

# Technical Announcement

MMS

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

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***Full-Water Column Currents Near the Sigsbee Escarpment  
(91-92°W. Longitude) and Relationships with the Loop Current  
and Associated Warm- and Cold-Core Eddie***

**[OCS Study MMS 2007-056](#)**

The Minerals Management Service (MMS), Gulf of Mexico OCS Region, announces the availability of a new study report, *Full-Water Column Currents Near the Sigsbee Escarpment (91-92°W. Longitude) and Relationships with the Loop Current and Associated Warm- and Cold-Core Eddie*.

As industry migrates towards deepwater exploration, the need to characterize the deepwater environments of the Gulf of Mexico has become increasingly important. Louisiana State University deployed four full-water column moorings in the Gulf of Mexico in February 2000 and removed the last mooring in June 2004. These moorings were designed to measure current, along with temperature, salinity, and pressure at various depths throughout the water column. The first two moorings, Deployments 1 and 2, were located on top of the Sigsbee Escarpment in approximately 2,200 m (7,216 feet) of water. These two mooring were combined to form a single time series. The last two moorings, Deployments 3 and 4, were positioned at the base of the Sigsbee Escarpment in approximately 3,000 m (9,840 feet) of water. Strongest surface currents occurred when the Loop Current or Loop Current eddies (both anticyclonic and cyclonic) flowed near or over the mooring. Of the 24 events investigated in detail, 4 of the events showed surface to bottom coherence in flow, which corresponded with the intensification of a Loop Current frontal eddy cyclone in close proximity to the mooring. Relatively strong bottom currents to the northeast occurred when a large warm-core anticyclonic Loop Current eddy (ring) passed south of the mooring.

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 2007-056. 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.

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, 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 Main Website: [www.mms.gov](http://www.mms.gov)**  
**Gulf of Mexico Website: [www.gomr.mms.gov](http://www.gomr.mms.gov)**