Setting the Stage: Policy and Legislation for Ocean Exploration

Dr. Alan P. Leonardi, Director
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What Guides OER?
"... exploration is defined as **discovery** through **disciplined diverse** observations and the **recording** of the findings. An explorer is distinguished from a researcher by virtue of the fact that an explorer has not narrowly designed the observing strategy to test a specific hypothesis. A successful explorer leaves a legacy of new knowledge that can be used by those not yet born to answer questions not yet posed at the time of the exploration. This new knowledge may also have immediate beneficial applications in answering the needs of contemporary ocean scientists, natural resource managers, educators, and industries."
"Ocean exploration has included rigorous, systematic observation and documentation of the biological, chemical, physical, geological, and archaeological aspects of the ocean in the three dimensions of space and in time."
NOAA Ship *Okeanos Explorer* (2008)
Ocean Explorer Act

- National Ocean Exploration Program
- Ocean Exploration and Undersea Research Technology and Infrastructure Task Force
- Ocean Exploration Advisory Board
- Ocean exploration forum

NOAA Undersea Research Program Act
Indonesia-USA Deep-sea Exploration of the Sangihe Talaud Region (INDEX-SATAL, 2010)
Ocean Exploration’s
Second Decade
A Report from the NOAA Science Advisory Board
December 2012

OceanExplorer.NOAA.gov

Ocean Exploration and Research
The Administrator of the National Oceanic and Atmospheric Administration shall appoint an Ocean Exploration Advisory Board composed of experts in relevant fields

1. to advise the Administrator on priority areas for survey and discovery;
2. to assist the program in the development of a 5-year strategic plan for the fields of ocean, marine, and Great Lakes science, exploration, and discovery;
3. to annually review the quality and effectiveness of the proposal review process established under section 12003(a)(4); and
4. to provide other assistance and advice as requested by the Administrator.
Internal — NOAA Policies and Priorities

- NOAA Mission Priorities
- NOAA Strategic Plan
- NOAA Five-Year Research and Development Plan
- Direction from NOAA leadership
- OER Strategic Plan
NOAA Five-Year Research and Development Plan 2013-2017

What exists in the unexplored areas of our oceans?

• Map and characterize ocean basin boundaries
• Discover and characterize new ocean resources
• Transition ocean exploration discoveries to the rest of NOAA and other agencies
Advisory Board, Science Community, and Other Stakeholders

- Ocean Exploration Advisory Board
- Community Workshops
- National Forums on Ocean Exploration
Ocean Exploration 2020: A National Forum

- Ocean exploration priorities
- Partnerships
- Platforms
- Technology development
- Citizen science
- Data sharing
- Public engagement
OER’s Response 2012-2014

- Pivot to NOAA mission priorities
- Two ships of ocean exploration
- Cultivated strong ties to the community and new partners
  - Schmidt Ocean Institute, industry, academia
  - Cooperative research and development agreements, other tech partnerships
  - Octonauts
- Focused competitive grants program
- Sustained effort to message ocean exploration internally and externally
Setting the Stage: The Strategic Evolution of OER 2015-2019

Dr. Alan P. Leonardi, Director
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Timeline of Selected Events

2000  President’s Panel for Ocean Exploration
2001  NOAA Office of Ocean Exploration established
2003  National Academy of Sciences report on ocean exploration
2007  NOAA Office of Ocean Exploration and National Undersea Research Program merged to create Office of Exploration and Research
2008  *Okeanos Explorer* commissioned, competitive grants program suspended
2009  “Ocean Exploration Act” (Public Law 111-11)
2010  Indonesia-U.S. ocean exploration of the Sangihe-Talaud Region (INDEX-SATAL)
2010  Decadal review
2012-2014  NOAA attempts to zero out the program
2014  NOAA-focused forum, OEAB established, competitive grants program reintroduced
2015  CAPSTONE launch, new office leadership and structure, Forum: Characterizing the Unknown
2016  Forum: Beyond the Ships 2020-2025
2017  ASPIRE launch, Forum: Ocean Exploration in a Sea of Data
2018  Education program review, Forum: All Hands on Deck
Campaigns
Ocean Exploration Campaign Framework
Early “Campaigns”

- Islands in the Stream
- Indonesia-USA Deep-sea Exploration of the Sangihe Talaud Region (INDEX-SATAL)
- Atlantic Canyons Undersea Mapping Expeditions (ACUMEN)
- Extended Continental Shelf (ECS)
Atlantic Canyons Undersea Mapping Expeditions (ACUMEN)
Campaign to Address Pacific monument Science, Technology, and Ocean Needs (CAPSTONE)
Atlantic Seafloor Partnership for Integrated Research and Exploration
OER Today and Tomorrow
Current Administration Policies and Priorities

- Executive Order 13817: A Federal Strategy to Ensure Secure and Reliable Supplies of Critical Minerals
- Executive Order 13840: Ocean Policy to Advance the Economic, Security, and Environmental Interests of the United States
- Science and Technology for America’s Oceans: A Decadal Vision
- Charting a Course for Success: America’s Strategy for STEM Education
Considerations

• End of life for NOAA Ship *Okeanos Explorer*

• Rapid advances in platforms, sensors, communications, data and information management

• Critical need for autonomy, machine learning, cloud-based data and information services
Rich Opportunity

• There is general consensus on the ocean exploration imperative
• Political support from the administration and Congress (both parties) means legislation and needed budgets are possible
• Advances in technology mean cost is dropping while capability is increasing
• Convergence of institutions, stakeholders creates opportunities for leverage and partnership