

National Level Adaptation Actions Can Assist Local Activities

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**NEW YORK STATE
CLIMATE SMART COMMUNITIES PROGRAM
OCTOBER 11, 2012**

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The Federal Role in Adapting to Climate Change

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- Provide climate science & services to help communities/businesses make better decisions that reduce risks to people & property
- Manage climate risks to Federal services, operations & assets



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

Federal Action to Build Climate Resilience

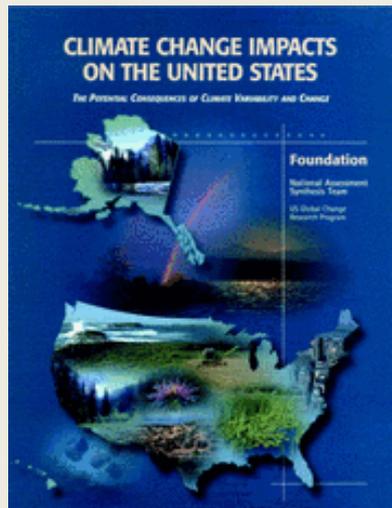
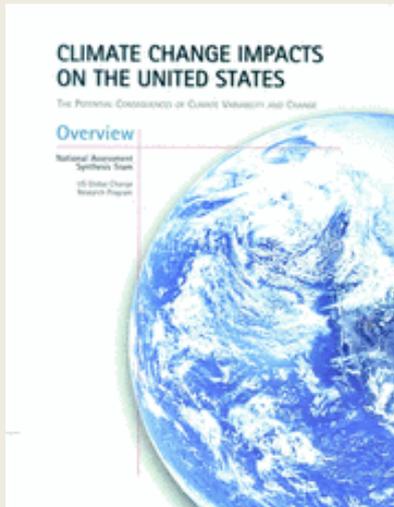
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- Core Federal Policy Goals for Climate Change Adaptation
 - Build resilience to climate change in communities.
 - Make science more accessible to communities and decision-makers.
 - Integrate climate risk management into Federal agency planning.
 - Develop strategies to safeguard natural resources.
 - Enhance efforts to lead and support international climate adaptation

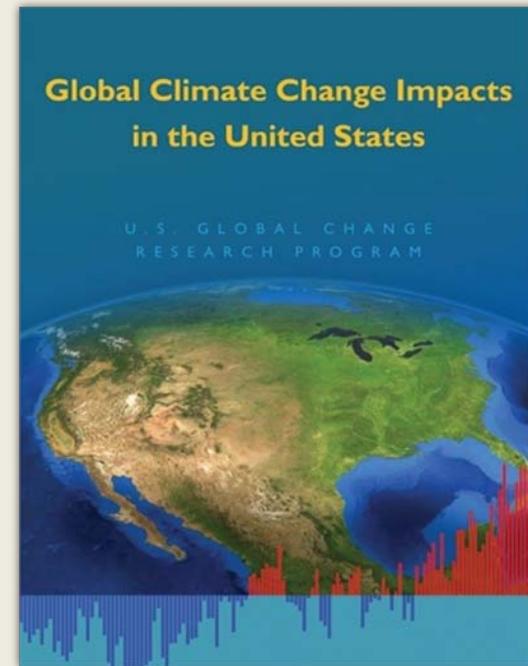
National Climate Assessments

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Climate Change Impacts on the United States (2000)



Climate Change Impacts in the United States (2009)



Target date for next NCA: 2013

National Climate Assessment (NCA) Objectives

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

- 1) **synthesizes relevant science** and information
- 2) **increases understanding of what is known & 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 & mitigation activities**
- 5) **informs science priorities**
- 6) **builds assessment capacity** in regions and sectors
- 7) **builds understanding & skilled use of findings**

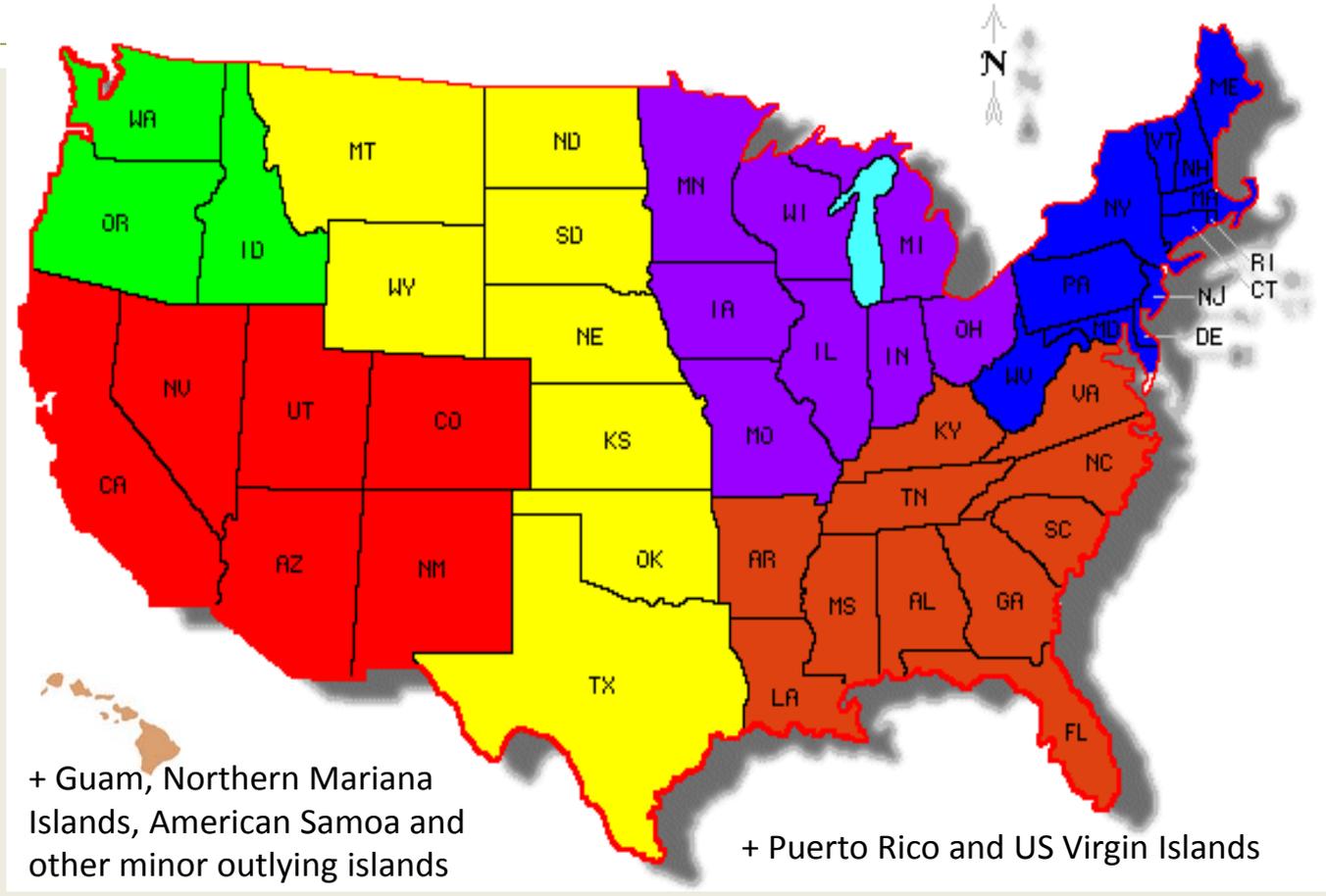
The Current National Climate Assessment Features

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

NCA Regions

- Northeast
- Southeast and Caribbean
- Midwest
- Great Plains
- Northwest
- Southwest
- Alaska and Arctic
- Hawaii and Pacific Islands



regions are consistent with previous NCA assessments

Report Contents

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- 1. Introduction
- 2. Climate Change Science
- 3. Water resources
- 4. Energy supply and use
- 5. Transportation
- 6. Agriculture
- 7. Forestry
- 8. Ecosystems and biodiversity
- 9. Human health
- 10. Water/energy/land use
- 11. Urban/infrastructure/vulnerability
- 12. Impacts of climate change on tribal/indigenous and native lands and resources
- 13. Land use/land cover change
- 14. Rural communities and development
- 15. Impacts on biogeochemical cycles, with implications for ecosystems and biodiversity
- 16 – 23 The 8 Regions
- 24. Oceans and marine resources
- 25. Coastal zone, development and ecosystems
- 26. Decision Support
- 27. Mitigation
- 28. Adaptation
- 29. Research Agenda for Climate Change Science
- 30. The NCA Long-term Process – Vision and Future Deliverables

National Climate Assessment: Adaptation

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- An Overview of Adaptation
 - Definition
 - What activities are being undertaken and by what groups
 - Processes for approaching adaptation planning
 - Adaptation considerations – things to think about
 - Barriers
 - Evaluation issues

Scenarios of the Future: on NCA website

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- Climate: (2 emissions)
- Sea level change
- Land use
- Socioeconomic



Coming soon: Participatory Scenario Planning

Climate Portal: Global Change Information System (GCIS)

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The NCA GCIS pilot will be phase I of the USGCRP-GCIS:

- Enable users to find data without knowing in advance which agency or organization produces the information;
- Link direct output of the Government science and data enterprise with users at multiple scales (linking science to service);
- Enhance transparency of conclusions
- Ensure traceability and appropriate meta-data so interested parties can understand the sources of derived information and statements.

NCAnet: Partners in Assessment

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- A network of organizations that extend the NCA process and products to a broader audience through their stakeholders and members
- Building long-term capacity to conduct and use assessments
- 50+ organizations have signed up as partners so far, representing thousands of individuals including:
 - Federal, state, tribal, and local governments; academia; non-profit sector; private sector; and individual citizens
 - Stakeholders across the US
- <https://sites.google.com/a/usgcrp.gov/nca-net/>

Federal Climate Science & Services

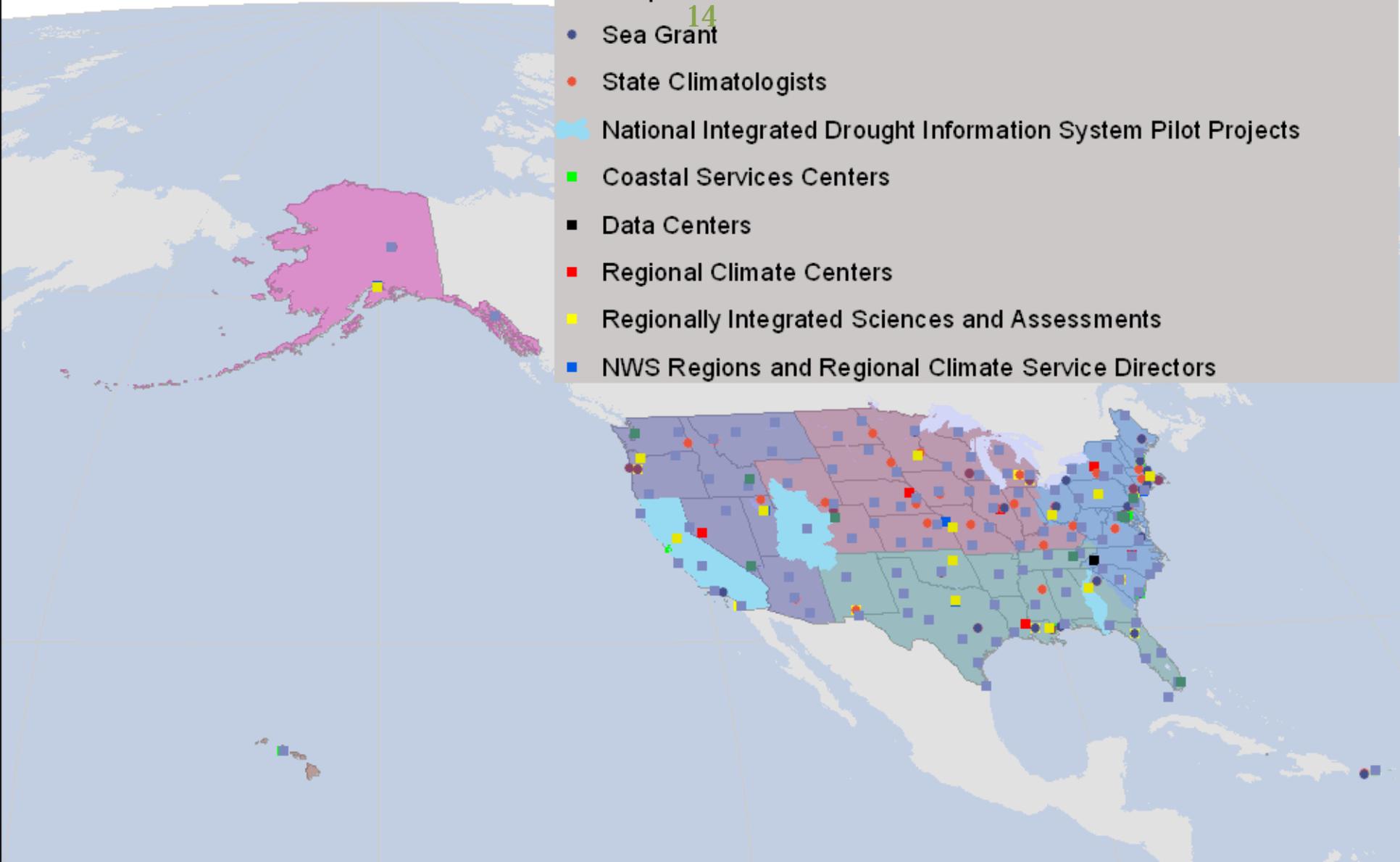


Easy access to climate-relevant information for decision-makers

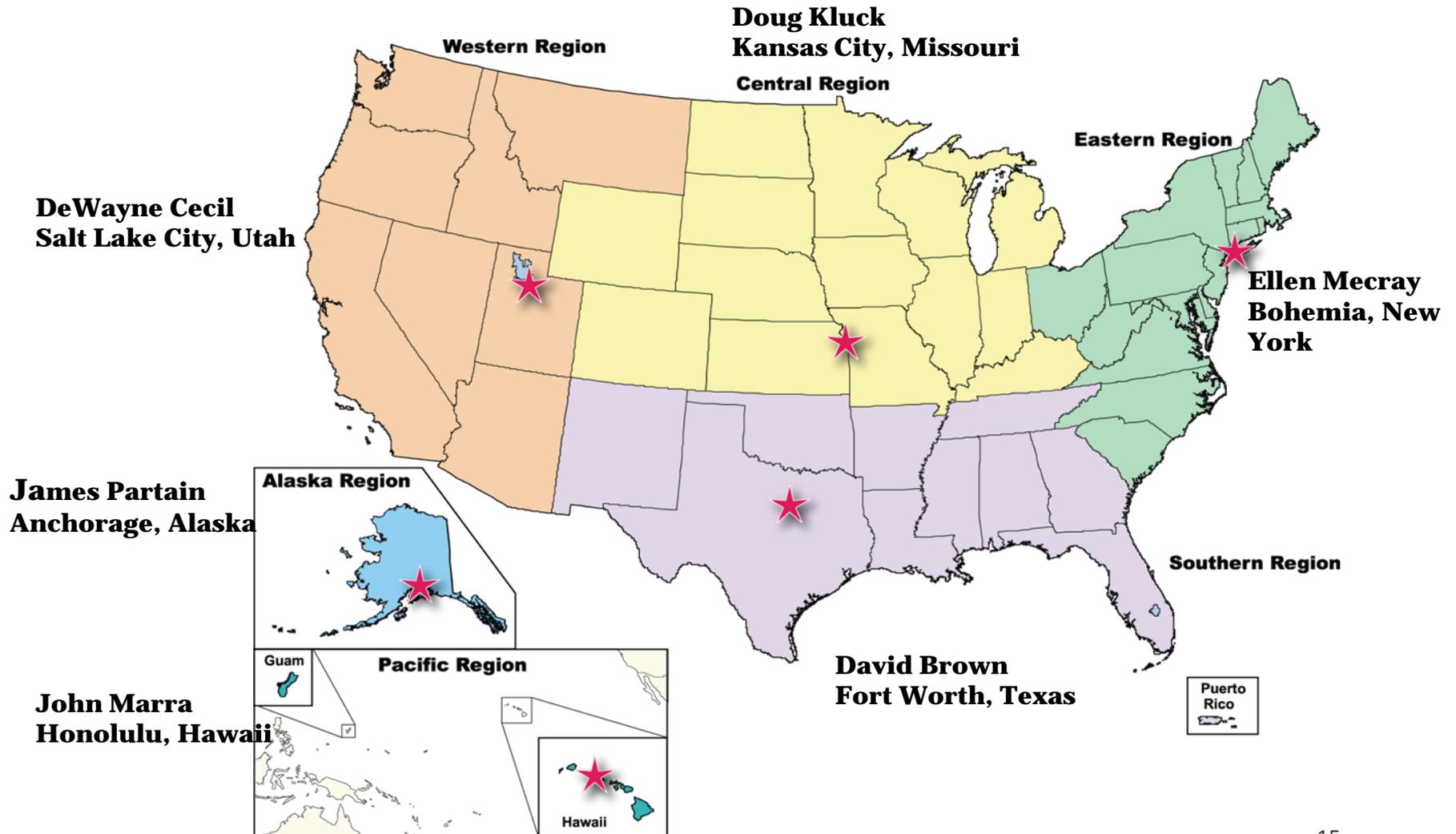
Also: EPA, FEMA, and others

NOAA Climate Services

- Research Labs and Centers for Applications, Modeling, and Prediction
- River Forecast Centers
- Weather Forecast Offices
- Cooperative Institutes
- Sea Grant
- State Climatologists
- National Integrated Drought Information System Pilot Projects
- Coastal Services Centers
- Data Centers
- Regional Climate Centers
- Regionally Integrated Sciences and Assessments
- NWS Regions and Regional Climate Service Directors



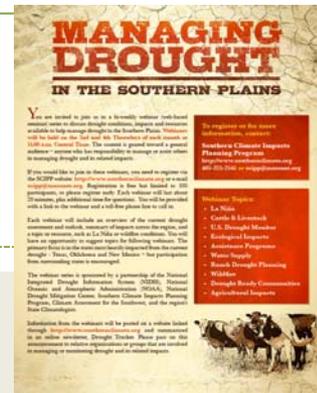
Regional Climate Services Directors



Regional Climate Services in Action: Responding to the 2011 Texas Drought

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- 2011 Southern Plains drought: an opportunity for multi-faceted, regional response w/ multiple partners
 - Federal (NOAA, USGS, USFWS, USDA, USACE, etc.)
 - State (TX Parks and Wildlife, Forest Service, Emerg Mgmt, RISAs, etc.)
 - Private (TX & SW Cattle Raisers Association, Plains Grains Inc., etc.)
- Three-tiered effort to meet user needs and provide services
 - Outlook and assessment forums: focused on sectoral impacts
 - Drought management webinars: focused on tools and products
 - Media engagement: focused on public awareness and messaging
- Short- and long-term benefits emerging from this effort
 - “On the ground” implementation of interagency MOU’s for clim svcs
 - Identification of “best practices” and support of diverse user groups



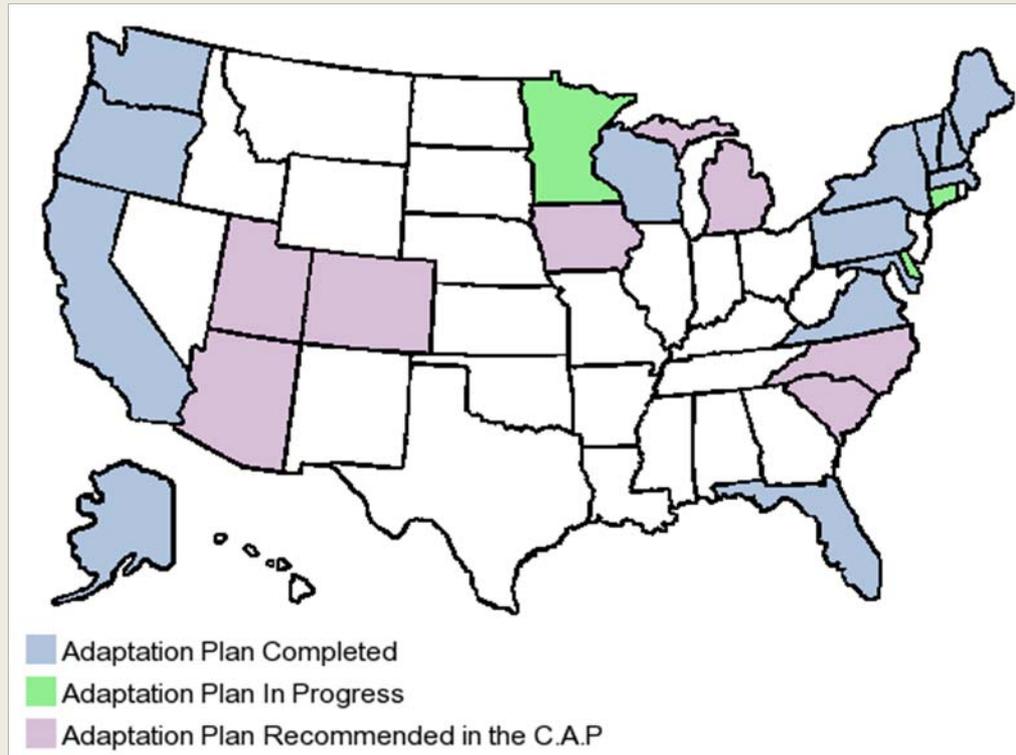
Non-Federal Activities

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- **State plans**
- **Tribal, Regional, Local plans**
- **Issue specific plans**
- **Guidebooks and Specific project/option pubs**
- **Databases of adaptation activities: some federal**

State Adaptation Plans

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Tribal, Regional, Local Planning Efforts

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- Swinomish Indian Tribal Community
- King County and Seattle, Washington
- New York City, PLANNY NYC
- Chicago, IL
- Los Angeles, CA
- SE Florida Compact
- Milwaukee, WI
- Nassau County, NY
- Phoenix, AZ
- San Francisco, CA
- Albany, NY
- Alexandria, VA
- Austin, TX
- Fairbanks, AK
- Grand Forks, ND
- Keene, NH
- Savannah, GA
- And many more!

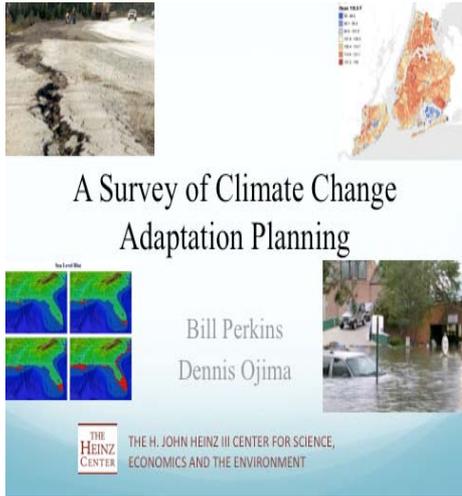
Even More Examples

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- Issues specific: Drought, Sea Level Rise
- Businesses: Entergy, Dell
- Individual Infrastructure Plans:
Boston sewage treatment plant
- Individual farm or location plans
- NGOs – many assisting communities



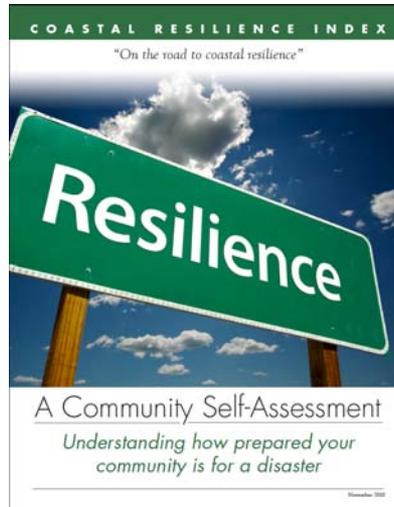
Guidebooks and Specific Project Publications



A Survey of Climate Change Adaptation Planning

Bill Perkins
Dennis Ojima

THE HEINZ CENTER
THE H. JOHN HEINZ III CENTER FOR SCIENCE, ECONOMICS AND THE ENVIRONMENT



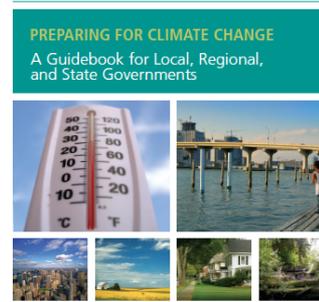
COASTAL RESILIENCE INDEX

"On the road to coastal resilience"

Resilience

A Community Self-Assessment
Understanding how prepared your community is for a disaster

November 2011



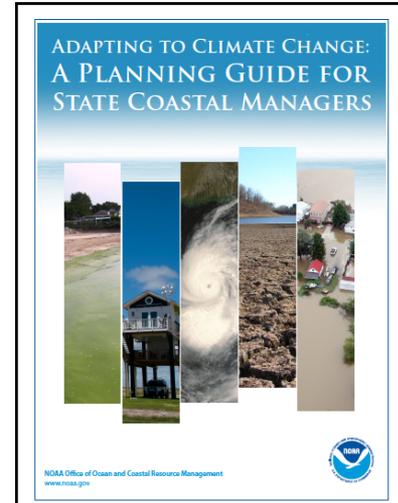
PREPARING FOR CLIMATE CHANGE

A Guidebook for Local, Regional, and State Governments

Written by
Center for Science in the Earth System (The Climate Impacts Group)
Joint Institute for the Study of the Atmosphere and Ocean
University of Washington
King County, Washington

With an introduction by King County Executive Ron Sims

King County

**ADAPTING TO CLIMATE CHANGE:
A PLANNING GUIDE FOR
STATE COASTAL MANAGERS**

NOAA Office of Ocean and Coastal Resource Management
www.noaa.gov



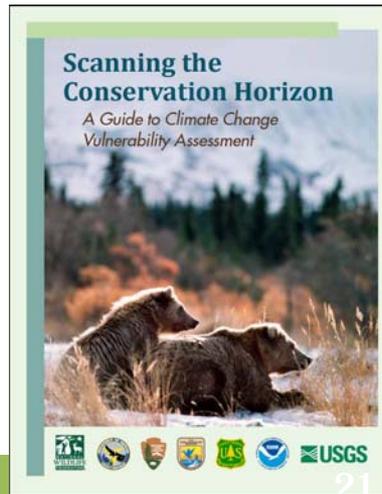
GEORGETOWN CLIMATE CENTER
A Leading Resource for State and Federal Policy

**Adaptation Tool Kit:
Sea-Level Rise & Coastal Land Use**

How Governments Can Use Land Use Practices to Adapt to Sea Level Rise

Review Draft 3 - March 2011
Jessica Oransky*

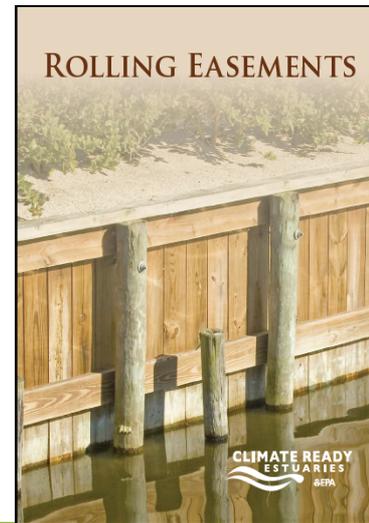
Georgetown Climate Center gratefully acknowledges the support of our adaptation funders who make this work possible:
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**Scanning the
Conservation Horizon**

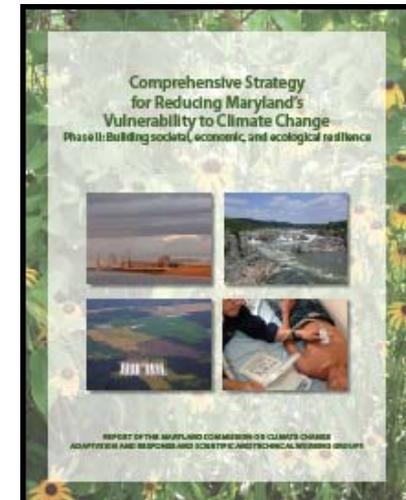
A Guide to Climate Change
Vulnerability Assessment

USGS



ROLLING EASEMENTS

CLIMATE READY ESTUARIES
DEPA



**Comprehensive Strategy
for Reducing Maryland's
Vulnerability to Climate Change**

Phase II: Building societal, economic, and ecological resilience

REPORT OF THE MARYLAND COMMISSION ON CLIMATE CHANGE
ADAPTATION AND BEYOND AND SCIENTIFIC/TECHNICAL MEMBERS GROUP

A Few Selected National Resources

- NOAA RISA programs: http://www.climate.noaa.gov/cpo_pa/risa/
- Sea Grant Programs: <http://www.seagrant.noaa.gov/>
- NOAA Coastal Services Center: www.csc.noaa.gov/
- USEPA: <http://www.epa.gov/climatechange/effects/adaptation.html>
- USDOJ: <http://www.doi.gov/whatwedo/climate/adaptation.cfm>

- Georgetown Climate Center Adaptation Clearinghouse:
<http://www.georgetownclimate.org/adaptation/clearinghouse>
- CAKE database (Climate Adaptation Knowledge Exchange):
www.cakex.org/
- Ecosystem-based Management Tools network:
<http://www.ebmtoolsdatabase.org/about>



- **Southern Climate Impacts Planning Program:** NOAA/RISA, LSU and OU, State Climatologists, Southern Regional Climate Center (website: www.southernclimate.org)
- Stakeholder-driven research: regionally relevant scientific research that results in critical information, products, tools, and education
- Engagement: partners, decision makers, and other stakeholders
- Southern U.S.: TX, OK, MS, LA, AR, TN
- Focus multi-hazard preparedness: severe storms, droughts, floods, hurricanes, extreme temperatures, etc., and coastal impacts of climate change and variability.

Thank you!

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southernclimate.org