METROPOLITAN WASHINGTON DC COASTAL STORM RISK MANAGEMENT FEASIBILITY STUDY

Northern Virginia (NoVA) Coastal

Open House
September 11, 2019

Steve Walz, Metropolitan Washington Council of Governments
Jacqui Seiple, US Army Corps of Engineers

Metropolitan Washington Council of Governments

US Army Corps of Engineers
Baltimore District

U.S.ARMY

OPENING REMARKS

Steve Walz, Metropolitan Washington Council of Governments

PRESENTATION

Jacqui Seiple, US Army Corps of Engineers

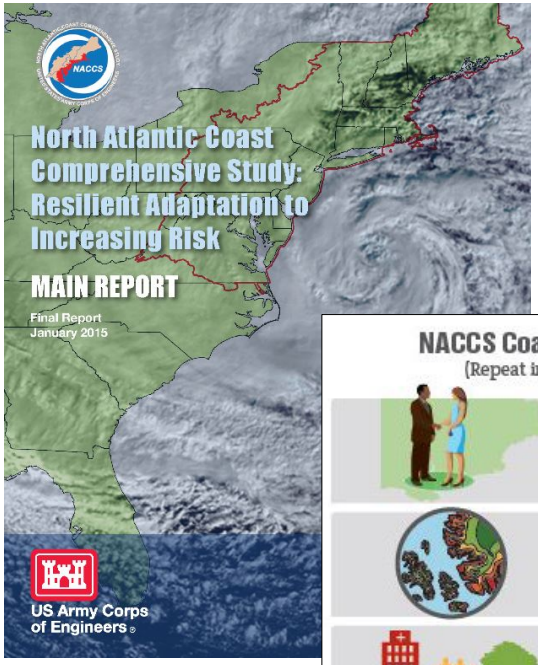
OPEN HOUSE PURPOSE

- Introduce the study to the public
- Obtain public input into problems & opportunities
- Discuss study schedule and further opportunity for input

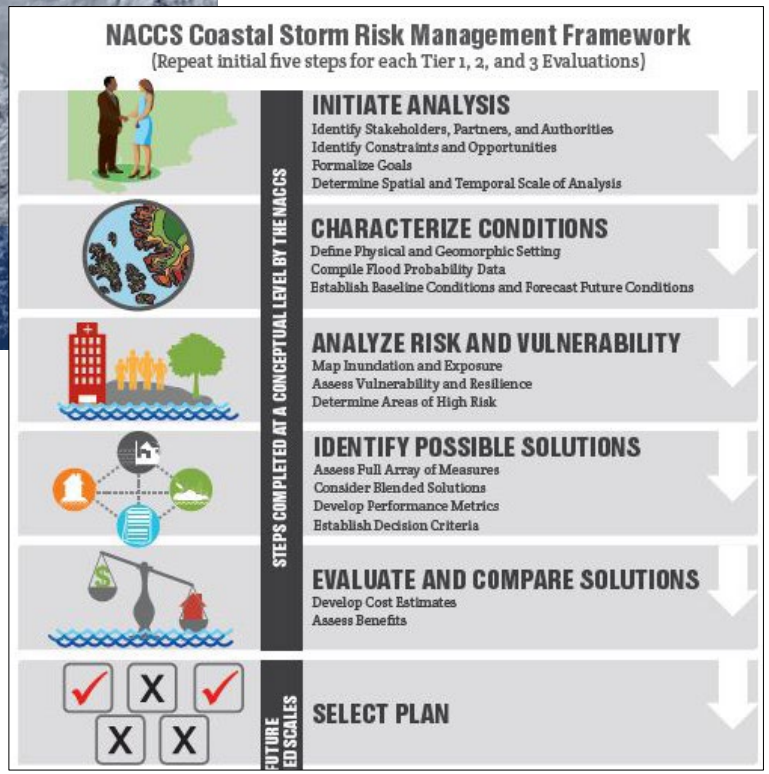
WE NEED YOUR INPUT

- Comment cards
- Post-it notes for problems & opportunities identification
- Study email address: MetroDCCoastalStudy@usace.army.mil

BACKGROUND
NORTH ATLANTIC COAST COMPREHENSIVE STUDY



NACCS (2015) was a detailed study to evaluate **coastal storm risk vulnerability** to populations, property, ecosystems, and infrastructure affected by Hurricane Sandy in the North Atlantic.



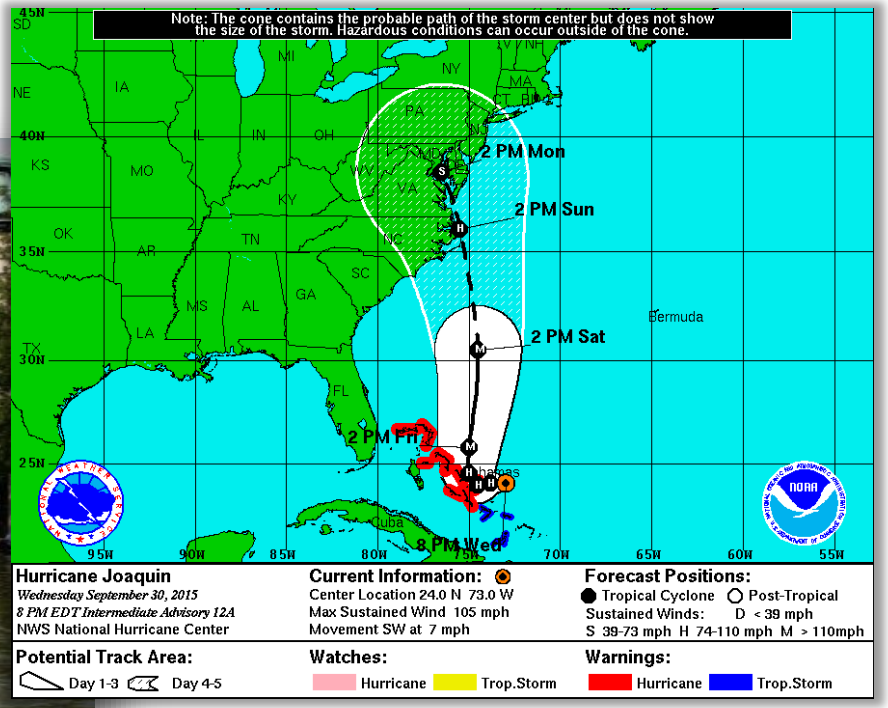
- Identified **10 areas particularly vulnerable** to coastal storms, including the DC Metropolitan Area and **northern Virginia**
- Developed a **framework for coastal storm risk management**

Metropolitan Washington Council of Governments
US Army Corps of Engineers Baltimore District
U.S.ARMY

NOVA COASTAL – STUDY GOALS

Reduce coastal flood risk to vulnerable **populations, properties, infrastructure**, and **environmental** and **cultural resources** considering future climate and sea level change scenarios to support resilient communities in northern Virginia.

City of Alexandria flooding during Hurricane Isabel, 2003
(Credit: Chesapeake Bay Program)



Hurricane Joaquin preliminary storm track
(September 2015)

Metropolitan Washington Council of Governments

US Army Corps of Engineers
Baltimore District

U.S.ARMY

STUDY PARTNERS

Feasibility Cost Sharing Agreement signed between the Army Corps and Metropolitan Washington Council of Governments (COG)

COG representing:

- Commonwealth of Virginia
- Arlington County
- Fairfax County
- City of Alexandria
- Prince William County
- Metropolitan Washington Airport Authority

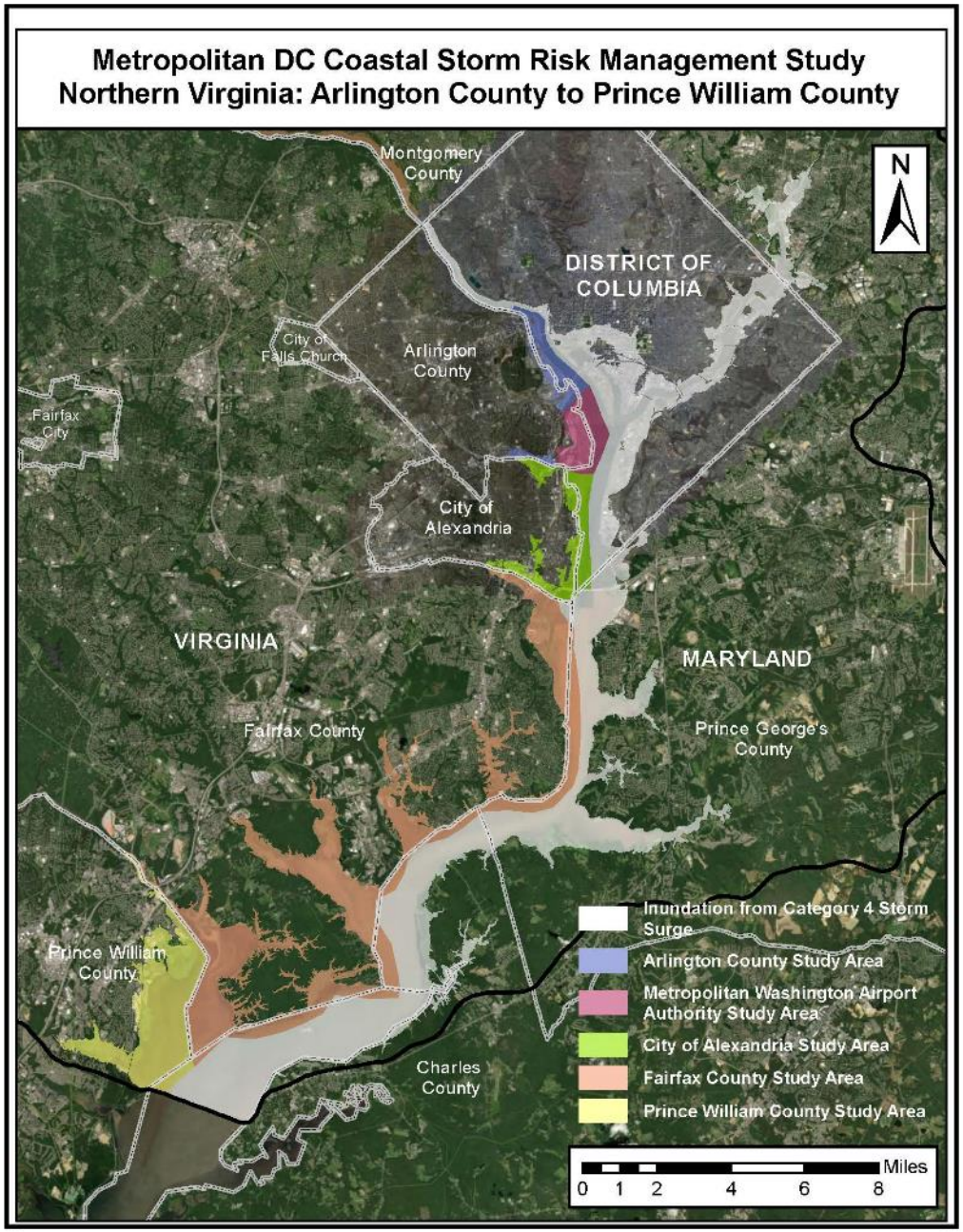
STUDY AREA

Defined by Category 4 storm

Identifying High Risk Areas:

- Study partner input
- NACCS vulnerable areas
- Flood inundation mapping

Example – Flood inundation mapping
for Potomac River stage of 12 ft (NAVD88)



PLANNING STRATEGY

Example – flood inundation overlaid on structure/infrastructure maps

Analyze risk & vulnerability:

- Determine **economic damages** from coastal flooding.
  - Structure inventory
- Identify **critical infrastructure** & weakness
- Evaluate **vulnerable populations**
- Identify **environmental & cultural resources**
- Determine **future conditions** (e.g., sea level rise)


Structural - breakwater

Identify & evaluate a range of possible solutions:

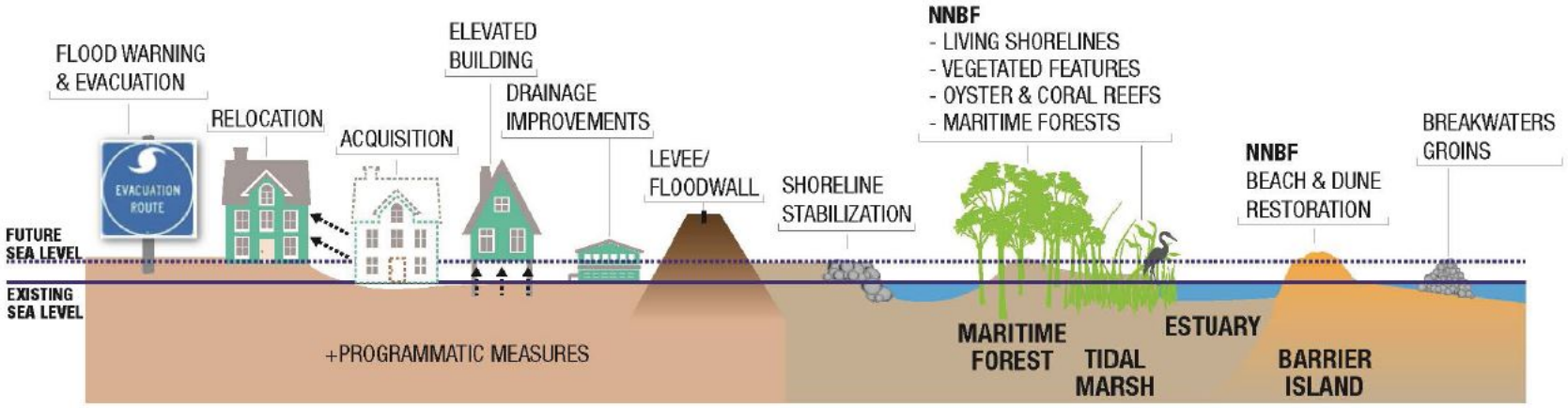
- **Structural** (e.g., breakwaters, jetties, levees)
- **Non-Structural** (e.g., structure elevation, flood proofing)
- **Natural and Nature-Based Features** (e.g., marsh restoration, oyster reefs)


Non-Structural - elevation

PLANNING STRATEGY

Recommend Solution:

- **Calculate damages** and the reduction in risk by implementing various solutions
- Calculate a **Benefit to Cost Ratio** (BCR) – benefits of the recommended plan compared to costs to construct & maintain
- Analyze **environmental and cultural impacts** of the recommendation
- Consider **social acceptability** of the recommendation



Metropolitan Washington Council of Governments

US Army Corps of Engineers Baltimore District

U.S.ARMY

STUDY PRODUCTS

- Flood Inundation Mapping
- Damage Assessment (structures and infrastructure vulnerability)
- **Study Report**
  - Recommendation for a plan to reduce coastal flood damages
  - Designs & Costs for Recommended Plan
  - Leads to congressional authorization for cost-shared engineering and construction of a project
- **Environmental Impact Statement**

Flooding in Huntington, Fairfax County

STUDY SCHEDULE

Milestone Name	Date
Study Start	July 2019
Public Open House	**September 2019**
Public Meeting on Proposed Recommendation	**Mid-2020**
Release Draft Report for Public Review	**September 2020**
Chief's Report (Submit report to Congress)	July 2022

STUDY POINTS OF CONTACT

Study Website: https://www.nab.usace.army.mil/NOVA_Coastal_Study/
Study Email Address: MetroDCCoastalStudy@usace.army.mil

USACE, Baltimore District
Tanveer Chowdhury, Project Manager:
Tanveer.G.Chowdhury@usace.army.mil; 410-962-8126

Jacqui Seiple, Study Manager/Lead Planner:
Jacqueline.A.Seiple@usace.army.mil; 410-962-4398

Metropolitan Washington Council of Governments
Steve Walz, Director, Dept. of Environmental Programs:
swalz@mwcog.org; 202-962-3205

Jeff King, Chief, Climate & Energy Programs:
jking@mwcog.org; 202-962-3238