

# Environmental Intelligence in Support of a Resilient Nation; an Ocean of Possibilities





# DMAC Annual Meeting

06.02.16 | Carl Gouldman, Deputy Director



# Department of Commerce

- Bureau of the Census
- U.S. Patent and Trademark Office
- Bureau of Economic Analysis
- Bureau of Industry and Security
- Committee for the Implementation of Textile Agreements
- Economic Development Administration
- Economics and Statistics Administration
- International Trade Administration
- Minority Business Development Agency
- National Institute of Standards and Technology
- **National Oceanic and Atmospheric Administration**
- National Technical Information Service
- National Telecommunications and Information Administration



# NOAA: Making Science Matter

## *Environmental Intelligence* (actionable information)

Observations → Monitoring → Assessment → Modeling → Tools & Services

### *NOAA's long-term goals*

1. Climate Adaptation and Mitigation
2. Weather-Ready Nation
3. Healthy Oceans
4. Resilient Coastal Communities and Economies





# US IOOS® Office in 2016





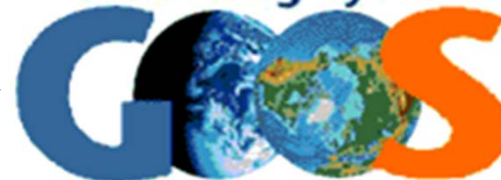
# From National to Global



**IOOS**  
Integrated Ocean  
Observing System



The Global Ocean  
Observing System



**GO** GROUP ON  
EARTH OBSERVATIONS

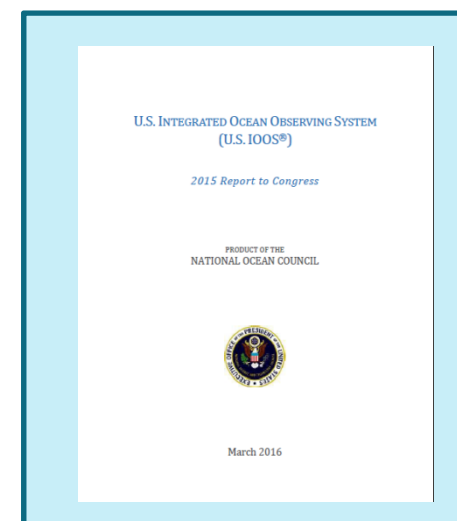
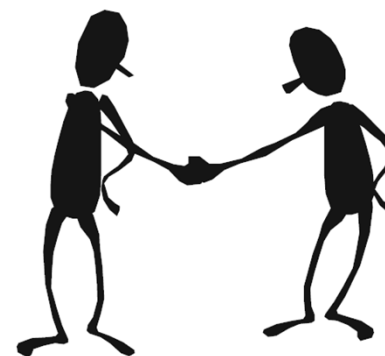


# Programmatic - 2016

## Budget History FY10-FY16

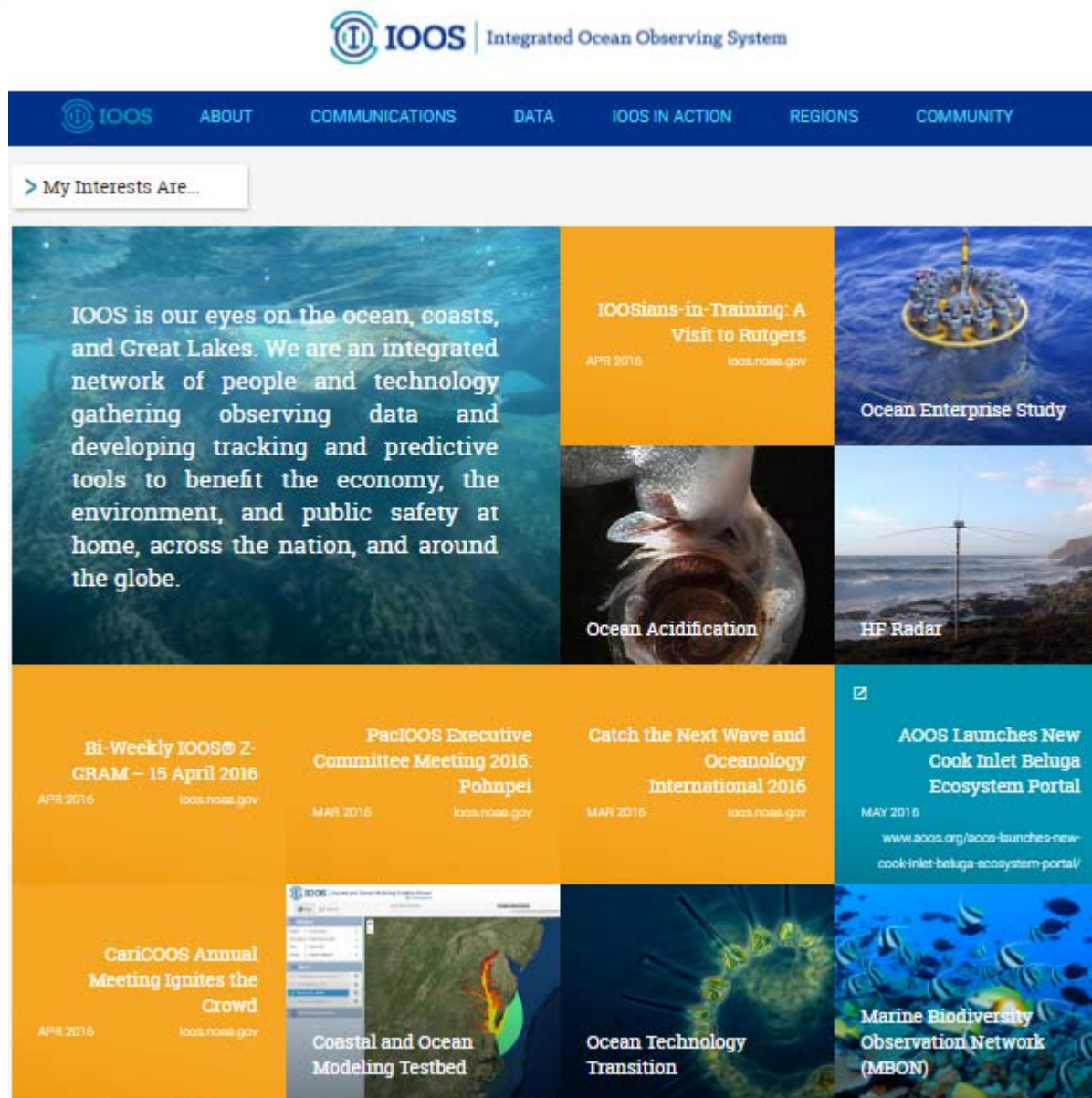


## 5 year Awards



## Administration Transition

# Communications & IOOS new website



## Getting our Story Out

New outlets:

- NOAA.GOV: New! Web stories 200-400 words in length, always with photos.
- Social Media: Regular posts create visibility with peers, partners, general public.
- IOOS Blog: Coming soon! Highlight projects, RA successes, events, topics, and more.

# IOOS Regions

IOOS DATA ABOUT COMMUNICATIONS IOOS IN ACTION REGIONS COMMUNITY

## Regions

[Home](#) / [Regions](#)

*"We are tied to the Ocean  
And when we go back to  
the sea, whether it is to  
sail or to watch - we are  
going back from whence  
we came."*  
- John F. Kennedy

Alaska – ADOOS

Great Lakes – GLOS

Northeast Atlantic – NERACOOS

Pacific Northwest – NANOOS

Central and Northern California – CeNCOOS

Southeast Atlantic – SECOORA

Pacific Islands – PacIOOS

Southern California – SCCOOS

Gulf of Mexico – GCOOS

Caribbean – CarCOOS



# U.S IOOS By The Numbers



## Advancing NOAA Partnerships (All LOs)

## Weather Ready Nation (NWS)

## Modeling, Data, R&D (with WFOs, NDBC, NCEP)

## Healthy Ocean (NMFS)

# Ecosystems Based Mgmt/Marine Biodiversity

## Resilient Coastal Communities and Economies (NOS)

Office of Coast Survey, Center for Operational Oceanographic Products and Services, National Geodetic Survey, National Centers for Coastal Ocean Science, Office of Response and Restoration, Office for Coastal Management, Office of National Marine Sanctuaries, & IOOS

## Climate Adaptation and Mitigation (OAR)

# Climate Program Office

# Ocean Acidification Program

# Ocean Exploration and Research

**NESDIS**

Archive - National Centers for Environmental Information,  
Satellite Applications and Research

# OMAO

## 13 Fleet, AUVs, Operations



# Interagency Accomplishments - Examples

## IOOC Task Teams

- Animal Telemetry Network
- Gliders
- Modeling
- *Post-Summit Task Team (C)*
- *Biological integration and Observation (C)*



## Interagency Projects

- 2015 - Multi-Sensor Improved Sea-Surface Temperature (NASA, NOAA)
- 2014-17- Marine Mammal Health MAP (MMC, NOAA, ONR)
- 2016-18 - Marine Biodiversity Observation Network (NASA, BOEM, USGS, NOAA)
- 2014-15 - Northeast Pacific Anomalies Workshop (NASA, NSF, NOAA)



# Animal Telemetry Network (ATN) FY16 Outlook

**ATN Vision:** will provide integrated data on aquatic ecosystems from species to environment. This network will complement existing ocean observing assets and will inform ecosystem-based management, fisheries and biodiversity, marine spatial planning, ocean modeling and forecasting, and National Ocean Policy priority objectives.



## **FY16 focus:**

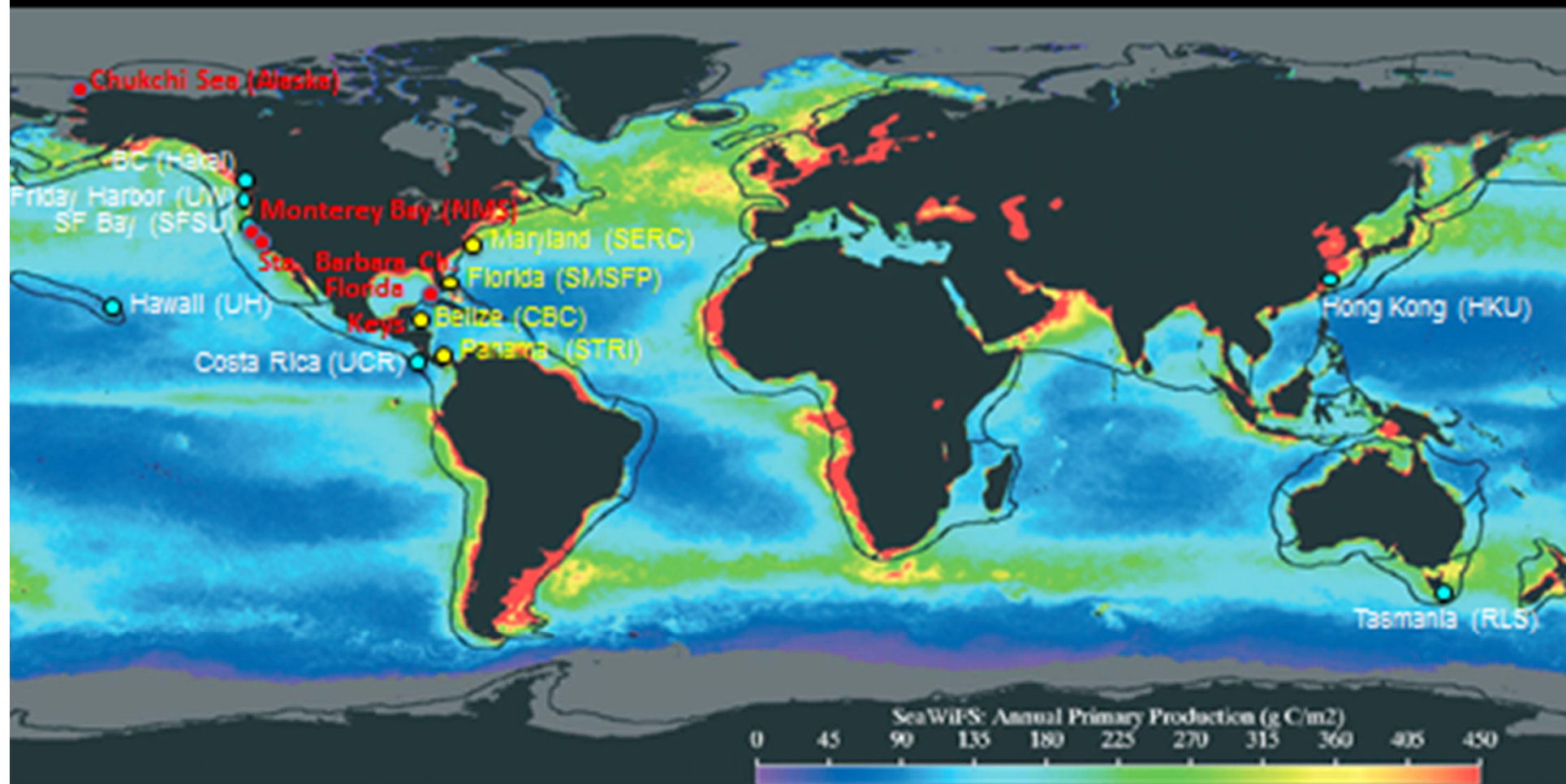
Data Assembly Center  
Governance (NC & SG)

## **Input:**

Regional engagement  
Communications/outreach  
planning

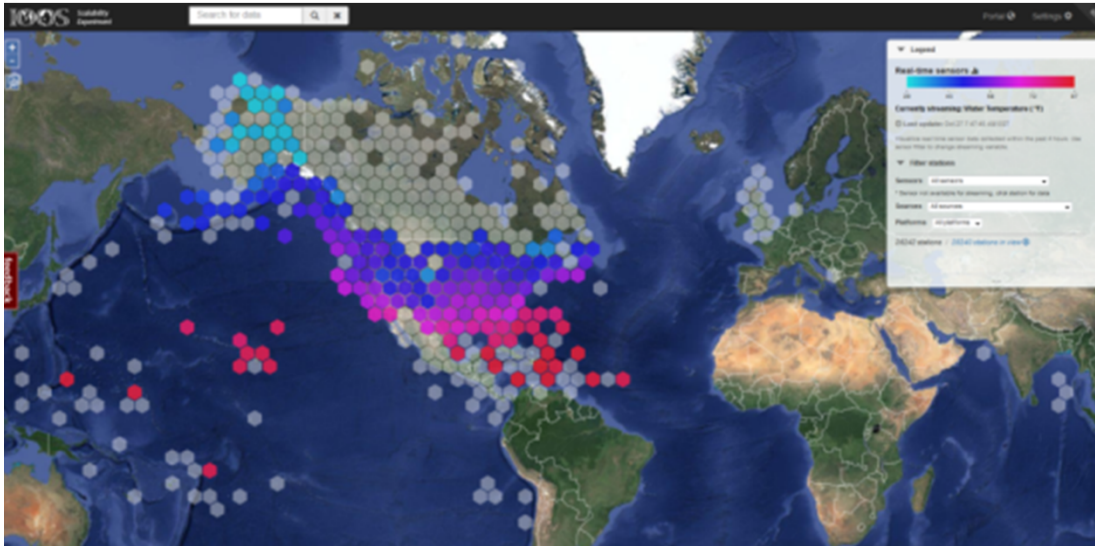


## Current MBON Collaborations





# Data Mgmt: DMAC – Environmental Sensors & Models



- ❖ 2 week cache of ALL known, available real-time observations
- ❖ AOOS & Axiom
- ❖ Release June 2016

- ❖ THREDDS, WMS access to all model output
- ❖ ASA for Coast Guard / IOOS
- ❖ Pre Release now



Blizzard 2016: CBOFS winds at 1/23 17:00 EST. Time-series of model output and buoy observations (1/20 - 1/23)



# Innovation & DMAC – Keep on Advancing

## ioos.us Project

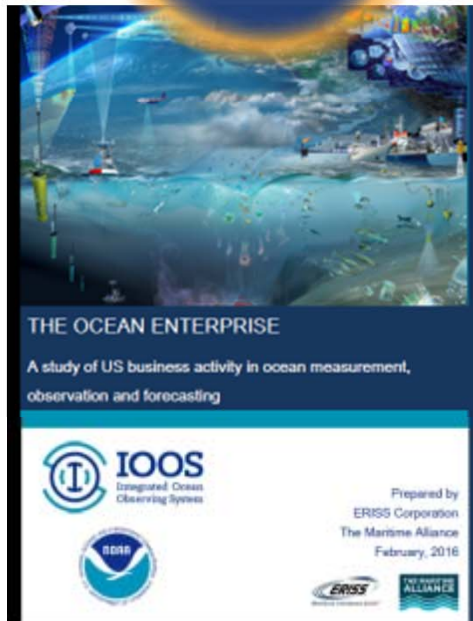
### Outcomes:

- Single landing page/entry point for DMAC access.
- Full Capacity in June
- **New Glider DAC**



**New/Updated Manuals 2015**  
Dissolved Nutrients Observations  
Ocean Optics Data  
In-situ Temp. and Salinity Data  
In-Situ Current Observations  
In-Situ Surface Wave Data  
Dissolved Oxygen Observations  
**New/Updated Manuals - 2016**  
Glider  
HFR Currents  
Water Level

# Ocean Enterprise Study Background

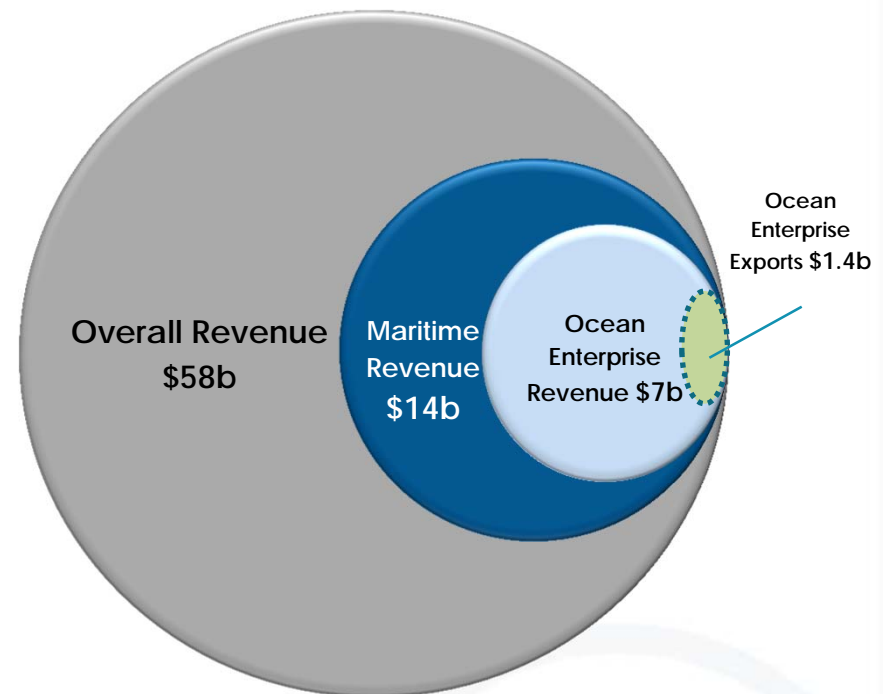
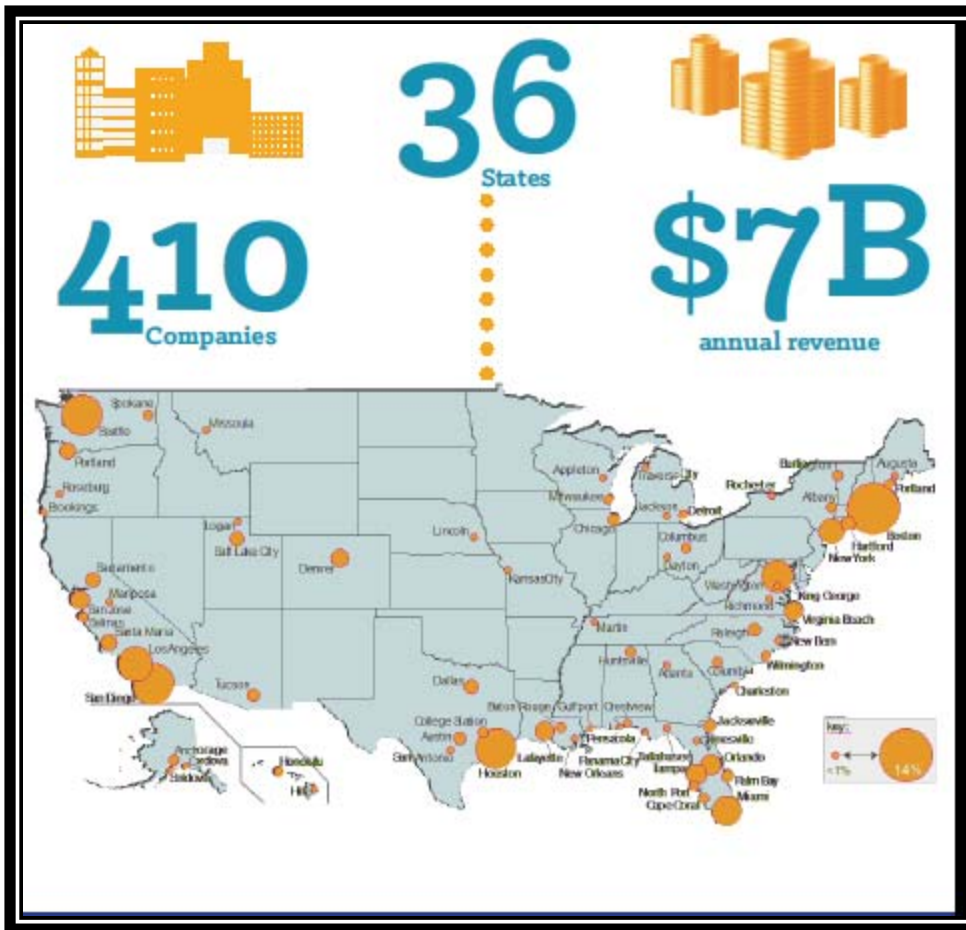


Study focus  
Public, Private, Non-Profit, Research, Academia

Information, Services, Infrastructure

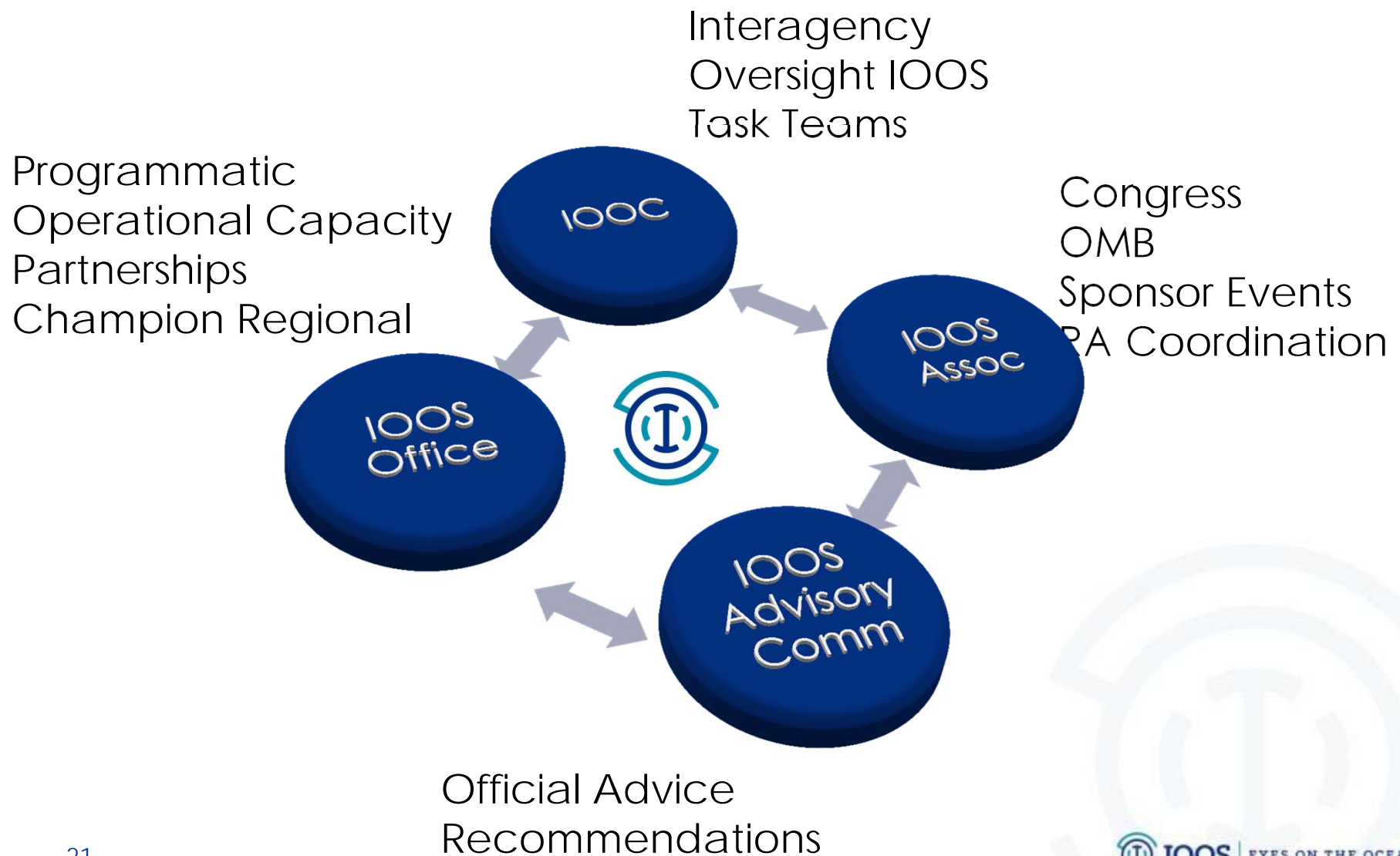
**ISSUES: Oceans – Ecosystems – Climate**

# US IOOS/NOAA Ocean Enterprise Study





# IOOS is a Team Sport



# MAY 2016 Staffing and Leadership Update

- George Jungbluth & Derrick Snowden - as Division Chiefs for over a year
- Promoted Kathleen Bailey as Oceanographer

## *NEW since 2015*

- Kate Culpepper: Communications Specialist
- LCDR Eric Johnson: NOAA Corps in Ops Division
- Jennifer Bosch: Ops Division
- Micah Wengren: New 'data scientist' starts May 2016
- Tiffany Vance: New 'data scientist' starts June 2016
- Bill Woodward: Animal Telemetry Network Coordinator
- 1 Vacancy open – Grants / Contracts business support

# MAY 2016 Staffing and Leadership Update





# Questions

<https://noaa.ioos.gov>

<https://www.facebook.com/usioosgov>

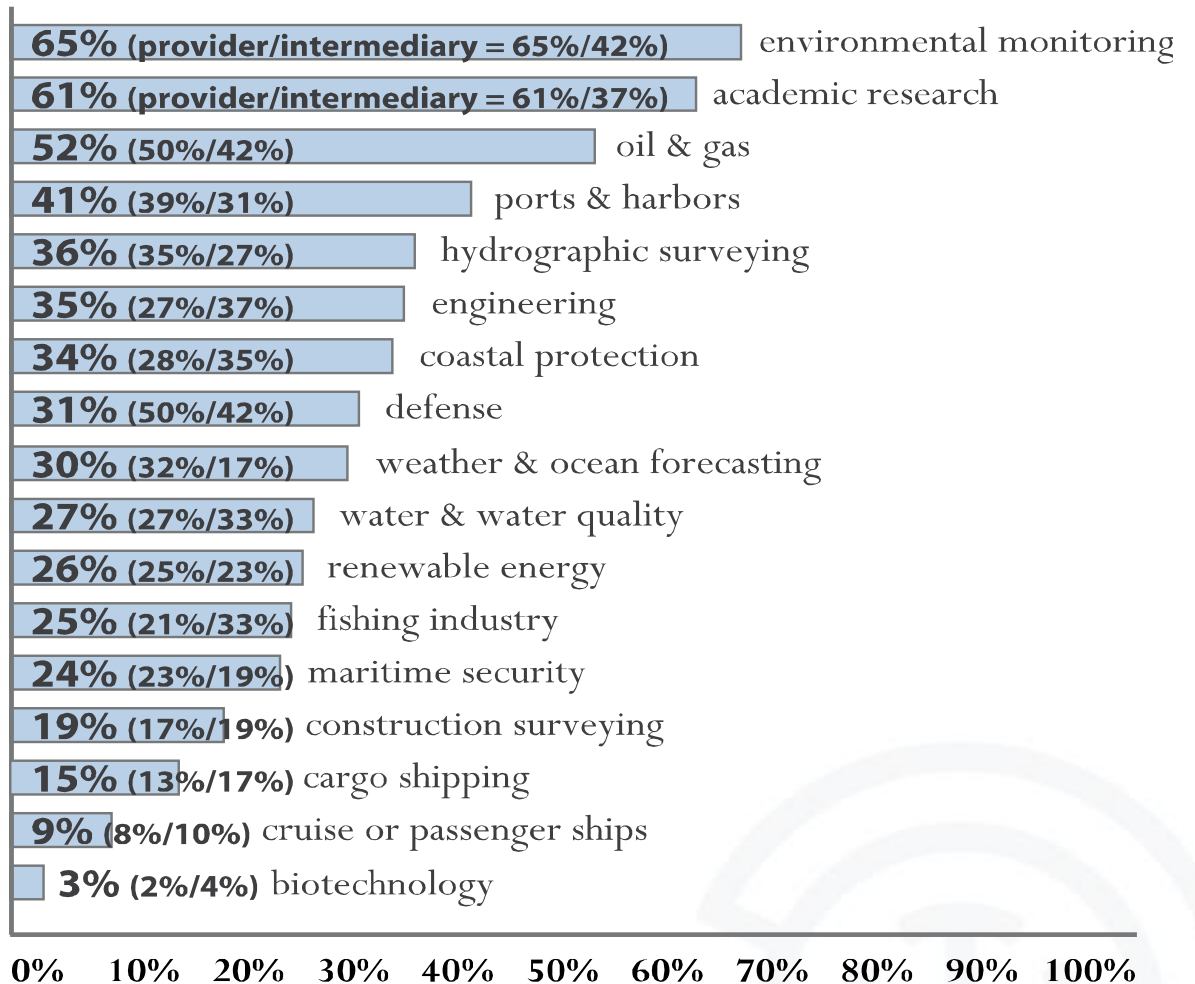
@usioosgov



# Market Sectors

Represents 'overall' activities of firms

Shows provider, intermediary split



# U.S IOOS Overview

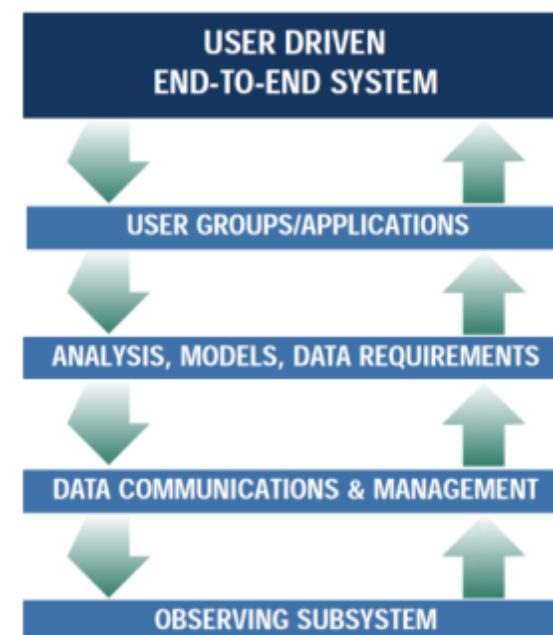
Stakeholder driven; Scientifically based; Policy neutral

## Coastal Component

- 17 Federal agencies
- 13 regional partners
- Academia & Industry

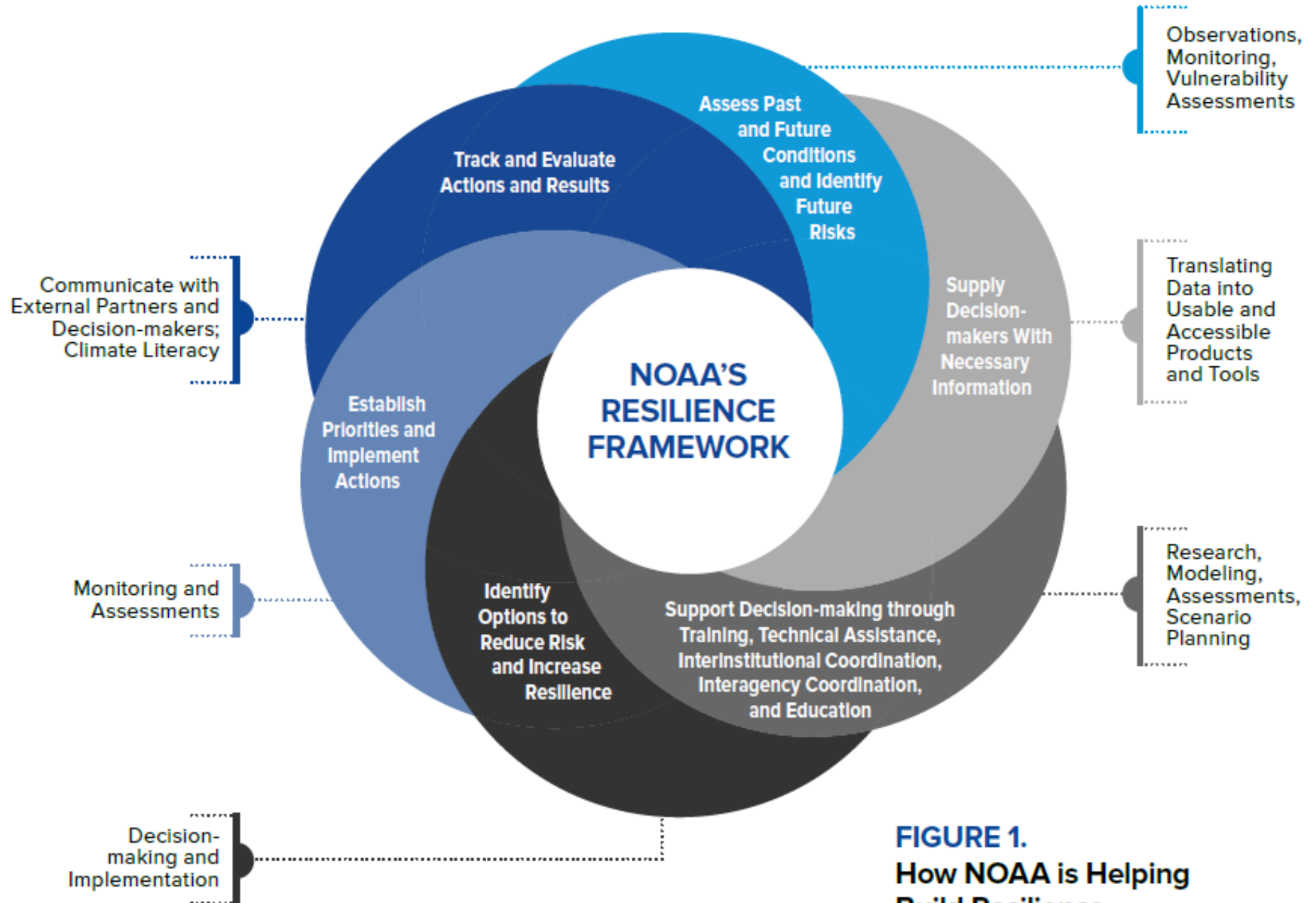
## Global Component

- US contribution to GOOS
- Global Climate Ocean Observing System 64% completed



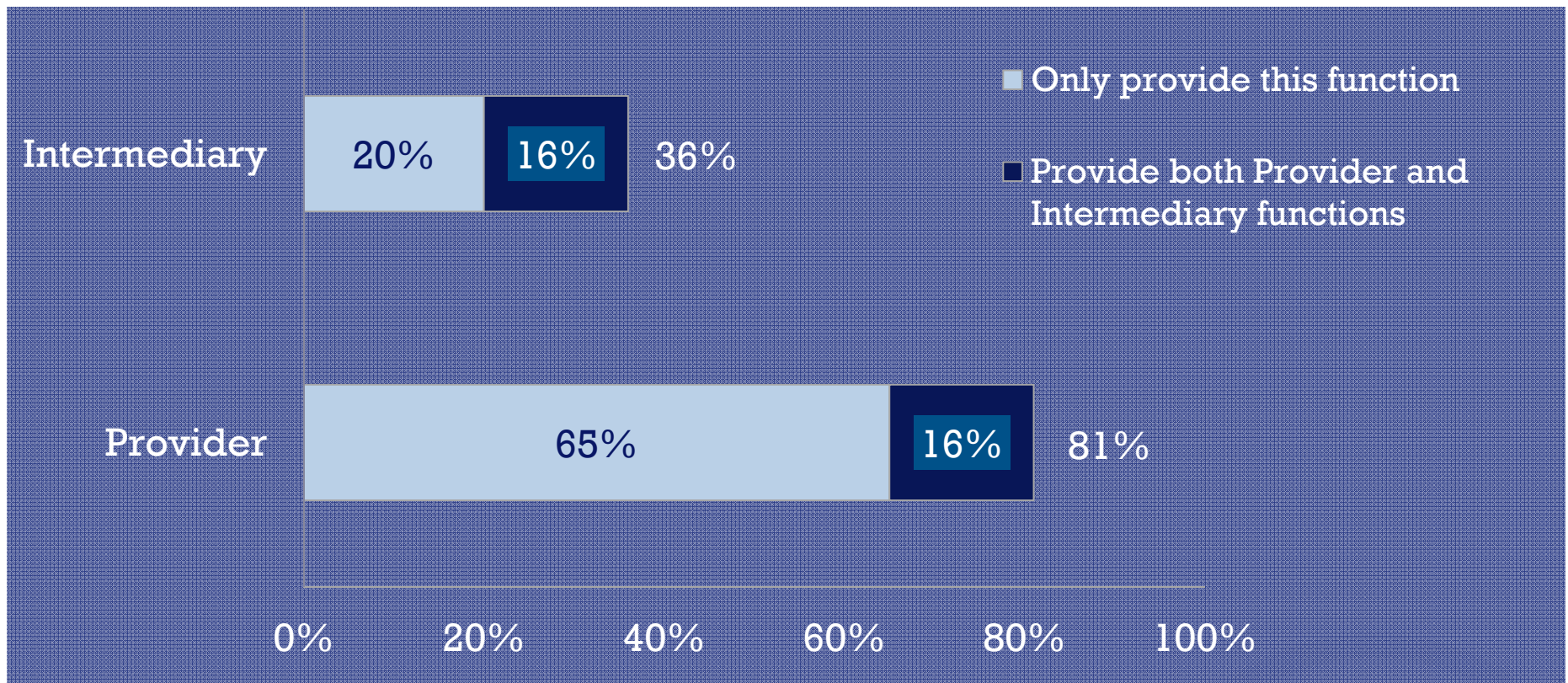


# NOAA's Resilience Framework



**FIGURE 1.**  
**How NOAA is Helping  
Build Resilience**

# Ocean Enterprise Study 2015: Functions



81 % of the companies we surveyed were providers  
36% were Intermediaries