



NATIONAL SCIENCE FOUNDATION  
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NSF 16-041

## **Dear Colleague Letter: Recompetition of the Management and Operation of the Ocean Observatories Initiative (OOI)**

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Dear Colleagues:

The Ocean Sciences Division of the National Science Foundation (NSF/OCE) will carry out a recompetition to manage and operate the Ocean Observatories Initiative (OOI, <http://oceanobservatories.org>) through an open, merit-based external peer-review process. The forthcoming solicitation is expected to result in award of a five to ten-year Cooperative Agreement (CA) for the management and operation of the OOI.

This letter provides general information regarding the upcoming competition and seeks input from potential proposing organizations and other interested parties as to the material and information needed for responsive proposal preparation.

### **ELIGIBILITY INFORMATION**

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The competition for management and operation of the OOI will be open to U.S. institutions, U.S. universities, colleges, and other non-profit, non-academic organizations. NSF requires that an academic or non-profit U.S. organization serve as the lead organization, however Consortia may include partnerships with commercial and/or international organizations.

The OOI must be managed in the public interest with objectivity and independence, and with full disclosure of the successful Awardee's affairs, including technical, financial and programmatic performance, to NSF. The NSF will have overall responsibility for award oversight and anticipates that regular programmatic reviews will be conducted, as will periodic Business Systems Reviews.

### **OOI PROGRAM DESCRIPTION**

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The Ocean Observatories Initiative is a large scale ocean observing system that has been constructed, deployed, and has transitioned to the operational stage under National Science Foundation sponsorship as a Major Research Equipment and Facilities Construction (MREFC) Project. The OOI includes a network of cabled, moored and autonomous instrument arrays with more than 800 individual sensors distributed in various coastal and global ocean locations. The principal marine components include the four Global Arrays, the two Coastal Arrays, and the Cabled Array. This facility is enabled by an integrated system of hardware and software (cyberinfrastructure) that receives, processes, and broadly distributes the collected data. This combination of infrastructure and cyberinfrastructure facilitates interdisciplinary investigation of short-term and long term oceanic trends.

The Global Arrays are located at (1) Station Papa in the North Pacific, (2) the Irminger Sea southeast of

Greenland, (3) the Argentine Basin in the South Atlantic and (4) the Southern Ocean southwest of Chile. The coastal components of OOI include the relocatable Pioneer Array, currently located south of Martha's Vineyard off the coast of New England in the Atlantic Ocean, and the Endurance Array, with elements located in two lines in the Pacific Ocean (one west of Grays Harbor, Washington, and the other west of Newport, Oregon). The Cabled Array employs approximately 900 kilometers of fiber optic cable and connected instruments (primary infrastructure) to stream seafloor and water column data across the Juan de Fuca tectonic plate. The overarching cyberinfrastructure of the OOI serves to integrate and manage data received from the arrays and to stream the data online to scientists and other interested users.

The OOI was designed and constructed by a Lead Organization in close association with several university-based implementing organizations under a Cooperative Agreement with NSF. The current PMO, the Consortium for Ocean Leadership, serves as the prime Awardee and is responsible for large Subawards with Woods Hole Oceanographic Institution (WHOI) for the Global Arrays and Pioneer Coastal Array, with Oregon State University for the Endurance Coastal Array, with the University of Washington for the Cabled Array, and with Rutgers University for the Cyberinfrastructure. Each of these Subawardees has also engaged additional subcontractors and vendors for the OOI construction and operations. The existing Cooperative Agreement for Construction and Initial Operation of the facility extends through April 2017.

In early 2015, NSF received the National Research Council/National Academy of Sciences (NRC/NAS) report "Sea Change: A Decadal Survey of Ocean Sciences, 2015-2025." An underlying theme of the report is that steadily rising costs for large Ocean Sciences infrastructure, such as the OOI, pose significant challenges to NSF's fundamental mission of supporting core scientific research and technological innovation. "Sea Change" acknowledged that the OOI offers unique and unprecedented opportunities to study ocean processes. However, the report recommended a 20% reduction to NSF's annual Management and Operation funding commitment for the OOI to approximately \$44M/year.

Consistent with our commitment to achieve the most effective balance of investments in ocean science research funding and infrastructure, NSF/OCE continues to support this recommendation as stated in the Division's Reply to "Sea Change."

## **NSF'S CONCEPT OF FUTURE OOI MANAGEMENT AND OPERATIONS**

As the selected managing organization, the Awardee will work closely with NSF and the U.S. oceanographic community to ensure that, within the budgetary constraints, the OOI supports, sustains, and advances ocean science as enabled by the unique observational capabilities of the OOI. The original OOI Science Themes and their science requirement traceability matrices from October 2007 remain relevant to future operations despite design, management, and implementation having evolved during the construction phase.

The Awardee will serve as the single lead organization and be accountable for fulfilling the OOI objectives through strategies that capitalize on the Federal investment to serve the scientific community and to promote world-class oceanographic research. The Awardee will be responsible for the overall management and performance of the OOI, including the infrastructure, instrumentation and staff, through a strategically planned scope of activities. A principal activity will be executing the periodic replacement or refurbishment of instruments and equipment for the arrays in concert with the ship/vehicle time needed for recovery and redeployment. Considering the importance of a centralized cyberinfrastructure to the OOI, the Awardee is expected to continue to provide the OOI users a consistent user interface and data products experience. In discharging these responsibilities, the Awardee will ensure that the OOI maintains a multidisciplinary and multi-user capability to conduct first-rate research using the OOI through grants from OCE's science and technology programs (or other funding mechanisms).

NSF intends to separately support U.S. scientists to facilitate enhancements to and analysis of the OOI data via submission of OOI-related scientific proposals to OCE's basic science and technology programs. In cooperation with NSF, as part of their responsibilities the Awardee will develop Annual Work Plans that assess, plan, and execute operational strategies consistent with the objectives and priorities of the NSF/OCE scientific community.

The Awardee will be expected to meet the highest standards for service to the scientific community and to demonstrate proactive and effective approaches to facility performance.

## **ANTICIPATED COMPETITION SCHEDULE**

This notice does not constitute a solicitation; therefore, no award of any kind will result from this notice. NSF anticipates that a program solicitation will be issued in 2016. The anticipated due date for full proposals in response to the program solicitation is expected to be approximately 5-6 months following its publication.

## **REQUESTS FOR INFORMATION**

NSF invites written comments and questions by **March 18, 2016** from eligible organizations interested in this competition. Requests for individual meetings with NSF officials will be considered. Interested parties are encouraged to request clarification of general aspects of the competition or identify to NSF any information they feel would be needed for proposal preparation. Information provided to NSF prior to issuance of the program solicitation will be kept confidential. Oral discussions, during any meetings, will be non-binding. The program solicitation and any posted responses to Frequently Asked Questions (FAQs) will be considered the guiding documents for proposal submission. Written comments and requests for meetings should be submitted via email to the Primary Contacts listed below.

Finally, deployment of various elements of the OOI has been ongoing since 2012 and the observatory has been recently commissioned. Eligible organizations are invited to review the documentation listed below and identify additional information that could inform preparation of a responsive proposal. Comments and questions regarding the ability to modify the scope, management and operational requirements to meet the budgetary objectives given above are also invited.

## **SOURCES FOR ADDITIONAL INFORMATION**

Ocean Observatories Initiative Website: <http://oceanobservatories.org>

"Sea Change: 2015-2025 Decadal Survey of Ocean Sciences": [Sea Change: 2015-2025 Decadal Survey of Ocean Sciences | The National Academies Press](#)

NSF Reply to "Sea Change": <http://www.nsf.gov/geo/oce/pubs/nsf-oce-sea-change-reply-may-11-2015.pdf>

NSF Large Facilities Manual: [http://www.nsf.gov/publications/pub\\_summ.jsp?ods\\_key=nsf15089](http://www.nsf.gov/publications/pub_summ.jsp?ods_key=nsf15089)

NSF Business Systems Review (BSR) Guide: [http://www.nsf.gov/publications/pub\\_summ.jsp?ods\\_key=nsf13100](http://www.nsf.gov/publications/pub_summ.jsp?ods_key=nsf13100)

"Investing in Science, Engineering, and Education for the Nation's Future: NSF Strategic Plan for 2014-2018": [http://www.nsf.gov/publications/pub\\_summ.jsp?ods\\_key=nsf14043](http://www.nsf.gov/publications/pub_summ.jsp?ods_key=nsf14043)

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