

Towards a Quantification of the Wind Erosion of the Gharb Shoreline Soils in Morocco by the Application of a Mathematical Model

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Abstract : Wind erosion is a serious environmental problem in arid and semi-arid regions. Indeed, wind erosion easily removes the finest particles of the soil surface, which also contribute to losing soil fertility. The siltation of infrastructures and cultivated areas and the negative impact on health are additional consequences of wind erosion. In Morocco, wind erosion constitutes the main factor of silting up in coast and Sahara. The aim of our study is to use an equation of wind erosion in order to estimate the soil loses by wind erosion in the coast of Gharb (North of Morocco). The used equation in our model includes the geographic data, climatic data of 30 years and edaphic data collected from area study which contained 11 crossing of 4 stations. Our results have shown that the values of wind erosion are higher and very different between some crossings ($p < 0.001$). This difference is explained by topography, soil texture, and climate. In conclusion, wind erosion is higher in Gharb coast and varies from station to another; this problem required several methods of control and mitigation.

Keywords : Gharb coast, modeling, silting, wind erosion

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