Abstracts

In the information technology it is realized that good quality and well managed spatial hydrographic and oceanographic data constitute an essential ingredient to economic and commercial development as will as to marine environmental protection.

The research has approached and aimed the locating, managing, accessing and manipulating hydrographic data. These data have been collected and processed for the production of charts, and Digital Terrain Models (DTM), will aim to lead for the development of the national economy of the country. The collected data will hopefully be the core of the future marine data base to be established in Sudan.

It is forecasted that in the Sudan, the Geographical Information System (GIS) in conjunction with Marine Information System (MIS), shall be the most important element necessary to the proposed National Spatial Marine Database especially in the study area.

The research investigated in depth the data that may affect development of coastal and off shore infrastructure. Marine Data Base existence shall be inevitable.

Results of the investigating revealed:

1- No need to carry out sound calibration in depth less than 12m.
2- Vessels draft more than 14m may cause damage on the collide with seabed in the study area.
3- Water temperature is considered to be as the major effect on the sound velocity.
4- Because of the Red Sea relatively closed in Bab-Almandab the change of the tide is limited in the range 0.5m - 4m.

5- The increase in depth is followed by the increase in the density and salinity, but it also causes decrease in the water temperature.
6- Method for be limitation of shoreline, baseline, coastline and inundation models in Red sea area