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*Old Dominion University  
Climate Change and Sea Level  
Rise Initiative*

Summer Update 2011



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Larry Atkinson

The Climate Change and Sea Level Rise Initiative (CC/SLRI) that started last fall has made quite a mark both locally and nationally. The national press we received before, during and after the December 2 forum by Admiral David Titley was astounding to say the least. After that I felt “Well, we have their attention... now what?”

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**ODU CC/SLRI Website**

The official ODU website for the initiative is at <http://www.odu.edu/ao/research/ccslri/>. If you have comments about it please let me know.

The unofficial, utility website that houses the reports, news etc. is still at <https://sites.google.com/site/oduclimatechange/home> Send me additions.

The CC/SLRI faculty expertise guide is at <http://www.odu.edu/ao/research/ccslri/pdfs/expguide.pdf>. Please send in any changes and additions.

## Coming Events

Public Event - This fall we will have another 'Titley Event'. Current thoughts are to have a person from the global re-insurance industry. We would team with the Chamber of Commerce hosting the speaker.

Communication - I know I've felt challenged sometimes when discussing this topic with neighbors, colleagues or just about anyone. This fall we will have a few speakers in for lunch meetings that focus on climate change and sea level rise communications.

There is talk of a monthly 'brown bag' meeting. Anyone interested in hosting it?

## ODU supports interdisciplinary climate change sea level rise research

"...In an effort to promote and support faculty interested in forming teams to address Climate Change and Sea Level Rise issues facing a metropolitan environment, the Office of Research will accept proposals for short-term seed funding supported in part by the Perry Fund for the Study of Critical Issues." Mohammad Karim, Vice President for Research

Four projects were funded:

[From [InsideODU](#)]

- "*The Disparate Impacts of Sea Level Rise on Hampton Roads' Underserved Populations Residing in the Chesapeake Bay's Coastal Zone: A Multidisciplinary Approach to Understanding the Impact of Various Remediation Policy Options to Address Contaminated Environments*" **\$37,800** awarded to **Rafael Diaz**, Research Assistant Professor, Virginia Modeling, Analysis and Simulation Center (VMASC); **Hua Liu**, Assistant Professor, Political Science and Geography; **Michael Finewood**, Visiting Instructor, Political Science and Geography; **Joshua Behr**, Associate Professor, VMASC; and **Paula Jasinski**, Analyst, Chesapeake Environmental Communications.

Rising waters could spread the pollution in soils along the Chesapeake Bay that are contaminated with hazardous waste. Remediation projects are likely to be funded to clean up these sites ahead of the rising waters. Yet low-income and minority communities will be least able to influence the prioritization of remediation funds despite being the most vulnerable to regional environmental change related to sea level rise, thus the rise in the bay may be expected to have a disparate impact upon communities of interest. The central objectives of this project are to 1) identify the hazardous sites around the bay and attach to each site an index of health-related contamination risk and 2) model the sensitivity of vulnerable populations to the various remediation policy options intended to address these contaminated environments.

- "*Human Dimensions in Public Engagement and Support for Environmental Resiliency Policies*" **\$37,456** awarded to **Maura Hametz**, Associate Professor, History; **Poornima Madhavan**, Assistant Professor, Psychology; **Leona Tam**, Assistant Professor, Marketing; and **Cynthia Tomovic**, Professor, STEM Education and Professional Studies.

The purpose of this study is to construct and test a social science-driven process model of communicating information about climate change and sea level rise in order to promote public engagement and broaden support for environmental resiliency policies. To measure public engagement and attention, the study will focus on local flooding, an issue of significant community concern, as a lens through which to examine public response to the broader impacts of climate change and sea level rise. Local findings will then be utilized to generate a social marketing model incorporating human dimensions and scientific knowledge for the use of other communities in Hampton Roads and beyond that are interested in engaging the public to address climate change and sea level rise.

- "*A Decision-Support Model Addressing Issues Related to Sea Level Rise in Hampton Roads*" **\$45,000** awarded to **Michael Robinson**, Research Assistant Professor, VMASC; **Saikou Diallo**, Research Assistant Professor, VMASC; **Jose Padilla**, Research Scientist, VMASC; and **Peter Foytik**, Senior Project Scientist, VMASC.

Scientific evidence points to significant sea level rise in Hampton Roads during this century. This study will be the first to objectively identify a comprehensive list of factors, such as relocation of threatened houses and businesses or improvement of current infrastructure that must be considered by decision makers. The researchers propose to create a conceptual model that can assist decision makers in making choices that help them minimize the negative impact of rising sea levels on the Hampton Roads region. This model would consist of specific factors and how these factors relate to one another so the decision maker is aware of tradeoffs between possible choices. Criteria could include economic stability and growth, social vulnerability, social equity and transportation efficacy.

- "*Scientific Awareness Through Theatre: Inspiring Young People to Value Scientific Practice as We Adapt to Sea Level Rise and Climate Change*" **\$44,631** awarded to **Jenifer Alonzo**, Assistant Professor, Communication and Theatre Arts; **Victoria Hill**, Research Assistant Professor, Ocean, Earth and Atmospheric Sciences; **Fred Dobbs**, Professor, Ocean, Earth and Atmospheric Sciences; **Amy Adcock**, Associate Professor, STEM Education and Professional Studies.

This is a proof-of-concept project through which the investigators will create two 15-minute segments of plays about climate change research. A promotional video will be produced to show how ODU scientists, educators and theater artists worked together to communicate climate change research to young people. Information presented in the plays will be supported by Internet games that young people may play at any time.

## Grasses and Ticks Meet

I met with Dr. Frank Day (wetland ecology) and Dr. Holly Gaff (disease vectors) to discuss a possible collaboration with Noblis on a DOD RFP on climate change effects on their facilities. Dr. Day mentioned to Dr. Gaff that he wasn't sure how he could help her. Her response was that she needed to know how the grasses were changing in wetlands affected by climate change because ticks also will change as they can be specific to certain grasses. What a great example of finding common ground for future research. They teamed with Noblis and at this point have been selected for final proposal submission.

## An early success with four Colleges

Early in the fall I scurried around campus meeting people just to find out who did what. After a few weeks I found four faculty who didn't know each other, were in different colleges and all talking about the same things. Now Drs. Maura Hametz (College Arts and Letters, History), Poornima Madhavan (College of Sciences, Psychology), Leona Tam (College of Business & Public Administration, Marketing) and Cindy Tomovic (College of Education, STEM Ed and Prof Studies) are team members writing proposals.

## Local, Regional, National News

An update of items in this section of the utility website:

5/2/11 Inside ODU article on ticks and climate by Dr. Holly Gaff and her students [LINK](#)

4/24/11 Pilot op ed piece by Glen Sussman (*professor of political science at Old Dominion University*) [LINK](#)

4/22/11 Pilot article on Earth Day and opinions on climate issues [LINK](#)

4/21/11 ODU Seed Grants announced [LINK](#)

3/9/11 Article based on WAMU piece about SLR in Chesapeake Bay [LINK](#)

3/7/11 Atkinson on WAMU with quotes by Mayor Fraim [LINK](#)

2/4/11 Atkinson on 'With Good Reason' radio interview [LINK](#)

2/7/11 ODU announces funding opportunity [LINK](#)

1/28/11 Chesapeake Quarterly on Sea Level Rise [LINK](#)

1/20/11 Hampton Roads vulnerability to climate change study funded by Dept. Transportation [LINK](#)

1/16/11 NC's study of sea level rise and the NC Coast [LINK](#)

1/12/11 Not local but couldn't resist - video about climate change and decision making [LINK](#)

12/23/10 Editorial in Pilot in response to Scott Harper news item on John Boon's (VIMS) report [LINK](#)

12/21/10 News item by Scott Harper of Pilot on John Boon's report to the Corp of Engineers on local sea level rise [LINK](#)

12/1/10 'Hear Say' with Cathy Lewis on WHRO Dec 1 Blue Planet Forum Exclusive Interview [LINK](#)

12/1/10 PBS "On Point" Rising Seas, Climate Change & the Virginia Coast with Skip Stiles, Orrin Pilkey, Leslie Kaufman and Theresa Whibley. [LINK](#)

11/25/10 "Front-Line City in Virginia Tackles Rise in Sea" in NYT [LINK](#) and [PDF](#)

12/1/10 ODU aims to become hub for research on rising sea level. Pilot 12/1/10 [LINK](#) and [PDF](#)

10/7/10 Sea Level Rise Report on WVEC with quote from climate scientists [LINK10/25/10](#)

10 25/10 Norfolk Mayor Fraim responds to sea level rise on Wavy/CNN says "Norfolk is sinking" and "areas of retreat" [CNN/WAVY video](#)

Mayor Fraim's statements in Pilot [LINK](#)

Former President Koch presentation to HRDPC July 2010 [LINK](#)

Presentation to Norfolk City Council on flooding [LINK](#)

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All of the following references are available at the utility website:  
<https://sites.google.com/site/oduclimatechange/home>

## Government Reports

"Congressional Research Service Harbor Maintenance Trust Fund Expenditures" Jan 2011 [LINK](#)

"U.S. Army Corps of Engineers Approach to Water Resources Climate Change Adaptation" [LINK](#)

“U.S. Army Corps of Engineers directive on incorporating sea level rise in planning” [LINK](#)

“US Army Corp of Engineers - Addressing Climate Change in Long-Term Water Resources Planning and Management User Needs for Improving Tools and Information” [LINK](#)

“Mid-Atlantic Regional Council on the Ocean (MARCO) - Climate Change and Sea Level Rise Information Exchange” [LINK](#)

“National Security and the Threat of Climate Change” [LINK](#)

“Ocean Acidification Report to Interagency group” [LINK](#)

“DOD Quadrennial Review 2010 – [scan for climate change section]” [LINK](#)

“Coastal sensitivity to sea-level rise - a focus on the mid-Atlantic - US Climate Science Program 2009” [LINK](#)

“USGS Report - National Assessment of Shoreline Change: Historical Shoreline Change along the New England and Mid-Atlantic Coasts. Report 2010-1118” [LINK](#)

“NOAA NOS Technical Considerations for Use of Geospatial Data in Sea Level Change Mapping and Assessment” [LINK](#)

“U.S. ARMY CORPS OF ENGINEERS’ COLLABORATIVE APPROACH TO 21ST CENTURY CHALLENGES POSED BY GLOBAL CHANGE” [LINK](#)

“National Security Implications of Climate Change for U.S. Naval Forces – a 2011 NRC report” [LINK](#)

## **Non-Governmental Reports**

An update of items in this section of the utility website:

“Climate change, sea level rise and Virginia’s tidal shoreline’. A powerpoint by Skip Stiles, Wetlands Watch to Virginia Coastal Partners. [VIEW](#)

“Chesapeake Bay Land Subsidence and Sea Level Change - An Evaluation of Past and Present Trends and Future Outlook” by John Boon et al., [VIEW](#)

“Virginia Commission on Climate Change Report 2010” [VIEW](#)

“Maryland Comprehensive Strategy for Reducing Maryland’s Vulnerability to Climate Change Chapter 5 Sea Level and Coastal Storms “ [LINK](#)

“Hampton Roads Planning District Commission Report on Climate Change” [LINK](#)

“Climate change scenarios - Implications for strategic asset allocation report by Mercer Inc (Marsh McLellan)” [LINK](#)

“Global Risks 2011 Sixth Addition - World Economic Forum” [LINK](#)

“Proceedings from the local sea level rise and inundation community workshop”, 2009, with south Florida and San Francisco Bay case studies” NOAA/USGS [LINK](#)

“Flooding - Norfolk and the Region - Norfolk City Council Briefing” [LINK](#)

“North Carolina Climate Action Plan Advisory Group Final Report” [LINK](#)

“Vulnerability Analysis of Transportation Network under Scenarios of Sea-level Rise” by Lu and Peng 2010 TRB [LINK](#)

“Review of regional transportation and climate change” by Dr. Camelia Ravanbakht (HRPDC) [LINK](#)

“A Statement on Climate Change by The Geological Society” [LINK](#)

“A Roadmap for a secure, low-carbon energy environment” [LINK](#)

“Climate Change Impacts and Adaptation Adapting to Climate Change: An Introduction for Canadian Municipalities” [LINK](#)

Thanks to Dr. Karen Eck and Jim Raper for help preparing this update.