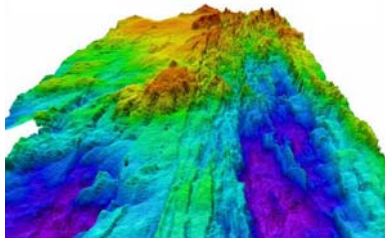




Office of Ocean Exploration

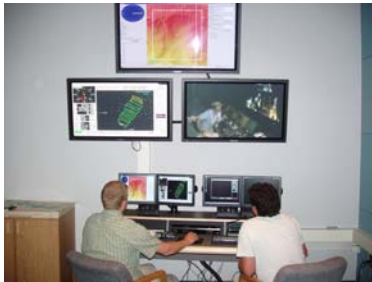
Leader in Ocean Exploration



Creating new high-resolution maps of the ocean is central to the Ocean Exploration mission. These maps give scientists important information about unknown ocean regions.



In 2007, NOAA ship *Okeanos Explorer* will be available to explore the ocean.



Using satellite and high-speed Internet, near-real time connections to research vessels at sea and to images from submersibles and robots on the sea floor, scientists ashore can be part of ocean expedition teams.

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What does the Office of Ocean Exploration do for the nation?

The ocean is the lifeblood of Earth, covering more than 70 percent of the planet's surface, driving weather, regulating temperature and ultimately, supporting all living organisms. Throughout history, the ocean has been a vital source of sustenance, transport, commerce, growth and inspiration. Yet for all of our reliance on the ocean, 95 percent of the ocean remains unexplored—unseen by human eyes.

Realizing the urgent need for a better understanding of this critical global resource and in response to growing national concern over the state of the oceans, the U.S. government empowered a panel of experts in 2000 to develop a national strategy for ocean exploration. One result was the creation of a National Ocean Exploration Program in 2001 to be led by the National Oceanic and Atmospheric Administration (NOAA), now run by the NOAA Office of Ocean Exploration (OE). The program is a leader in ocean exploration and helps raise ocean literacy so that current and future generations of scientists, resource managers and citizens can make informed decisions that provide environmental stewardship of our nation's coastal and marine resources.

OE was created to explore the oceans for the purpose of discovery and advancement of knowledge. The program addresses this objective by supporting path finding missions to investigate and document unknown and poorly known areas of the ocean. These expeditions represent a bold and innovative approach by infusing teams of scientist-explorers with a "Lewis and Clark" spirit of discovery and equipping them with the latest exploration tools – some of which are pioneered specifically to support OE missions. These new exploration tools are taking researchers to some of the most unique and least-explored regions of the oceans, where important new understandings are evolving.

OE's mission fits into four distinct areas:

- Mapping and describing the physical, biological, geological, chemical and archaeological aspects of the ocean;
- Understanding ocean dynamics in new places and at new levels to describe the ocean's complex interactions;
- Developing new technologies, sensors and systems to better meet exploration objectives, and;
- Conveying to the public how and why unlocking the secrets of the ocean will benefit current and future generations.

OE shares its experiences with the public by dedicating 10 percent of its annual budget to outreach and education activities. The latest technologies are used to transmit images and information directly from at-sea expeditions and share explorations with millions of interested individuals. OE's website www.oceanexplorer.noaa.gov and other outreach efforts allow anyone to become a "citizen explorer" by connecting with their own instinctive fascination with the oceans.

Recent Accomplishments:

- With the "Lost City" expedition, NOAA successfully tested real-time "telepresence"-- continuous transmission of data, including sea floor images, from a research vessel at sea through satellite and high-speed internet pathways to teams of scientists ashore, including the mission's chief scientist. **Payoffs: More intellectual capital can now be brought to ocean expeditions.**
- Using deep-sea coral data obtained over several years from missions sponsored by OE and NOAA's Undersea Research Program, OE is working with expedition scientists to develop templates and integrated data products. **Payoffs: Shared results will accelerate the understanding and management of deep coral habitats and help to better plan future expeditions for increased benefits.**
- OE serves as the NOAA focal point for the NOAA/Smithsonian partnership to develop the "Ocean Hall" exhibit to open in 2008 in Washington, DC. **Payoffs: NOAA's expertise will help raise the ocean literacy of those who visit the exhibit or an associated web portal.**
- OE sponsored an international expedition to the Arctic Ocean to build an inventory of marine life. More than 40 scientists explored the Arctic's deep Canada Basin and other areas on the month-long expedition. **Payoffs: New species were discovered and scientists recorded an abundance and diversity of marine life as benchmark data to measure change in the planet's fastest changing ocean area because summer sea ice has been receding.**
- OE and NOAA's Undersea Research Program worked together on parts of a nearly five month long international expedition to explore the South Pacific. **Payoffs: The expedition discovered new species and new ranges for known species, measured marine diversity, and gathered data on undersea volcanoes and the rare interface of sunlight and chemical-based life forms.**

Explorations and Research Partnerships:

OE funds competitive grants available to the external academic community, industry and state and federal agencies. OE significantly leverages its funding and other resources via partnerships and collaborative efforts. Partners range from oceanographic institutions, industry and universities to federal, state and local agencies and non-governmental organizations. In its annual report for the past exploration field season, OE cited the cooperation of more than 120 organizations.

What's Next?

For the 2006 exploration season, OE expects to support ocean missions in a variety of areas including biotechnology, marine archaeology, habitat characterization, marine life inventory and ocean mapping. NOAA will convert the former Navy ship *Capable* to be the nation's only vessel dedicated to ocean exploration and research for multidisciplinary teams of scientists to investigate Earth's largely unknown oceans. The ship will be renamed *Okeanos Explorer* and following a shipyard conversion will be ready to sail in 2007. The ship will have built-in capabilities to operate a dedicated science-class remotely operated vehicle and will also have multibeam sonar, dynamic positioning, science labs and a variety of ocean systems and sensors. *Okeanos Explorer* will also be equipped to send data live via satellite and Internet2 to teams of scientists ashore as well as to teachers, students and the general public, thus building on the success of this past year's "Lost City" expedition. OE expects this new ship will increase the efficiency and cost-effectiveness of NOAA's ocean exploration program, and will help increase ocean literacy by delivering the excitement of near-real time images to audiences ashore.

Budget and Staff

The fiscal year 2006 enacted budget for OE is \$13.7M. The fiscal year 2007 President's budget request for OE is \$15.1M. OE has 23 employees.



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Come explore with NOAA by visiting Ocean Exploration at: <http://www.oceanexplorer.noaa.gov>