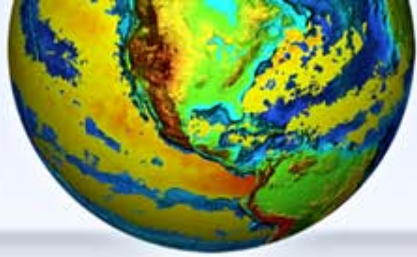


NOAA CLIMATE SERVICE

Thomas R. Karl

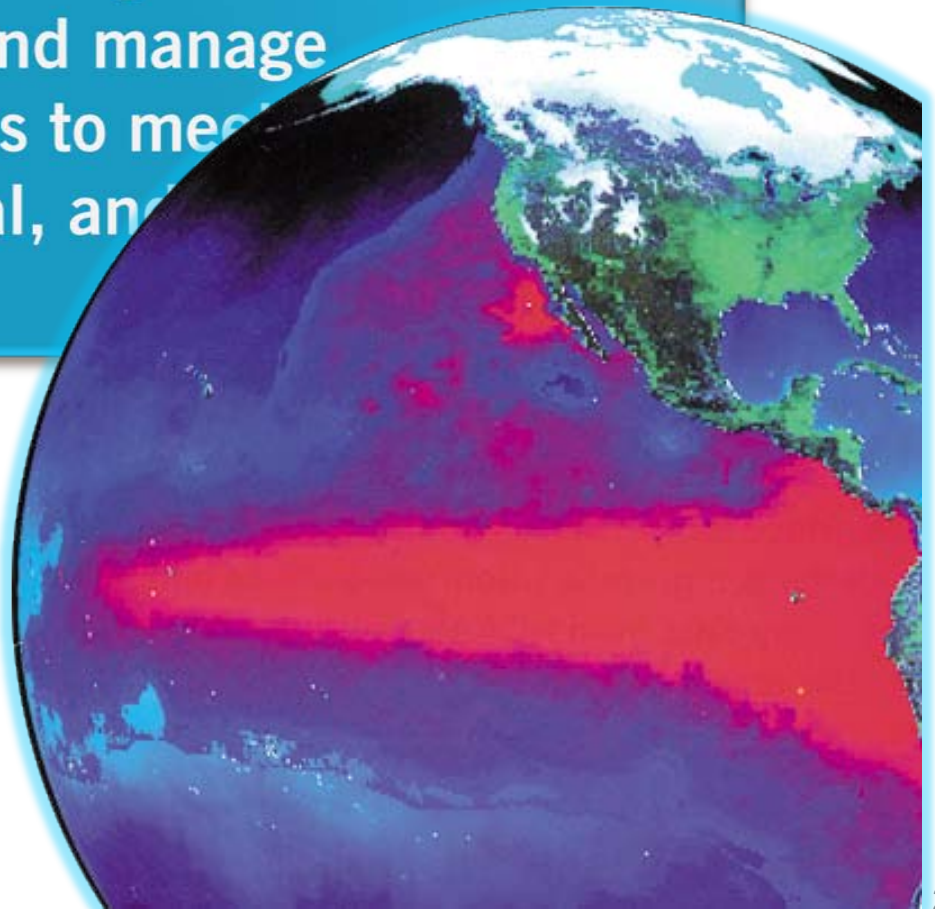
Interim Director NOAA Climate Service
Director National Climatic Data Center
March 2010

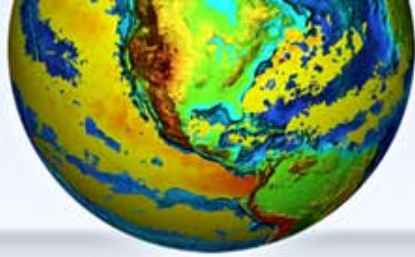




NOAA's Mission

To understand and predict changes in Earth's environment and conserve and manage coastal and marine resources to meet our nation's economic, social, and environmental needs





NOAA Is Vital to the American Economy

A third of the GDP (\$4 trillion) is reliant on accurate weather and climate information

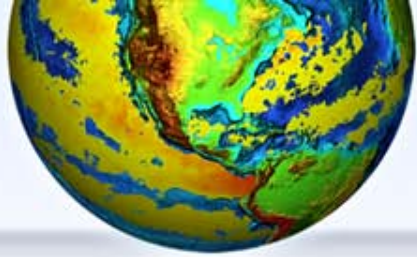


Example of NOAA's role:

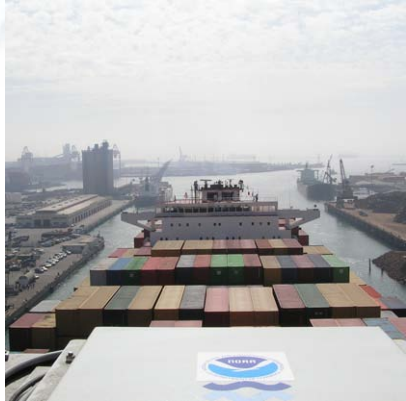
NOAA provides weather, water, and climate forecasts and warnings for the private and public sectors. Annually, from its 90 observing systems NOAA provides 76 billion observations, 1.5 million forecasts, and 50,000 warnings

NOAA climate services provides economic benefits of \$300 million per year in a new air freezing index estimated by the home builders association.

NOAA's aviation forecasts reduce aviation delays and save the industry \$580 million per year



The Rising Demand for Climate Services



Commerce



Coasts



Recreation



Ecosystems



Hydropower



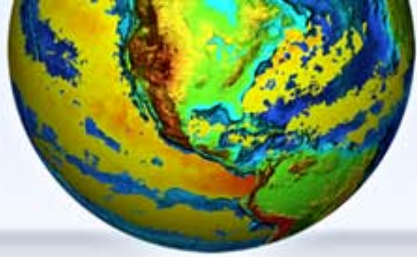
Farming



Wind Energy



Private Sector

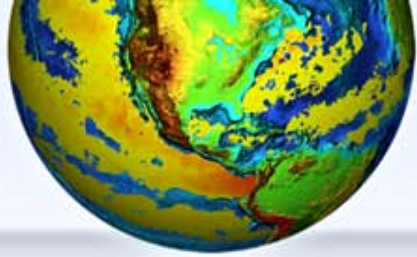


The Time to Act Is Now

There is an urgent and growing need for reliable, trusted, transparent and timely climate information across all sectors of our economy.

The need is great and growing.

Extensive employee, stakeholder, advisory bodies and many others informed process of determining how to optimize NOAA's world-class science while strengthening service delivery.



NOAA Climate Service

VISION

NOAA Envisions an Informed Society Anticipating and Responding to Climate and its Impacts

MISSION

Inform mitigation and adaptation decisions needed to respond to the impacts of the changing climate

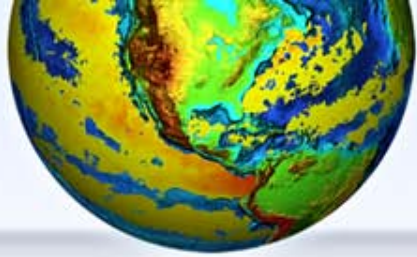
- ☑ Support decision makers regionally to globally, on time scales of weeks to decades, in areas including public policy, resource management, infrastructure investment, business development, and decisions of individuals in their daily lives

GOALS

Continue to Build, Evaluate and Evolve NOAA's Core Competencies in Three Key Areas:

- ☑ Deliver Sustained & Effective Services
- ☑ Promote Partnerships
- ☑ Advance Climate Science

☑ Advance Climate Science



NOAA's Role in a National Strategy

International:

- *All nations* must recognize the need for climate services, and continue on the progress made at the WCC-3.
- **NOAA is internationally recognized as advancing the state of climate knowledge, for leadership in GEOSS, and is viewed as critical to developing regional scale impact assessments.**

National:

- *All agencies* must consider climate change impacts as it relates to their mission areas, and commit to work within a cooperative and collaborative *interagency strategy*.
- **NOAA provides core capabilities to national climate services through NOAA's decades of expertise in observing, monitoring, research, modeling, assessments, and existing service delivery structures.**

Regional:

- *All agencies* must engage in a *Regional Climate Service Enterprise* to ensure users have the climate information they need.
- **NOAA's regional service capacity, with over two centuries of experience, is delivering services today through public and private partnerships, and is ready to engage in the national climate service strategy.**

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*

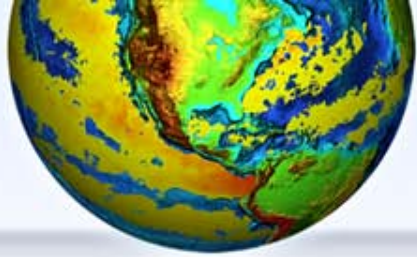
Climate Change Research and Modeling

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



Federal Partnership for Climate Science and Service

- All agencies must consider climate change adaptation and mitigation as it relates to their mission areas and work in an interagency framework to:
 - Promote understanding and engagement of users by listening and responding to their changing needs;
 - Provide needed services to address impacts to meet the nation's needs;
 - Engage in science and service partnerships with public, private, and academic entities.
- Leverage and coordinate existing structures to develop and deliver climate services, such as CEQ/OSTP/NOAA Adaptation Working Group, NSTC/USGCRP, and OECC.

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

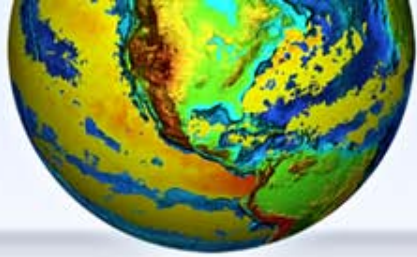
- Regional Integrated Science & Assessments (RISA)
- NOAA Labs
- Sea Grant
- Cooperative Institutes
- Applied Research Centers
- Data Centers
- Other agencies (e.g., National Aeronautics and Space Administration, Dept. of Interior, Dept. of Agriculture, National Science Foundation & other USGCRP agencies)
- Etc...

USER ENGAGEMENT

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



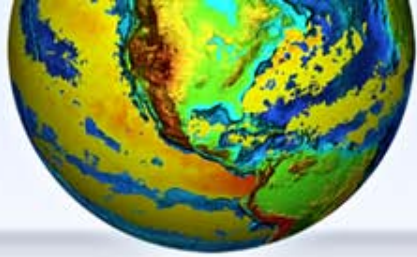
Government
Private Sector
Academia
NGO's



Meeting the Rising Demand for Climate Services

1. NOAA's existing framework for climate was established before climate services were recognized as essential, and is not optimized for climate service delivery.
2. While NOAA has continued to build its suite of climate services within its existing framework, including our interagency approach to delivering drought information services, much of the demand remains unmet.
3. To meet climate service demands, NOAA must direct efforts to develop a framework that will:
 - ✔ Connect users to existing climate products and services, while continuing to develop new authoritative, reliable services;
 - ✔ Transform current science and data into understandable, usable and accessible information;
 - ✔ Actively engage users in service development.
4. NOAA's climate framework must deliver needed climate services while maintaining leadership in observing, research, modeling and assessments

"If America is to avoid the most damaging effects of climate change, we have to first understand it – and that is where the Department of Commerce is instrumental." - Secretary of Commerce, Gary Locke



Proposed NOAA Climate Service

NESDIS DATA CENTERS

National Climatic
Data Center

National Oceanographic
Data Center

National Geophysical
Data Center

OAR PROGRAM & LABORATORIES

Earth System Research Lab
Office of the Director
Chemical Sciences Division
Global Monitoring Division
Physical Sciences Division

Geophysical Fluid Dynamics
Laboratory

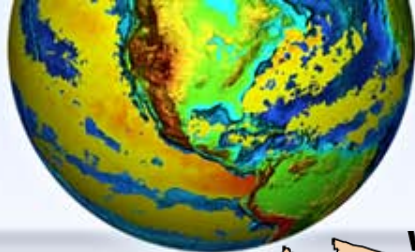
Climate Program Office

NWS FUNDING TO MANAGE NETWORKS (NO STAFF CHANGE)

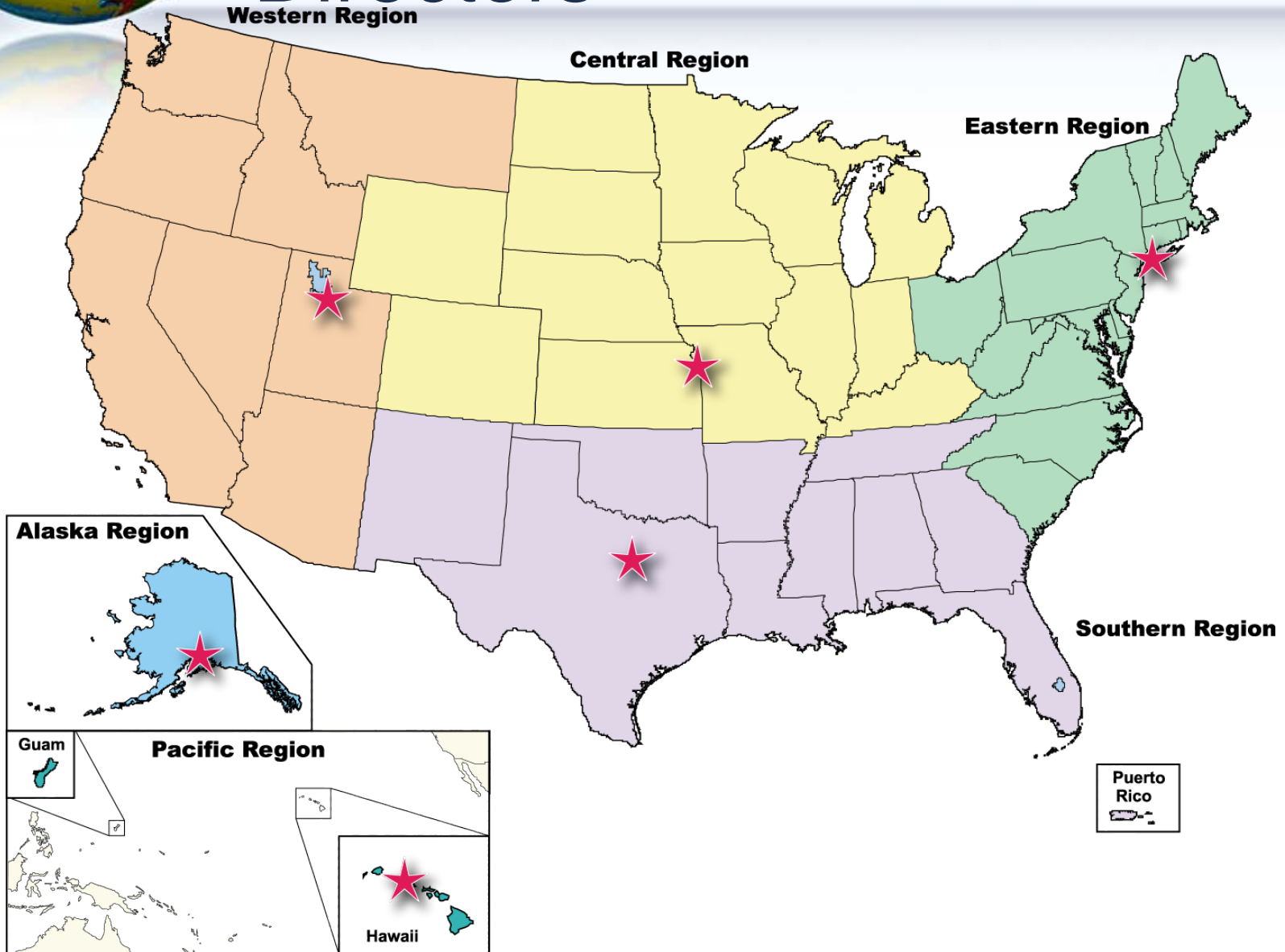
Climate Observing Network
Tropical Atmosphere Ocean
(TAO)
Historical Climate Network
Modernization (HCN-m)
Modernization of the Hourly
Precipitation Rain Gauges

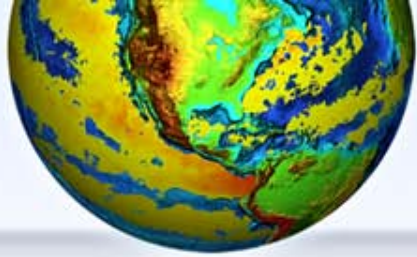
**NOS & NMFS
UNCHANGED**

The physical location of these facilities will not change



Regional Climate Service Directors





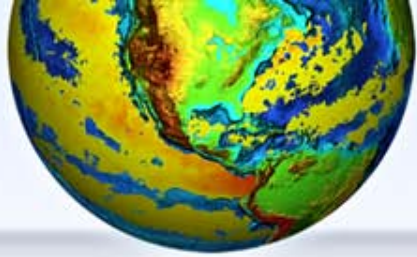
NOAA Climate Services Portal

www.climate.gov

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

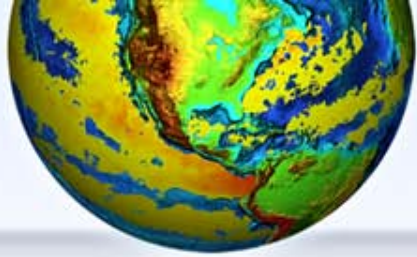
The image displays three overlapping screenshots of the NOAA Climate Services Portal. The top screenshot shows the main navigation menu with categories like 'Articles', 'Videos', and 'Images'. The middle screenshot shows the 'Global Climate' dashboard with sections for 'Past & Present Climate', 'Predictions', 'NOAA Partners', 'Climate & You', and 'Data Library'. The bottom screenshot shows the 'Global Climate Dashboard' with interactive sliders for 'Climate Change' and 'Climate Variability' and a 'Past Weather' section.



Next steps...

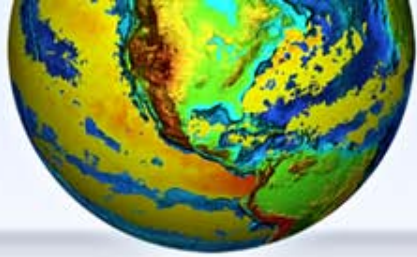
Engagement Sessions

- ☑ March 11: Webinar – Regional Climate Centers, State Climatologists, Cooperative Research Institutes, etc.
- ☑ March 23: Assoc. of Metropolitan Water Agencies, Wash., DC
- ☑ March 23-25: NOAA Science Advisory Board Mtg., Wash., DC
- ☑ March 25: Webinar – NGOs and non-profit organizations
- ☑ April 1: Webinar – academic research community State and Local Government
- ☑ April 12: Webinar – state and local government officials
- ☑ April 13: Webinar – corporate and business community
- ☑ April 6: American Meteorological Society – Private Public Partnership Forum, Wash., D.C.
- ☑ April 15: Association of American Geographers, Wash., D.C.



Next Steps...

- **NOAA submits a reprogramming package to DOC, OMB, Congress**
 - No new Legislation required, but..
 - Congressional Appropriation Budget Breakout approval necessary
 - Consolidated Appropriations Act 2010
 - National Academy of Public Administration
 - ‘Study and analyze organizational options for a National Climate Service within NOAA’
 - To be completed summer 2010
- **If approved, we can move quickly to begin implementing the reorganization.**
- **We look forward to having NOAA Climate Service up and running by the beginning of FY11.**



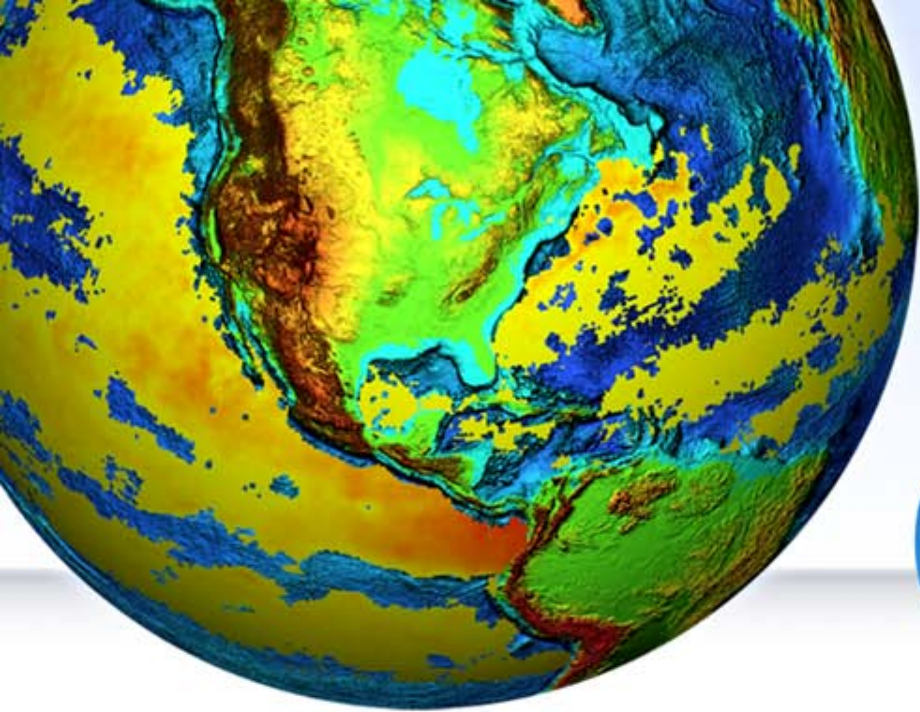
For More Information...

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.

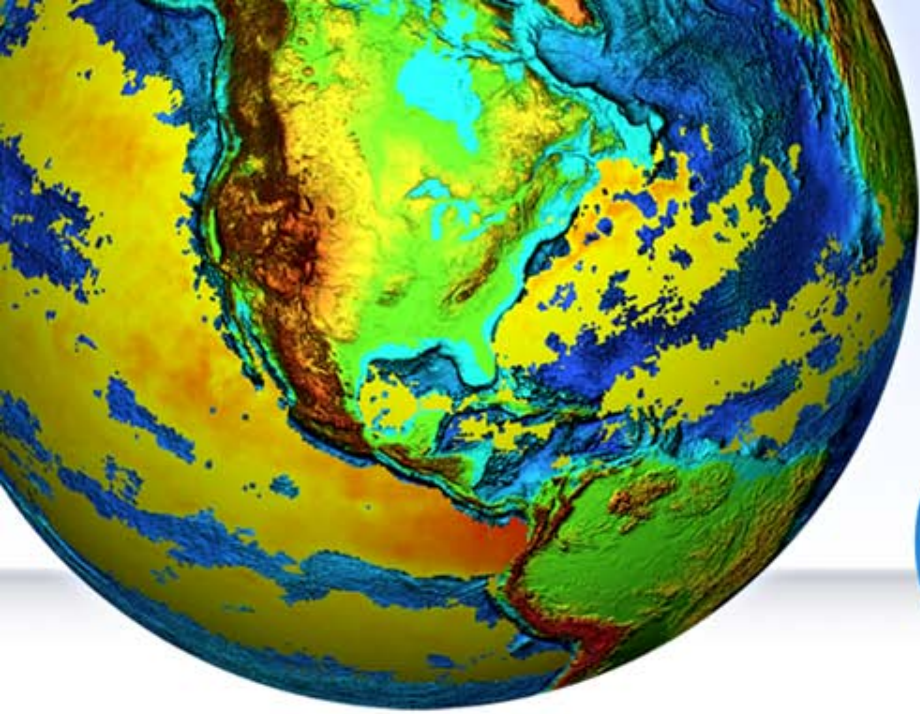
www.climate.gov

- ☑ NOAA's new Climate Portal



NOAA CLIMATE SERVICE

Thank you!



NOAA CLIMATE SERVICE

Questions?