

## **BOEM ENVIRONMENTAL STUDIES PROGRAM: ONGOING STUDIES**

**BOEM OCS Region:** [Gulf of Mexico](#)

**Planning Area:** Central and Western

**Title:** Deployment and Operational of Radar Profiler (GM-92-42-138)

**Total Cost:** \$347,029

**Period of Performance:** FY 2008-2013

**Conducting Organization:** LUMCON

**BOEM Contact:** [Dr. Chester Huang](#)

### **Description:**

Background: Recently the U.S. Environmental Protection Agency (EPA) has promulgated new national ambient air quality standards for ozone and fine particulate matter (PM<sub>2.5</sub>), and regulations for regional haze. In order to determine what measures need to be considered to meet the new standards, an evaluation of the relative contribution from the various air emission sources must be performed. To conduct this evaluation, meteorological and air quality measurements and modeling must be carried out. The individual States in the Gulf area must submit to the EPA, State Implementation Plans which address each of the new standards and regulations. While most onshore regional emissions arise from motor vehicles, power production, and various industries, there also are emissions from OCS oil/gas operations that may impact coastal pollution levels. Therefore, it is imperative that the BOEM collaborate with the States and the EPA in data collection and air quality modeling that addresses the new air quality standards and visibility regulations. Regional haze is an important issue since the Breton National Wilderness Area (BNWA) is a PSD Class I area, where visibility has been identified as a significant air quality related value. The OCS oil/gas activity near the BNWA is considerable, making the area potentially vulnerable to impacts from offshore emission sources.

Objectives: The purpose of this study is to operate equipment measuring winds and virtual temperature in the atmospheric boundary layer along with surface winds, pressure, temperature and relative humidity at a Louisiana coastal site for a three-year period. The data will support and benefit future modeling planned by the BOEM and Gulf coast states.

Methods: A radar profiler equipped with RASS (radio acoustic sounding system), installed at the LUMCON site near Cocodrie, LA. is being operated and will be collecting/archiving data for a period of three years:

1. LAP-3000 radar profiler for the measurement of the vertical profile of wind speed and direction; and
2. 915 Mega-Hertz Radio Acoustic Sounding System for the measurement of the

vertical profile of virtual temperature.

Products: Quarterly Reports, Annual Reports, and a Final Report.

Importance to BOEM: The LAP-3000 profiler data will provide valuable information for visibility and regional haze studies in Breton NWA as well as with air quality modeling to support the implementation of the new air quality standards. BOEM intends to actively participate with State and federal agencies in these efforts to ensure that air quality impacts, if any, from OCS sources are thoroughly evaluated. Furthermore, if the study results suggest any impacts from OCS sources, BOEM, as a participating agency, will have a voice in the formulation of emission measures that are appropriate for OCS operations.

**Current Status:** Quarterly Report..

**Final Report Due:** No final report. Contract ends September 30, 2013

**Publications:** None

**Affiliated WWW Sites:** <http://weather.lumcon.edu/weatherdata/doppler/>

**Revised date:** February 2012

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