ACCESS NUMBER: 30837

STUDY TITLE: Development of a Mississippi Environmental Sensitivity Index GIS (Geographic Information System) Database for Contingency Planning and Oil Spill Response in the Gulf of Mexico; Mississippi Zone

REPORT TITLE: Mississippi Environmental Sensitivity Index Project for the Mississippi Coast

CONTRACT NUMBER: 1435-01-96-CA-30837

SPONSORING OCS REGION: Gulf of Mexico

APPLICABLE PLANNING AREA: Central Gulf of Mexico

FISCAL YEARS OF PROJECT FUNDING: 1997-1998

COMPLETION DATE OF REPORT: October 26, 1998

COSTS: FY 97: $22,865.58; FY 98: $37,392.83; CUMULATIVE PROJECT COST: $60,258.41

PROJECT MANAGES: Barbara Yassin

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KEY WORDS: Mississippi; oil spill; biology; wetlands; database; habitat; ESI (Environmental Sensitivity Index); coast; GPS

BACKGROUND: The Mississippi coast is a fast-growing tourist area due to the addition of casinos in recent years. Undeveloped, federally protected barrier islands and river wetlands on the mainland contain important breeding habitats for endangered and common fauna. The Minerals Management Service (MMS) enlisted by contract the Gulf States of Mississippi, Louisiana, and Florida to normalize response data to populate a single Gulf-Wide Information System (GWIS) to support oil spill response and other regulatory activities across the entire Gulf region.

OBJECTIVE: To produce GIS layers of geophysical, shoreline classification, human-use, administrative, metadata, and biology data for the Mississippi Gulf coast. The data were created in ARC/INFO 7.1 and designed for use in coastal management, oil spill contingency planning, and emergency response.

DESCRIPTION: The study area consists of twenty-nine U.S. Geological Survey (USGS) quadrangles on the Mississippi coast. It is bounded by Interstate 10 on the north and the Mississippi State border on the east, west, and south.

Data were collected from thirty-two different sources that ranged in scale from Global Positioning System (GPS) accuracy to 1:100,000. The majority of the data was 1:24,000 scale. The 1:24,000 USGS Digital Line Graph data's hydrography layer, updated with a GPS shoreline, was used as a base. Research Planning, Inc. (RPI) of South Carolina developed the biology with data supplied by Mississippi State agencies.

SIGNIFICANT CONCLUSIONS: With the development of the GWIS, responders will no longer be dependent on an outdated ESI booklet that does not have consistency across state lines.

STUDY RESULTS: Now that the pertinent data layers are in digital form, it will be a small task to update it in the future. Points can be added, databases may be updated, old boundaries moved, and contact numbers changed.

Access to the data is available to users in many forms. It can be exported as ARC/INFO coverages or shape files and used in ARCVIEW desktop software. It is being integrated into a HAZMAT CD-ROM, to be viewed in ArcExplorer, and may one day be on the Internet.

In the Mississippi Department of Environmental Quality, the Emergency Response division has an in-house system available for specific inquiries and requests for hurricanes, oil spills and other disasters. The data can be transferred onto a laptop and viewed in the field at contamination sites.

STUDY PRODUCTS: GIS ARC/INFO coverages exported in Latitude/Longitude coordinate system, North American Datum 1927, Clarke 1866 spheroid.

NOTE: The proposed indirect rate for the state fiscal year 1999 (for the last quarter of federal fiscal year 1998) which has been verbally approved by our cognizant agency.

*P.I.'s affiliation may be different than that listed for Project Manager.