



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

Technical Announcement

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**Wave Climate and Bottom Boundary Layer Dynamics with Implications for
Offshore Sand Mining and Barrier Island Replenishment,
South-Central Louisiana**

OCS Study MMS 2000-053

The Minerals Management Service (MMS), Gulf of Mexico OCS Region, announces the availability of a new study report, Wave Climate and Bottom Boundary Layer Dynamics with Implications for Offshore Sand Mining and Barrier Island Replenishment, South-Central Louisiana.

The project was a three-year field study of wave climate, wave-current interactions and bottom boundary layer dynamics, and sediment transport in the Ship Shoal area, landward to the inner shelf adjacent to the Isles Dernieres and was a follow-on effort to a numerical modeling effort completed in October 1996. The project involved (1) directional wave spectra measured simultaneously at two geographical locations to check the numerically modeled results obtained from the wave modeling effort; (2) direct field measurements of temporally and spatially varying directional wave spectra at two proposed locations conducted under different wave conditions (storms, fair weather, etc.) to facilitate numerical model output checking and to develop a quantitative wave climate for the study area; and (3) direct field measurements of bottom boundary layer hydrodynamic processes and suspended sediment transport. The data analysis indicates that massive and rapid sediment movement occurs on Ship Shoal. This sediment movement is important in understanding the dynamics of the shelf/shoal complex.

The study results are highly relevant to MMS's future involvement with mining Ship Shoal for beach nourishment along the Louisiana barrier islands and will assist in predicting sediment transport pathways and the fate of material mined from Ship Shoal and deposited on the inner shelf adjacent to the Louisiana barrier islands during future barrier island restoration efforts.

For more information about this study, contact Mr. Barry Drucker, Physical Scientist, MMS-INTERMAR (MS 4030), 381 Elden Street, Herndon, Virginia 20170, telephone (703) 787-1296. For questions concerning the MMS Environmental Studies Program in general, contact the Environmental Sciences Section (MS 5430), 1201 Elmwood Park Boulevard, New Orleans, Louisiana 70123-2394, telephone (504) 736-2752.

You can obtain copies of the report from the Minerals Management Service, Gulf of Mexico OCS Region, at a charge of \$5.00 by referencing OCS Study MMS 2000-053. 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.

Minerals Management Service
Gulf of Mexico OCS Region
Public Information Office (MS 5034)
1201 Elmwood Park Boulevard
New Orleans, Louisiana 70123-2394
Telephone requests may be placed at
(504) 736-2519 or 1-800-200-GULF
or FAX: (504) 736-2620

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National Technical Information Service
5285 Port Royal Road
Springfield, Virginia 22161
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MMS is the federal agency in the U.S. Department of the Interior that manages the nation's oil, natural gas and other mineral resources on the outer continental shelf in federal offshore waters. The agency also collects, accounts for and disburses mineral revenues from federal and Indian leases. These revenues totaled nearly \$10 billion in 2001 and more than \$120 billion since the agency was created in 1982. Annually, nearly \$1 billion from those revenues go into the Land and Water Conservation Fund for the acquisition and development of state and federal park and recreation lands.

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MMS's Website Address: <http://www.mms.gov>

[Return to Technical Announcements](#)