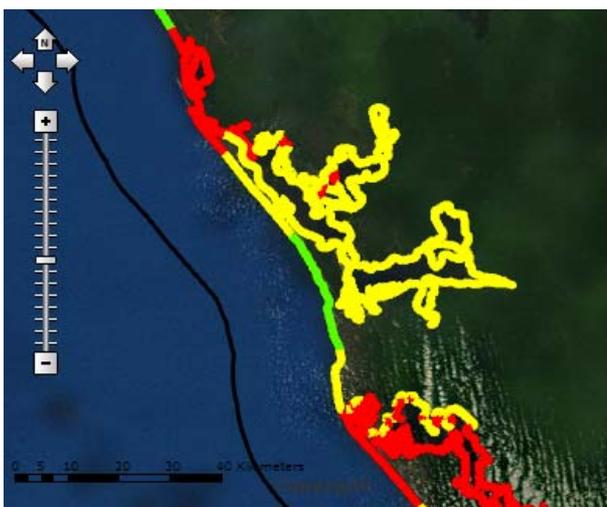


ERM Marine Services

GIS Tools for Coastal and Marine Sensitivity Assessments



ERM has developed an integrated approach for rapidly assessing potential marine and coastal sensitivities to support oil spill preparedness and response. Combining expertise in Marine Science, Oil Spill Modeling, Geographic Information Systems (GIS) and Remote Sensing, ERM is able to rapidly evaluate large geographic areas and present findings through an interactive web-based map.



Overview

Following the Macondo incident in April 2010, the offshore oil and gas industry faces increased scrutiny regarding oil spill preparedness and response. Understanding the sensitivity of coastal and marine receptors is critical to effective planning and prioritization of response efforts. The uncertain geographic extent of large oil spills and the limited timeframes within which to update response plans makes the ERM approach highly effective; combining expert assessment and rapid dynamic visualization.

Oil Spill Modeling

ERM has a dedicated water modeling group with extensive experience applying a wide range of industry standard and custom models to identify and define potentially impacted areas from specific spill scenarios. ERM also regularly coordinates and interprets the third party modeling studies.

Data Acquisition and Review

ERM has extensive experience conducting desk-study and remote sensing data acquisition for offshore locations globally. Depending on time scale, geographic extent and data quality, ERM marine experts can classify data into sensitivity and priority rankings using either industry standard guidelines or customized project specific classifications to meet client response and planning needs.

Typical Data Sources for Assessment

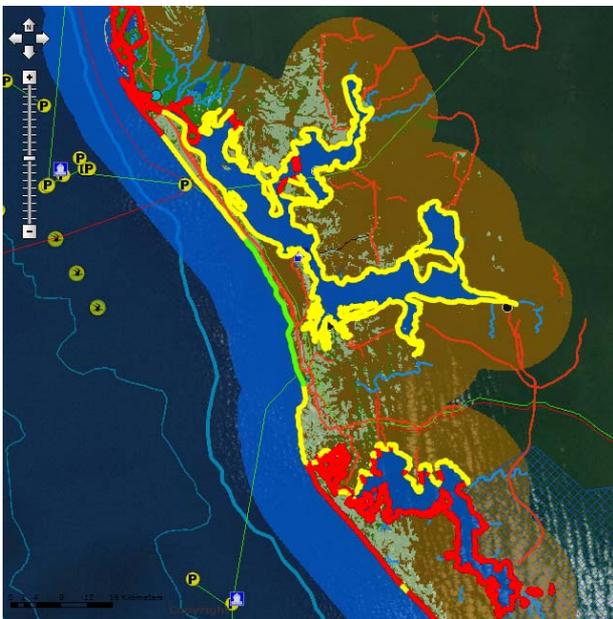
- Satellite image analysis (infrastructure, land cover);
- Onshore/Offshore infrastructure;
- Tanker and shipping routes;
- Protected areas;
- Sensitive habitats; and
- Sensitive species observations.

Geographic Information Systems

GIS technology underpins the sensitivity assessment. Using industry-standard ESRI ArcGIS Software, all spatial data (e.g. satellite images, protected area boundaries, etc.) is stored in a central GIS database. This can be made available to both internal and external contractors. Users are able to view, zoom and query the map and database in a secure web-based viewing portal.

As new data is acquired, reviewed and classified, the project website is updated automatically. Users can also add and modify entries (eg boat access points, boom locations, access roads) in real-time, allowing for greater customization, collaboration and effective response.

Land Cover Map and Coastal Sensitivity Ranking



The GIS system is rapidly scalable and can be used as an assessment and planning tool or in an emergency response situation with additional web server resources. The system is transferrable; so it can initially be hosted and managed by ERM and subsequently transferred to the client or a third-party without restrictions.

Additional Marine Services at ERM

- Oil and Gas exploration EIA
- Aggregate dredging
- Port and harbor developments
- Power and desalination plants
- Submarine cable and pipeline planning
- Renewables (offshore wind farms)

Key Contacts

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