

“Resiliency Planning for Northern Virginia: Developing a Climate Adaptation Roadmap”

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METROPOLITAN WASHINGTON
Council of Governments

NOVA Climate Resiliency Roadmap

In 2016 NVRC awarded a grant from Virginia Coastal Zone Management Program to:

1. Identify and assess the effects of climate change on the natural and built environment of Northern Virginia;
2. Identify the policy framework surrounding climate change planning and adaptation;
3. Determine how to integrate climate change considerations into local plans and policies;
4. Identify methods to manage associated risks; and;
5. Collaborate with multiple stakeholders on developing a response for the region.



Northern Virginia Climate Resiliency Team

- Stakeholders from local governments
- Major land managers such as US Army, Marine Corps, National Park Service
- Non-profit environmental groups
- Water and sewer authorities
- Academia
- Private Sector

5 Meetings to work on roadmap- we have had 2 so far

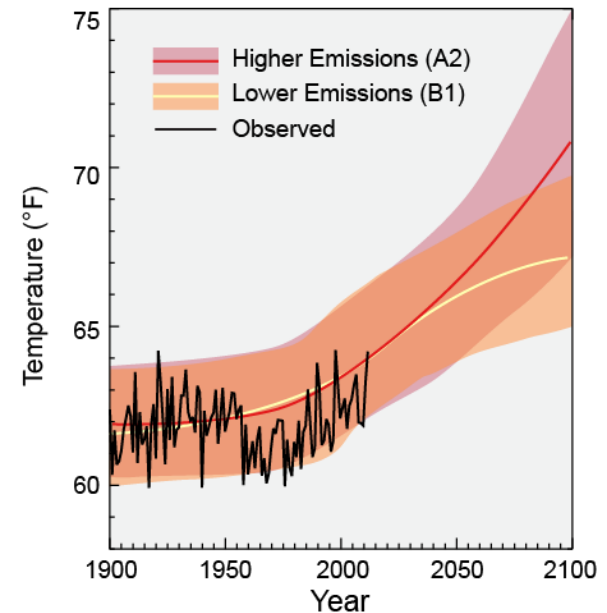
Primary Climate Stressors: Temperature

Temperature and Urban Heat Island Effect

- Days with heat index $>95\text{F}$ could rise from 29 days to 70 days by 2080
- Children, elderly, homeless, outdoor laborers at highest risk of heat related illness and death



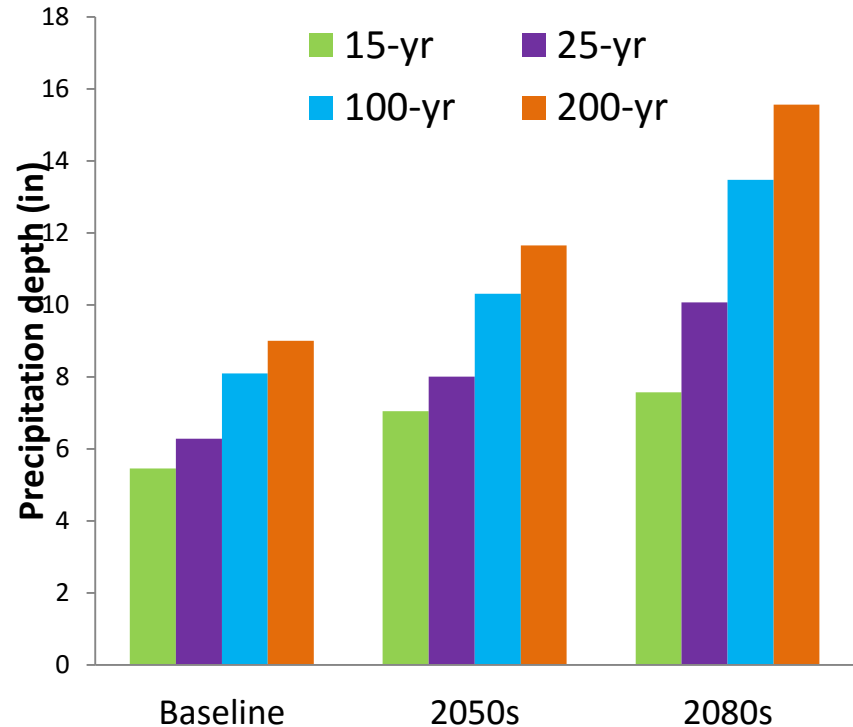
Southeast Temperature: Observed and Projected



Adapted from: Regional Climate Trends and Scenarios for the U.S. National Climate Assessment: Part 2. Climate of the Southeast U.S. NOAA Technical Report 142-2

Primary Climate Stressors: Extreme Precipitation

- trend towards increased heavy precipitation events will continue.
- Warming will cause tropical storms to be fewer in number globally, but stronger in force
- Design storms should look to the future



Reference: Climate Ready DC

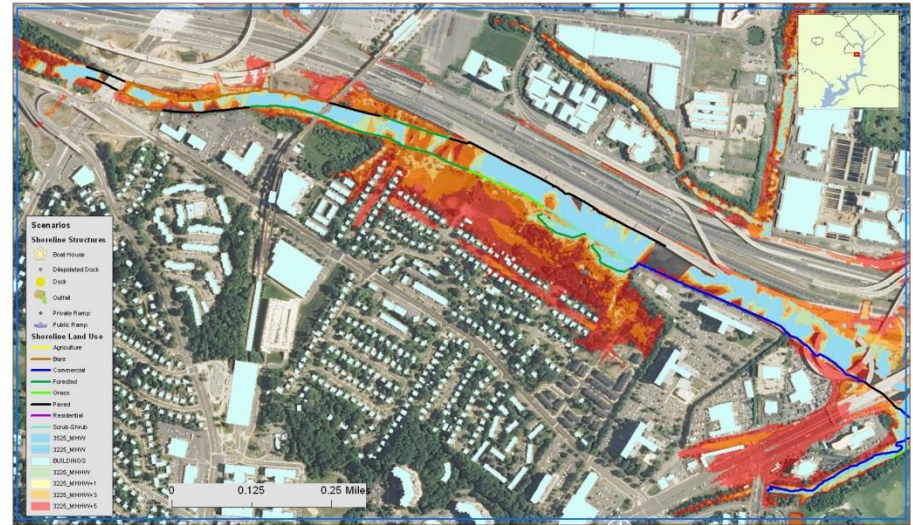
https://doee.dc.gov/sites/default/files/dc/sites/ddoe/publication/attachments/150828_AREA_Research_Report_Small.pdf



Primary Climate Stressor: Sea Level Rise and Storm Surge

- According to VIMS sea level rise is the underlying and persistent force responsible for shoreline change.
- Erosion
- Combined with land subsidence = RSLR
- More frequent inundation of low lying areas
- Larger range: 1-4 feet by 2080

Fairfax County - Huntington
Shoreline Land Use and Shoreline Structures



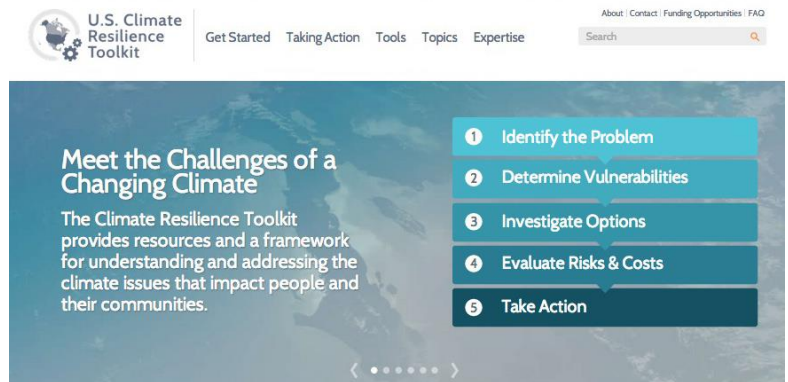
Critical Infrastructure

- Two major international airports: National and Dulles
- Multiple rail lines including the Washington DC Metro subway system, the Virginia Railway Express
- An extensive network of Interstate highways including I-66, I-95, I-495, and I-395;
- Notable national historic sites and landmarks including Mount Vernon and Arlington National Cemetery;
- The high concentration of data centers through which more than 70 percent of global Internet traffic flows.



Outcomes

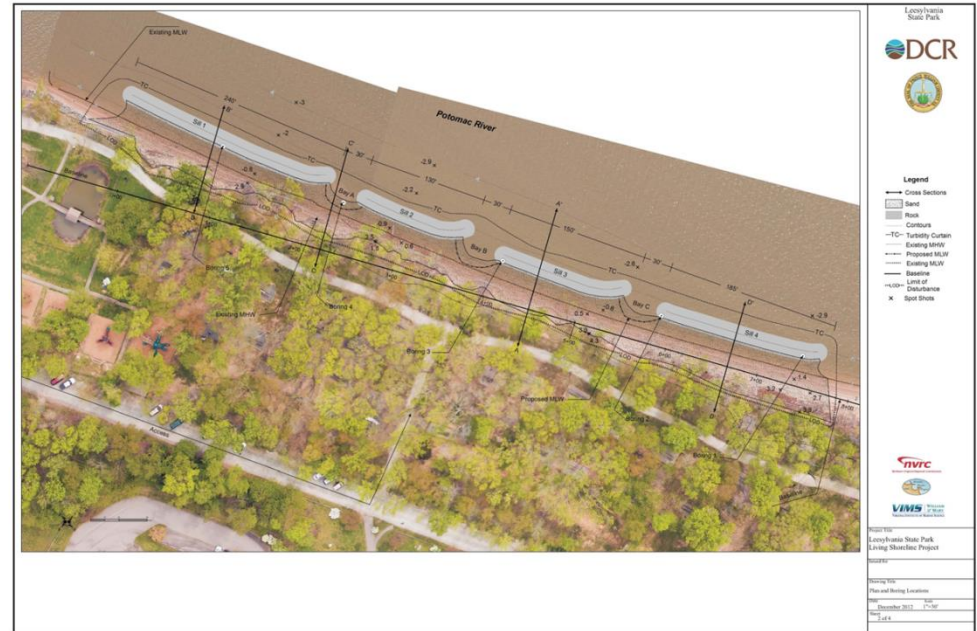
- Forum: Resiliency Planning for Northern Virginia - Held in November 2016
- Development of Climate Resiliency Team
 - Assessment of future conditions on people and places
 - Acknowledgement of data gaps/uncertainties
 - Identification of mitigation actions
 - Integration across government including emergency mgmt
 - Opportunities for Implementation



Northern Virginia Climate Resilience Roadmap

What does resiliency look like on the ground in Northern Virginia?

- Living shorelines
- “Beneficial Use” of dredged material
- Stream restoration
- Beach nourishment
- Tidal wetland restoration
- Limit development in floodplain
- Optimize CRS credits



Thank You
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