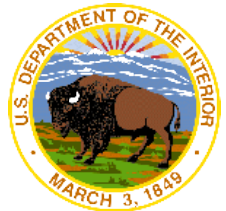




# Biological Sciences FY15 Plans for the Gulf of Mexico

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<b>Discipline</b>	<b>Title</b>
<b>BIO</b>	<b>Comprehensive Nearshore and Offshore Avian Surveys in the Gulf of Mexico (CASGOM)</b>
<b>BIO</b>	<b>Texas Coastal Land Loss from 1992 to 2010</b>



# Texas Coastal Land Loss



## **BOEM Information Need:**

For our NEPA documents, we have to describe the Affected Environment for resources such as beaches and wetlands, as well as impacts of the proposed actions on those resources. In describing Cumulative Impacts to beaches and wetlands, an up to date documentation of their status, and impacts from all sources, is required.

See this comment on our most recent EIS on the Eastern Planning Area. The comment is from the USEPA, a cooperating agency on our NEPA documents:

“EPA recommends that BOEM better quantify in the FEIS historical wetland losses for coastal areas in the Eastern Planning Area and the current status of these systems. Even though BOEM predicts minimal impacts ...the historical cumulative impacts on these systems have been significant and should be disclosed.”

**BOEM OCS Region**

**Tentative Ranking:\_\_\_**





## Background:

### A) Relationship with Previous Work/Efforts

Wetland loss from 1955-1992 has been studied in Texas (Moulton et al., 1997).

Salt and brackish marsh loss has been estimated (Texas Parks and Wildlife, 2003).

Lidar-based shoreline change studied up to 2000, but generally not suitable for wetland loss determination (Morton et al., 2004)

Quantitative estimate of coastal land loss in Texas is lacking for recent years.

**BOEM OCS Region**

**Tentative Ranking:\_\_\_**

## **Background:**

### **B) Relationship with Concurrent/Future Efforts**

This study will leverage classifications underway –

by the U.S. Geological Survey National Wetlands Research Center from the Texas/Louisiana state line to Corpus Christi, Texas for 2009 and 2010

National Wetland Inventory (NWI) data for 1992 for the entire Texas coast and for portions of the Texas coast for 2006 (i.e., Galveston Bay area).

Will provide updated land loss for Texas comparable to that available for Louisiana



## Study's Objectives:

Evaluate land loss rates in the Texas coastal zone since 1992

Map land/water on a three year interval

Assess impacts of Hurricane Rita (2005) and Hurricane Ike (2008)



## **Study's Methods:**

Cloud-free Landsat Thematic Mapper imagery will be collected for the Texas coastal zone.

The modified normalized water index (MDWI) and other indices leveraging the near-infrared spectrum will be used to classify land/water.

Land/water will be classified, and the classifications will be checked manually and edited using expert analyses.