



Hazard Impact And Genetic Development Of SandDunes West Of Nile Valley Egypt Egypt

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ABSTRACT

A SE. dune field extends west of Nile Vally (west Samalut). The dune movement and sand encroachment on the cultivated fields along the margins of the Nile flood plain represents a permanent threat to soil productivity and agricultural production in this region. In this study, the dunes has been investigated by producing geological and geomorphological maps by using Landsa ETM images for the area surrounding the dune field. Fifty sand samples had been collected from sand dunes and 5 samples were collected from substratum. Each field observation locality could be considered as a profile across the sand dune direction of movements. The sand samples are sieved and the separate samples weighed. Carrying out the collective diagrams using the computer program SITA. The granulometric indices were calculated, that is the mean grain diameter, standard deviation (measure of sorting) and skewness Besides the sand grain features were analyzed, that is grain rounding with the use of a graniformameter, and by undertaking laboratory investigations on samples collected from various dunes. The laboratory investigations involve different granulometric parameters such as the grain rounding and frosting in the binocular microscope and morphoscopic studies. Morphoscopic studies using scanning electronic microscope (SEM) elucidate the surface process affected on sand grains. These dunes seem to have their source from a location found to the north, east and from the substratum of the dunes probably from the extensive sand and gravel deposits of Oligocene and Miocene and Quaternary age. While the sand are shiny and more rounded mat grains in the northern part of these dunes to fluvial processes. However it is not excluded that part of the sediments of the dunes are old intensively reworked aeolian sediments moving in the Western Desert during various arid phases of the Quaternary. SE movement of sands due to wind and become more markedly "aeolinized" in this direction by including less rounded and striated sand grains. They also include less clay material toward the south.