

BOEM ENVIRONMENTAL STUDIES PROGRAM: Ongoing Studies

Study Area(s): Beaufort Sea, Chukchi Sea

Administered By: Alaska OCS Region

Title: Community Web Access to WRF Atmospheric Model Results and Meteorological Station Data, 1979-2009 (AK-16-03)

BOEM Information Need(s) to be Addressed: This project will assist BOEM in meeting new “Open Data policy” requirements so that significant data products produced from BOEM-funded efforts are made available for further use by broader scientific research communities and the general public.

Total Cost: \$74,277

Period of Performance: FY 2016

Conducting Organization: Alaska Ocean Observing System (AOOS)

BOEM Contact: [Warren Horowitz](#)

Description:

Background: BOEM recently completed a study called *Beaufort and Chukchi Seas Mesoscale Meteorology Modeling* (OCS Study BOEM 2012-0119). The major study product was the Chukchi–Beaufort High-Resolution Atmospheric Reanalysis (CBHAR) using the Weather Research and Forecasting (WRF) model. The CBHAR produced near surface, high resolution (10 Km) atmospheric model output for the Beaufort and Chukchi seas Outer Continental Shelf (OCS), including the offshore and onshore areas of Russia, Alaska, and Canada. The CBHAR spanned the years between 1979-2009. Another study product was a complimentary set of observational data comprised of over 260 meteorological stations, covering the CBHAR spatial and temporal model domain. The large volume of data is currently inaccessible to the broader scientific community because of processing costs. Funds are needed to archive, display, and serve the model output and observational data as an accessible data product. The Alaska Ocean Observing System (AOOS) data management team will load the CBHAR and corresponding observational archive into the AOOS data system for long term storage and for serving out to the broader user base. Both the model and observational data will be made available for visualization, analysis and access through several existing tools already available at AOOS.

Objectives: The objective of this project is to make the CBHAR (1979-2009), the associated meteorological observational data for the same period, and the Weather Research and Forecasting (WRF) model from the BOEM Air Quality study (2009-2013) available for open use by scientific research communities and the general public.

Methods: The data team will review the model data to document the climate and forecast (CF) metadata conventions. The data will be processed, uploaded to the AOOS online data portal and linked to available visualization and analysis tools. The

meteorological observational archive will be migrated from existing formats to CF compliant NetCDF (network Common Data Form) files for posting on the AOOS data portal. Query tools will provide the user with the capability to extract subsets of the model and observational data for external use.

Current Status: Testing of web interface underway

Final Report Due: None

Publications Completed: None

Affiliated WWW Sites: <http://www.boem.gov/akstudies/>
<http://www.aos.org/>

Revised Date: April 21, 2017

ESPIS: Environmental Studies Program Information System

All *completed* ESP studies can be found here: <https://www.boem.gov/ESPIS/>