



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



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*Velocity and Transport Characteristics of the Louisiana-Texas Coastal Current
during 1994*

OCS Study MMS 2001-093

The Minerals Management Service (MMS), Gulf of Mexico OCS Region, announces the availability of a new study report, *Velocity and Transport Characteristics of the Louisiana-Texas Coastal Current during 1994*.

This report presents current and salinity data collected on the Louisiana-Texas Coastal Current (LTCC) south of Isle Dernieres and near Cameron, Louisiana, during 1994. The salinity data showed that water stratification is like a three-layer structure and is stable. The current data show more variability. In shallow areas, the flow responded more quickly to winds, while in deeper waters deceleration of the upper water column was observed towards the end of an upwelling event. The barotropic tidal currents are weak and dominated by the diurnal tides on this part of the shelf. Strong, near inertial motions were observed in summer and modeling suggest that winds of moderate strength are responsible for these motions. Low frequency currents of the LTCC were directed eastward (upcoast) in July, but in August the currents were less organized, representing a transition to the westward (downcoast) flow. The fluctuations of the LTCC can be explained by four mechanisms: alongshore and crossshore wind stress, alongshore pressure gradient, and buoyancy forcing. Water transport estimates during the observation period are 60,774 m³/s when the flow is eastward but just 19,799 m³/s when the flow is westward. Fluctuations of the westward transport are related to variations of alongshore wind stress; the eastward transport variability is dominated by alongshore winds and pressure gradients.

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 2001-093. 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

U.S. Department of Commerce
National Technical Information Service
5285 Port Royal Road
Springfield, Virginia 22161
(703) 487-4650 or FAX: (703) 321-8547
Rush Orders: 1-800-336-4700

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>

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