

**CATEGORICAL EXCLUSION FOR THE WIND FORECAST IMPROVEMENT
PROJECT (WFIP3),
NEW ENGLAND AND NORTHWEST-ATLANTIC CONTINENTAL SHELF
NEAR CAPE COD, MA
PACIFIC NORTHWEST NATIONAL LABORATORY,
RICHLAND, WASHINGTON**

Proposed Action:

The U.S. Department of Energy (DOE) and the National Oceanographic and Atmospheric Administration (NOAA) plan to conduct a multi-seasonal offshore field measurement research campaign. This research project is expected to begin in the fall of 2023 and will last approximately 25 months. DOE, NOAA, and partners (Figure 1) will deploy atmospheric and oceanographic instruments, including: LiDAR, sodar, radar, ~10 m meteorological towers with multiple sensors, radiometers, and radiosonde releases (Figure 1). Instruments deployed will be used to gather data measurements from atmospheric and oceanographic sources. The collected environmental data will be analyzed to better understand coupled ocean-atmosphere processes and their representation in numerical forecast models with the goal of improving wind energy forecasts over the coastal ocean.

The Wind Forecasting Improvement Project Phase 3 (WFIP-3) has three general scientific goals:

- Improve the physical understanding of mesoscale meteorological and oceanographic processes that directly affect wind resource characterization in the U.S. East Coast offshore environment.
- Deploy and operate a 3-D multiscale sensor array to characterize vertical and horizontal structure of the marine boundary layer to provide the observations necessary to improve our understanding of these processes.
- Incorporate and validate the new understanding into foundational numerical weather forecasting models and other physics-based atmospheric and oceanographic models to improve wind energy forecasts.

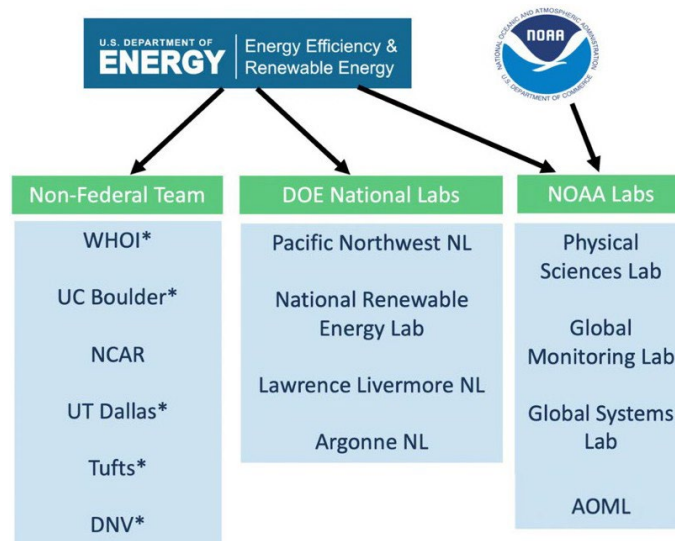


Figure 1. Project collaborators and team structure.

Project collaborators (Figure 1) include a Woods Hole Oceanographic Institution (WHOI) led non-federal team that includes University of Colorado Boulder, National Center for Atmospheric Research (NCAR), University of Texas Dallas, and Tufts and Det Norske Veritas (DNV). DOE national laboratory project collaborators, led by Pacific Northwest National Laboratory (PNNL), include: National Renewable Energy Laboratory (NREL), Lawrence Livermore National Laboratory (LLNL), Argonne National Laboratory (ANL), National Ocean and Atmospheric Administration (NOAA) Physical Sciences Laboratory, NOAA Global Monitoring Laboratory, NOAA Global Systems Laboratory, and NOAA Atlantic Oceanographic and Metrological Laboratory. Collaborators will collect atmospheric and oceanographic measurements with both in-situ and remote sensing instruments. Both agencies are involved in all aspects of this project and will be collaborating on all actions. With the exception of the deployment of buoys, which is a DOE specific activity.

WFIP-3 instrumentation (Figure 2) will include multiple land and in-water sites within New England and on the northwestern-Atlantic continental shelf. Upon completion of the deployment, all instrumentation and associated structures will be removed from land and in-water sites, including anchors. Post decommissioning, all instruments or buoys will be transported to their respective institutions.



Figure 2. Sample set of instruments and platforms used for scientific measurements.

Location of Action:

WFIP-3 devices and structures will be deployed on land and in-water sites around New England and the Northwest-Atlantic Continental Shelf. Land sites include Martha’s Vineyard Coastal Observatory (MVCO), Nantucket Island (NANT), Squibnocket Farms (SQUB), Block Island (BLOC) and Cape Cod in Massachusetts (CACO), and Camp Varnum Narragansett in Rhode Island (RHOD).

The program will leverage existing and extensive offshore measurement capabilities with several unique offshore research platform that include the 25-m tall Air-Sea Interaction Tower (ASIT, Figure 1) at the MVCO, a horizontal array of sentinel and LiDAR buoys, and a large barge at approximately 40.9 degrees (lat) and -70.7833 degrees (long) to support another 20-m tower and high-power remote sensors within active wind energy lease areas. Figure 3 also shows other existing observations collected by the National Data Buoy Center (NDBC) buoys and upper air soundings from National Weather Service near Cape Cod, Massachusetts.

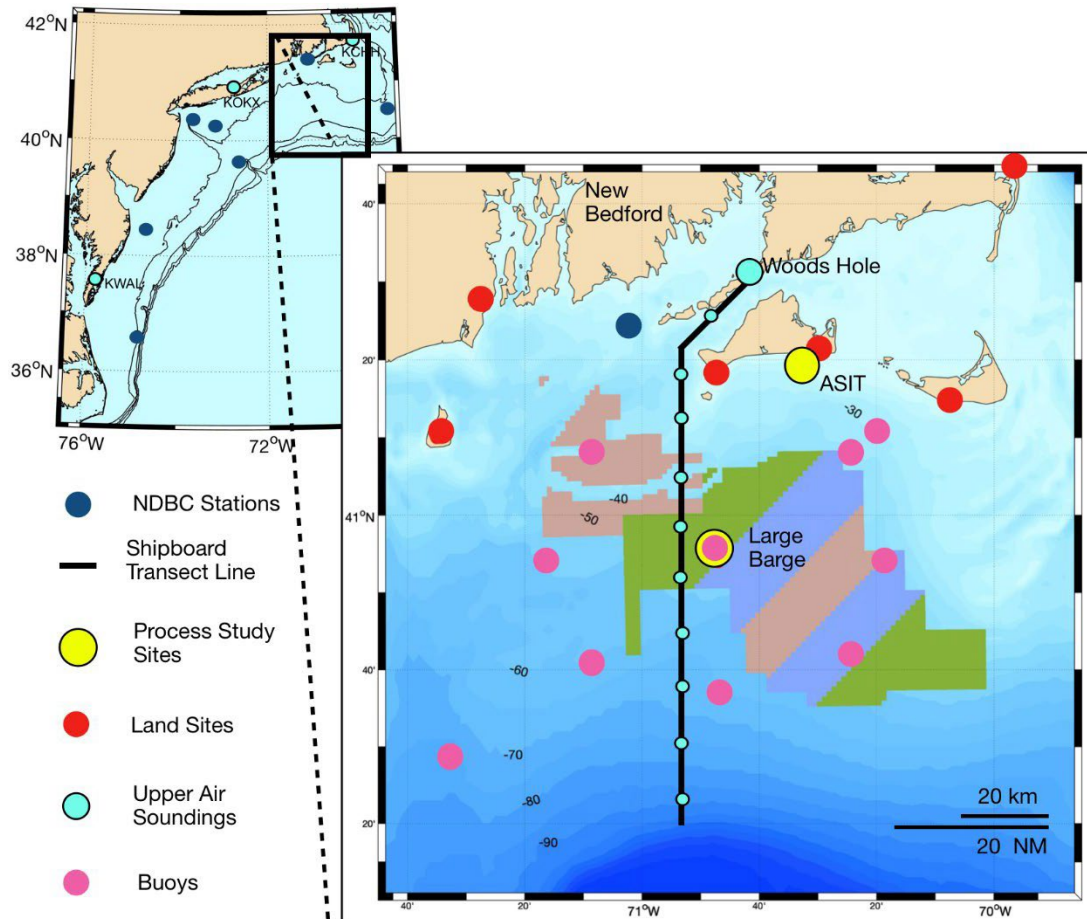


Figure 3. Approximate location of WFIP3 deployment area relative to Woods Hole. “Upper Air Soundings” above refer to radiosonde launches where the project will collect data simultaneously from the research vessel and land site approximately every 3-4 hours.

Description of the Proposed Action:

Leveraging existing platforms and observations: The project will leverage WHOI’s existing ASIT infrastructure and observations. The ASIT is located 3 km south of Martha’s Vineyard in 15 m of water (Figures 3 and 4). The ASIT comprises the entire structure identified in Figure 4, masts of approximately 4 m in height will be added to the top of the ASIT and beneath the deck to extend the measurement range to between 4 and 26-m above mean sea level (MSL) for this project. The project will deploy multiple sensors on the ASIT tower that will not fundamentally change the profile of the tower.

The National Science Foundation (NSF) will be making seasonal (January, April, July and October) vessel trips to collect detailed atmospheric observations. The WFIP3 project will launch approximately 400 number of small 100 g radiosonde balloons from the NSF vessel to provide high resolution profiles of wind velocity, temperature, and humidity profiles. To increase the number of observations collected on these ships, DOE plans to add a LiDAR vertical profiler, scanning Doppler LiDAR, and a thermodynamic profiler, depending on deck space and resource availability. These LiDAR and profilers (i.e., a LiDAR

vertical profiler, a scanning Doppler LiDAR and a thermodynamic profiler) will be combined with a potential NOAA ship occupation of the study area during the winter period depending on availability of funds and ship time, including the launching of radiosondes.

The project will also leverage the NDBC buoy network data around the study region, national weather service radiosonde launches, Next Generation Weather Radar network in New York and Boston, New York State Energy and Research Development Authority (NYSERDA) Doppler LiDAR and microwave radiometer network across New York and NYSERDA offshore LiDAR buoys.



Figure 4. Existing ASIT Tower site where instrument installations will take place.

Offshore Barge: Multiple large and small sensors/instruments (remote sensing, metocean, and surface meteorological instruments), a 20m tall mast, and various science vans/trailers will be installed upon a barge (Figures 5 and 6). The barge will be chartered and deployed on site by WHOI, it will consist of an approximately 130' long, 40' wide, 9' draft deck (or spud) barge, that will be specially adapted to suit the study goals (Figure 4). The Barge will be anchored in 52 m of water using a 4-point anchorage system. The multi-point anchorage system would be held in place with four mooring lines to individual anchors set in advance of the barge deployment.



Figure 5. Nautical chart of the location of the Barge (right) 4-point mooring design of the Barge.

The Barge would utilize four, 500lb Drag embedded anchors, with a 500ft 60-mm studless chain, and a 140ft 3-in polyester rope per anchor. Anchors would be pre-set at the corners of a square 800-1000 ft on each side, with the mooring chain laid on the bottom towards the center from each anchor. Much of this chain would not move during deployments due to the limited watch circle of the Barge on anchor. Thick polyester rope would form the vertical components of the mooring to winches on the Barge that would be used to secure the barge to the mooring system. 25-30” polyform surface floats would mark the position of each mooring line between deployments.

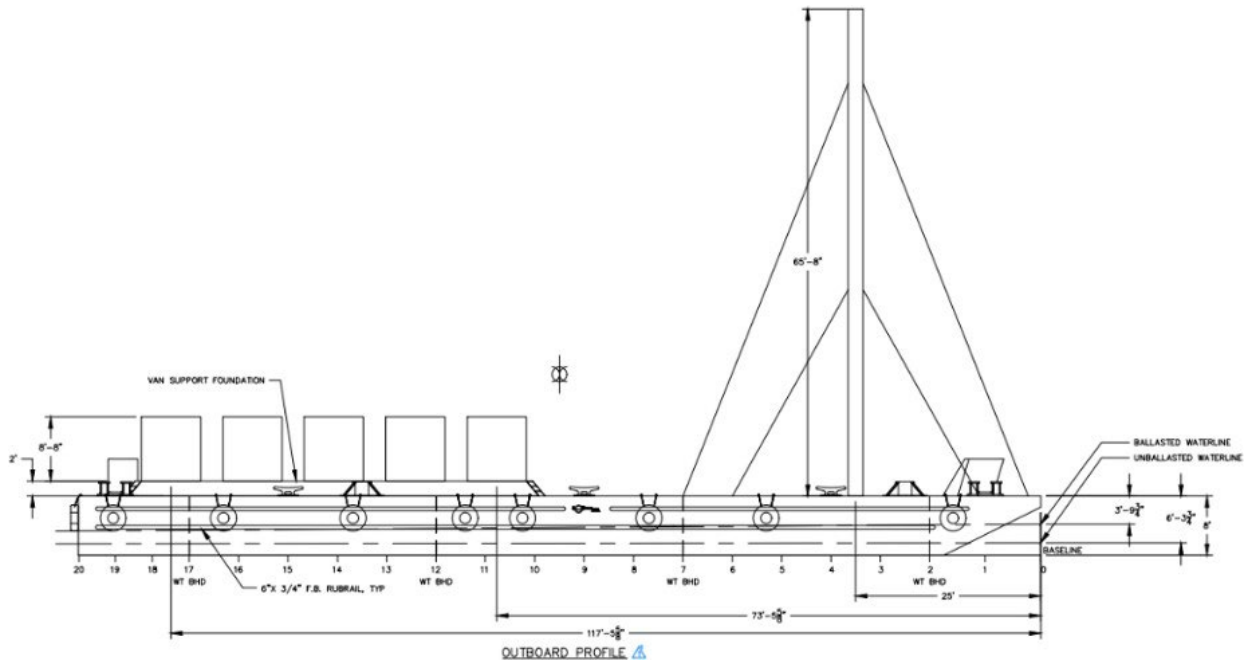


Figure 6. Schematic of the Barge with Met mast and science vans (i.e., shipping containers).

The project goal for the barge is to carry out approximately two, 60+ day deployments of the barge on site (Figure 4) during the spring and summer months of the main field operations period in 2024. An additional third winter deployment as well as a fourth deployment of the barge platform would be subject to availability of funds, scientific needs, interest, and/or an extension component of the field campaign to approximately 18 months. Conservatively, it is assumed that the two potential winter deployments will occur. Potential visits to barge mid-deployment will be made using WHOI’s R/V WHOI.

LiDAR Buoys: The project proposes to utilize three DOE-owned LiDAR buoys (Figures 7 and 8). One DOE buoy will be deployed along the eastern edge of the study area (Figure 3) and serviced every 4 months. The buoys will be deployed at their stations starting in approximately February 2024 and decommissioned at the end of the project (i.e., approximately October 2025). Instruments on the DOE buoys are shown in Figure 7 and the sample mooring diagrams is shown in Figure 8. Additionally, WHOI sentinel LiDAR buoys (Figure 9) differ in construction and will have a vertically profiling LiDAR, an AirMar weather station, and an Iridium modem. A schematic of the WHOI buoy along with the sample mooring design is shown in Figure 9.

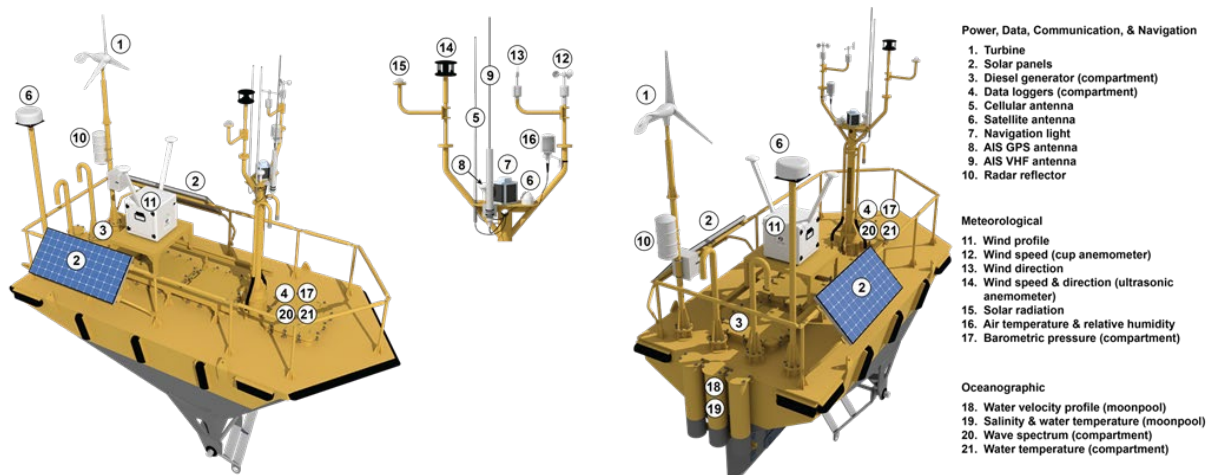


Figure 7. Generic diagram of a DOE LiDAR wind resource assessment buoy.

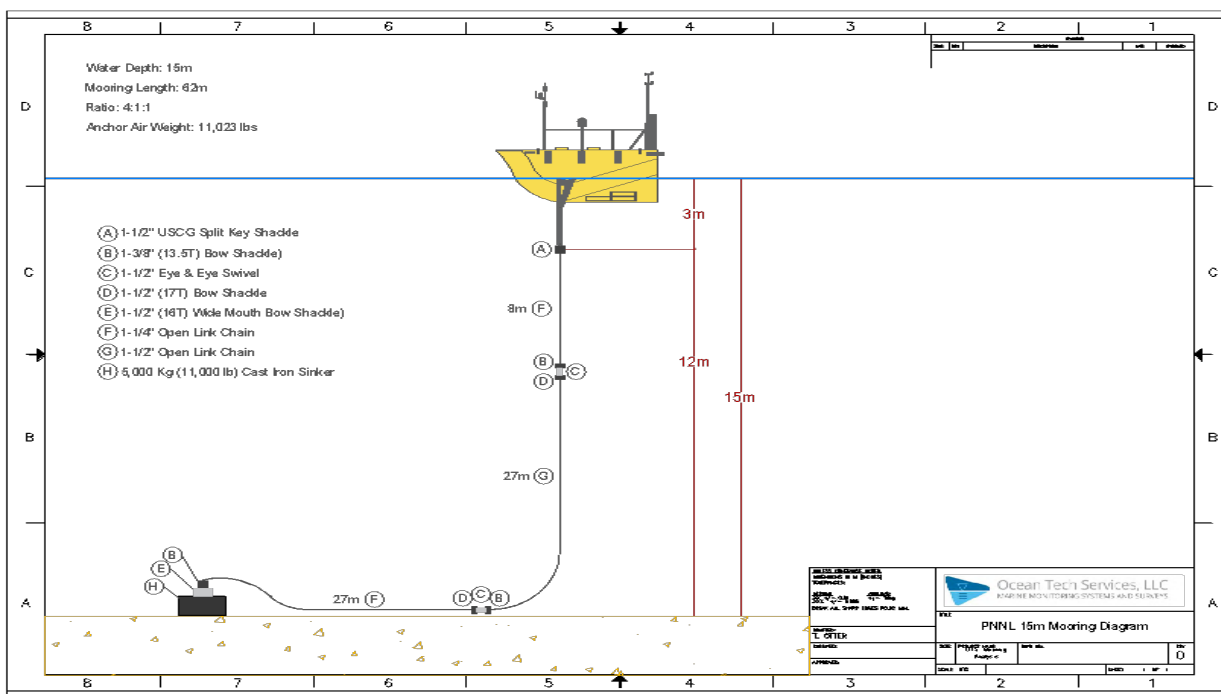


Figure 8. Sample mooring design for the DOE LiDAR buoys.

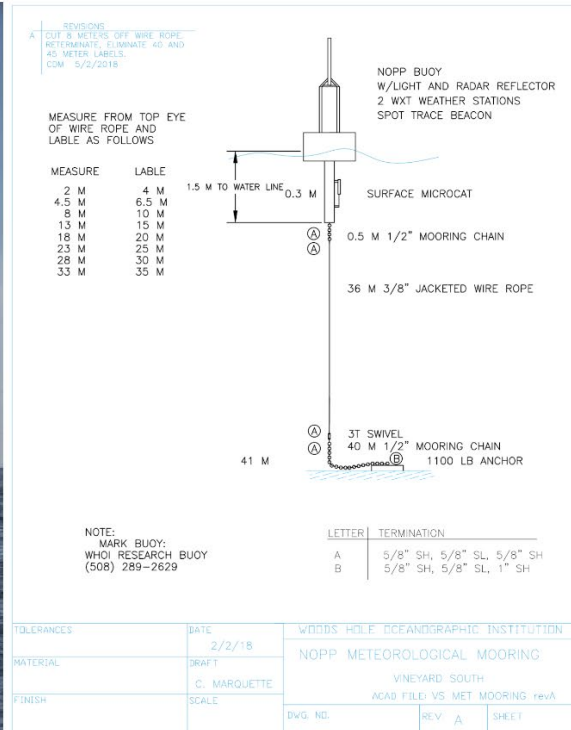


Figure 9. (left) Generic diagram of the WHOI sentinel LiDAR buoy, (right) generic mooring design for the WHOI sentinel buoy array.

Sentinel Buoy Stations: Up to eight surface buoys, some with co-located subsurface buoys will be distributed around the study region (Figure 3). As designed, each buoy will extend about 3 m above the water level and carry various sensors and equipment. The sentinel buoy sites with sub-surface moored buoys would have upward and downward looking Acoustic Doppler Current Profilers (ADCPs). Figure 10 shows the mooring design of the sub-surface buoy. Sentinel buoys will be deployed starting in approximately February 2024 for approximately 18-months (~ October 2025) and serviced at 4-month intervals.

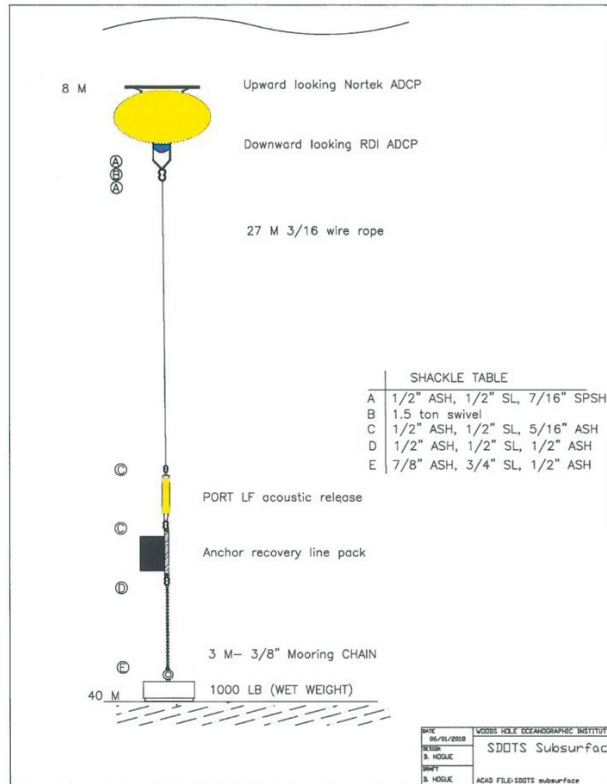


Figure 10. Subsurface buoy mooring design and instruments (upward and downward looking ADCP).

Land-Based Field Stations: Six shore-based field sites, located in Massachusetts and Rhode Island, will provide observations of the MABL using remote sensing and surface meteorological instruments such as vertically-profiling and scanning LiDARs, Sodar, thermodynamic profilers, surface radiometers (longwave and shortwave radiation), Motus Wildlife Tracking System (Motus) sensors, precipitation sensors, Radar, 10-m surface met stations, and sonde launches. Four of these sites currently host High Frequency Radar (HFR) systems and have ample power and space available for additional large-platform remote sensors. Table 1 shows the geographic location of all the land sites.

Table 1. Geographic coordinates of land deployment locations.

Site Name	Site Code	Onshore/Offshore	Approximate Coordinates (latitude; longitude)
Nantucket	NANT	Onshore	41.242; -70.125
Martha's Vineyard	MVCO	Onshore	41.350; -70.527
Block Island	BLOC	Onshore	41.168; -71.580
Cape Cod	CACO	Onshore	40.033, -70.053
Squibnocket Farms	SQUB	Onshore	41.306; -70.768
Rhode Island	RHOD	Onshore	41.445; -71.436

All land deployments and associated infrastructure will aim to minimize ground disturbance. Ground disturbance is anticipated to be less than 1-2 meters for any guy wire installation. Guy guards will be used with the guy wires for increased visibility and wildlife safety. Some ground disturbance will occur at each land site. Where possible, existing developed footprint will be used, as indicated in the below aerial photos that correspond to the land sites depicted in Figure 11. All the land sites either have grass or shrubs surrounding the instruments. All instruments used in land deployments will be removed at the conclusion of project activities.



Figure 11. Land deployment polygons for WFIP3 instrumentation.

Biological and Cultural Resources:

Biological and cultural resource reviews determined that the installation and subsequent testing under WFIP3 is unlikely to adversely affect sensitive biological or cultural resources.

Consultation with the National Marine Fisheries Service (NMFS) has been completed to evaluate potential impacts of the proposed project on species listed as threatened or endangered under Section 7 of

the Endangered Species Act (ESA). NMFS concurred that the WFIP-3 activities were adequately covered by the 2021 Bureau of Ocean Energy Management (BOEM) Programmatic ESA Consultation. Applicable project design criteria from the BOEM Programmatic ESA Consultation were integrated into WFIP-3 requirements to minimize project impacts and achieve compliance with the ESA and the Marine Mammal Protection Act. Consultation with the National Marine Fisheries Service (NMFS) under Section 305(b)(2) of the Magnuson-Stevens Act on Essential Fish Habitat (EFH) will be completed prior to the initiation of in-water work. Consultation will result in NMFS concurring with a DOE determination of ‘no adverse effect’ or ‘adverse effect’ to EFH from WFIP3 project activities. A ‘no adverse effect’ concurrence means that WFIP3 project activities will not reduce quality and/or quantity of EFH and impacts from WFIP3 project activities to EFH will be considered insignificant. An ‘adverse effect’ concurrence would be accompanied by NMFS project specific EFH Conservation Recommendations and DOE must provide a detailed response in writing including a description of measures proposed to avoid, minimize, or offset the impact of the activity on EFH. Through the adoption of EFH Conservation Recommendations, WFIP3 project impacts to EFH are expected to be rendered insignificant. In the case where impacts to EFH are determined to be significant, additional NEPA analysis may need to be conducted or aspects of the scope changed to render the impacts insignificant.

As part of the biological resource review, a No Effect Memo (EHSS-EPRP-23-040) was published evaluating potential impacts of the proposed project on land-based species listed as threatened or endangered under Section 7 of the ESA by the U.S. Fish and Wildlife Service (USFWS). The review provided restrictions to minimize project impacts to listed species and with these restrictions, concluded that the land-based activities of the proposed project would have no effect on listed species. Species evaluated included sea turtles, pinnipeds, cetaceans, fish, birds, terrestrial insects, and flowering plants. These evaluations have determined that the proposed actions either would have no effect on the considered species, or may affect, but are not likely to adversely affect, the considered species.

Migratory birds are protected by the Migratory Bird Treaty Act (MBTA), however none of the activities associated with this research project are expected to result in additional adverse effects to any migratory bird species. Given the scope of the project, location of the action, and the limited timeframe of field deployments, adverse effects to migratory birds are not expected. Restrictions in the No Effect Memo include the requirement to stop project activities and contact a biologist if nesting birds are suspected in the project area. If it becomes apparent that significant adverse effects to migratory birds are likely, scope changes and/or additional NEPA analysis will be required.

To meet the responsibilities under 54 USC § 306108 (Section 106) of the National Historic Preservation Act, a review of the project was conducted by an archeologist meeting the Secretary of the Interior’s Professional Qualifications for Archaeology. One location, Nantucket, was within the boundaries of the island’s historic district. DOE initiated consultation with the Massachusetts Historical Commission May 18, 2023, determining the undertaking would result in No Adverse Effect to Historic Properties, as defined in 36 CFR 800.5(b).

For the buoy and barge deployments, locations on other federal sites, and the installations limited to the surface, a finding of No Potential to Cause Effect to Historic Properties was determined, as defined in 36 CFR 800.3 (a)(1). SHPO concurred with the determination June 16, 2023. PNSO initiated consultation with the Mashpee Wampanoag Tribe and the Narragansett Indian Tribe for the deployment of the buoys and large barge June 14, 2023, determining that the undertaking would result in No Potential to Cause Effect to Historic Properties. Responses were not received from either Tribe. Block Island, Camp Varnum, and Cape Cod are Federally owned. The landowners were aware of the planned ground disturbance associated with the installation of equipment and did not indicate any potential impacts to historic properties, if present. Sites such as Squibnocket Farms and Martha’s Vineyard would install equipment on existing sheds or other structures, avoiding ground disturbance altogether. On September 25, 2023, PNSO initiated consultation with the Wampanoag Tribe of Gay Head (Aquinnah).

DOE Categorical Exclusions to Be Applied:

As the proposed action is to install wind forecasting devices for improvement of wind energy forecasts and resource characterization, the following categorical exclusion (CX), as listed in the DOE NEPA implementing procedures, 10 CFR 1021, would apply:

- B3.1* Site characterization and environmental monitoring (including, but not limited to, siting, construction, modification, operation, and dismantlement and removal or otherwise proper closure (such as of a well) of characterization and monitoring devices and siting, construction, and associated operation of a small-scale laboratory building or renovation of a room in an existing building for sample analysis). Such activities would be designed in conformance with applicable requirements and use best management practices to limit the potential effects of any resultant ground disturbance. Covered activities include, but are not limited to, site characterization and environmental monitoring under CERCLA and RCRA. This class of actions excludes activities in aquatic environments. See B3.16 of this appendix for such activities.
- Specific activities include but are not limited to: (a) Geological, geophysical (such as gravity, magnetic, electrical, seismic, and radar, and temperature gradient) geochemical, and engineering surveys and mapping, and the establishment of survey marks. Seismic techniques would not include large-scale reflection or refraction testing; (b) Installation and operation of field instruments (such as stream-gauging stations or flow-measuring devices, telemetry systems, geochemical monitoring tools, and geophysical exploration tools); (c) Drilling of wells for sampling or monitoring of groundwater or the vadose(unsaturated) zone, well logging, and installation of water-level recording devices in wells; (d) Aquifer and underground reservoir response testing; (e) Installation and operation of ambient air monitoring equipment; (f) Sampling and characterization of water, soil, rock or contaminants (such as drilling, using truck or mobile-scale equipment and modification, use, and plugging of boreholes); (g) Sampling and characterization of water effluents, air emissions, or solid waste streams; (h) Installation and operation of meteorological towers and associated activities (such as assessment of potential wind energy resources); (i) Sampling of flora and fauna; and (g) Archeological, historic, and cultural resource identification in compliance with 36 CFR part 800 and 43 CFR part 7.
- B4.12* Construction of electric powerlines approximately 10 miles in length or less, or approximately 20 miles in length or less within previously disturbed or developed power or pipeline rights-of-way.
- B5.15* Small-scale renewable energy research and development projects and small-scale pilot projects, provided that the projects are located within a previously disturbed or developed area. Covered actions would be in accordance with applicable requirements (such as local land use and zoning requirements) in the proposed project area and would incorporate appropriate control technologies and best management practices.
- B5.25* Small-scale renewable energy research and development projects and small-scale pilot projects located in aquatic environments. Activities would be in accordance with, where applicable, an approved spill prevention, control, and response plan, and would incorporate appropriate control technologies and best management practices. Covered actions would not occur (1) Within areas of hazardous natural bottom conditions or (2) within the boundary of an established marine sanctuary or wildlife refuge, a governmentally proposed marine sanctuary or wildlife refuge, or a governmentally recognized area of high biological sensitivity, unless authorized by the agency responsible for such refuge, sanctuary, or area (or after consultation with the responsible agency, if no authorization is required). If the proposed activities would occur outside such refuge, sanctuary, or area and if the activities would have the potential to cause impacts within such

refuge, sanctuary, or area, then the responsible agency shall be consulted in order to determine whether authorization is required and whether such activities would have the potential to cause significant impacts on such refuge, sanctuary, or area. Areas of high biological sensitivity include, but are not limited to, areas of known ecological importance, whale and marine mammal mating and calving/pupping areas, and fish and invertebrate spawning and nursery areas recognized as being limited or unique and vulnerable to perturbation; these areas can occur in bays, estuaries, near shore, and far offshore, and may vary seasonally. No permanent facilities or devices would be constructed or installed. Covered actions do not include drilling of resource exploration or extraction wells, use of large-scale vibratory coring techniques, or seismic activities other than passive techniques.

DOE Eligibility Criteria:

The proposed activity meets the eligibility criteria of 10 CFR 1021.410(b) because the proposed action does not have extraordinary circumstances that might affect the significance of the environmental effects, is not connected to other actions with potentially significant impacts [40 CFR 1508.25(a)(1)], is not related to other actions with individually insignificant but cumulatively significant impacts [40 CFR 1508.27(b)(7)], and is not precluded by 40 CFR 1506.1 or 10 CFR 1021.211 concerning limitations on actions during environmental impact statement preparation.

The “Integral Elements” of 10 CFR 1021 are satisfied as follows:

INTEGRAL ELEMENTS, 10 CFR 1021, SUBPART D, APPENDIX B (1)-(5)	
Would the Proposed Action:	EVALUATION:
Threaten a violation of applicable statutory, regulatory, or permit requirements for environment, safety, and health?	The proposed action would not threaten a violation of regulations or DOE or Executive Orders.
Require siting and construction or major expansion of waste storage, disposal, recovery, or treatment facilities?	No waste management facilities would be constructed under this CX. Any generated waste would be managed in accordance with applicable regulations in existing facilities. Waste disposal pathways would be identified prior to generating waste and waste generation would be minimized.
Disturb hazardous substances, pollutants, or contaminants that preexist in the environment such that there would be uncontrolled or unpermitted releases?	No preexisting hazardous substances, pollutants, or contaminants would be disturbed in a manner that or results in uncontrolled or unpermitted releases.
Have the potential to cause significant impacts on environmentally sensitive resources, including, but not limited to: <ul style="list-style-type: none"> • protected historic/archaeological resources. • protected biological resources and habitat. • jurisdictional wetlands, 100-year floodplains • Federal- or state-designated parks and wildlife refuges, wilderness areas, wild and scenic rivers, national monuments, marine sanctuaries, national natural landmarks, and scenic areas. 	No environmentally sensitive resources would be adversely affected. Resource reviews have been conducted to evaluate for special circumstances. Refer to the Biological and Cultural Resources section for details regarding the application of cultural and biological resource reviews. The proposed action would not adversely affect floodplains, wetlands regulated under the Clean Water Act, national monuments, or other specially designated areas, prime agricultural lands, or special sources of water.

Involve genetically engineered organisms, synthetic biology, governmentally designated noxious weeds, or invasive species?	The proposed action would not involve the use of genetically engineered organisms, synthetic biology, governmentally designated noxious weeds, or invasive species, unless the proposed activity would be contained or confined in a manner designed and operated to prevent unauthorized release into the environment and conducted in accordance with applicable requirements.
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DOE Checklist Summarizing Environmental Impacts:

The following checklist summarizes environmental impacts considered when preparing this CX determination. Answers to relevant questions are explained in detail following the checklist.

<i>Would the Proposed Action</i>	Evaluation
1. Result in more than minimal air impacts?	The proposed research activities would not have air impacts.
2. Increase offsite radiation dose measurably?	The proposed research activities would not increase offsite radiation dose.
3. Require a radiological work permit?	The proposed research activities would not require a radiological work permit.
4. Discharge any liquids to the environment?	The proposed research activities would not discharge any liquids to the environment.
5. Require a Spill Prevention, Control, and Countermeasures plan?	The proposed research activities would require a Spill Prevention Control and Countermeasures plan.
6. Use carcinogens, hazardous, or toxic chemicals/materials?	The proposed research activities would not use carcinogens, hazardous, or toxic chemicals/materials.
7. Involve hazardous, radioactive, polychlorinated biphenyl, or asbestos waste?	The proposed research activities would not involve hazardous, radioactive, polychlorinated biphenyl or asbestos waste.
8. Cause more than a minor or temporary increase in noise level?	Noise may be caused by temporary small, motorized boat use, sensor noise and installation of devices.
9. Create light/glare, or other aesthetic impacts?	The proposed research would not create light, glare, or other aesthetic impacts.
10. Require an excavation permit (e.g., for test pits, wells, utility installation)?	The proposed research activities would not require an excavation permit.
11. Disturb an undeveloped area?	Because the research and development would be limited to small-scale activities, any land-based development would be small-scale and within previously disturbed or developed areas. Reviews and permits would be obtained for any proposed research in undeveloped areas.
12. Result in more than minimal impacts on transportation and public services?	The proposed research activities would not affect transportation and public services.
13. Disproportionately impact low-income or minority populations?	The proposed work activities would not disproportionately affect low income or minority populations.

14. Require environmental permits?	Federal, state, or local environmental permits may be required for the proposed research activities. All permits will be acquired prior to deployments.
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DOE Explanations:

5. LiDAR buoys will carry generators for emergency use. Additionally, the barge will also carry generators for power. The fuel tanks are certified and pressure tested, and the internal buoy compartments provide double containment in case of fuel tank failure or leakage. The tanks will be filled at an onshore marina prior to deployment and existing spill-prevention procedures developed for the marina will be followed. Project personnel will verify that the marina has all required spill-response equipment readily available at the fuel dock prior to fueling. At the mid-deployment servicing interval, the buoy will be towed to shore and the tanks will be refilled at a marina with spill-prevention equipment or at an onshore staging area.

8. Temporary noise will occur during installation and removal of instruments, barge and towers. Boat traffic will increase on a temporary basis.

14. Placement of the buoys and barge will require a permit from the U.S. Army Corps of Engineers under Section 10 of the Rivers and Harbors Act. Additionally U.S. Coast Guard (USCG) Private Aids to Navigation will be required for buoy and barge deployments.

NOAA Categorical Exclusions to be Applied:

As the proposed action is to install wind forecasting devices for improvement of wind energy forecasts and resource characterization, the following categorical exclusion (CX), as listed in the DOE NEPA implementing procedures, 10 CFR 1021, would apply:

E1 Activities conducted in laboratories and facilities where research practices and safeguards prevent environmental impacts, to include:

- Research, development, testing, and evaluation studies, including but not limited to analysis of previously collected samples or data
- Development and use of mathematical models and computer simulations
- Synthesis of previously collected data or information
- Database development or maintenance

E3 Activities to collect aquatic, terrestrial, and atmospheric data in a nondestructive manner, to include:

- Use of mobile platforms (e.g., ships, aircraft, balloons, vehicles) to study biological, chemical, or physical processes
- Use of conductivity, temperature, and depth instruments or a moving vessel profiler from a platform, including the use of drop cameras
- Collection of physical, chemical, and biological measurements from existing buoys, moorings, and similar instrumentation
- Deployment, operation, and retrieval of a limited number of ROVs, ASVs, AUVs, buoys, moorings, or similar instrumentation to conduct non-destructive sampling and collection of data from those instruments once installed, including physical, chemical, and biological measurements, and visual data

F5 Installation, operation, maintenance, improvements, repair, upgrade, removal, and/or replacement of instrument systems in or on: (1) an existing structure or object (e.g., tower, antenna, building,

pier, buoy, terrestrial vehicle, or bridge, (2) on previously disturbed (e.g., filled, paved, or cleared) ground, (3) on undisturbed ground, if the equipment installation, operation, and removal will require no or minimal ground disturbance. Microwave/radio communications towers and antennas must be limited to 200 feet in height without guy wires, to include:

- Radar equipment that conforms to the current American National Standards Institute/Institute of Electrical and Electronic Engineers guidelines for maximum permissible exposure to electromagnetic fields.
- Temporary installation and operation of sampling instrumentation

NOAA Eligibility Criteria:

Based upon the above analysis, NOAA has determined that the action proposed falls within the above listed CE definitions as a category of actions that does not normally have a significant effect on the quality of the human environment; is not connected to a larger action (40 CFR 1501.9(e)(1)); and does not trigger any of the extraordinary circumstances listed in Section 4.b of the NOAA Administrative Order 216-6A Companion Manual (2017). As such, NOAA has determined that it is categorically excluded from further NEPA review.

NOAA Checklist Summarizing Environmental Impacts:

The following checklist summarizes environmental impacts considered when preparing this CE determination. Answers to relevant questions are explained in detail following the checklist.

<i>Would the Proposed Action</i>	<i>Evaluation</i>
1. Result in adverse effects on human health or safety that are not negligible?	The proposed project activities will not result in significant air impacts, or exposure to unsafe levels of radiation, chemical discharge, carcinogens, noise, and light. In addition, the proposed research activities are routine and established health and safety protocols are followed. Adverse effects on health and human safety are highly unlikely.
2. Result in adverse effects on an area with unique environmental characteristics that are not negligible?	The action will not result in adverse impacts to areas with unique environmental characteristics.*
3. Result in adverse effects on species or habitats protected by the ESA, MMPA, MSA, NMSA, or MBTA that are not negligible?	The action will not result in adverse impacts to protected species or habitats.*
4. Result in the potential to generate, use, store, transport, or dispose of hazardous or toxic substances, in a manner that may have a significant effect on the environment?	The proposed research activities will not involve the use of hazardous or toxic substances.
5. Result in adverse effects on properties listed or eligible for listing on the National Register of Historic Places authorized by the National Historic Preservation Act of 1966, National Historic Landmarks designated by the Secretary of the Interior, or National Monuments designated through the Antiquities Act of 1906; Federally recognized Tribal and Native Alaskan lands, cultural or natural resources, or religious or cultural sites that cannot be resolved through applicable regulatory processes?	The action will not result in adverse impacts to the listed resources.*

6. Result in a disproportionately high and adverse effect on the health or the environment of minority or low-income communities, compared to the impacts on other communities (EO 12898)?	The proposed work activities will not disproportionately affect low income or minority populations.
7. Contribute to the introduction, continued existence, or spread of noxious weeds or nonnative invasive species known to occur in the area or actions that may promote the introduction, growth, or expansion of the range of the species?	Most deployments will be situated in previously disturbed or developed areas with minimal presence of noxious weeds or nonnative species. For deployments in undeveloped areas, cleaning protocols for staff and equipment will be followed to minimize the spread of invasive species.
8. Result in a potential violation of Federal, State, or local law or requirements imposed for protection of the environment?	The action will not result in the violation of Federal, State, or Local environmental protection laws.*
9. Result in highly controversial environmental effects?	The action will not result in environmental effects that are highly controversial.†
10. Have the potential to establish a precedent for future action or an action that represents a decision in principle about future actions with potentially significant environmental effects?	The decision to fund this project will not result in growth-inducing changes, compel future actions with potential impacts, or foreclose options for future actions.
11. Result in environmental effects that are uncertain, unique, or unknown?	The action will not result in environmental effects that are uncertain, unique, or unknown.†
12. Have the potential for significant cumulative impacts when the proposed action is combined with other past, present, and reasonably foreseeable future actions, even though the impacts of the proposed action may not be significant by themselves?	The proposed deployment is consistent with a class of actions for which NOAA has established a CE that by definition has no potential to impact the environment and there are no extraordinary circumstances that would preclude use of the CE.

NOAA Explanations:

*2,3,5,8: The DOE has conducted an extensive review of all deployment sites for unique environmental characteristics, relevant environmental protection acts, listing on the National Register of Historic Places, and any environmental restrictions associated with Federal, State or Local governments, Tribal and Native Lands, existing cultural and natural resources, or religious and cultural sites, and found the proposed action will not result in any violation of existing environmental laws or adverse environmental effects to existing resources.

†9,11: The research activities associated with this action are routine, and associated environmental impacts are well known and are not controversial.

DOE Compliance Action:

I have determined that the proposed action satisfies the DOE NEPA eligibility criteria and integral elements, does not pose extraordinary circumstances, and meets the requirements for the CX referenced above. Therefore, using the authority delegated to me by DOE Order 451.1 B, Change 3, I have determined that the proposed action may be categorically excluded from further NEPA review and documentation.

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THOMAS MCDERMOTT
Date: 2023.09.28
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Signature: _____
Thomas M. McDermott
PNSO NEPA Compliance Officer

NOAA Compliance Action:

I have determined that a Categorical Exclusion is the appropriate level of NEPA analysis for this action and that no extraordinary circumstances exist that would require preparation of an environmental assessment or environmental impact statement. Therefore, as the decision maker for this action as defined in NAO 216-6A: Compliance with the National Environmental Policy Act, et al (2016), I have determined that the proposed action may be categorically excluded from further NEPA review and documentation.

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Signature: _____
for Jennifer Mahoney, Director
NOAA Earth System Research Laboratories

cc: ES Norris, PNNL