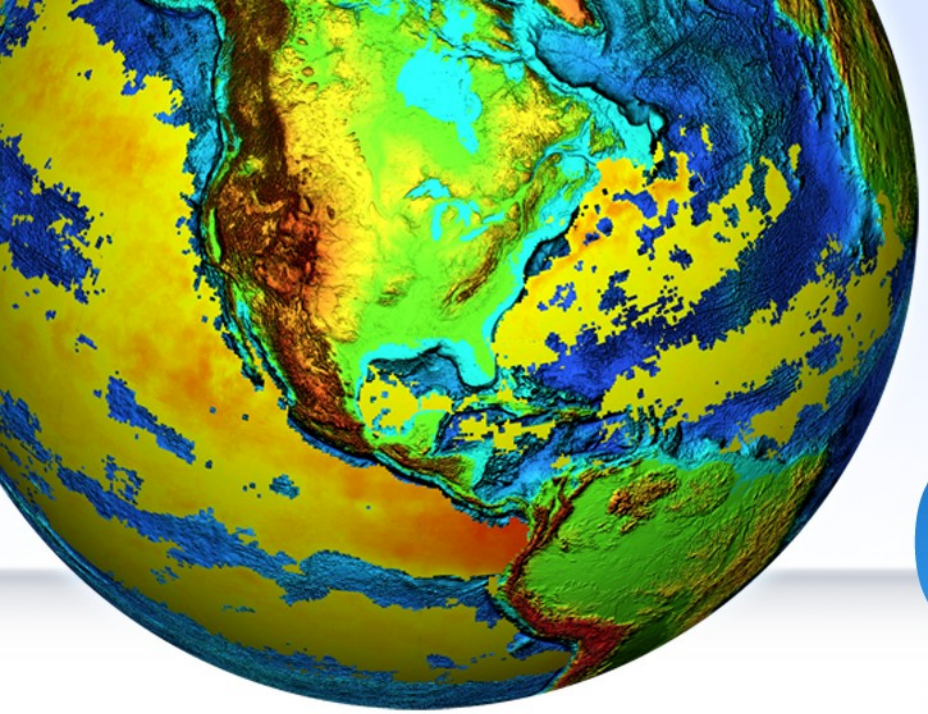


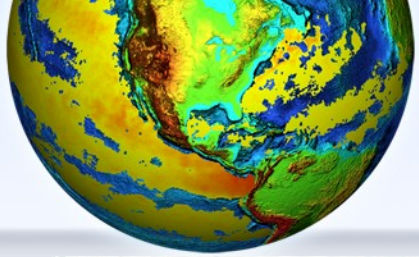
NOAA CLIMATE SERVICE

Science Serving Society

Eileen L. Shea

NOAA National Climatic Data Center

July 21, 2010



The Rising Demand for Climate Services

Commerce

Coasts

Recreation

Ecosystems

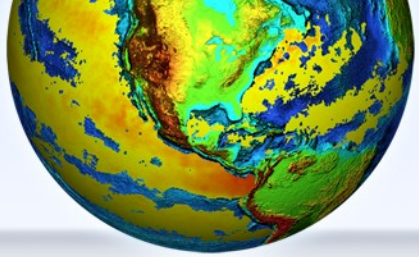
Hydropower

Farming

Wind Energy

Private Sector

"All our greatest challenges are pervasive around the globe, and all are local in their solution." *- A stakeholder from Missouri*



NOAA's Next Generation Strategic Plan

Chart the FUTURE
NOAA'S NEXT GENERATION STRATEGIC PLAN

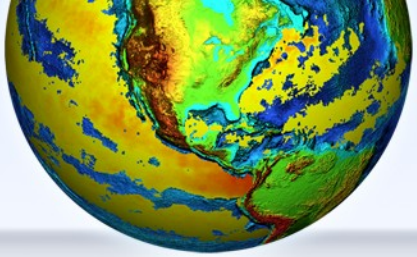
www.noaa.gov/ngsp

NOAA's Mission: ***Science, Service, and Stewardship***
To understand and anticipate changes in climate, weather, oceans, and coasts,
Share that knowledge and information with others, and
To conserve and manage marine resources

Vision: ***Resilient Ecosystems, Communities, and Economies***
Healthy ecosystems, communities, and economies that are resilient in the face of change.

Long-Term Goal: Climate Adaptation and Mitigation
An informed society anticipating and responding to climate and its impacts

Note: These are subject to input from
NOAA's Science Advisory Board and public comment



NOAA Climate Service

NCS VISION*

An Informed Society Anticipating and Responding to Climate and its Impacts

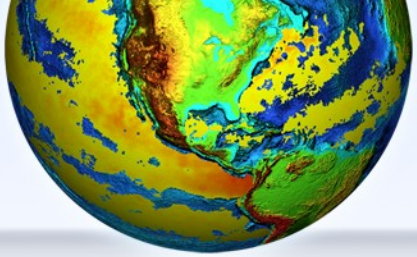
NCS MISSION

To advance understanding of changes in climate and to predict climate in service of a resilient society

NCS OBJECTIVES*

- *Improved scientific understanding of the changing climate system and its impacts*
- *Integrated assessments of current and future states of the climate system that identify potential impacts and inform science, services, and decisions*
- *Mitigation and adaptation efforts supported by sustained, reliable, and timely climate services*
- *A climate-literate public that understands its vulnerabilities to a changing climate and makes informed decisions*

Note: These are subject to input from NOAA's Science Advisory Board and public comment



NOAA's Strategic Approach

NOAA Mission

Science, Service, Stewardship

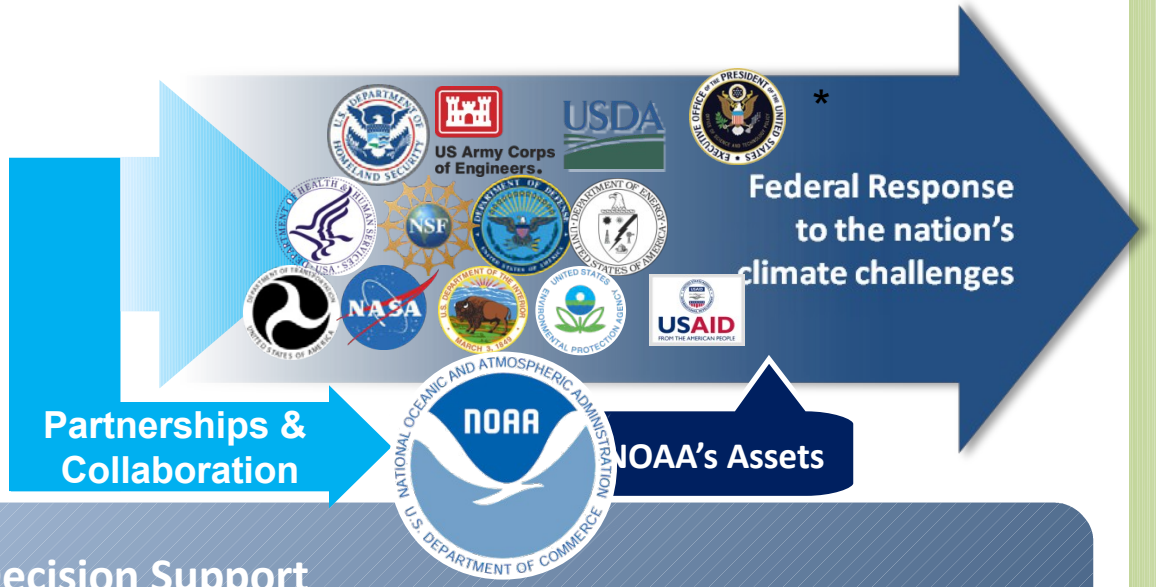
- Implement a One-NOAA approach towards climate services
  - Integrating foundational climate science and research assets within the NOAA Climate Service line office
  - Growing service development assets within the NCS, and connecting them across NOAA's line offices with existing capacities
  - Ensuring that all of NOAA's line offices have the best available climate science and information to strengthen service delivery to users and enhance NOAA's contributions to partnerships

OAR **NMFS**

NOS **NWS**

NESDIS **NCS**

NOAA commits to providing critical assets in science and service to a Federal partnership



Information Delivery and Decision Support
NOAA uses its national and regional infrastructure to deliver climate services today

Assessments of Climate Change and Impacts
NOAA is a leader in national and regional climate impact assessments
Over 70% of Federal IPCC AR4 WG1 authors were from NOAA

Climate Change Research and Modeling
Internationally recognized models of the global climate

Climate Observations and Monitoring
NOAA operates over 90 observation and monitoring systems
NOAA is mandated to monitor and provide access to climate data and information

Security
Forestry
Water
Health
Infrastructure
Global
Land Management
Oceans
Energy
Other

*Representative Organizations & Sectors

NOAA Climate Service Priorities

CLIMATE IMPACTS ON WATER QUANTITY: Increase the Nation's ability to anticipate, prepare for, and adapt to drought and flooding

Example User Groups: water resource managers, civil engineers, farmers, emergency management officials, USBR, USDA, USACE

COASTS AND CLIMATE RESILIENCE: Characterize the physical processes that drive local sea-level rise and inundation; promote understanding of sea-level rise impacts on coastal communities

Example User Groups: coastal and emergency managers, NOS, FEMA, USACE, USGS, HUD, MSP

SUSTAINABILITY OF MARINE ECOSYSTEMS: Integrate climate information into management of fisheries and large marine ecosystems (e.g. California Current)

Example User Groups: NMFS, states, NOS, FWS,USBR, fisheries management councils

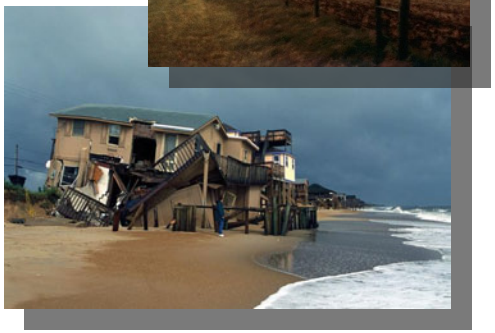
NOAA Climate Service Priorities

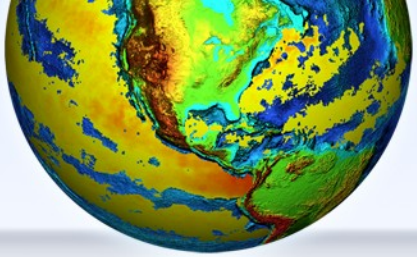
EXTREMES IN A CHANGING CLIMATE – Provide regional information to anticipate, prepare for, and adapt to extremes in a changing climate

Example User Groups: emergency managers, state and local officials, energy industry, resource managers, city planners, insurance industry

INFORMING CLIMATE MITIGATION OPTIONS – Assess emissions of short and long-lived GHG species and effectiveness of GHG management strategies

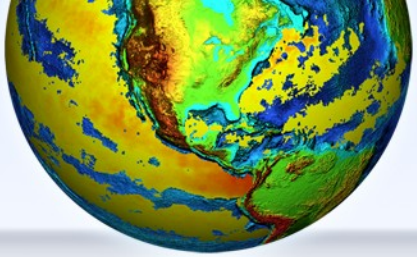
Example User Groups: policy makers, energy industry, EPA, DOE, state and local communities, State Dept.





Meeting Key Challenges

- Establishing and sustaining partnerships and appropriate business practices
- Ensuring climate information and products are based on best available science
- Balancing User-pull and Science-push
- Maintaining Transparency and Credibility
- Developing approaches for shared learning



Next Steps

- Develop business practices to ensure that we strengthen science while meeting the growing demand for services
- Engage internal and external audiences on the NOAA Climate Services plans
- Establish Regional Climate Services Directors (Aug/Sept)
- Evolution of climate portal
- Submission of a reprogramming package to Congress in Fall

Federal Regional Climate Service Enterprise

Connecting Science, Services and People

State and Local Engagement, Education & Service Delivery

- **Weather Forecast Offices**
- **Sea Grant Education & Extension**
- **Marine Sanctuaries, Monuments & Estuarine Reserves**
- **River Forecast Centers**
- **Data Centers**
- ***DOC Commerce Connect (in development)***

- **Other agencies** (e.g., National Science Foundation, Dept. of Education, Health & Human Services, Dept. of Energy, Dept of Interior, Dept of Agriculture)
- Dept. of Agriculture Extension
- State Climatologists
- Federal Protect Area Programs
- USGCRP Climate Literacy Partners
- Etc…

Regional Climate Services Partnerships

- ***NOAA Regional Climate Service Programs***
- **Weather Service Regions**
- **Regional Climate Centers**
- **Coastal Services Center**
- **River Forecast Centers**
- **Regional Collaboration Teams**
- **Data Centers**

- **Relevant Regional Offices from other agencies** (e.g., Environmental Protection Agency, Dept. of Agriculture, Dept. of Interior, Health and Human Services, Dept. of Transportation, Dept of Energy, etc.)

Regional Climate Science

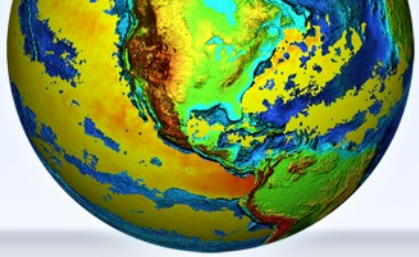
- **Regional Integrated Science & Assessments (RISA)**
- **NOAA Labs**
- **Sea Grant**
- **Cooperative Institutes**
- **Applied Research Centers**
- **Data Centers**

- **Other agencies** (e.g., National Aeronautics and Space Administration, Dept. of Interior, Dept. of Agriculture, National Science Foundation & other USGCRP agencies)
- **Etc…**

USER ENGAGEMENT

- *Development, Delivery & Evaluation of Products & Tools*
- *Understanding and Translating User Needs*
- *Informing Program Requirements*

Government
Private Sector
Academia
NGO's

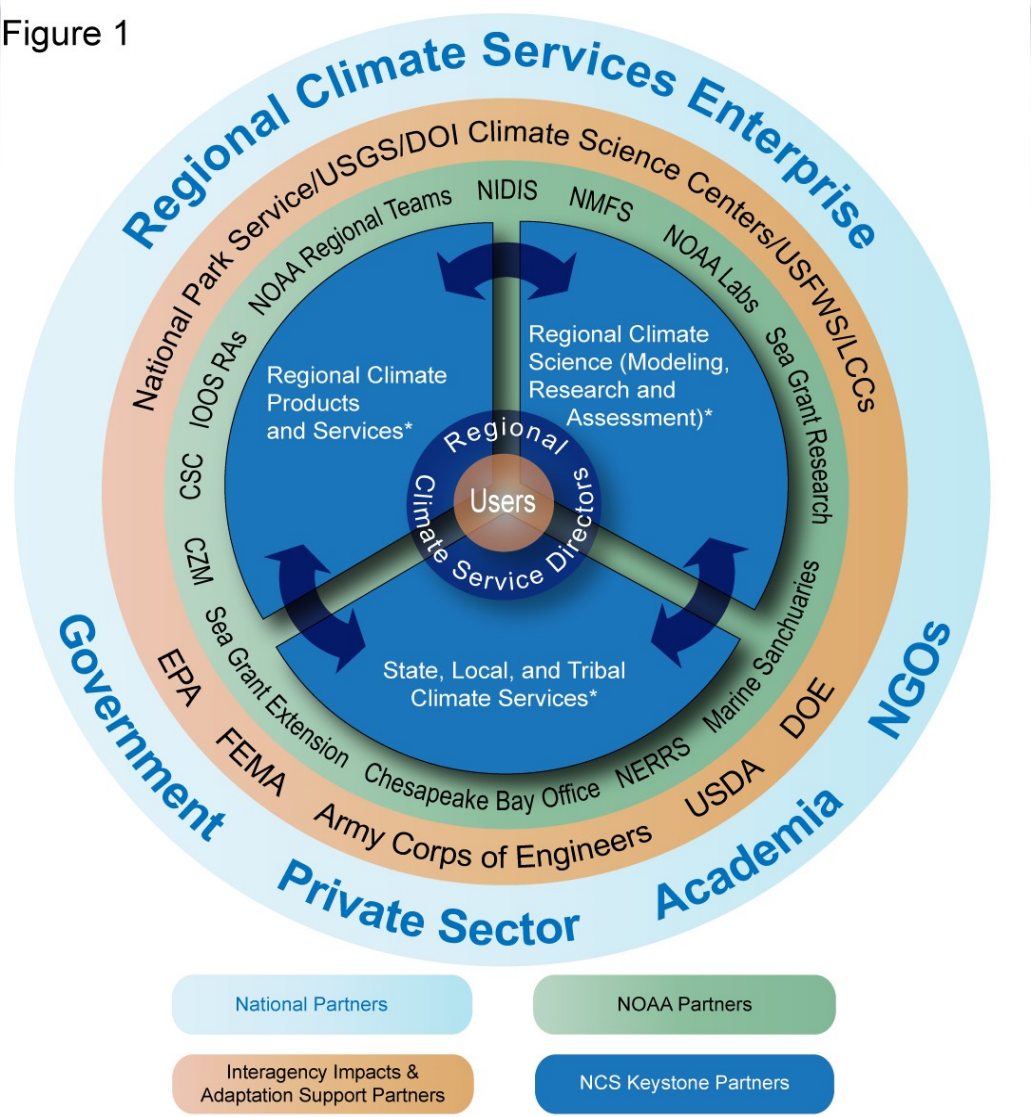


NCS Regional Climate Service Enterprise: Key Objectives

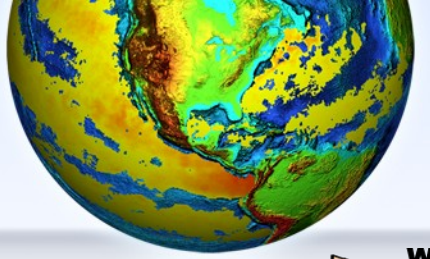
- ***Problem-focused*** products, information services & decision support tools
- ***Place-based*** information & assessments (with other USGCRP agencies)
- Robust, ***service-centric program*** with active user engagement through sustained dialogue & collaboration
- Connect to today's products while developing new, authoritative, reliable services
- Promote ***scientifically-based adaptation & mitigation*** by integrating NOAA science & service capabilities with partners
- Promote partnerships that ***leverage the assets of government, academia, private sector & NGOs***

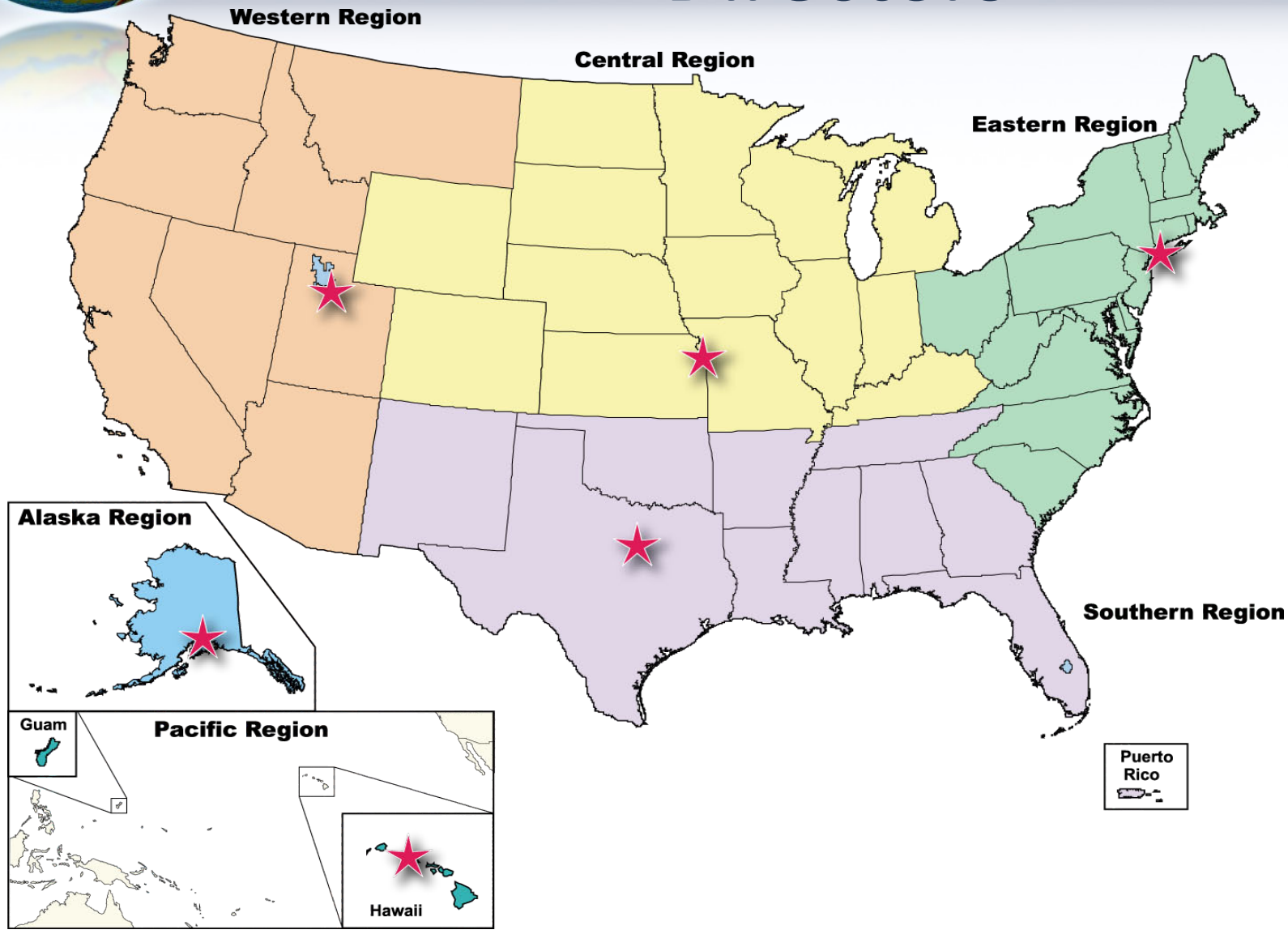
Regional Climate Service Enterprise: A Conceptual Pearl

Figure 1



Regional Climate Service Directors





NOAA Climate Services Portal

Goal: One-stop access for NOAA's climate information

Multiple audiences so multiple avenues to access information

- ClimateWatch Magazine
- Data and Services
- Understanding Climate
- Education
- Climate Dashboard

www.climate.gov

NOAA Climate Services Portal

- Distributed in nature and standards-based for scalability and compatibility with other efforts
- User focused and user driven – feedback required!

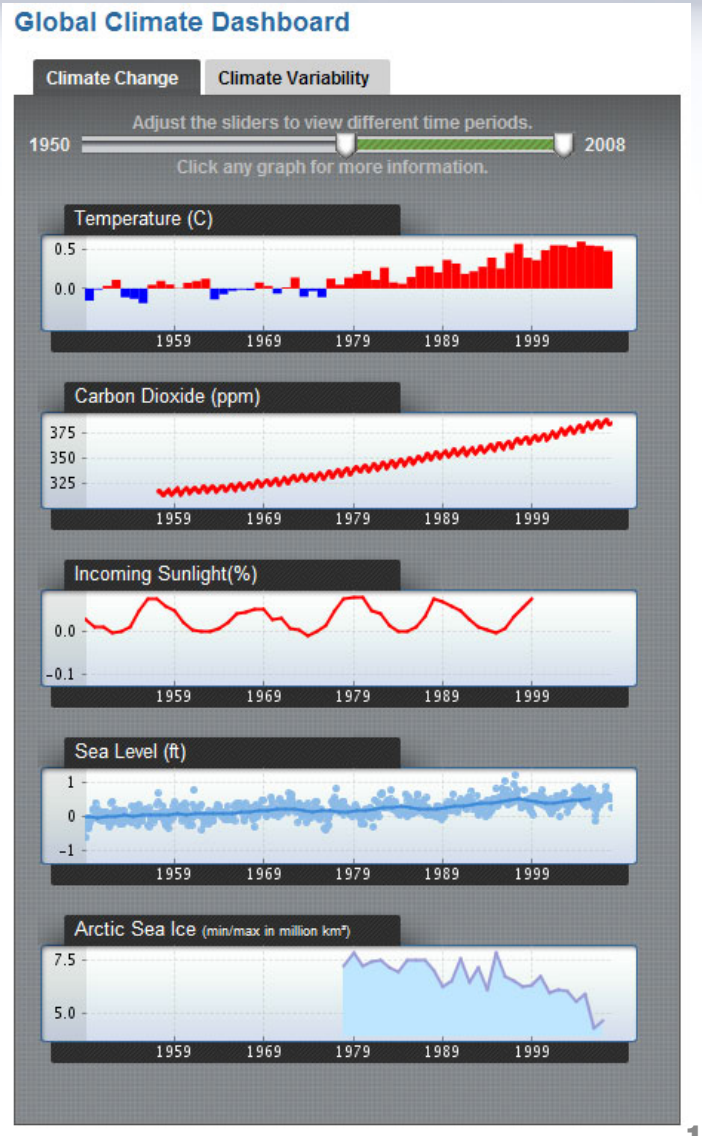
NOAA Climate Services Portal

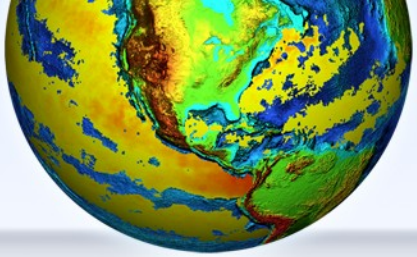
Current release is a Phase 1 prototype …. much work remains

To post comments—see the "Contacts" link in lower right of site

Site URL:

http://www.climate.gov/





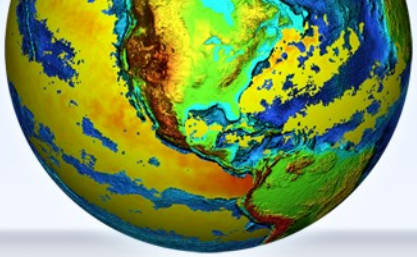
NOAA Climate Services Portal…. Potential Engagements with ESIP

Become engaged in testing and evaluation….we're "building" an evaluation virtual team

Provide ideas for new material, content, and site functionality

As the Portal expands, assist in engagements with data and content providers for the Portal

Spread the word…..let your communities know about the Portal website



For More Information…

www.climate.gov

- NOAA's New Climate Portal

www.noaa.gov/climate

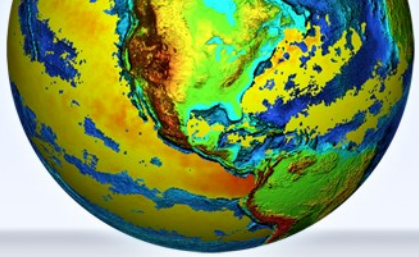
- Q&As, proposed reorganization chart, a Power Point, climate handouts featuring our science and regional services, and recordings from this Town Hall and a press conference.

climateservice@noaa.gov

- New mailbox to address your questions

www.ppi.noaa.gov/ngsp

- NOAA's Next Generation Strategic Plan



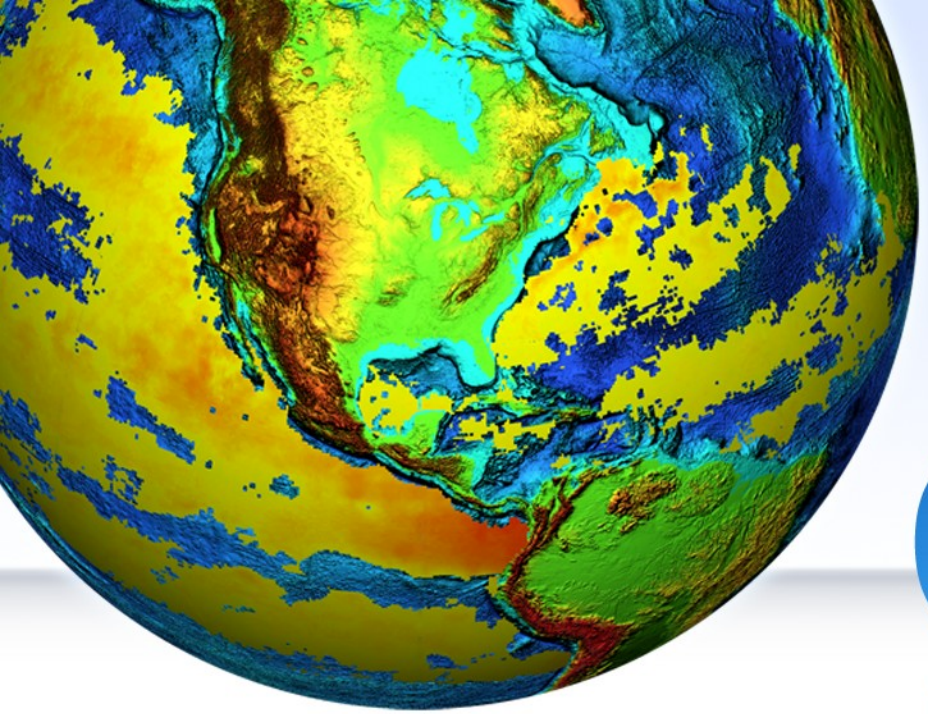
Effectively Anticipating and Responding to a Changing Climate Requires…

A continuously evolving understanding of the integrated "*climate-society system*" to address today's challenges and plan for the future

and

An adaptive management approach that provides for regular evaluation and adjustment of decisions as new scientific insights emerge and socio-economic conditions change

People, Places, Possibilities, Partnerships: Understanding Risks & Enhancing Resilience



NOAA CLIMATE SERVICE

Questions?

Thank you!