

## Assessment of Improving SWAT Weather Input Data using Basic Spatial Interpolation Method

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### Abstract

The Soil and Water Assessment Tool (SWAT) has been widely used to simulate the long-term hydrological conditions of a catchment. Two output variables, outflow and sediment yield have been widely investigated in the field of water resources management, especially in determining the conditions of ungauged subbasins. The presence of missing data in weather input data can cause poor representation of the climate conditions in a catchment especially for large or mountainous catchments. Therefore, in this study, a custom module was developed and evaluated to determine the efficiency of utilizing basic spatial interpolation methods in the estimation of weather input data. The module has been written in Python language and can be considered as a pre-processing module prior to using the SWAT model. The results of this study suggests that the utilization of the proposed pre-processing module can improve the simulation results for both outflow and sediment yield in a catchment, even in the presence of missing data.

**Keywords :** SWAT, missing data, spatial interpolation

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