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كل الحقوق محفوظة للمدرسة الوطنية العليا للري.

Abstract : Soil degradation is a serious and extensive problem in many areas in Algeria. Information on soil loss is essential to support agricultural productivity and natural resource management. In this study, remote sensing and GIS are used in order to map and assess water erosion in the Wadi Cheliff basin. The study area is characterized by a great irregularity in rainfall which is mainly generated during storm events. The region is also known for its steep slopes, a marly lithology and a very weak vegetation cover, which makes it more exposed and vulnerable to erosion. The RUSLE model can be described as the combination of six factors that feature the specific characteristics of the watershed. Data from remote sensing analysis and GIS are used to individually assess and map each of these factors. The integration of thematic maps for the RUSLE factors in the GIS is used to identify the impact of each factor on soil loss, as well as to rank the relative importance of the erosion zones, and further quantify the soil loss for the investigated region. The range of soil loss in the study area varies from 0 to 120 t/ha/year, and the area at high risk of erosion is located in the north and center parts of the region.

KEYWORDS : Soil degradation ; GIS ; Remote sensing ; Wadi Cheliff basin

; Algeria

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