Summary of March 2010

Planning for North Carolina's Future: Ask the Climate Question

Climate Change Adaptation Workshop

hosted by N.C. Interagency Leadership Team

And Next Steps

Report to

N.C. Legislative Commission on Global Climate Change

March 15, 2010

Overview

1. Interagency Leadership Team
2. Summary of Climate Change Adaptation Workshop
3. Next Steps

NORTH CAROLINA INTERAGENCY LEADERSHIP TEAM

MOBILITY · ECONOMIC VITALITY · ENVIRONMENTAL PROTECTION

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

NCDENR

NORTH CAROLINA THE STATE OF MINDS

NORTH CAROLINA DEPARTMENT OF CULTURAL RESOURCES WWW.NCCULTURE.COM

NORTH CAROLINA Wildlife RESOURCES COMMISSION

N.C. DEPARTMENT OF AGRICULTURE AND CONSUMER SERVICES - FOUNDED 1877 -

US Army Corps of Engineers®

U.S. Department of Transportation Federal Highway Administration

U.S. FISH & WILDLIFE SERVICE DEPARTMENT OF THE INTERIOR

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION NOAA U.S. DEPARTMENT OF COMMERCE

Interagency Leadership Team's Climate Change Activities

Goal 2:
Partner with local governments and other stakeholders to integrate local use and long-range transportation planning as well as applicable environmental & economic planning initiatives to meet mobility, economic, and environmental goals

Climate Change Activities:

- **Communicate to internal and external stakeholders the challenges created by climate change in order to raise awareness**
- **Work with stakeholders in vulnerable areas of NC to develop strategies for adaptation to climate change**

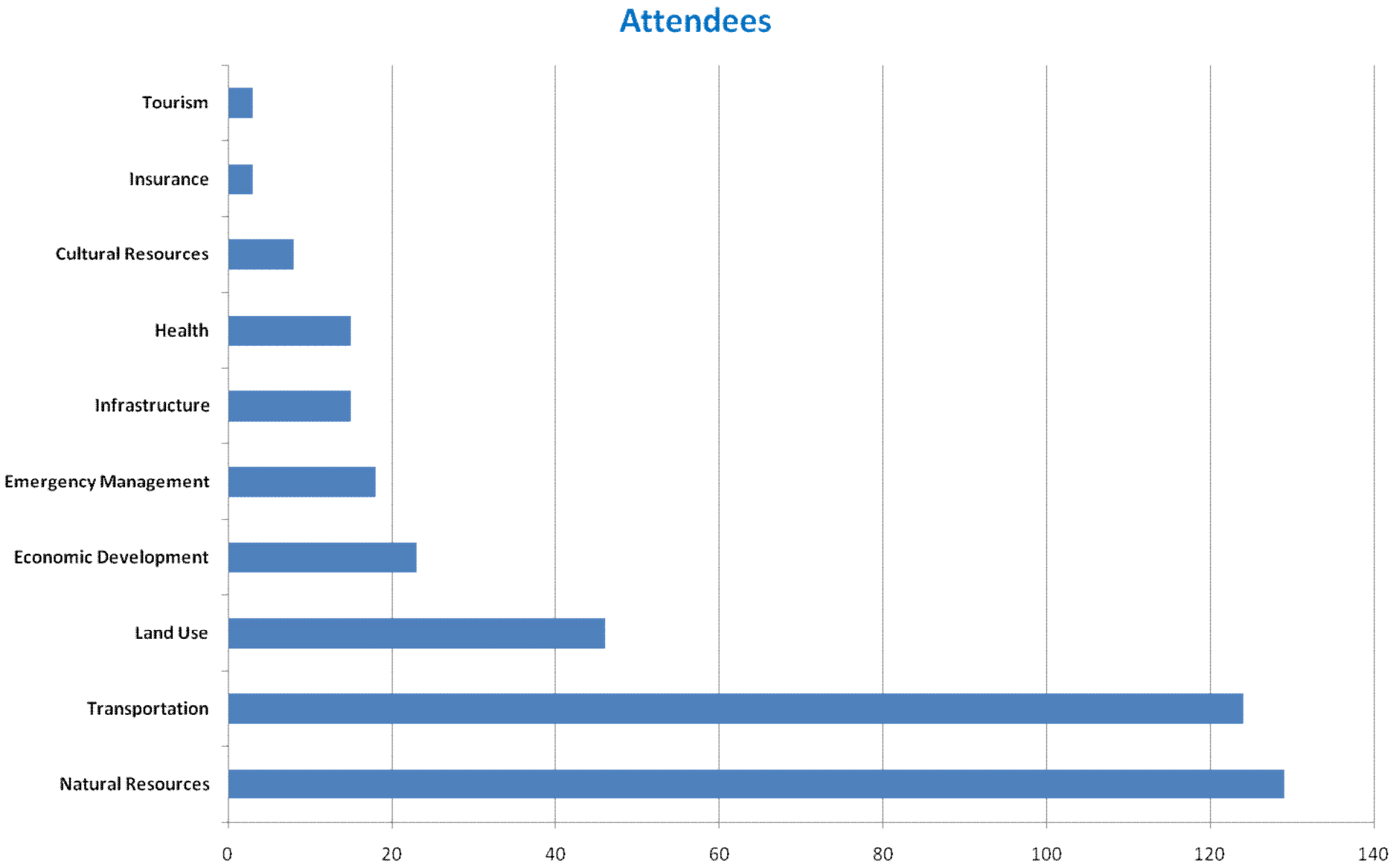
Ask The Climate Question

Workshop Purpose

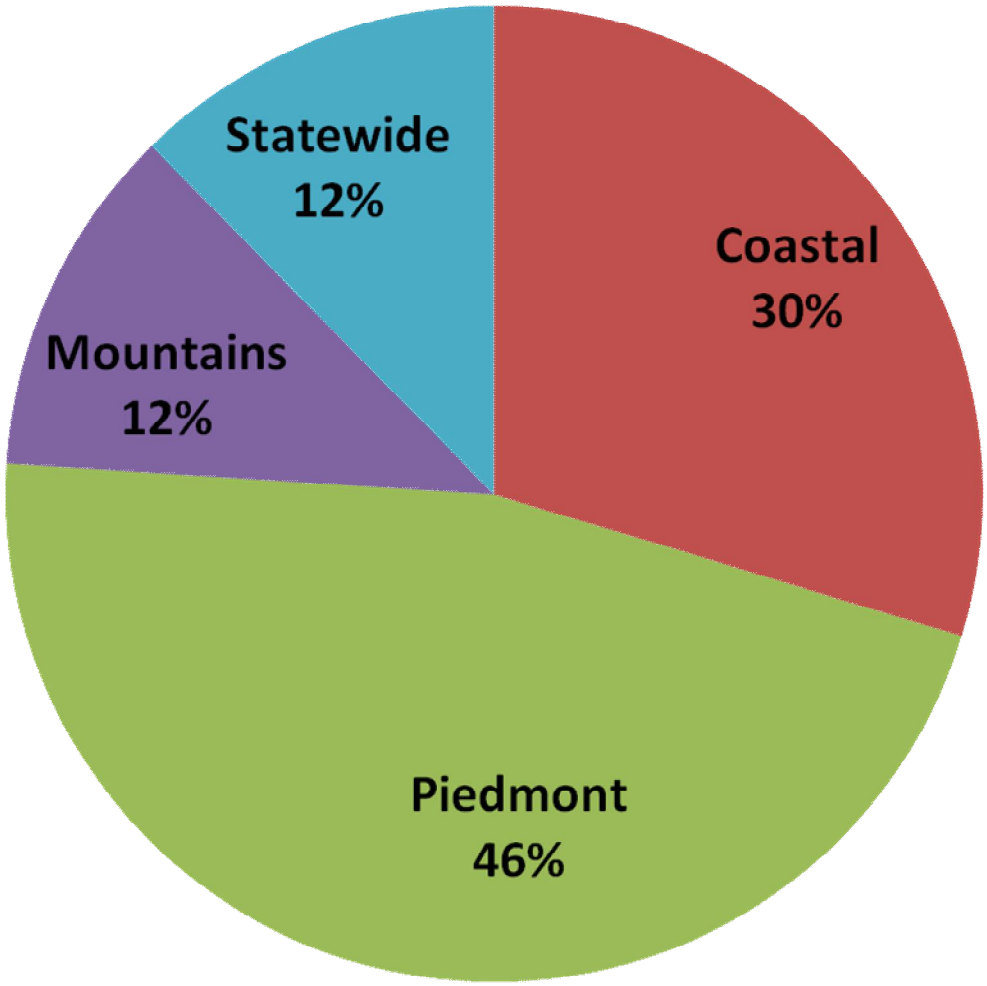
- Educate decision makers about the projected climate change impacts and adaptation strategies that can build our state's resilience

- Build partnerships to work toward development of State Climate Action Plan.

Broad Interest Across Planning Areas



Regional Representation



Governor's Support

"By proactively planning and working together, we can be better prepared to address the challenges of climate change ... and be better positioned to find new opportunities for our state in the face of those challenges."

Governor Beverly Perdue

State Agency Support

Top leadership of Environment & Natural Resources, Transportation, Commerce, Cultural Resources, and Insurance addressed how their agencies will need to address climate change.

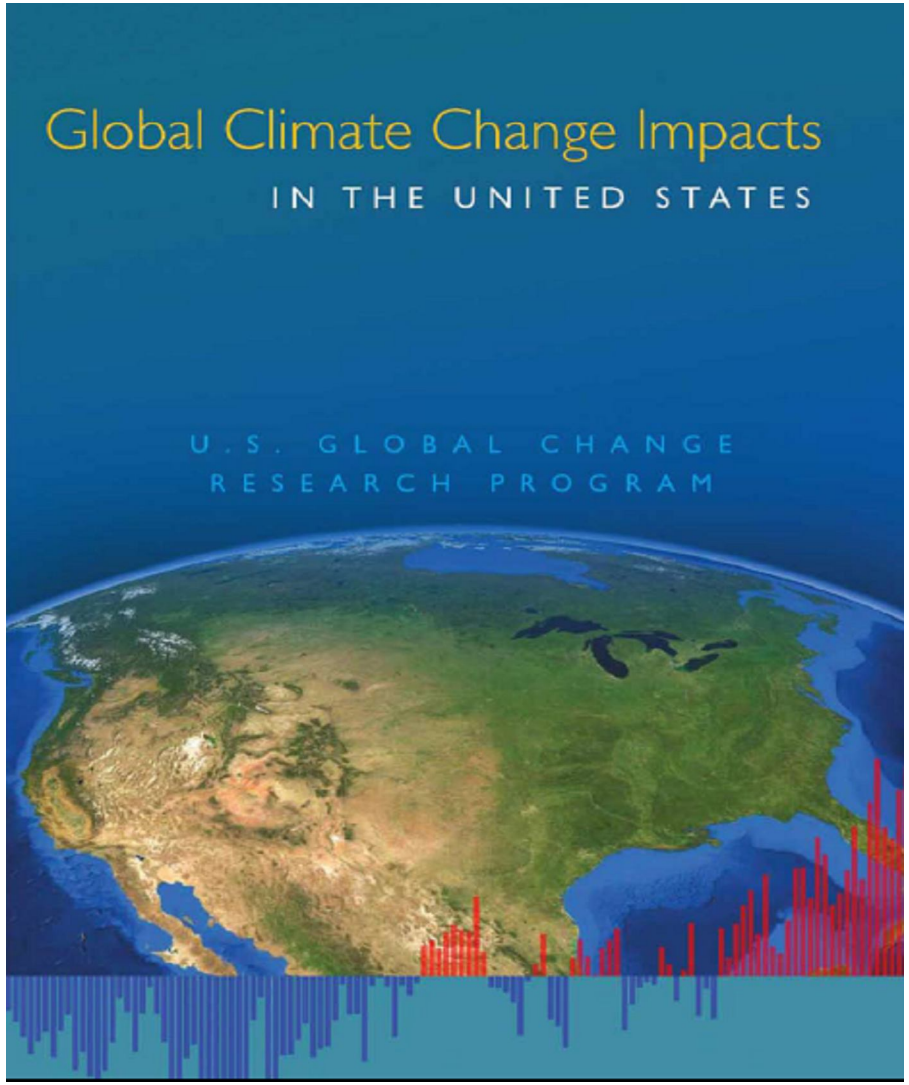
Highlights

- Overview of Global Climate Change Impacts on U.S.

- Projected Impacts and Adaptive Responses:
  - Water
  - Transportation & Infrastructure
  - Energy
  - Ecosystems
  - Human Health
  - Society

To What Are We Adapting?

- **<u>Key Summary for Decision Makers:</u> Regional Impacts of Climate Change and Weather Extremes in the United States**
  - **From US Global Change Research Program (USGCRP) & NOAA 2009**



Key Finding 10: Future climate change and its impacts depend on choices made today

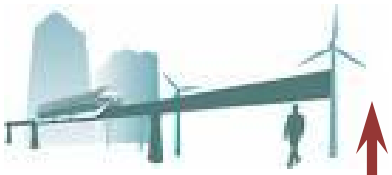
- **Two (or 3) options**
  1. Adaptation – to improve our ability to cope with or avoid harmful impacts and take advantage of beneficial ones
  2. Mitigation – to reduce emissions of heat trapping gases or increase their removal
- **Both are necessary**

- **3rd Option:** Simply to do nothing and suffer.

What is Climate Adaptation?

1. Preparedness: Risk & Hazard "Mitigation"
2. Passive Adaptation: Reacting to Climate Change
3. Active Adaptation: Planning Ahead for Climate Change
   - <u>Toward Resilience:</u> Ability to cope with or bounce back from climate impacts

Potential Impacts of Climate Change



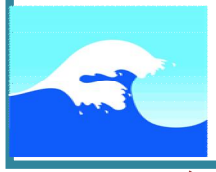
Infrastructure

Water
Transportation
Energy Supply & Use

Climate Changes

Temperature

Precipitation



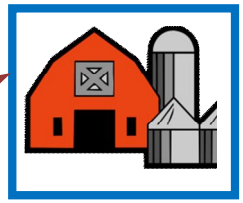
Sea Level Rise

Cultural Resources

Economic Disruption

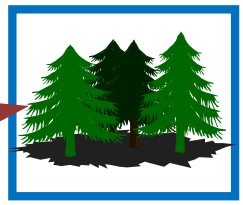
Health

Weather-related Mortality
Infectious Diseases
Air Quality -Respiratory Illnesses



Agriculture

Crop yields
Irrigation demand



Forest

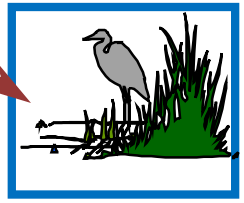
Change in forest composition
Shift geographic range of forests
Forest Health and Productiv

Water Resources

Changes in water supply
Water quality
Increased competition for water

Coastal Areas

Erosion of beaches
Inundate coastal lands
Costs to defend coastal communities



Wildlife and Ecosystems

Shift in ecological zones
Loss of habitat and species
Damage to Coral Reefs

Other Highlights

- Communicating Climate Science in a Changing Media Environment
- Bridging the Hazards Management-Climate Change Adaptation Divide
- Maryland’s example of how they developed their climate change policy and practices

MD Adaptation Planning Process

Review state of the science

Assess climate vulnerability

Identify critical information gaps

Consider and prioritize key issues of concern

Explore potential adaptation strategies

Evaluate adaptation infrastructure (institutional framework)

Identify opportunities & mechanisms to affect change

Recommend action strategies (short, medium long-term)

Varying Regional Impacts

- Mountains
  - Water resources and climate variability
  - Vulnerability and Emergency Response
  - Ecosystem Services
- Piedmont
  - Urban societal issues and growth, land use change
  - Water and Power
  - Transportation
- Coastal Plain
  - Sea Level Rise and Storm Surge
  - Agriculture
  - Coastal population patterns, protection, and retreat

Next Steps

1. Continue DENR Climate Change Initiative.
2. Begin dialogue about development of a Climate Action Plan for the state.
3. ILT will discuss involvement in development of a Climate Action Plan for the state.
4. Begin coordinating with other partners (universities; federal, state and local government agencies).

Presentations are archived at

www.climatechange.nc.gov