



Eastern Shore of Virginia Climate Adaptation Working Group

July 2016 Newsletter

The Eastern Shore of Virginia CAWG is a partnership between over 30 local, state, and federal government agencies and non-government organizations that meets quarterly to develop informational materials and planning tools to enhance our region's ability to prepare for changes resulting from sea level rise and climate change.

Below is a compilation of recent news, information, resources, and events pertaining to the citizens of the Eastern Shore.

Please feel free to forward this email to anyone who may be interested and have them contact Shannon Alexander at salexander@a-npdc.org to be added to the distribution list. www.a-npdc.org



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CAWG "Top 10" – Top stories & resources handpicked by A-NPDC Staff. These links can also be found in the lists below.

1. [Climate change will affect farmers' bottom line](#) ACES, University of Illinois 6/7/2016
2. [Should the United States Save Tangier Island From Oblivion?](#) The New York Times Magazine 7/6/2015
3. [Resettling the First American 'Climate Refugees'](#) (Isle De Jean Charles, Louisiana; entire island community relocated) The New York Times
4. [Virginia Creates First-in-the-Nation Adaptation Loan Fund!](#) Wetlands Watch 4/11/2016 & ["Living Shorelines" Will Get Fast Track to Combat SLR](#) Scientific American 6/6/2016
5. [Ocean Action Plan](#): Draft out for review, one of the planning body principles is *Improving Resilience*.
6. [22-year sea level rise – TOPEX/JASON](#) NASA's Scientific Visualization Studio
7. [Why a half-degree temperature rise is a big deal](#) NASA 6/30/2016
8. [Sea Level Rise Could Help Marshes Ease Flooding](#) Climate Central 5/16/2016
9. [NASA Is Facing a Climate Change Countdown](#) NY Times 4/4/2016
10. [Coastal Planning Advisor](#): Aquaculture, Climate Change, Marine Debris, etc.

Upcoming Public Events

- **July 27 12:00 p.m.** – [July Water Resources Webinar](#): Analysis of Ecosystem Service Valuation, Law and Policy Drivers, and Potential Policy Design of Water Quality Improvements Associated with Perennial Grasses and Cover Crops
- **July 28 7:00 p.m.** – VIMS After Hours Lecture, Webcast from VIMS Gloucester Point at the Eastern Shore Lab, Seaside Hall: Billfish (including white and blue marlin). Professor John Graves, VIMS.



- **August 3 7:30 p.m.** – VIMS ESL Public Seminar: Hormones and Migrating Blue-winged Teal
- **August 6 8:30 a.m.-12:00 p.m.** – Captain’s Cove Health & Safety Fair, plan to present the Coastal Resiliency Tool
- **August 29-31** – International Low Impact Development Conference, Portland, ME
- **September 29 – October 2** – 11th Annual [Chesapeake Bay Watershed Forum](#), Shepherdstown, WV
- **December 10-15** – National Summit on Coastal and Estuarine Restoration, New Orleans LA

Adaptation Resources & Planning Tools

A. Local Resources/Tools

1. [SLR Tools Comparison Matrix](#)
 - Multiple mapping & risk analysis tools: <http://sealevel.climatecentral.org/>
2. The Nature Conservancy – Enhancing Coastal Resilience on Virginia’s Eastern Shore
 - [Coastal Resilience tool; Flooding & SLR and Future Habitat apps](#) ready for use, more to come, more background [here](#). February 2016; Article about the tool: [New coastal resilience tool gives glimpse into future](#)
 - The digital version of the Introductory Workshop & Training Manual is now available [online](#) is available upon request to vacoastalresilience@tnc.org
3. [Accomack County/Wallops Island Joint Land Use Study](#)
 - Final Report [PDF](#) May 2015
 - Accomack Wallops Working Group had their first meeting May 25 in Accomac and will continue to meeting regularly to discuss implementation.
4. [Chincoteague National Wildlife Refuge Comprehensive Conservation Plan](#)
 - PDFs of all Plan Components available [here](#)
5. [Assessing the Vulnerability of Transportation Infrastructure on the Eastern Shore](#) NOAA

B. State & Regional Resources/Tools

1. Virginia Joint Commission on Sea Level Rise and Recurrent Flooding
 - No new updates
2. Secure Commonwealth Panel Recurrent Flooding Subpanel
 - No new updates
3. Virginia Climate Change & Resiliency Update Commission
 - [Gov. McAuliffe Announces \\$2.8 Million in Flood Mitigation Grants](#)
4. VIMS Center for Coastal Resources Management
 - Workshop: Legal Authority, Roles & Responsibilities of Local Wetland Boards. [Agenda & Presentations](#)
 - Shellfish Aquaculture in the Chesapeake Bay, [Information and Resources](#)
 - SAGE (Systems Approach to Geomorphic Engineering) website kick off <http://sagecoast.org/>
 - Center for Coastal Resources Management Quarterly e-Newsletter June 2016, [join mailing list](#)
5. Old Dominion University, [The Center for Sea Level Rise](#)
6. Legislative Bills
 - [Stormwater Local Assistance Fund established HB 1085](#)
7. [Northeast Habitat Map tool](#)
8. [NorEast: Stream Temperature Data Inventory tool](#)



9. [High-resolution geophysical data collected along the Delmarva Peninsula in 2015](#) USGS Field Activity
10. [Coastal Planning Advisor](#): Aquaculture, Climate Change, Marine Debris, etc.
11. [Ocean Action Plan](#): Draft out for review, one of the planning body principles is *Improving Resilience*.
12. [Chesapeake Progress](#), [New web site aims to help public track Bay restoration](#), Bay Journal 2/17/2016
13. [Hurricane Sandy Response – Linking Delmarva Peninsula’s Geologic Framework to Coastal Vulnerability](#) USGS
14. [Virginia Creates First-in-the-Nation Adaptation Loan Fund!](#) Wetlands Watch 4/11/2016
15. [VCPC to Provide Flooding Policy Analysis for Newly Created Center](#) (Gov. McAuliffe signed bill creating the Commonwealth Center for Recurrent Flooding Resiliency on April 22) Virginia SeaGrant 5/2/2016
16. [Coastal resilience assessment completed](#) (Maryland) County Times 6/8/2016

C. National Resources/Tools

1. (First-ever) National Wetlands Conditions Assessment Released by U.S. EPA in May 2016, [article](#), [report & data](#)
2. NOAA Coastal & Waterfront [SmartGrowth](#); Resources, tools, webinars and more.
 - Training: [Coastal Community Planning and Development](#)
3. Union of Concerned Scientists tool: [Climate Hot Map](#), Global Warming Effects Around the World
4. NASA [Sea Level Change, Observations from Space](#) web portal; Article: [New web portal shines beacon on rising seas](#) NASA 4/4/2016

D. Global Resources/Tools

1. NASA: [Flights to track greenhouse gases across eastern U.S.](#) 7/7/2016 & [Airborne mission to explore the global atmosphere](#) NASA 7/7/2016

Adaptation Research Articles & News Items

A. Sea Level Research Articles & News Items

1. [Norfolk: A case study in sea-level rise](#) Physics Today 5/2016
2. [Sea levels are rising at their fastest rate in 2000 years](#) Science Magazine 2/22/2016
3. [Evaluation of dynamic coastal response to sea-level rise modifies inundation likelihood](#) (ability of coastal landscape to respond, models over-predict land likely to submerge) USGS
4. [How one Virginia city is re-framing sea-level rise as an opportunity](#) PRI 6/27/2016
5. [Study helps explain sea ice differences at Earth’s poles](#) NASA 5/21/2016
6. [Seas are Rising at Fastest Rate in Last 28 Centuries](#) The New York Times 2/22/2016
7. [Drowning history: Sea level rise threatens US historic sites](#) Washington’s Top News 4/11/2016
8. [Unnatural Coastal Floods: Sea level rise and the human fingerprint on U.S. floods since 1950](#), Climate Central 2/2016
 - [Article about the above publication](#) 2/22/2016
9. [Temperature-driven global sea-level variability in the Common Era](#), Proceedings of the National Academy of Sciences of the United States of America 1/4/2016



10. [Study predicts salt marshes will persist despite rising seas](#), VIMS 2/24/016
11. [New Data Reveal Stunning Acceleration of Sea Level Rise: Coastal cities will face greater threat than anticipated](#), Climate Central 2/22/2016
12. [22-year sea level rise – TOPEX/JASON](#) NASA's Scientific Visualization Studio
13. [Sea-Level Rise Could Nearly Double Over Earlier Estimates in Next 100 Years](#) UMassAmherst News
14. [King Tides Offer Glimpses of Our Future](#) Coastal Review Online 4/4/2016
15. [Polar ice loss could double sea level rise prediction](#) Virginian Pilot and wire reports 3/31/2016
16. [Sea Levels Are Rising More Quickly Than in the Last Two Millennia, Here are five things to know about the rising tide](#) Smithsonian 2/23/2016
17. [This is how far seas could rise thanks to climate change](#) BBC 4/11/2016
18. [Sinking Atlantic Coastline Meets Rapidly Rising Seas](#) Climate Central 4/14/2016
19. [How much does groundwater contribute to sea level rise?](#) (contributes far less than previously thought, according to study) International Institute for Applied Systems Analysis 5/2/2016

B. Climate Change Research Articles & News Items

USGS News

Atmospheric Warming and Impacts to Terrestrial and Aerial Ecology

1. [Why a half-degree temperature rise is a big deal](#) NASA 6/30/2016
2. [Growing Arctic carbon emissions could go unobserved](#) NASA 6/27/2016
3. [April and May 2016 continue record-setting heat](#) NASA 6/23/2016
4. [Eastern U.S. forests more vulnerable to drought than before 1800s](#) PennState News 3/8/2016
5. [Strong effects of climate change on common bird population in both Europe and the USA](#) EurekAlert! 3/31/2016
6. [Fever: Federal report says global warming making US sick](#) AP The Big Story 4/4/2016
7. [The Impacts of Climate Change on Human Health in the United States: A Scientific Assessment](#) U.S. Global Change Research Program (USGCRP) 2016
8. [Meltdown: More Rain, Less Snow as the World Warms](#) Climate Central 4/4/2016
9. [Sea level rise leaves islands' wildlife with that sinking feeling](#) Bay Journal 4/8/2016
10. [Recent improvement and projected worsening of weather in the United States](#) nature 3/30/2016
11. [Warming Means Nicer U.S. Weather, But It Won't Last](#) Climate Central 4/20/2016
12. [The bodies of these shorebirds are actually shrinking, and global warming is the cause](#) The Washington Post 5/12/2016
13. [NASA Studies Details of a Greening Arctic](#) 6/2/2016
14. [Eastern U.S. Needs "Connectivity" to Help Species Escape Climate Change](#) GA Tech News Center 6/13/2016
15. [Warning from the past: Future global warming could be even warmer](#) University of Copenhagen, Niels Bohr Institute 6/27/2016

Ocean/Water Resources and Impacts to Aquatic Ecology

1. [New Instrument brings coasts and coral into focus](#) NASA 5/31/2016
2. [Bringing back the bayou: NASA helps Louisiana wetlands avoid bleak future](#) 6/17/2016
3. [Greenland melting tied to shrinking Arctic sea ice](#) EurekAlert! 3/28/2016
4. [Antarctic model raises prospect of unstoppable ice collapse](#) nature 3/30/2016
5. [Scientists Are Watching in Horror as Ice Collapses](#) National Geographic 4/12/2016
6. [Acidification and Low Oxygen Put Fish in Double Jeopardy](#) Shorelines 5/10/2016 & article in [Bay Journal](#) also



7. [Fish can adapt some to warmer ocean waters, but not necessarily to extreme heat](#) EurekAlert! 5/18/2016
8. [Ocean warming primary cause of glacier retreat](#) British Antarctic Survey, Natural Environment Research Council 6/14/2016
9. [Estuaries like Chesapeake Bay could contribute more to global warming than once thought](#) Phys.org 6/21/2016

C. Hazard Mitigation & Climate Adaptation Planning & Policy Items (information on impacts to economies & the built environment)

1. [Should the United States Save Tangier Island From Oblivion?](#) The New York Times Magazine 7/6/2015
2. [Tangier Island will be uninhabitable by the year 2050](#) WTVR 4/27/2016
3. [Tangier Island fights for its very existence](#) Richmond Times-Dispatch 7/2016
4. [Resettling the First American 'Climate Refugees'](#) (Isle De Jean Charles, Louisiana; entire island community relocated) The New York Times
5. [Climate change will affect farmers' bottom line](#) ACES, University of Illinois 6/7/2016
6. [Clean, green climate change-fighting machines](#) NASA (energy efficiency competition winners) 6/17/2016
7. [Chincoteague Bay Field Station Receives \\$91,000 grant](#) (Environmental Education, Living Shoreline modeling practices for coastal resiliency)
8. ["Living Shorelines" Will Get Fast Track to Combat SLR](#) Scientific American 6/6/2016
9. [New Day Finally Dawns for Living Shorelines](#) Coastal Review Online 6/9/2016
10. [Reshaping the Chesapeake Bay, one living shoreline at a time](#) The Washington Post 3/14/2016
11. [Shoreline Adaptation Stories: Using Natural and Nature-Based Features](#) CCRM
12. [www.CommunityResilienceBuilding.com](#)
13. [Are climate-change adaptations tied to protecting property of people? Study follows the money](#), The Baltimore Sun 3/3/2016
14. [Sea level rise threatens larger number of people than earlier estimated](#) Aalto University School of Engineering News 3/9/2016
15. [As U.S. Coastal Cities Swell, Rising Seas Threaten Millions](#) Climate Central 3/14/2016
16. [Ocean Temps Predict U.S. Heat Waves 50 Days Out, Study Finds](#) NCAR UCAR AtmosNews 3/28/2016
17. [NASA Is Facing a Climate Change Countdown](#) NY Times 4/4/2016
18. [North Carolina Sea Level: No more head-in-the-sand?](#) Yale Climate Connections 3/22/2016
19. [Maintaining Delaware's sea level rise defenses](#) The News Journal 4/5/2016
20. [Coastal Cities Need to Radically Rethink How They Deal With Rising Waters](#) Smithsonian 4/7/2016
21. [Sea Level Rise Could Help Marshes Ease Flooding](#) Climate Central 5/16/2016