

The National Hydrologic Model: an infrastructure for collaboration in the hydrologic community

Lauren Hay, Research Hydrologist, USGS, Lakewood, CO, lhay@usgs.gov

Abstract

The National Hydrologic Model (NHM) was developed to support coordinated, comprehensive, and consistent hydrologic modeling at multiple scales for the conterminous United States. The NHM development has been driven for the past decade by specific applications to meet stakeholder needs for accessible, adaptable surface water models that address local hydrologic modeling needs. NHM-based applications provide information to scientists, water resource managers, and the public to support advanced scientific inquiry and effective decision-making. The NHM infrastructure supports the execution of the Monthly Water Balance Model (NHM-MWBM) and the daily Precipitation Runoff Modeling System (NHM-PRMS). The NHM-PRMS balances all components of the water budget and can include simulation of stream temperature. Complete local models can be subset from the NHM-PRMS, then adapted and applied with local expertise to address stakeholder needs, providing nationally-consistent, locally informed, stakeholder relevant results. The NHM infrastructure provides an opportunity for collaboration in the hydrologic community.