Technical Announcement

U. S. Department of the Interior
Bureau of Ocean Energy Management
Gulf of Mexico OCS Region

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Study of Deepwater Currents in the Eastern Gulf of Mexico

OCS Study BOEMRE 2010-041

The Bureau of Ocean Energy Management (BOEM), Gulf of Mexico OCS Region, announces the availability of a new study report, *Study of Deepwater Currents in the Eastern Gulf of Mexico*.

The study was conducted in the Lease Sale 181 area in the Eastern Planning Area, a rectangular region in the northern deep waters of the Eastern Gulf of Mexico. The study called for 1 year (January 2005 to January 2006) of measurements to collect an integrated set of current, hydrography, remote sensing, and ancillary data that could help us understand the circulation processes in the study area. Current measurements were from three full water column moorings and one short mooring. The tall moorings were moorings designed to reach within 70 meters (230 feet) of the surface. The short mooring was 250 meters (820 feet) tall and was designed to provide additional near-bottom current measurements. Pressure Inverted Echo Sounders measurements were obtained from seven locations from December 2004 to January 2006. The moorings also contained water temperature and conductivity sensors. Current observations were supplemented with three hydrographic cruises and satellite imagery and altimetry. Publicly available river discharge data, coastal and offshore wind data, and coastal water level data during the measurement period were also obtained. The primary conclusion from the study is that the circulation of the Eastern Gulf of Mexico is very active during Loop Current and/or Loop Current eddy events. The circulation characteristics of the region are very similar to those in the north-central Gulf of Mexico during the presence of the Loop Current and eddies, frontal features, or major storms. Deep circulation is affected by Topographic Rossby Waves packets that do not appear to be generated in this region and is not affected significantly by steep bathymetry in this region.

This report is available only in compact disc format from the Bureau of Ocean Energy Management, Gulf of Mexico OCS Region, at a charge of $15.00, by referencing OCS Study BOEMRE 2010-041. The report may be downloaded from the BOEM 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.

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