



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

Technical Announcement

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Long-Term Trends in Environmental Parameters along the Louisiana/Mississippi Outer Continent Shelf Using Remote Sensing Data

[OCS Study BOEM 2012-071](#)

The Bureau of Ocean Energy Management (BOEM), Gulf of Mexico OCS, announces the availability of a new study report, *Long-Term Trends in Environmental Parameters along the Louisiana/Mississippi Outer Continent Shelf Using Remote Sensing Data*.

Satellite remote sensing makes it possible to conduct surveillance on large areas of the world's oceans for natural conditions and changes related to human activities. Plankton biomass, chlorophyll concentrations, colored dissolved organic material (CDOM), organic and inorganic particulate matter, and water clarity are all indicators used to describe the water quality condition at a regional scale. Sea-viewing Wide Field-of-view Sensor (SeaWiFS) satellite ocean color data, together with field observations, were used to examine the short-term, seasonal, and long-term distribution of CDOM and chlorophyll along the coastal and shelf waters of the Mississippi, Louisiana, and part of the Texas coast. In a river-dominated area such as coastal Louisiana, the use of satellite imagery to track water quality parameters is complicated by the variable characteristics of the river inflow.

Near the river deltas, seasonal maxima in peak variance were associated with seasonal peaks in river discharge; in offshore waters similar peaks occurred with less regularity and appeared to be influenced mainly by the offshore wind stress that transported river plume with elevated chlorophyll offshore. Although similar to the trends in the Mississippi River, chlorophyll variability was lower in a zone off the Atchafalaya River, while west of the Atchafalaya River, significant peaks in chlorophyll variance appeared to be associated with the effects of Hurricane Rita in 2005.

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 2012-071. To download a pdf copy, use the Environmental Studies Program

Information System and search using the study report number:

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

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