

Climate Change and Cape Cod: Coastal Impacts and Adaptation Strategies

Workshop Objectives

- ◆ Increase understanding about the scientific facts related to climate change and how this emerging global issue is relevant locally.
- ◆ Increase understanding about how climate change is likely to impact Cape Cod by examining the region's vulnerability to sea level rise, extreme weather events, and precipitation and temperature changes.
- ◆ Expose decision-makers to information and resources that can help coastal communities better adapt to climate change.
- ◆ Stimulate further inquiry and discussion on how communities can confront climate change, and assess additional information needs of local decision-makers.

Workshop Agenda

8:30 – 9:00 **Registration and Continental Breakfast**

9:00 – 9:20 **Welcome and Opening Remarks**
Brendan Annett, Manager and Tonna-Marie Rogers, CTP Coordinator, WBNERR

9:20 – 10:15 **An Overview of Climate Change**
Dr. Hugh Ducklow, MBL

Blending lecture and discussion, this session will set the stage for the day and provide an objective scientific overview of the climate debate. Using the latest available research-based climate reports, Dr. Ducklow will examine climate variability and change, human influence on climate, how we deal with uncertainty in climate science, and implications for New England.

10:15 – 10:30 Coffee Break

10:30 – 11:15 **Sea Level Rise: How Vulnerable is the Cape to this Coastal Threat?**
Dr. Rob Thieler, USGS

Drawing on results of a USGS project which uses the coastal vulnerability index (CVI) to rank the likelihood of physical changes to the shoreline as a result of sea level rise, Dr. Thieler will explain how different areas of Cape Cod might be affected by sea level changes. He will also address how societal responses to shoreline erosion may affect what communities can and cannot do with respect to sea level rise.

11:15 – 12:15 **Climate Change Impacts on Coastal Resources**

Dr. Jeff Donnelly, WHOI

Dr. Donnelly will examine shoreline impacts of sea level and storms drawing on his historical knowledge of the Cape. The session will also look at impacts to wetlands and implications for restoration activities, as well as some of the socioeconomic and management aspects of dealing with the coastal impacts of global change.

12:15 – 1:15 Lunch (provided)

1:15 – 2:00 **Impacts on Water Resources and Planning Implications**

Dr. David Ahlfeld, UMASS, Amherst

This session will address the risks to Cape Cod water supplies produced by a changing climate. Extended droughts, increased evapotranspiration, and increased salt-water intrusion will be examined, as well as adaptation options such as increased water conservation and improved operational management of well fields.

2:00 – 3:00 **Adapting to Climate Change: Planning Approaches and Resources**
Dr. Lynne Carter, Adaptation Network

This session will explain what is meant by adaptation in the context of climate change and offer guidance on where and how communities can begin to incorporate climate change information into longer term planning. Dr. Carter will share case studies emphasizing how various communities have tackled adaptation and will also introduce a project that is being developed to help guide municipalities through this planning process.

3:00 – 3:15 Coffee Break

3:15 – 4:00 **Managing Coastal Hazards in a Changing Climate: Available Tools & Techniques**

Wes Shaw, CZM

This session will address specific things communities can do to improve their ability to survive and bounce back from coastal storms. Mr. Shaw will introduce *StormSmart Coasts*, a new CZM program that will help support local efforts to improve coastal floodplain management. The program offers a menu of options from which communities can choose as well as legal information to help communities regulate land use and avoid legal trouble.

4:00 - 4:20 **Facilitated Discussion**
4:20 - 4:30 **Wrap-up and Evaluation**

REGISTRATION

FAX: 617-727-5537

EMAIL: laurie.tompkins@state.ma.us

Name _____

Title _____

Organization _____

Address _____

City, State, Zip _____

Telephone _____

Fax _____

E-Mail _____

In order to help us use our resources efficiently, registration is required. A limited number of walk-ins will be accepted. There is no charge for the workshop.

For additional information please contact:
Tonna-Marie Rogers at 508-457-0495 x110
or tonna-marie.surgeon-rogers@state.ma.us.

Workshop Location

The Cape and Islands Association of REALTORS
Conference Center
22 Mid Tech Drive, West Yarmouth

Directions: Route 6 West to Exit 7 Willow Street. Turn Left onto Willow Street. Left onto Higgins Crowell Road. Through round-a-bout then left onto Mid-Tech Drive. The Conference Center is the first Right.

Presenters

Dr. David Ahlfeld is a Professor at the University of Massachusetts, Amherst where he teaches and conducts research in hydrology, hydraulics and water resources. His primary area of expertise is modeling water resource systems. Recent work has included examining the potential for a changing climate to impact water supplies, especially in the northeast U.S.

Dr. Lynne Carter is Co-Director of the Adaptation Network based in Rhode Island. From 1981-1995 she was Director of the Office of Marine Education Graduate School of Oceanography at the URI and Executive Director for the Center for Ocean Management Studies. She has contributed to producing many documents as well as developing and delivering courses and presentations in diverse forums on the issue of climate change.

Dr. Jeff Donnelly is an Associate Scientist at WHOI and Adjunct Professor of Geological Sciences at Brown University. His research focuses on understanding how changes in climate alter terrestrial and coastal systems and addresses how intense tropical cyclone activity and sea level have varied in the recent geologic past.

Dr. Hugh Ducklow is a biological oceanographer and Director of The Ecosystems Center at the MBL. His research interests include marine microbial ecology, the global carbon cycle, Antarctic marine science, climate change and ecological modeling. He has worked in all the world's oceans and heads the Palmer Antarctica Long-Term Research project.

Wes Shaw is a NOAA Coastal Services Center Coastal Management Fellow working in the Massachusetts Office of Coastal Zone Management. He is the project manager for *StormSmart Coasts*, a new program aiming to support local efforts to improve coastal floodplain management. Wes holds a masters degree in Marine Resource Management from Oregon State University.

Dr. Rob Thiel is a research geologist with the USGS in Woods Hole, MA. He conducts research on the geologic framework and morphodynamics of the coastal zone which includes understanding relationships between regional geology, sediment transport, sea-level change and coastal erosion.



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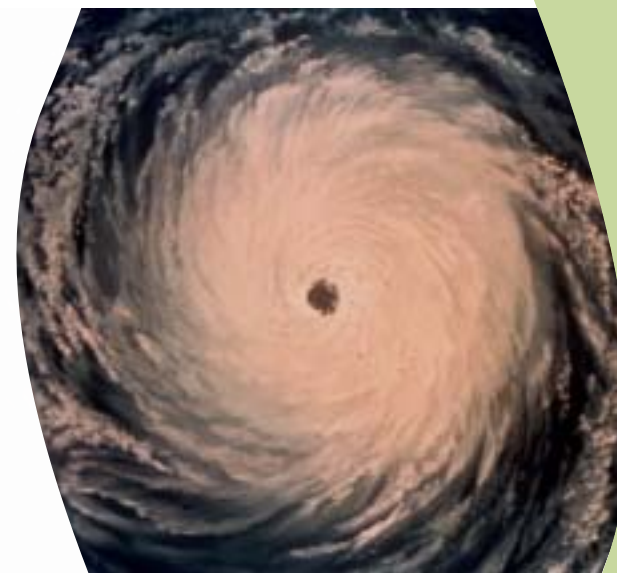


Who Should Attend?

Coastal Managers - Municipal Officials
Conservation Commissions
Planners - Engineers
Water Resource Managers
Health Agents - Town Board Members
Public Works Staff
Environmental Organizations



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NOAA Photo Library

Tuesday, December 4, 2007
8:30 am - 4:30 pm

Cape Cod and Islands Association
of Realtors Conference Center
22 Mid Tech Drive, West Yarmouth

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Waqoit Bay National Estuarine Research Reserve