



U.S. Department of the Interior Bureau of Ocean Energy Management (BOEM)

Office of Environmental Programs

April 5, 2016

U. S. Integrated Ocean Observing System (IOOS)
Advisory Committee Meeting

Dr. William Y. Brown, Chief Environmental Officer

Dr. Walter Johnson, Chief, Branch of Physical and
Chemical Sciences

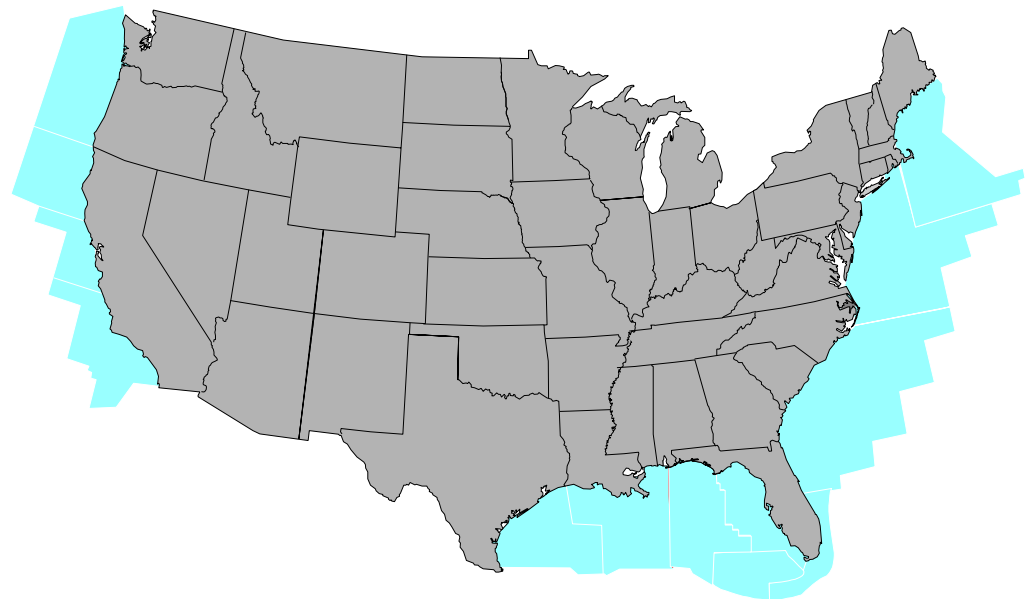
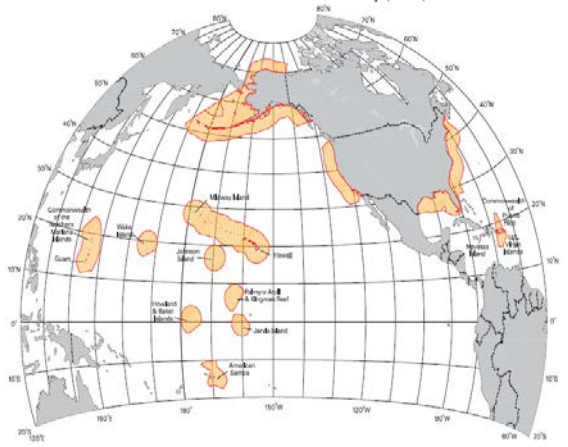
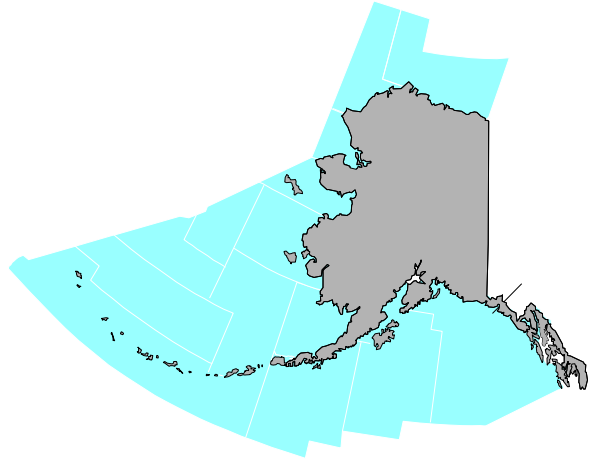


To manage the development of the nation's offshore resources in an environmentally and economically responsible way.





Outer Continental Shelf



- **Oil and Gas**
 - 5 year leasing plan, regional lease sales
- **Renewable Energy**
 - Site identification through stakeholder input and state task forces
- **Marine Minerals**
 - Through negotiated agreement with state and local entities



To provide the information needed to identify, assess, and manage impacts from offshore energy and marine mineral exploration, development, and production activities on human, marine, and coastal environments.



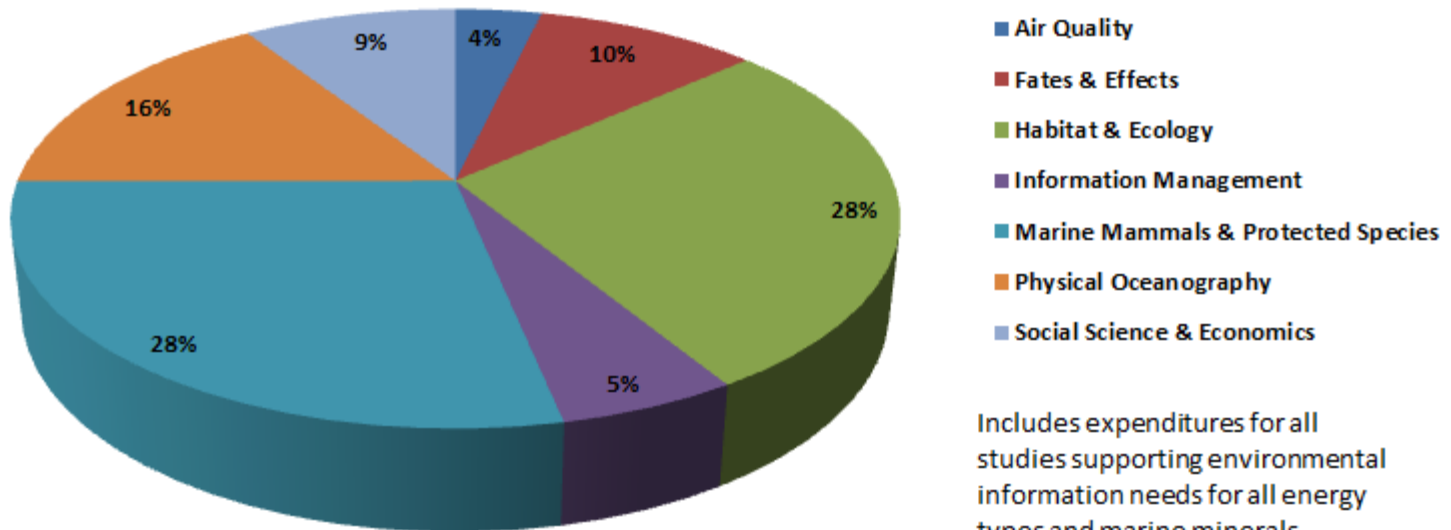
Types of Studies

- Baseline / Benchmark
- Cause and Effect, Process
- Monitoring



ESP Spending by Discipline

**Environmental Studies Program Funds by Discipline
FY 2010-2015 Cumulative**

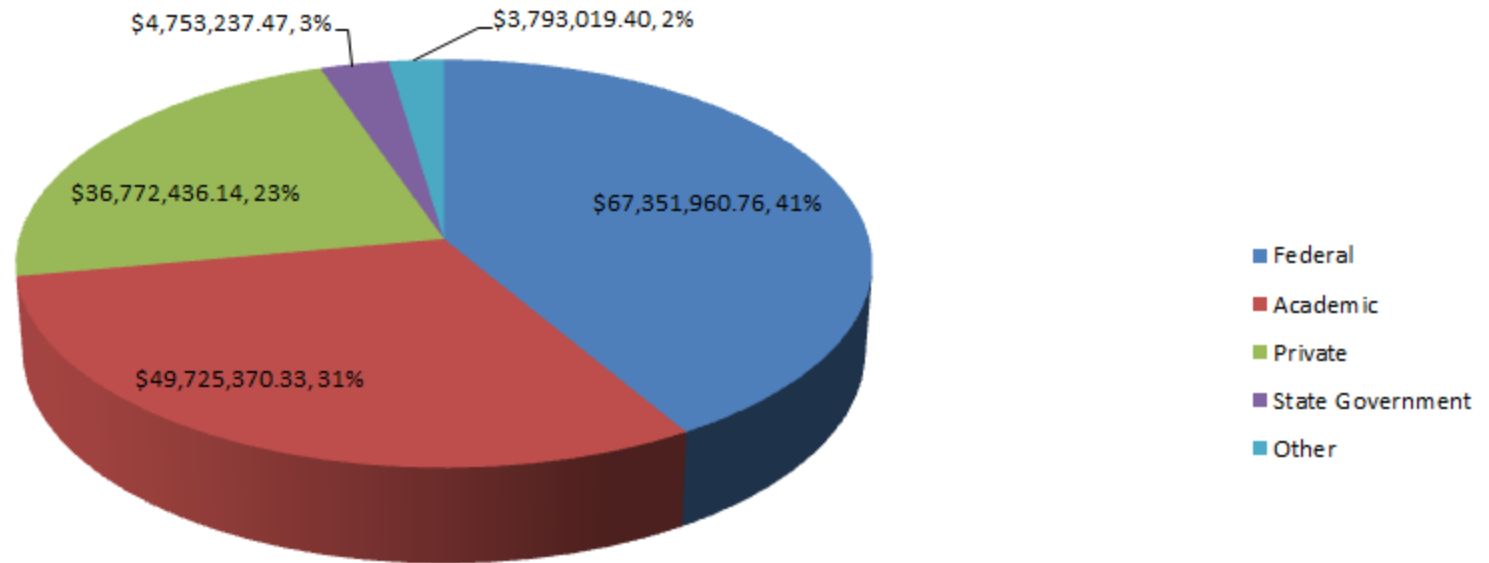


Includes expenditures for all studies supporting environmental information needs for all energy types and marine minerals .



ESP Spending by Vendor Type

**Environmental Studies Program Funds by Vendor Type
FY 2011-2015 Cumulative**



Total Expenditures = \$162,396,024.10



- **Board Representation on Regional Associations**
 - Alaska and Gulf of Mexico
- **Interagency Ocean Observation Committee (IOOC) Governance [National]**
- **Cooperative Agreements**
 - to support data/information activities by Integrated Ocean Observing System (IOOS) scientists
 - California and Alaska
- **Significant Coordination**
 - Gulf of Mexico, Mid-Atlantic, others



- **BOEM is the co-lead of National Oceanographic Partnership Program (NOPP) research program with NOAA (multiple partners)**
- **Coop. Agreements with IOOS Regional Association Universities**
 - **University of California and University of Alaska Fairbanks**
 - **Marine Biodiversity Observing Network (MBON)**
 - **Arctic MBON through AOOS and IOOS (12/2014)**
 - **Santa Barbara Channel MBON**
 - **Contributions from National Oceanic & Atmospheric Administration (NOAA), National Aeronautics & Space Administration (NASA), and BOEM**
- **Marine Arctic Ecosystem Study (MARES)**
 - **IOOS is a planning partner / Alaska Ocean Observing System (AOOS) engaged in data management**
 - **Coordination with Arctic MBON**



- **Long-term ecosystem monitoring**
 - IOOS helps us know how BOEM may impact the environment.
 - To understand change and its natural effects is critical.
 - IOOS lets us know how BOEM can mitigate its impacts.
 - Gives us feedback from public and private sector too.



- **More biological/ecological data products/availability**
 - Fisheries, stock assessments products
 - Endangered Species/Marine Mammal Act-relevant data, passive acoustic data products
 - Avian
- **Sociocultural data**
- **Air (quality) over the ocean**
- **Satellite data collection/aggregation**
 - As IOOS functions within the Global Ocean Observing System (GOOS)
- **International data**
 - Aggregate/incorporate Gulf of Mexico with Mexico, Cuba, Caribbean; pan-Arctic; Pacific
- **Industry data**
 - Data relevant to BOEM activities



- **Publication of “official” forecasts of the variables IOOS measures**
 - **Help identify/rank the best models.**
 - Which are best in which regions? Best in short-term vs. long term?
 - **Make more academic models operational.**
 - Provide the platform and support to transition the good models IOOS investigators create into reliable services.
- **Forecasting of ecosystem services.**
 - e.g., whether the bowhead whales are going to continue increasing in number or not



- **More consistency in modeling impacts**
 - Modeling ecosystems vs. physical oceanography
- **IOOS involvement in policy**
 - Scientific consistence with respect to policy
 - e.g., helping resolve when two offices develop different impact requirements
- **Economic benefits analysis to regions of BOEM activities**
- **Address the 4-D aspects of data collection and processing**
 - Data portals are focused on 2-D (x and y); z and time are missing.



Questions?

[Environmental Studies Program Information System \(ESPIS\)](#)

