

Climate Change in the Northeast: Preparing for the Future

A Workshop in Amherst, Massachusetts

Murray D. Lincoln Campus Center
University of Massachusetts - Amherst
June 3-5, 2008

Goal: To develop a common understanding of natural and cultural resource issues and to explore management approaches related to climate change in the Northeast United States

Outcomes: At the completion of the workshop participants will:

- More fully understand present and anticipated climate change impacts to the forested and ocean and coastal ecosystems of the Northeast United States;
- Be able to identify effective management approaches that include collaboration among local, state and federal agencies

Target Audience

The target audience is primarily managers of protected areas, both terrestrial and marine, in the Northeast United States. The workshop would also benefit protected area planners, maintenance and facility managers, education specialists, wildlife, fisheries and other technical specialists that work in protected areas.

Agenda

Tuesday, June 3

8:30 am **Registration [Outside the First Floor Campus Center Auditorium]**

10:00 am **Plenary Session [Auditorium]**

Welcome

- Marvin Moriarty, U.S. Fish and Wildlife Service

10:15 am Review of Agenda, Goals, Outcomes and Logistics

- David Reynolds, National Park Service

10:30 am Opening Address

Objective: Provide a challenge to the group and briefly describe the results of the Department of the Interior's Climate Change Task Force

- Lynn Scarlett, Deputy Secretary, Department of the Interior

- 11:00 am Keynote Address
 Objective: To provide an overview of global and regional impacts from climate change, including the historical context, and steps for adapting to and mitigating those impacts.
- Dr. Robert Corell, The H. John Heinz III Center for Science, Economics, and the Environment
- 12:00 pm Questions
- 12:30 pm **Lunch [Ballroom]**
- 1:30 pm **Plenary Session [Auditorium]**
- Coastal and Ocean Climate Change Impacts on the Northeast US, With a Focus on Protected Areas
 Objective: Discuss the current state of knowledge of climate change impacts on coastal and ocean systems, focusing on the Northeast United States and implications for protected coastal and marine areas. Speaker:
- Joe Kelley, University of Maine
- 2:15 pm Terrestrial Ecosystems, Wildlife and Climate Change Impacts in the Northeast.
 Objective: Discuss the current state of knowledge of climate change impacts on wildlife in the Northeast United States and implications for protected areas.
 Speaker:
- Douglas Inkley, National Wildlife Federation
- 3:00 pm Questions and Explanation of Location and Purpose of Concurrent Sessions
- 3:30 pm **Break**
- 4:00 pm **Concurrent Sessions 1: Understanding Impacts to Resources in the Northeast**
 Each concurrent session will focus on understanding climate impacts to resources of the Northeast U.S., with a focus on the supporting science.
- Concurrent Session 1A: Hydrologic Changes and Impacts [Rm. 174-176]
 Objective: Understand the effects of climate change to the hydrology of the Northeast US. Speakers:
- *Climate-related changes on New England lakes and rivers during the last two centuries*, Glenn Hodgkins, U.S. Geological Survey
 - *Projected climate change and hydrologic impacts over the U.S. Northeast*, Justin Sheffield, Princeton University
 - *Effect of Climate Change on Watershed Systems*, Timothy Randhir, University of Massachusetts

Concurrent Session 1B: Aquatic Resources [Rm. 162-175]

Objective: Understanding the implications of temperature change on aquatic populations in the Northeast. Speakers:

- *Conserving spatial genetic diversity in a changing world: management tools for a heating planet*, Kitty Griswold, U.S. Geological Survey
- *Potential Climate Change Impacts on Marine Resources of the Northeast Continental Shelf*, Michael Fogarty, National Oceanic and Atmospheric Administration

Concurrent Session 1C: Terrestrial Systems [Rm. 168-170-172]

Objective: Discussion of vegetation and wildlife management issues related to climate change. Speakers:

- *Northeast Phenology Network*, Ellen Denny, Yale University
- *Current and future impacts of climate change in terrestrial ecosystems and the importance of landscape-scale management*, Catherine Burns, University of Maine
- *The future range of variability: Synergistic effects of climate change, land use and invasive species*, Brenda McComb, University of Massachusetts

Concurrent session 1D: Forest Ecosystems [Rm. 163C]

Objective: Provide detailed look forest ecosystems in the Northeast US.

Speakers:

- *Climate and hydrological changes in the northeastern United States: implications for forest ecosystems*, Tom Huntington, U.S. Geological Survey
- *Trees, Trends, Tools, and Tactics: Forest Carbon in the Northeast*, Coeli Hoover, U.S. Forest Service

Concurrent Session 1E: Coasts and Coastal Wetlands [Rm. 101]

Objective: Provide a review of current and projected impacts of climate change to coastal ecosystems. Speakers:

- *Climate change for the North East: coastal effects and vulnerability to sea-level rise and storms*, S. Jeffress Williams, U.S. Geological Survey
- *The Tides of Change for Coastal Marshes - Adaptation Issues and Strategies for Climate Change*, Ron Rozsa, Department of Environmental Protection, State of Connecticut

5:30 pm **Reception with Refreshments [Campus Center Patio]**

6:30 pm **Informal Barbeque [Campus Center Patio]**

Wednesday, June 4

8:30 am **Plenary Session [Auditorium]**
Announcements, review of agenda and recap of previous day's talks

- 8:45 am Managing Resources in an Era of Change
Objective: Representatives from federal and state agencies will discuss the steps their organizations are taking to address climate change issues in order to meet their agency's mission. Panelists:
- Bert Frost, National Park Service
 - Wendi Weber, U.S. Fish and Wildlife Service
 - Grover Fugate, Coastal Resources Management Council, Rhode Island
 - Jack Buckley, Massachusetts Division of Fisheries and Wildlife

10:15 am **Break**

- 10:45 am **Concurrent Sessions 2: Managers Toolkit**
Participants will learn about practical tools to enhance decision-making regarding current and future climate change impacts

Concurrent Session 2A: National Environmental Policy Act (NEPA) Climate Change Analysis [Rm. 174-176]

Objective: Participants will receive a brief introduction to NEPA analysis. There will be a discussion on climate change impacts in regard to greenhouse gas emissions as well as the effects of climate change on projects and the resources a project may impact. Updates on recent NEPA climate change and cumulative effects litigation will be provided. The session will include a brief discussion how to prepare a legally-adequate climate change impact analysis Environmental Assessments and Environmental Impact Statements. Speaker:

- Michael Smith, ICF International

Concurrent Session 2B (Panel): The Use of Models to Adapt to Climate Change [Rm. 162-175]

Objective: Review examples of downscaling climate models to management-relevant scales used for protected area planning and the protection of biodiversity. Speakers:

- Hector Galbraith, Manomet Center for Conservation Sciences
- Dennis Ojima, The H. John Heinz III Center for Science, Economics, and the Environment

Concurrent Session 2C: Planning Tools: Scenario Planning and Adaptive Management [Rm. 168-170-172]

Objective: Participants will learn how scenarios can be used as a tool to identify policies and actions that will lead to various outcomes. Major benefits of this approach are (1) increased understanding of key uncertainties, (2) incorporation of alternative perspectives into conservation planning, and (3) improved capacity for adaptive management. A discussion of adaptive management and structured decision-making will be incorporated into the discussion. Speakers:

- Holly Hartman, University of Arizona
- Leigh Welling, National Park Service
- Bert Frost, National Park Service

Concurrent Session 2D: Spatial and Interactive Tools for Decision Support [Rm. 165-169]

Objective: Participants will learn about selected tools developed to support decision-making in the area of forest carbon management, regional biodiversity conservation and restoring hydrologic regimes to maintain connectivity and migration. Speakers:

- Mark Anderson, The Nature Conservancy
- Mark Smith, The Nature Conservancy
- Terry Cook, The Nature Conservancy

Concurrent Session 2E: Managing Cultural Resources in the Face of Climate Change [Reading Rm. 2nd Floor]

Objective: Historic structures, archeological resources and paleontological resources are being affected in different ways by climate change. What are some tools managers can use to protect them? Speaker:

- Daniel Odess, National Park Service

12:15 pm **Lunch [Ballroom]**

1:30 pm **Concurrent Sessions 3: Climate Change Leadership by Inspiration and Example**

Managers learn technical and educational tools for mitigating greenhouse gas emissions in their areas. In addition, an option to explore different leadership philosophies that can help managers lead their agencies into the challenging future of climate change will be discussed.

Concurrent Session 3A: Technical Tools: Sustainable Building Design and Innovative Fleet Management [Rm. 174-176]

Objective: Learn about sustainable building design and methods for converting fleet vehicles to reduce GHG emissions. Panelists include:

- Bill Dauer, U.S. Forest Service
- Kevin Ortyl, U.S. Fish and Wildlife Service
- Steve Russell, City of Keene, NH

Concurrent Session 3B: What Size Are Your Carbon Feet? Introducing Emission Analysis Tools [Rm. 162-175]

Objective: Learn about programs that can help protected areas identify GHG emissions within their boundaries. Once a baseline is established, reduction goals can then be set and mitigation strategies developed. Panelists:

- *Climate Friendly Parks*, Chris Steuer, ICF International
- *Carbon Foot Print Analysis*, Christina Marts, National Park Service

Concurrent Session 3C: Outreach and In-Reach: How to Tell Your Story [Rm. 168-170-172]

Objectives: Learn two distinct approaches to education, educating the public and educating employees in understanding and developing solutions for reducing GHG emissions. Panelists:

- Leslie Weldon, U.S. Forest Service
- Julie Thomas McNamee, National Park Service

Concurrent Session 3D: Carbon Sequestration and Voluntary Carbon Market [Rm. 165-169]

Objective: In this session we will consider forest management options to maximize terrestrial carbon sequestration in the Northeast; we will also examine the voluntary carbon market and some of the options, issues, and opportunities surrounding forestry-based carbon offsets. Panelists:

- Sarah Murdock, The Nature Conservancy
- Sarah Hines, U.S. Forest Service

Concurrent Session 3E: Emotional Intelligence in Climate Change: What's Your Leadership Philosophy? [Reading Rm. 2nd Floor]

Objective: Explore the emotional intelligence implications of climate change and the challenges and opportunities for leaders. Reflect on beliefs and values and engage in dialogue with colleagues. Develop a personal leadership philosophy. Speakers:

- Virginia Farley, National Park Service
- Andrew Pitz, Natural Lands Trust, PA

3:00 pm **Break**

3:30 pm **Plenary Session [Auditorium]**

Climate Change and the Global Community

Review goals and activities of international organizations and other governments to address climate change.

- *Speaker to be announced*

4:30 pm Climate Change Science for the Department of the Interior

Discuss the Department of the Interior's climate change science planning activities and the way forward.

- Thomas Armstrong, U.S. Geological Survey

5:00 pm **Poster Session with Cash Bar and Appetizers [Outside the Campus Center Auditorium]**

Poster contributors should be near their posters during this time ready to discuss them.

6:30 pm **Dinner at the Conference Center [Ballroom]**

After Dinner Program

Objective: Provide a thought-provoking perspective on social and human issues that impact societies when addressing climate change. Speaker:

- Adil Najam, Boston University

Thursday, June 5

8:30 am **Plenary Session [Auditorium]**

Announcements and review of agenda

8:45 am Highlights of Management Approaches from Previous Sessions

Objectives: Highlights of the workshop sessions will be discussed, with a focus on key issues raised and planning tools required to facilitate action. Facilitator:

- Leigh Welling, National Park Service

9:30 am **Break**

10:00 am **Plenary Session [Auditorium]**

Where Do We Go from Here?

Objectives: An interactive discussion will take place on the actions organizations and individuals can take to address current and anticipated climate change.

Fostering collaborative approaches between organizations will be the central theme. Facilitator:

- David Reynolds, National Park Service

10:45 am Leadership Perspective

Leaders in the Northeast region from the public sector will provide perspectives on working together to mitigate climate change impacts.

Facilitator: Virginia Farley, National Park Service

Panelists:

- Marvin Moriarty, U.S. Fish and Wildlife Service
- Barry Sullivan, National Park Service
- David Russ, U. S. Geological Survey
- James Bennett, Minerals Management Service
- Nancy Thompson, National Oceanic and Atmospheric Administration

12:00 pm **Wrap-Up and Adjournment**

- Marvin Moriarty, U.S. Fish and Wildlife Service