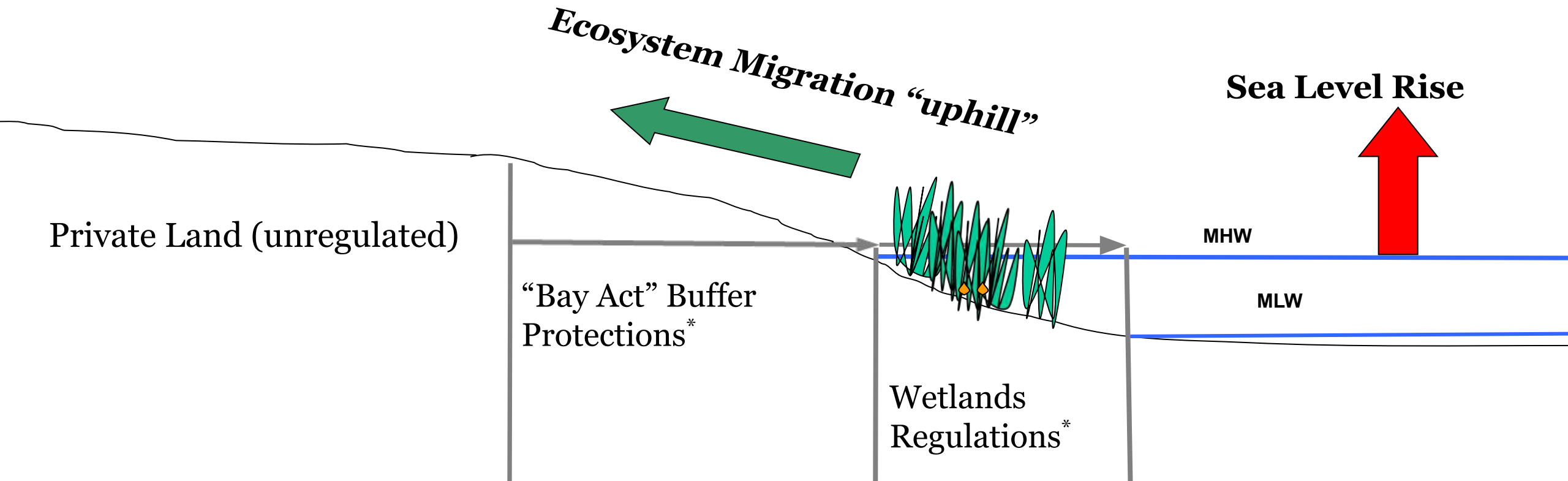
Image by Harold Burrell, VIMS



# SHORELINE REGULATORY LANDSCAPE

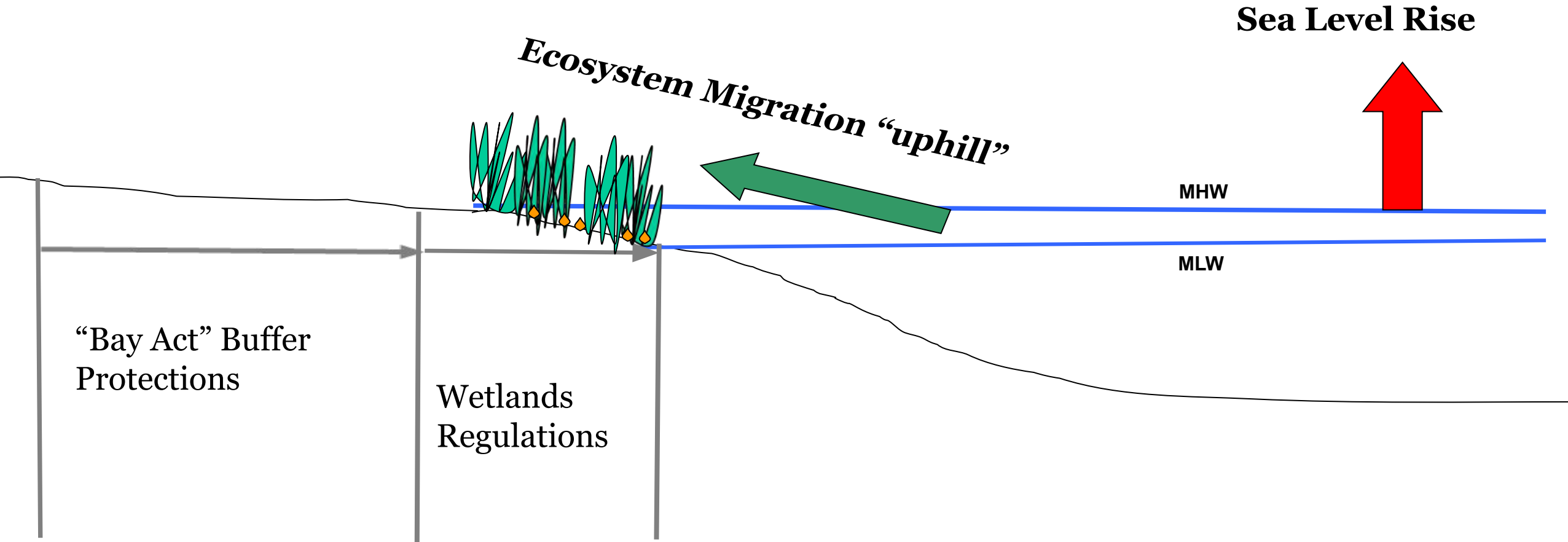


# SHORELINES ARE CHANGING AND REGULATIONS ARE IN THE MIX





# SHORELINES ARE CHANGING AND REGULATIONS ARE IN THE MIX



"Bay Act" Buffer  
Protections

Wetlands  
Regulations

MHW

MLW

Sea Level Rise

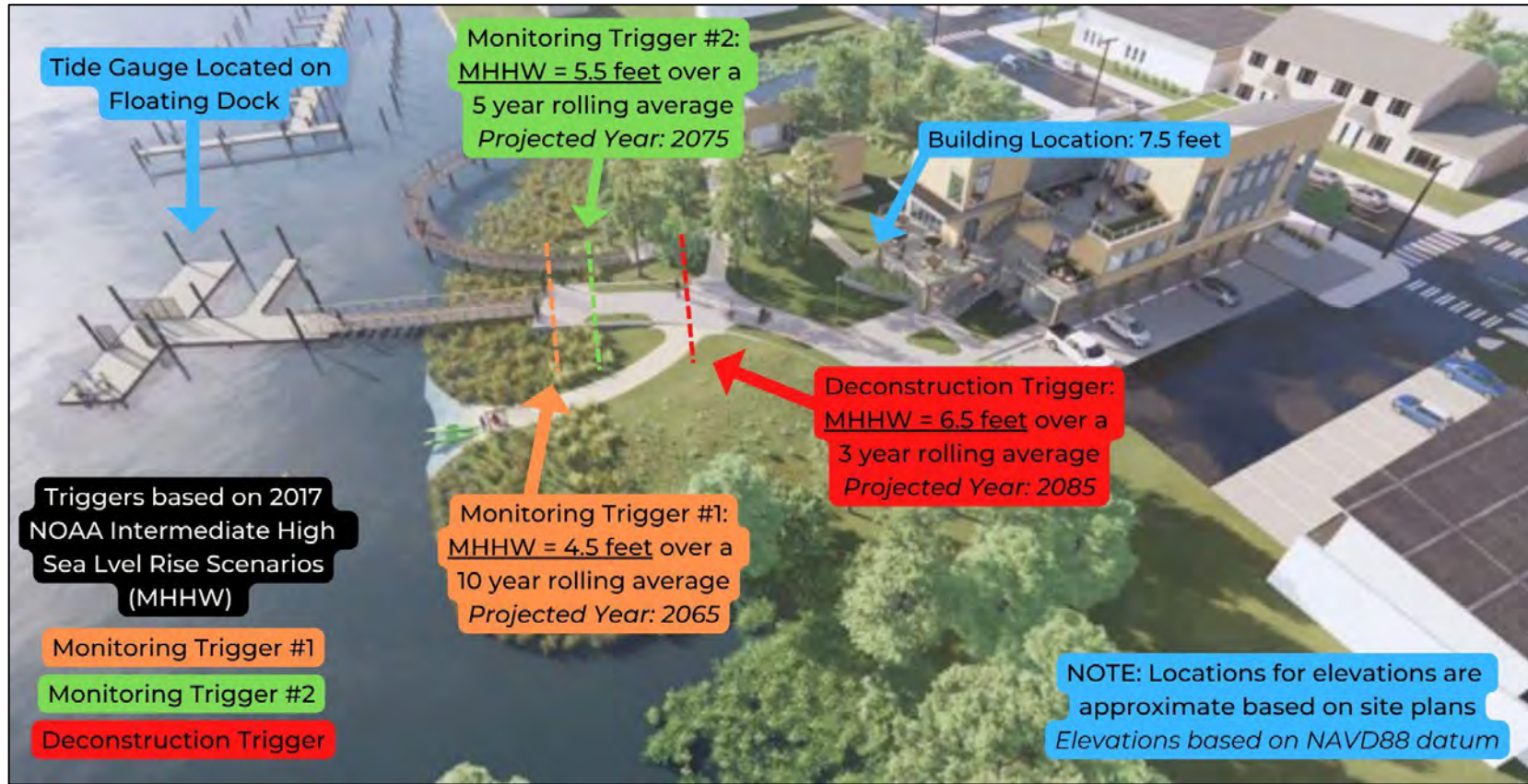
*Ecosystem Migration "uphill"*

# OUR FUTURE: SCIENCE FICTION MEETS THE WILD WEST



Photo: Don Bowers

# NEEDS: NEW & INNOVATIVE LEGAL TOOLS AND LAWS TO ANTICIPATE THE FUTURE

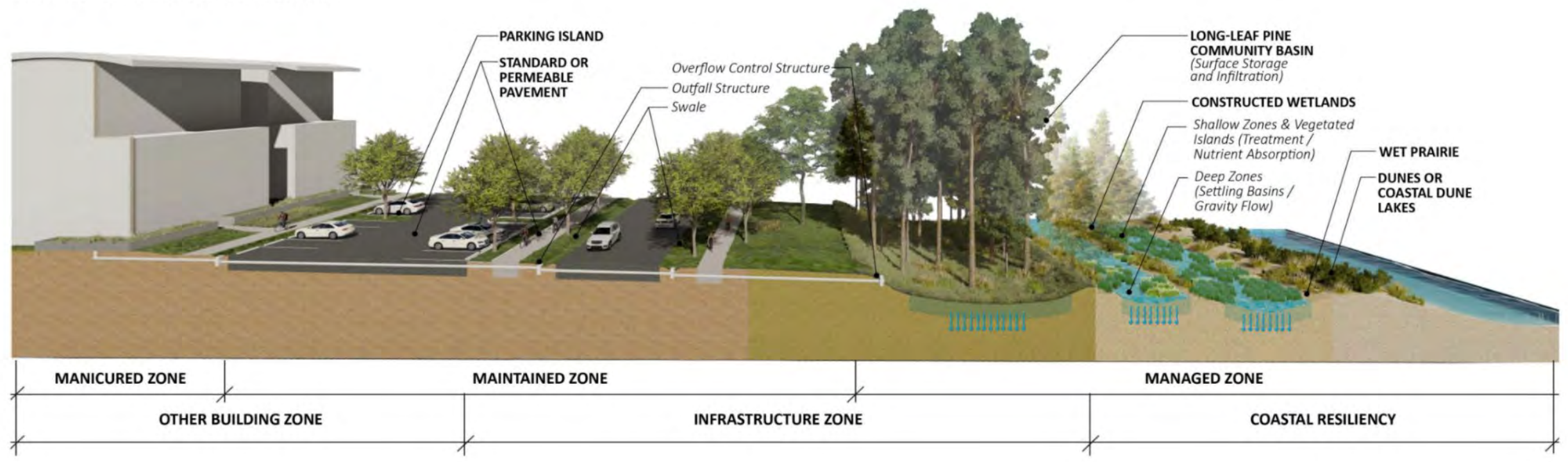


*First in nation  
“rolling  
conservation  
easement”*



# NEEDS: LIVING INFRASTRUCTURE TO CAPTURE RAIN/TIDAL FLOODING & SLOW IT DOWN

Exhibit C04-1. Stormwater Treatment Train



Credit: US Air Force

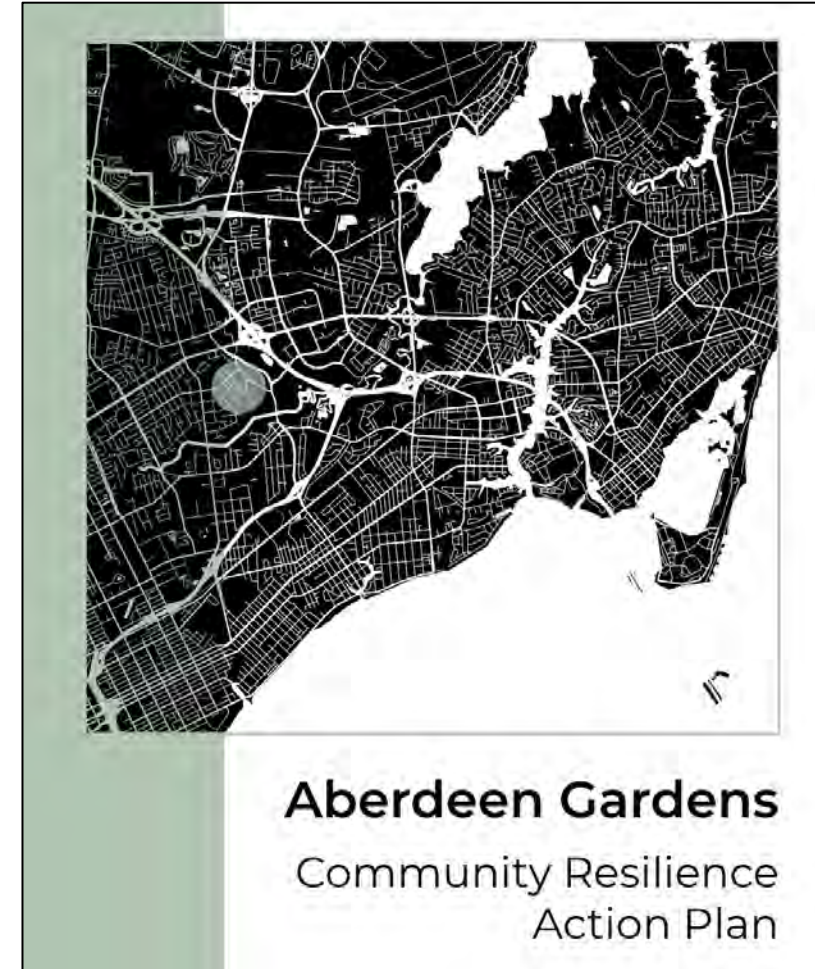
# NEEDS: WORKFORCE DEVELOPMENT + PIPELINE OF CLIMATE ADAPTATION PROFESSIONALS

*All levels of professionals: lawyers, planners, engineers, shoreline contractors, landscape architects, native plant growers, garden centers, community activists, grounds crews, nonprofit professionals, students!*



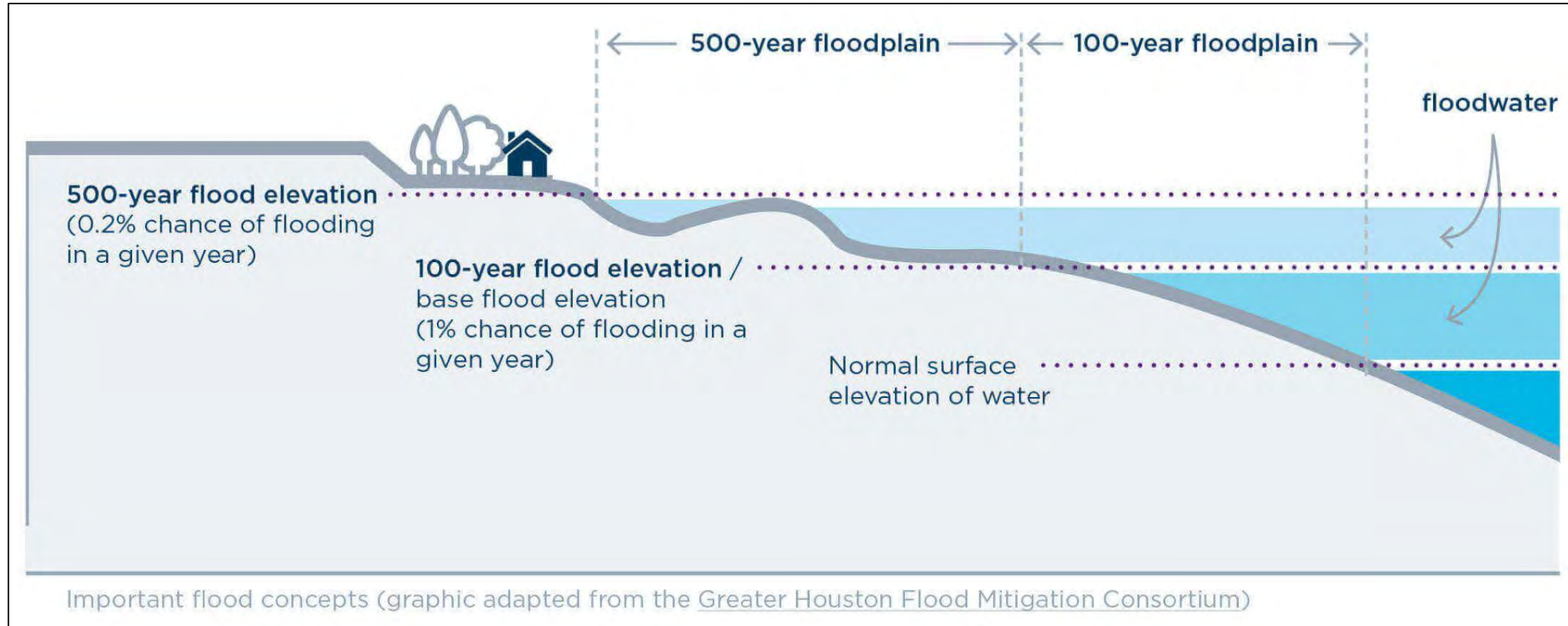


# NEEDS: NEIGHBORHOOD CENTERED SOLUTIONS





# NEEDS: STRONGER STATE & LOCAL FLOODPLAIN MANAGEMENT STANDARDS



# “FUNDERS” ARE MOVING LOCAL GOVERNMENT PROGRESS

## Credit Rating Agency Issues Warning On Climate Change To Cities

DECEMBER 1, 2017 · 5:10 PM ET

HEARD ON [ALL THINGS CONSIDERED](#)



Nathan Rott

**Show your work!**

## Moody's To Cities and States: Address Climate Change—or Else



[Steve Dubb](#)

December 4, 2017

# FEDERAL FUNDING

## **BILLIONS IN FEDERAL CLIMATE RESILIENCE FUNDING!**

- FEMA / HUD / EPA / NFWF / NOAA / NSF / USDA / & more

*Extremely competitive & costly to apply (~\$1,000 - \$10,000 per app.)*

*Do not require future conditions*

*Do not fund exploratory projects*

***Goals: Large infrastructure projects, centered in neighborhoods***

*Warning - prioritize community co-development*



# HUD \$112 MILLION GRANT: NORFOLK, VA

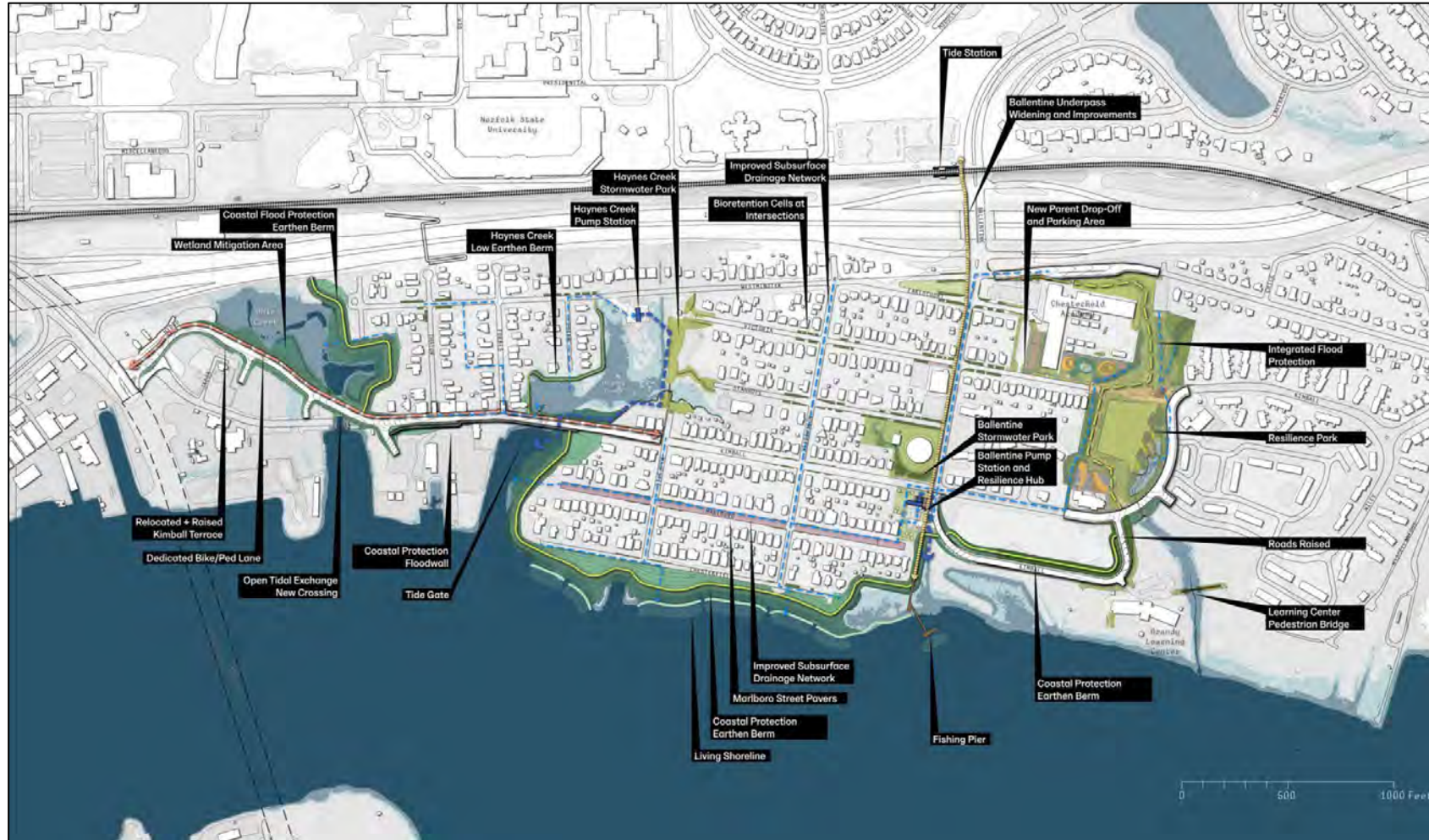


Photo: Waggoner & Ball

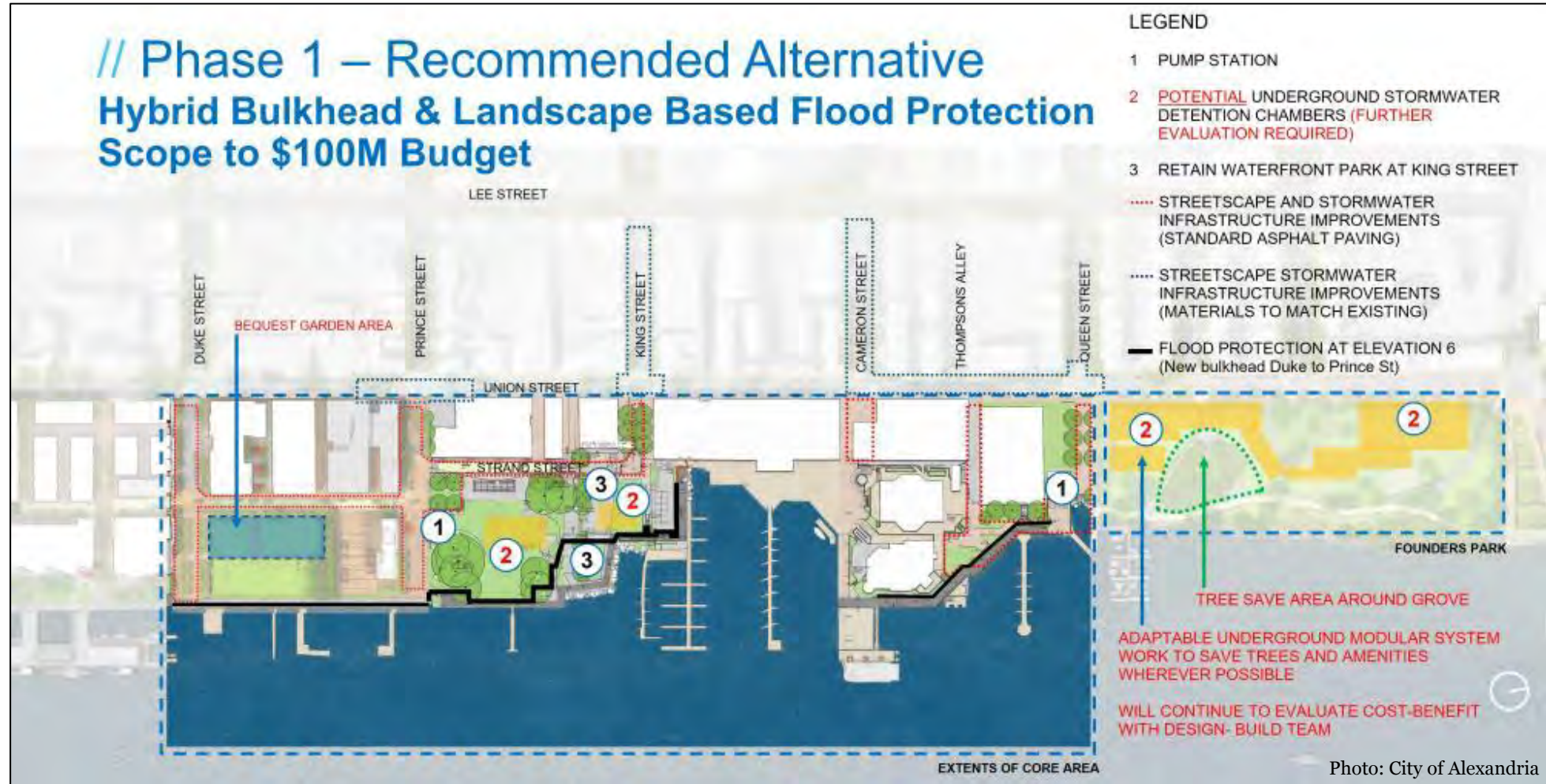
# HUD \$112 MILLION GRANT: NORFOLK



Photo: WHRO



# FEMA BRIC \$50 MILLION GRANT: ALEXANDRIA





# STATE FUNDING

## Virginia Community Flood Preparedness Fund (CFPF)

- Local government centered → \$150 million invested in VA
- Capacity building, studies, & projects
- Prioritizes planning *before* projects

## Resilient Virginia Revolving Fund (RVRF)

- Private property centered → \$0 distributed
- *Barrier: local government capacity to generally manage a loan program AND service a loan*

# STATE FUNDING

## Virginia Conservation Assistance Program (VCAP)

- Users: Soil & Water Conservation Districts (SWCD)
- *Barriers: reimbursement model, SWCD capacity, and lack of workforce to do the work funded by program*

## Coastal Resilience & Trees Fund (VOF / WW) - No 2025 \$

- Designed to address funding gaps & grant program pitfalls
- \$159,268 granted in inaugural year
- *Barriers: Funding tied to Virginia Outdoors Foundation land transaction recordation fees – no money in 2025*

# FOUNDATION / ORGANIZATION FUNDING

**Local governments need help - they're on the frontlines**

**Fund entities that help them or do the work they can't do**

- Ex: Southeast Rural Community Assistance Project (SERCAP), academic institutions, nonprofits like Wetlands Watch

**Best climate adaptation work happens through:**

- Local land use decisions (planning, zoning, building codes, flood zones, insurance, stormwater management etc.)
- Neighborhood and parcel scale strategies / improvements



# SCIENCE FICTION MEETS THE WILD WEST

*Entities engaged in this challenging work need funding that acknowledges the newness and uncertainty of the work.*

*We need resources to research, partner, experiment, and potentially fail*

# THANK YOU!



[mc.stiff@wetlandswatch.org](mailto:mc.stiff@wetlandswatch.org)