

Appendix G: Pioneer MAB Community Outreach



NATIONAL SCIENCE FOUNDATION
2415 Eisenhower Avenue
Alexandria, Virginia 22314

**OFFICE OF THE
GENERAL COUNSEL**

DATE: September 29, 2023

MEMORANDUM FOR: TRIBES, GOVERNMENT AGENCIES, ORGANIZATIONS, INDIVIDUALS, AND
INTERESTED PARTIES

FROM: NATIONAL SCIENCE FOUNDATION (NSF)

RE: Notice of Availability of a Draft Supplemental Site-Specific Environmental Assessment for the NSF Ocean
Observatory Initiative (OOI) Pioneer Array Modifications and Relocation to the Mid-Atlantic Bight

The National Science Foundation (NSF) gives notice of the availability of the “Draft Supplemental Site-Specific Environmental Assessment for Pioneer Array Modifications and Relocation to the Mid-Atlantic Bight” (Draft SSSEA) for review and public comment.

NSF proposes to fund the relocation, operation, and maintenance of the NSF Ocean Observatory Initiative’s (OOI) Pioneer Array to the Mid-Atlantic Bight (MAB) off North Carolina in the Northwest Atlantic Ocean (Proposed Action). The OOI is a globally distributed, networked, ocean-focused research observatory with arrays of sophisticated instruments that utilize cutting-edge technologies to observe and study ocean processes. The Pioneer MAB Array would represent a Coastal Scale Node component of the OOI. The Pioneer MAB Array is designed to resolve transport processes and ecosystem dynamics in the vicinity of the shelf-break front, a region of high biological productivity and complex oceanographic dynamics that include intense mesoscale variability and episodic event disturbances (i.e., hurricanes). It would collect high-resolution, multidisciplinary, synoptic measurements spanning the shelf break on horizontal scales from a few kilometers to several hundred kilometers. The array is designed and planned to be relocatable approximately (~) every 5 years with new locations proposed by the NSF with input from the scientific community.

The Proposed Action would (1) relocate the Pioneer New England Shelf (Pioneer NES) Array to the southern MAB (Pioneer MAB Array, Figure 1); 2) modify the mooring designs for the new site water depths; and 3) include additional scientific instrumentation on the moorings. The Proposed Action would occur within the Exclusive Economic Zone (EEZ) of the U.S. but outside of state waters. The Pioneer MAB Array would be a T-shape array located off the coast of Nags Head, North Carolina, starting ~24 kilometers (km) (~13 nautical miles [nm]) offshore, extending ~59 km (~32 nm) east/west and ~49 km (~26 nm) north/south across the continental shelf, centered at the shelf-break front. The Project Area, including the surrounding area of potential effect, would consist of 10 moorings and a 2 km by 2 km (1 nm by 1 nm) square around the center point of each of the mooring locations. In addition, there would be mobile assets, such as autonomous underwater vehicles (AUVs) and gliders that would operate around the moorings. Gliders and AUVs would run underwater missions along tracks in the vicinity of the moored array. Two (2) AUVs and four (4) gliders would be used to provide underwater monitoring abilities along and across the shelf and within the waters of the continental slope. Gliders would be deployed on a 60-90-day rotation schedule and would be operated continuously along pre-determined paths, while the AUVs would be deployed for limited periods of ~4 days every 2 months.

The Pioneer MAB Array is proposed to be deployed in April 2024. The array and associated AUVs and gliders would be serviced primarily by vessels from the U.S. Academic Research Fleet (ARF) with support from local chartered vessels when needed; a proposed schedule for installation, operations, and maintenance is included in the Draft SSSEA. Installation, operations, and maintenance activities would use standard methods and procedures currently used by the ocean observing community. Like the Pioneer NES Array, the moorings deployed at Pioneer MAB would include anchors and benthic nodes designed to be fully recoverable, minimizing impact on the seabed.

The Draft SSSEA evaluated the potential impacts of the Proposed Action on the human and natural environment, pursuant to the National Environmental Policy Act (NEPA) and tiers to existing OOI NEPA documentation¹. The Draft SSSEA focused on activities and associated potential impacts on marine resources (e.g., geological, marine biological, socioeconomic, etc.) that were not previously assessed by existing OOI NEPA analyses. The conclusions from the Draft SSSEA were used to inform the NSF Division of Ocean Sciences (OCE) of potential environmental impacts of the Proposed Action.

Impacts from the placement of proposed mooring anchors or nodes on the seafloor would include temporary disturbance of soft sediments and coverage of relatively small areas of substrate by the anchors and scientific sensors (~37 m²) for the deployment period. Over time, the natural movement of sediments by ocean currents and burrowing organisms would reestablish natural bottom topography. Upon conclusion of operations, the entire system, including anchors and nodes, would be removed from the MAB Project Area. A small amount of Essential Fish Habitat (EFH) may potentially be impacted during installation activities. The short-term and minor increases in turbidity and sedimentation resulting from system installation, operations, maintenance, and removal would not affect the ability of EFH to support healthy fish populations, and affected areas are expected to recover quickly. The vessels and activity associated with installation and maintenance of the moorings may cause marine species, such as Endangered Species Act (ESA)-listed marine mammals, to avoid the immediate vicinity of the proposed Pioneer MAB Array sites, but this impact would be brief and temporary due to the nature of the proposed activities (estimated time to deploy a mooring with one vessel is 12 to 24 hours). Entanglement and vessel strike/collision threats to marine mammals or sea turtles are not anticipated due to the equipment design, slow operational speed (0.5 to 2 knots), and use of NMFS standard oceanographic marine mammal vessel strike avoidance measures, including special measures for North Atlantic Right Whale. The use of gliders and AUVs is not expected to affect marine species, as the proposed gliders and AUVs are self-contained and move slowly within the water column similar to a dolphin or whale. Additional new scientific instrumentation sensors would be mounted on or incorporated into the existing mooring designs; however no adverse effects to marine species are anticipated from the new sensors. Mooring sites were selected to avoid historic and cultural resources (e.g., shipwrecks).

Specific sensitive areas were considered during early planning and siting of the Pioneer MAB Array. The array would not overlap with or be anticipated to impact artificial reefs or fishery nursery areas. Four of the Pioneer MAB Array moorings would be located within the loggerhead sea turtle Constricted Migratory Corridor; however, they are not anticipated to impede sea turtle migration. The Pioneer MAB Array would not overlap with loggerhead sea turtle Coastal Critical Habitat Designation (sargassum habitat). The Pioneer MAB Array's southernmost mooring would be located within a joint Snapper-grouper/Coral Reefs and Hardbottom/Dolphin and Wahoo Habit Areas of Particular Concern (HAPC) designated by the South Atlantic Fisheries Management Council (SAFMC). The small scale and temporary nature of the single mooring would have little to no impact on the HAPC. A survey conducted of the sites also did not indicate the existence of corals.

Due to the distance from shore, small footprint, localized and temporary nature (~5 years), interactions between the Proposed Action and other ocean users, including fishing operations, in the study area are expected to be limited. Other activities, including fisheries, could occur within the proposed project area; a safe distance, however, would need to be kept from Pioneer MAB Array individual moorings. Any potential space-use conflicts would be minimized through outreach and communication with ocean users. The USCG would be contacted prior to the deployment of moorings as part of the Private Aids To Navigation (PATON) approval process and the Pioneer MAB Array moorings would be easily visible and avoidable. All mooring locations and associated components of the Pioneer Array would be published in NOAA charts, Notice to Mariners and Local Notice to Mariners. Gliders and AUVs would be marked with the name of the owning organization and a contact telephone number that ocean users could call to report any encounters at sea.

The Draft SSSEA also assessed potential cumulative effects of the Proposed Action. Overall, the combination of the proposed activities with other activities occurring in the region is expected to produce only a negligible increase in overall disturbance effects on the marine environment. Given the distance from shore, small footprint, temporary nature, and experience with Pioneer NES, significant impacts from the Proposed Action are not anticipated on the

¹OOI NEPA documents are available on the NSF website (<https://www.nsf.gov/geo/oce/envcomp/index.jsp>).

marine environment. While the Proposed Action may affect EFH and ESA-listed species, adverse effects are not likely. NSF will consult with federal regulatory agencies as applicable and appropriate.

Additional information about the proposed Pioneer MAB Array can be found in the Draft SSSEA and tiered OOI NEPA documentation, including details on relocation, operations, and maintenance; scientific instrumentation; potential effects, and diagrams of the array components.

After reviewing and considering all public comments received during the public comment period and regulatory processes, NSF will issue a Final Supplemental Site-Specific Environmental Assessment (Final SSSEA), accompanied by a decision document.

Public Comments:

The Draft SSSEA regarding the proposed action is posted for public comment on the NSF website at: <http://www.nsf.gov/geo/oce/envcomp/index.jsp>, closing on October 28, 2023. We welcome any comments you may have on the Draft SSSEA. Comments may be submitted via email to: nsfnepaooipioneer@nsf.gov. Comments received will be addressed in the Final SSSEA.

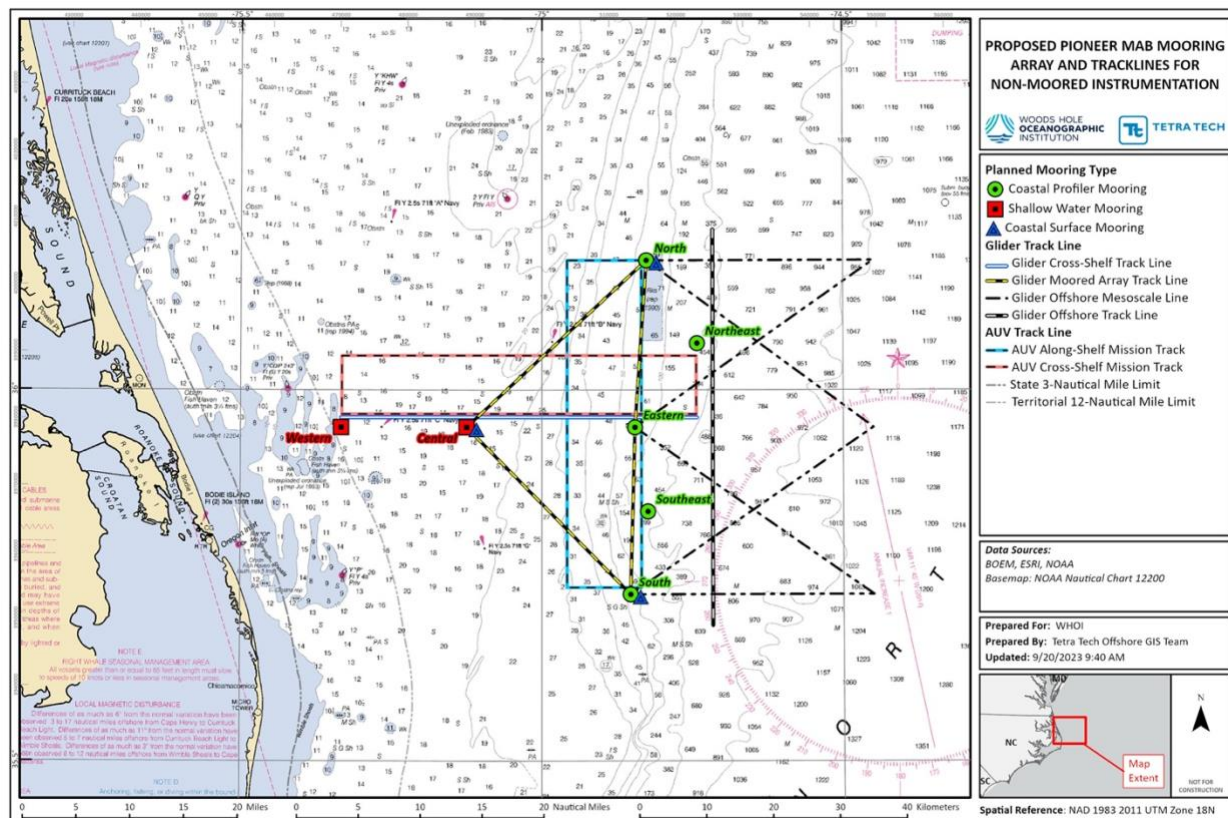
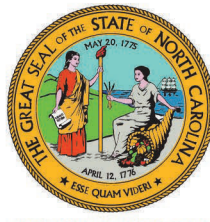


Figure 1. Proposed Pioneer MAB Array of Moorings and Surface Projection of Underwater Track lines for Mobile Assets

The Draft SSSEA was posted on September 29, 2023, for a 30-day public comment period. The following comments were received.

#	Date	Commentor	Comment	Response
1	3-Oct-2023	Michael Muglia	<p>As an oceanographer working in the southern Mid Atlantic Bight and South Atlantic Bight, I am thrilled to have these observations planned for such a complicated area. The confluence of so many different water masses here, the cold pool in the MAB, the saltier warmer SAB that meets the cold pool at the Hatteras Front, and offshore, the profound influence of the Gulf Stream on this confluence and its influence on shelf/deep ocean exchange all make this an ideal site for the Pioneer Array.</p> <p>The combination of the Pioneer Array observations with the observations we currently support at ECU’s Coastal Studies Institute, like the CDIP buoys off Nags Head/Pea Island/and Buxton as well as our land-based surface current observations from our HF radar network, will significantly enhance our understanding of the oceanography here.</p> <p>We greatly appreciate your significant efforts to relocate the array.</p>	Thank you for your comment, no response or action required.
2	4-Oct-2023	Ryan Coe, PhD, Water Power Technologies, Sandia National Laboratories	The new Pioneer Array deployment at the Mid-Atlantic will provide an invaluable opportunity to study the application of a wave energy converter (WEC) system to power. This will be a truly novel test and could lead to the broader application of WECs in oceanographic sensing and autonomous ocean power, potentially reducing greenhouse gas emissions.	Thank you for your comment, no response or action required.
3	23-Oct-2023	Caroline Lowcher	As a Nags Head resident, I look forward to seeing the OOI Pioneer MAB Array deployed off of Nags Head because this region of the coastal ocean is scientifically rich and diverse. The observations collected from the Pioneer Array at this location would support invaluable science relevant for academia, industry, and societal sectors. I hope there will be an educational outreach component for the community to publicize the research efforts taking place adjacent to this part of North Carolina's coastline. I look forward to seeing a successful deployment in spring 2024 and am optimistic about the high-impact science that will occur afterwards.	Thank you for your comment, no response or action required.
4	28-Oct-2023	Dewey Hemilright	<p>This comment here and email thread below is in opposing to the placement of the only northeastern offshore placement Pioneer Array Buoy in 300fathom+ depth of water,</p> <p>Reason for opposing is that placement of this Buoy is in direct path of the Pelagic longline fishing area, which are historical and productive fishing ground for over 20 vessels [PLL] vessel fishing in this area year around from Mass.to Florida fishing this area.</p> <p>Pelagic Long Line gear is free floating monofilament line free float, fished the water column from surface to deep in water column, given the free floating with length 15/32 miles in length movement with tide once set doesn’t stay in same place.</p> <p>The proposed placement location of the Northeastern offshore buoy would basic cause a closed area inside the NE offshore buoy as there is probably at least 2 to 3 vessels lost sets inside of NE buoy because gear would entangle in Proposed NE buoy which fishermen couldn’t fish inside, making it a closed area.not good</p> <p>As PLL can’t afford to lose any more highly productive fishing grounds,</p> <p>I personally have spent a good amount of time tracking down and educating folks that are with WHOI, as why we can’t have a NE offshore placed in productive fishing grounds.</p> <p>Inclosing please reconsider different location of placement of this NE offshore buoy, I’ve also included the PLL vessel tracks from 2012-2020 for your review as to where we fish.</p> <p>In the future it would be good to have early outreach to fishermen and community before any placement of Buoy’s in fishing ground as the placement earlier this year that didn’t happen, also included a PLL fishermen entangled in NE Offshore Buoy that was placed with fishermen knowledge which is in video below,</p> <p>Thank you for opportunity to comments and would welcome a comprise to NE offshore buoy placement.</p>	Thank you for your comment. In response to the concerns raised, the originally planned 600-m locations (Northeastern and Southeastern moorings) would be moved westward to the 300-m contour. This new mooring position would reduce the likelihood of impacts to longline fishing activity
5	1-Nov-2023	North Carolina State Historic Preservation Office	<p>Thank you for your submission of September 29, 2023, concerning the above project.</p> <p>We have conducted a review of the project and are aware of no historic resources which would be affected by the project. Therefore, we have no comment on the project as proposed.</p> <p>The above comments are made pursuant to Section 106 of the National Historic Preservation Act and the Advisory Council on Historic Preservation’s Regulations for Compliance with Section 106 codified at 36 CFR Part 800.</p>	Thank you for your comment, no response or action required. The NC State Environmental Review Clearing house distributed the SSSEA to all relevant state agencies for their review according to the State Environmental Policy Act. The relevant agencies reviewed the project and responded with no comments.
6	2-Nov-2023	North Carolina Department of Environmental Quality	<p>The Department of Environment Quality has reviewed the proposal for the referenced project.</p> <p>The Department will continue to be available to assist the applicant with any questions or concerns.</p> <p>Thank you for the opportunity to respond.</p> <p>Attachments indicate No Comment.</p>	Thank you for your comments, no response or action required. The NC State Environmental Review Clearing house distributed the SSSEA to all relevant state agencies for their review according to the State Environmental Policy Act. The relevant agencies reviewed the project and responded with no comments.



NORTH CAROLINA
Environmental Quality

ROY COOPER
Governor

ELIZABETH S. BISER
Secretary

To: Kadisha Molyneaux
State Clearinghouse
NC Department of Administration

From: Lyn Biles
Division of Environmental Assistance and Customer Service
Washington Regional Office

Re: 24-0110
Environmental Assessment - Proposal for the NSF Ocean
Observatory Initiative (OOI) Pioneer Array Modifications and
Relocation to the Mid-Atlantic Bight. The Proposed Action would
(1) relocate the Pioneer New England Shelf (Pioneer NAS) Array to
the southern MAB (Pioneer MAB Array; 2) modify the mooring
designs for the new site water depths; and 3) include additional
scientific instrumentation on the moorings. The Proposed Action
would occur within the Exclusive Economic Zone (EEZ) of the U.S.
but outside of state waters.
Dare, Pender, Onslow and Carteret Counties

Date: November 2, 2023

The Department of Environment Quality has reviewed the proposal for the referenced project.

The Department will continue to be available to assist the applicant with any questions or concerns.

Thank you for the opportunity to respond.

Attachments



North Carolina Department of Environment Quality
217 West Jones Street | 1601 Mail Service Center | Raleigh, North Carolina 27699-1601
919.707.8600

Department of Environmental Quality

Project Review

Project Number: 24-0110

County: Carteret, Dare, Onslow &
Pender

Date Received: 10-2-2023

Due Date: 10-27-2023

Project Description:

Environmental Assessment - Proposal is for the Draft Supplemental Site-Specific Environmental Assessment for the NSF Ocean Observatory Initiative (OOI) Pioneer Array Modifications and Relocation to the Mid-Atlantic Bight. NSF proposes to fund the relocation, operation, and maintenance of the NSF Ocean Observatory Initiative's (OOI) Pioneer Array to the Mid-Atlantic Bight (MAB) off North Carolina in the Northwest Atlantic Ocean (Proposed Action). The Proposed Action would (1) relocate the Pioneer New England Shelf (Pioneer NES) Array to the southern MAB (Pioneer MAB Array, Figure 1); 2) modify the mooring designs for the new site water depths; and 3) include additional scientific instrumentation on the moorings. The Proposed Action would occur within the Exclusive Economic Zone (EEZ) of the U.S. but outside of state waters.

This Project is being reviewed as indicated below:

Regional Office	Regional Office Area	In-House Review	
<input type="checkbox"/> Asheville	<input type="checkbox"/> Air	<input type="checkbox"/> Air Quality	<input checked="" type="checkbox"/> Coastal Management
<input type="checkbox"/> Fayetteville	<input checked="" type="checkbox"/> DWR	<input checked="" type="checkbox"/> Waste Mgmt	<input checked="" type="checkbox"/> Marine Fisheries
<input type="checkbox"/> Mooresville	<input type="checkbox"/> DWR - Public Water	<input type="checkbox"/> Water Resources Mgmt (Public Water, Planning & Water Quality Program)	<input type="checkbox"/> CC & PS Div. of Emergency Mgmt
<input type="checkbox"/> Raleigh	<input type="checkbox"/> DEMLR (LQ & SW)	<input type="checkbox"/> DWR-Transportation Unit	<input checked="" type="checkbox"/> DMF-Shellfish Sanitation
<input checked="" type="checkbox"/> Washington	<input type="checkbox"/> DWM		<input checked="" type="checkbox"/> Wildlife <u>Maria</u>
<input checked="" type="checkbox"/> Wilmington			<input type="checkbox"/> Wildlife/DOT
<input type="checkbox"/> Winston Salem			

Manager Sign-Off/Region:

Date:

10-25-2023

In-House Reviewer/Agency:

Maria / NCWRC

Response (check all applicable)

☐ No objection to project as proposed.

☒ No Comment

☐ Insufficient information to complete review

☐ Other (specify or attach comments)

Department of Environmental Quality

Project Review

Project Number: 24-0110

County: Carteret, Dare, Onslow &
Pender

Date Received: 10-2-2023

Due Date: 10-27-2023

Project Description:

Environmental Assessment - Proposal is for the Draft Supplemental Site-Specific Environmental Assessment for the NSF Ocean Observatory Initiative (OOI) Pioneer Array Modifications and Relocation to the Mid-Atlantic Bight. NSF proposes to fund the relocation, operation, and maintenance of the NSF Ocean Observatory Initiative's (OOI) Pioneer Array to the Mid-Atlantic Bight (MAB) off North Carolina in the Northwest Atlantic Ocean (Proposed Action). The Proposed Action would (1) relocate the Pioneer New England Shelf (Pioneer NES) Array to the southern MAB (Pioneer MAB Array, Figure 1); 2) modify the mooring designs for the new site water depths; and 3) included additional scientific instrumentation on the moorings. The Proposed Action would occur within the Exclusive Economic Zone (EEZ) of the U.S. but outside of state waters.

This Project is being reviewed as indicated below:

Regional Office	Regional Office Area	In-House Review	
<input type="checkbox"/> Asheville	<input type="checkbox"/> Air	<input type="checkbox"/> Air Quality	<input checked="" type="checkbox"/> Coastal Management
<input type="checkbox"/> Fayetteville	<input checked="" type="checkbox"/> DWR	<input checked="" type="checkbox"/> Waste Mgmt	<input checked="" type="checkbox"/> Marine Fisheries
<input type="checkbox"/> Mooresville	<input type="checkbox"/> DWR - Public Water	<input type="checkbox"/> Water Resources Mgmt (Public Water, Planning & Water Quality Program)	<input type="checkbox"/> CC & PS Div. of Emergency Mgmt
<input type="checkbox"/> Raleigh	<input type="checkbox"/> DEMLR (LQ & SW)	<input type="checkbox"/> DWR-Transportation Unit	<input checked="" type="checkbox"/> DMF-Shellfish Sanitation
<input checked="" type="checkbox"/> Washington	<input type="checkbox"/> DWM		<input checked="" type="checkbox"/> Wildlife <u>Maria</u>
<input checked="" type="checkbox"/> Wilmington			<input type="checkbox"/> Wildlife/DOT
<input type="checkbox"/> Winston Salem			

Manager Sign-Off/Region:	Date: 10/5/2023	In House Reviewer/Agency: <u>Andrew Haines</u> for Shannon Jenkins
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Response (check all applicable)

☐ No objection to project as proposed.

☒ No Comment

☐ Insufficient information to complete review

☐ Other (specify or attach comments)



**North Carolina Department of Natural and Cultural Resources
State Historic Preservation Office**

Ramona M. Bartos, Administrator

Governor Roy Cooper
Secretary D. Reid Wilson

Office of Archives and History
Deputy Secretary, Darin J. Waters, Ph.D.

November 1, 2023

MEMORANDUM

TO: Kadisha Molyneaux state.clearinghouse@doa.nc.gov
North Carolina State Clearinghouse
Department of Administration

FROM: Ramona M. Bartos, Deputy
State Historic Preservation Officer *RMB for Ramona M. Bartos*

SUBJECT: NSF Ocean Observatory Initiative (OOI) Pioneer Array Modifications and Relocation to the
Mid-Atlantic Bight, Multiple Counties, 24-E-0000-0110, ER 23-2215

Thank you for your submission of September 29, 2023, concerning the above project.

We have conducted a review of the project and are aware of no historic resources which would be affected by the project. Therefore, we have no comment on the project as proposed.

The above comments are made pursuant to Section 106 of the National Historic Preservation Act and the Advisory Council on Historic Preservation's Regulations for Compliance with Section 106 codified at 36 CFR Part 800.

Thank you for your cooperation and consideration. If you have questions concerning the above comment, contact Renee Gledhill-Earley, environmental review coordinator, at 919-814-6579 or environmental.review@dncr.nc.gov. In all future communication concerning this project, please cite the above referenced tracking number.



Roy Cooper
Governor

Pamela B. Cashwell
Secretary

November 2, 2023

Holly Smith
National Science Foundation
Office of the General Counsel
2415 Eisenhower Avenue
Alexandria, NC 22314-

Re: SCH File # 24-E-0000-0110 Proposal is for the Draft Supplemental Site-Specific Environmental Assessment for the NSF Ocean Observatory Initiative (OOI) Pioneer Array Modifications and Relocation to the Mid-Atlantic Bight. NSF proposes to fund the relocation, operation, and maintenance of the NSF Ocean Observatory Initiative's

Dear Holly Smith:

The above referenced environmental impact information has been submitted to the State Clearinghouse under the provisions of the National Environmental Policy Act. According to G.S. 113A-10, when a state agency is required to prepare an environmental document under the provisions of federal law, the environmental document meets the provisions of the State Environmental Policy Act.

Attached to this letter are comments made by the agencies in the review of this document. If any further environmental review documents are prepared for this project, they should be forwarded to this office for intergovernmental review.

If you have any questions, please do not hesitate to contact me at (984) 236-0000.

Sincerely,

KADISHA MOLYNEAUX
State Environmental Review Clearinghouse

Attachments

Mailing
1301 Mail Service Center | Raleigh, NC 27699-1301



ncadmin.nc.gov

Location
116 West Jones St. | Raleigh NC 27603
984-236-0000 T

Control No.: 24-E-0000-0110

Date Received: 10/2/2023

County.: DARE, PENDER, ONSLOW,
CARTERET

Agency Response: 11/1/2023

Review Closed: 11/1/2023

LYN BILES

CLEARINGHOUSE COORDINATOR

DEPT OF ENVIRONMENTAL QUALITY

Project Information

Type: National Environmental Policy Act ironmental Assessment

Applicant: National Science Foundation

Project Desc.: Proposal is for the Draft Supplemental Site-Specific Environmental Assessment for the NSF Ocean Observatory Initiative (OOI) Pioneer Array Modifications and Relocation to the Mid-Atlantic Bight. NSF proposes to fund the relocation, operation, and maintenance of the NSF Ocean Observatory Initiative's (OOI) Pioneer Array to the Mid-Atlantic Bight (MAB) off North Carolina in the Northwest Atlantic Ocean (Proposed Action). The Proposed Action would (1) relocate the Pioneer New England Shelf (Pioneer NES) Array to the southern MAB (Pioneer MAB Array, Figure 1); 2) modify the mooring designs for the new site water depths; and 3) include additional scientific instrumentation on the moorings. The Proposed Action would occur within the Exclusive Economic Zone (EEZ) of the U.S. but outside of state waters.

As a result of this review the following is submitted:

☐ No Comment

☐ Comments Below

☒ Documents Attached

Reviewed By: LYN BILES

Date: 11/1/2023

Control No.: 24-E-0000-0110

Date Received: 10/2/2023

County.: DARE, PENDER, ONSLOW,
CARTERET

Agency Response: 11/1/2023

Review Closed: 11/1/2023

JINTAO WEN
CLEARINGHOUSE COORDINATOR
DPS - DIV OF EMERGENCY MANAGEMENT

Project Information

Type: National Environmental Policy Act ironmental Assessment

Applicant: National Science Foundation

Project Desc.: Proposal is for the Draft Supplemental Site-Specific Environmental Assessment for the NSF Ocean Observatory Initiative (OOI) Pioneer Array Modifications and Relocation to the Mid-Atlantic Bight. NSF proposes to fund the relocation, operation, and maintenance of the NSF Ocean Observatory Initiative's (OOI) Pioneer Array to the Mid-Atlantic Bight (MAB) off North Carolina in the Northwest Atlantic Ocean (Proposed Action). The Proposed Action would (1) relocate the Pioneer New England Shelf (Pioneer NES) Array to the southern MAB (Pioneer MAB Array, Figure 1); 2) modify the mooring designs for the new site water depths; and 3) include additional scientific instrumentation on the moorings. The Proposed Action would occur within the Exclusive Economic Zone (EEZ) of the U.S. but outside of state waters.

As a result of this review the following is submitted:

☒ No Comment

☐ Comments Below

☐ Documents Attached

Reviewed By: JINTAO WEN

Date: 10/30/2023

Control No.: 24-E-0000-0110

Date Received: 10/2/2023

County.: DARE, PENDER, ONSLOW,
CARTERET

Agency Response: 11/1/2023

Review Closed: 11/1/2023

DEVON BORGARDT
CLEARINGHOUSE COORDINATOR
DEPT OF NATURAL & CULTURAL
RESOURCE

Project Information

Type: National Environmental Policy Act ironmental Assessment

Applicant: National Science Foundation

Project Desc.: Proposal is for the Draft Supplemental Site-Specific Environmental Assessment for the NSF Ocean Observatory Initiative (OOI) Pioneer Array Modifications and Relocation to the Mid-Atlantic Bight. NSF proposes to fund the relocation, operation, and maintenance of the NSF Ocean Observatory Initiative's (OOI) Pioneer Array to the Mid-Atlantic Bight (MAB) off North Carolina in the Northwest Atlantic Ocean (Proposed Action). The Proposed Action would (1) relocate the Pioneer New England Shelf (Pioneer NES) Array to the southern MAB (Pioneer MAB Array, Figure 1); 2) modify the mooring designs for the new site water depths; and 3) include additional scientific instrumentation on the moorings. The Proposed Action would occur within the Exclusive Economic Zone (EEZ) of the U.S. but outside of state waters.

As a result of this review the following is submitted:

☐ No Comment

☒ Comments Below

☒ Documents Attached

SHPO No Comment ER 23-2215

Reviewed By: DEVON BORGARDT

Date: 11/1/2023

Control No.: 24-E-0000-0110

Date Received: 10/2/2023

County.: DARE, PENDER, ONSLOW,
CARTERET

Agency Response: 11/1/2023

Review Closed: 11/1/2023

JESSICA MOSLEY
CLEARINGHOUSE COORDINATOR
DEPT OF TRANSPORTATION

Project Information

Type: National Environmental Policy Act ironmental Assessment

Applicant: National Science Foundation

Project Desc.: Proposal is for the Draft Supplemental Site-Specific Environmental Assessment for the NSF Ocean Observatory Initiative (OOI) Pioneer Array Modifications and Relocation to the Mid-Atlantic Bight. NSF proposes to fund the relocation, operation, and maintenance of the NSF Ocean Observatory Initiative's (OOI) Pioneer Array to the Mid-Atlantic Bight (MAB) off North Carolina in the Northwest Atlantic Ocean (Proposed Action). The Proposed Action would (1) relocate the Pioneer New England Shelf (Pioneer NES) Array to the southern MAB (Pioneer MAB Array, Figure 1); 2) modify the mooring designs for the new site water depths; and 3) include additional scientific instrumentation on the moorings. The Proposed Action would occur within the Exclusive Economic Zone (EEZ) of the U.S. but outside of state waters.

As a result of this review the following is submitted:

☒ No Comment

☐ Comments Below

☐ Documents Attached

Reviewed By: JESSICA MOSLEY

Date: 10/10/2023

From: Pace Federal <pace.wilber@noaa.gov>

Date: Wednesday, January 3, 2024 at 4:44 PM

To: "Smith, Holly E." <hesmith@nsf.gov>

Subject: [EXTERNAL] - Re: EFH Consultation Request - NSF OOI Pioneer Array

Dear Ms. Smith,

NMFS has reviewed your letter dated November 17, 2023, and *Draft Supplemental Site-specific Environmental Assessment for Pioneer Array Modifications and Relocation to the Mid-Atlantic Bight* dated September 28, 2023. NSF and partners propose to (1) relocate the Pioneer New England Shelf (Pioneer NES) Array to the southern Mid-Atlantic Bight (MAB) (Pioneer MAB Array); 2) modify the mooring designs; and 3) augment the array's scientific instrumentation. The Pioneer MAB Array would be located in federal waters offshore North Carolina and partly overlap an area known as "The Point," which the South Atlantic Fishery Management Council designates a Habitat Area of Particular Concern (HAPC) under several fishery management plans. NSF anticipates relocating the array every five years to new locations proposed by the scientific community, and those relocations may be subject to future EFH consultations if there is a federal nexus. NSF does not anticipate establishing and operating the Pioneer MAB Array will have adverse effects on EFH designated by the Mid-Atlantic Fishery Management Council, South Atlantic Fishery Management Council, or NMFS.

Appendices to the Environmental Assessment include detailed site characterizations, including ROV surveys, of the mooring locations for the Pioneer MAB Array. The mooring sites consist of unconsolidated sediments without deepwater coral and hardbottom habitats. The NMFS anticipates any adverse effects occurring from the Pioneer MAB Array to NOAA-trust resources would be minimal. Consequently, the NMFS offers no EFH conservation recommendations pursuant to the Magnuson-Stevens Fishery Conservation and Management Act. If further coordination on this action is needed, please let us know.

Sincerely,

Pace Wilber, Ph.D.
South Atlantic and Caribbean Branch Chief
Habitat Conservation Division
NOAA Fisheries Service
331 Ft Johnson Road
Charleston, SC 29412



UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
Silver Spring, MD 20910

Refer to NMFS No: OPR-2023-03040

Ms. Holly Smith
Environmental Policy Specialist
National Science Foundation
2415 Eisenhower Avenue
Alexandria, Virginia 22314

RE: Concurrence Letter for the National Science Foundation Ocean Observatory Initiative's
Pioneer Mid-Atlantic Bight Array

Dear Ms. Smith:

On November 17, 2023, the National Marine Fisheries Service (NMFS) received your request for a written concurrence under the Endangered Species Act of 1973, as amended (ESA; 16 U.S.C. 1531 et seq.) that the National Science Foundation's (NSF) funding of the Ocean Observatory Initiative's Pioneer Mid-Atlantic Bight Array is not likely to adversely affect ESA-listed species or designated critical habitat. This response to your request was prepared by NMFS pursuant to section 7(a)(2) of the ESA, implementing regulations at (50 CFR §402), and agency guidance for preparation of letters of concurrence.

We reviewed the consultation request document and related materials submitted by your agency. Based on our knowledge, expertise, and the materials submitted in your request for informal consultation, we concur with the NSF's conclusions that the proposed action is not likely to adversely affect the NMFS ESA-listed species and designated critical habitat.

This concludes consultation under the ESA for species and designated critical habitat under NMFS's purview on NSF's funding of the Ocean Observatory Initiative's Pioneer Mid-Atlantic Bight Array.

Reinitiation of consultation is required and shall be requested by the NSF where discretionary Federal involvement or control over the action has been retained or is authorized by law and: (a) take occurs; (b) new information reveals effects of the action that may affect listed species or critical habitat in a manner or to an extent not previously considered in this consultation; (c) the action is subsequently modified in a manner that causes an effect to the listed species or critical habitat not previously considered in this consultation; or (d) if a new species is listed or critical habitat designated that may be affected by the action (50 CFR §402.16).



We look forward to further cooperation with you on other projects to ensure the conservation of our threatened and endangered marine species and designated critical habitat. If you have any questions on this consultation, please contact Colette Cairns, Consultation Biologist at (301) 427-8414 or by email at colette.cairns@noaa.gov, or me at (240) 723-6321, or by email at Tanya.Dobrzynski@noaa.gov.

Sincerely,

Tanya Dobrzynski
Chief, ESA Interagency Cooperation Division
Office of Protected Resources



Pioneer MAB Community Outreach Status

Control Number: 3210-00005

Version: 0-02

Date: 2023-05-30

Author: Derek Buffitt, Al Plueddemann

**Coastal and Global Scale Nodes
Ocean Observatories Initiative**
Woods Hole Oceanographic Institution



Revision History

Version	Description	ECR No.	Release Date
0-01	Initial Draft		29-Mar-2023
0-02	Updates to Sec. 4 table		30-May-2023

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2.0 Purpose

The purpose of this document is to provide an ongoing status of community outreach for the Pioneer Mid-Atlantic Bight (MAB) Relocation.

3.0 Definitions & Acronyms

AGU	American Geophysical Union
CFRF	Commercial Fisheries Research Foundation
CGSN	Coastal & Global Scale Nodes
CNO	Chief of Naval Operations
COMSUBLANT	Commander, Submarine Force Atlantic
ECU	East Carolina University
MFN	Multi-Function Node
MAB	Mid-Atlantic Bight
MABPOM	Middle Atlantic Bight Physical Oceanography and Meteorology Meeting
MAFMC	Mid-Atlantic Fishery Management Council
MARACOOS	Middle Atlantic Regional Association Coastal Ocean Observing System
MTS	Marine Technology Society
NCDCM	North Carolina Division of Coastal Management
NCSU	North Carolina State University
NDBC	National Data Buoy Center
NERACOOS	Northeastern Regional Association Coastal Ocean Observing System
NES	New England Shelf
NETC	Naval Education and Training Command
NOAA	National Oceanic & Atmospheric Administration
NSFCO	Naval Seafloor Cable Protection Office
NSFEXWC	NAVFAC Engineering & Expeditionary Warfare Center
NSIF	Near Surface Instrument Frame
NWP	Nationwide Permit
OOI	Ocean Observatories Initiative
OOIFB	Ocean Observatories Initiative Facilities Board
PM	Profiler Mooring
SECOORA	Southeast Coastal Ocean Observing Regional Association
SM	Surface Mooring
SWM	Shallow Water Mooring
UNC	University of North Carolina
USACE	US Army Corps of Engineers
USFFC	US Fleet Forces Command

4.0 Overview

4.1. Site Summary

The Pioneer MAB Array is proposed to be relocated in the spring of 2024 to the coast of Nags Head in North Carolina. The preliminary plan is for the moored array to be constituted in a sideways “T” shape, with seven mooring sites between about 13 nautical miles (nm) and 45 nm offshore, outside of state waters. The Pioneer MAB Array will consist of:

- Three surface moorings located in 30 m and 100 m water depths
- Five profiler moorings located in 100 m and 600 m water depths
- Two shallow-water moorings located in 30 m water depths

5.0 Science Community Outreach

Date	Outreach	Topic	OOI-CGSN Participant
20-Feb-2020	Public Announcement	NSF announces intent to relocate at Ocean Sciences Meeting Town Hall	
8-Dec-2020	Presentation at Fall American Geophysical Union meeting	Pioneer Relocation Update*	Plueddemann
15-19-Mar-2021	NSF sponsored Innovations Lab #1	Pioneer ReLocation, community discussion and input	Plueddemann, Buffitt
5-Mar-2021	Commercial Fisheries Research Foundation (CFRF), New England Fishers	Pioneer Relocation Update	Plueddemann
21-25-Jun-2021	NSF sponsored Innovations Lab #2	Pioneer ReLocation, community discussion and input	Plueddemann, Buffitt
13-Dec-2021	Presentation at Fall American Geophysical Union meeting	Pioneer Relocation Update	Plueddemann
21-Jul-2021	Presentation to MARACOOS board	Pioneer Relocation Update	Trowbridge
15-Oct-2021	Email OOIFB	CGSN establishes Pioneer Relocation Focus Group	OOIFB and Plueddemann
18-Feb-2022	Public Announcement	CGSN establishes Pioneer Relocation web pages on oceanobservatories.org	
24-Feb-2022	OOIFB	Pioneer Relocation Update	Plueddemann
25-Feb-2022	Ocean Sciences Meeting	Pioneer Relocation Update	Plueddemann
31-Mar-2022	OOIFB	Pioneer Relocation Update	Plueddemann
16-18-Jun-2022	Biogeochemical Sensor Workshop	Pioneer Relocation Update	Plueddemann
20-Sep-2022	MTS Buoy Workshop	Pioneer Relocation Update	Plueddemann
13-Oct-2022	MABPOM Meeting	Pioneer Relocation Update	Plueddemann
27-Oct-2022	OOIFB	Pioneer Relocation Update	Plueddemann

Date	Outreach	Topic	OOI-CGSN Participant
15-Nov-2022	Email Notification	CGSN notifies National Data Buoy Center (NDBC) of the Pioneer Array Relocation	Reed
12-Dec-2022	Presentation at Fall American Geophysical Union meeting	Pioneer Relocation Update	Plueddemann
20-Jan-2023	Presentation at OCB BGC Network workshop	Pioneer NES & MAB Status and Overview	Plueddemann
23-Jan-2023	Email Exchange	Pioneer Relocation overview and outreach coordination with Directors of NERACOOS, MARACOOS and SECOORA	Plueddemann
21-Feb-2023	Press Release	Pioneer Relocation press release, picked up by eight different media outlets	Plueddemann, Trew Crist
30-Mar-2023	OOIFB	Pioneer Relocation Update	Plueddemann
9-Mar-2023	Article	Pioneer Relocation article appears in WHOI's Oceanus Magazine	Plueddemann
7-Mar-2023	Phone Call with: Francis "Dewey" Hemilright MAFMC	Discussed longlining in the area of proposed Pioneer MAB location, indicated deepest moorings (600m) may conflict with fishing activities	Plueddemann
29-Mar-2023	Email Exchange Francis "Dewey" Hemilright, MAFMC Mike Muglia, ECU George Bonner, NCSU Lindsay Dubbs, UNC	Continued discussion concerning fishing activity in area of proposed Pioneer MAB	Plueddemann
18-Apr-2023	Presentation at North Carolina State University	Pioneer Relocation Update with telepresence to UNC Chapel Hill and Duke	Plueddemann
19-Apr-2023	Presentation at Cape Fear Community College	Pioneer Relocation Update with telepresence to UNC Wilmington	Plueddemann
20-Apr-2023	Presentation at Eastern Carolina University Coastal Studies Institute	Pioneer Relocation Update with live stream to public as part of ECU-CSI Science on the Sound series	Plueddemann
21-Apr-2023	Presentation at University of North Carolina Institute of Marine Sciences	Pioneer Relocation Update with telepresence at NCSU Center for Marine Science and Technology and Duke University Marine Lab	Plueddemann

6.0 Relocation Planning/Regulatory Outreach

Date	Outreach	Topic	OOI-CGSN Participant
08-Mar-2022	Phone call Daniel Govoni <ul style="list-style-type: none"> • NCDCCM 	Introduction of Pioneer MAB array and location, discussed need for a one page introduction to project for distribution	TetraTech – Mike Murphy
15-Mar-2022	Phone call Benjamin Laws <ul style="list-style-type: none"> • NOAA 	Introduction of Pioneer MAB array and location, discussed whether Incidental Harassment Authorization required (not required)	TetraTech – Katherine Miller
17-Mar-2022	Phone call Bill Standridge <ul style="list-style-type: none"> • USACE 	Introduction of Pioneer MAB array and location, project qualifies for Nationwide Permit #5 as long as it follows General Conditions, and no PCN required.	TetraTech – Katherine Miller
21-Mar-2022	Email Exchange Daniel Govoni NCDCCM	Introduction memo delivered, one page description of Pioneer Array	TetraTech – Mike Murphy/Jennifer Kraus
07-Apr-2022	Email Exchange Daniel Govoni <ul style="list-style-type: none"> • NCDCCM 	Memo delivered to support federal consistency determination, one page description of Pioneer Array	TetraTech – Mike Murphy/Jennifer Kraus
10-June-2022	Phone Call Daniel Govoni <ul style="list-style-type: none"> • NCDCCM 	Confirmed receipt of memo, requested coordinates for moorings (delivered June 15), noted review would be complete by mid-June	TetraTech – Mike Murphy
24-June-2022	Email Exchange Daniel Govoni <ul style="list-style-type: none"> • NCDCCM 	Confirmed completion of review, no major issues, recommended review of two deepest offshore sites (600m profiler moorings), they are located in longlining areas	TetraTech – Mike Murphy
23-Aug-2022	Email Exchange Michael McGinn <ul style="list-style-type: none"> • US Navy COMSUBLANT Beth Levy <ul style="list-style-type: none"> • US Navy CNO Paul Ling <ul style="list-style-type: none"> • US Navy Sean Locker <ul style="list-style-type: none"> • US Navy NETC Dan Hurley <ul style="list-style-type: none"> • US Navy Dustin Reddy <ul style="list-style-type: none"> • US Navy COMSUBLANT Anna Kathryn <ul style="list-style-type: none"> • US Navy COMSUBLANT Victor Hill <ul style="list-style-type: none"> • US Navy USFFC Greg Thomas <ul style="list-style-type: none"> • US Navy USFFC Michael Jones	<p>Advised of final recovery of Pioneer NES 2022, planned move to Pioneer MAB 2024, overview of infrastructure and locations. McGinn distributed to US Navy CNO, CTR, NETC, COMSUBLANT, USFFC</p> <p>No issues noted other than performing USCG PATONs and LNTMs</p>	Emrich, Buffitt

Date	Outreach	Topic	OOI-CGSN Participant
	<ul style="list-style-type: none"> US Navy USFFC 		
28-Sept-2022	Email Exchange Michael McGinn <ul style="list-style-type: none"> US Navy COMSUBLANT 	Verifying no other coordination contacts required for operations	Emrich
07-Dec-2022	Email Exchange Michael McGinn <ul style="list-style-type: none"> US Navy COMSUBLANT 	Providing confirmation of Pioneer NES recovery, Pioneer MAB test deployment schedule, and approximate timing of first Pioneer MAB deployment	Emrich
13-Jan-2023	Email Exchange Catherine Creese <ul style="list-style-type: none"> US Navy NSFCO NSFEXWC 	Providing an overview of Pioneer MAB infrastructure and locations	Buffitt
06-Feb-2023	Email Exchange Michael McGinn <ul style="list-style-type: none"> US Navy COMSUBLANT 	Provided PATON and LNTM for AST3 test deployment	Emrich
07-Feb-2023	Email Exchange Catherine Creese US Navy NSFCO NSFEXWC	Received confirmation, no conflicts with Navy infrastructure	Buffitt