

BOEM Pacific Region: Ongoing Study

Title	Collection of Metocean Resource Characterization Data off the California Coast (PR-17-MET)
Administered by	Pacific OCS Region
BOEM Contact(s)	Frank Pendleton (frank.pendleton@boem.gov)
Procurement Type(s)	Inter-agency Agreement
Conducting Organization(s)	U.S. Department of Energy, Pacific Northwest National Laboratory
Total BOEM Cost	\$2,089,998
Performance Period	FY 2017–2022
Final Report Due	September 30, 2022
Date Revised	March 24, 2022
PICOC Summary	
<i>Problem</i>	Lack high-definition wind speed data in Call Areas
<i>Intervention</i>	This project will collect high-definition wind speed data in the Call Areas.
<i>Comparison</i>	LiDAR data
<i>Outcome</i>	We will have high-definition wind speed data in the Call Areas.
<i>Context</i>	Central California, Northern California

BOEM Information Need(s): BOEM Pacific Outer Continental Shelf (OCS) Region is charged with granting leases, easements, or rights-of-way for renewable energy development on the OCS of California. Currently, there is a critical need to document available resources for potential wind energy sites in offshore waters. Specifically, there is a lack of long-term wind speed data at turbine rotor heights. This study will improve knowledge of wind resources on the OCS and aid in leasing decisions.

Background: To inform renewable energy development in the Pacific OCS Region, BOEM has identified a need to obtain certain scientific and technical information. There is a critical need to document available resources for potentially suitable sites for renewable energy development. To fulfill this need, BOEM is seeking scientific and technical services which may include economic and policy analyses on a variety of offshore renewable energy and grid integration topics. The topics may include, but are not limited to, wind resource measurements and evaluation, GIS and resource data analyses, effects on biological resources, and participation in offshore wind and wave energy task force or other related meetings, and providing technical review of offshore renewable energy proposals developed and submitted to BOEM by industry.

Objectives: The purpose of the study is to acquire site-specific metocean data. A question to be answered by this study is: What is the wind regime at specific sites offshore California?

Methods: U.S. Department of Energy (DOE) LiDAR buoys will be deployed off the coast of California. BOEM is funding Pacific Northwest National Laboratory (PNNL) to provide turn-key services to deploy

and operate buoys at specific sites within the Humboldt and Morro Bay California Call Areas based on the engineering, siting, and permitting activities performed as part of this work.

Specific Research Question(s):

1. What is the average wind speed and variability in the California Call Areas?
2. Is floating LiDAR a reasonable way for a developer to collect wind data?

Current Status: An inter-agency agreement with PNNL was awarded on September 18, 2017. Buoys were deployed in the Humboldt and Morro Bay Call Areas in October 2020. The Morro Bay buoy was deployed for a year and was recovered in October 2021. The Humboldt buoy required repairs and was offline from January 2021 through May 2021, and is planned for recovery in spring 2022.

Publications Completed: None

Affiliated WWW Sites: <https://www.pnnl.gov/projects/lidar-buoy-program>

References: None