



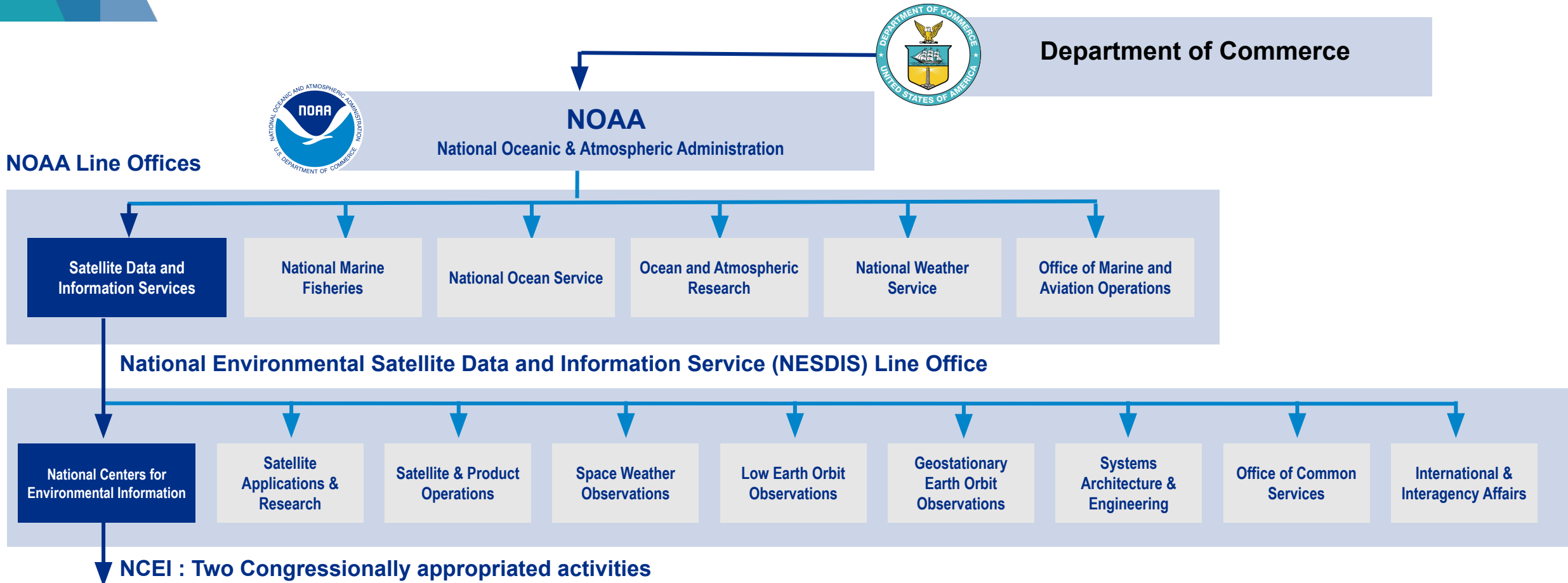
National Centers *for* Environmental Information: *Managing NOAA's Data Enterprise*

Stennis Business Council
NOAA Forum
July 31, 2024

National Oceanic and
Atmospheric Administration

Sharon Mesick, Director, Southern Regional Climate Service
Stennis Space Center *and* Gulfport Mississippi

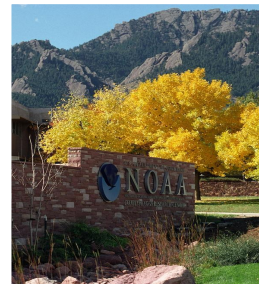
NCEI: Who We Are



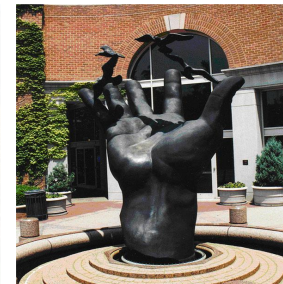
- NCEI : Two Congressionally appropriated activities**
- Coastal Data Development
 - Regional Climate Services



Asheville, NC
Headquarters



Boulder, CO



Silver Spring, MD

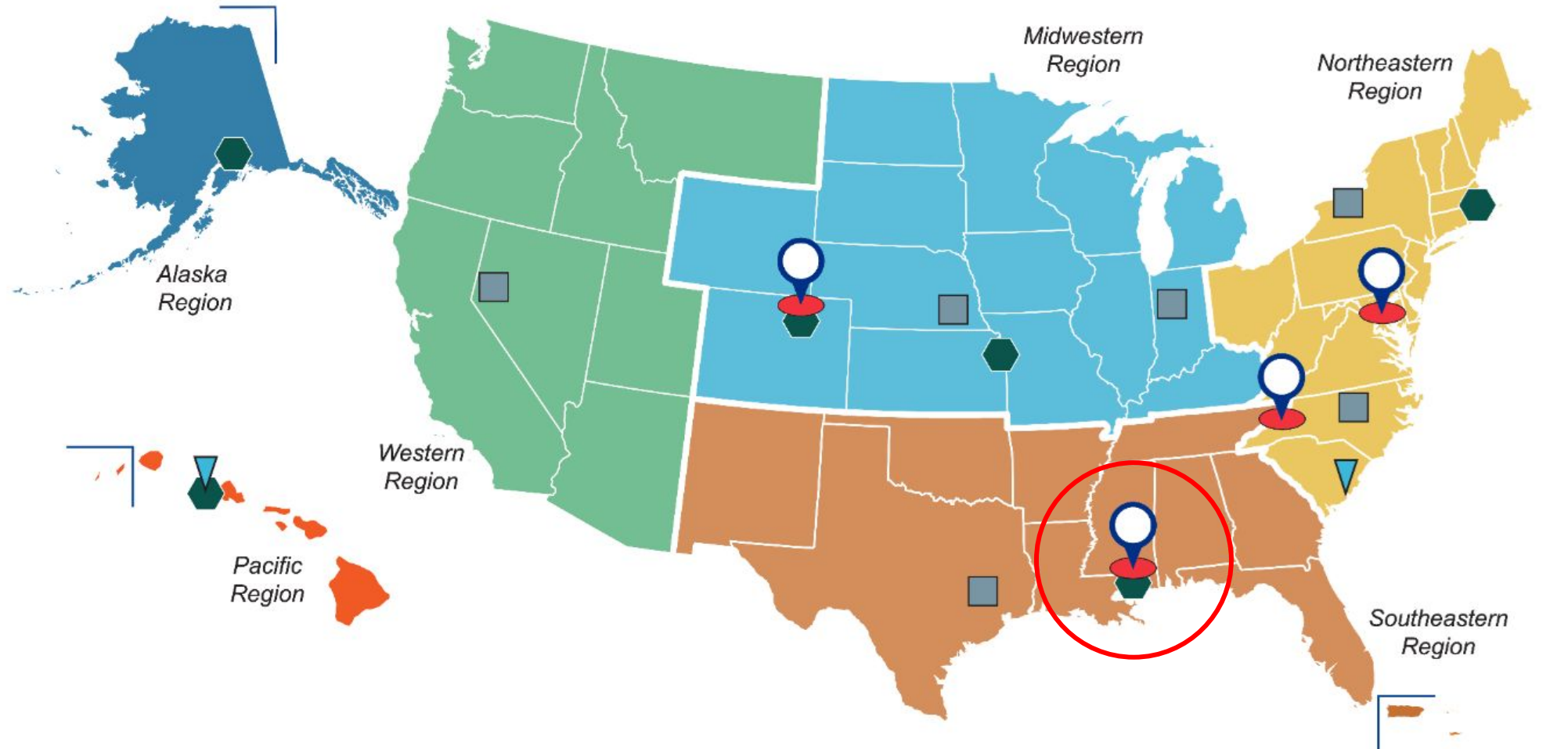


Stennis, MS



Gulfport, MS

NCEI's Nationwide Presence | Regional Approach



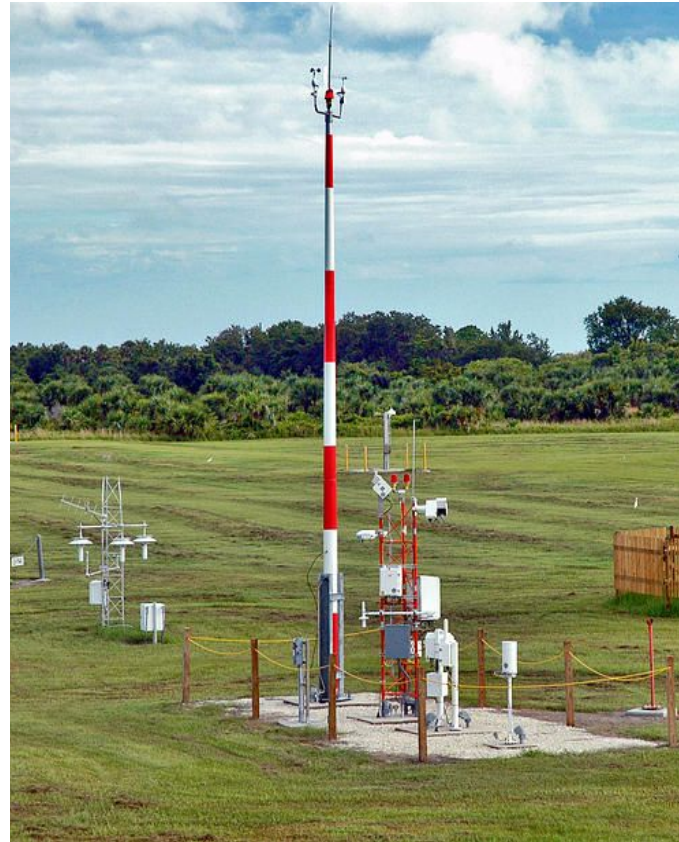
- NCEI total ~600 personnel
- 180 Federal staff
 - 212 Contract staff
 - 148 University affiliates
 - ~40 vacancies

- National Centers for Environmental Information (NCEI)
- Asheville, North Carolina, Headquarters
 - Boulder, Colorado
 - Silver Spring, Maryland
 - Stennis Space Center, Mississippi

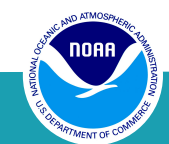
- Cooperative Institutes
- Regional Climate Services Directors (RCSD)
- Regional Climate Centers (RCC)
- NCEI Field Locations

NOAA Environmental Observations:

From the surface of the sun to the ocean seafloor

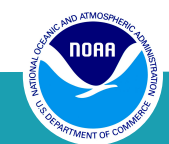
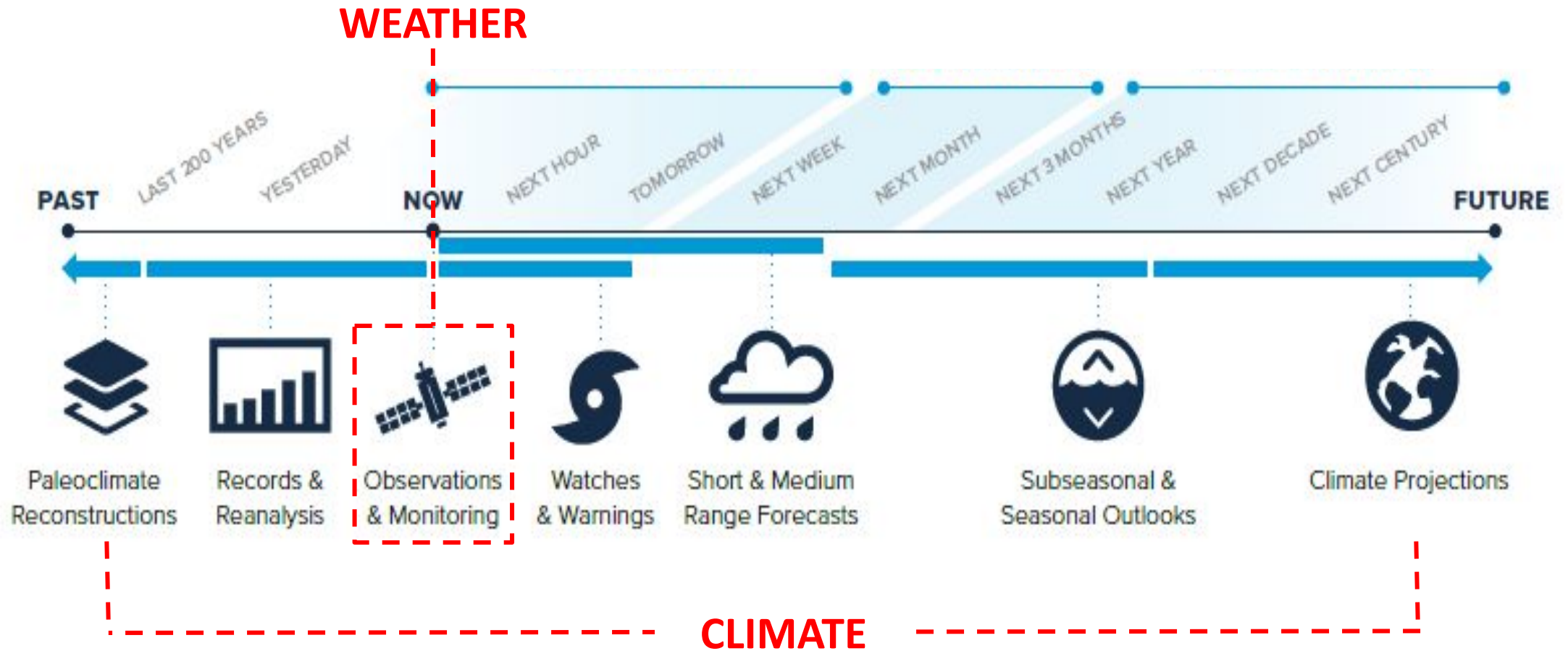


NCEI hosts and provides access to ~70PB of data and information

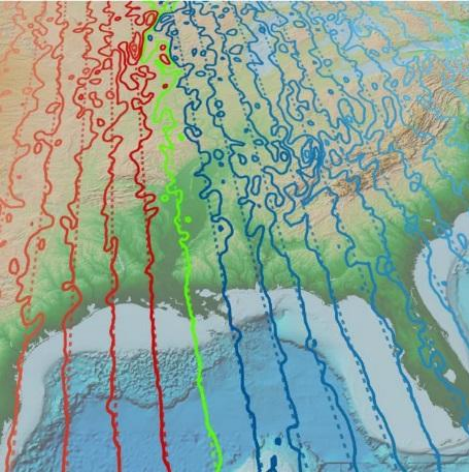


Placing Observations in Spatio-temporal context

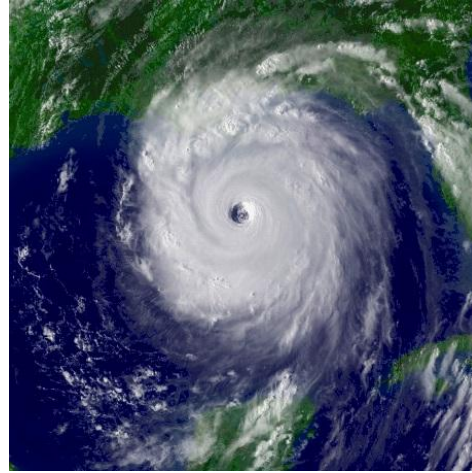
Curated data leads to significant socio-economic benefits



NOAA Data: Global Reach, Regional Impacts



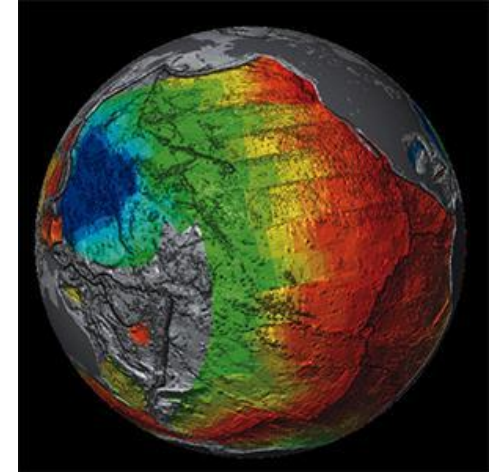
Global Positioning /
World Magnetic Model



U.S. Billion-Dollar Weather
& Climate Disasters Report



Monthly U.S. & Global
Climate Reports



Bathymetry and
Global Relief



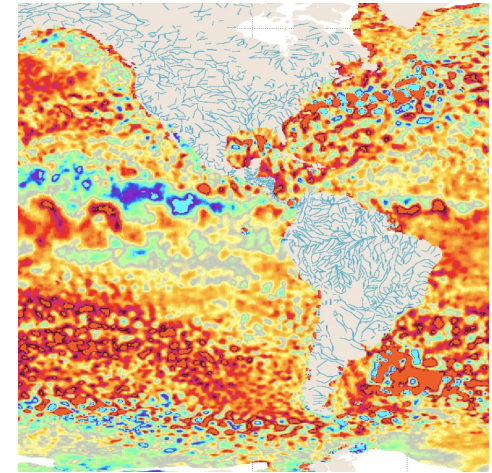
World Ocean Database



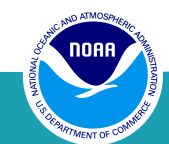
U.S. Drought Monitor



Climate Extremes Index

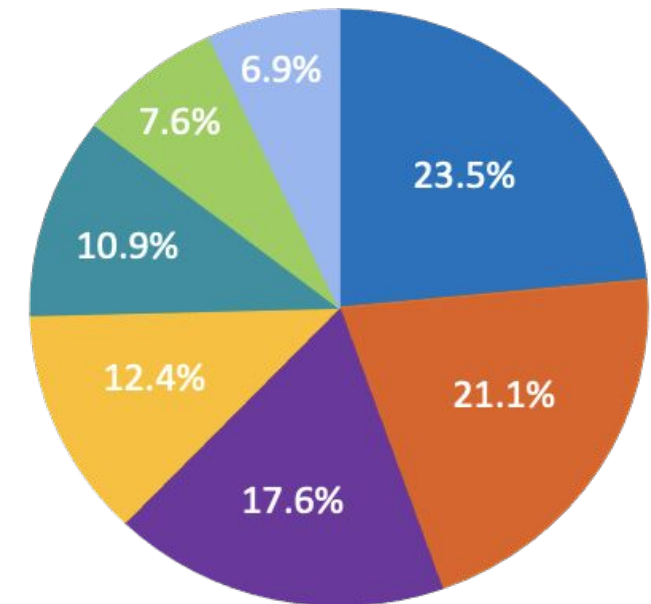


Blended Sea Winds

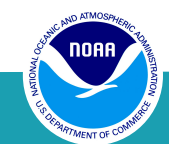


Value to the Nation

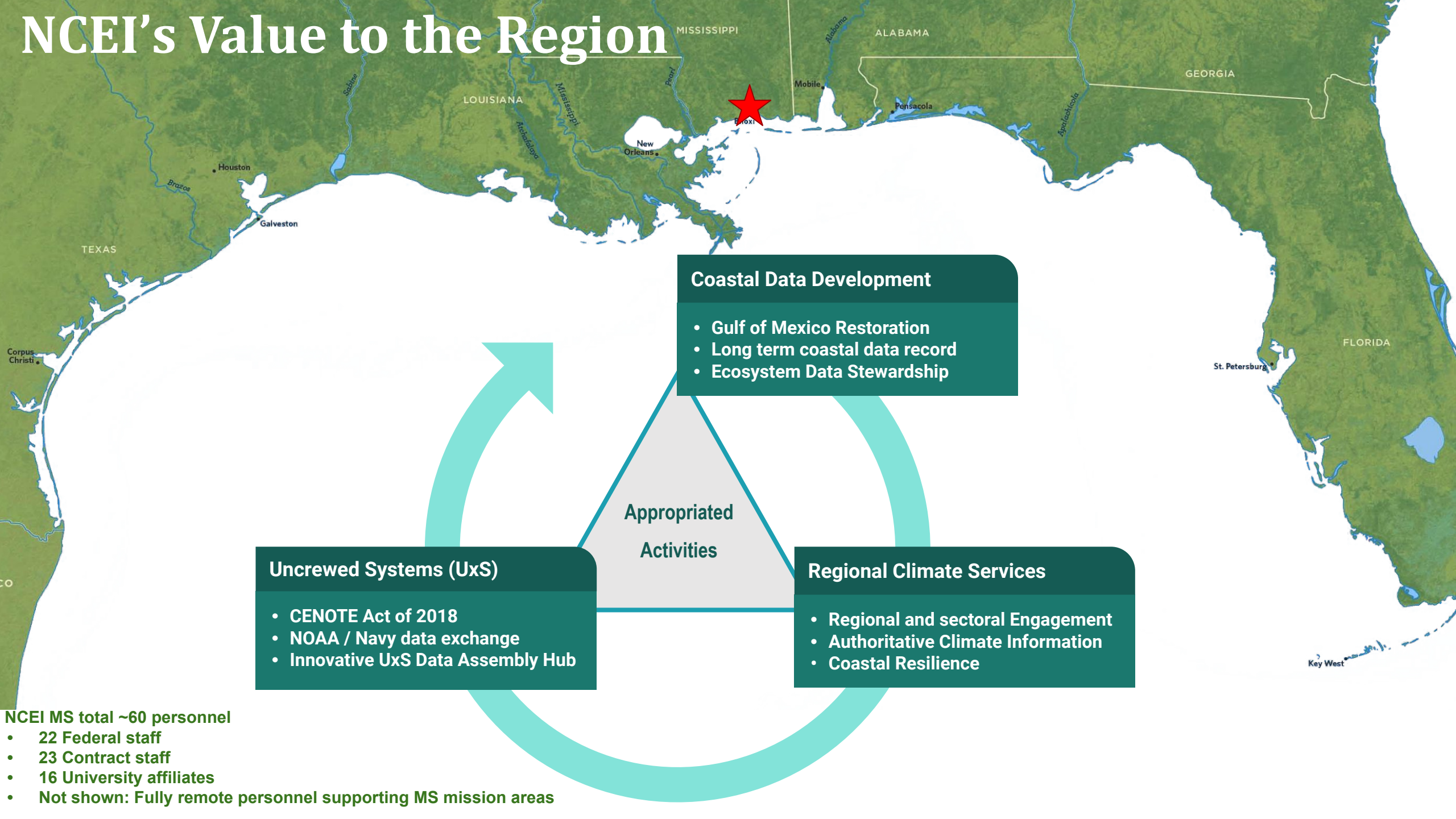
- Increasing the *Value, Usability, and Impact* of NOAA environmental data and information
- Finding pathways between our users and the data and information they need
 - User research and analysis
 - User education, training and support
 - Measuring the customer experience



- Science, Technology, and Engineering
- Energy
- Ecosystems (Agriculture/Aquaculture)
- Insurance, Finance, and Legal
- Transportation and Infrastructure
- Health and Emergency Management
- Higher Education



NCEI's Value to the Region



Coastal Data Development

- Gulf of Mexico Restoration
- Long term coastal data record
- Ecosystem Data Stewardship

Uncrewed Systems (UxS)

- CENOTE Act of 2018
- NOAA / Navy data exchange
- Innovative UxS Data Assembly Hub

Regional Climate Services

- Regional and sectoral Engagement
- Authoritative Climate Information
- Coastal Resilience

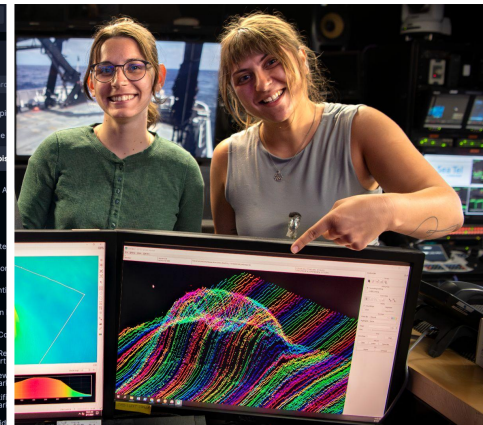
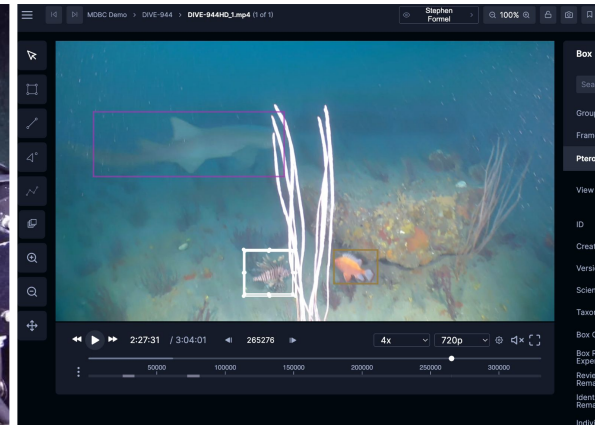
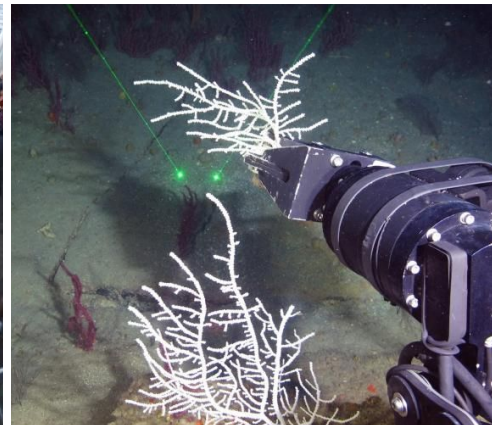
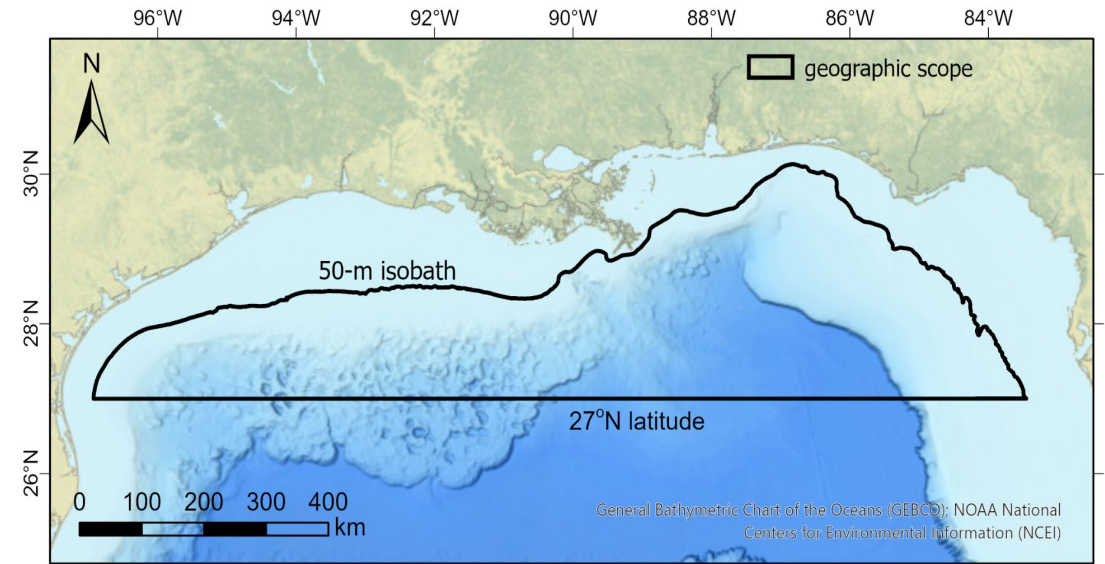
NCEI MS total ~60 personnel

- 22 Federal staff
- 23 Contract staff
- 16 University affiliates
- Not shown: Fully remote personnel supporting MS mission areas

Coastal Data Development: Post-DWH Restoration

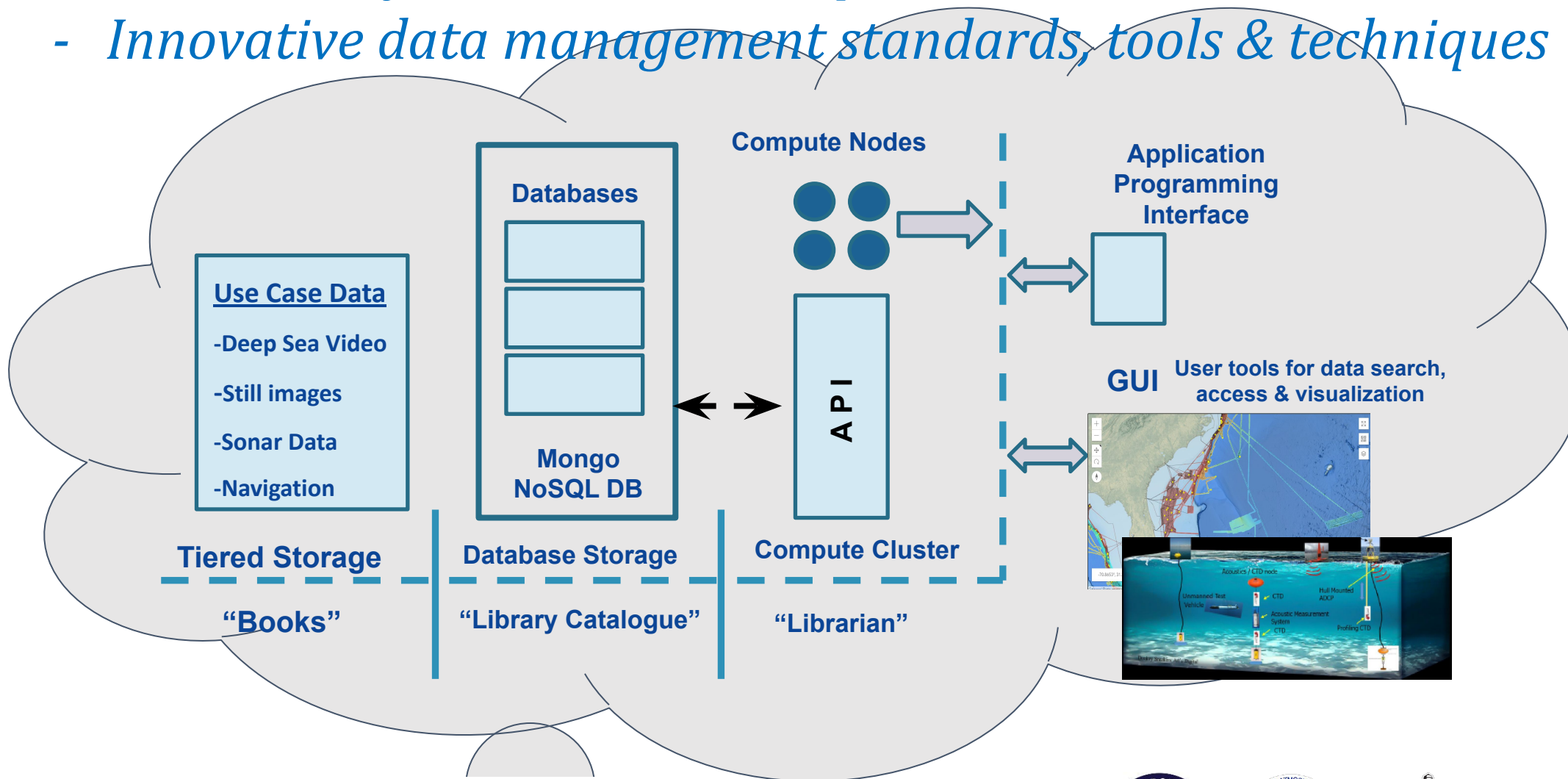
Restoration of Mesophotic Deep Benthic Communities

- Cross-agency collaboration
 - NOAA, EPA, BOEM, USDA
- 80+ surveys over 4 years
- Scientific focus: Mapping & ground truthing; habitat assessment evaluation; coral propagation
- NCEI supports
 - At-sea data acquisition
 - Data standardization, documentation
 - Preservation and access
- Innovative use of AI/ML



Coastal Data Development

- Uncrewed Systems Data Enterprise
- Innovative data management standards, tools & techniques



Southern Regional Climate Services

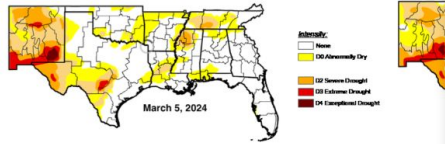
Building a Climate Ready Nation

Gulf Coast Regional Impacts

Drought, Agriculture, and Water Supply

Spring 2024 saw the percentage of the total area experiencing some level of drought in the Gulf Coast state increase from 11 percent on March 5th, 2024 to 18 percent on May 28th, 2024. Much of this increase was in South Texas experiencing Moderate Drought increased from 7 percent to 11 percent. The total areas of Severe Drought increased from 3 percent to 6 percent. Extreme Drought remained steady at 1 percent. Exception Drought in the Gulf Coast region.

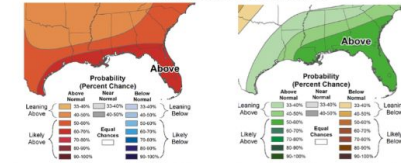
Recent rainfall across much of the region has improved soil moisture conditions in agriculture, pasture, range, and field conditions, though devastating flooding occurred due to heavy rainfall in Mississippi, and the Florida Panhandle. Dryness in South Texas and Central Florida has led to...



US Drought Monitor depiction of the Southern Region. The US Drought Monitor is produced by the US Drought Monitor Center, the USDA, and NOAA.

Seasonal Outlook

Temperature and Precipitation Outlook for July-September 2024



The seasonal temperature outlook from NOAA's Climate Prediction Center calls for enhanced probabilities of above average temperatures for the entire Gulf Region. The highest probabilities, 60 to 70 percent chance of above normal temperatures, are called for over the entirety of the Gulf Coast. Probabilities of above normal temperatures decrease inland but remain elevated, 50 to 60 percent chance of above normal temperatures.

The precipitation outlook for July through September calls for enhanced probabilities of above normal precipitation for much of the Gulf Coast Region. The highest probabilities for above normal precipitation are in Florida, Alabama, Southern Mississippi, and southeastern Louisiana, 50 to 60 percent chance of above normal precipitation. In the west of the Region and inland probabilities are still enhanced with a 33 to 50 percent chance of above normal precipitation.

Contact: William Baule (wbaule@tamu.edu)
#regionalclimateoutlooks



Quarterly Climate Impacts and Outlook Gulf Coast Region June 2024

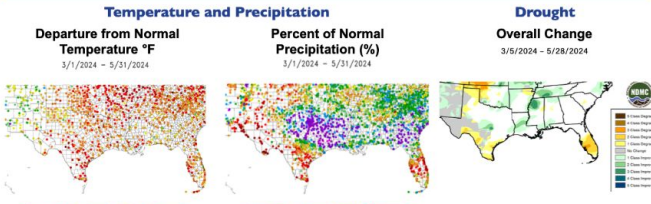
Gulf Coast Region Significant Events — Spring 2024



Overview
Spring started off in March with above normal temperatures for the entirety of the Gulf Coast region, with most stations recording temperature 1 to 4 degrees above normal. Precipitation was above normal in most of the Gulf Coast region with isolated areas of dryness in Texas and along the Central Florida Gulf Coast.
April saw the continuation of above normal temperatures for the entirety of the Gulf Coast, with most stations recording 2 to 4 degrees above normal. Precipitation was well above normal in central Gulf Coast region, with below normal precipitation limited to South Florida and South Texas.
May saw extreme precipitation totals in East Texas and the Florida Panhandle, leading to devastating flooding in these areas. Above normal temperatures continued with most areas running 2 to 4 degrees above average.

Spring 2024 was well above normal in temperatures and varied in precipitation. Precipitation was well above normal for much of the Gulf Coast, except Southern Florida and South Texas. This led to ongoing flooding across affected areas. Above normal temperatures and below normal rainfall led to worsening drought conditions in South Texas.

Regional Climate Overview — Spring 2024



Spring 2024 temperatures were well above normal across the Gulf Coast region with temperatures averaging 2F to 4F above normal in most locations. The greatest departures were seen in South Texas and South Florida where several stations were averaging 4F to 5F above normal. The relative cool spots were along the Florida Panhandle and Alabama Coast where temperature averages 1F to 2F above normal.

Precipitation was mixed across the Region during Spring. East Texas, much of Louisiana, and the Florida Panhandle received upwards of 300 percent of normal precipitation, leading to widespread flooding. Below normal precipitation was common in South Texas and South Florida where many stations recorded 5 to 50 percent of normal precipitation in spring.

Much of the Gulf Coast Region remained drought free during spring 2024, with improvements of one to two classes noted in East Texas, Central Louisiana, southern Mississippi and Alabama. Degrations in drought conditions were evident in South Texas and Florida where 1 to 3 classes of degradation were common, due to low precipitation totals and above normal temperatures.

Contact: William Baule (wbaule@tamu.edu)



Gulf Coast Quarterly Climate Impacts and Outlook | Spring 2024
<https://www.drought.gov/reports>

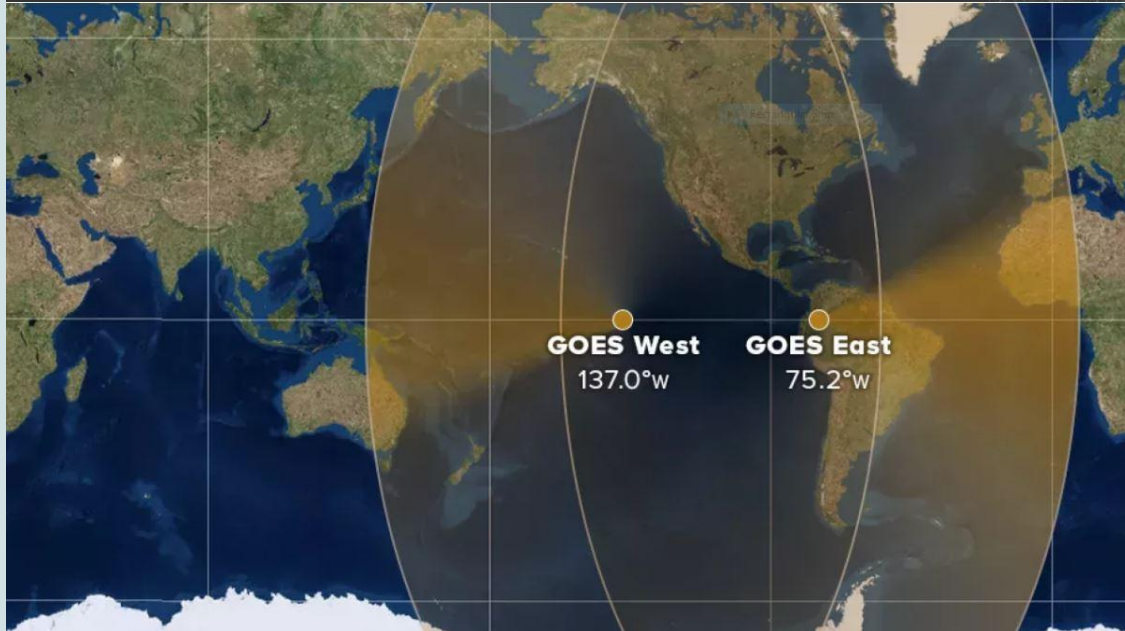
- Working with regional & sectoral decision-makers
 - Understanding needs
 - Developing requirements
 - Collaborative co-production
- Delivering
 - Climate data and information
- Supporting
 - Economic development
 - Equity



NOAA / NCEI Initiatives

Optimization support for Open Data – Open Science opportunities

NOAA Open Data Dissemination (NODD)



- Hundreds of NOAA datasets free via
- Cloud Service Provider platforms (Google, AWS, Azure)

[NOAA Open Data Dissemination](#)

NOAA Center for Artificial Intelligence (NCAI)

NOAA AI-related news



6th Annual Workshop: September 16-20, 2024

- NOAA's conduit for scientific AI/ML applications
- Community, tools, and techniques

[NOAA AI Center](#)



NCEI: How we work with others

<https://sam.gov/content/opportunities>

<u>Current Award Vendor/Common Name</u>	<u>Period of Performance</u>	<u>Vehicle / Schedule</u>	<u>NAICS</u>	<u>PCS</u>
Science Support Riverside Technology Inc	2/4/24 - 2/3/29	ProTech Satellite Domain	541712 - Research and Development in the Physical, Engineering and Life Sciences	AJ11 – R&D – General Science/ Technology: Environmental Sciences (Basic Research)
IRA/BIL Science and User Engagement Support Riverside Technology Inc.	4/1/24 - 9/30/26	ProTech Satellite Domain	541712 - Research and Development in the Physical, Engineering and Life Science	AJ11 – R&D – General Science/ Technology: Environmental Sciences (Basic Research)
Data Stewardship Support Alpha Omega Integration	2/4/24 - 2/3/29	NMITS	541519 Other Computer Related Services: This U.S. industry comprises establishments primarily engaged in providing computer related services (except custom programming, systems integration design, and facilities management services).	DA01 - IT and Telecom—Business Application/Application Development Support Services (Labor)
Office Support Services Innovative Consulting & Management Services, LLC	7/1/24 - 4/30/29	Professional Service Schedule (PSS)	541611 - Administrative Management and General Management Consulting Services.	R799 - Support- Management: Other
IT Support Services Alpha Omega Integration	12/1/20 - 11/30/25	Multiple Award Schedule (MAS)	541511 - Custom Computer Programming Services	R799 - Support- Management: Other
Facilities Logistics Support Services Innovative Consulting & Management Services, LLC	4/17/22 - 4/16/26	Multiple Award Schedule (MAS)	541611 - Administrative Management and General Consulting Services	Z1JZ - Maintenance of Miscellaneous Buildings
Regional Climate Centers Multiple Awards (6)	4/17/21 - 4/16/26	Order Dependent (IDV only)	813920 – Professional Organizations	R408 – Professional: Program Management / Support

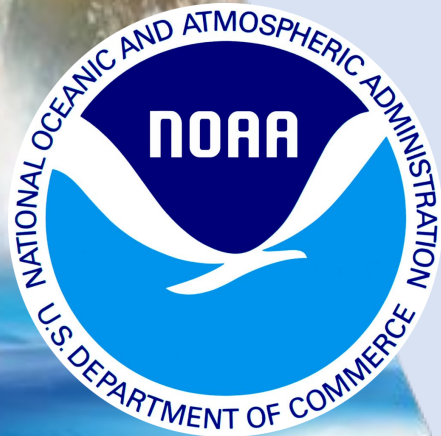




Thank you!

National Centers for Environmental Information

ncei.noaa.gov



**National Oceanic and
Atmospheric Administration**

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