

## Estimating of soil moisture using shetran model at Cisanggarung catchment area

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<b>Abstract</b>	<p>Soil moisture is one of the essential controls for the hydro-climatology processes. Soil moisture value can be used as an indicator of soil fertility so that it has a vital role in increasing agricultural and plantation production. Understanding the soil moisture variability on a spatial-temporal scale is very interesting in many practical applications such as drought prediction and agricultural modelling. The purpose of this study was to estimate the soil moisture value which distributed in space and time in the Cisanggarung River Basin with the spatial resolution of 500 m x 500 m and daily temporal resolution. The Shetran physical-based hydrological model was applied by utilizing hydro-climatological data derived from the remote sensing measurements from 2001 to 2017. The Shetran model input data consisted of the digital elevation model, land use land cover, TRMINI rainfall data, evaporation data, and soil properties data. The results of this study indicate that Shetran hydrological model is reliable to estimate soil moisture in a watershed. This soil moisture values are then validated with the historical data of drought disaster.</p>
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