

US EPA ARCHIVE DOCUMENT

Overview and Project Objective

R10/BOEM Collaboration Study Seminar

AERCOARE

Richard Monteith

EPA Region 4

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Overview

- Lead up to Collaboration Study started with
 - Replace OCD with AERMOD in near field for Shell Air Permitting
 - OCD program is outdated and not maintained since early 2000
 - OCD lack current features, options and capabilities of AERMOD (e.g., deterministic and statistical standard calculations and PRIME downwash,
- Made Possible by
 - Meetings between R10 and Shell/contractor technical staff in last half of 2011
 - Shell meteorological data collection starting in 2008
 - Reindeer Island – Surface and Buoy
 - Endeavor Island –Surface and radiometer
 - Beaufort Sea and Chukchi Sea Buoys
 - Approval of ENVIRON/Shell to utilize COARE to process measured meteorological data with AERMOD for air application
 - Continuous communications with BOEM since 2006
 - COARESCRN



What is AERCOARE?

- **AER** (as in **AERMOD**) **COARE** (as in **C**oupled-**O**cean **A**tmosphere **R**esponse **E**xperiment)
- AERCOARE Meteorological Preprocessor
 - Prepares **overwater** measurements for AERMOD
 - Uses **COARE 3.0** algorithm to estimate **surface energy fluxes**
 - COARE 3.0 is **used by CALPUFF** for overwater fluxes
 - **Similar** to the method used by **OCD**
 - AERCOARE 1.0 developed for EPA in 2012
 - FORTRAN Program with Linux and DOS versions; **beta on EPA SCRAM** website
 - EPA Model **Clearinghouse approval** following Section 3.2.2.e submittal by Region 10 **for the Arctic**

OCS Screening Modeling

Primary Objective:

Develop a screening modeling approach with appropriate screening meteorology for the OCS environment.

“COARESCRN”

Summary

- AERCOARE adequate to propose as Appendix W
- WRF and MMIF needs more work before Appendix W proposal
- Review draft Evaluation Report and User Manual
- Relevance to BOEM and EPA regional office staff



- Final Draft Evaluation Report
 - External Peer Review
 - Regional Office Modeling Contacts
 - Modeling Clearinghouse
- Programs, Final Evaluation Report and Supporting Documentation to Model Clearinghouse as a beta version
- Presentation at Modeling Conference in mid-2015
- Write Technical Summary
- Write paper technical for journal publication



- COARESCRN
- AERMOD with Platform Downwash using PRIME
- Shoreline fumigation/TIBL
- Reminder - OCD with Platform Downwash still guideline model



