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ASSESSMENT OF WATER SOIL EROSION USING GEOWEPP MODEL. CASE STUDY: JWILIN WATERSHED – SOUTH WEST SYRIA

Abstract

Soil erosion by water is one of the challenges for agro ecosystem in semi-arid land in south-western Syria. However, in order to develop soil conservation plans, it is essential to estimate erosion rates. Simulation models are important tools for water soil erosion assessment. This research aims to (1) Investigate the performance of GeoWEPP (geo-spatial Water Erosion Prediction Project) model for sediment yield prediction in semi-arid land in south-western Syria, by comparing predicted values and observed values that had been taken in the period 2017-2019, (2) Evaluate the spatial distribution of water soil erosion by using GeoWEPP through both watershed and flow-path methods. Results showed that the values of R and NSE reached to 0.85, 0.71 respectively, which provides a positive indication of effectiveness of GeoWEPP for estimating water soil erosion in the study area. Water soil erosion rates ranged between less than 1 t ha-1 yr-1 and 52 t ha-1 yr-1.