

Technical Announcement

MMS

U. S. Department of the Interior
Minerals Management Service
Gulf of Mexico OCS Region

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Synthesis, Analysis, and Integration of Meteorological and Air Quality Data for the Gulf of Mexico Region

Volume I: User's Manual for the Gulf of Mexico Air Quality Database (Version 1.0)

Volume II: Technical Reference Manual for the Gulf of Mexico Air Quality Database

Volume III: Data Analysis

Volume IV: CART Analysis for Modeling Episode Days

OCS Study MMS 2009-055 – 2009-058

The Minerals Management Service (MMS), Gulf of Mexico OCS Region, announces the availability of a new study report, *Synthesis, Analysis, and Integration of Meteorological and Air Quality Data for the Gulf of Mexico Region, Volume I: User's Manual for the Gulf of Mexico Air Quality Database (Version 1.0), Volume II: Technical Reference Manual for the Gulf of Mexico Air Quality Database, Volume III: Data Analysis, and Volume IV: CART Analysis for Modeling Episode Days*.

Since 1988, the Minerals Management Service and the oil and gas industry have conducted many meteorological and air quality studies for the Gulf of Mexico. The data from the various studies differed in quality and quantity; it was neither synthesized nor integrated, nor was the data in a common format or database that could be easily analyzed or queried by MMS or State/Federal air quality groups. These studies contained vast amounts of meteorological/air quality data and knowledge about the Gulf of Mexico and represented millions of dollars invested. Therefore, the purposes of this study were to (1) synthesize and integrate all meteorological, air quality, and emissions inventory data from MMS and oil and gas industry-related studies accomplished in the Gulf of Mexico since 1988; (2) transform the like data into common formats and assemble it in a commonly used database (e.g. MS-Access); (3) evaluate data and flag data quality/limitations; and (4) perform basic analyses, i.e., Classification and Regression Tree Analyses, to determine important relationships between the meteorological, air quality and emission variables for the air quality of the affected environments, onshore and the Breton National Wilderness Area (BNWA).

The synthesis database and these basic analyses developed with this project will be useful knowledge in the NEPA process for all Gulf of Mexico air quality issues. In addition to the direct MMS benefits, this study provided a comprehensive database of more than 15 years of

meteorological, air quality, and emissions inventory data for the Gulf of Mexico region, which will support the States with future regulatory data and modeling analyses related to ozone, fine particulate matter, and regional haze. This study will also bolster collaborative relationships between MMS, the States, and the U.S. Environmental protection Agency (USEPA). Not only will the States and USEPA be interested in the actual database, but they will also in the basic analyses already performed using this database, which included data summaries of meteorology, ozone, PM_{2.5}, visibility, and emissions, analysis of the wind data along the Gulf Coast, CART analysis for selected coastal ozone nonattainment areas, CART analysis for PM_{2.5} for selected coastal areas, CART analysis for visibility for the BNWA and other Class I Areas, and air quality trends analysis. Details of the analyses are in Volumes III and IV. There are four volumes to this study, plus the final database.

This report is available only in compact disc format from the Minerals Management Service, Gulf of Mexico OCS Region, at a charge of \$15.00, by referencing OCS Study MMS 2009-055 – 2009-058. The report may be downloaded from the MMS website through the [Environmental Studies Program Information System \(ESPIS\)](#). You will be able to obtain this report also from the National Technical Information Service in the near future. Here are the addresses. You may also inspect copies at selected Federal Depository Libraries.

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