Data Infrastructure for Wide-Area Hydrologic Modeling

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Abstract

Objective parameterization of hydrologic models for large areas is of critical importance in creating models which have a good predictive skills for ungaged basins. Oftentimes there is much effort and cost involved in collecting the data used to create either the parametric or forcing inputs essential for sophisticated flood models. This presentation will describe a few regional and global datasets that are freely available and can be used to parameterize and/or drive regional or local-scale hydrologic models. Critical among these is a global potential evapotranspiration dataset derived from GDAS-network 3-hour data. This data input has shown a high correlation with independent station data despite its rather coarse resolution. Additionally, a technique will be described for utilizing long-term monthly station precipitation information to derive accurate mean rainfall fields, as well as a tool for blending station observations with these mean fields to create a best estimate field of monthly rainfall.