Pioneer Array Micro-siting Public Input Process Frequently Asked Questions

The National Science Foundation (NSF) is continuing the public input process for the micro-siting of the Pioneer Array Moorings of the Ocean Observatories Initiative (OOI) Pioneer Array. In an effort to keep all stakeholders informed on the most current information throughout this process, the program has compiled answers to the following Frequently Asked Questions (FAQs).

The initial public written comment period closed on May 27, 2011, and the NSF held a public meeting on June 7, 2011, to report out on the written comments submitted. For more information and to view materials presented at that meeting visit the following website: http://www.oceanobservatories.org/about/environmental-compliance/

NSF will continue to accept comments through the end of 2011 on the revised Pioneer Array micro-siting plan. Comments can be submitted via email or postal mail. Submission information is provided on the Public Comment Form.

How did this Micro-siting process begin and how has the public participated to date?

As discussed in the Final Site Specific Environmental Assessment (SSEA), the National Science Foundation (NSF) has initiated a "micro-siting process" designed to allow the public to provide input into the siting of the moorings for the Pioneer Array prior to a final siting determination being made. NSF and the OOI Project Office have received input into this process through several public meetings, project development and science collaborations.

What is the purpose of the OOI program?

Oceanographic research has long relied on research vessel cruises, or expeditions, as the predominant method of taking direct measurements of the ocean environment. Remote sensing, the use of satellites and other wireless technologies, has greatly advanced abilities to measure ocean surface characteristics over extended periods of time. A major advancement in oceanographic research methods is the ability to make sustained, long-term and adaptive measurements from the surface to the bottom of the ocean. Ocean observatories are now being deployed to further this goal. Building upon recent technology advances and lessons learned from prototype ocean observatories, OOI is an interactive, globally distributed and integrated infrastructure that will be the backbone for the next generation of ocean sensors, resulting in complex ocean studies that are presently unachievable.

What is included in the Pioneer Array?

The Pioneer Array will have two lines of stand-alone moorings running north-south across the continental shelf. Moorings would provide locally generated power to seafloor and platform instruments and sensors and use satellite and other wireless technologies to link to shore and the Internet. The western (downstream) line will consist of surface moorings, wire-following profiler moorings with a surface expression, and surface-piercing profiler moorings with intermittent surface expressions. The eastern (upstream) line will consist of wire-following profiler moorings with small surface expressions. Gliders and Autonomous Underwater Vehicles (AUVs) would run missions in the vicinity of the moored array. The information gleaned from the Pioneer Array will include sea temperature, winds, wave height and currents. The Pioneer Array will contain: 10 moorings located at 7 sites; 3 AUVs and 6 gliders.

What is the current schedule for the test moorings?

The OOI program will conduct a test of three buoys for the Pioneer Array this fall. Deployment for these tests is currently scheduled for Sept. 22, 2011.

Does the science still work given revisions to the micro-siting plan?

The revised micro-siting plan does meet the science/operational requirements for the Pioneer Array.

Can moorings be moved within the grey zone?

Yes, the moorings can be moved within the grey zone, provided that the science/operational requirements for the Pioneer Array continue to be met and additional input can be resolved with the input received to date.

Why do some moorings have both subsurface and surface components at 52 fathoms?

Both surface and subsurface moorings are used at some locations to achieve the OOI science goals of observing from the air/sea interface to the sea floor with high vertical resolution. This is difficult to achieve with a single mooring type.

A surface mooring includes a relatively large buoy, which creates a platform for mounting atmospheric sensors and ocean surface sensors, as well as housing for equipment for power generation data recording, and two-way communications. Surface moorings provide visibility to navigation equivalent to that of a guard buoy (~10 ft buoy tower, radar reflector, marine lantern, active radar pinger). A subsurface mooring provides a taut vertical line allowing a sensor package to sample throughout the water column with high vertical resolution. Some subsurface moorings in the Pioneer Array actually have a small float at the surface, but it is not large enough to carry instrumentation that the surface mooring can support, and is not as visible to navigation as the surface mooring.

How far apart are the two end moorings from the upstream moorings?

In the revised micro-siting plan, the two end moorings are about 4.0 nm from the upstream moorings. The distance is from the edges of the buffer zones.

How is the micro-siting public comment process related to the Site-specific Environmental Assessment/National Environmental Policy Act (SSEA/NEPA) process?

The micro-siting process came out of the SSEA/NEPA process. Although the NEPA process is now completed, the micro-siting process allows the public to have another opportunity to provide input into the final siting of the Pioneer Array within the area already analyzed in the SSEA.

Will NSF have a supplemental Final SSEA that addresses comments on socioeconomic impacts?

The socioeconomics impacts analysis was conducted in response to comments made on the Draft SSEA. The results of that analysis confirmed the findings in the Draft SSEA, and no new information was brought to light by the socioeconomics impacts analysis. Therefore, there is no further need to provide an additional NEPA process.

Will the SSEA public comments and responses be published?

NSF did not receive any public comments between the time of the publication of the Final SSEA and the issuance of the Finding of No Significant Impact/Decision Document authorizing the installation and operation of the OOI as described in the SSEA.

During the public meetings, concerns were expressed regarding whether NSF intends to regulate fishing?

NSF stated both orally (at the public meetings) and in writing (in the Finding of No Significant Impacts and in the recent invitation letter to the June 7, 2011 public meeting) that it has no interest in seeing fishing areas closed by deployment of the OOI. NSF has reiterated that it does not have any legal authority to regulate fishing. NSF's mission is to fund cutting edge science and technology; it is not a regulatory agency.

How does NSF plan to address issues involving gear entanglement?

NSF will follow traditional maritime/admiralty law and ensure that notice to mariners of the locations of the mooring buoys is provided. In response to concerns raised about gear entanglement, NSF plans to take the extra steps of putting lights and other notification devices on the mooring buoys and installing guard buoys near the Pioneer Array to provide additional notice to mariners of areas to avoid or exercise caution. If gear becomes entangled with Pioneer Array moorings, mariners should contact the U.S. Coast Guard (USCG) if a safety issue exists, and, if a mooring buoy is damaged, a telephone number of the OOI Field Operations Manager will be provided.

What have you done to ensure safety and/or make known the presence of the Pioneer Array buoys?

In order to ensure safety and make known the presence of the Pioneer Array buoys the program will follow all U.S. Coast Guard (USCG) Private Aids to Navigation (PATON) regulations and recommendations for moorings, including the following:

- Reflective panel and designation letter on hull
- USCG approved lighting (strobed marine lantern)
- Passive Radar reflector (on all buoys)
- Contact information on buoy hull
- Inclusion on the Notice to Mariners, Local Notice to Mariners, and Light List,
- Location marked on NOAA digital charts

In addition, OOI will also provide:

- Active radar pinger (on some buoys)
- Recommended Area to be Avoided (voluntary buffer zone of 0.5 nm radius around each mooring site)
- Guard buoys to delineate Area to be Avoided around Pioneer Array surface and subsurface mooring sites.
- Boat Trax (broadcasts buoy positions to nearby, receiver-equipped boats)

Will there be a gear entanglement fund associated with OOI moorings?

No, there will be no gear entanglement fund. As stated above, NSF and the OOI will follow traditional maritime/admiralty law, consistent with the practice of other federal agencies that maintain persistent moored arrays in federal and international waters. The NSF and OOI Project will work with the USCG to ensure that OOI surface moorings meet or exceed the requirements of USCG permitted PATONs. The positions of OOI moorings will be available to the public through inclusion in USCG Local Notice to Mariners (LNM), Light Lists, and marked on NOAA digital navigational charts. Surface buoys will be marked per regional USCG requirements, with all required lights and markings. OOI will work with USCG to develop guidance (to appear in LNM and/or chart annotations) regarding the suggested distance from Pioneer moorings to prevent gear entanglement (as suggested “areas to be avoided”).

If fishing gear becomes entangled or a ship strike occurs who should be contacted?

The U.S. Coast Guard should be contacted if a safety issue results from fishing gear becoming entangled or a ship strike occurs.

If OOI mooring equipment and instrumentation is found damaged, drifting, or off station (including gliders, AUVs) who should be contacted?

The OOI Field Operations Manager will be the point of contact. Contact information will be provided to the USCG and marked on OOI mooring buoys, AUVs, and gliders in advance of deployment.