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Performance Evaluation of FSM, PSIAC and EPM Models to Estimate Sediment Yield in the Rangelands (Case study: Sorkh Abad Watershed, Mazandaran province)

Abstract

In this study, to investigate situation of soil erosion and sediment yield in the Sorkh Abad watershed of Mazandaran province, first measured the specific sediment observed by aspects of sediment accumulated behind two of stone and mortar dam in the output of the mentioned watershed was considered then using models FSM, PSIAC and EPM performance of each of these models to estimate the amount of erosion and sediment yield was evaluated. According obtained results of the observed and measured sediment rate behind dams in the study area was 390.997 ton per square kilometer per year, which were obtained for FSM (equation 10), PSIAC and EPM models

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611.411, 239.157 and 280.436 ton per square kilometer per year respectively. Also, the relative error percentage calculated for the above models, respectively 22, 36 and 50 percent. According to the results, the EPM model with relative error percentage less than other models used was better performance to estimate of erosion and sediment yield in the Sorkh Abad watershed.

Keywords: Sediment Yield, Check Dams, Rangelands, Sorkh Abad Watershed, Mazandaran Province.

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