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Overview of Development and Evaluation of the National Water Model

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The National Oceanic and Atmospheric Administration (NOAA) National Water Model (NWM) is a continental-scale, distributed hydrologic model that runs operationally in forecasting and analysis cycles over the United States. The purpose of the model is to provide forecast guidance for streamflow and other hydrologic variables where current forecast information does not exist at time scales from hourly up to thirty days. One challenge in model development is preparation and evaluation of the input parameter datasets for the 2.7 million river reaches in the flow network, and the ∼1,500 reservoirs represented in the model. This presentation discusses the science and data service challenges in developing channel and reservoir parameters, the methods used to estimate them, and results from comparison to available observations. General performance of the model in terms of streamflow from its early version (1.0) to current version (2.0) is described.