

AOOS Board Meeting

bsie Quintrell
IOOS Association
9/2/2020

AOOS
Alaska • aoos.org

NANOOS
Northwest • nanoos.org

CeNCOOS
Central/Northern California • cencoos.org

SCCOOS
Southern California • sccoos.org

PacIOOS
Pacific Islands
pacioos.org

GLOS
Great Lakes • glos.us

IOOS Headquarters ★
(NOAA)

GCOOS
Gulf Coast
gcoos.org

NERACOOS
Northeast • neracoos.org

MARACOOS
Mid-Atlantic • maracoos.org

SECOORA
Southeast • secoora.org

CARICOOS
Caribbean
caricoos.org

IOOS
ASSOCIATION

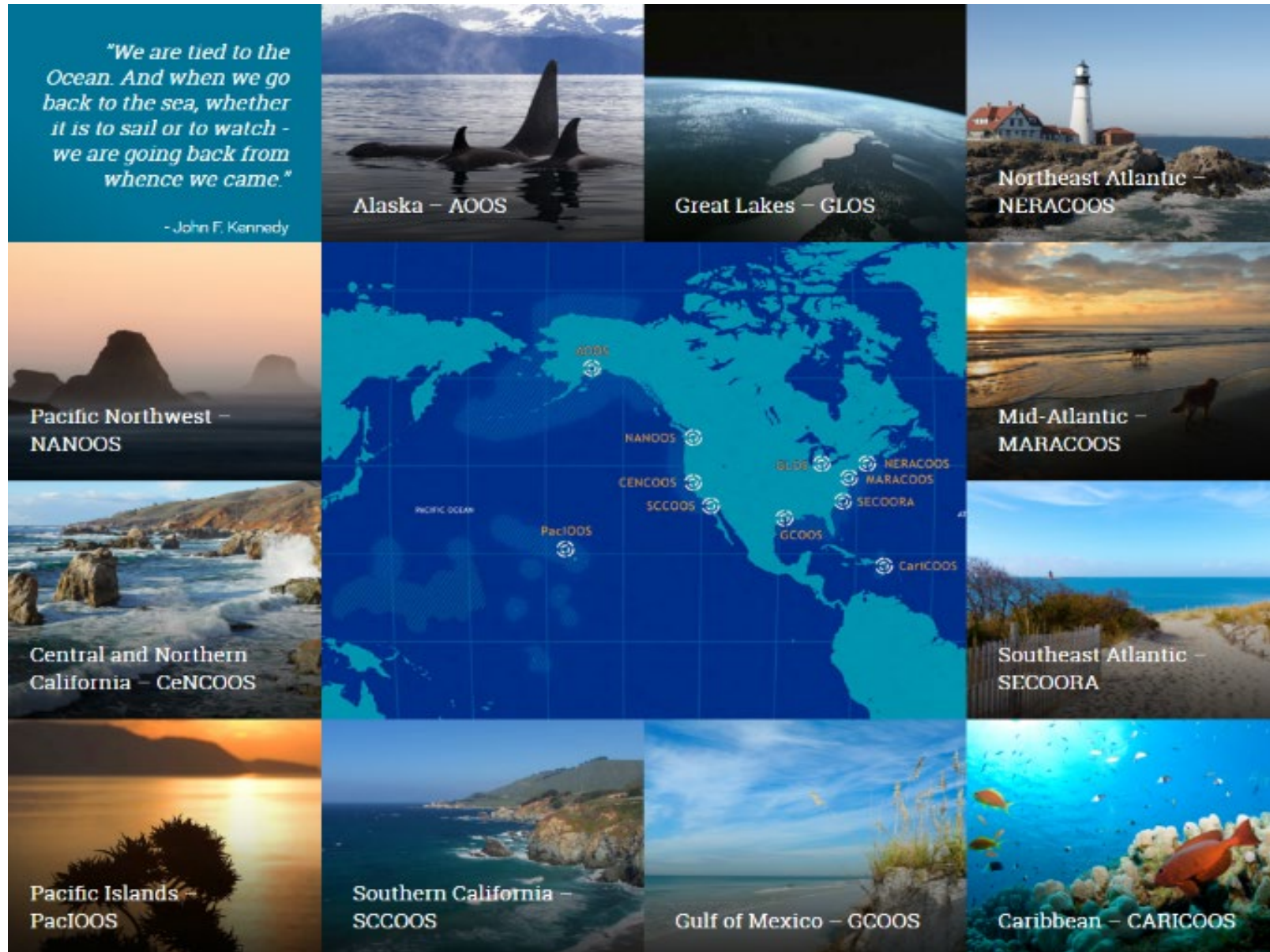
IOOS Association

- **Advocacy**
- **Common Issues**
- **IOOS federal/non-federal partnership**
 - *Administration*
 - *Congress*
 - *National Partners*
- **Emerging Issues**
- **Special Projects**

AOOS Board Members:

- **Molly**
- **Katrina**

*Observing our oceans, coasts and Great Lakes
Providing information to those who need it, when they need it*



FY 21 Appropriations

Fill the Gaps:

- Up \$8.5m since FY17
- Gliders
- HR Radars
- Streamline Observations

FY 20

Included \$1M for HAB
Observing Network pilot

AOOS - HAB Coordinator

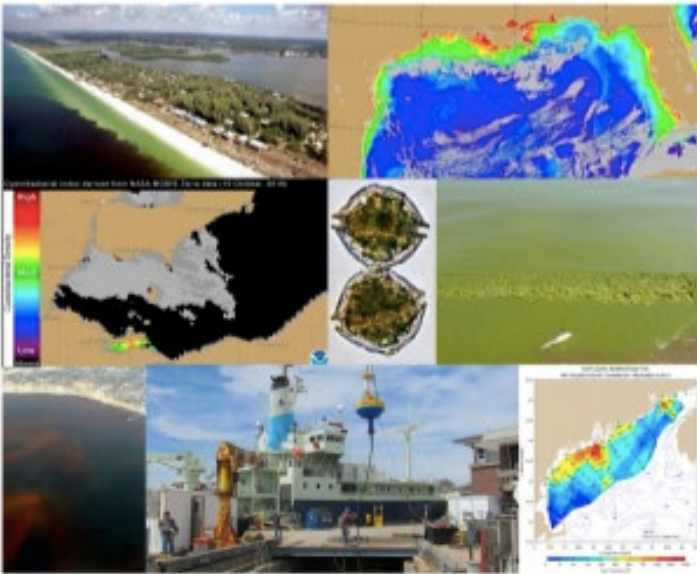
House Mark

- \$40.5 M for IOOS Regional Line
- Up \$1.5M from FY20
- Report language
 - Support for Fill the Gaps
 - \$2M for HAB observing network
- **Senate Mark: TBD**
 - Maybe after election...

Harmful Algal Blooms

- Framework for a National HAB Observing Network by NCCOS
 - Identifies need for sustained observations to support HAB forecasts
 - Looks to IOOS Regions
- FY20 included \$1M for 5 HAB observing network pilots:
 - Alaska, Northwest, California, Gulf of Mexico and Great Lakes.
- FY 21 House Report Language - \$2M

Framework for the National Harmful Algal Bloom Observing Network



National Oceanic and Atmospheric Administration and the Integrated Ocean Observing System Regional Associations

ICOOS Reauthorization



- House is expected to pick up Senate bill
- Tight timeline - short session and election year

House: *HR 729 – passed House 12/2019*

- Straight reauthorization with 3 amendments:
 - Clarifies language regarding interagency financing, Staggered FAC terms
 - Authorization: \$47.5 M for FY21-FY25
 - Rep Young - Lead Sponsor

Senate: *S914 - passed Senate in 7/2020*

- Updated language and purpose
- Allows Feds to participate in RAs
- Add glider, HFR studies and OA
- Authorizes National Water Center
- Authorization levels allow for incremental increase: FY21 \$48M FY22 \$50M FY23 \$52M FY24 \$54M FY25 \$56M

COVID Impacts

- Highlighted vulnerability of system to interruptions
 - Request to build resiliency to system: Aging infrastructure
- ## Economic Stimulus - \$25M
- 'In the pipeline projects' for maritime transportation, weather, sea level rise, ecological health (HABs), fisheries and coastal hazards.

Immediate Needs for Resiliency: \$25 million for restoring, sustaining, and building resiliency for critical observations in support of weather forecasting, safe and efficient marine operations, and search and rescue missions.

IOOS works as an integrated system of a variety of observing platforms, but to restore mission critical operations impacted by COVID-19 and continue protecting lives and livelihoods, we request support specifically for our radars, buoys, and gliders.

This includes:

- \$12 million for high frequency radars
 - Supporting maritime commerce and at-sea safety
- \$7 million for gliders
 - Supporting accurate weather forecasting including hurricanes
- \$6 million for coastal moorings
 - Supporting accurate weather forecasting and real-time data for weather forecast offices



Figure 1. IOOS operates the nation's only network of land-based high-frequency radars (pictured above) that provide continuous, real-time mapping of the speed and direction of surface currents in coastal waters.

Longer Term Resiliency

COVID-19 further exposes gaps and weaknesses in our infrastructure and their negative impacts on life and the economy. For the IOOS system to achieve full resiliency, estimated costs are \$75.65 million over the next 1-3 years.

The estimated cost for full resilience of the integrated system, by subsystem is:

- \$32 million for high frequency radars
- \$11.57 million for gliders
- \$25 million for coastal moorings
- \$5 million for shore stations, including water levels and met stations
- \$2.15 million for modeling/computing capacity

In support of the U.S. Integrated Ocean Observing System

Alaska (AOOS) • Caribbean (CariCOOS) • Central and Northern California (CeNCOOS) • Great Lakes (GLOS)
Gulf of Mexico (GCOOS) • Pacific Islands (PacIOOS) • Mid-Atlantic (MARACOOS) • Northeast-Atlantic (NERACOOS)
Pacific Northwest (NANOOS) • Southern California (SCCOOS) • Southeast-Atlantic (SECOORA)

Learn More: josie@ioosassociation.org | www.ioosassociation.org

Other Projects

**IOOS Association
Annual Meeting**
Friday, Oct 9
9 am – 12 pm AT

- Association Strategic Planning Process for 2020 -2025
- IOOS Economic Valuation
- IOOS/OAR Collaboration Workshops -
 - Atlantic - June 30 – July 1
 - (Hurricane, biology)
 - Pacific Basin - Aug 25-26
 - (OA, AI, Marine Heat Waves, Tech Transfer)
 - Great Lakes – Oct 6-7
- HAB Observing Network: Framework for Implementation
- Diversity and Inclusion Discussion
- FY 22 Appropriations Request
- Infrastructure/stimulus request

Thank you!



CARAID Award

Annual award to
recognize
outstanding
contributions to
coastal and
Great Lakes
observing
through
collaboration



PRESENTS THE FIRST CARAID AWARD TO

DR. RU MORRISON

For his outstanding contributions to ocean observing through vision, leadership, and collaborative spirit.

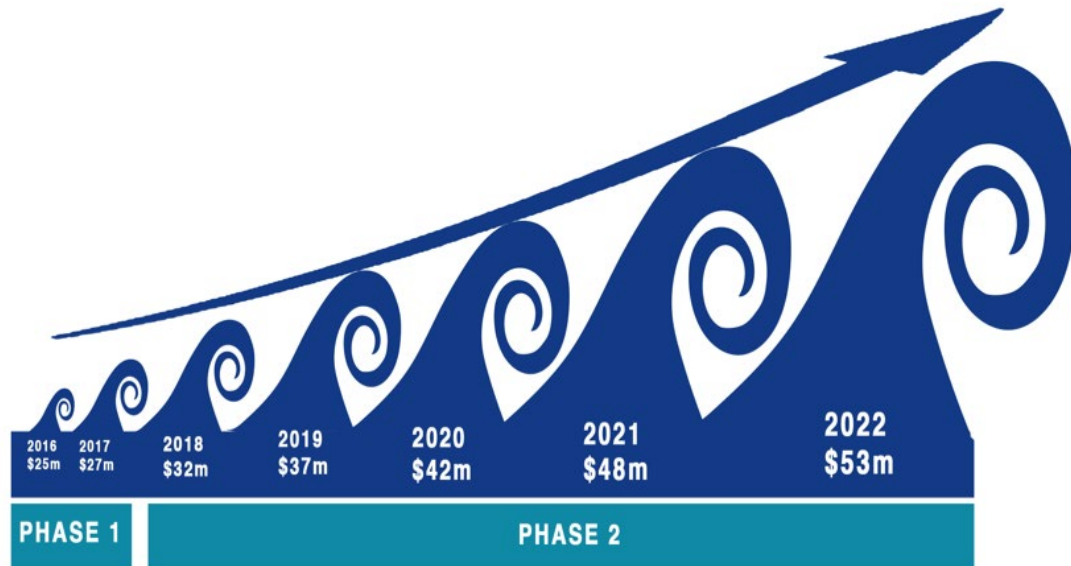


Dr. Morrison: Outstanding in his field.

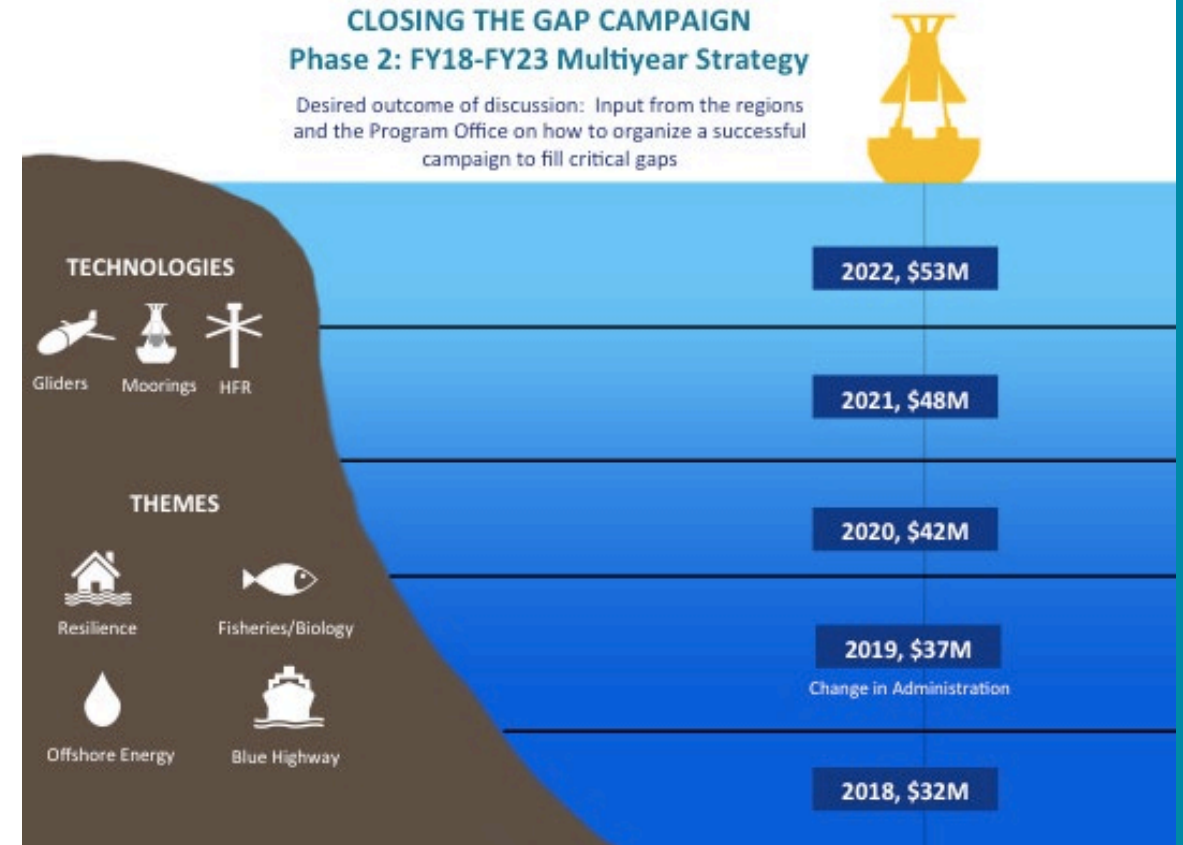
Ru's vision, leadership, and can-do approach was instrumental in developing a thriving regional observing system as well as inspiring action at the national and international levels. His values, dedication and passion are what distinguish him and what inspires us: his work was done with Caraid.

Caraid: A Scottish Gaelic word, meaning "care" or "love" and is pronounced like "courage."
These are the attributes that make IOOS work: caring and the courage to do what matters.

IOOS Association: Fill the Gaps Congressional Campaign



- Scalable campaign
- Tangible outcomes
- Align with Administration Priorities
- Filling targeted gaps in:
 - HR Radars
 - Gliders
 - Streamlining observations



FY 17-21 Request:

Scalable requests
each year for HFR,
Gliders based on
regional needs

From 2017-20:
Increase ~\$8.5M



MAPPING SURFACE CURRENTS

Saving Lives, Protecting Health & Commerce

Search and rescue, oil spill response, harmful algal bloom tracking and forecasting, water quality monitoring, and port and harbor navigation all depend on real-time surface current mapping. IOOS operates our nation's only network of high-frequency radars (HF radars) providing this information. Despite the far-ranging use of this data, there are critical gaps in coverage.



An Interagency Federal-regional partnership in NOAA's National Ocean Service

WHAT ARE HIGH-FREQUENCY RADARS?

Land-based HF radar uses radio-wave backscatter to map the speed and direction of surface currents in real time. Because of the large coverage area, HF radar data are also valuable input for ocean models and for assisting with search and rescue operations and oil spill response.



Image courtesy: STN/IOOS

Map of IOOS high-frequency radars that provide real-time surface currents.



For more information, contact
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207-798-0857 | Josie@ioosassociation.org



Seeing Underwater with Coastal Gliders

Saving Lives, Protecting Health & Promoting Commerce

Image courtesy: Ben Hollibaugh, Blue Ocean Monitoring

IOOS gliders provide data to support a range of operations including improving hurricane warnings, detecting harmful algal blooms, ensuring safe navigation, supporting offshore energy operations, fishermen and fisheries management and enhancing public health and safety.



An Interagency Federal-regional partnership in NOAA's National Ocean Service

Gliders are underwater robots that relay information about subsurface conditions. The U.S. Navy estimates gliders are 1/100th of the cost of ship-collected data. Gliders are revolutionizing ocean observing by being cost effective, safe and flexible.

IOOS FY 18 GLIDER REQUEST: \$3.3m

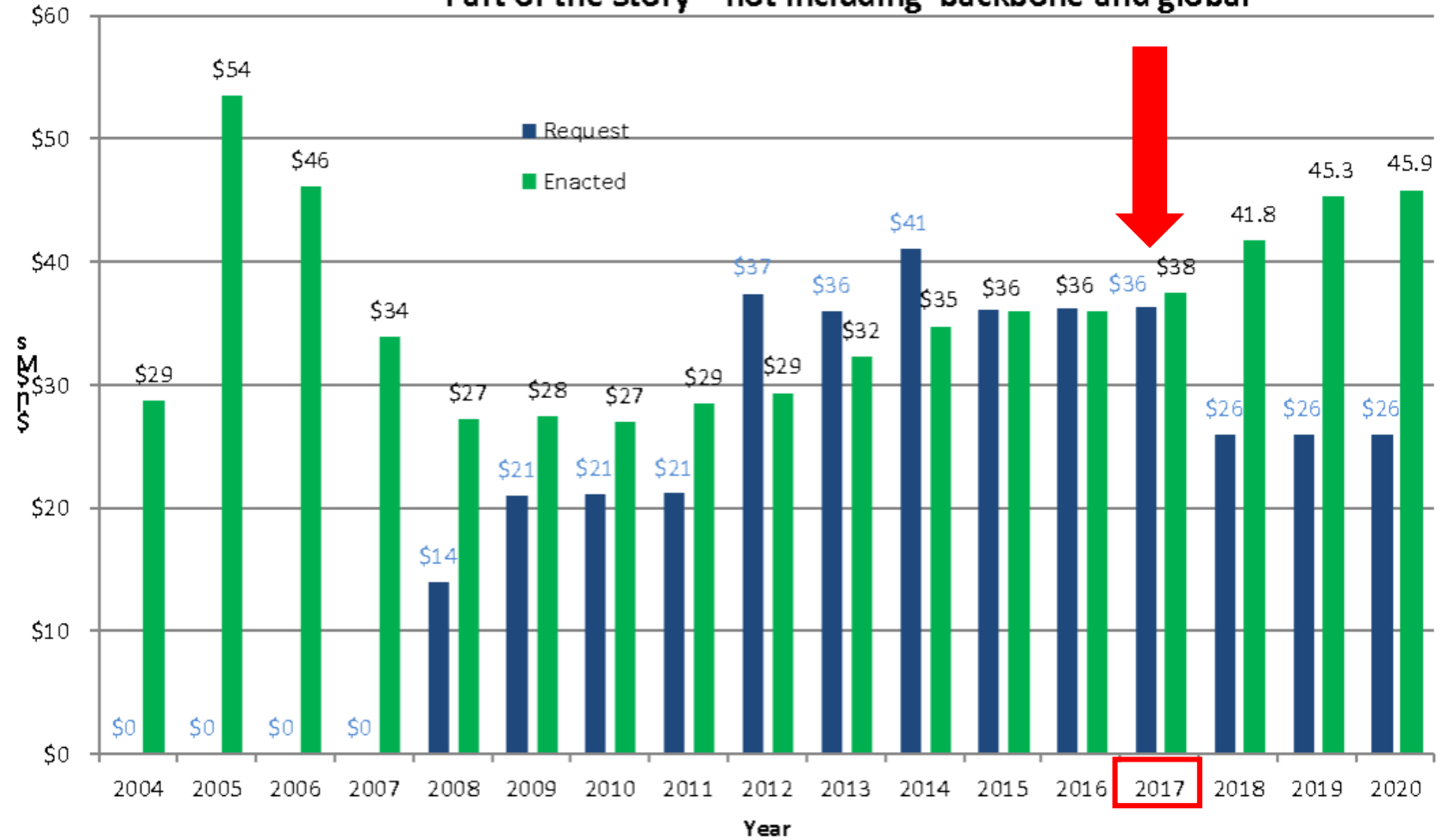
Where our nation needs gliders to support safe navigation, public health and safety, and the economy:

-  **Great Lakes: Protecting Drinking Water**
Over 35 million people depend on the Great Lakes for their drinking water. Gliders provide the flexibility to focus on issues impacting local areas and to better predict the risk of harmful algal blooms (HABs).
-  **Northeast: Enhancing Maritime Industry By Reducing Endangered Right Whale Collisions**
Ship strikes and fishing gear entanglements threaten the endangered right whales. Gliders equipped with acoustic sensors can detect the whales and alert mariners and fishermen in real time about the location of the whales, thus minimizing impacts.
-  **Mid-Atlantic: Protecting Lives and Property From Hurricanes**
Gliders are a safe method for seeing below the surface of the coastal ocean, where strong winds stir cold water upwards, affecting the intensity of the storm. Such information improves warnings that can protect lives and property.
-  **Southeast: Saving Lives, Supporting Fisheries and Detecting HABs**
Information gathered from gliders along the Southeast coast is critical for predicting riptides, optimizing fisheries management models, improving hurricane intensity forecasts and detecting marine mammals and HABs.

U.S. IOOS Enacted and President's Budgets FY04-20

- NOAA National Ocean Service - Navigation, Observations, and Positioning: 'National IOOS' component FY20 Omnibus \$6.9M & 'Regional IOOS Observations' \$39M
- Gaps Campaign started in FY17

NOS IOOS Request & Appropriation History
Part of the Story – not including 'backbone and global'



National and International

- UN Decade
- OceanObs'19
- National Outreach
- EO on Mapping
- EO on Aquaculture
- NOAA's Strategies

UN Decade



OceanObs'19

