



## **Studied the geomorphology, soil and water resources in south Egypt using geoinformation technology**

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### **Abstract**

The main objective of this study was to study the geomorphology, soil and water resources in the studied area using remote sensing techniques and GIS. The studied area is located between latitudes 24° 20' and 24° 40' N and longitudes 32° 45' and 33° 40' E in Kom Ombo, Aswan governorate. The climatic situation of the studied area is characterized by a long hot dry summer, a short mild winter with little rainfall, high evaporation and low relative humidity. Based on the interpretation of ETM remote data, GIS and 3Dview the following natural resources were detected. The geomorphological units in the studied area were Nile valley and Kom Ombo plain. Soil types where clay soil is occurred in the old cultivated land. But it is medium to coarse grained fluvial sand with gravel in the reclaimed areas. The land use and land cover for the studied area were old cultivated land, urban area and channels. Three main groundwater aquifers were confirmed, these are the Nubian sandstones aquifer, the Eocene fissured limestone aquifer and the Quaternary alluvial aquifer. Kom Ombo is the ancient site of Ombos, which is from the ancient Egyptian word 'nubt', or 'City of Gold'. In ancient Egypt, the city was important to the caravan routes from Nubia and various gold mines.

**Keywords:** Remote sensing, GIS, 3D model, Natural Resources Kom Ombo