

Abstract

Namin basin sedimentation rates in this study were analyzed using WEPP. WEPP model for simulation process performance requires soils, land management, climate, slope and channel data. Soil file was made with soil profile drilling and specifying features such as clay, silt and sand, Albedo and coefficient of cation exchange. Required information for management file is include landuse, management type applied phenological and physiological characteristics of the dominant species were determined. CPIDS software was used to make management file. CLIGEN program used monthly data of temperature and precipitation for climate file creation for simulation. Topography lines map converted to DEM 20 and then to ASCII format and use as slope file. Channel file is include channel management, channel soil, channel slope and channel morphological characteristics. After than needed files are made, WEPP model run in both method means slope method and watershed method, and erosion and sediment yield of Namin Watershed was estimated in GeoWEPP program. Output of model is value of erosion and sediment yield and them maps. There is sediment survey station in outlet of Namin watershed and so sediment yield data was available. In compare of observational and estimated value of sediment yield by Error percent and root mean squared error formulas done. Accuracy of model estimation was evaluated. Obtained values for slope method and watershed method in order using Error percent is 10.2 and 59.8. For root mean square error values for two method in above order is 0.15 and 0.7. Results indicate that WEPP model able to estimate sediment yield with high precision. So we can conclude that the WEPP model can be used in areas that Effective characteristics in erosion and sediment yield are similar to Namin watershed.

Key words: WEPP model, sediment yield, GeoWEPP, slope method, Namin watershed.



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