

Preparation Geodatabase of Sedimentological and Geological Properties by Using GIS

Technology: A Case Study

Basrah Province, Southern Part of Iraq

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Abstract

This study uses a combination of remote sensing and geographic information systems (GIS) to create a geodatabase file of geological features in the southern Iraq (Basrah region, as a case study). The geodatabase includes information about sedimentology, topography, structure, and a surface digital elevation model (topographic model). ETM+ Satellite Imagery group with a resolution of 28.5m was the primary data for which the Basrah map was created. Collected sediment data from literature and analysis in this study were inputted to plot geospatial sediment maps of the study area. The sediment maps were created using the SEDCLASS program developed by USGS, which uses of Shepard's and Folk's Schemes to classify the sediments. This geodatabase is a vital, essential step forward that offers a dynamic for future regional development. There is a crucial need to research and create models related to geo-environmental impacts.

Keywords: Digital Elevation Model; Geographic Information system; Geological map, Sediment map, Basrah; south of Iraq.

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