



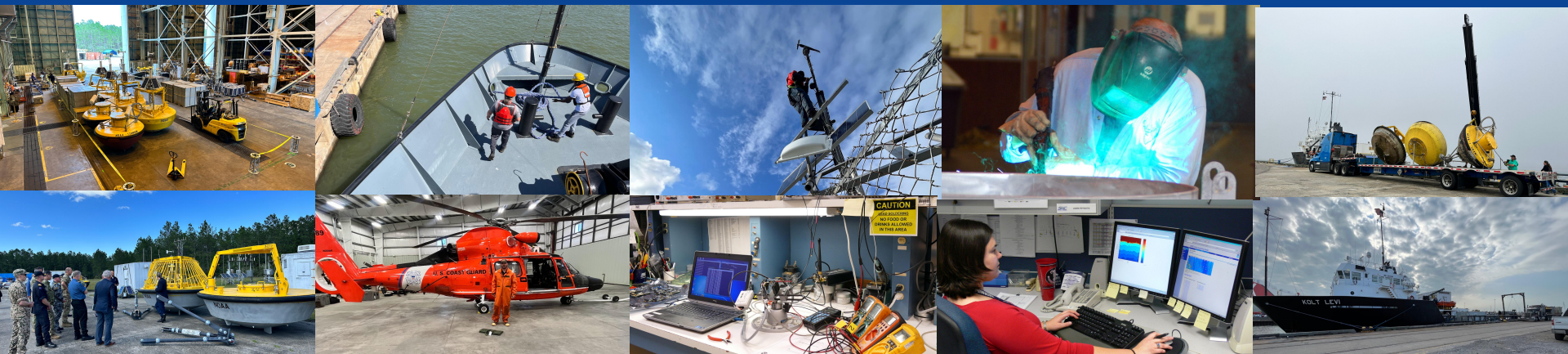
National Data Buoy Center Overview for

Stennis Business Council

NATIONAL
DATA
BUOY
CENTER

July 31, 2024

William H. Burnett, Ph.D., Director



Blue Economy - Shipping and Maritime

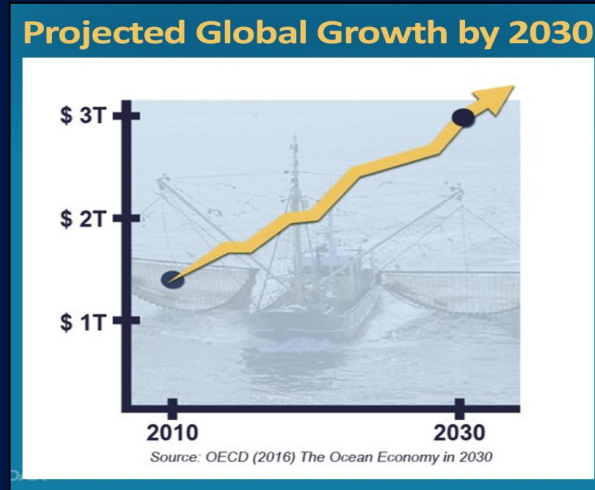


**90% of traded goods are carried
71% of the Weight of USA
Int'l Trade in 2018**

**Port Performance Freight
Statistics in 2018**

Annual Report to Congress 2019

U.S. Department of Transportation
Office of the Secretary of Transportation
Bureau of Transportation Statistics



**&
Under
Pressure**



**..to Transform
..to Meet IMO
GHG Reduc
goals**



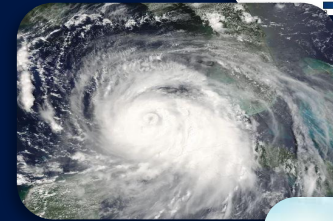
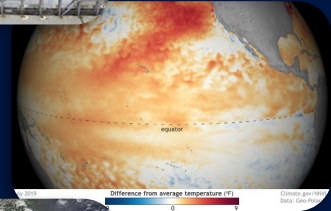
Impact of a vibrant Blue Economy

- 2.4 Million Jobs
- \$432B to the GDP through diverse sectors such as tourism, fishing, and power generation.
- 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.



NDBC is Ensuring the Nation's 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.”



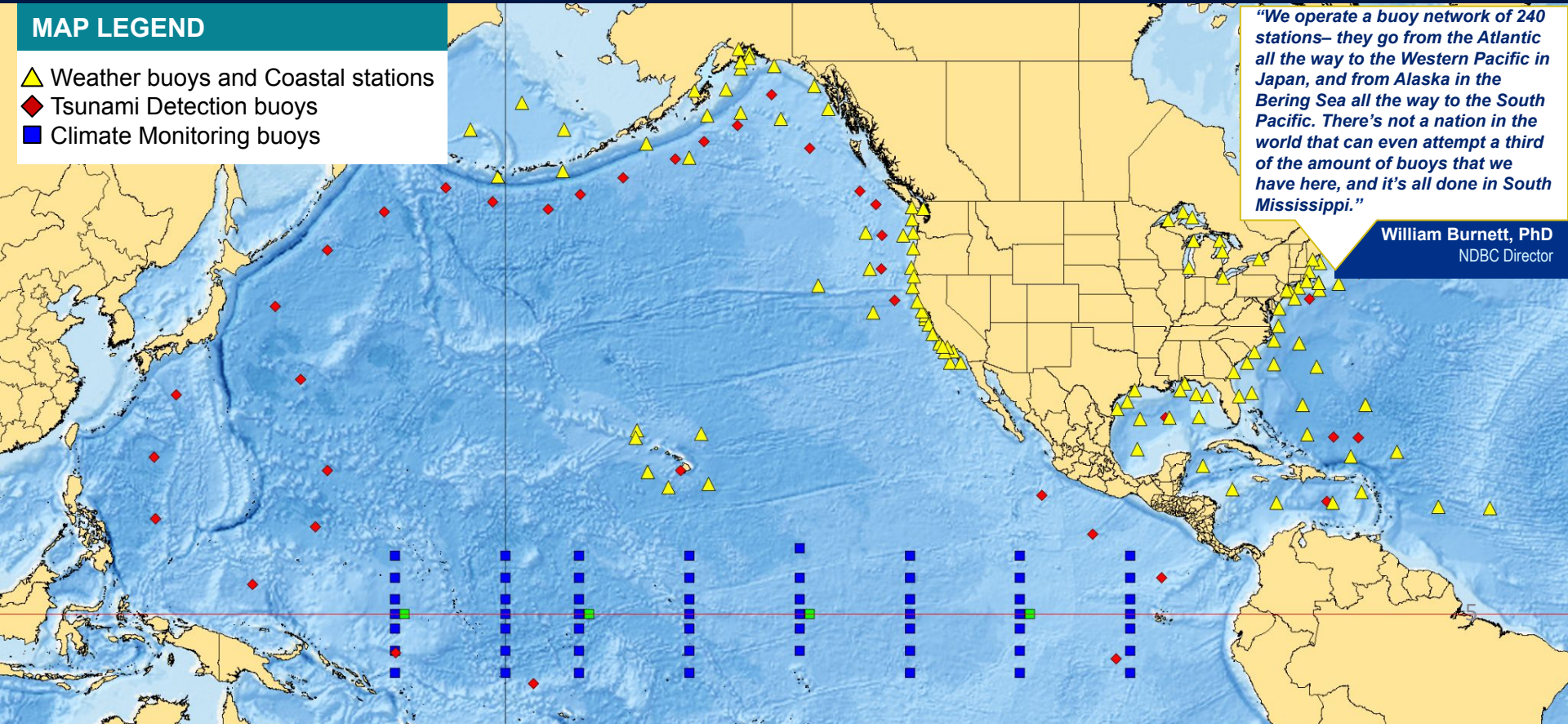
NDBC's Global Buoy Network

MAP LEGEND

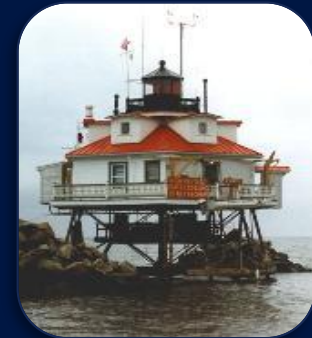
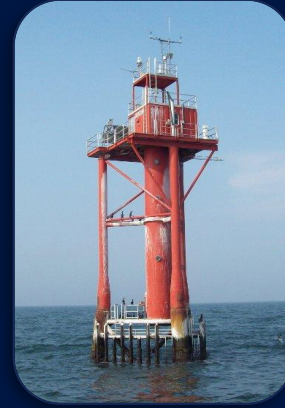
- ▲ Weather buoys and Coastal stations
- ◆ Tsunami Detection buoys
- Climate Monitoring buoys

"We operate a buoy network of 240 stations– they go from the Atlantic all the way to the Western Pacific in the Bering Sea all the way to the South Pacific. There's not a nation in the world that can even attempt a third of the amount of buoys that we have here, and it's all done in South Mississippi."

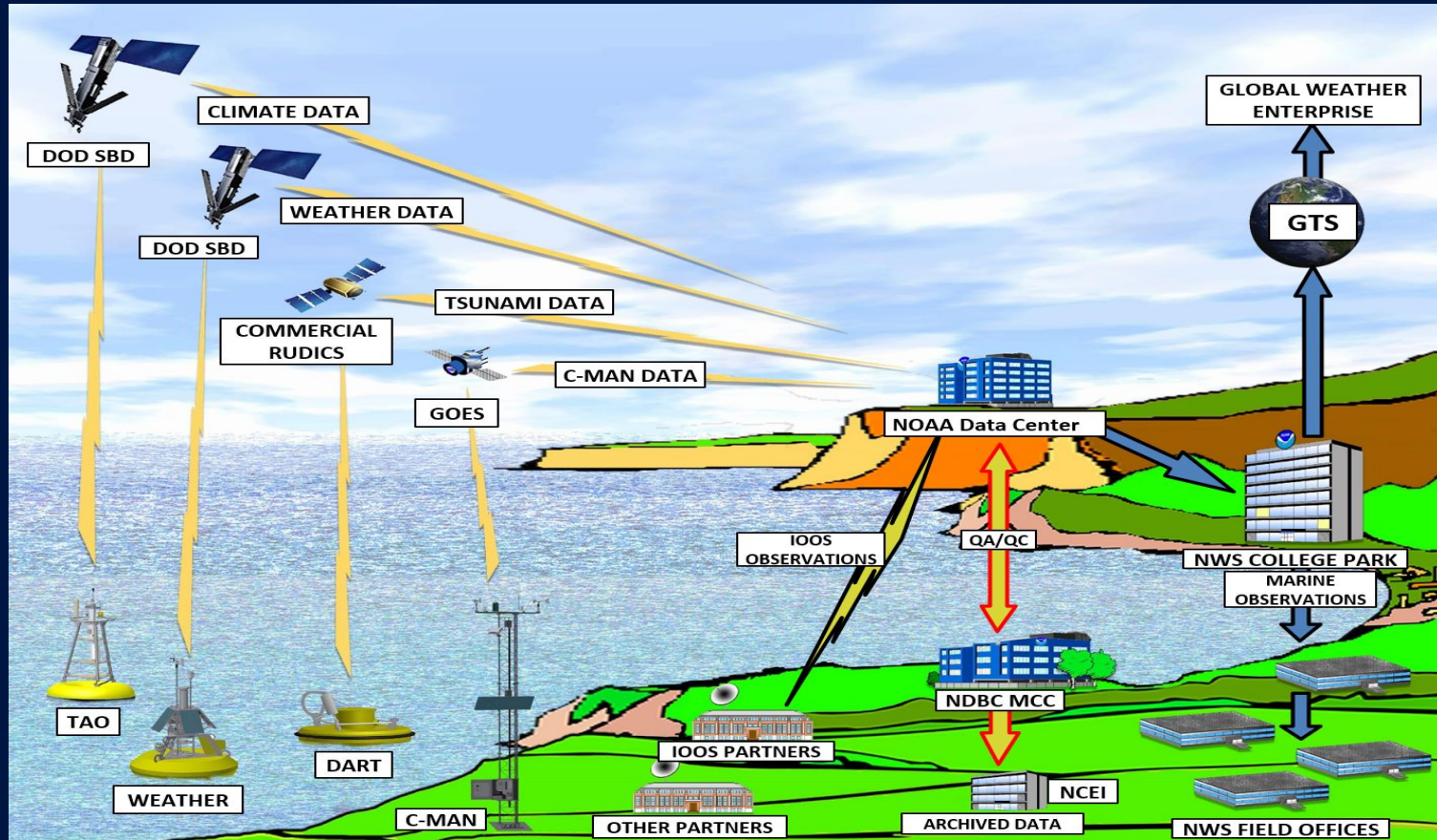
William Burnett, PhD
NDBC Director



NDBC Observing Platforms

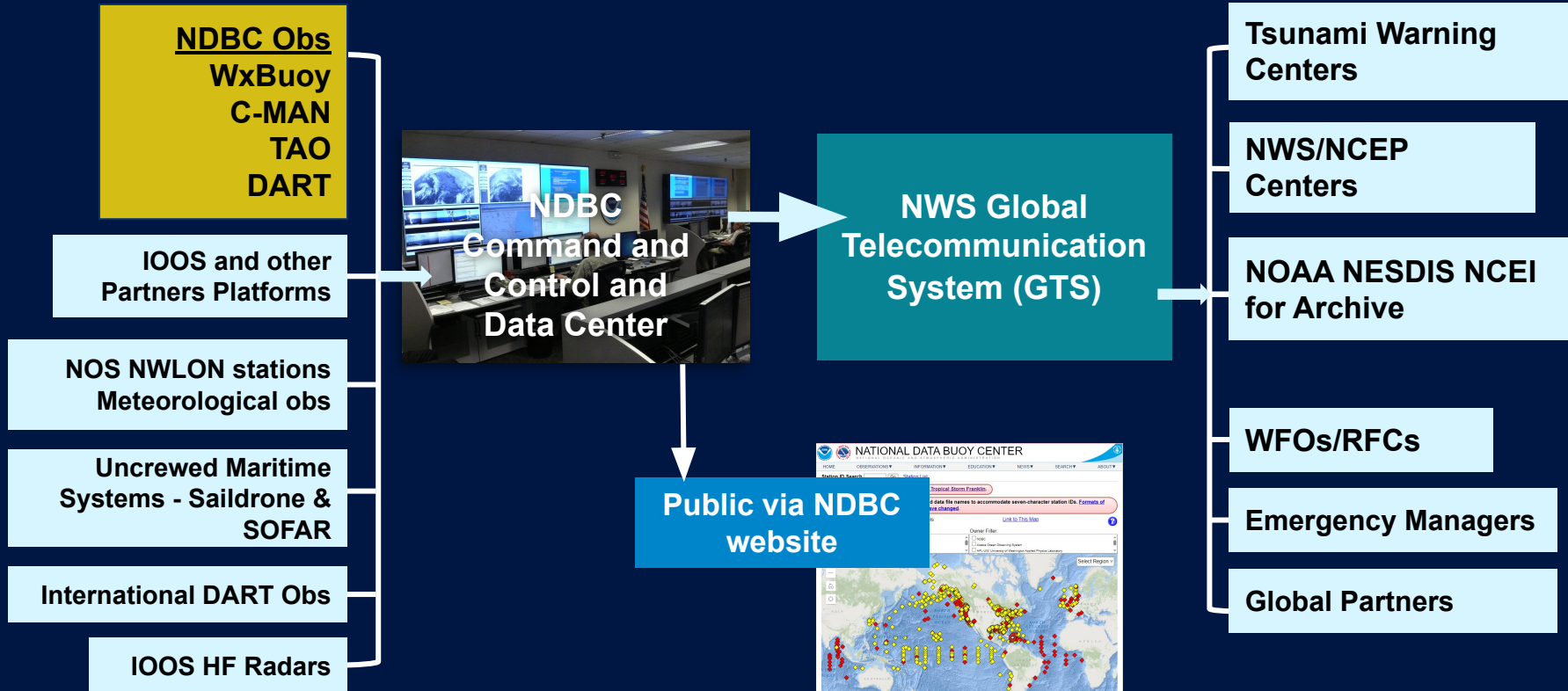


NOAA's MARITIME DATA ASSEMBLY CENTER



Observations Collection and Distribution

World Class Capability To Disseminate Observations To Nation



NDBC Organization

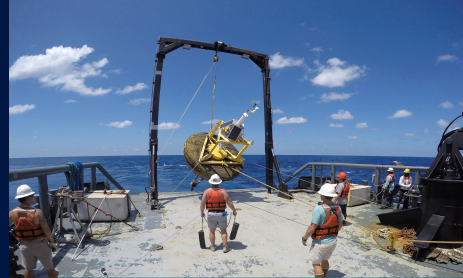
Cradle-to-Grave Operation



Mission Control

Mission Control Center

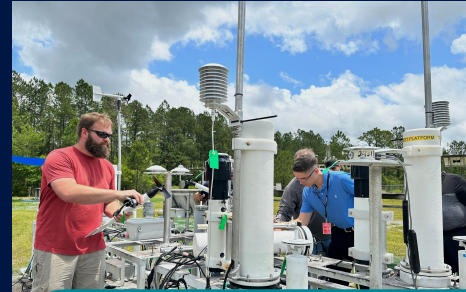
Information Technology



Operations

Field Operations

Production Engineering



Engineering

Technology Development

Mission Support Engineering



Resources

Logistics and Facilities

Business Services

Multi-sector workforce of about 165 employees

- NWS Federal Staff
- NOAA Corps Officers
- US Coast Guard Liaison Office
- Contractors (Currently Amentum)



Engineering at NDBC

NDBC Systems, Platforms, Electronics, Sensors and Moorings

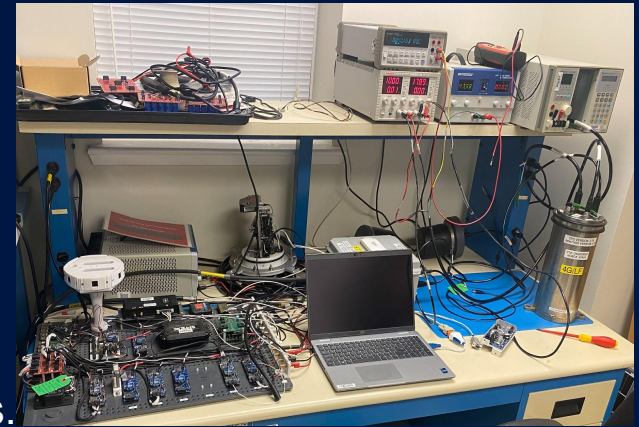
Design, prototyping, integration, testing, calibration, validation, analysis, evaluation, and life cycle maintenance. Conducted through processes of requirements, design reviews, lab & field tests, and across departmental teams. Software/Firmware, hardware, systems, and moorings.

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.
design and operational documentation (drawings, specifications, test procedures, related design documents). Provides support by creating or modifying 2D or 3D drawings.



Equipment Preparation



Equipment Testing (Green Tag)

- 360 Payloads Tested (WX, DART, TAO)
- 750 Discrete Sensors Tested (WX, DART, TAO)

System Testing (Blue Tag)

- 75 WX Systems
- 60 DART Systems
- 65 TAO Systems

Mechanical Preparation

- 65 Hulls Blasted and Painted
- 100 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 500 individual pieces of new equipment purchased

Consumable Inventory

- Approximately 3,000 part types maintained as stock
- ex - Approximately 440,000 ft of nylon line purchased yearly



Logistics

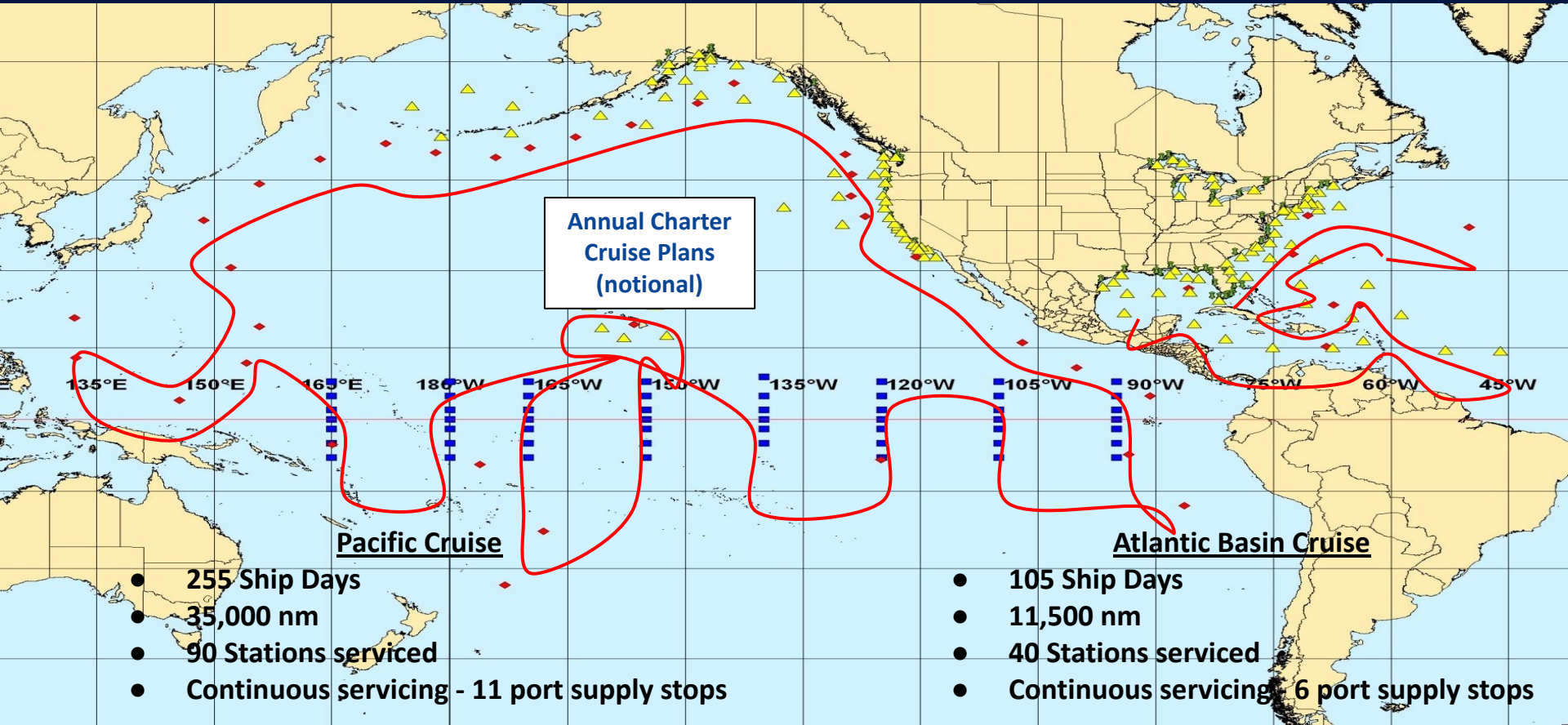


Shipment Details

- 95 Flatbed Trucks between NDBC and CONUS Mobilization/Demobilization ports and Container Ports
- 20 Barge and Container Ship transports to Hawaii, Alaska and International Ports
 - Honolulu, HI
 - Kodiak, AK
 - Dutch Harbor, AK
 - Agana, Guam
 - Apia, Samoa
 - San Juan, PR
 - Panama City, Panama
 - Yokohama, Japan



Annual Buoy Servicing Strategy



NDBC Facilities at Stennis Space Center

National Data Buoy Center Facilities at SSC, MS

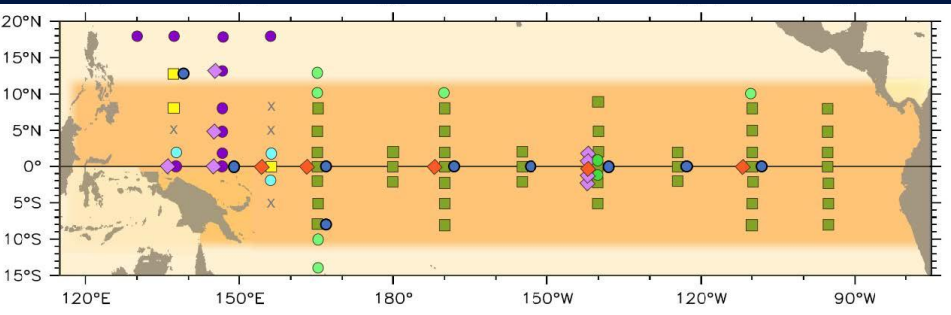


Recapitalization of TAO and DART Systems



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

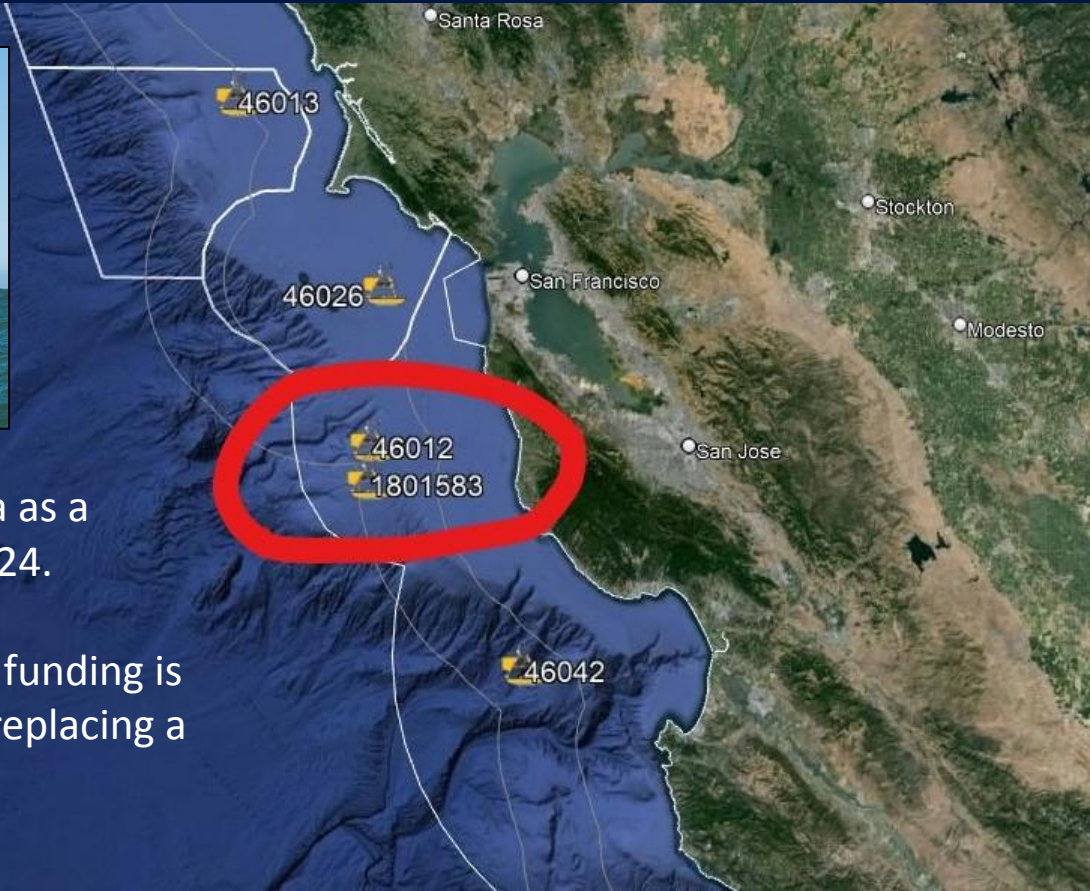


Acquisition of commercially available DART systems

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



UMS “data buy” Mission in Monterey Bay NMS



OMAO funding for a UMS data as a service for 46012 FY23 and FY24.

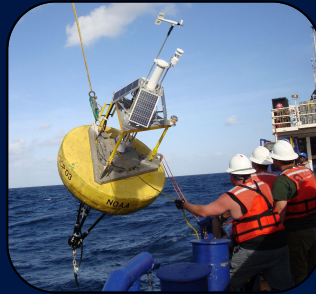
Additional Request for OMAO funding is being reviewed this week for replacing a 2nd buoy in the MBNMS



NDBC Partners



Thank you!



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NATIONAL DATA BUOY CENTER