

The Role of the Federal Government in Adaptation Science: A U.S. Global Change Research Perspective

Aspen Global Change Institute
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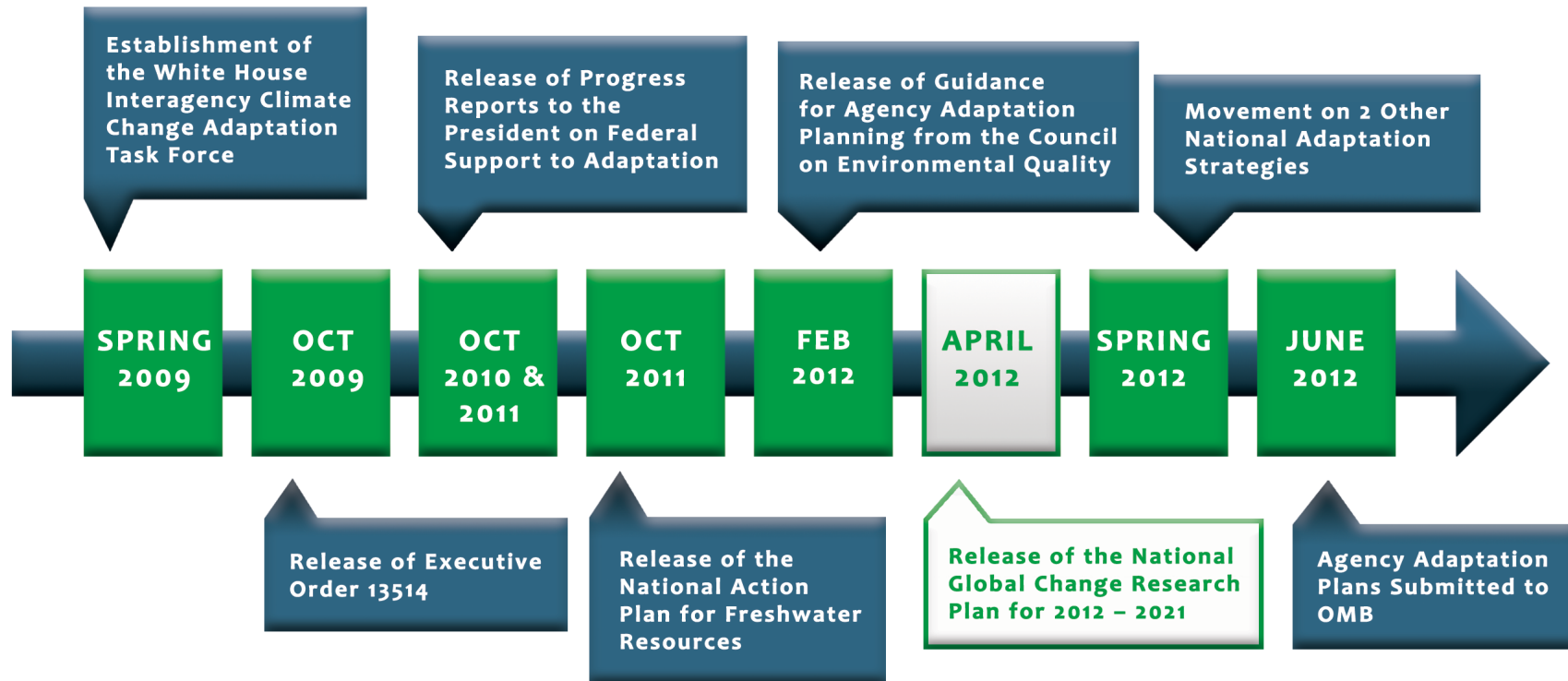
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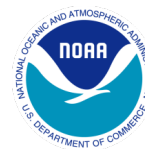
Key Takeaways

1. A **major transformation** has taken place over the past 3 years in adaptation science, policy, and planning at the Federal level.
2. The U.S. Global Change Research Program (USGCRP) is enhancing its focus on fundamental science while also focusing on a more **actionable science** program.
3. Although there has been much progress made over the past 3 years on adaptation through the USGCRP, there is **still more action needed** in research, implementation, delivery, and evaluation in support of adaptation.

Transformation Timeline for Federal Science in Support of Adaptation



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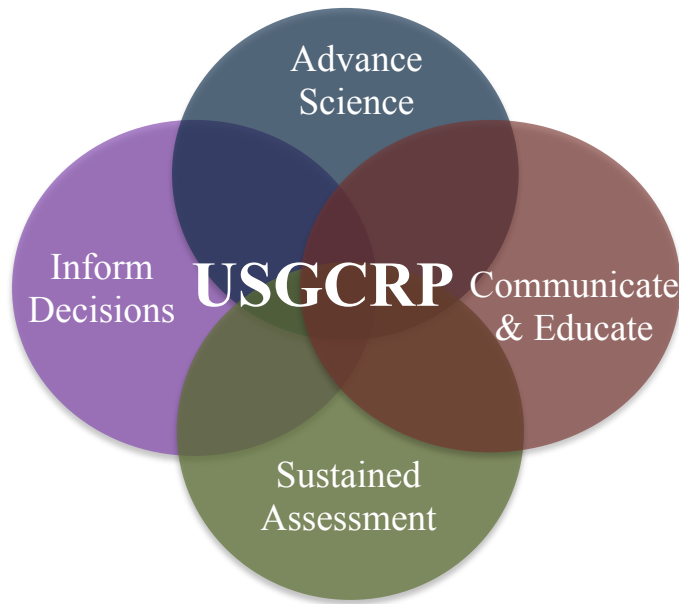
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Federal Roles in Adaptation Science

- Advancing science while effectively informing decisions
- Identifying critical adaptation research gaps
- Prioritizing future research areas for adaptation
- Assessing the state of the climate and science in support of adaptation
- Providing access to useful & usable climate science data and information
- Identifying useful and usable information for an adaptation “portal” within the GCIS
- Developing data and evaluation frameworks to evaluate the effectiveness of adaptation
- Building capacity for public-private partnerships



Advancing Science while Effectively Informing Decisions



Goal 2: Inform Decisions - Provide the scientific basis to inform and enable timely decisions on adaptation and mitigation

Objective 2.1 – Inform Adaptation Decisions

Objective 2.2 – Inform Mitigation Decisions

Objective 2.3 – Enhance Global Change Information

National Global Change Research Plan

- I. Introduction
- II. Vision and Mission
- III. Goals and Objectives

- **Goal 1 - Advance Science**
- **Goal 2 - Inform Decisions**
- **Goal 3 - Sustained Assessments**
- **Goal 4 - Communicate and Educate**

- IV. Coordinating with Other Nations and International Organizations

- V. Implementation Planning



For Access to the New Plan:

<http://globalchange.gov/what-we-do/strategic-planning>



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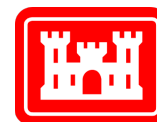
Identifying Critical Adaptation Research Gaps

Adaptation Research Gaps

- Assessment and characterization of risks, impacts, and vulnerabilities at decision-relevant scales
- Foster advances and integration of social, behavioral, and economic science
- Identification of tipping points and extremes
- Understanding and management of climate change in a multiple-stressor context
- Performance metrics on effectiveness
- Science translation

Adaptation Science

Integrated scientific research that directly contributes to enabling adjustments in natural or human systems to a new or changing environment and that allows beneficial opportunities or helps moderate negative effects



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Prioritizing Future Research Areas for Adaptation

Future Research Priorities

- Advance foundational science for adaptation decisions
- Coordinate regional science, tools, and services for adaptation
- Advance understanding on extremes, thresholds, and tipping points
- Integrate research on coupled Earth and human systems
- Actionable science for informed policy –making and management



Assessing the State of the Climate and Science in Support of Adaptation

- The “New” *Sustained* National Climate Assessment
 - **GOAL:** Enhance the ability of the United States to *anticipate, mitigate, and adapt* to changes in the global environment
 - **VISION:** Advance an *inclusive, broad-based, and sustained process* for assessing and communicating scientific knowledge of the impacts, risks, and vulnerabilities associated with a changing global climate in support of decision-making across the United States
- New Adaptation Chapter
 - State of the science and applications in the U.S. for decision making on adaptation
 - Compiled from multiple public and private entities

Providing Access to Useful & Usable Climate Science Data and Information

- The Global Change Information System (GCIS): A “one-stop-shop” web based source of **authoritative, accessible, usable, and timely** information about climate and global change for use by scientists, decision makers, and the public
 - A friendly, accessible entry for non-scientists
 - Interagency relationships increase collaboration opportunities
 - Agency information mapped into a common, consistent model with a standard vocabulary
 - Concept tagging and linking improves search results for agency products

Identifying Useful and Usable Information for an “Adaptation Portal” within the GCIS

- Essentials
 - Basics on climate change
 - Adaptation
 - Mitigation
 - Climate impacts
 - Climate trends
- Climate Tools
 - Climate change scenarios
 - Climate change projections
 - Risk and vulnerability assessment tools
 - Decision making frameworks
 - Evaluation metrics
 - Indicators
- United States / Federal Info
 - Key findings
 - Maps of impacts
 - Agency actions
 - Interagency initiatives
- Regions
- States
- Case Studies
- Resources
 - Publications
 - Experts
 - Data
- Network/COP



Developing Data and Evaluation Frameworks to Evaluate the Effectiveness of Adaptation

- Identifying adaptation evaluation frameworks, measures, metrics
- Supporting the 2013 National Climate Assessment
 - Adaptation, mitigation, decision support
 - Evaluation
 - Indicators
- NRC workshop on identifying approaches/information needs for assessing effectiveness of and progress in adaptation and mitigation
- Partnering with the UK to gain insight on their evaluation efforts



Building Capacity for Public-Private Partnerships



50 organizations so far

<https://sites.google.com/a/usgcrp.gov/nca-net>

- The NCA Network (NCAnet) creates partnerships between the public and private sectors for the assessment
 - A network of organizations that extend the NCA process and products
 - Building long-term capacity to conduct and use assessments
 - Cultivating partnerships with organizations that will participate in the sustained assessment process



We Need Your Feedback!

- **Adaptation Portal:** What other components would you include in an adaptation portal within the GCIS that what has already been presented?
- **Evaluation:** Does anyone have any examples of where metrics have been used to evaluate adaptation actions?
- **Engagement/Partnerships:** Is there a potential engagement opportunity between the USGCRP and the BECS committee on valuation of costs of impacts and benefits of adaptation



Thank You!

For More Information

USGCRP Adaptation Science website:

<http://www.globalchange.gov/what-we-do/adaptation-science>

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