Building distributed hydrological with different spatial discretization based on HBV conceptual hydrological model and Muskingum routing method, the research aims at using different parameterization / parameter regionalization method to get the distributed parameters of the catchments considered in the study, the Distributed hydrological model will try to use the global parameters produced by *[Beck et al., 2010]* as a boundary for the calibration algorithm to recalibrate the model based on local gauges. the model is working based on daily meteorological data (precipitation, temperature and potential evapotranspiration), the HBV model is based on the *[Bergström, 1992]* HBV version with extra parameters for rainfall and evapotranspiration correction factors. The first catchment considered in the study is Coello basin in Colombia and the second catchment is rhine basin in Europe. The algorithm has already been tested with ground-based precipitation gauges data in Jiboa catchment in El Salvador and results were encouraging to try the algorithm with remote sensing data and also with larger scale catchments.

the research does not aim to compare the MSWEP dataset with another dataset, it aims at using the dataset to build distributed hydrological model, and compare the result flow at different location with ground-based gauges