NDBC Overview

for Stennis Business Counsel

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The National Data Buoy Center

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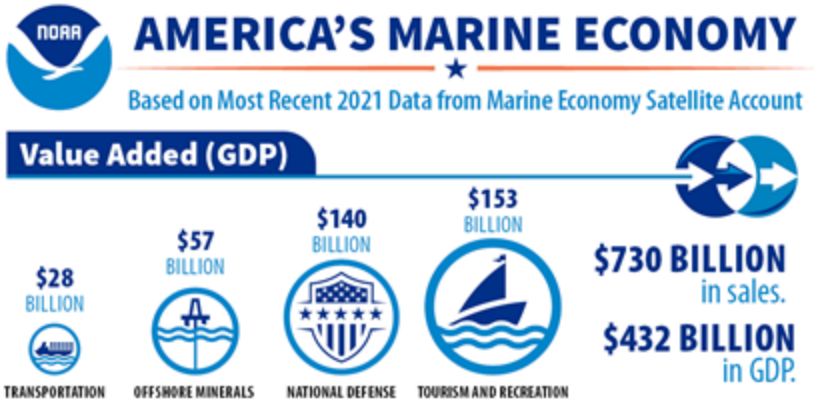
www.ndbc.noaa.gov

The Blue Economy

If U.S. coastal counties were a standalone nation, their GDP would rank third globally, trailing only the U.S. as a whole and China, emphasizing the strategic economic importance of the nation's coastal areas.



90% of imports enter/exit U.S. via ship

2.3 million jobs generated

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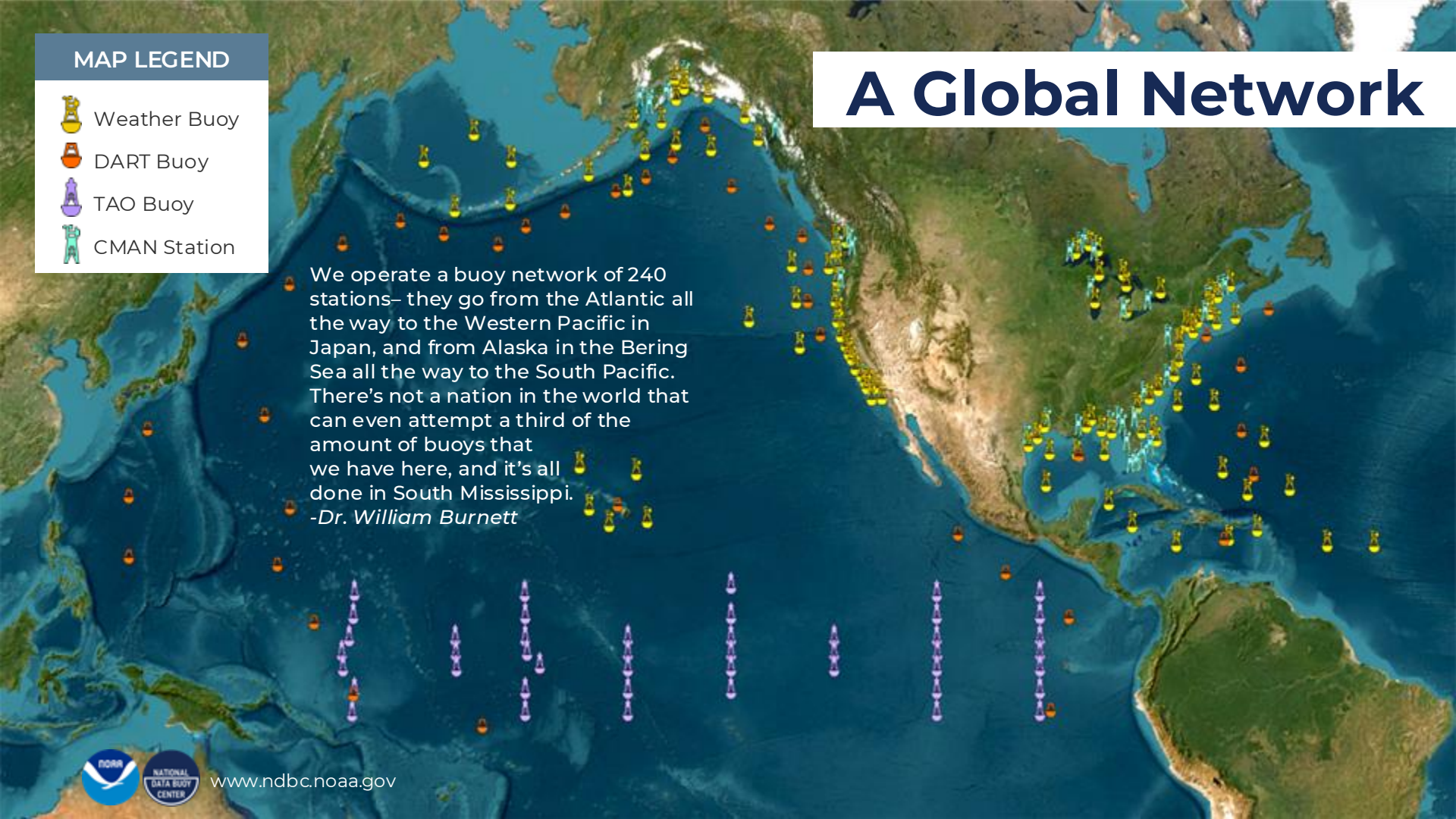
The NDBC Mission

ENSURING MARITIME SAFETY

Collecting and disseminating in-situ, real-time, quality-controlled observations in the marine environment to ensure the nation's maritime safety, and to understand and predict the atmosphere, ocean, waves, ice and climate.

2025 National Data Buoy Center

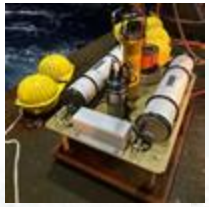
A Global Network



Our Observing Platforms

Weather Buoys

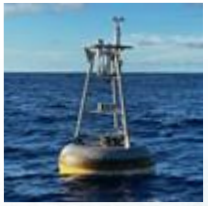
- SCOOP payload
- Wind speed and direction
- Air temperature
- Barometric pressure
- Wave information
- Water temperature
- Camera



DART Buoys

Deep-ocean Assessment & Reporting of Tsunamis

Anchored seafloor bottom pressure recorder (BPR) with acoustic link to moored surface buoy



TAO Buoys

Tropical Atmosphere Ocean

Moored along select longitudinal lines in the Pacific, north and south of the Equator

C-MAN Stations

Coastal Marine Automated Network

On or near land, providing coastal observations similar to those gathered by weather buoys

National Data Buoy Center

We also utilize Voluntary Observing Ships (VOS) and uncrewed marine systems such as Saildrone and Sofar Ocean.

Observations Collection and Distribution

World Class Capability to Disseminate Observations to Nation

NDBC Obs Platforms:
WX Buoy, C-MAN
TAO, DART

IOOS and other Partners Platforms

NOS NWLON stations Meteorological Obs

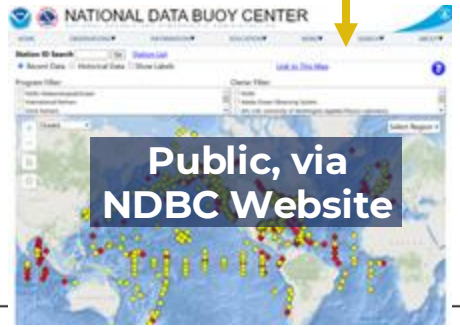
Uncrewed Maritime Systems - Saildrone & SOFAR

International DART Obs

IOOS HF Radars

NDBC Command & Control and Data Center

NWS Global Telecommunication System (GTS)



- Tsunami Warning Centers
- NWS/NCEP Centers
- NOAA NESDIS NCEI Archive
- WFOs/RFCs
- Emergency Managers
- Global Partners

Organizational Structure

A Cradle-to-Grave Operation

Approximately 150 employees

- NWS Federal
- NOAA Corps
- US Coast Guard
- Primary Contractor
  - Lynker
    - Subcontractors: Axiom, GDIT, ECS

Observational Systems

- Field Operations
- Product Engineering
- Mission Support Engineering
- Technology Development

Mission Control

- Information Technology
- Mission Control Center

Resources

- Logistics, Property & Facilities
- Financial & Procurement Management
- Security & Human Resources
- Safety & Environmental

Engineering at NDBC

NDBC Systems, Platforms, Electronics, Sensors and Moorings

Design, prototyping, integration, testing, calibration, validation, analysis, evaluation, and life cycle maintenance. Conducted through processes of requirements, design reviews, lab & field tests, and across departmental teams. Software/Firmware, hardware, systems, and moorings.

Quality & Reliability Engineering

Ensure quality and reliability of products.
Provide information on component/system performance.
Identify poor equipment performance and corrective actions.

Configuration Management & Drafting

Accurate drawings and documentation for operational systems.
Controlled access to design and operational documentation (drawi
specifications, test procedures, related design documents). Provides
support by creating or modifying 2D or 3D drawings.

Equipment Preparation

Equipment Testing (Green Tag)

- 280 payloads tested (WX, DART, TAO)
- 990 discrete sensors tested (WX, DART, TAO)

System Testing (Blue Tag)

- 95 WX Systems
- 52 DART Systems
- 45 TAO Systems

Mechanical Preparation

- 75 hulls blasted and painted
- 168 miles of mooring material assembled

Procurements

Parts, Supplies, and Equipment

Procurements

- 7- 8 Multi-year contracts for equipment
- 10-12 annual single-purchase contracts for equipment
- Approximately 805 individual pieces of new equipment purchased

Consumable Inventory

- Approximately 3,000 part types maintained as stock
  (i.e. Approximately 440,000 ft of nylon line purchased yearly)

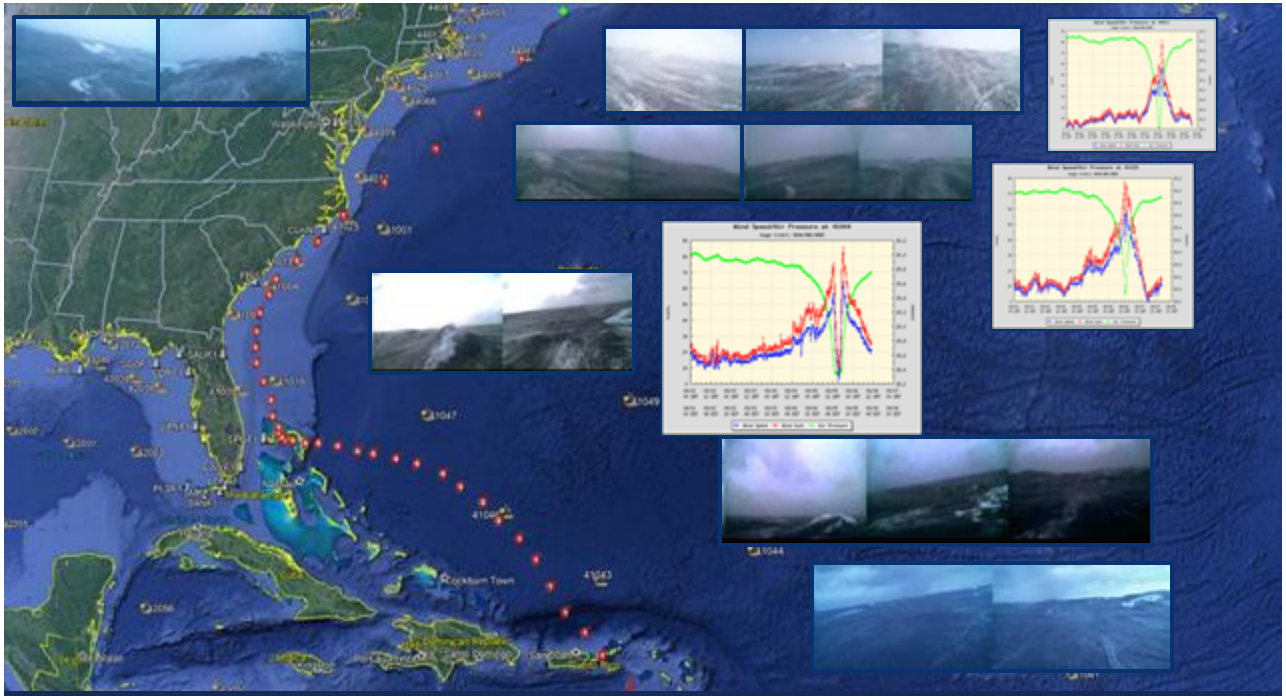
Logistics

Shipment Details

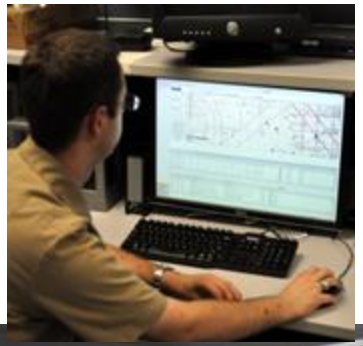
- 125 flatbed trucks between NDBC and CONUS mobilization/ demobilization ports and container ports
- 20 barge and container ship transports to Hawaii, Alaska and international ports, including
  - Honolulu, HI
  - Kodiak, AK
  - Dutch Harbor, AK
  - Agana, Guam
  - Apia, Samoa
  - San Juan, PR
  - Panama City, Panama
  - Yokohama, Japan

2025 Mission Season Plan

Command Center = Situational Awareness



Hurricane Dorian | 28 August – 7 September 2019



24x7x365
Mission Control Center

2025 National Data Buoy Center

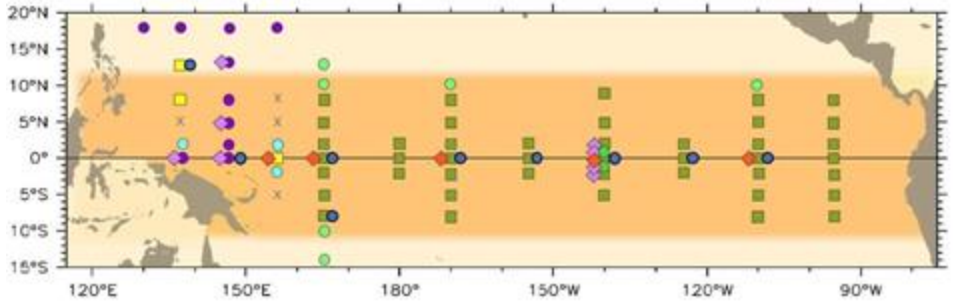
NDBC Facilities at Stennis Space Center

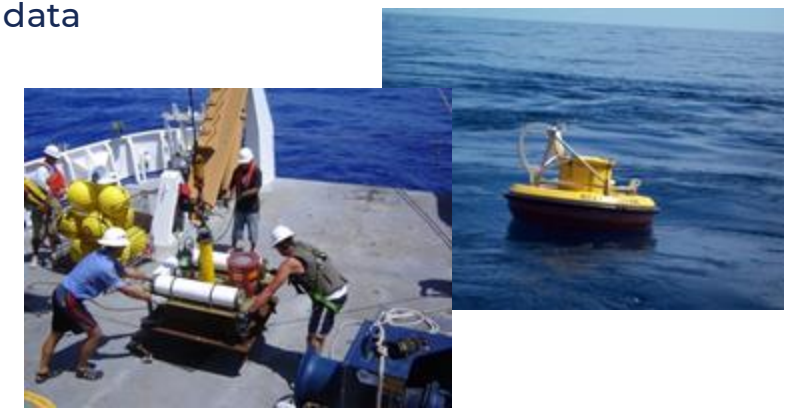
DART & TAO Recapitalization

FY 2022 Bipartisan Infrastructure Law (BIL) Provisions 11&17

FY 2022 Bipartisan Infrastructure Law (BIL) provided $50M for modernization and recapitalization of the TAO Array and DART network, to address obsolescence of the aging equipment impacting NOAA's ability to sustain the systems and the observations data

Implementation of the recommendations from the Tropical Pacific Observing System (TPOS) 2020 Project





Acquisition of commercially available DART systems

UMS “data buy” Mission in Monterey Bay NMS

OMAO funding for a UMS data as a service for 46012 FY23 - FY25.

OMAO funding is expected in FY26 to continue operations.

We Cannot Do it Alone!

Questions?

Thank You

Find Us Online:

www.ndbc.noaa.gov