Josie Quintrell, Director
IOOS Association
FAC Meeting
April 2017

IOOS ASSOCIATION

IOOS | EYES ON THE OCEAN™

IOOS Association

Observing our oceans, coasts and Great Lakes

Providing information to those who need it, when they need it

- Objectives:
  - Advocacy
  - Common Issues
  - IOOS federal/non-federal partnership
    - Administration
    - Congress
    - National Partners
  - Emerging Issues

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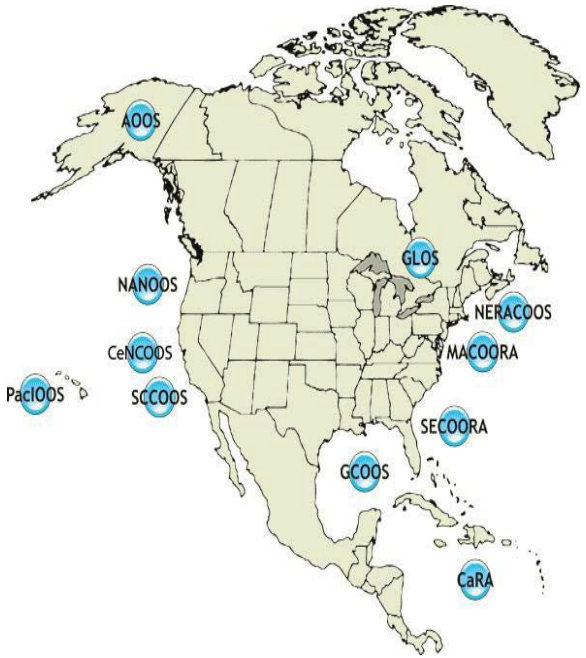
IOOS
Integrated Ocean Observing System

CONSISTENT NATIONAL CAPABILITY



assure

Regional Associations

engage

Integrate

Observations

ForecastsModeling

Data Management

User Products

Outreach and Education

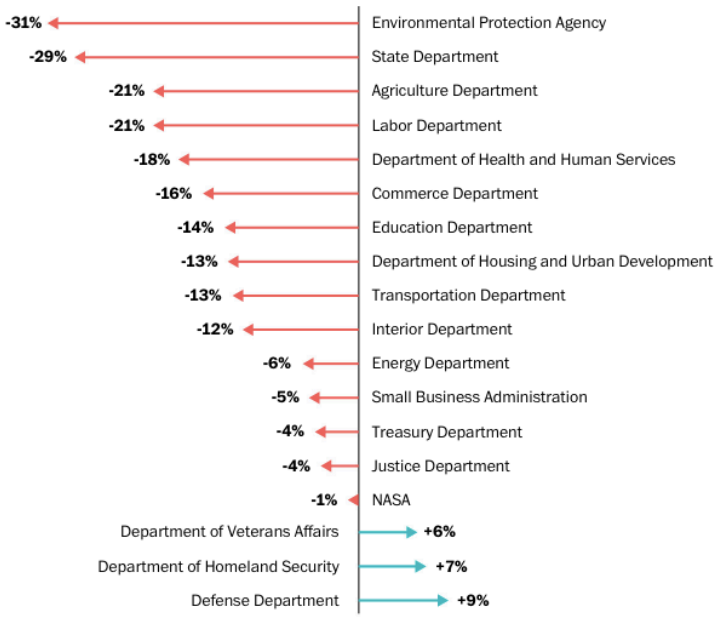
Leverage and Link

DIVERSE LOCAL STAKEHOLDERS

Changes …


DONALD J. TRUMP
45TH PRESIDENT
OF THE UNITED STATES OF AMERICA

FY 18 Budget "Skinny Budget"



"Zeroes out $250M in targeted NOAA grants and programs supporting coastal and marine management, research, and education including Sea Grant, which primarily benefit industry and State and local stakeholders. These programs are a lower priority than core functions maintained in the Budget such as surveys, charting and fisheries management"

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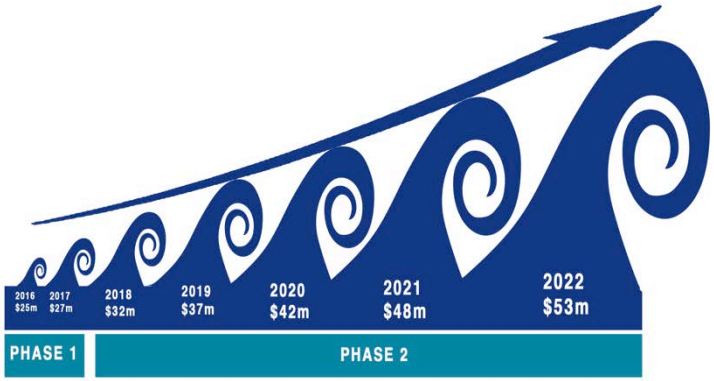
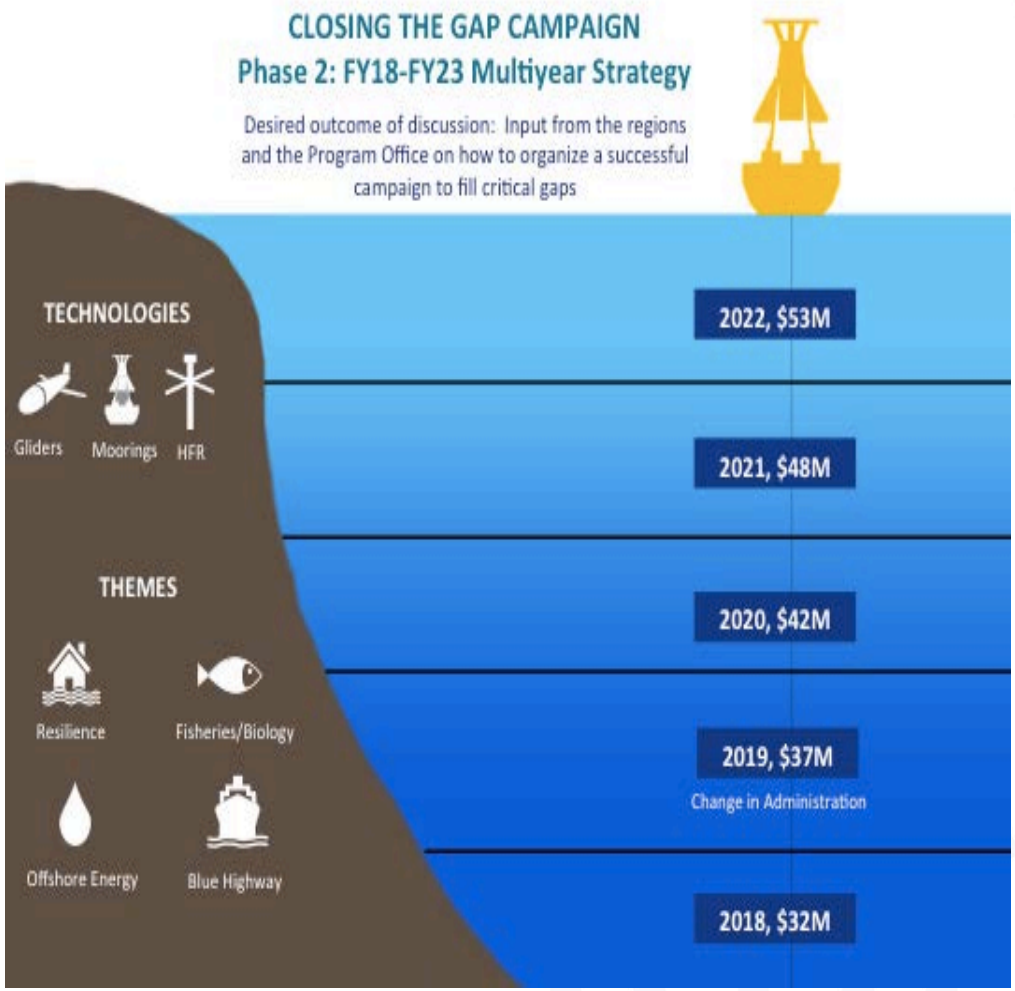
Closing the Gaps: 5 yr Campaign



- Scalable campaign
- Tangible outcomes

- Align with Administration Priorities
- Filling targeted gaps in:
  - HR Radars
  - Gliders



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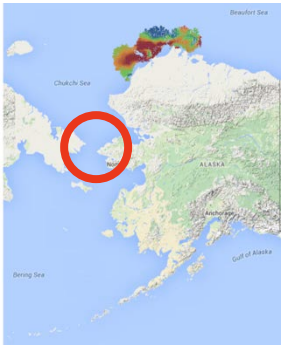
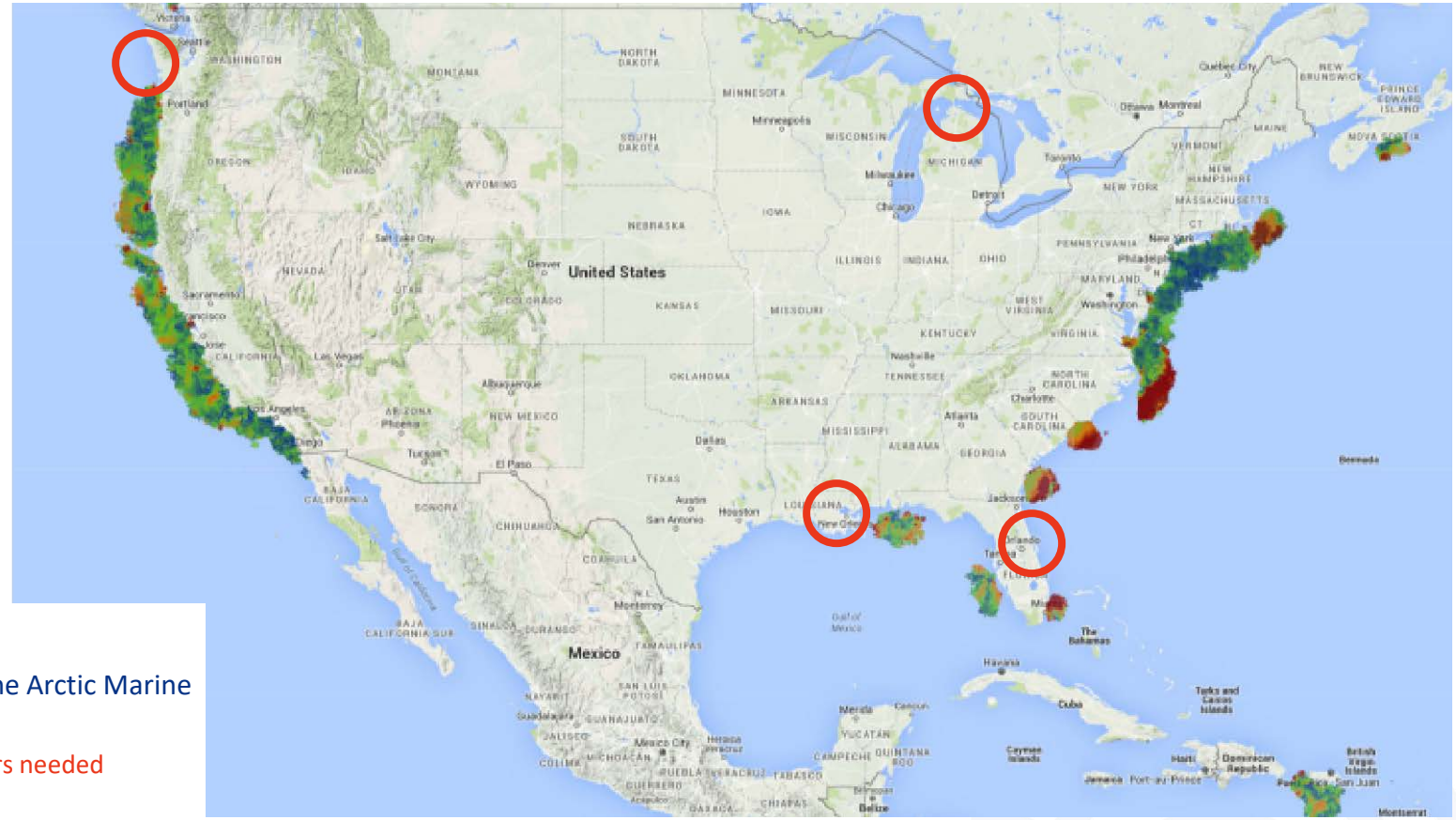
US IOOS FY 17/FY 18 High Frequency Radar Request

$3.1 million to install 12 high frequency radar systems





Safeguarding the Arctic Marine Highway

2 remote radars needed

Protecting Lives and Public Health in the Pacific Northwest

3 radars needed

Cleaning up the Great Lakes

3 radars needed

Saving Lives off Florida's Coast

2 radars needed

Saving Millions in the Gulf of Mexico

3 radars needed

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Appropriations

IOOS Appropriations	FY10 Enacted	FY11 Spend Plan	FY 12 Spend Plan	FY 13 Spend Plan	FY 14 Enacted	FY 15 Enacted	FY 16 Enacted	FY 17 Pending	FY 18 Request
Regional IOOS Total	**$27m**	**$21.9m**	**$23 m**	**$26.5m**	**$28.5m**	**$29.5m**	**$29.5m**	**$31.5 m**	**$37.9m**
National network of regional infrastructure systems, gaps in radars and gliders	*$20m*	*$20m*	*$22m*	*$23.5m*	*$24.3m*	*$24.5 m*	*$24.5m*	*$26.5m*	*$32.9m* *$26.5 m for systems, $3.1m for radars, $3.3m for gliders*
Marine Sensor Innovation Grants, Modeling Test bed, Sensor Verification	*$7m*	*$1.9m*	*$1m*	*$3m*	*$4.2m*	*$5 m*	*$5m*	*$5m*	*$5m*
U.S. IOOS Program Office*	**$6.5m**	**$6.5m**	**$6.4m**	**$5.9m**	***$6.6m***	***$6.6m***	***$6.6m***	**$6.6m**	**$6.7m**
Total U.S. IOOS	$33.5m	$28.4m	$29.4m	$32.4m	$35.1m	$ 36.1m	$36.1 m	$38.1 m	44.6m

* Starting in FY 14 included in the Navigation, Observations and Predictions budget line

CR for FY 17 until April 28th **$2M in House and Senate App Bills**

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FY 18 IOOS Request

IOOS is essentially the weather service for the coastal oceans and Great Lakes, providing the ability to "see" what is happening both above and below the surface and making the information readily available. IOOS is led by NOAA's National Ocean Service and includes 17 Federal agencies and a national network of 11 regional observing systems.

IOOS is efficient; it builds on and leverages local and regional partnerships. **IOOS provides the coastal infrastructure necessary to support jobs, economic development, maritime safety and environmental health.**

MAPPING SURFACE CURRENTS

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 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.

SEEING UNDERWATER WITH COASTAL GLIDERS

IOOS gliders provide an underwater view and 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.

Gliders are underwater robots that are flexible and cost-effective, gathering data at a fraction of the cost of ships.

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Who Uses IOOS Data?

- Emergency managers
- Fishermen
- Oil spill responders
- Ports
- Public health officials (e.g. beaches, water quality)
- Recreational boaters
- Researchers
- Seafood safety officials
- Shellfish growers
- Tribes
- Bureau of Ocean Energy Management
- Environmental Protection Agency
- National Oceanic and Atmospheric Administration
- Office of Naval Research
- U.S. Arctic Research Commission
- U.S. Army Corps of Engineers
- U.S. Coast Guard
- U.S. Department of State

www.ioosassociation.org

ative Young for more information.

FY 18 REGIONAL SYSTEM REQUEST: $35.9 MILLION

$24.5 million for the national network of 11 regional coastal observing systems

$5.0 million for research and development, including competitive grants, modeling and verification to develop new products and systems to ensure comprehensive coverage

FY 18 NATIONAL SYSTEM REQUEST: $6.7 MILLION

These funds will support the IOOS Program Office effort to:

+ integrate Federal and non-Federal data
+ develop the nation's first quality control standards for real-time data
+ coordinate across NOAA and the 17 Federal IOOS agencies and
+ certify the regional systems.

	FY 11 Spend Plan	FY 12 Spend Plan	FY 13 Spend Plan	FY14 Enacted	FY 15 Enacted	FY 16 Enacted	FY 17 Pending *House*	FY 17 Pending *Senate*	FY 18 Assoc. Request
Regional IOOS Total	$21.9m	$22.9m	$26.5m	$28.5m	$29.5m	$29.5m	$31.5m	$31.5m	$35.9m
National Network of Regional Ocean Systems	*$20m*	*$22m*	*$23.5m*	*$24.3m*	*$24.5m*	*$24.5m*	*$24.5m*	*$24.5m*	*$24.5m*
Gaps in Radars and Gliders							*$2m*	*$2m*	*$6.4m*
Marine Sensor Innovation Grants, Modeling Test Bed, Sensor Verification	*$1.9m*	*$1m*	*$3m*	*$4.2m*	*$5m*	*$5m*	*$5m*	*$5m*	*$5m*
U.S. IOOS Program Office*	$6.6m	$6.4m	$6m	$6.5m	$6.6m	$6.7m	$6.7m	$6.7m	$6.7m
Total U.S. IOOS	$28.5m	$29.3m	$32.5m	$35m	$36.1m	$36.2m	$38.2m	$38.2m	$42.6m

* *Funding included in the Navigation, Observations and Positioning funding line*

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HFR and Gliders

Caribbean: Minimizing Impacts of Hurricanes, Reef Bleaching

Hurricanes crossing the Atlantic hit the U.S. Virgin Islands and Puerto Rico first, with little advance warning. Gliders can sense changes in ocean temperature, providing weather forecasters and emergency managers with information on storm intensity. The same gliders provide information for NOAA's coral reef bleaching alerts.

Gulf of Mexico: Ensuring Safe Energy Operations

When the Loop Current shifts north, the strong currents can curtail energy operations, costing the industry over $2 billion per event. Gliders provide the data necessary for improving forecasts about the location and strength of the Loop Current needed for safe and efficient operations.

a Coast: Improving Predictions of Changing Ocean Conditions

Northwest: Protecting Fisheries and Public Health

Gliders flying along the Northwest coast detect deep-water upwellings and changes in the water temperatures, such as the large warm water mass known as "The Blob." Strong currents and upwellings affect safe transportation, fishing and aquaculture, and public health and safety. Glider information is critical for providing early warnings for when conditions may lead to harmful algal blooms that threaten tribal and local shellfish industries.

Alaska: Safeguarding Productive Arctic Ecosystems

The Bering Sea is home to some of the nation's richest fishing grounds, and the Beaufort and Chuckchi Seas are habitat for the bowhead whales, belugas, walrus and ice seals that are critical to Alaska Native subsistence communities. Information from gliders in these seas informs Federal and state managers about ecosystem and habitat changes and monitors the location of endangered marine mammals.

Pacific Islands: Saving Lives and Protecting Public Health in Hawai'i

Information from gliders patrolling Hawaiian waters significantly improves forecast models used by the U.S. Coast Guard for search and rescue operations. The glider data also support the public health advisories based on conditions that optimize growth of the toxic *Vibrio vulnificus* and *Enterococcus* bacteria in coastal waters.

For more information, contact
Josie Quintrell, Executive Director, IOOS Association
207-798-0857 | Josie@ioosassociation.org

IOOS Association

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.

IOOS Integrated Ocean Observing System
An interagency Federal-regional partnership in NOAA's National Ocean Service

Despite the far-ranging use of this data, there are critical gaps in coverage.

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.

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

For more information, contact
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Gulf of Mexico Briefing

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More importantly….

- Met with:
  - representatives of all Gulf States – FL, AL, LA, MS, TX
  - Member meetings with Senators Shelby, Cochran, Wicker and Cassidy and Representatives Graves
  - OMB, Senate Appropriations Staff, House Appropriations Staff

Appropriations Support

HOUSE Dear Colleague Letters Circulating

Rep Pingree (D-ME) and Carbajal (D-CA)

Rep Posey (R-FL) and Young (R-AK)

Support Our Great Lakes, Support Our Oceans, Support The IOOS Program

From: The Honorable Chellie Pingree
Sent By: kimber.colton@mail.house.gov
Date: 3/17/2017

Support Our Oceans and Great Lakes, Support the IOOS Program

Please join us in signing the attached letter urging the Commerce, Justice, and Science Appropriations Subcommittee to sustain funding for the national network of regional systems under the Integrated Ocean Observing System (IOOS) within the National Oceanic and Atmospheric Administration's (NOAA) National Ocean Service (NOS) in the FY 2018 appropriations bill. The letter specifically requests $35.9 million for Regional IOOS, which will support regional competitive funding and observing system innovation, and $6.7 million for NOAA IOOS to support the central functions of the U.S. IOOS Program Office, including development of the integrated data management systems, coordination of the federal and regional systems, and system innovation. The FY 2016 enacted levels for these were $29.5 million and $6.5 million respectively. These two programs are vital and complimentary components of the total IOOS budget.

43 Signatures

SENATE IN MAY

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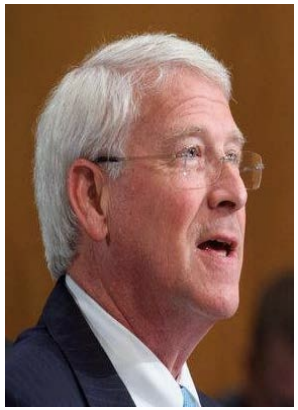
Reauthorization

SENATE



House

Senators Wicker and Cantwell expected to reintroduce S 1886 this spring

115TH CONGRESS
1ST SESSION

H. R. 237

To reauthorize the Integrated Coastal and Ocean Observation System Act of 2009, and for other purposes.

IN THE HOUSE OF REPRESENTATIVES

JANUARY 3, 2017

Mr. YOUNG of Alaska introduced the following bill; which was referred to the Committee on Natural Resources, and in addition to the Committee on Science, Space, and Technology, for a period to be subsequently determined by the Speaker, in each case for consideration of such provisions as fall within the jurisdiction of the committee concerned

Weather Research and Forecasting Innovation Act of 2017

RA Certification

- 5 RAs certified!!
  - Congratulations to
    - PacIOOS, GLOS, MARACOOS, SCCOOS
    - CariCOOS
- All others in process
- Opportunity to engage federal agencies
  - Operational forecasting
  - Regional data sharing
  - Agency engagement
  - Fisheries- PacIOOS

UPCOMING

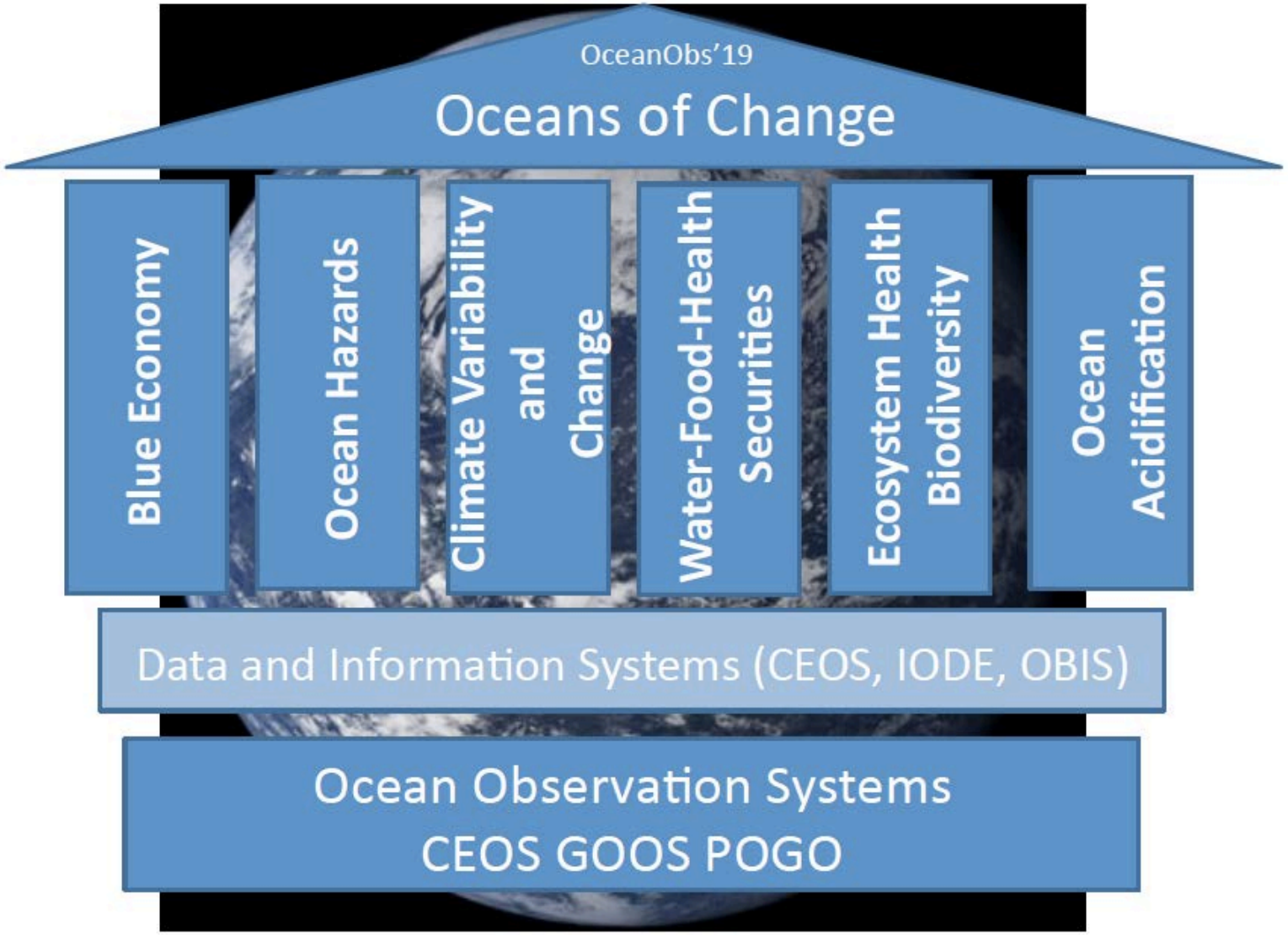
- IOOS Strategic Plan
- Scenario planning - being prepared, making the case
- Administration meetings
- Year-round engagement
  - Messaging IOOS
    - Editorials
      - Professional publications – MTS
      - Local papers
  - Congressional Briefings
    - Senate Ocean Caucus - Innovation and Technology
    - Navigation
- Strategic partners – NOIA, APA, Pilots

FAC Assistance Needed:

- Opportunities in New Administration
  - What is the IOOS Strategic Advantage
  - What is our message?
  - Leadership meetings
- Interagency Engagement
  - – why isn't this working?
  - What message do we need?
- Leveraging Ocean Technology Transfer - $3m Mechanics of building a public/private partnership
- Ocean Obs '19
- Advocates

Ocean Obs '19

Sept 16-20 2019 Honolulu



Thank you

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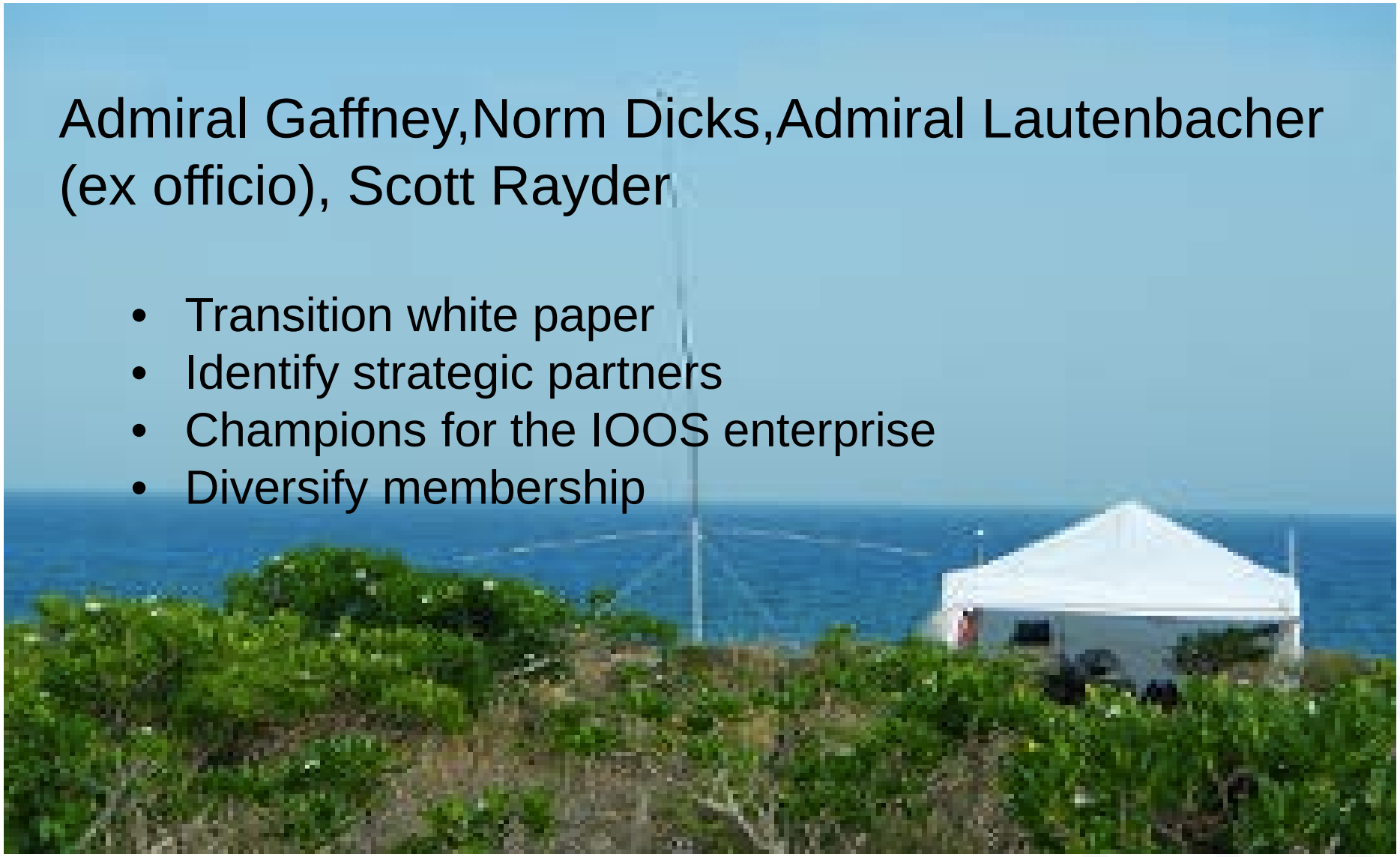
What to do

- Continue and redouble our efforts
- Congressional outreach is KEY
- Keep spotlight on Gulf, GCOOS and IOOS
  - Press Releases - GCOOS excels
  - Op Eds in local and regional papers
  - Congressional outreach
    - Help Barb!
    - Users – Quotes, stories why GCOOS matters
    - Invite staff to see what you're doing
    - Keep them informed
      - New project
      - Deployments
      - State of the Gulf

Honorary Directors



Admiral Gaffney,Norm Dicks,Admiral Lautenbacher (ex officio), Scott Rayder

- Transition white paper
- Identify strategic partners
- Champions for the IOOS enterprise
- Diversify membership

House Reauthorization Bill: HR 2744

Natural Resources Committee, Subcommittee on Water, Power and Oceans

Fleming – Ch
R-LA 4

Graves
R-LA 6

25 Co-Sponsors – 14 D, 10R, 1

Young - Lead

Sablan – Lead

Guinta R-NH1
Sablan R-MPO
Crenshaw R-FL4
Amata R- AS0
Clawson R-FL19
Jones R- NC3
Kilmer D- WA6
Larsen D-WA2
Lowenthal D- CA47
Peters D- CA 52

Pierluisi D-PR0
Rooney R-FL 17
Rouzer R-NC 7
Thompson D-CA5
Bordolla D-GU0
Huffman D-CA2
Jolly R-FL13
Takai D-HI1
Honda D-CA17
Rohrabacher R-CA48

Davis D-CA53
Herrer Beutler R-WA3
Bonamici D-OR10
Heck D-WA10
Pingree D-ME1

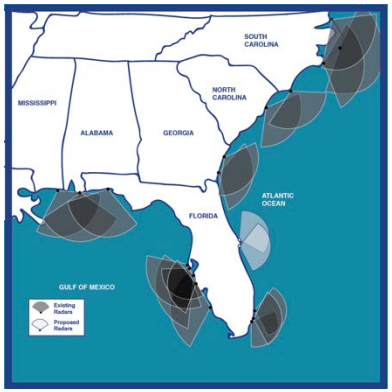
IOOS Transition

- Complete the nation's only network to track surface currents
- Fully fund the existing 5-year IOOS regional agreements to:
  - Expand our ability to see underwater.
  - Bring observations inshore.
  - Enhance access to tailored information
- Spur technology innovation by expanding the IOOS Ocean Technology Transfer (OTT) program through public-private partnerships. *Doubling this $5 million grant program w*
- Address critical national needs, including:
  - Create deep-water observing network in the Gulf of Mexico.
  - Develop baseline observing capacity in the Arctic.
- Total Investment: $10m/year (new) for 5 yrs

US IOOS FY 17 High Frequency Radar Request

Saving Lives off Florida's Coast

2 radars needed



Safeguarding the Arctic Marine Highway

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Protecting Lives and Public Health in the Pacific Northwest

3 radars needed

Cleaning up the Great Lakes

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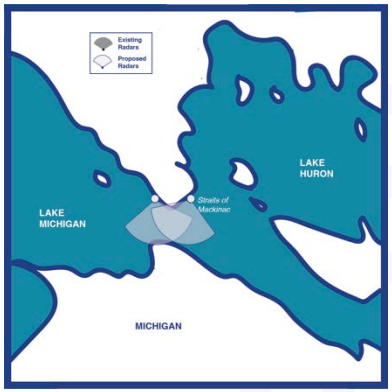
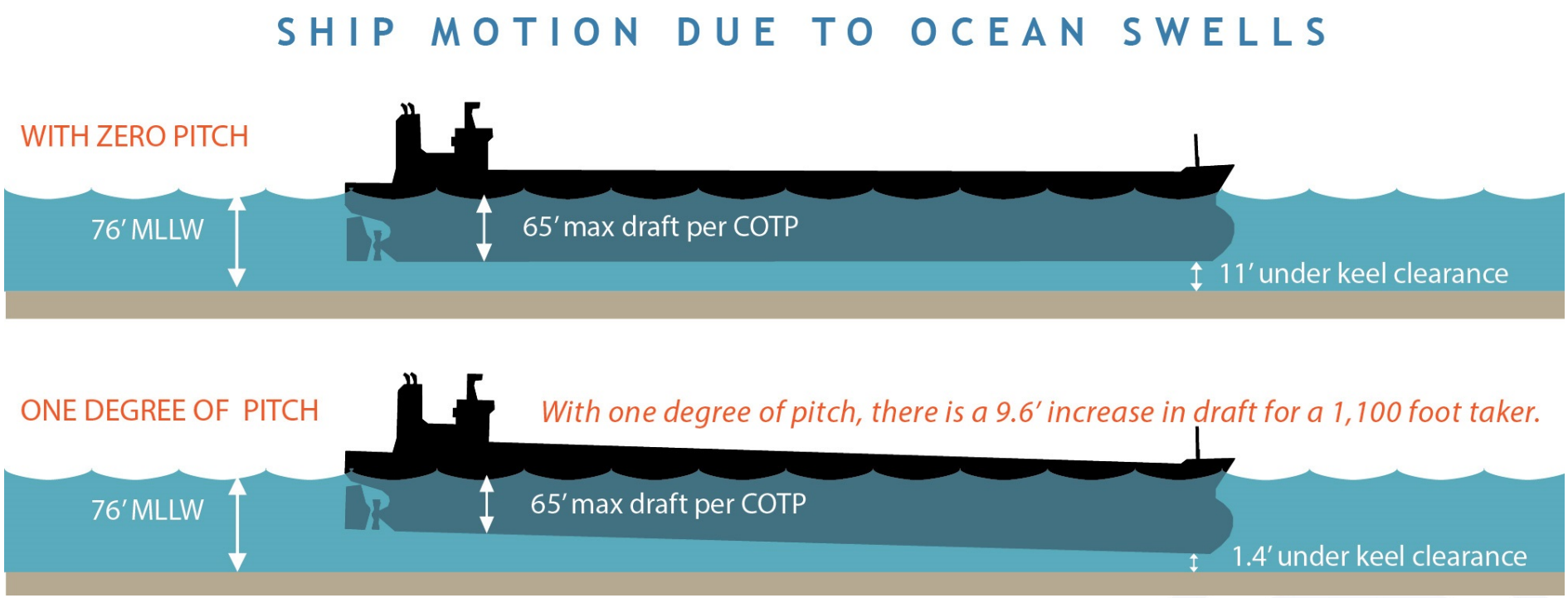


Closing the Gaps: Port of LA/Long Beach Project



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Congressional Reauthorization Briefings

House Ocean Caucus Briefing: Feb 2015

Senate Ocean Caucus Briefing: July 2015

Full House - Over 75 attendees at both

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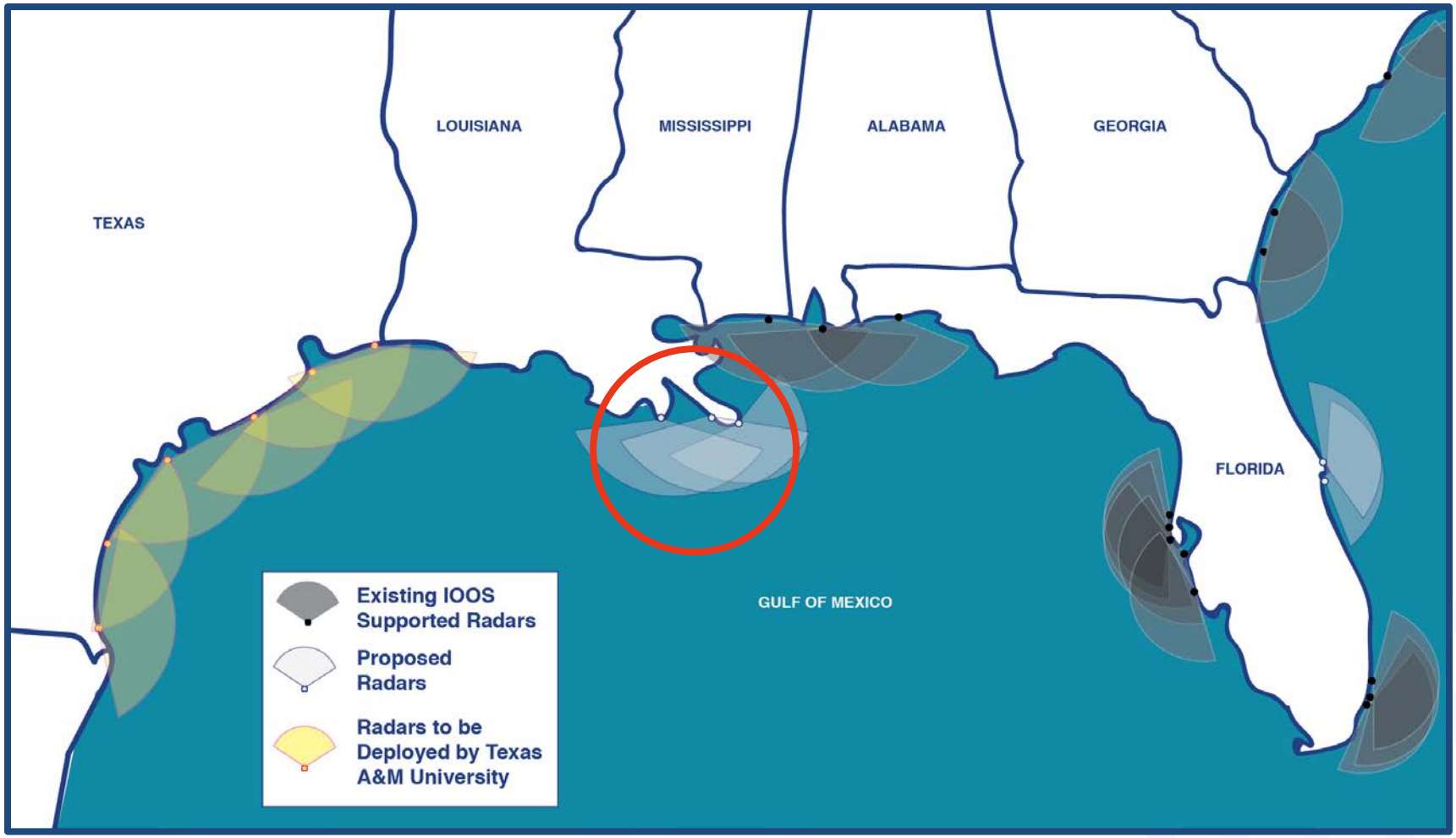
US IOOS FY 18 High Frequency Radar Request

Saving Millions in the Gulf of Mexico

3 radars needed



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GCOOS Senators

Strange R- AL
Shelby R-AL Chair, CJS Approp.

Cochran R-MS Chair, Approp.
Wicker R-MS - Oceans,CG & Fisheries

Cassidy R-LA
Kennedy R-LA Approps.

Cornyn R-TX
Cruz R-TX

Rubio R-FL
Nelson R-FL

SGCOOS- Key House Members

Bryne, R-AL
Aderholt R-AL App
Roby R-AL App
Brooks R-AL
Palmer R-AL

Palazzo, R-MS App

Graves, R -LA App
Scalise R-LA

Farenthold R-TX
Gohmert R-TX
McCaul R-TX
Conaway R-TX
Weber R-TX
Smith R-TX
Carter R-TX App
Culberson R-TX App
Granger R-TX App
Cuellar D-TX
Jackson Lee D-TX
Vela D-TX

Curbelo R-FL
Christ D-FL-13
Ros-Lehtinen
Diaz-Balart R-FL
Posey R-FL
Buchanan R-FL
Rooney R-FL App
Miller R-Fl
Webster R-FL
Wasserman Schultz D-FL App
Wilson D-FL
Murphy D-FL
Brown D-FL
Castor D-FL*
Hastings D-FL
Deutch D-FL
Graham D-FL
Webster, R- FL

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