



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

Technical Announcement

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*Intermediate Depth Circulation in the Gulf of Mexico: PALACE Float  
Results for the Gulf of Mexico between April 1998 and March 2002*

OCS Study MMS 2004-013

The Minerals Management Service (MMS), Gulf of Mexico OCS Region, announces the availability of a new study report, Intermediate Depth Circulation in the Gulf of Mexico: PALACE Float Results for the Gulf of Mexico Between April 1998 and March 2002.

The report contains analyses and results obtained from 17 Profiling Autonomous LaGrangian Circulation Explorer (PALACE) floats set in the northern Gulf of Mexico in April and July 1998. The floats were set to drift at 900-m depth with 7-day cycle times. They had temperature sensors and profiled temperature at the end of each cycle. The floats often drifted in water shallower than their programmed drift depth when they were at the surface portions of their cycles. Even so they yielded about 1,300 samples of the current at 900-m depth and about 1,500 temperature profiles throughout the open Gulf of Mexico for nearly a 4-year period. The floats' deep drifts show a net counter-clockwise circulation pattern at 900-m depth around the borders of the Gulf of Mexico which strengthens into a 0.1 m/s current in the southwestern Gulf of Mexico. The temperature profiles indicate that temperature inversions are common throughout the open Gulf of Mexico in the surface layer. Half of the profiles showed such inversions, and they are interpreted as an indication of coastal, riverine waters. The inversions show a seasonality being rather common in the winter and uncommon in the summer.

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 2004-013. 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 \*\*\*

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