

Joint Subcommittee to Study Recurrent Flooding

1:00pm, November 9, 2015

Deputy Secretary Adam K. Thiel

Office of the Secretary of Public Safety and Homeland Security



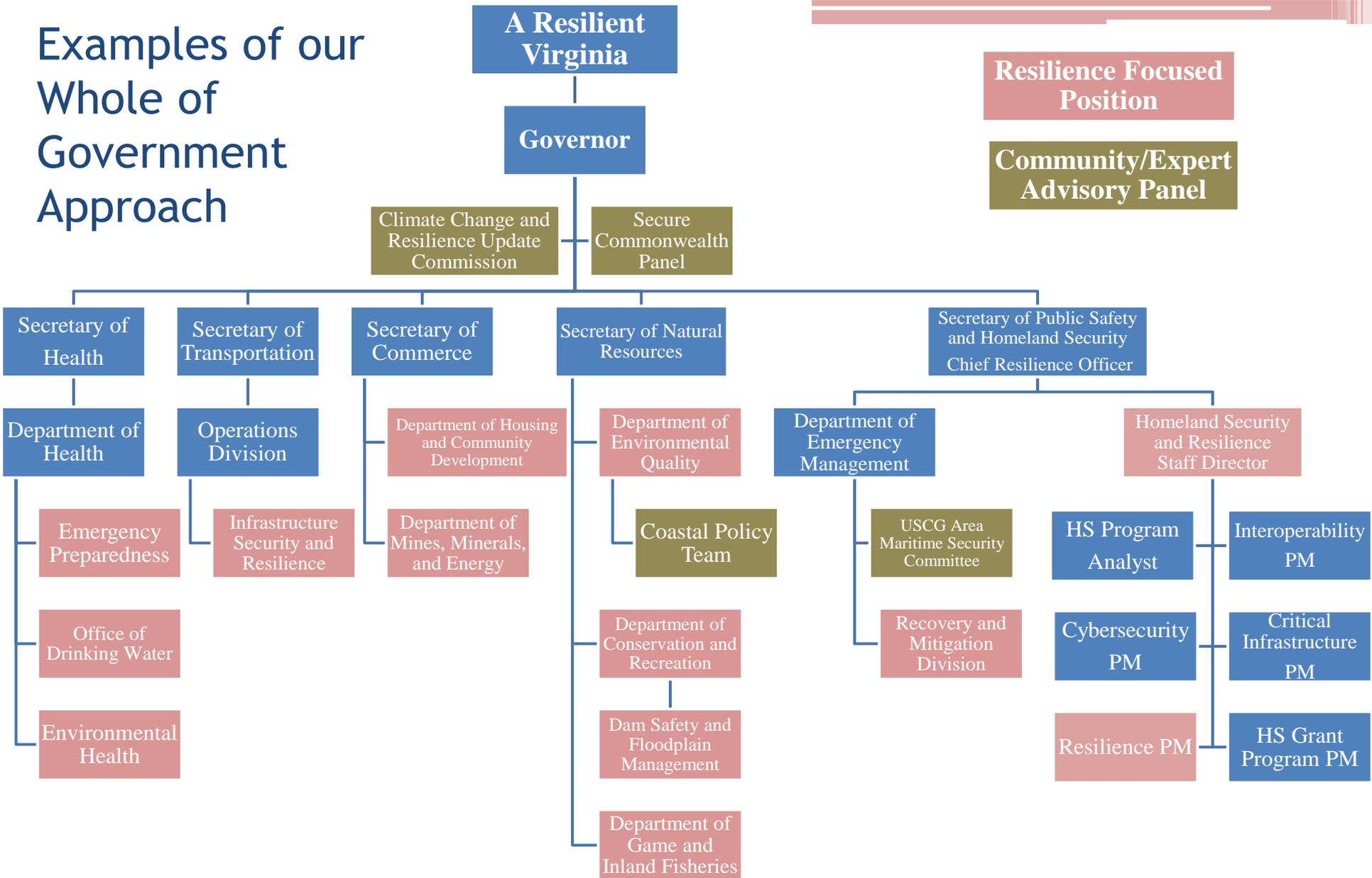
Secretariat Resilience Efforts

The Commonwealth's initial point of contact responsible for coordination and collaboration throughout state government, localities, the private sector, non-governmental organizations, and our federal partners.

Resilience demands a broad, multi-discipline, multi-competency approach



Examples of our Whole of Government Approach

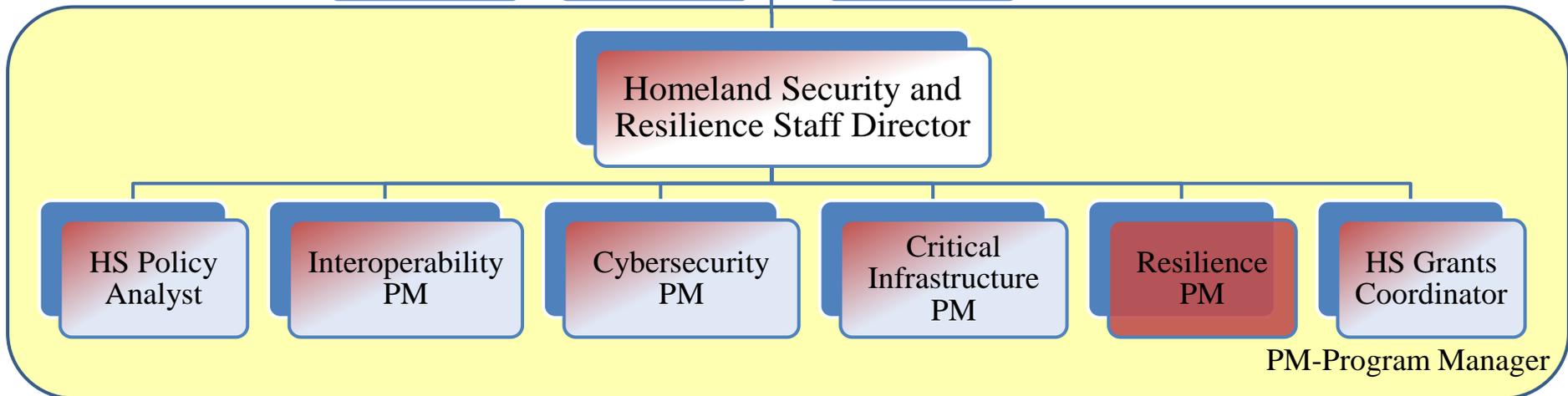
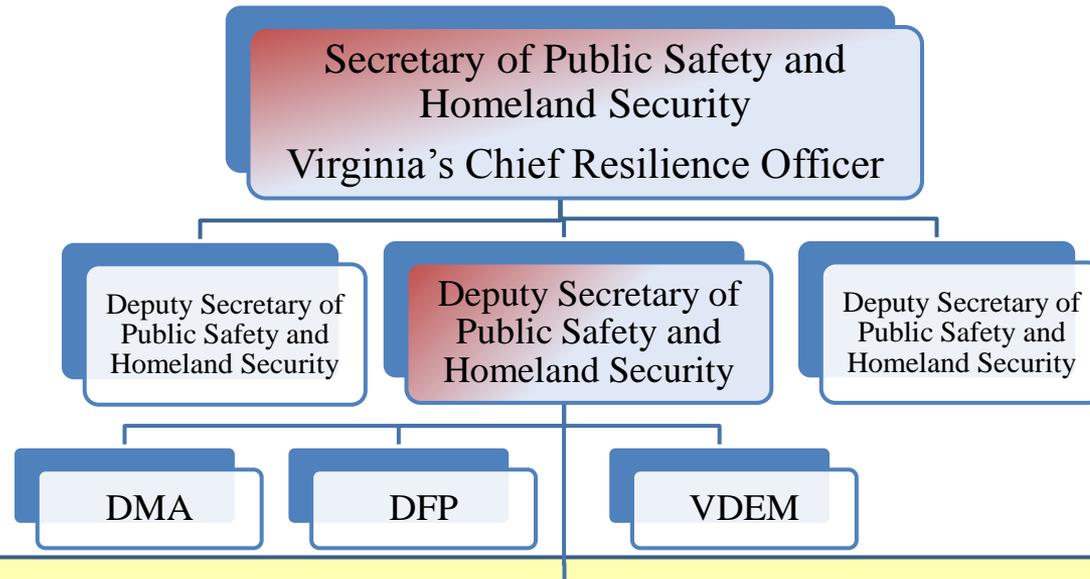


Resilience Focused Position

Community/Expert Advisory Panel

PM-Program Manager

Homeland Security and Resilience Group



Resilience - A Whole of Commonwealth Approach: Synchronizing Efforts

- Commonwealth Chief Resilience Officer
- Homeland Security and Resilience Staff Group
- Intergovernmental Pilot Project
- Virginia Area Maritime Security Committee

Collaboration & Coordination

- HUD-NDRC Grant Application

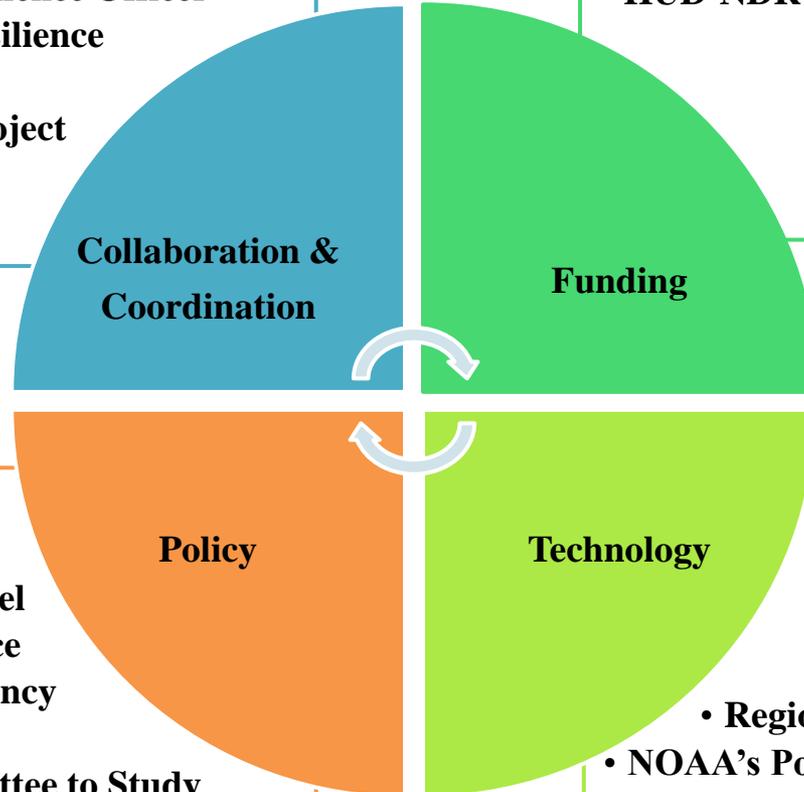
Funding

- Secure Commonwealth Panel
- NGA/DoE Energy Assurance
- Climate Change and Resiliency Update Commission
- Joint Legislative Subcommittee to Study Recurrent Flooding

Policy

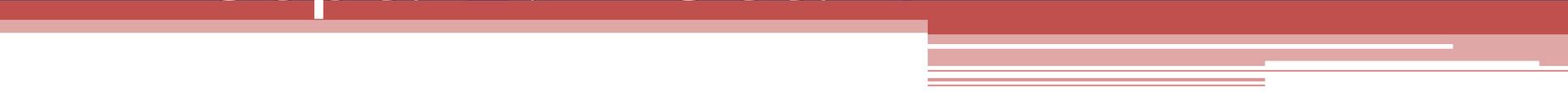
- Regional Resilience Dashboard
- NOAA's Port of Tomorrow
- VDEM/USACE 2-year Hurricane Study

Technology



Severe Weather Event

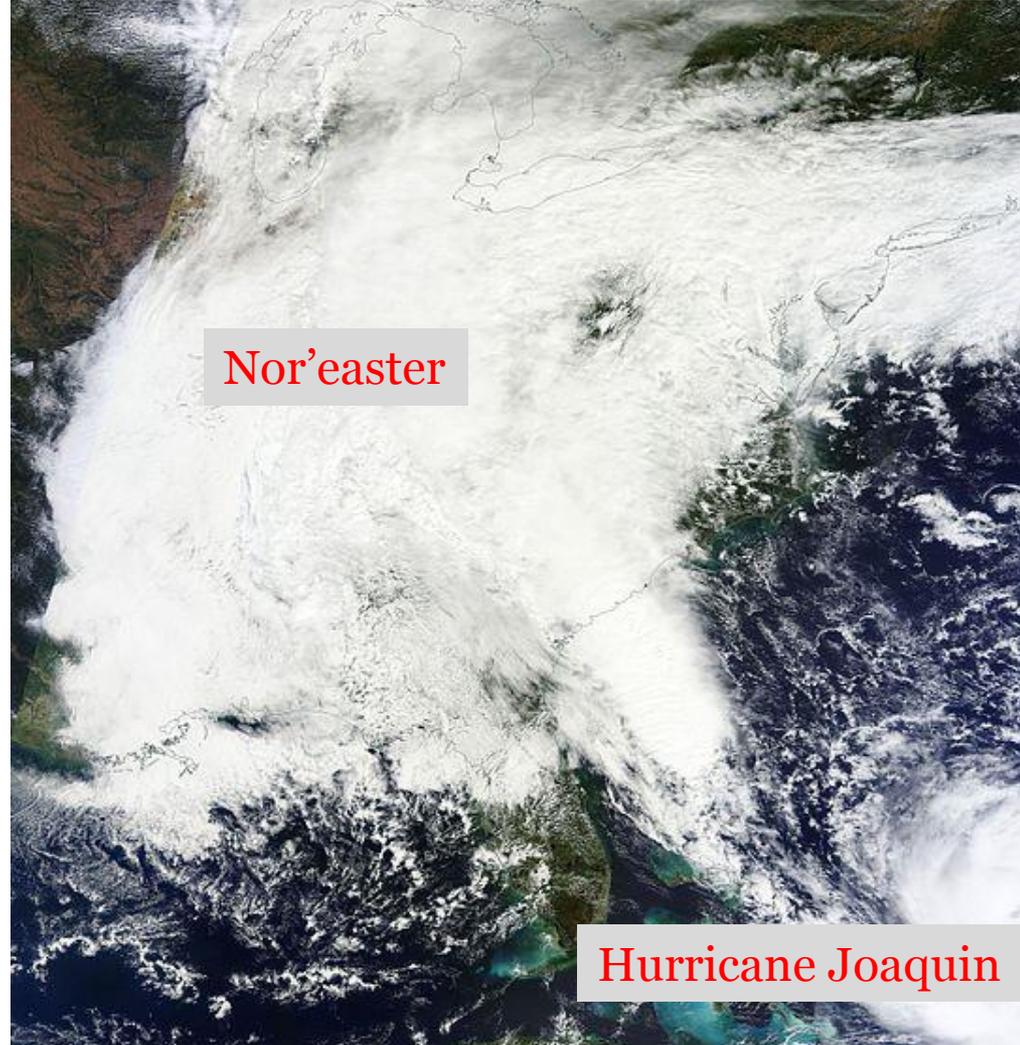
Sept. 29 - Oct. 4

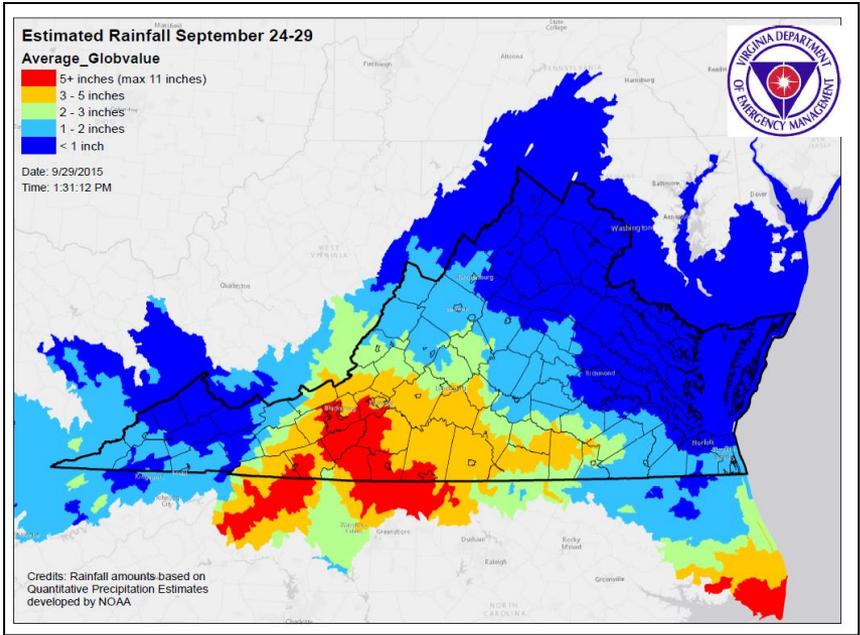
A decorative graphic consisting of a thick red horizontal bar that spans the width of the slide. Below this bar, on the right side, there are several thin, parallel white lines that extend horizontally and then turn vertically, creating a stepped or layered effect.

October 2015 North American Storm Complex

- Two major storm systems, both originally forecasted to strike Virginia directly:
 - **Nor'easter**
 - **Hurricane Joaquin**
- Formed September 29, dissipated October 7
- At least 25 deaths
- Affected the east coast and Atlantic Canada

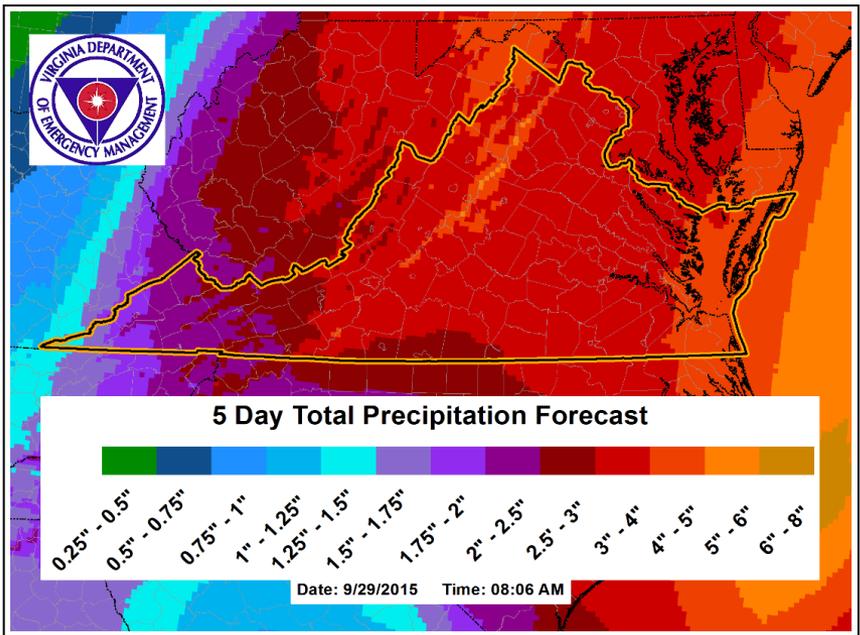
Satellite image of the storm over the Eastern United States on October 3, with Hurricane Joaquin to the southeast.





- SW Virginia received 5-11” of rainfall preceding the Nor’Easter.
- Widespread ground saturation and flash flooding.
- Road and school closures, delays, transportation detours, and required a local shelter – Salem.
- Patrick County and Floyd County declared local emergencies.

- The Bob White Bridge in Patrick County washed away.
- NOAA forecasted additional rainfall across the Commonwealth from the Nor’Easter and from the forming tropical storm.
- Continued widespread rain would directly impact the Commonwealth.



Wednesday 9/30 5:00 AM



Wednesday 9/30 8:00 AM

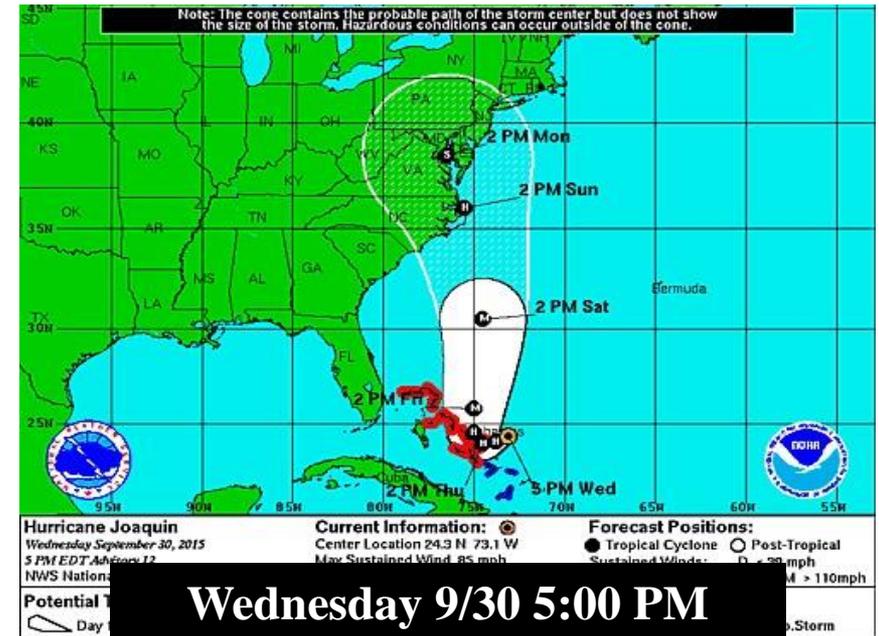


Note: The cone contains the probable path of the storm center but does not show the size of the storm. Hazardous conditions can occur outside of the cone.



Wednesday 9/30 11:00 AM

Note: The cone contains the probable path of the storm center but does not show the size of the storm. Hazardous conditions can occur outside of the cone.



Wednesday 9/30 5:00 PM

Governor Declared a State of Emergency



Wednesday, September 30 at 5:04pm 9/30.

Preparing for the Worst



Activated the Virginia Emergency Support Team (VEST).



Conference calls with localities to enhance situational awareness and identify needs. Updates communicated to the Governor's office and the General Assembly.



Pre-positioned resources including National Guard, VSP Swift Water Rescue Teams etc.



Public and media were kept informed via social media and press releases.

Hurricane Joaquin Category 2 Wednesday 9/30 8:00 PM



Hurricane Joaquin
 Wednesday September 30, 2015
 8 PM EDT Intermediate Advisory 12A
 NWS National Hurricane Center

Current Information:
 Center Location 24.0 N 73.0 W
 Max Sustained Wind 105 mph
 Movement SW at 7 mph

Forecast Positions:
 ● Tropical Cyclone ○ Post-Tropical
 Sustained Winds: D < 39 mph
 S 39-73 mph H 74-110 mph M > 110mph

Potential Track Area:
 Day 1-3 Day 4-5

Watches:
 Hurricane Trop.Storm

Warnings:
 Hurricane Trop.Storm

Hurricane Joaquin Category 3 Thursday 10/1 5:00 AM



Hurricane Joaquin
 Thursday October 1, 2015
 5 AM EDT Advisory 14
 NWS National Hurricane Center

Current Information:
 Center Location 23.4 N 73.7 W
 Max Sustained Wind 120 mph
 Movement WSW at 5 mph

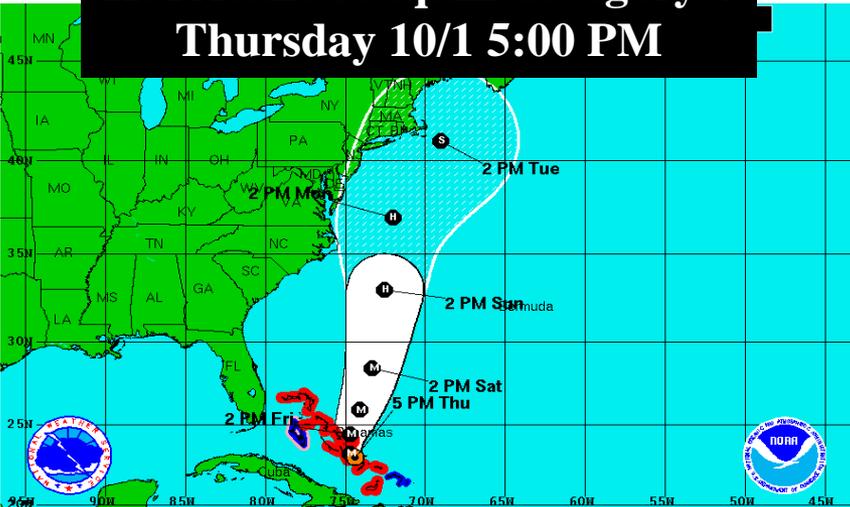
Forecast Positions:
 ● Tropical Cyclone ○ Post-Tropical
 Sustained Winds: D < 39 mph
 S 39-73 mph H 74-110 mph M > 110mph

Potential Track Area:
 Day 1-3 Day 4-5

Watches:
 Hurricane Trop.Storm

Warnings:
 Hurricane Trop.Storm

Hurricane Joaquin Category 4 Thursday 10/1 5:00 PM



Hurricane Joaquin
 Thursday October 1, 2015
 5 PM EDT Advisory 16
 NWS National Hurricane Center

Current Information:
 Center Location 23.0 N 74.4 W
 Max Sustained Wind 135 mph
 Movement SW at 6 mph

Forecast Positions:
 ● Tropical Cyclone ○ Post-Tropical
 Sustained Winds: D < 39 mph
 S 39-73 mph H 74-110 mph M > 110mph

Potential Track Area:
 Day 1-3 Day 4-5

Watches:
 Hurricane Trop.Storm

Warnings:
 Hurricane Trop.Storm

Hurricane Joaquin Category 4 Friday 10/2 5:00 AM



Hurricane Joaquin
 Friday October 2, 2015
 5 AM EDT Advisory 18
 NWS National Hurricane Center

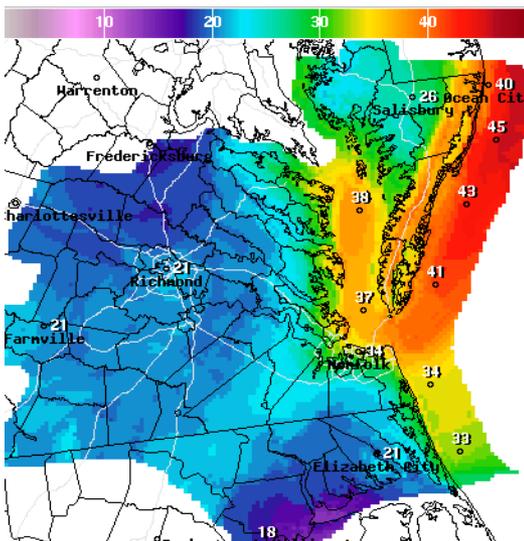
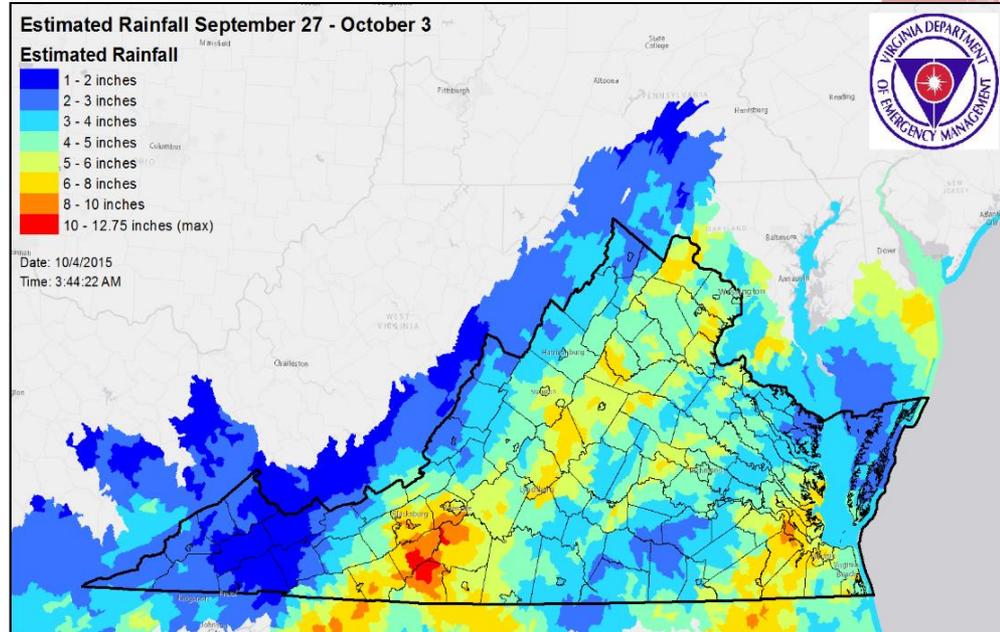
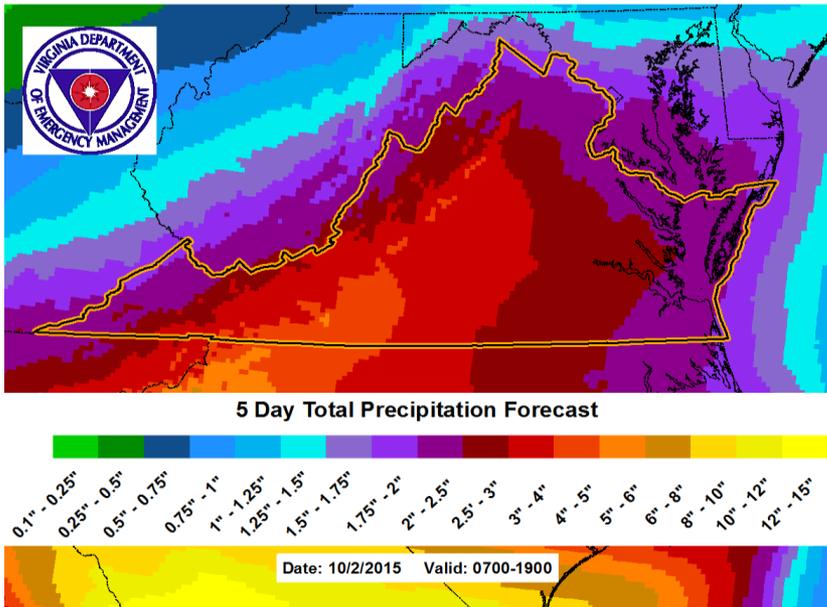
Current Information:
 Center Location 23.3 N 74.7 W
 Max Sustained Wind 135 mph
 Movement NNW at 3 mph

Forecast Positions:
 ● Tropical Cyclone ○ Post-Tropical
 Sustained Winds: D < 39 mph
 S 39-73 mph H 74-110 mph M > 110mph

Potential Track Area:
 Day 1-3 Day 4-5

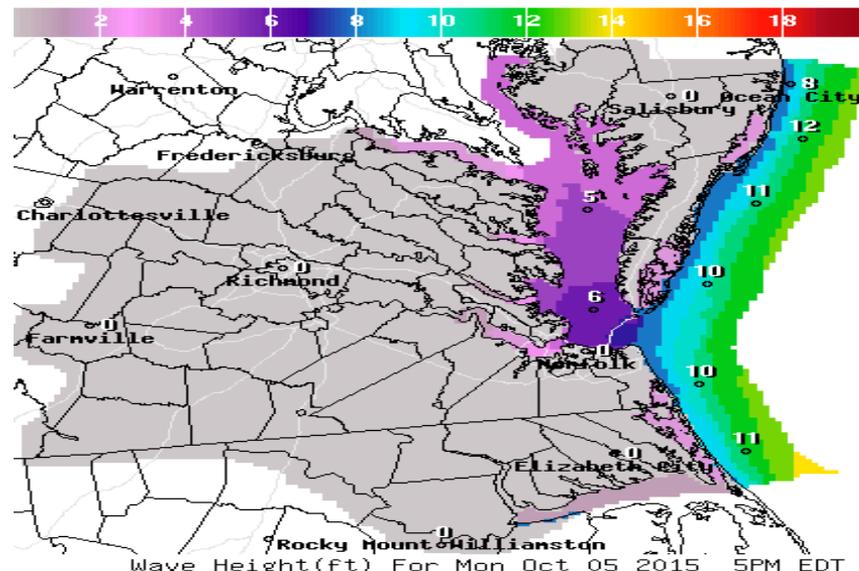
Watches:
 Hurricane Trop.Storm

Warnings:
 Hurricane Trop.Storm



Coastal Wind Gusts

Graphic Created Oct 02 12:06PM EDT



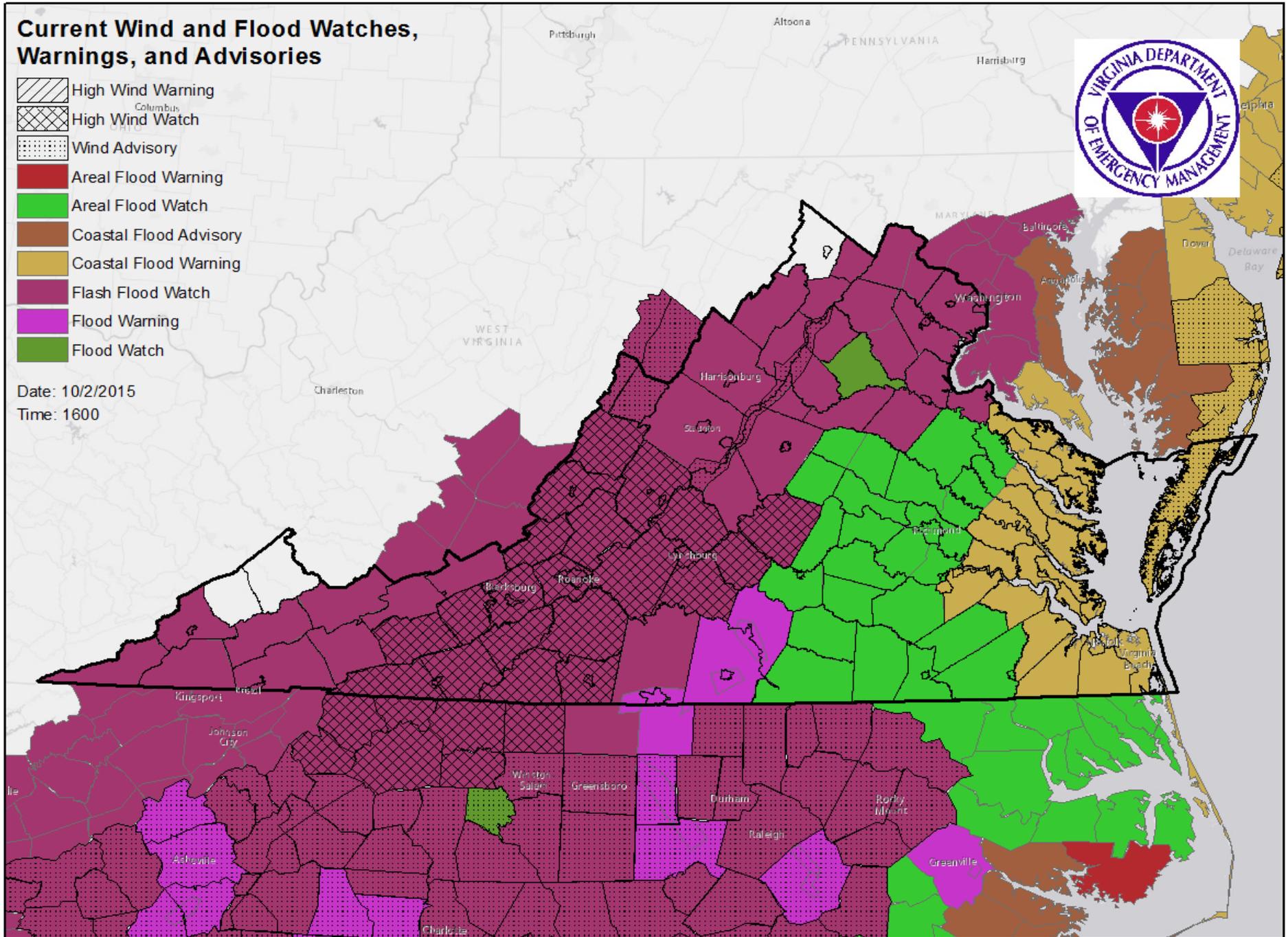
Forecasted Wave Heights

Wave Height (ft) For Mon Oct 05 2015 5PM EDT

Current Wind and Flood Watches, Warnings, and Advisories

-  High Wind Warning
-  High Wind Watch
-  Wind Advisory
-  Areal Flood Warning
-  Areal Flood Watch
-  Coastal Flood Advisory
-  Coastal Flood Warning
-  Flash Flood Watch
-  Flood Warning
-  Flood Watch

Date: 10/2/2015
Time: 1600



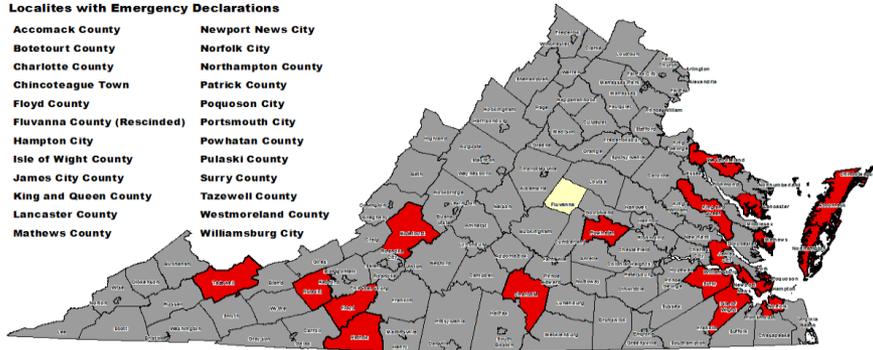
2015-09-29 Severe Weather

Emergency Declarations

- Declared (23)
- Rescinded (1)
- Not Declared (114)

Localities with Emergency Declarations

- | | |
|-----------------------------|---------------------|
| Accomack County | Newport News City |
| Botetourt County | Norfolk City |
| Charlotte County | Northampton County |
| Chincoteague Town | Patrick County |
| Floyd County | Poquoson City |
| Fluvanna County (Rescinded) | Portsmouth City |
| Hampton City | Powhatan County |
| Isle of Wight County | Pulaski County |
| James City County | Surry County |
| King and Queen County | Tazewell County |
| Lancaster County | Westmoreland County |
| Mathews County | Williamsburg City |



Emergency Declarations

Map Updated - October 03, 2015 6 PM

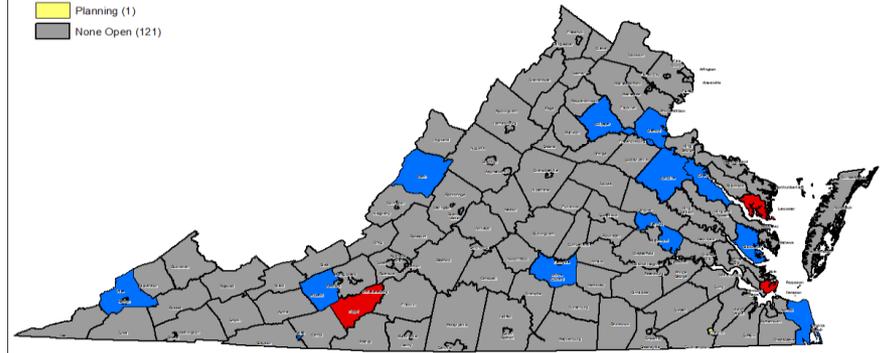


- Initially, 16 localities declared a disaster.
- Over the course of the event, a total of 24 declared a disaster.
- VEST conducted a total of 71 missions
 - 26 Logistics
 - 20 DMA/National Guard
 - 6 SAR

2015-09 Severe Weather

Shelter

- Open (3)
- Standby (13)
- Planning (1)
- None Open (121)



Open Shelters

Map Updated - October 02, 2015 5 PM



- Opened Shelters:
 - Lancaster
 - Hampton City
 - Floyd County
- Additional 13 localities placed shelters on standby.

Power Outages & Road Closures



10/4-Downed Trees, I-64E, New Kent County

Power outages across Virginia fluctuated, reaching **over 7,500 outages** at the peak of the event.



10/4-Downtown Portsmouth 3 hours prior to high tide, WAVY TV/FOX 34 Studio area

Flooding and downed trees caused road closures across the Commonwealth: **6 primary roads and 70 secondary roads were closed.**

Estimated Damage Assessment

(as of Oct. 23, 2015)

Residential	\$5,243,755
Business/Industry	\$413,013
Non-profit	\$26,860
Agriculture	\$5,178,269
Local PA	\$889,324
Institutions of Higher Ed. PA	\$95,046
State Agency PA	\$6,561,034
Electric Co-op PA	\$14,256
TOTAL:	\$18,421,557

Based on damage assessments conducted by local governments, institutions of higher education, and state agencies.

15 local governments submitted damage assessments.

Total does consider insurance or FEMA eligibility

Residential Damages

Locality	Destroyed	Major	Minor	Affected	Estimated Cost
Augusta County	0	3	1	2	\$80,000
Town of Chincoteague	0	0	1	0	\$25,000
Town of Christiansburg	0	2	3	0	\$95,000
Floyd County	13	12	15	42	\$2,126,700
City of Hampton	0	7	23	0	\$1,317,136
City of Hopewell	0	0	1	0	\$50,000
Lancaster County	0	6	11	9	\$1,000,000
City of Martinsville	0	0	3	3	\$15,000
Mathews County	0	1	12	0	\$167,500
Patrick County	1	5	10	1	\$165,719
Pittsylvania County	0	0	10	1	\$0
City of Poquoson	0	0	10	1	\$0
City of Portsmouth	0	0	18	0	\$140,700
Richmond County	0	0	12	0	\$75,000
City of Salem	0	0	21	0	\$36,000
TOTALS:	14	36	151	59	\$5,243,755

Qualifying for FEMA IA

FEMA Individual Assistance (IA) provides grants to families and individuals to repair primary residences destroyed or suffered major damage.

Eligibility: approximately 100 uninsured primary residences across the Commonwealth must have been destroyed or suffered major damage.

Did not qualify for IA: Roughly 49 homes were destroyed or had major damages (includes second homes and some insured homes).



Virginia State Police Swift Water Rescue Team rescues woman and two dogs from rising floodwaters in Floyd County

Qualifying for FEMA PA

FEMA Public Assistance (PA) provides grants to state agencies, local governments, and selected private non-profits, like institutions of higher education for eligible recovery costs.

Eligible costs: Debris removal; emergency protective actions; and permanent restoration roads, bridges, water control facilities, public buildings/equipment, and parks.

Eligibility: Costs incurred must be greater than \$11,281,444 (per capita calculation).

Bridge washed out in Floyd County



Local PA	\$889,324
Higher Ed. PA	\$95,046
State Agency PA	\$6,561,034
Electric Co-op PA	\$14,256
TOTAL:	\$7,559,660

Did not qualify for PA. Eligible PA costs and damages were \$7,559,660.

SBA Disaster Assistance Loans

The U.S. Small Business Administration (SBA) declarations enable homeowners, businesses, and renters to apply for a loan to make reparations.



Eligibility: Roughly 25 primary residences and/or businesses must have at least 40% of the value of the property in damages.

Unlike FEMA assistance, SBA is a loan (not a grant) and must be paid back.



Floyd County qualified for an SBA declaration. Those in neighboring jurisdictions are also eligible to apply for a loan: counties of Carroll, Franklin, Patrick, Pulaski, Montgomery, and Roanoke.

Climate Change and Resiliency Update Commission

Deputy Secretary Angela L. Navarro
Office of the Secretary of Natural Resources

Climate Change and Resiliency Update Commission

Working Groups

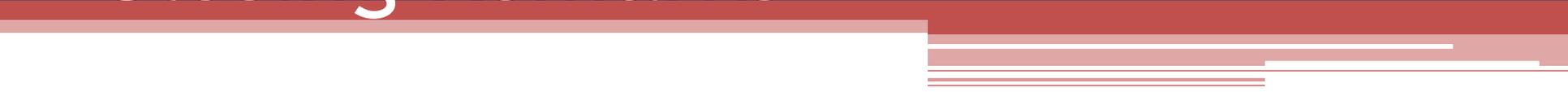
- Land Use and Transportation
- Public Education
- Energy
- Funding
- Information



Draft Report Recommendations

1. Establish a Climate Change and Resilience Resource Center
2. Create a Virginia Trust for Energy and Resilience
3. Establish a Renewable Energy Procurement Target for Commonwealth Agencies
4. Adopt a Zero Emission Vehicle Program
5. Leverage Federal Funding to Make Coastal Communities More Resilient

Closing Remarks

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Backup Slides

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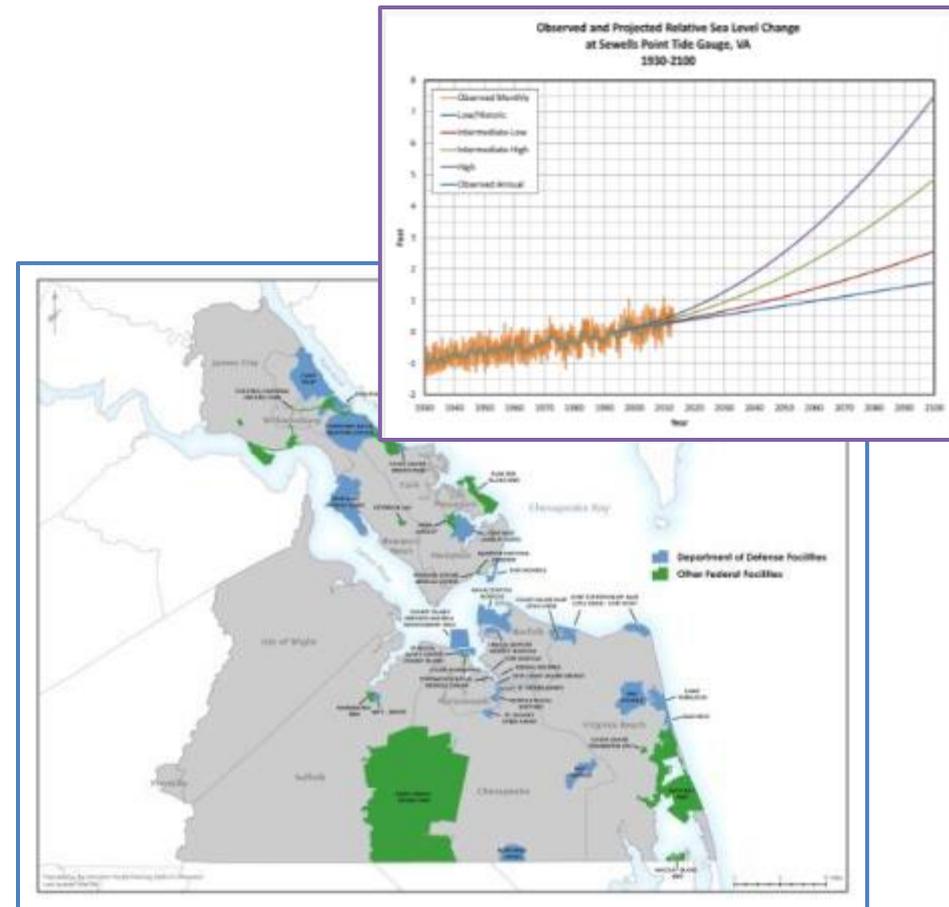
Virginia's Chief Resilience Officer

- Appointed by the Governor in December as Virginia's first Chief Resilience Officer
- Coordinates resilience efforts between state government and with local, regional, federal, and private sector partners.
- Virginia's initial point of contact for all resilience matters.



Intergovernmental Pilot Program

- An intergovernmental planning organization using a regional, whole of community approach to improve sea level rise preparedness and resilience planning.
- Leadership includes localities, state agencies, DoD, USCG, and private sector.
- Activities include: publishing charter, hosted table top exercises, information sharing, and provided recommendations to Secure Commonwealth Panel's Recurrent Flooding Subpanel on Recurrent Flooding Challenges.



Virginia Area Maritime Security Committee

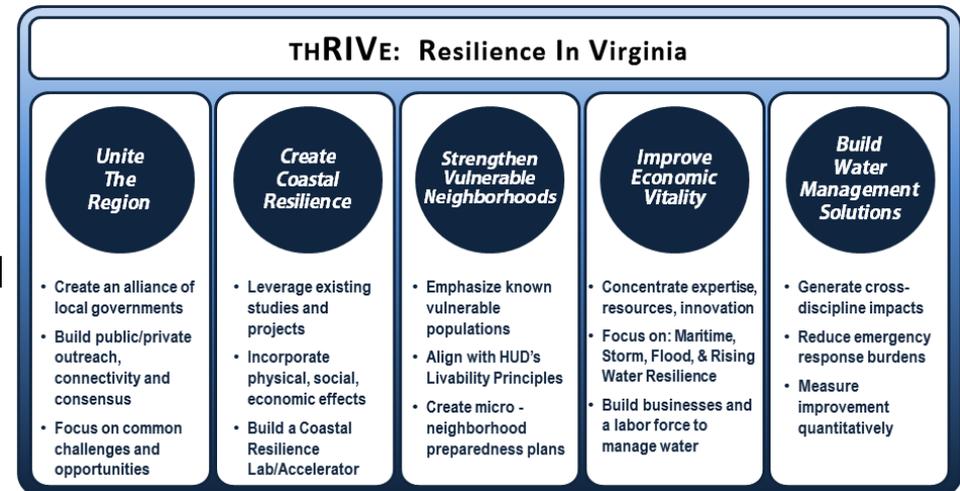
- Recent initiatives focused on port resilience and impacts of sea level rise.
- Maintains regional security plan including the management of consequences and vulnerabilities.
- Membership includes federal, state, local, and private partners.



THE PORT OF
VIRGINIA

HUD-National Disaster Resilience Competition

- Competing against 40 states/localities during Phase 2 submission due on Oct 27.
- Minimum award is \$1M, maximum is \$500M.
- A state application using a regional approach involving regional stakeholders including state, local, and private sector partners and the public.
- Projects focused on populations most vulnerable to future threats and hazards, including climate change.
- Unique program, focused on improving community resiliency using educational programs, community shelters, and alternate energy sources.



Secure Commonwealth Panel

Emerging framework is flexible and specifically designed to address evolving threats:

- Whole of Commonwealth Approach
- Recognize threats are evolving, both natural and man-made
- Identify stakeholders – government and private sector
- Recognize limited resources must focus on primary threats
- Recurrent Flooding Subpanel Report (2014)



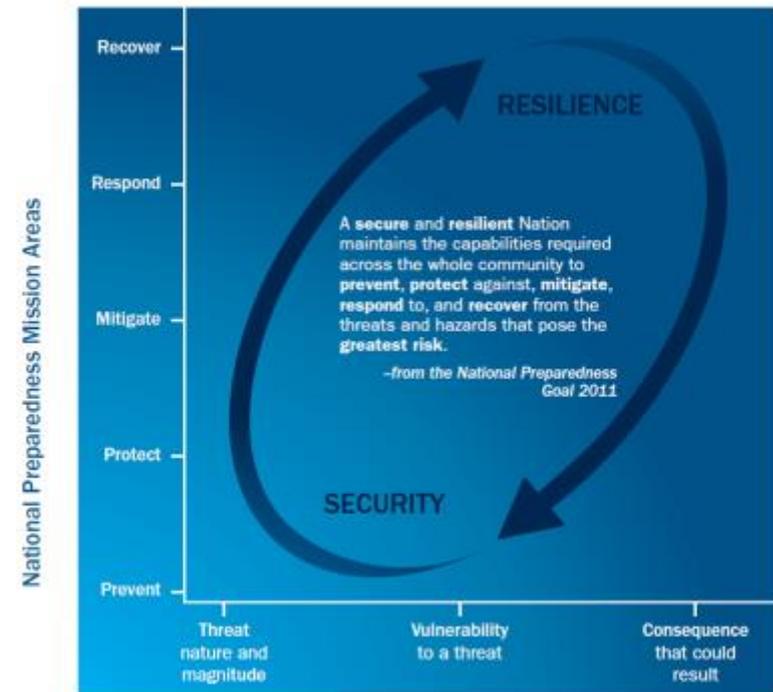
Panel Meeting in the General Assembly Building. Discussion included:

- Cyber Security
- Unmanned aerial systems/UAVs
- Public Health
- Policy and legislative update
- Resilience projects/efforts

National Governor's Association/US Dept of Energy Partnership

- Established to bolster state level plans to bolster energy assurance and resilience.
- Goals include:
 - Increase energy infrastructure risk awareness.
 - Assist states to identify and evaluate energy infrastructure risk.
 - Provide analytical tools to better evaluate risk.
- Collaboration enables a better understanding of our energy profile and requirements.
- Requires substantial intergovernmental coordination with private sector owners and state/local stakeholders.

Figure 4 – Critical Infrastructure Risk in the Context of National Preparedness

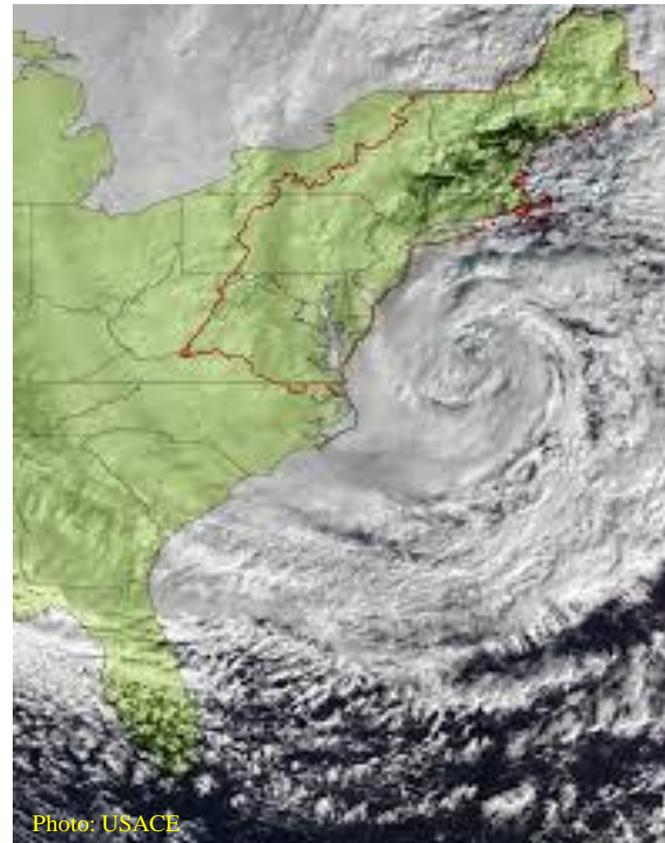


Risk Elements

Source: 2013 NIPP

US Corps of Engineers/VDEM Hurricane Study

- A 2-year hurricane evacuation study designed to better understand storm surge impacts during tropical storms or hurricanes.
- Will assist in anticipating sheltering and evacuation requirements.
- Study focuses on vulnerabilities and transportation requirements.
- Employs state of the art technology and methods to revise our 2008 data.
- Funded by FEMA.



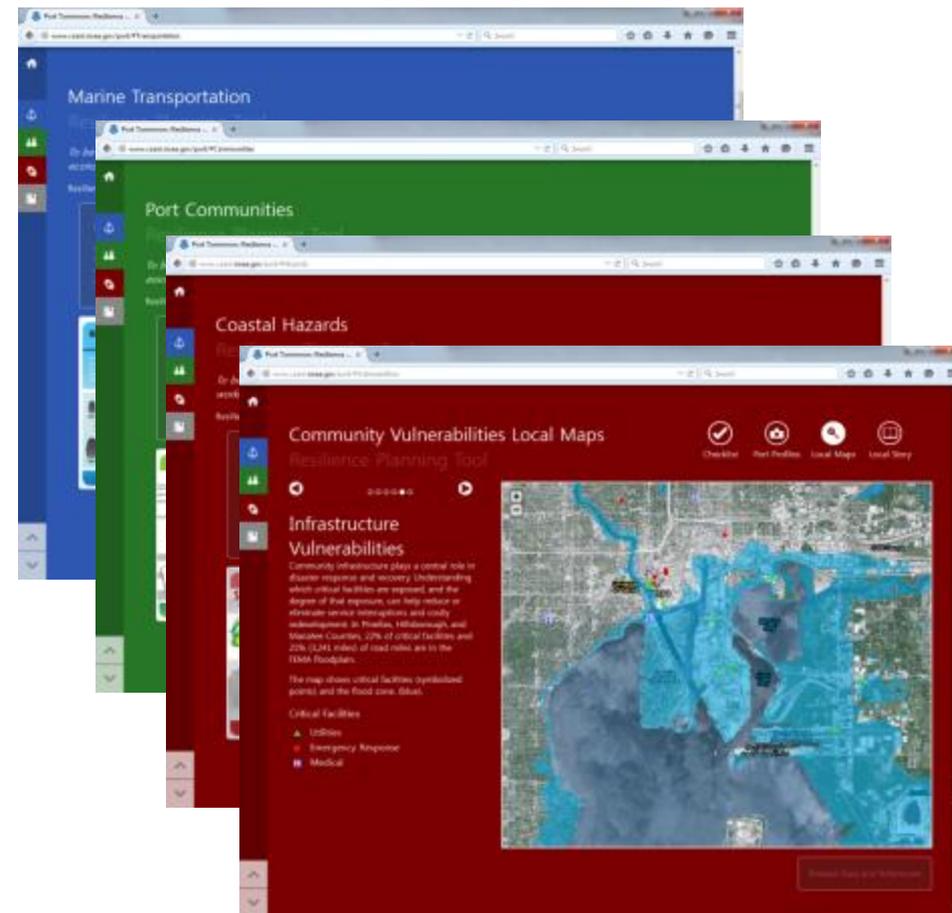
Phase I Resilience Dashboard Project

- Federal grant to define resilience and identify data sources.
- Ultimately, result is a regional dash board to better understand impacts and threats: climate, social, economic, man-made, etc.
- Measures resilience changes while improvement projects are underway or as an assessment tool during decision making processes



NOAA's Port of Tomorrow

- NOAA led pilot project to better understand sea level rise impacts to community and ports.
- Assists decisions makers within the community, localities, private sector, port operators, etc.
- Considers community, port, and marine transportation infrastructure and services.
- Currently working to validate critical infrastructure data to apply application to Port of Virginia and surround communities.



Number of VEST Missions

Mission Assigned To	Number of Missions
ESF 1 – Transportation	1
ESF 2 – Communications	2
ESF 3 – Public Works and Engineering	1
ESF 4 – Firefighting	7
ESF 5 – Emergency Management	1
ESF 7 – Logistics	26
ESF 9 – Search and Rescue	6
ESF 10 – Hazardous Materials	1
ESF 13 – Public Safety and Security	2
ESF 16 – Military Affairs (National Guard)	20
ESF 17 – Volunteers and Donations	4
TOTAL:	71