



Assessing the predictive skill of satellite-based precipitation estimates in hydrologic applications

E. Wood, M. Pan, and H. Li

Dept. of Civil and Environmental Engineering, Princeton University, Princeton, NJ 08544, USA

One of the important applications of GPM-Era precipitation products would be to provide forcing inputs for hydrologic applications. As direct comparison between satellite-based estimates and in-situ precipitation measurements does not reveal how skillful satellite retrievals are in hydrologic applications. Thus, we evaluate their predictive skills by forcing a Land Surface Model (LSM) with both satellite and in-situ measurements, and calculating the skill of the satellite products in predicting hydrologic states and fluxes useful for water resource applications: e.g. soil moisture (SM), runoff (Q), evapotranspiration (ET), and river streamflow. A number of products ranging from microwave, microwave+infrared, to gauge-corrected estimates are tested, and for the skill reference of the satellite retrievals, estimates from global/regional reanalyses are tested as well.