



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

Technical Announcement

July 2004

Contact: Debra Winbush  
(504) 736-2597  
:  
Caryl Fagot  
(504) 736-2590

*Strong Mid-Depth Currents and a Deep Cyclonic Gyre in the Gulf of Mexico*

OCS Study MMS 2004-040

The Minerals Management Service (MMS), Gulf of Mexico OCS Region, announces the availability of a new study report, *Strong Mid-Depth Currents and a Deep Cyclonic Gyre in the Gulf of Mexico*.

This report explores the possibility that the mean deep flow (~2,000 m) around the edges of the Gulf of Mexico circulates in a cyclonic, or counter-clockwise, direction. The existence of such flow was proposed on theoretical grounds but had not been previously documented. Clear, reliable observations of such flow are discussed. Analysis of six different year-long, current-meter moorings at various locations and in different years shows a deep flow that is highly variable but clearly cyclonic in the mean. A three-year-long deep float experiment at 900 m also indicates weak cyclonic flow near the edges of the basin. No observations have been found that contradict these conclusions. On the basis of these results, and from numerical circulation modeling using the Princeton ocean model, the authors expect to find deep mean currents flowing to the east along the northern slopes off Mexico. Such flow has not yet been observed.

This report is available only in compact disc format. The discs are available from the Minerals Management Service, Gulf of Mexico OCS Region, at a charge of \$15.00 by referencing OCS Study MMS 2004-040. The report may be ordered through the Minerals Management Service's on-line ordering system at <http://www.gomr.mms.gov/WebStore/front.asp>. 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

The Minerals Management Service 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 American Indian lands. MMS disbursed more than \$8 billion in FY 2003 and more than \$135 billion since the agency was created in 1982. Nearly \$1 billion from those revenues go into the Land and Water Conservation Fund annually for the acquisition and development of state and Federal park and recreation lands.

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

\*\*\* MMS: *Securing Ocean Energy and Economic Value for America* \*\*\*

[Return to Technical Announcements](#)