

SECOORA Meeting

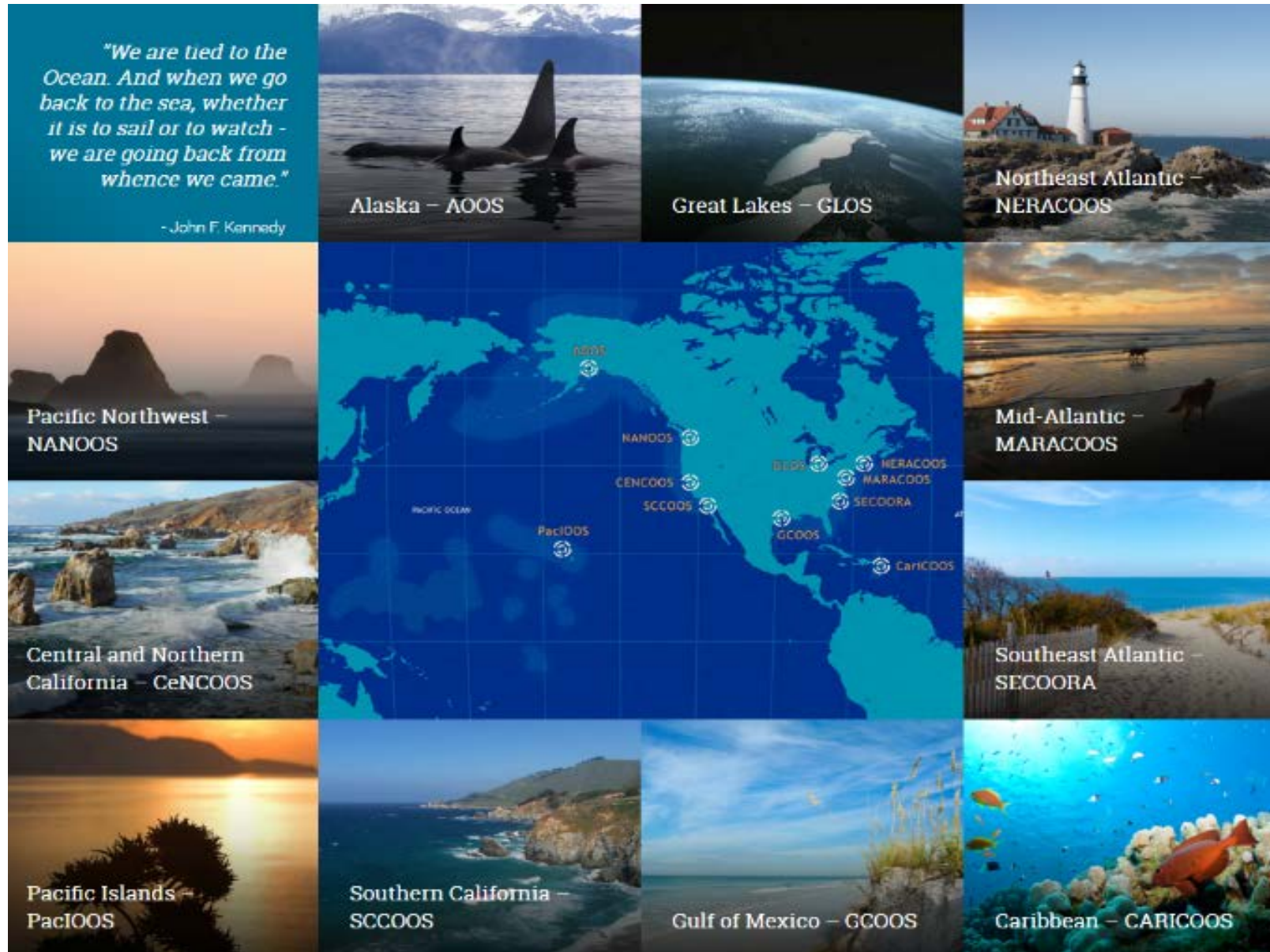
Josie Quintrell
IOOS Association



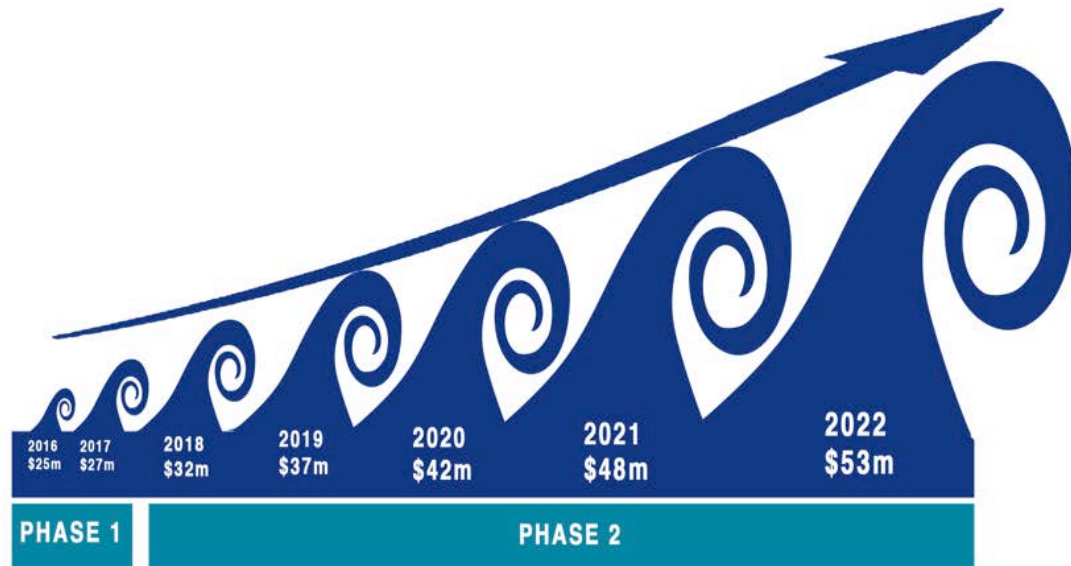
IOOS Association

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

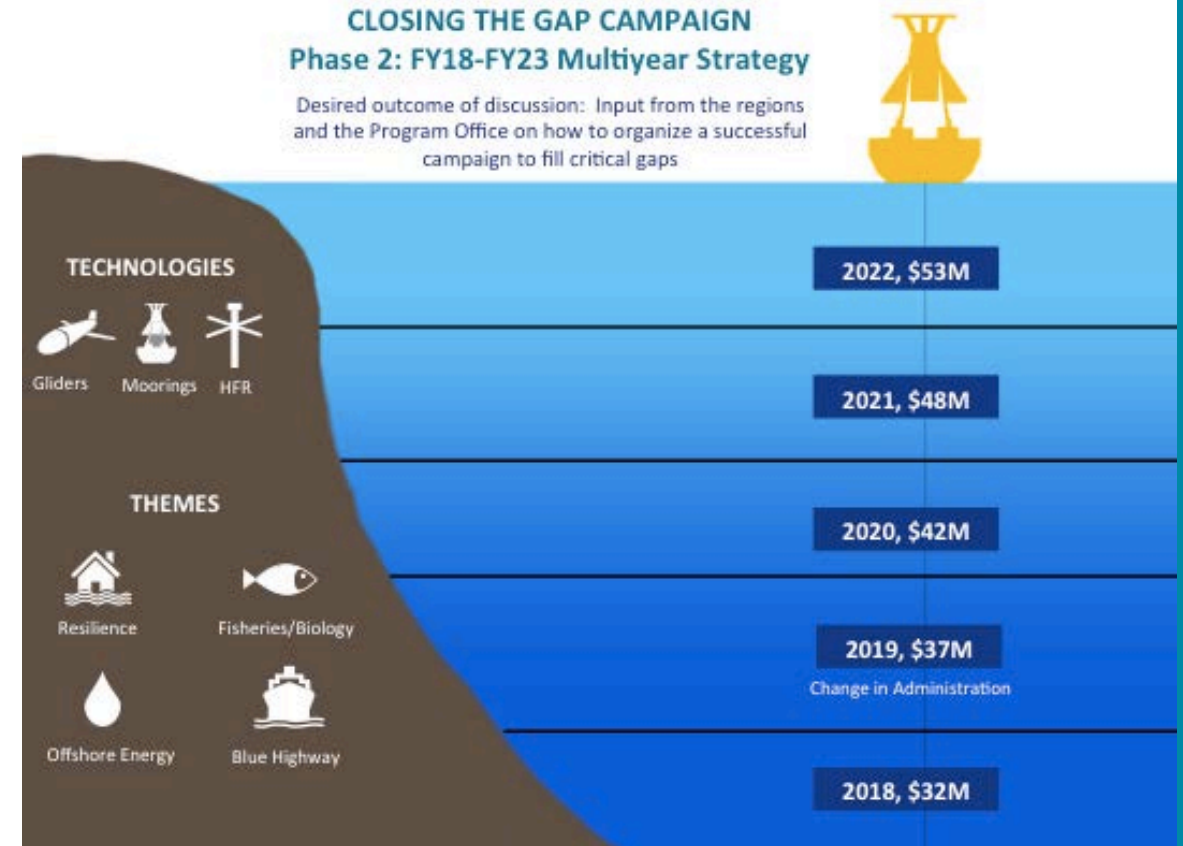
*Observing our oceans, coasts and Great Lakes
Providing information to those who need it, when they need it*



Closing the Gaps: What next?



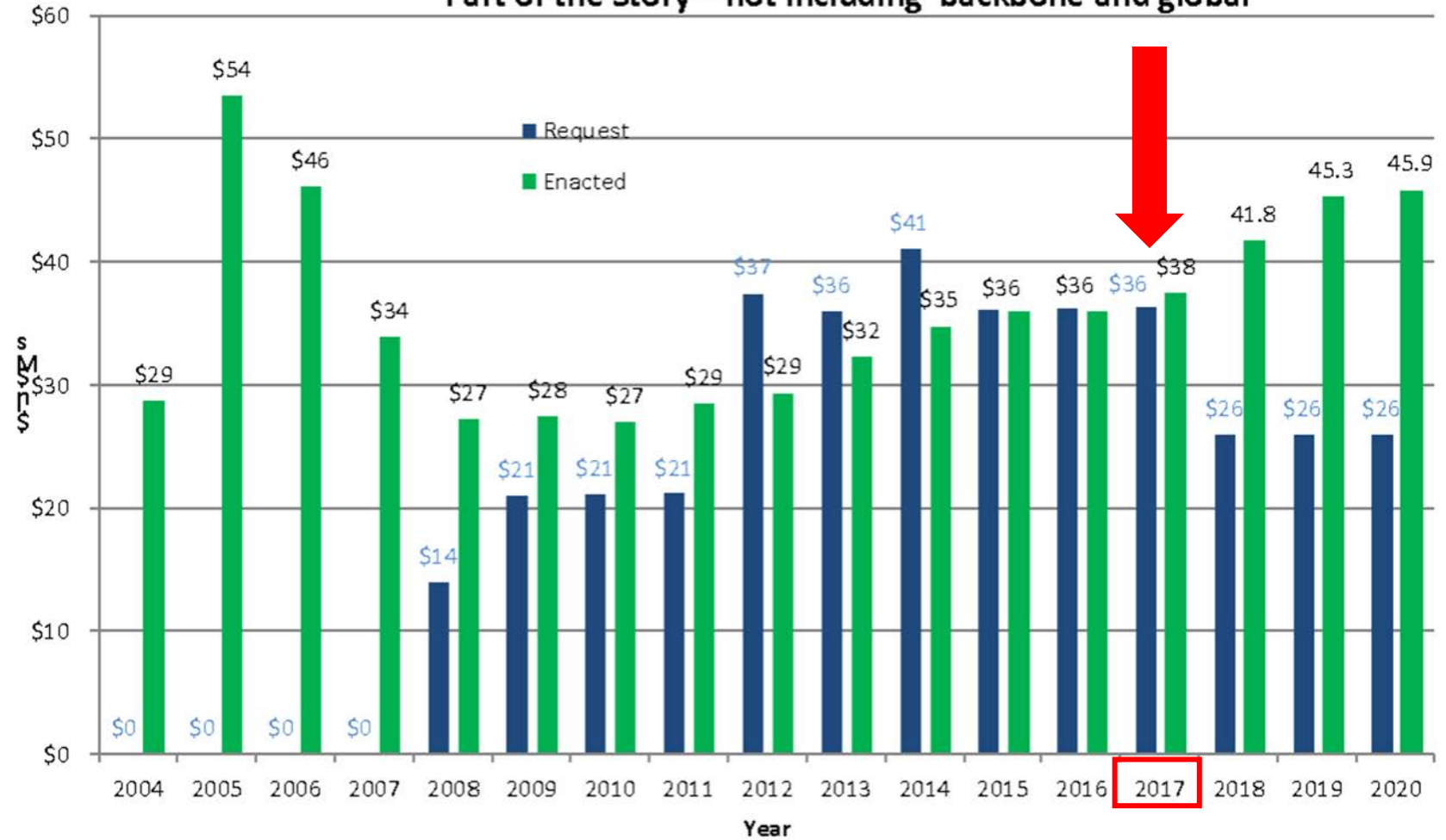
- Scalable campaign
- Tangible outcomes
- Align with Administration Priorities
- Filling targeted gaps in:
 - HR Radars
 - Gliders
 - And Moorings?



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
- FY20 includes \$1M for HAB observing and \$1.5M increase to fill gaps (Regional Ocean Partnerships are funded in Office for Coastal Management at \$1.5M)
- 'Request' = the President's Budget Request – 'Enacted' levels are post rescission totals

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



FY 21 Appropriations Request

Pres Bud: \$19m

Request:
\$45.25m for Regional
\$34.7m for system
\$6.25m gaps
\$4.3m innovation
\$7.3m for National

Total: \$52.55m

The demand for data about our oceans, coasts and Great Lakes is high. The IOOS Independent Cost Estimate, required by Congress and conducted by NASA's Jet Propulsion Lab, estimates that a total of \$534 million is needed to fulfill the nation's identified coastal observing needs.

Full funding is needed for the IOOS Regional Associations to operate the coastal observing systems that ensures uninterrupted access to data. People rely on the data for their lives and livelihoods.

ICOOS ACT REAUTHORIZATION

The ICOOS Act provides the foundation for coordinating the observing efforts of the Federal agencies and the regional systems. HR 1314 passed the house in December 2019 and S914 is expected to pass the Senate soon. To ensure citizens have continued access to quality data, please support reauthorization of the ICOOS Act.



FY 21 REGIONAL SYSTEM REQUEST: \$45.25 MILLION

\$34.7 million for the national network of 11 regional coastal observing systems

\$6.25 million \$2.52m to install high-frequency radar systems to close key gaps in the U.S. surface current mapping system AND

\$2.46m to support underwater gliders to improve hurricane warnings, detect harmful algal blooms, and ensure safe navigation

\$1.27m for streamlining observations

\$4.3 million for research and development, including competitive grants, modeling and verification to develop new products and systems to ensure comprehensive coverage

FY 21 NATIONAL SYSTEM REQUEST: \$7.3 MILLION

\$0.5 million increase is requested for the National IOOS Program Office for program management and system development to address gap filling in the nation's regional coastal ocean observing systems, identifying opportunities for innovation and modernization while ensuring long-term sustainability and for working across the IOOS enterprise to improve ready access to data and information.

IOOS
ASSOCIATION

Here's what top decision-makers are saying about IOOS data...

"Ocean information matters if you want to eat seafood, or buy anything that comes from shipping."

"IOOS is like putting your headlights on when you're on a dark road."



IOOS Coverage in U.S. Waters
The national network of regional observing system provides services to the entire coastline of the U.S. The 11 Regional Associations design, maintain and operate regional coastal observing systems.

Appropriations Chart for NOAA's National Ocean Service Regional IOOS

	FY14 Enacted	FY15 Enacted	FY16 Enacted	FY17 Enacted	FY18 Enacted	FY19 Enacted	FY20 Enacted	FY21 IA Request
Regional IOOS Total	\$28.5m	\$29.5m	\$29.5m	\$30.7m	\$35m	\$37m	\$39m	\$45.25m
National network of regional infrastructure systems, gaps in radars and gliders	\$21.3m	\$23.2m	\$23.2m	\$24.1m	\$30.7m	\$32.7m	\$31.7m	\$31.7m for systems, \$2.52m for radars, \$2.46m for gliders, \$1.27m to streamline obs
Marine Sensor Innovation Grants, Modeling Test Bed, Sensor Verification	\$1.2m	\$1.3m	\$1.3m	\$1.3m	\$1.3m	\$1.3m	\$1.3m	\$1.3m
U.S. IOOS Program Office*	\$5.6m	\$5.6m	\$5.6m	\$5.6m	\$5.6m	\$5.6m	\$5.6m	\$7.2m
Total U.S. IOOS	\$35.1m	\$36.1m	\$36.1m	\$37.3m	\$41.8m	\$43.8m	\$45.8m	\$52.55m

* Funder included in the Navigation, Observations and Profiling baseline line

IOOS
ASSOCIATION

COVID-19

Good news - most systems are reporting

Impacts – people, delays in servicing- calibration, repairs, delays and cancelation of cruises

Submitted \$25m for stimulus

Gathering input for possible economic stimulus package, including shovel ready

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 2. 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
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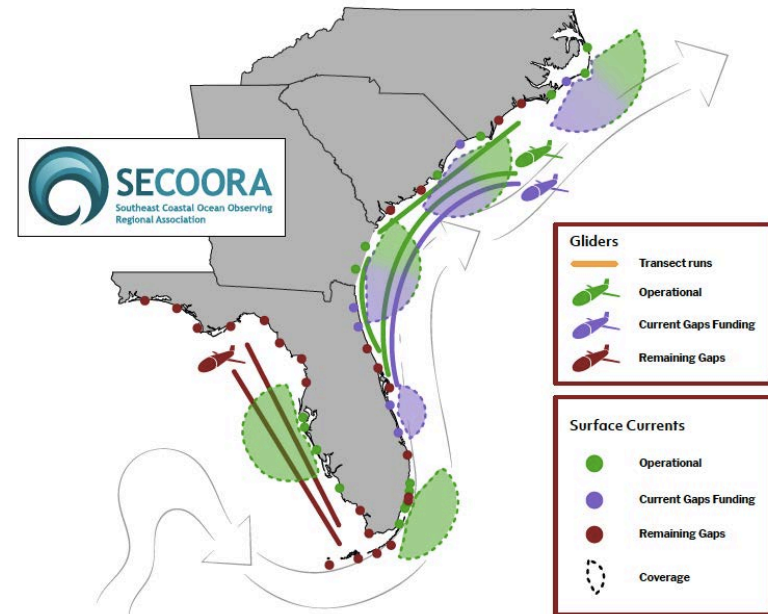
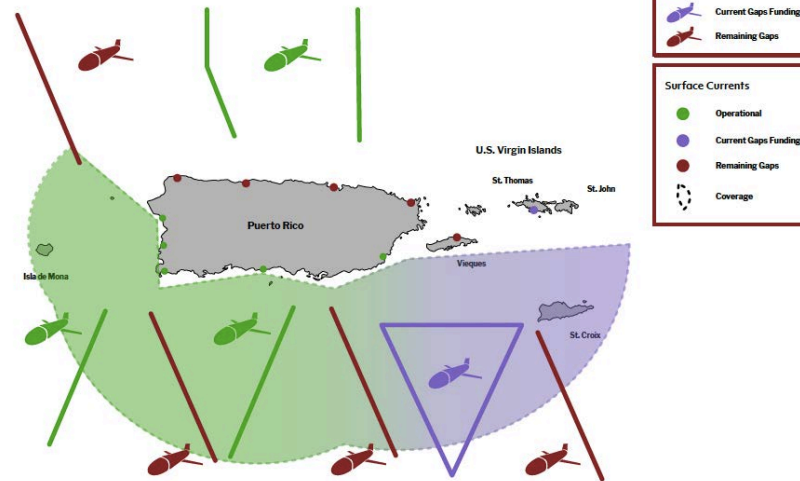
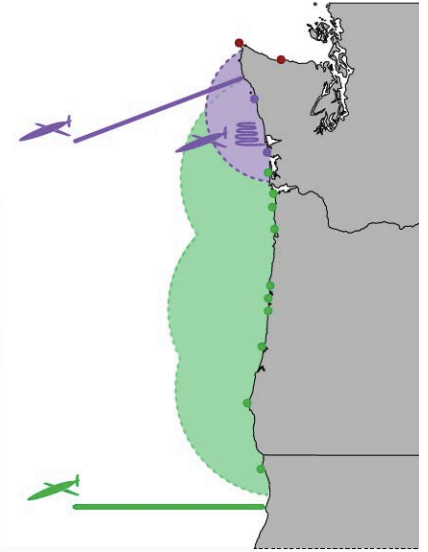
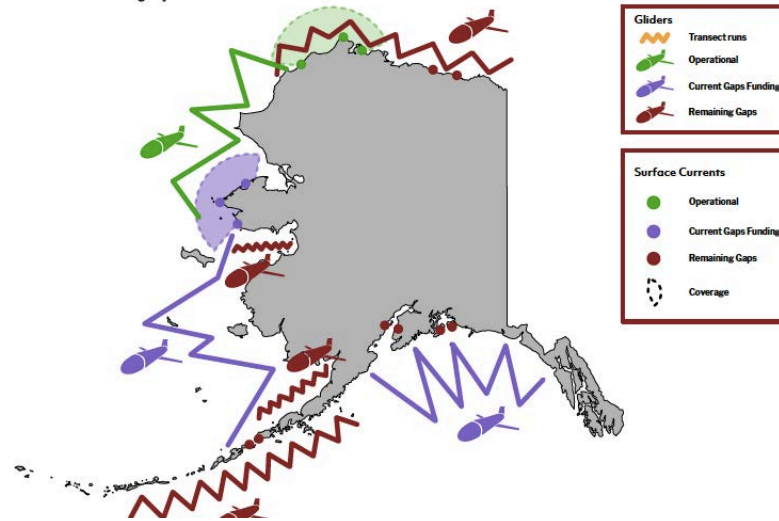
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Learn More: Josie Quintrell | josie@ioosassociation.org | www.ioosassociation.org

Fill the Gaps

- Defining success
- Next phase
 - Moorings
 - Other
- Aging infrastructure
 - "Preventing gaps"
 - Recapitalization
- Emerging needs
 - Five-year proposals



Congressional Outreach



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- BLUE GLOBE
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Congressional Outreach

- Webinars
- Articles

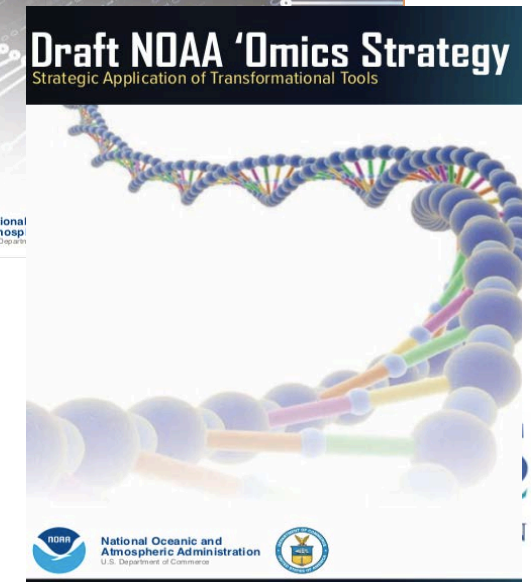
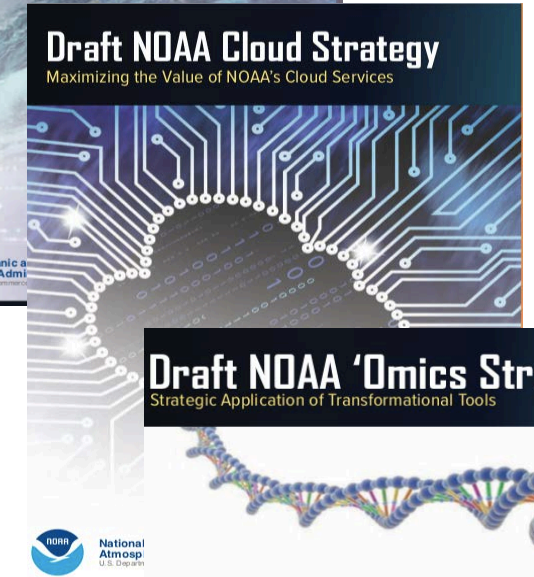
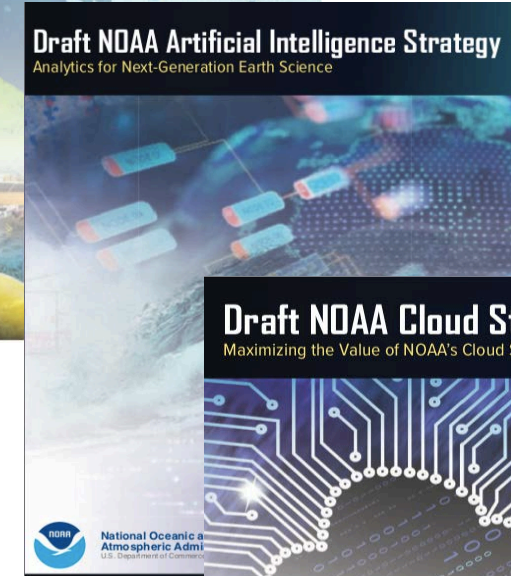
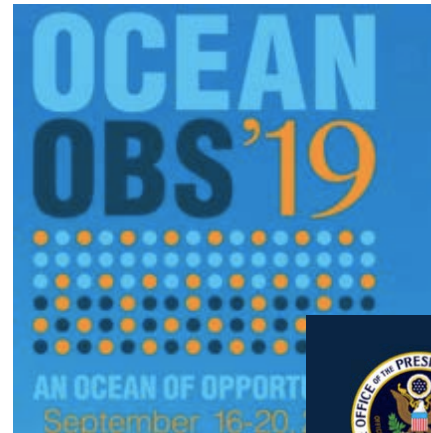
National and International

- UN Decade
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UN Decade



OceanObs'19



IOOS Grand Challenges

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- Provide indicators and forecasts on the status and health of the oceans and Great Lakes, including protected species, fisheries, water quality, HABs, OA, hypoxia and other parameters, on a regular basis
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- Provide rapid and seamless access to data and information that includes the integration of data across disciplines and from the regional to national to global scales

IOOS Association Projects

- COVID 19
- Economic Valuation
- National HAB observing network
 - Pilot projects
 - Working group for creating national network
- Association Strategic Plan - July 22-23
 - How can the Association best support IOOS in the next 5 years?
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- OAR/IOOS Workshops - From R2O
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Thank you! Questions?

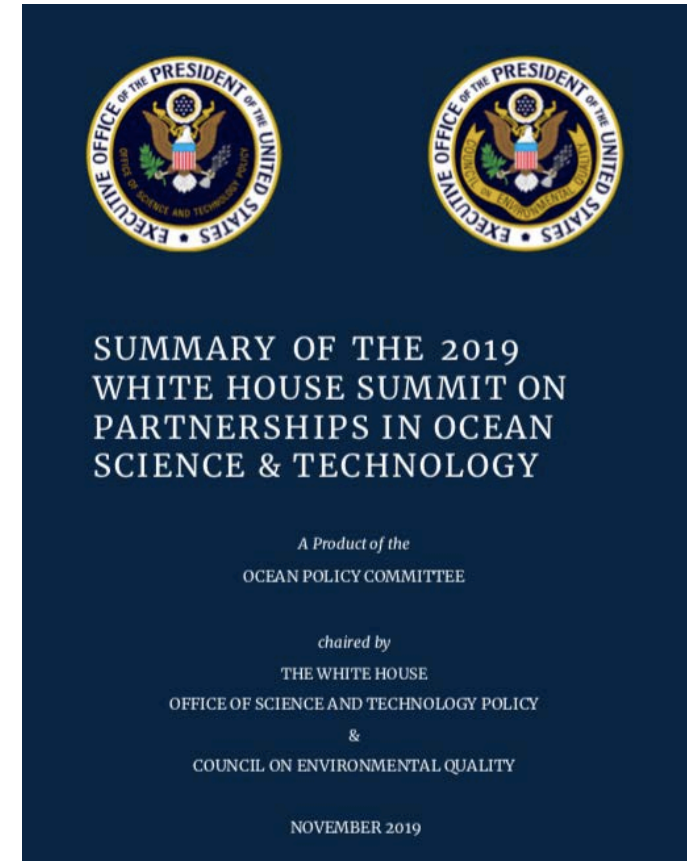


White House Summit

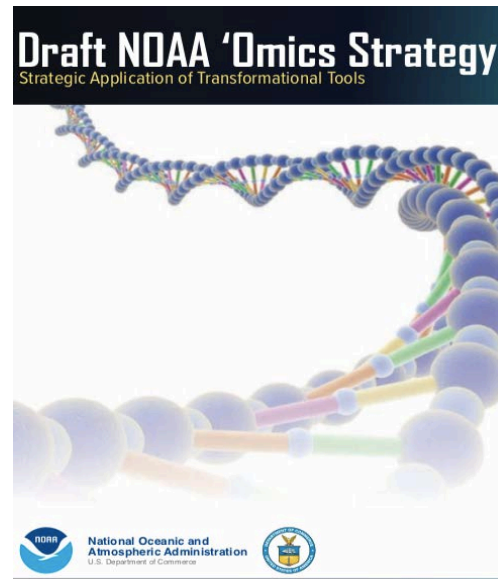
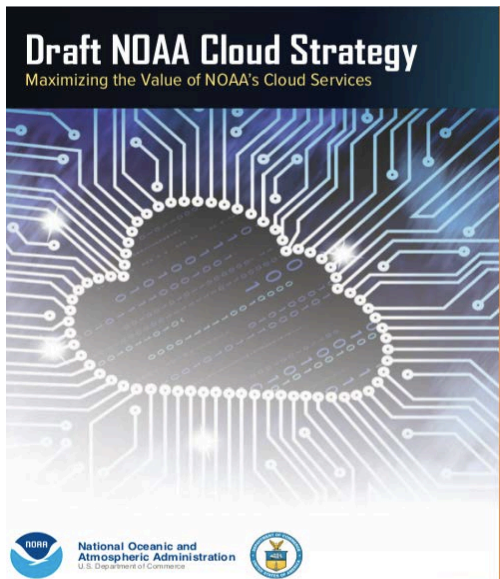
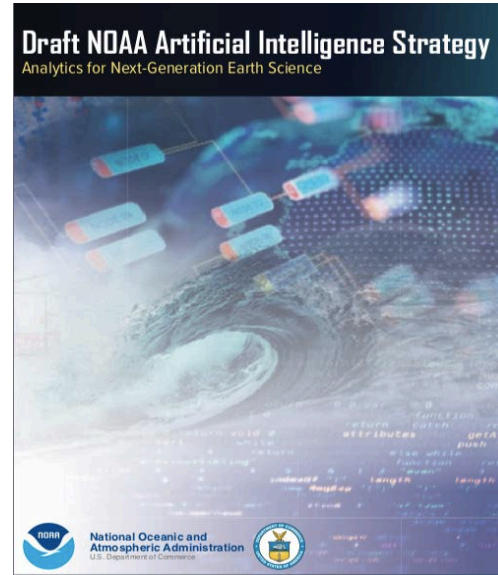
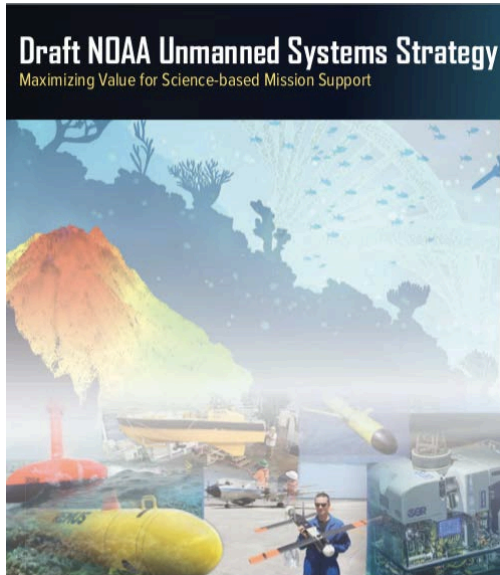
- Exploring the Ocean
- Conserving Living Marine Resources
- Protecting Coastal Health and Safety
- Sustaining Ocean Observations
- Promoting Food Security
- Enabling Ocean Energy
- Characterizing Ocean Life
- Leveraging Big Data

Takeaways:

- US poised to lead new era of bold ocean S&T
- Partnerships across academia, philanthropy, the private sector, and government are essential to advancing ocean S&T
- A collaborative and dynamic strategy for partnerships in ocean S&T will coordinate, focus, and catalyze a national effort



NOAA's Science and Technology Priorities



- NOAA's priorities for the decade
- Relationship to RA proposals?

Building Support in DC



Senate Report Language

Senate IOOS report language:

- Integrated Ocean Observing System [IOOS].-Within funding provided for IOOS, NOS shall work to complete and operate the National High Frequency Radar System to close key gaps in the U.S. surface current mapping system. Furthermore, NOS shall expand the regional underwater profiling gliders program to ensure streamlined access to data for weather forecasting and hurricane prediction, disaster response, forecasting of freshwater and marine water quality, detection of harmful algal blooms, and safe maritime operations.
- Further, the Committee provides IOOS with \$1,000,000 for pilot programs to enhance the nation's capacity for monitoring and detection of harmful algal blooms by leveraging the expertise of the IOOS regional associations. These programs shall focus on data integration and information dissemination to provide coastal managers, seafood harvesters and aquaculture practitioners, drinking water utilities, animal stranding networks, and others with information about the extent, toxicity, and length of blooms. IOOS is directed to coordinate with the National Centers for Coastal Ocean Science on the implementation of these funds.

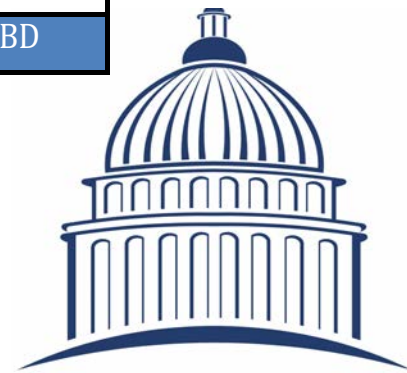
Major Milestone: Certified National Network



Appropriations

	FY 12 Spend Plan	FY 13 Spend Plan	FY 14 Enacted	FY 15 Enacted	FY 16 Enacted	FY 17 Enacted	FY 18 Enacted	FY 19 Enacted	FY 20 House	FY 20 Senate
Regional IOOS Total	\$23 m	\$26.5m	\$28.5m	\$29.5m	\$29.5m	\$30.7 m	\$35m	\$38.5m	\$40.5m	\$38.5m*
<i>National network of regional observing systems, gaps in radars and gliders</i>	<u>\$22m</u>	<u>\$23.5m</u>	<u>\$24.3m</u>	<u>\$24.5 m</u>	<u>\$24.5m</u>	<u>\$25.2m</u>	<u>\$29.5m</u> <i>includes \$4.3m HFR and gliders</i>	<u>\$34.2m</u> <i>Includes \$1.5m for ROP</i>	TBD	
<i>Marine Sensor Innovation Grants, Modeling Testbed, Sensor Verification</i>	<u>\$1m</u>	<u>\$3m</u>	<u>\$4.2m</u>	<u>\$5 m</u>	<u>\$5m</u>	<u>\$5.5m</u>	<u>\$5.5m</u>	<u>\$5.5m</u>		
U.S. IOOS Program Office*	\$6.4m	\$5.9m	\$6.6m	\$6.6m	\$6.6m	\$6.6m	\$6.7m	\$6.7m	TBD	TBD
Total U.S. IOOS	\$29.4m	\$32.4m	\$35.1m	\$ 36.1m	\$36.1 m	\$37.3 m	\$41.7 m	\$45.2m	TBD	TBD

\$1.5m for ROP moved to OCM so this would be an increase for IOOS Senate mark includes language for \$1m for a HAB operational network. Both the



FY 21 Request - Continue Gaps Campaign



INTEGRATED OCEAN OBSERVING SYSTEM - IOOS

Saving Lives, Protecting Health & Promoting Commerce



Image courtesy of NOAA

Mapping Surface Current



Image courtesy of USC

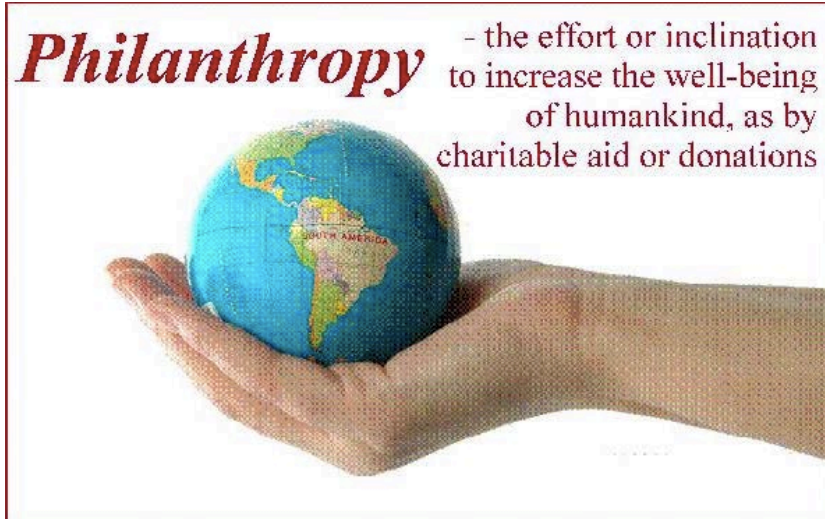
Seeing Underwater with Coastal Gliders



Image courtesy of Ben Hollings, Blue Ocean Monitoring

ASSOCIATION

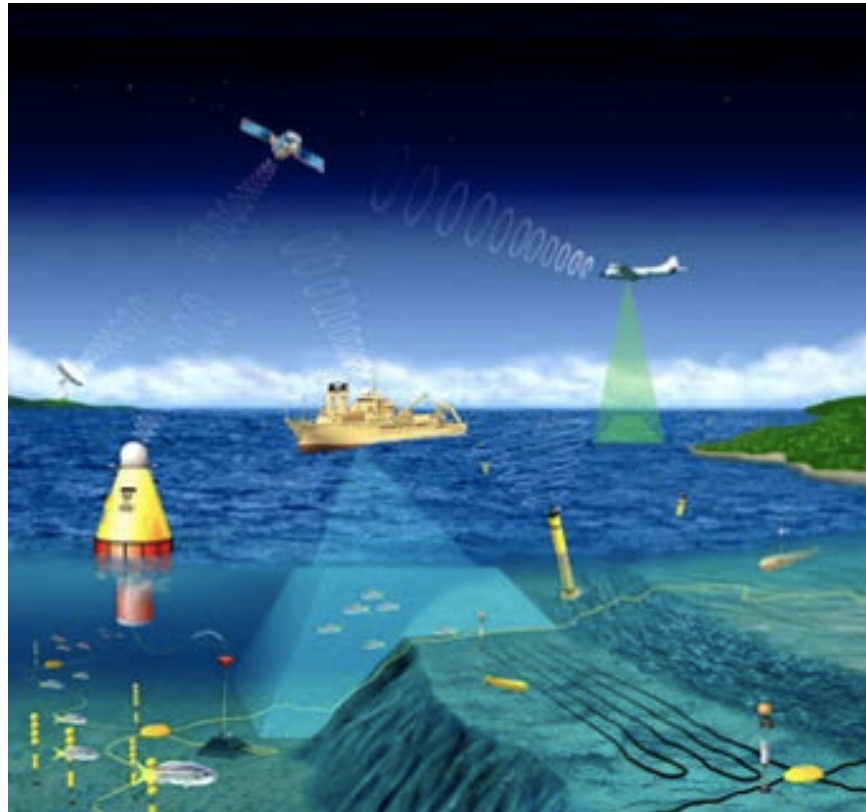
Special Projects



RA User Survey



Economic Valuation of IOOS



Activities

- Policy Meetings
 - IOOS Ex Comm and Program Office Leadership Discussion
 - Gaps Campaign and beyond
 - Funding decisions, building the network
- Fall/Spring Meetings -
 - Annapolis Sept 2018
 - Biology
 - Washington March 2019
 - Congressional
- Honorary Directors – Source of high level advice
- Federal Advisory Committee – Ru member
- Strategic Partnerships at national level
- Outreach Committee

FY 20 - Need your help



Congressional Letters of Support

	<u>ME</u>	<u>NH</u>	MA	<u>RI</u>	CT	Canada
Academic						
Industry						
Management						
NGOs						
Education						
General Public						
Other						
	King	Shaheen	Warren	Whitehouse	Murphy	
	Collins	Hassen	Markey	Reed	Blumenthal	
	Pingree	Pappas (new)	Keating	Ciciline	Courtney	
	Golden			Langevine	DeLauro	
					Himes	

IOOS Association

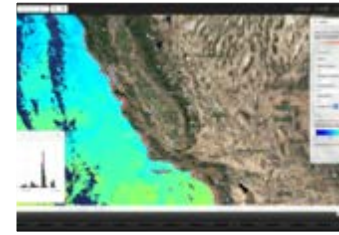
Addressing diverse needs...



AOOS



CARICOOS



CeNCOOS



GLOS



GCOOS



MARACOOS



NANOOS



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PacIOOS



SCCOOS



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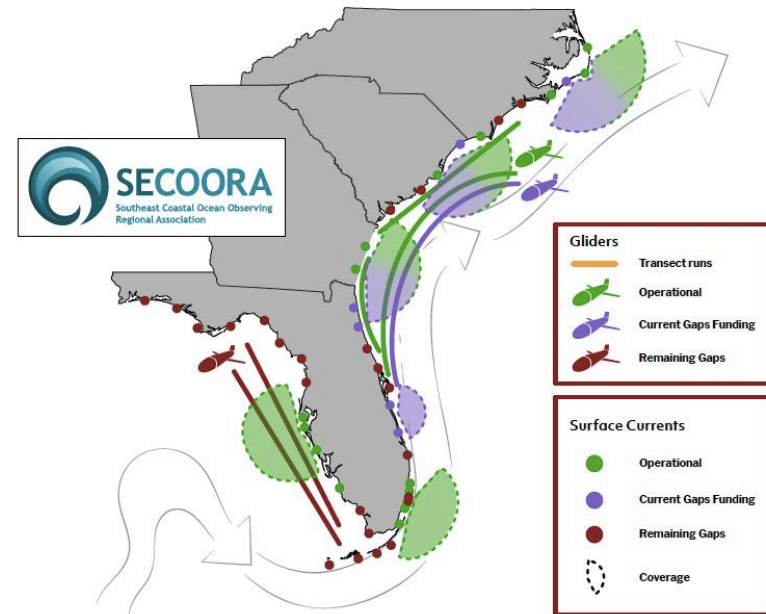
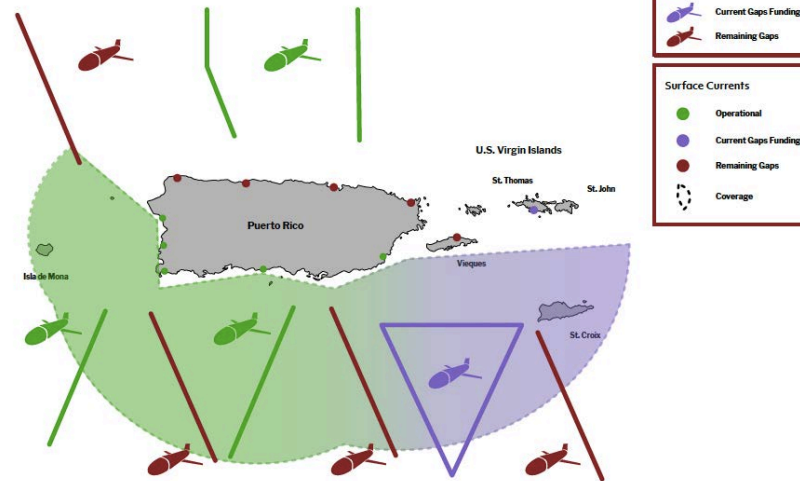
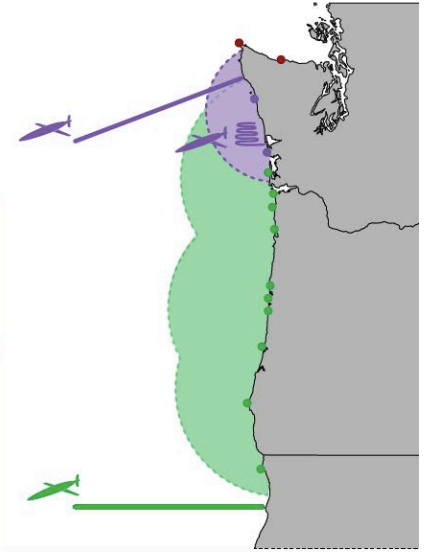
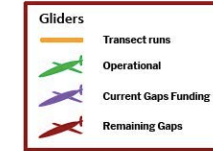
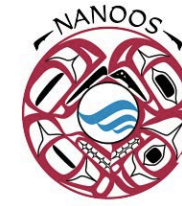
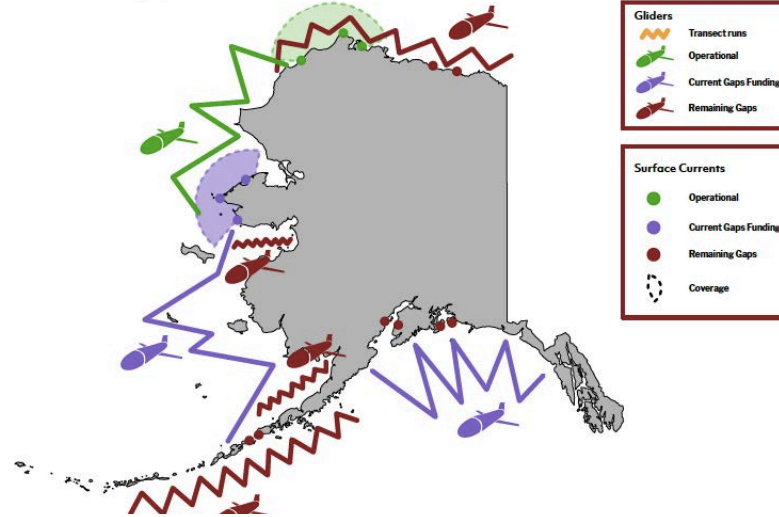
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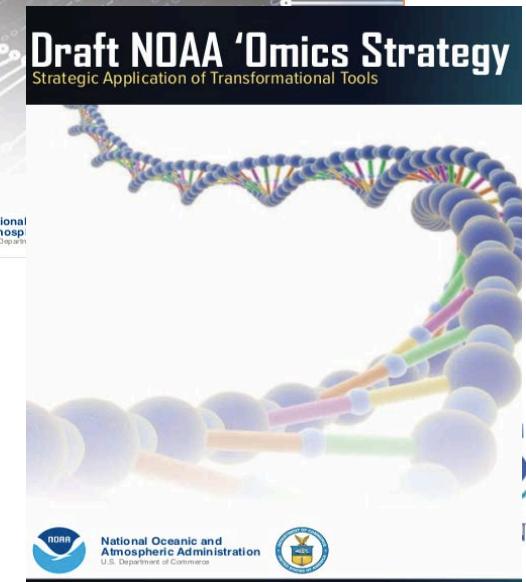
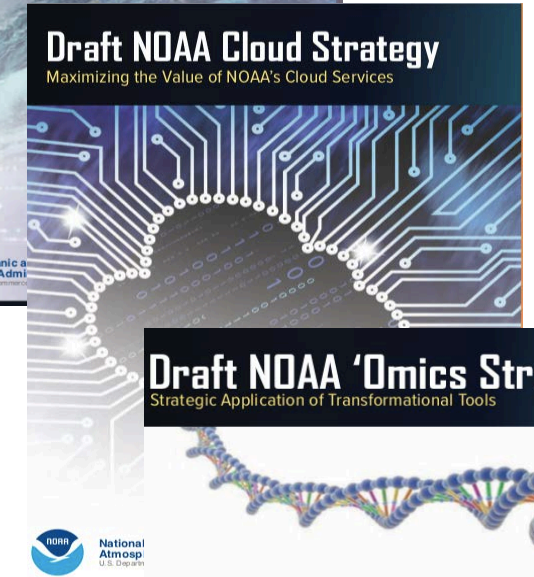
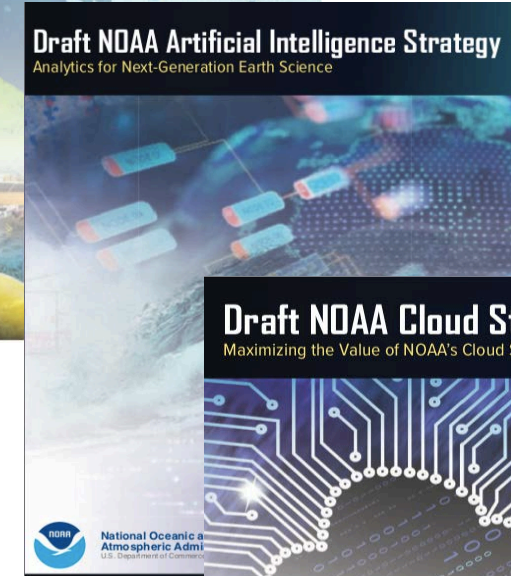
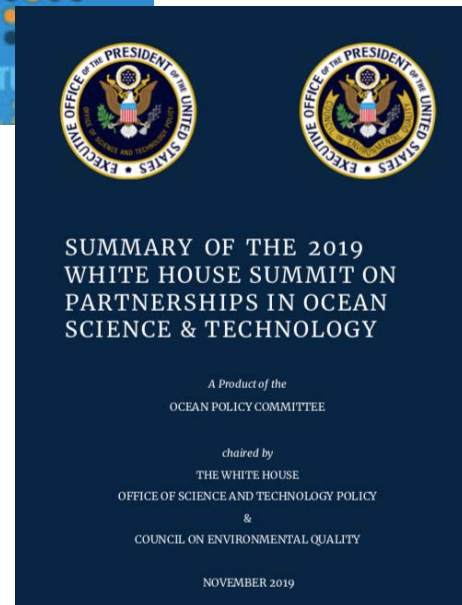
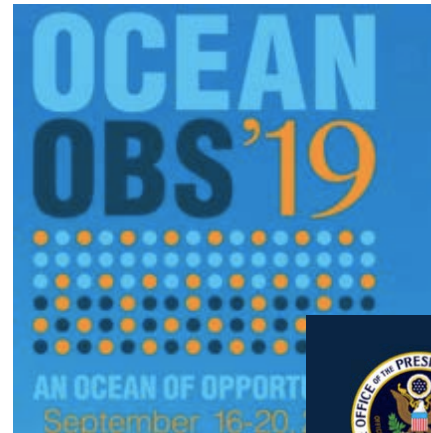
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White House Summit

- Exploring the Ocean
- Conserving Living Marine Resources
- Protecting Coastal Health and Safety
- Sustaining Ocean Observations
- Promoting Food Security
- Enabling Ocean Energy
- Characterizing Ocean Life
- Leveraging Big Data

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- Partnerships across academia, philanthropy, the private sector, and government are essential to advancing ocean S&T
- A collaborative and dynamic strategy for partnerships in ocean S&T will coordinate, focus, and catalyze a national effort

