

Title	Quantitative assessment of soil erosion in Wadi Sanour Basin· Applied study using GIS and remote sensing		
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Geomorphological factors and processes are the main driver of soil erosion, stripping the surface of sediment from various weathering processes, and the activity of these factors and processes depends on both soil, climate, relief and land cover and interactions between them, as they represent Soil erosion the result of the activity of different geomorphological factors and processes.

This study was conducted to address and identify the problem of soil erosion in the Wadi Sanour basin with more than one model (RUSLE-WEQ), GIS and remote sensing are among the most effective tools for analyzing information and extracting maps for the distribution of spatial data within the parts of the basin.

The use of mathematical models of soil erosion integrated into GIS and remote sensing is a more effective tool than traditional methods of assessing soil loss rates in the basin range.

Wadi Sanour extends over the limestone rocks of Almueaza Plateau in the Eastern Desert, about 10 km south of Beni Suef, and flows towards the Nile river at the village of Sanour, and is located between latitude ($28^{\circ}15'38''$ - $29^{\circ}17'25''$) North and longitude ($31^{\circ}02'59''$ - $32^{\circ}11'54''$) East, and covering the basin around 6202.21 km.

Through the study of soil erosion of the Basin of Wadi Sanour using a model of water erosion and another for wind erosion, it was found that wind erosion is one of the most important geomorphological processes prevailing in the basin and the greatest effect in the carving and dredging of the soil, where the average values of wind erosion (I) about (42.55 tons/ ha/year) While the average water erosion of the soil (1.91 tons/ha/year) averaged rain erosion capacity (R) according to the Rose Index (6.63), the average wind erosion capacity according to the Chepil equation was about 132.3, indicating that the area was within the high wind erosion rates.

Climatic elements and soil characteristics are the main factors influencing soil erosion, so the study area suffers from high wind erosion rates, requiring the afforestation of areas exposed to high and very severe erosion, particularly in the area of agricultural land reclamation.

Key words: soil loss, wind erosion equation, Soil erosion, Wadi Sanour.

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