

General Assembly Study Committee



SCP Recurrent Flooding Sub-Panel

Co-Chair Jim Redick

Background

- VIMS Report: *Recurrent Flooding Study For Tidewater Region (2013)*
- Acceptance of the issue; not asking “why”
- Approaching it like any other threat
- Identify gaps or duplications of effort
- Not creating anything new; rather, leverage existing plans, expertise and resources
- Consistent with Federal plans
- Identify recommendations as well as efficiencies
 - Presidential Preparedness Directive 8
 - Public, private, not-for-profit, higher education and military
- Open and Transparent

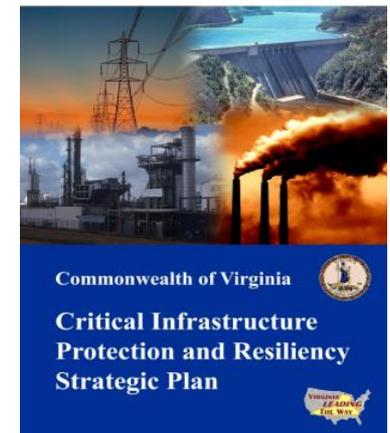
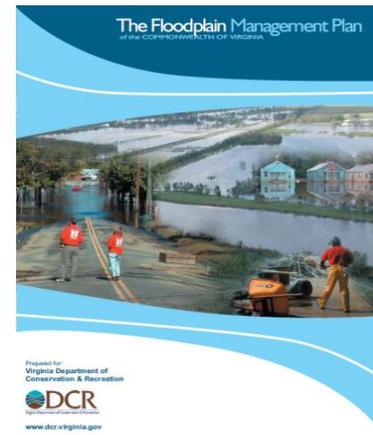
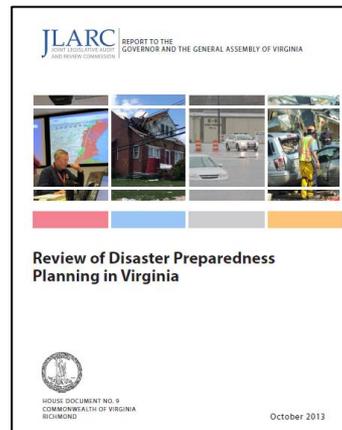
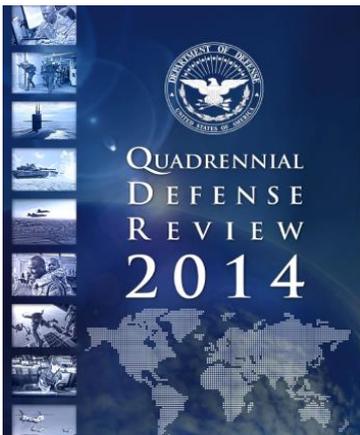
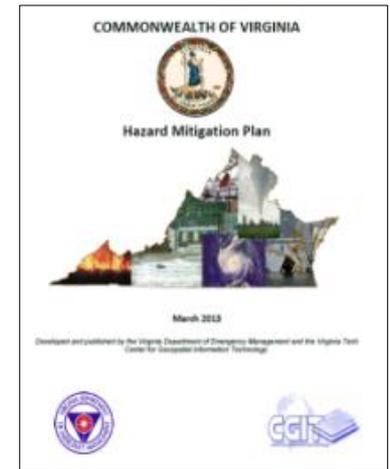
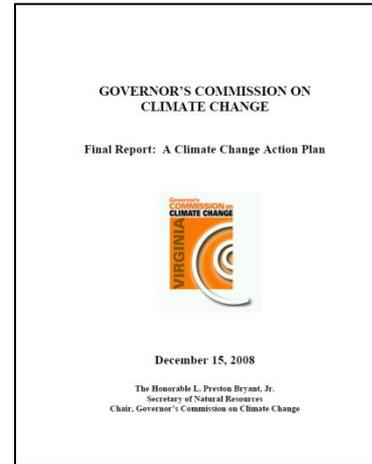
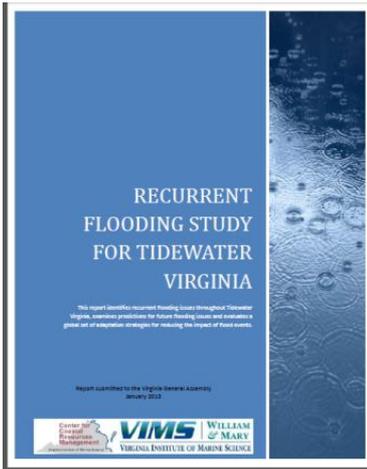
Threat

- High Probability / High Impact in Coastal VA
- Vulnerable economy
 - *Port, etc.*
 - *Loss of Businesses or Potential Businesses?*
- Vulnerable critical infrastructure
- Impact to national security
- Potential Land Loss
- Impacts on Cultural Resources

Stakeholders

Accomack - Northampton Planning District Commission
Agriculture and Consumer Services (VDACS)
DEQ Coastal Zone Management Program
Emergency Management, Department of (VDEM), Mitigation Division
Emergency Management, Department of (VDEM), IFLOWS
FEMA Region III,
Game and Inland Fisheries (DGIF)
George Mason University, Center for Climate Change Communication
Hampton Roads Planning District Commission
Marine Resources Commission (MRC)
Forestry, Dept. of
Fugro Consultants, Inc.
Health, Dept. of
Historic Resources, Dept. of
Homeland Security Protective Security Advisor
House Appropriations Committee
Localities
Mines, Minerals & Energy, Dept. of
NASA Langley Research Center, Environment Management Branch
National Weather Service
Navy , Department of, Task Force Climate Change
NOAA
Old Dominion University, Climate Change and Sea Level Rise Initiative
Private Insurers
Senate Finance Committee
State Corporation Commission, Bureau of Insurance
Transportation, Dept. of
United States Army Corps of Engineers
United States Coast Guard, 5th District
University of Virginia, Institute for Environmental Negotiations / Urban and Env. Planning
Virginia Association of Zoning Officials
Virginia Economic Development Partnership
Virginia Floodplain Management Association
Virginia Port Authority
Virginia Tech, Virginia Cooperative Extension
Wetlands Watch
William and Mary Coastal Policy Clinic
William and Mary, Institute of Marine Science (VIMS)
William and Mary Marshall-Wythe School of Law

Plans

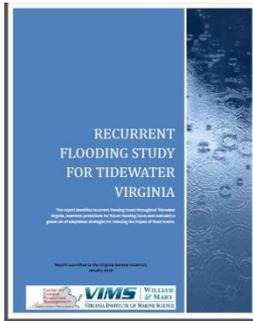


Sub-Panel Meetings

- **Sub-Panel**
 - *September 25, 2013 @ House 1, VA State Capitol, Richmond*
 - *November 25, 2013 @ VA War Memorial, Richmond*
- **Foundations Workgroup – Process & Policies**
 - *February 17, 2014 @ William and Mary Law School*
 - *April 10, 2014 @ Old Dominion University*
 - *June 13, 2014 @ Virginia EOC (Richmond)*
- **Data / Mapping Workgroup**
 - *February 5, 2014 @ NOAA CO-OPS (Chesapeake)*
 - *April 2, 2014 @ Virginia Institute of Marine Science*
 - *June 9, 2014 @ Army Corps of Engineers – Norfolk Office*
- **Outreach and Education Workgroup**
 - *April 1, 2014 @ George Mason University*
 - *June 11, 2014 @ William and Mary Law School*
- **Legal**
 - *All Workgroups*

Alfresca

Overlap among workgroups



VIMS Recommendation

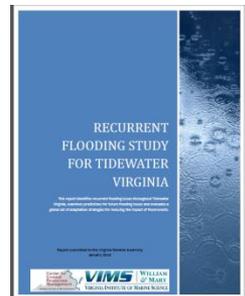
The State should take a lead role in addressing recurrent flooding in Virginia for the following reasons:

- a. Accessing relevant federal resources for planning and mitigation may be enhanced through state mediation.***
- b. Flooding problems are linked to water bodies and therefore often transcend locality boundaries.***
- c. Resource prioritization efforts will require consistent or standardized assessment protocols across all localities and regions.***
- d. Localities do not feel enabled to address all flooding and sea level rise issues.***

One Team, One Fight, One Voice. Unity of Effort.

VIMS Recommendation

The State should request an expert review of local government legal authority to address current and projected flooding risks and what levels of evidence are likely to be required to justify locality action. The State should then enact any enabling authority needed to allow localities to address current and projected flooding issues.



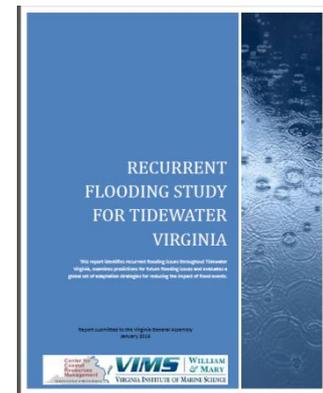
Legal Issues



- **William & Mary Virginia Coastal Policy Clinic**
- **Virginia Attorney General's Office**
 - ***Dillon Rule Limitations***
 - ***Legal Authority for Potential Adaptation Measures***
 - ***Home Buyer Protection / Disclosure Laws***
 - ***Protection of Critical Infrastructure and Key Resources (Regulation)***
 - ***Litigation for Inaction...***
- ***Compendium for localities***

VIMS Recommendation

Given the long time frame necessary to effectively address recurrent flooding and sea level rise issues and given the speed at which risks are projected to increase, Virginia and its coastal localities should immediately begin comprehensive and coordinated planning efforts.



Sub-Panel Initial Recommendations

- Establish an “**Incident Command**” Structure inclusive of all primary and support agencies.
 - Working concurrently with the U.S. Army Corps of Engineers and their work on the North Atlantic Coastal Comprehensive Study (NACCS).
 - Adopt and encourage NACCS ranges as the baseline to which the Commonwealth plans for Sea Level Rise.
- Incorporate an “**Incident Action Plan**”
- **Financing**
 - Consider Tax Credits and Incentives
 - Consider utilizing bonding Capacity of the State, which is lower than the localities.
 - Recommend a change in how the OMB can change match funding requirements.
 - If a locality is working on a grant and has/provides/includes data/information of value to use, recommend that data have a value assigned and used as part of local match.

Secure Commonwealth Panel

“Resilience Coordinator”

White House Task Force Climate Preparedness & Resilience

Mid-Atlantic Regional Council on the Ocean (MARCO)

Coastal States Organization (CSO)

Planning Section

Observations / Forecasts (Environmental)

Mitigation Strategies (ODU CCSLRI / MAR)

Project Prioritization

Regional Collaboration (See Liaison Groups)

Funding

Legislative Review




Conservation and Recreation (DCR)*†!+☼
 Emergency Management (VDEM)*
 Environmental Quality (DEQ)#
 FEMA Region III
 National Resources Conservation Service (NRCS)
 National Weather Service (NWS)
 U.S. Corps of Engineers (USACE)
 U.S. Geological Survey (USGS)

NOAA Office of Ocean and Coastal Resource Management (OCRM)
 Transportation (VDOT)*†
 Chesapeake Bay Preservation*
 State Water Control Board*
 Game and Inland Fisheries*+☼
 Forestry*†
 Housing and Community Development*
 Mines, Minerals and Energy*†
 Virginia Marine Resources Commission (VMRC)*+☼
 Virginia Waste Management Board*
 Virginia Soil and Water Conservation Board*
 Department of Health (VDH)+☼
 Agriculture and Consumer Services (VDACS)#☼
 Historic Resources#☼
 Virginia Economic Development Partnership!
 Virginia Institute of Marine Sciences☼
 Planning District Commissions☼
 Higher Education (W&M VIMS & VCPC, ODU MARI, GMU)
 DoD / Virginia Military Advisory Council
 VACo and Virginia Municipal League
 Wetlands Watch
 Lifeline Critical Infrastructure Sectors

Outreach/ Education

Financial Section

VA CZM Funds

Grants

Flood Losses

Operations Section

Current Projects / Implement Strategies

Logistics Section

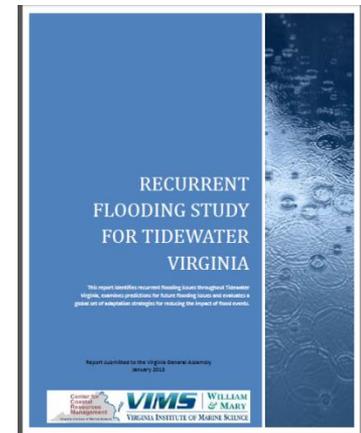
Data / Mapping Tools

* indicates mention in State Code § 10.1-659. Flood Protection Programs; coordination
 † indicates Lead in State Code § 10.1-602. Powers and Duties of Department (DCR)
 ! indicates Lead in Virginia Flood Damage Reduction Act of 1989
 # indicates Lead in Governor McDonnell’s Executive Order 18 (2010): Continuation of the Coastal Zone Mgmt Program
 + indicates primary role in Governor McDonnell’s Executive Order 18 (2010): Continuation of the Coastal Zone Mgmt Program
 ‡ indicates support role in Governor McDonnell’s Executive Order 18 (2010): Continuation of the Coastal Zone Mgmt Program
 ☼ indicated Lead in Virginia Coastal Zone Management Program
 ☼ indicates participation in Virginia Coastal Zone Management Program

VIMS Recommendation

The State should initiate identification, collection and analysis of data needed to support effective planning for response to recurrent flooding issues in Virginia

*Essential Elements of Information
Planning versus Response*



What Information is Needed?

- GIS
- Based flood elevations
- Building elevations
- Elevations of structure (center line)
- Bathymetry (elevation of water)
- Comprehensive plans
- Depth grids
- FEMA maps
- Flood Depth Grids
- Google earth
- Google engine
- Hydraulic models
- Land use Plans
- LIDAR data
- Title data
- Recorded rain fall
- Typography
- Subsiding projections
- Tidal data and gauging
- Information on previous damage
- Mitigation
- Storm surge
- NOAA sea level rise viewer
- Sea level rise scenarios

Multiple Users

Credible, accurate maps for businesses!

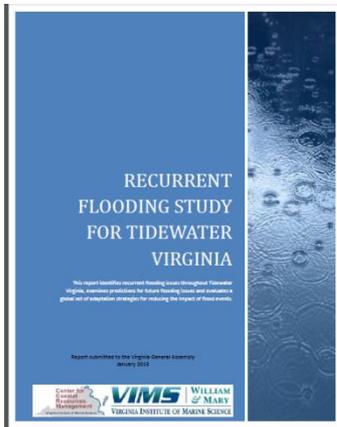
Sub-Panel Initial Recommendations

- Establish **A SINGLE POINT OF REFERENCE** for information on which to access consistent, timely and accurate information.
 - Virginia Information Sharing Program (VISP)
 - Awareness Packages base on Need (and permissions)
- Tap into the Critical and Situational Awareness Working Group (CASAWAG) and take the governance and policy models they developed and apply them to this information sharing initiative.
- For a more accurate vulnerability assessment throughout the Commonwealth (also necessary for hazard mitigation planning), work with the Army Corps of Engineers, DCR and localities to update local HAZUS data (make requirement for funding eligibility)
- Develop and implement a Post-Incident Data Collection Plan. Deploy volunteers, damage assessment teams and community (via social media) to capture high water marks.
- Invest time and effort into maximizing use of FRIS; utilize that data in a public-facing view of VISP.

VIMS Recommendation

The State should develop a comprehensive strategy for addressing recurrent flooding issues throughout Tidewater Virginia.

- a. Part of that strategy should include prioritization of areas for flood management actions based (in part) on risk***
- b. Detailed studies should be done of prioritized areas to determine:***
 - i. Potential adaptation strategies appropriate to the area***
 - ii. Implementation feasibility of identified strategies***
 - iii. Cost/benefit of identified strategies***



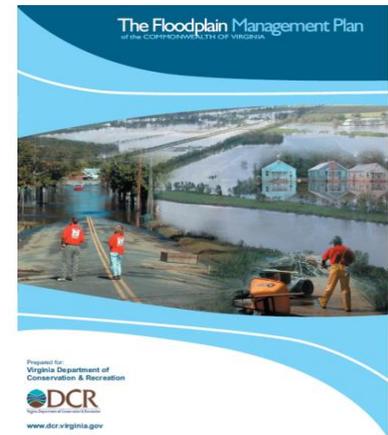
Sub-Panel Initial Recommendations

Localities: *Difficult Land Use Decisions;*
- Recovery Plan Ready

State: *ICS Planning Section to Utilize USACE NACCS Assessment*

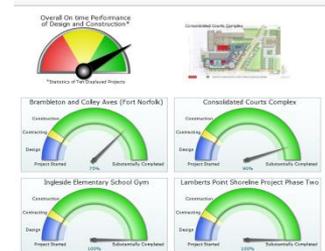
- *Risk Exposure and vulnerability*
- *Critical Infrastructure Protection*
- *Life expectancy of the structure to ensure return on investment*
- *Social Impact*
- *Real-Estate Plan*
- *Appropriate Mitigation Strategy*
- *CRS points evaluation*

Flood Management Plan = Incident Action Plan

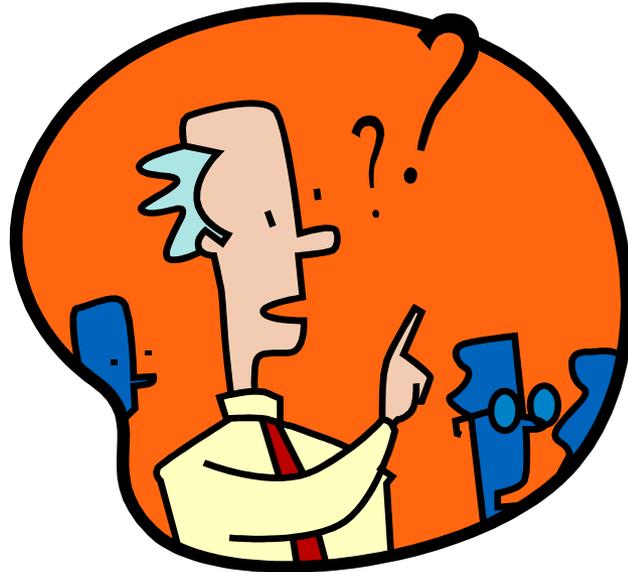


Outreach & Education

- **Remain Optimistic!** Along with announcing the challenge, share resources as well.
- Establish communication / information sharing plan. Outreach materials, etc... - all using the same information if not consolidating into one effort.
 - Personalize the information to the intended audience.
 - Leverage the currently-existing ReadyVirginia App to share flood preparedness information as well as capture and report flooded areas / high water marks.
- Working with local media, adopt a standard method used to determine and communicate “mean high tide”. Is maximum astronomical tide to be used? Another?
- Training for localities on the benefits and challenges of both the NFIP and CRS.
- Provide awareness training for Realtors, Appraisers, Banks and Lenders...
 - Involve Associations...
 - Tie to continuing education credits
- Develop Real Estate disclosure modification strategy.
- Training workshops for the private sector industries
- Establish an information sharing consortium among the Virginia higher education institutions to share survey results.
- Maintain a comprehensive website with not only access to all flood-related materials, plans and resources, but a list of all past, current and proposed flood mitigation projects.
 - Include project performance dashboards
 - Include Property info available for look-up



Questions?



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