



Geodiversity assessment of the Sinai Peninsula, Egypt

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The Sinai Peninsula is a triangular plateau lies in NE corner of Egypt, its head in the south at Ras Mohammed and its other sides between the Gulf of Aqaba and Gulf of Suez and the triangle base on the Mediterranean Sea.

Sinai Peninsula is the most attractive region from the geological, geomorphological and environmental stand points of view because it displays a variety of simple and complex structural and landforms, (Abu Al-Izz,1971). In general, Sinai Peninsula reflects all geologic column of Egypt. Geomorphologically, Sinai Peninsula comprises many geomorphologic units such as mountains blocks, cliffs, isolated hills, wadies, hogbacks, questas, sand ridges, muddy and marshy lands, lakes and shorelines.

This paper aims to define and measure geodiversity assessment index of the Sinai Peninsula as the quantitative variety of geological, topographical, geomorphological, hydrological and soil features.

Some geodiversity indices maps for the above features produced for Sinai Peninsula were based on the methodology presented by (Pereira et al, 2012), it depends upon calculate of some geodiversity elements for overlay grid of the study area, which divided topographic, geological maps of the Sinai Peninsula with scale 1:500000 and satellite image (landsat 8, 27th October 2014, 12 bands, 30m). It divided into 743 squares (10x10 km), and some partial geodiversity indices such as geological, topographical, geomorphological, hydrological and soil indices were calculated by counting the number of each element inside each square, then the overall geodiversity index map produced by calculate the total number of all indices inside each square, the geodiversity index map were classified into some gradual categories by using isolines: very low, low, medium, high and very high.