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Holocene evolution of Dahab coastline – Gulf of Aqaba, Sinai Peninsula, Egypt**Magdy Torab***

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Key words: Coastline evolution, Dahab, Sinai Peninsula, Gulf of Aqaba, Egypt.**Abstract:**

Dahab is a little Bedouin-village in Sinai Peninsula on the east coast of the Gulf of Aqaba and it lies approximately 90 km north of Sharm-el-Sheikh City. Dahab means “gold” in the Arabic language; over the past 20 years it has become one of the most visited tourist sites in Egypt.

The basement complex is composed mostly of biotite aplite-granite, mica-aplite granite, granodiorite, quartz diorite, alaskite, and diorite. This composition correlates to similar igneous rocks in the most southern areas of Sinai and the Red Sea. Wadi Dahab is composed of igneous and metamorphic rocks and the coastline is formed of fragments of its rocks mixed with fragments of coral reef. The morphology of Dahab’s coastline is characterized by a hooked marine spit composed of fluvial sediments carried by marine currents from the mouth of Wadi Dahab. This spit encloses a shallow lagoon, but the active deposition on the lagoon bottom will turn it into saline marsh.

This paper investigates the evolution of the Dahab spit and lagoon during the Holocene and over the last 100 years, as well as the potential impacts of future management of the coastal area. The coastline mapping during the study was dependent on GIS techniques and data were collected by using total station, aerial photographs and satellite image interpretation as well as soil sample dating.

1. Introduction:

Dahab is a small town situated on the southeast coast of the Sinai Peninsula in Egypt. It is constructed on the alluvial fan of Wadi Dahab near the Gulf of Aqaba shoreline 90km north of Sharm El Sheikh City (Fig.1).



Fig.1: Location of Dahab area and position of deposit samples collected for dating

Most of the exposed rocks of the western shoreline of the Gulf of Aqaba are Precambrian and have undergone repeated deformation, intrusion, and metamorphism (Clifford, 1970; Stacey and Hedge, 1984). The soil is formed predominantly from the weathering of mountains and is mainly granitic in composition. The soil layer is generally shallow because the bedrock is close to the surface. Annual rainfall is less than 50mm.

1.1. Objective:

The aim of this study is to understand the geomorphological evolution of the Dahab coastline during the Holocene with a focus on its evolution during the last hundred years. The study also aims to reconstruct the geomorphic evolution of the study area as a result of depositions from both fluvial and coastal processes.

1.2. Material and methods:

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