National Data Buoy Center

Overview

for

IOOS Advisory Committee

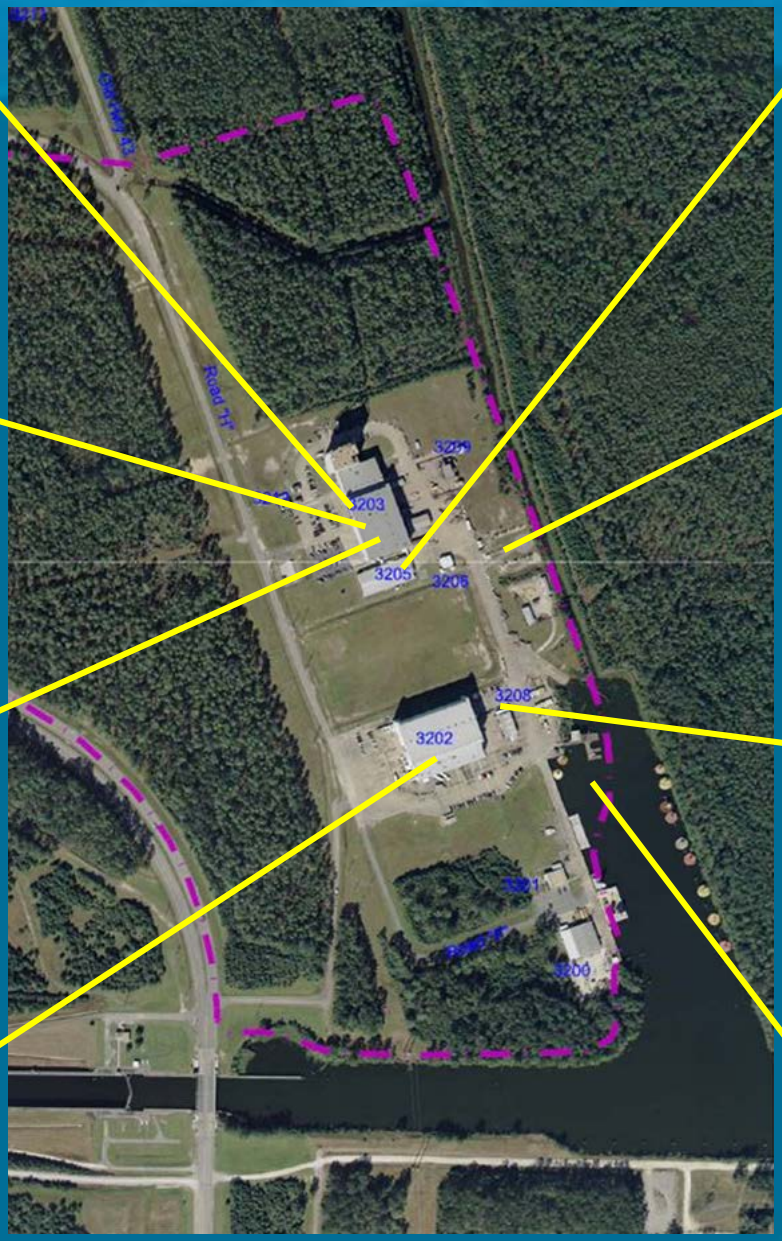
October 24, 2017

Agenda

1. About NDBC
2. How NDBC partners with IOOS
3. How NDBC partners with GCOOS
4. How can IOOS help address gaps
5. Partnerships in the region and how been leveraged
6. Partnerships with the Oil & Gas Industry

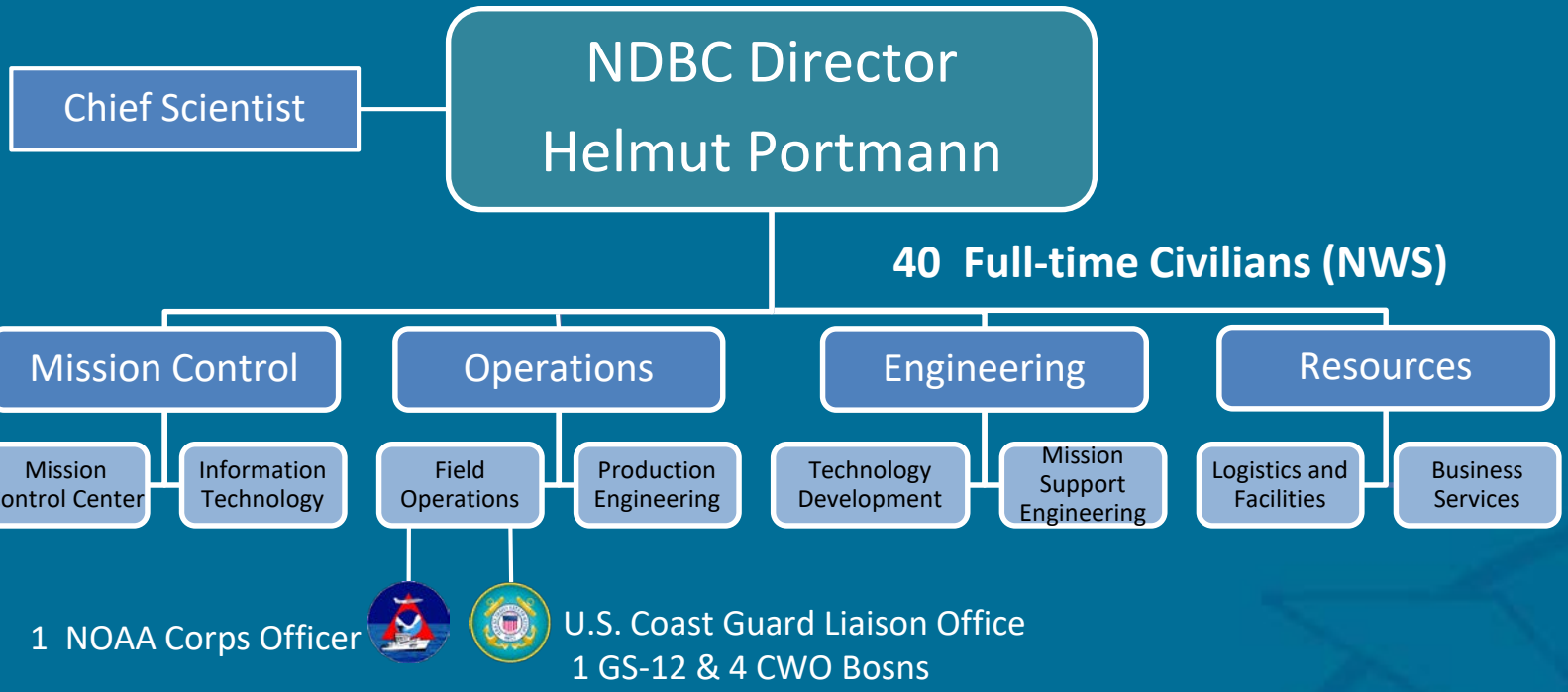
NOAA's National Data Buoy Center

National Data Buoy Center Facilities at SSC, MS



NDBC Organization

National Weather Service
Office of Observations

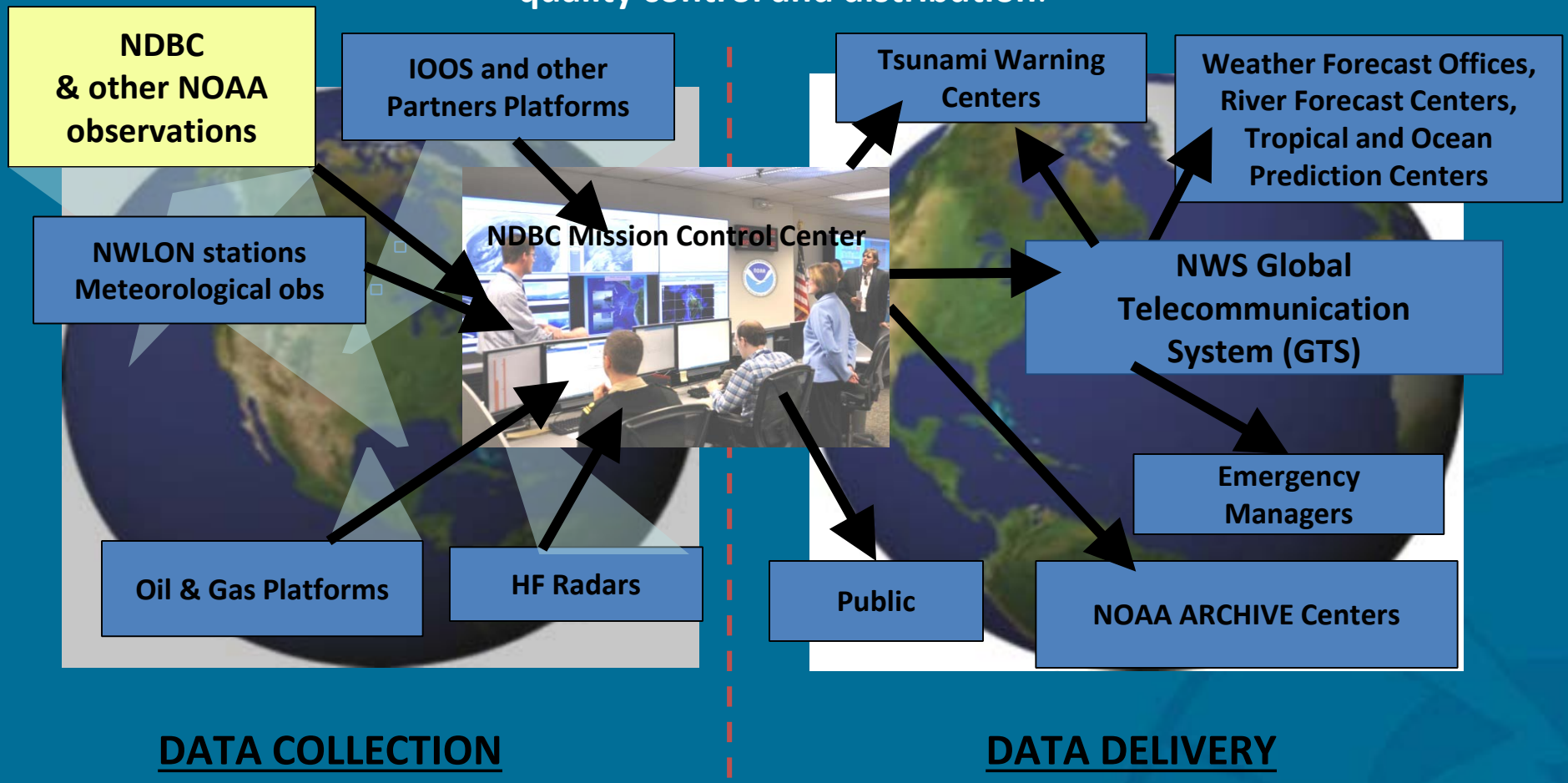


NDBC Technical Support Contract ~130 Contractors
Pacific Architects and Engineers (PAE)

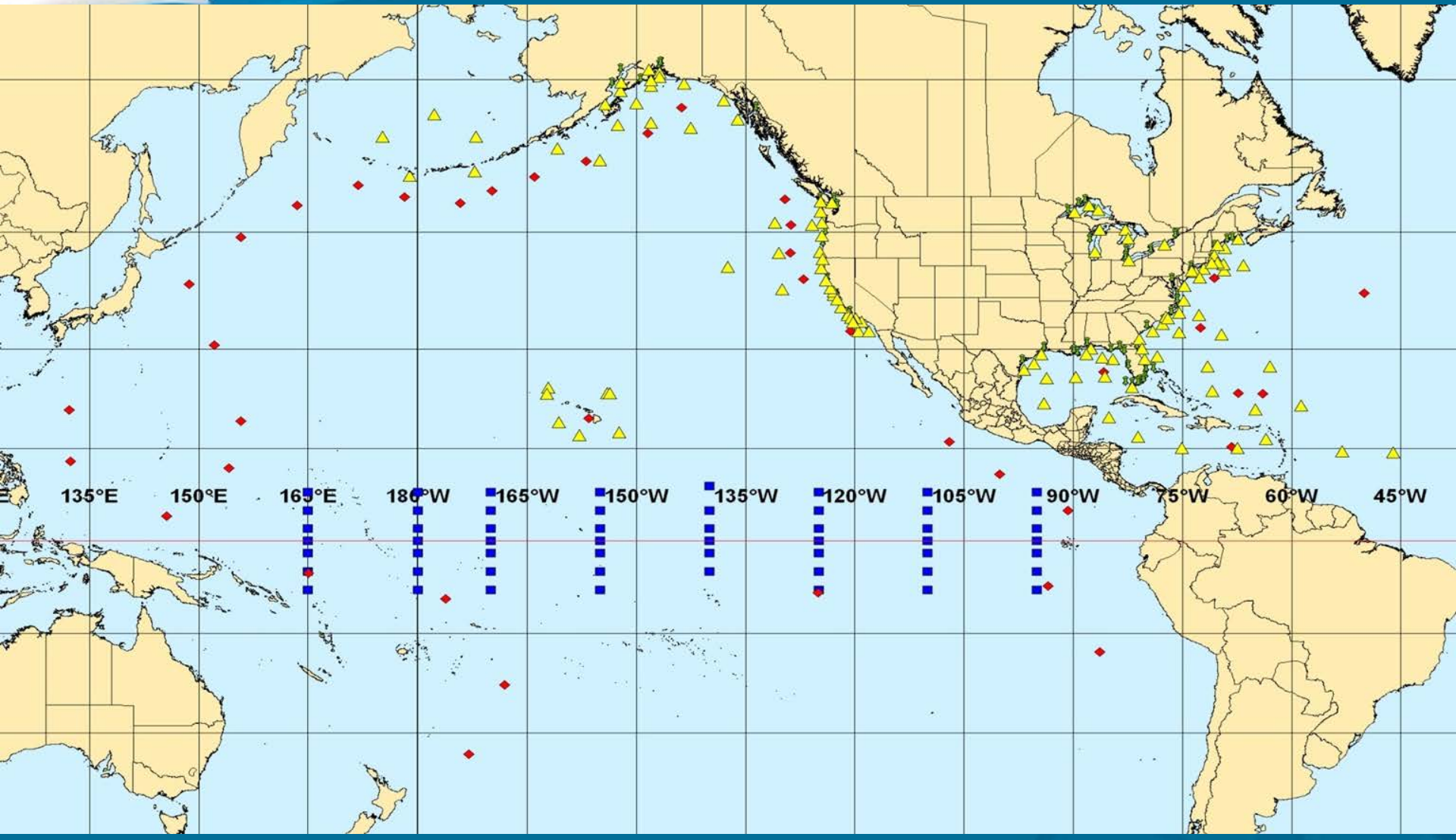
National Data Buoy Center

Stennis Space Center on the Mississippi Gulf Coast

To provide a **real-time**, end-to-end capability beginning with the **collection** of marine atmospheric and oceanographic data and ending with its transmission, **quality control and distribution**.



NDBC Observation Network



NDBC - Coastal Weather Stations

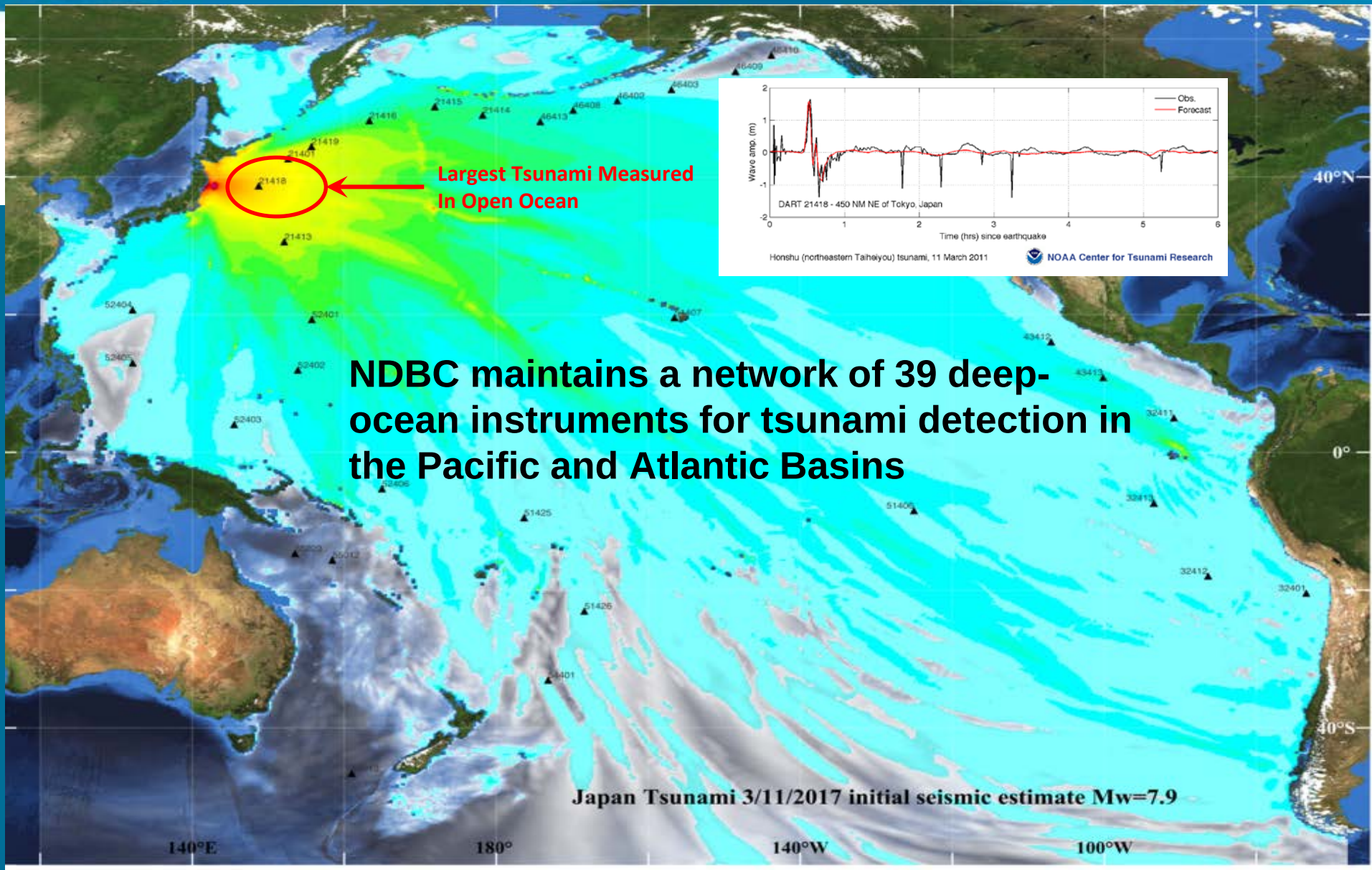
NDBC operates & maintains
106 met-ocean buoys and
47 Coastal-Marine stations

NDBC - Coastal Weather Stations

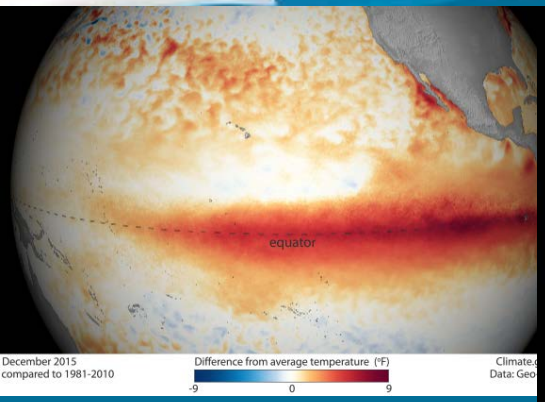
NDBC operates & maintains
106 met-ocean buoys and
46 Coastal-Marine stations

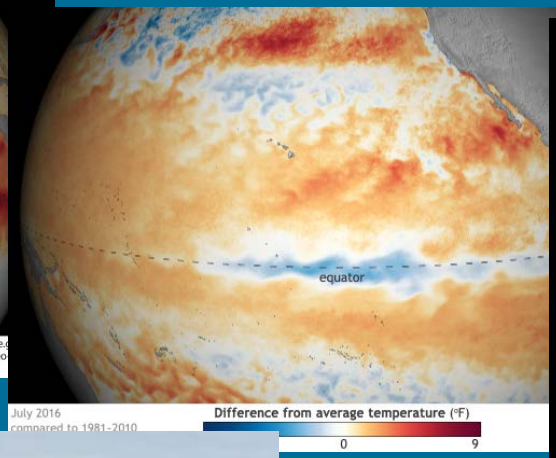
NWS issues tsunami warnings

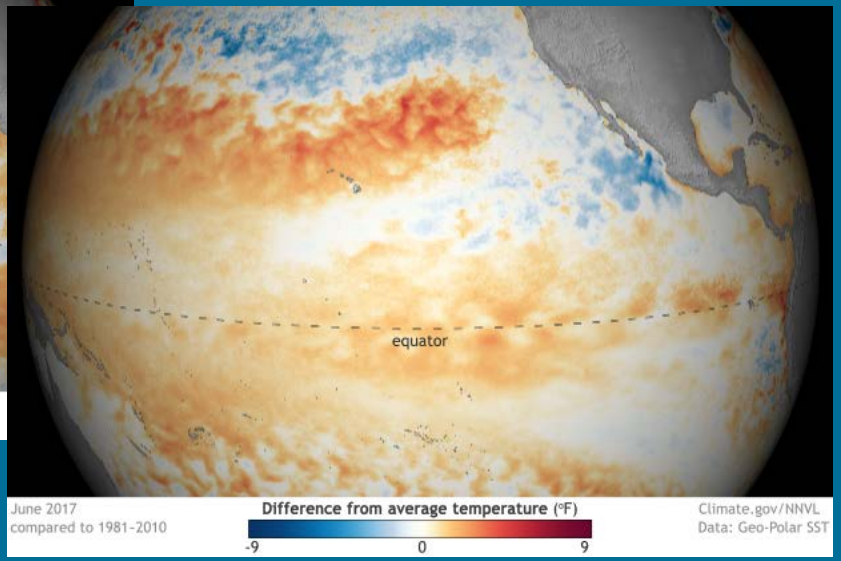
NDBC supports tsunami assessment



El Niño - La Niña Observations

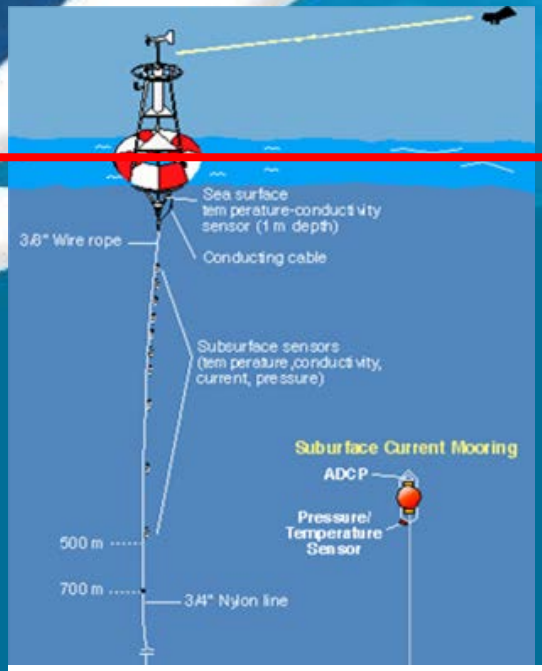






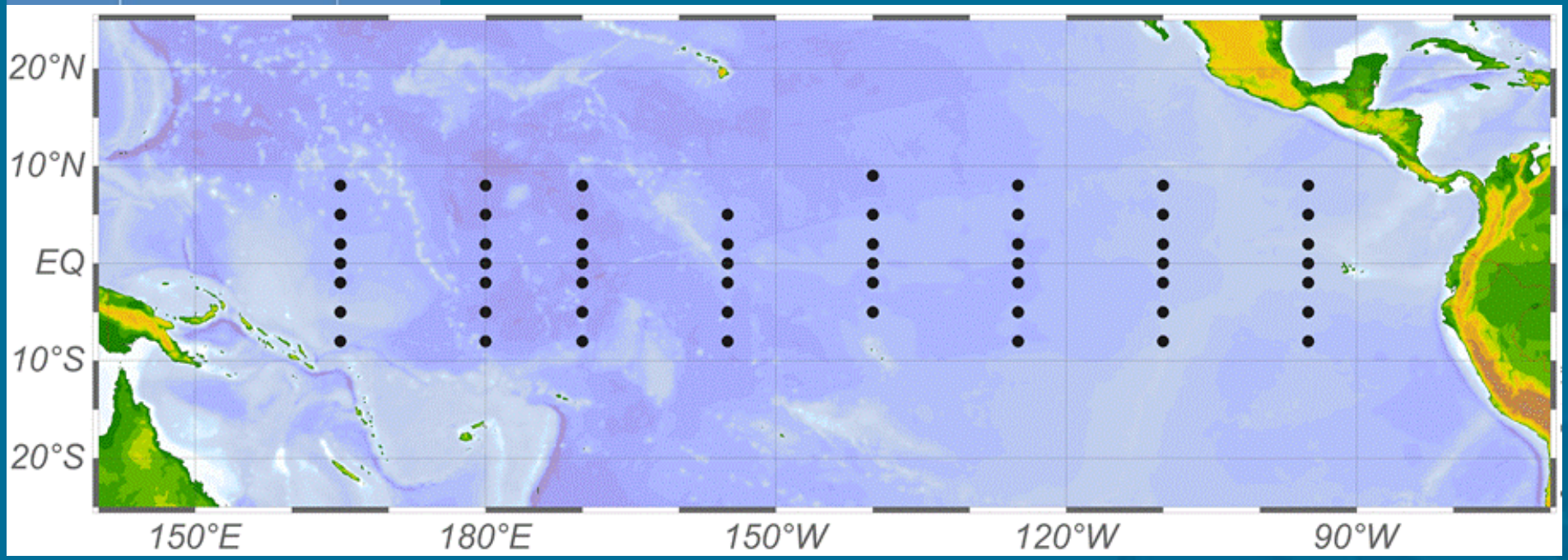
NDBC maintains the Tropical Atmosphere Ocean Array (TAO) along the equatorial Pacific

TAO Array

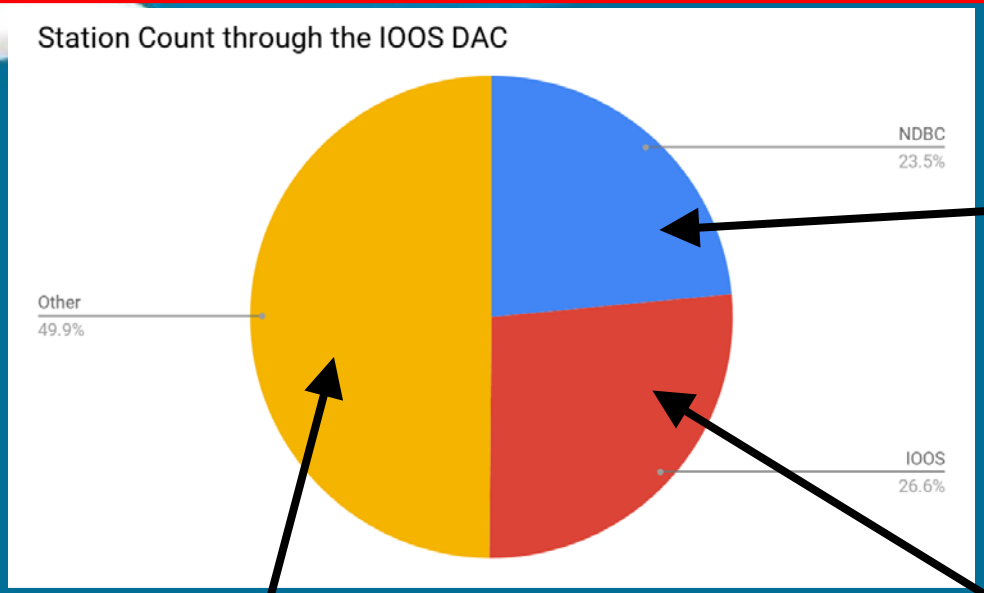


Hourly transmission of :
Wind speed and direction,
Air temperature, Relative humidity,
Sea surface/subsurface temp, conductivity

Additional sensors on 4 buoys on equator, including barometric pressure, rain, solar radiation.



IOOS Data Assembly Center



NDBC (246)

- 4 NWS Systems of Record
  - CWB, CMAN, DART, TAO
  - 246 Stations

IOOS (279)

- 11 Regional Associations
- 59 Data Providing Organizations
- 279 Observational Stations
- 470,000 Monthly Observations QC'd and sent to the GTS

Other Stations (522) include:

- NOAA
  - NOS (312)
  - NWS (51)
  - NOAA Fisheries (11)
  - NOAA Research (19)
- U.S Army Corp of Engineers (73)
- U.S Coast Guard, USGS, U.S. Department of Energy, NSF, National Park Service: (128)

A National Strategy

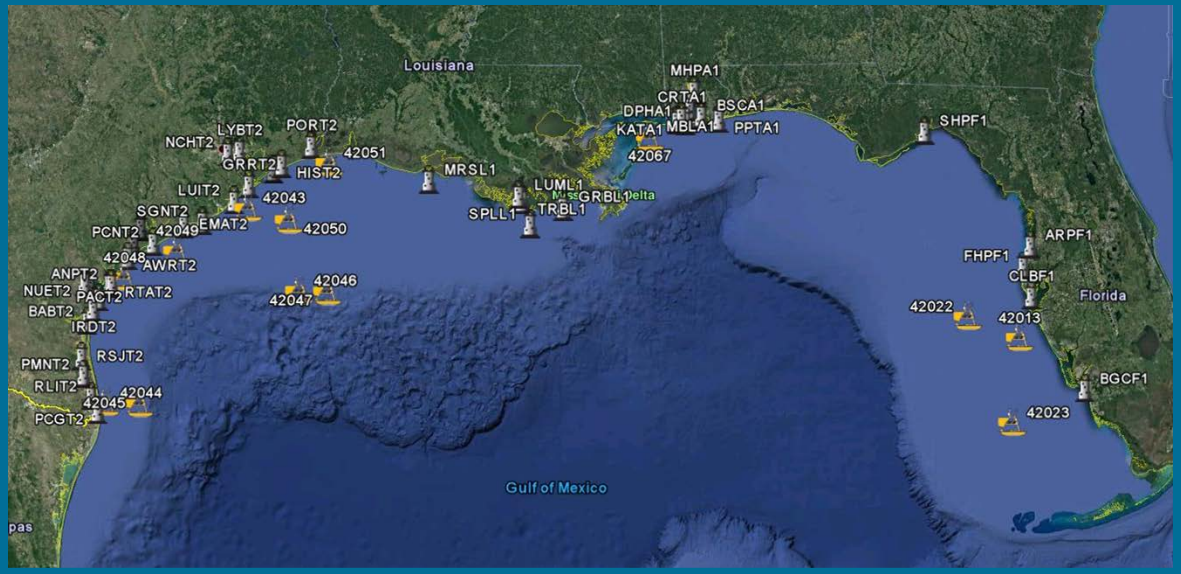
3 GOALS

1. Ensure the preservation, transparency, and public availability of critical integrated coastal and ocean observations

1. Define a framework for guiding the continued planning and build-out of a sustained coastal mooring network

1. Justify the need for a core sustained network of federal and nonfederal coastal moorings that adheres to national and international data standards and best practices

The Gulf of Mexico



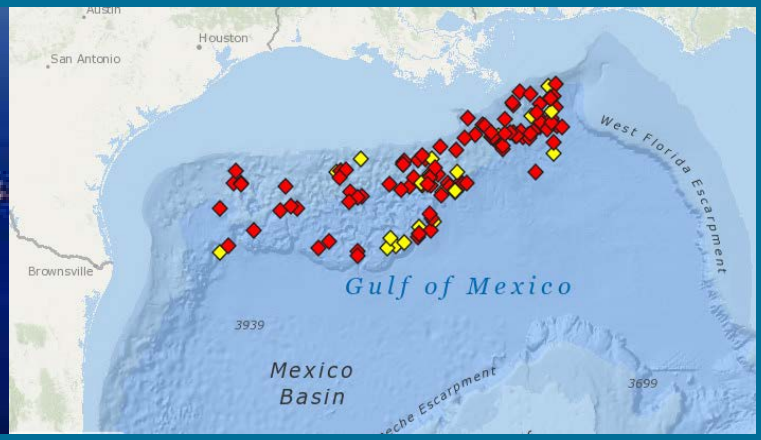
- 40% of total U.S. crude oil refinery capacity
- 30% of total U.S. natural gas processing plant capacity
- $20+ billion tourist industry
- 2009 produced 1.4 billion pounds of seafood
  - 78% of U.S shrimp
  - 62% of U.S oysters
- 13 of the top 20 U.S. ports by tonnage

GCOOS

- 7 Data Providing Organizations
- 76 Observation Stations

OPPORTUNITY: Mississippi Governor's Ocean Task Force

Gulf Ocean Energy



UNITED STATES DEPARTMENT OF THE INTERIOR
MINERALS MANAGEMENT SERVICE
GULF OF MEXICO OCS REGION

NTL No. 2009-G02

Effective Date: January 27, 2009
Expiration Date: January 27, 2014

NOTICE TO LESSEES AND OPERATORS OF FEDERAL OIL AND GAS LEASES AND PIPELINE RIGHT-OF-WAY HOLDERS ON THE OUTER CONTINENTAL SHELF, GULF OF MEXICO OCS REGION

Ocean Current Monitoring

This Notice to Lessees and Operators (NTL) replaces NTL No. 2007-G17, effective May 7, 2007, and expired April 30, 2008.

Authority

Pursuant to 30 CFR 250.900(a) you must consider the specific environmental conditions at the platform location.

In accordance with 30 CFR 250.107(c) and (d), you must use the best available and safest technology whenever practical during all exploration, development, and production operations to avoid equipment failure that would have a significant effect on safety, health, or the environment.

In accordance with 30 CFR 250.901, you must meet the following standards when you plan, design, and construct OCS production platforms:

- API RP 2A-WSD, Planning, Designing, and Constructing Fixed Offshore Platforms – Working Stress Design
- API Bulletin 2INT-DG, Interim Guidance for Design of Offshore Structures for Hurricane Conditions
- API Bulletin 2INT-EX, Interim Guidance for Assessment of Existing Offshore Structures for Hurricane Conditions
- API Bulletin 2INT-MET, Interim Guidance on Hurricane Conditions in the Gulf of Mexico
- API RP 2FPS, Planning, Designing, and Constructing Floating Production Systems
- API RP 2RD, Design of Risers for Floating Production Systems and Tension Leg Platforms
- API RP 2SK, Design and Analysis of Station Keeping Systems for Floating Structures
- API RP 2SM, Design, Manufacture, Installation, and Maintenance of Synthetic Fiber Ropes for Offshore Mooring
- API RP 2T, Planning, Designing, and Constructing Tension Leg Platforms

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January 2014: **50 Reporting**
August 2017: **35 Reporting**
October 2017: **20 Reporting***

NTL on Ocean Current Monitoring and Data Collection
Initial Issue Date: April 21, 2005
Expired: January 27, 2014

***Opportunity: NDBC/GCOOS collaboration to reverse trend**

What questions do you have?

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Stennis Space Center, MS