



Rising Waters, Rising Challenges

A forum on sea level rise and its implications for the Cape and Islands

Wednesday, February 15, 2012

9:00am - 3:30pm

Woods Hole Oceanographic Institution,
360 Woods Hole Road, Clark Building, Room 507

AGENDA

Morning Session (9:00 am – noon) **Understanding Sea Level Rise – Science, Impacts and Vulnerability**

Welcome and Opening Remarks

Tonna-Marie Rogers, Coastal Training Program Coordinator, Waquoit Bay Reserve

Keynote Address: The Fingerprints of Sea Level Rise in a Progressively Warming World

Jerry X. Mitrovica, Professor of Geophysics, Harvard University

Past, Present, and Future Sea Level Rise and Tropical Cyclones in Southeastern New England

Jeff Donnelly, Associate Scientist, Woods Hole Oceanographic Institution

Shifting Sands: How Sea-level Rise Can Change the Coast

Andrew Ashton, Coastal Geomorphologist, Woods Hole Oceanographic Institution

Understanding the Ecological Impact of Sea Level Rise on Salt Marshes

Jordan Mora – GIS/Research Technician, Waquoit Bay Reserve

12:00 – 12:45 - Lunch (provided)

Afternoon Session (12:45 – 3:30 pm) **Responding to Sea Level Rise – Planning, Policy and Regulatory Implications**

Visualizing Sea Level Rise Impacts in 3D: An Illustration of the Potential to Exacerbate Storm Damage in the Town of Falmouth

Greg Berman, Coastal Processes Specialist, Woods Hole Sea Grant

Case Study: Sea Level Rise Adaptation Planning in Southern Maine/Lessons for Other Communities

J.T. Lockman, Planning Director, Southern Maine Regional Planning Commission

Responding to Rising Waters: Adaptation through State and Local Action

Julia Knisel, Coastal Shoreline and Floodplain Manager, Massachusetts Office of Coastal Zone Management

Regional and Municipal Challenges and Opportunities in Planning for Sea Level Rise

Ryan Christenberry, Planner and Energy Specialist, Cape Cod Commission

Panel Discussion: Reaching Our Region for Rising Waters: Where Do We Go From Here?

Facilitator: Tonna-Marie Rogers, Waquoit Bay Reserve

Sponsors

Waquoit Bay National Estuarine Research Reserve (WBNERR)/Massachusetts Department of Conservation and Recreation (DCR) and the Citizens for the Protection of Waquoit Bay (CPWB)

Global sea level is rising and with it the challenge to effectively address the diverse impacts it will have on the coast. Sea level rise will affect and transform coastal communities, beaches, low-lying areas, wetlands, estuaries and aquifers, as well as coastal development and infrastructure. How prepared are our communities to address this threat?

Forum Objectives:

- increase people's understanding of this phenomenon
- learn how the coastline might change as a result of sea level rise and how natural resources and development might be affected
- learn how coastal communities can adapt
- share lessons from communities that have initiated focused planning for sea level rise
- identify tools and resources to help local governments prepare
- highlight ongoing research that can support the work of coastal managers and decision-makers

Who Should Attend?

- Coastal managers
- Planners
- Local officials
- Municipal staff
- Municipal boards
- State agency staff
- Environmental organizations

REGISTER ONLINE
www.waquoitbayreserve.org

Click on Sea Level Rise Forum to register. First time users please create profile, then register.

Registration Required.
No Cost to Attend.

For information please contact

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KEYNOTE SPEAKER

Jerry X. Mitrovica is a Professor of Geophysics at Harvard University and the Director of the Earth Systems Evolution Program of the Canadian Institute for Advanced Research. His research focuses on sea level changes over time scales ranging from the last decade to the age of the Earth. He is the recipient of the Rutherford Memorial Medal from the Royal Society of Canada, The Steacie Prize from the National Research Council and the Augustus Love Medal from the European Geosciences Union. He is a Fellow of the American Geophysical Union and, in 2007, was awarded a Guggenheim Fellowship. He is a former J. Tuzo Wilson Professor at the University of Toronto, and was a Visiting Miller Professor at the University of California, Berkeley.

Jeff Donnelly is an Associate Scientist at the Woods Hole Oceanographic Institution, Woods Hole, MA and Adjunct Professor of Geological Sciences at Brown University, Providence, RI. The overarching goal of his research program is to understand how changes in climate alter terrestrial and coastal systems. A major component of his research is devoted to understanding how intense tropical cyclone activity and sea level has varied in the recent geologic past and how these phenomena shape coastal landforms and ecosystems. He received his Ph.D. in Geological Sciences from Brown University in 2000, a M.E.S. in Environmental Science from Yale University in 1995, and a B.S. in Earth Sciences from the University of Massachusetts in 1993.

Andrew Ashton is a coastal geomorphologist at the Woods Hole Oceanographic Institution whose research specializes in creating and applying numerical models of the evolution of the coast over decades to centuries. Originally trained as a Civil and Environmental Engineer at Cornell University, Andrew worked as a consulting engineer before returning to graduate school and earning a PhD in Earth and Ocean Sciences from Duke University. He has conducted fieldwork along Gulf Coast, the Black Sea, the Mediterranean Sea, Ghana, and the South Pacific, and he sustains an interest in the coastal processes going on in his back yard, the Cape and Islands.

Jordan Mora is the GIS/Research Technician at the Waquoit Bay National Estuarine Research Reserve. As part of her graduate studies at the University of New Hampshire Jordan studied the biological and physical impacts of small-scale tidal restrictions on salt marsh dynamics in northern New England and worked with the UNH Sustainability Academy to develop a biological indicator response metric to gauge the health of the surrounding natural habitats. Her past research considers the ecological integrity of freshwater and saltwater wetland ecosystems against anthropogenic impacts and the potential for wetland function recovery through restoration and mitigation. Jordan holds a MS degree in salt marsh ecology from the University of New Hampshire and a BA in environmental studies from the Denison University.

Gregory A. Berman, PG, GISP, is a coastal processes specialist for Woods Hole Sea Grant (WHSG) and the Cape Cod Cooperative Extension (CCCE), where he provides technical assistance on coastal geology topics: shoreline change, erosion control alternatives, potential effects of various human activities on coastal landforms, coastal flood plains, coastal hazards, hazard mitigation analyses, and dune restoration techniques. He joined WHSG and CCCE after five years with Science Applications International Corporation (SAIC) where he worked on a variety of government projects focusing on environmental assessments and shoreline stabilization. Prior to that he spent six years with United States Geological Survey (USGS) offices in Florida and Hawaii, where he performed analysis of coastal geology, habitat, and hydrology. He has more than 15 years of experience with surveying, interpreting, and reporting on coastal geology. He has also regularly provided assistance in local coastal restoration projects organized by environmental non-profit organizations and worked with a wide spectrum of volunteers.

J.T. Lockman is the Planning Director for the Southern Maine Regional Planning Commission, which covers Southern Oxford and York Counties – from the White Mountains in the west to the coastline in the east, from Old Orchard Beach to Kittery. For the past four years, he has been working with the Maine Coastal Program, Maine Geological Survey, and local coastal

towns and cities in his region to adapt to sea level rise. J.T. specializes in Land Use and Environmental Planning, and also has been the Town Planner for Bar Harbor and Wells, Maine. He has a Master's Degree in Regional Planning from the University of North Carolina at Chapel Hill, and received his Bachelor's Degree in Science and Environmental Education from Cornell University. J.T. has been a Certified AICP Planner since 1988.

Julia Knisel is the Coastal Shoreline and Floodplain Manager for the Massachusetts Office of Coastal Zone Management. Julia joined CZM in 2006 to staff the Massachusetts Coastal Hazards Commission and works to develop and promote adaptive measures to address erosion, flooding and sea-level rise. Julia represents CZM on regional organizations including the Climate Change Work Group of the Coastal States Organization and the Northeast Regional Ocean Council's Coastal Hazards Resilience Committee, which she is currently co-chairing. Julia previously worked for the U.S. Geological Survey Coastal and Marine Geology Program and was a NOAA Coastal Management Fellow in North Carolina. Julia has a B.S. in Biology and Marine Science from The Pennsylvania State University, and a M.S. in Marine Policy and Coastal Zone Management from The University of Maine.

Ryan Christenberry is a Planner and Energy Specialist with the Cape Cod Commission, Barnstable County's Regional Planning Authority. Ryan strives to keep climate change mitigation and adaptation efforts at the forefront of her planning and policy work. Through the Commission's regulatory program, she has developed and implemented policies that promote energy conservation, energy efficiency, and renewable energy in projects reviewed by the Commission, and recently received recognition by the EPA with a Clean Air Excellence Award for these efforts. In 2009, she led the effort to update the Regional and Local FEMA Multi-Hazard Mitigation Plans to ensure that the strong hazard mitigation planning that began in 2004 continued within our region, and that access to funds to pursue mitigation projects remain in place.