# Using remotely sensed data to calibrate a hydrological model in an ungauged basin of a tropical area

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Calibration of hydrological models in ungauged basins is always one of the main concerns of the hydrologist. Nowadays, remotely sensed data are widely used as an ancillary data in a diverse applications in environmental management. Remote sensing has the capability of monitoring several variables of hydrological components such as soil moisture, albedo and surface temperature, and based on these variables the other water components (e.g. evapotranspiration) can be created. In this study, we used remotely sensed data to calibrate the SWAT semi-distributed hydrological model in an ungauged basin of Vietnam. The SWAT model firstly was set up in central of Vietnam, and further the model parameters were initially predicted using the regionalization method from the nearby watershed. Further, the MODIS product of Evapotranspiration (ET) was used in a period of eight years from 2006 to 2016 in order to calibrate the SWAT model. The results showed that maximum potential leaf area index of forest areas (BLAI) is the most sensitive parameter which effects on evapotranspiration. However, the performances of the model was satisfactory with high Nash-Sutcliffe (NS) and the coefficient of determination (R2) (greater than 0.79). Although the results of this study show that ET can play a major role in SWAT calibration, more studies in diverse landuse would recommend in further researches.