

Principles and Examples of Adaptation



Figure: Deer Island Sewage Treatment Plant. Image courtesy of Massachusetts Water Resources Authority.

Kathy Jacobs

Office of Science and Technology Policy

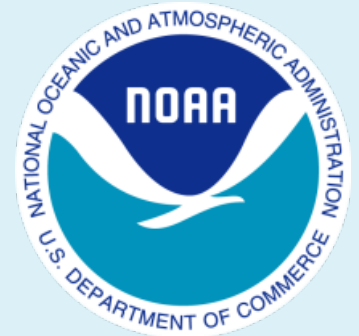
Assistant Director for Climate Adaptation and Assessments

Interagency Climate Change Adaptation Task Force



Interagency Climate Change Adaptation Task Force

- Chaired by CEQ, OSTP and NOAA
- Engagement of over 20 Federal organizations
- Implementing recommendations to minimize climate risks
- Coordination, exchange of best-practices
- Reporting on progress



Task Force Principles to Guide Adaptation

- Adopt Integrated Approaches
- Prioritize the Most Vulnerable
- Use Best-Available Science
- Build Strong Partnerships
- Apply Risk-Management Methods and Tools
- Apply Ecosystem-based Approaches
- Maximize Mutual Benefits
- Continuously Evaluate Performance



What is the Federal role in adapting to climate change?

- Provide climate science and services to help communities make better decisions that reduce risks to people and property
- Lead by example and manage climate risks to Federal services, operations and assets

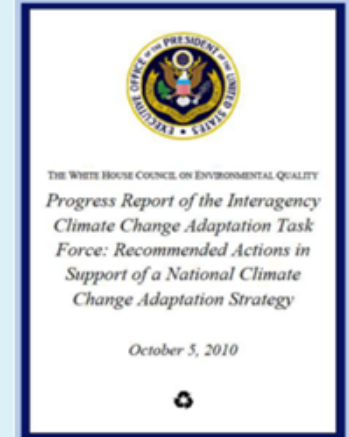


Potential inundation of Charleston, SC with 0.5 meter of sea level rise.

Federal Framework for Adaptation

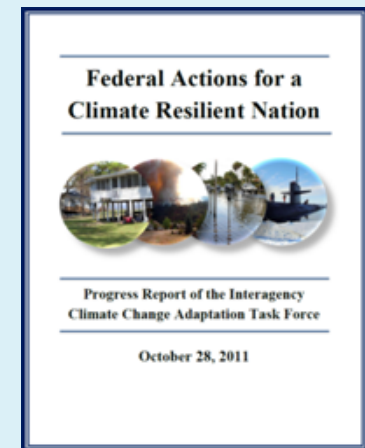
October 2009: Executive Order 13514

- Set sustainability goals for Federal agencies
- Calls for Climate Adaptation Plans
- Charged the Adaptation Task Force with providing recommendations.



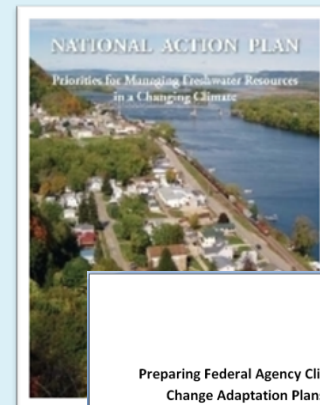
October 2010: Report to the President

- Recommended principles, policy goals and actions for how the Federal Government works with partners to address climate risks.



Federal adaptation products

- National Action Plan for Freshwater Resources (October 2011)
- National Fish, Wildlife and Plants Climate Adaptation Strategy (Summer 2012)
- National Ocean Policy Implementation Plan (Summer 2012)
- Federal Agency Adaptation Plans (Summer 2012)



Preparing Federal Agency Climate Change Adaptation Plans
In Accordance with Executive Order
13514 – February 29, 2012

Draft National Ocean Policy
Implementation Plan



Enabling Adaptation: The Federal Role

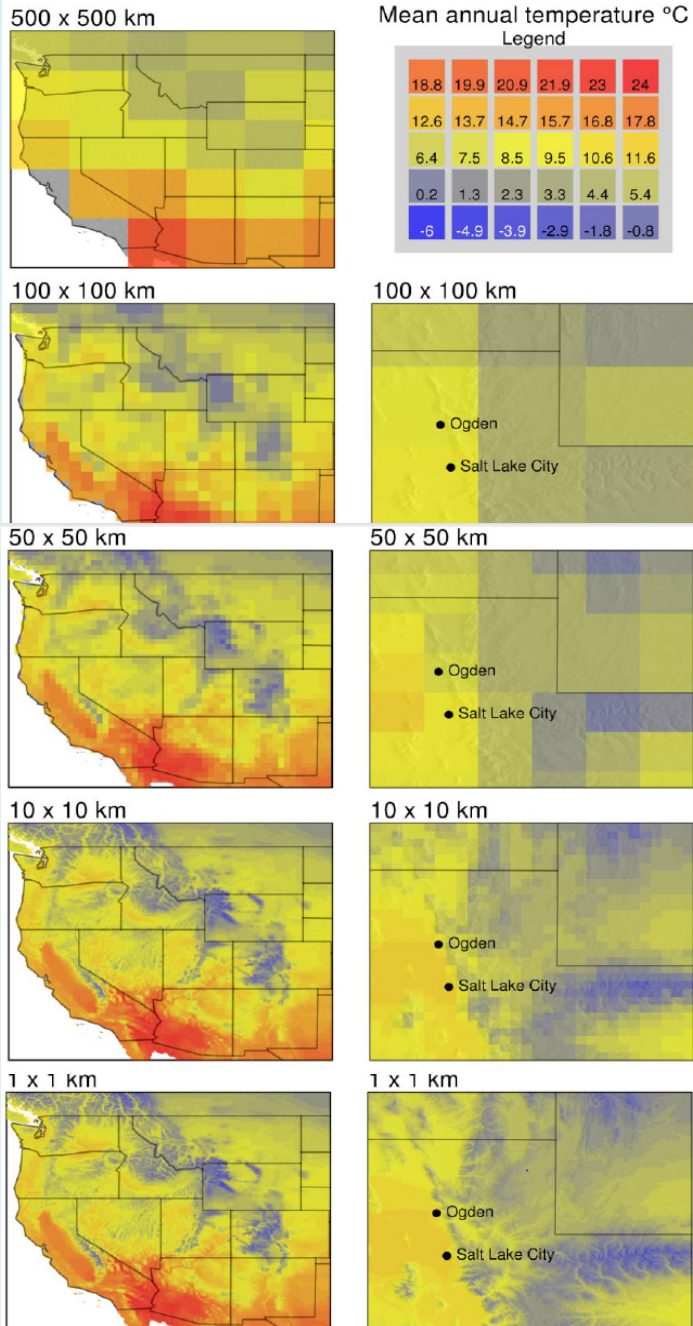
- Providing basic data, scientific information, and guidance
- Building regional networks of science and service providers
- Implementing pilot programs and partnerships



2002 Valley Fire that burned San Juan National Forest lands and many homes located at the urban interface (Credit: Craig Goodell, U.S. Forest Service)

Climate Projections FAQ

Describes key concepts that end-users of climate projection products should understand to appropriately interpret downscaled climate projections, including various sources of uncertainty.



USDA United States Department of Agriculture / Forest Service
 Rocky Mountain Research Station
 General Technical Report RMRS-GTR-277WWW
 April 2012

Regional Coordination of Science and Services

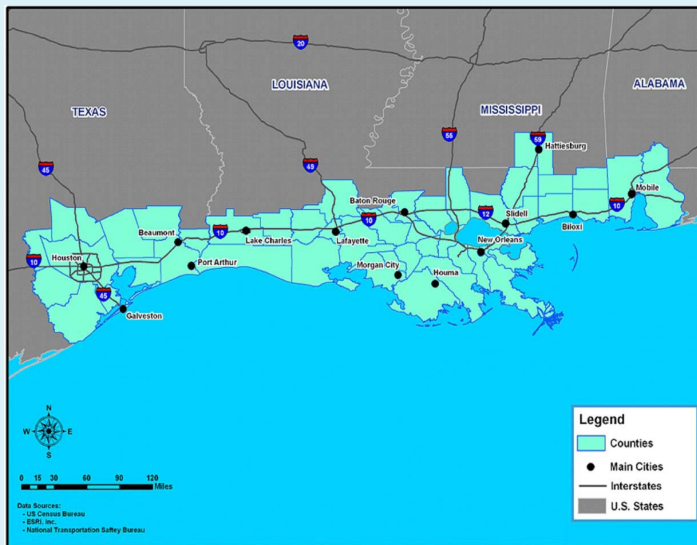
= Better access to information at regional and local scales



Case Study: The Gulf Coast



- USDOT is studying the impact of climate change in the Central Gulf Coast region
- Phase 1 examined regional impacts on transportation infrastructure
- Phase 2 is taking a more in-depth look at impacts and will develop adaptation measures, and create risk management tools



News from the USGCRP and the National Climate Assessment



Building an Information Foundation for Adaptation (and Mitigation)

Kathy Jacobs



United States
Global Change
Research Program



U.S. Global Change Research Program
**National Climate
Assessment**

US Global Change Research Program

GCRA Mandate:

“To provide for development and coordination of a comprehensive and integrated United States **Research Program** which will assist the Nation and the world to **understand, assess, predict, and respond** to human-induced and natural processes of global change.”



United States
Global Change
Research Program



Moving beyond the envelope of our experience:

Inform Decisions:

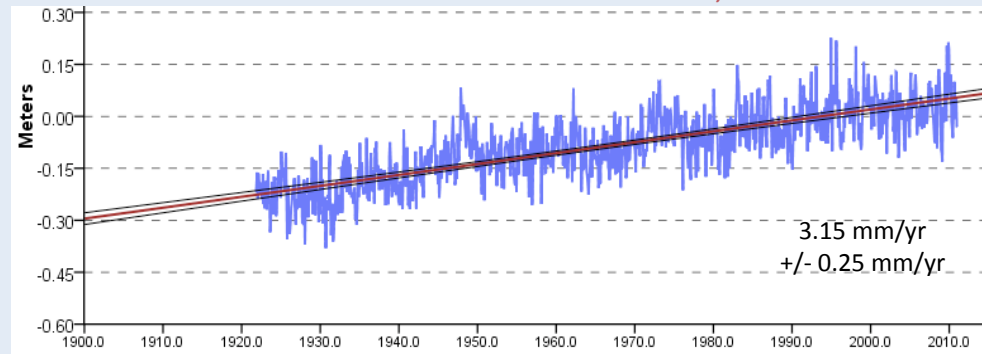
How can we adapt to things we have not yet experienced?

Current and simulated views of sea level rise in Charleston, South Carolina.

Courtesy of **Digital Coast**, NOAA Coastal Services Center. (Thanks to Frank Niepold, NOAA)



Mean Sea Level Trend – Charleston, South Carolina



New Informing Decisions/Adaptation Science Working Group Priorities

- 1. Identifying Critical Information Needs:** (i.e. science, tools, and services) at the scales most relevant for decisions;
- 2. Advancing Social, Behavioral, and Economic (SBE) Sciences**
- 3. Identifying Science and Decision Support Capabilities:** identify and communicate existing science and service capabilities;
- 4. Translating Science for Decision-Makers:** Improving the application and translation of science for decision makers;
- 5. Integrating Science into Agency Adaptation Plans**
- 6. Evaluating the Effectiveness of Adaptive Actions:** Developing guidance for evaluating effectiveness.



The “New” National Climate Assessment (NCA)

Goal

- Enhance the ability of the United States to **anticipate, mitigate, and adapt** to changes in the global environment.

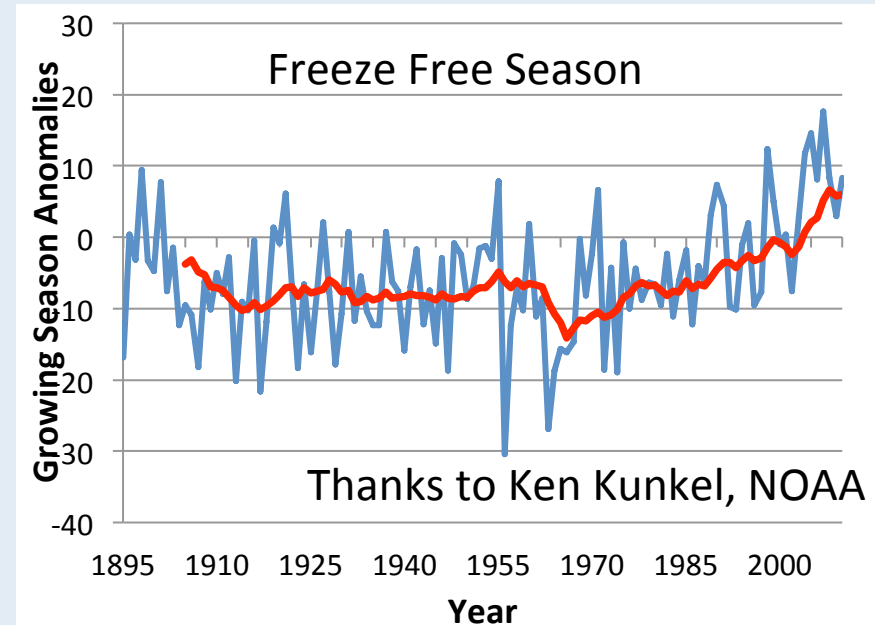
Vision

- 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.



Scenarios of the Future

- **Climate: new regional climatologies and projections**
- **Sea level change: new risk-based range and guidance**
- **Land use and socioeconomic: Agency projections**



NCAnet: Partners in 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

50 organizations so far

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

2013 Report Production Timeline

A S O N D J F M A M J J A S O N D J F M A M J J A S O N D

Oct 1,
2011

Mar 1,
2012

May 1
2012

Aug 1
2012

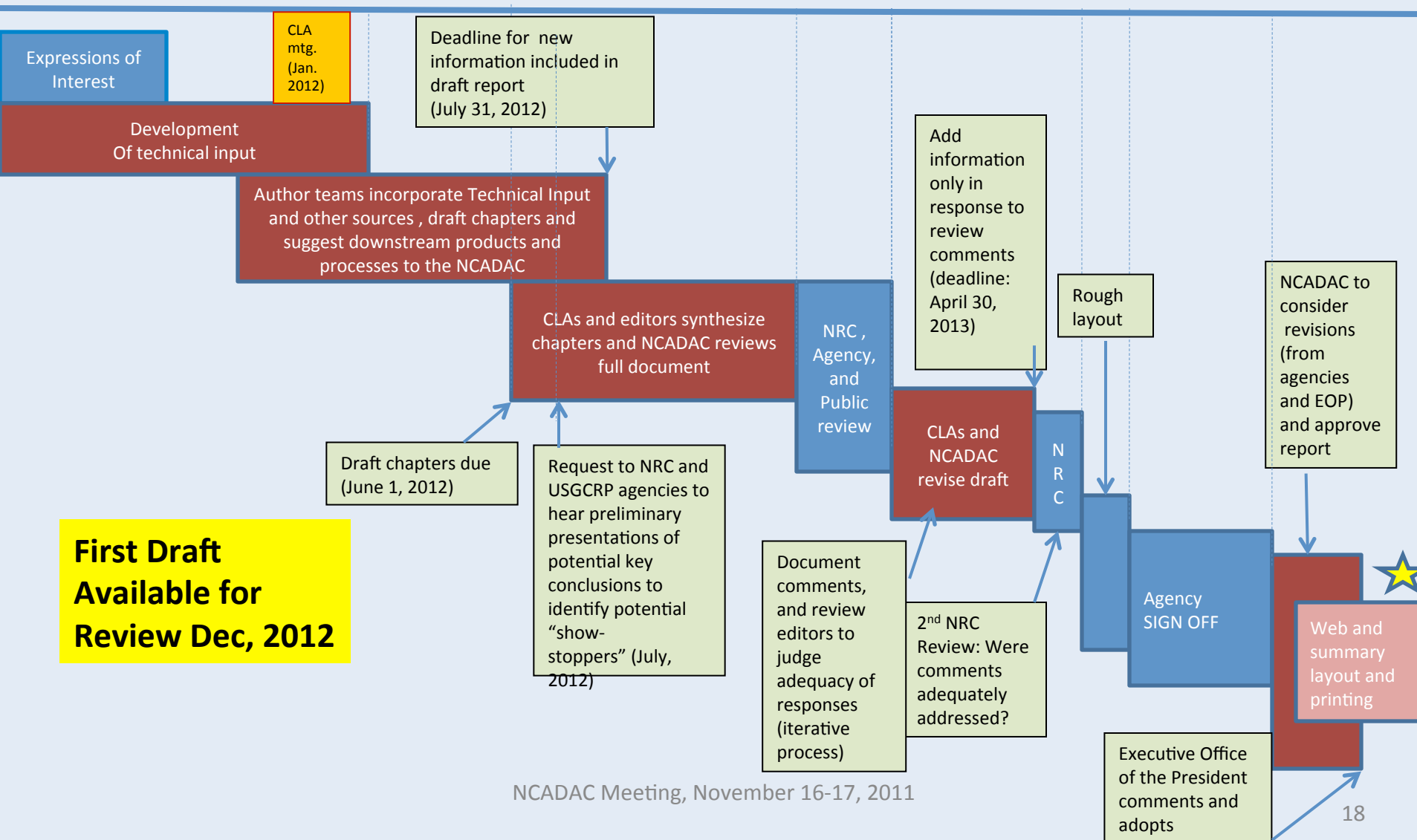
Oct 1
2012

Jan 1
2013

Feb 1
Mar 1

Jun 1 Jul 1

Oct 1
2013



Thank you!

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