

The National Climate Assessment

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NARC –NOAA Climate Change Adaptation Workshop

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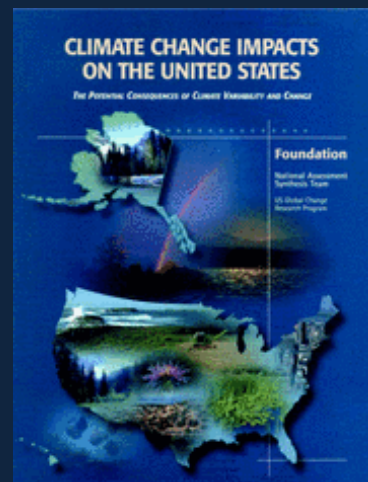


Global Change Research Act (1990), Section 106

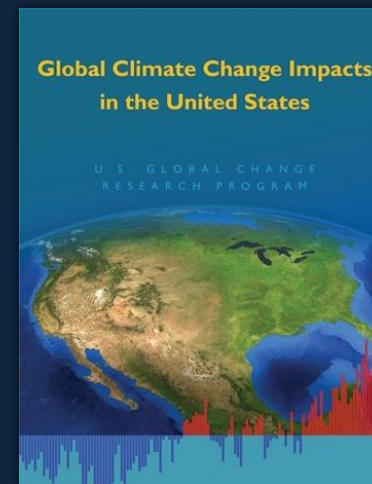
- ...not less frequently than **every 4 years**, the Council... shall prepare... an assessment which –
 - **integrates, evaluates, and interprets** the findings of the Program and discusses the scientific uncertainties associated with such findings;
 - analyzes the effects of global change on the **natural environment, agriculture, energy production and use, land and water resources, transportation, human health and welfare, human social systems, and biological diversity**; and
 - analyzes **current trends** in global change, both human-induced and natural, and **projects major trends** for the subsequent 25 to 100 years.

Previous National Climate Assessments

Climate Change Impacts on the United States (2000)



Global Climate Change Impacts in the United States (2009)



Target date for next NCA: 2013

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Mission

...to establish a continuing, inclusive National process that:

- 1) synthesizes relevant science and information
- 2) increases understanding of what is known and not known
- 3) identifies information needs related to preparing for climate variability and change, and reducing climate impacts and vulnerability
- 4) evaluates progress of adaptation and mitigation activities
- 5) informs science priorities
- 6) builds assessment capacity in regions and sectors

The Next National Climate Assessment

- Sustainable process with multiple products over time
- New topics, cross-sectoral studies
- Consistent national matrix of indicators
- Central coordination, multiple partners
- Regional and sectoral networks building assessment capacity
- Recognizes international context
- Education and communication focus
- Web-based data and tools for decision support
- Process workshops to establish methodologies

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Indicators for the National Climate Assessment



Indicators : Suggested Approach

- **Goal:** Identify a relatively **small number of policy-relevant, integrated** indicators, designed to provide a consistent, objective, and transparent **overview of major trends and variations** linked to a changing climate.
 - The indicator system should include metrics for consistently **evaluating climate-related vulnerabilities and impacts** over time.
 - The system should help to **assess progress of adaptation and mitigation activities** across sectors, regions, and timeframes relative to the magnitude of climate impacts.
 - To the extent feasible, **Physical, Social and Ecological components should be integrated**; there is a need for an overarching strategy that ties them together.

Questions: Societal Indicator Workshop

Types of climate-focused questions that could be addressed with the indicators:

- How do we know there is a **changing climate**?
- Are important **climate impacts** occurring or predicted to occur in the future?
- Are we **adapting successfully**?
- What are the **vulnerabilities and resiliencies** given a changing climate?
- Are we **preparing adequately** for future climate change?

Indicators: Possible Criteria for Inclusion

- Short- and long-term changes can be **documented** through appropriate **metrics**
- **Linkage** to a changing climate
- Easily **communicated** and understood by non-scientists
- Impacts and vulnerabilities are of **national significance**
- Data and methods can meet NCA **peer-review standards**

Indicators: Potential Impact

- **Reference points** for ongoing assessment activities
- Identify status, rates of **change, trends, and thresholds**
- Consideration of climate in a **multi-stress context**
- Across **time and space** scales
- **Early warning** of changes in valued systems
- Improved understanding of **mechanisms and implications**
- **Communication** to the public about impacts and vulnerabilities of importance to the U.S.
- Useful in a **management/policy** context (e.g., adaptation), but not focused on individual decisions

Adapting to a Changing Climate



Impacts of Climate Change

Climate change is apparent now across our nation.

Trends observed in recent decades include:

- rising temperatures,
- increasing heavy downpours,
- rising sea level,
- longer growing seasons,
- reductions in snow and ice, and
- changes in the amounts and timing of river flows

These trends are projected to continue, with larger changes resulting from higher amounts of heat-trapping gas emissions, and smaller changes from lower amounts of these emissions.

Responding to Climate Change

“Mitigation”

Options for limiting climate change

“Adaptation”

Responding to present and future climatic conditions



Take Home Messages



- Adaptation is not a choice – our choice is whether to adapt proactively or respond to the consequences.
- The impacts of climate change are already occurring throughout the US and will continue to occur in the future.
- Climate change impacts vary across sectors and regions.
- Preparing for, and responding to, the impacts of climate change will require adaptation actions at all levels.
- We can play a critical role in adaptation through providing leadership, sharing information and guidance, and implementing forward-looking strategies and actions to enhance the resilience of the Nation to climate change.

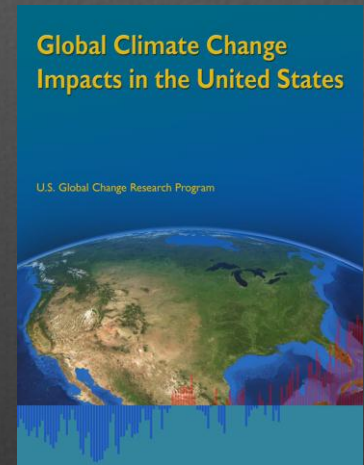
Resources and Support

Resources:

U.S. Global Change Research Program. 2009.
Global Climate Change Impacts in the United States
<http://www.globalchange.gov/usimpacts>

U.S. Global Change Research Program.
Synthesis and Assessment Products
<http://www.globalchange.gov/publications/reports/scientific-assessments/saps>

National Academies of Science. 2010.
Advancing the Science of Climate Change, America's Climate Choices
<http://americasclimatechoices.org/panelscience.shtml>
Adapting to the Impacts of Climate Change
<http://americasclimatechoices.org/paneladaptation.shtml>



Questions and Comments

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