



U. S. Department of the Interior
Bureau of Ocean Energy Management
Gulf of Mexico OCS Region

Technical Announcement

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Meteorological and Wave Measurements for Improving Meteorological and Air Quality Modeling

[OCS Study BOEM 2013-01110](#)

The Bureau of Ocean Energy Management (BOEM), Gulf of Mexico OCS Region, announces the availability of a new study report, *Meteorological and Wave Measurements for Improving Meteorological and Air Quality Modeling*.

Over the last two decades, BOEM has conducted several meteorological and air quality studies, which include field measurements, data analysis, model development, emissions inventory development, and model applications. However, there was a lack of data to characterize the meteorological processes in the lower boundary layer and air sea interaction, especially in the coastal area.

For this study, researchers developed an atmospheric boundary layer environmental observations program on an offshore platform in the Gulf of Mexico. Beginning in October 2010, meteorological and oceanographic sensors were deployed for approximately 18 months on a Chevron service platform 12.4 miles south of Terrebonne Bay, Louisiana; the sensors collected atmospheric boundary layer and sea surface data. Observations from this project include surface meteorology; marine boundary layer wind profiles; vertical profiles of atmospheric temperature, relative humidity, and liquid water; cloud base heights; atmospheric boundary layer height; ocean temperature; ocean surface temperature; ocean wave height and frequency; downwelling (shortwave) solar and infrared (longwave) radiation; and lower atmospheric boundary layer momentum and heat fluxes.

Results of preliminary data analyses, conducted for fluxes and the vertical profiles of wind and temperature, showed that the COARE bulk flux estimates and measurements do not always agree in the marine coastal area and the current meteorological model output also may not always represent boundary layer conditions over the Gulf.

This report is available on CD from the Bureau of Ocean Energy Management, Gulf of Mexico OCS Region, for \$15.00, and free of charge as a pdf file downloaded from the BOEM Website. Copies can also be viewed at selected Federal Depository Libraries. The addresses are listed below.

To order a CD, use the Gulf of Mexico OCS Region contact information below and reference OCS Study BOEM 2013-01110. To download a pdf copy, use the Environmental Studies Program Information System and search on the study report number.

http://www.data.boem.gov/homepg/data_center/other/espis/espismaster.asp?appid=1

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