The National Weather Service (NWS) National Blend of Models (NBM) contains a suite of calibrated forecast guidance that is nationally consistent and skillful at high resolutions. These guidance products are created from a combination of numerical weather prediction models (NWP) from NWS, non-NWS, and post-processed model guidance using bias correction and weighting techniques. The goal of the NBM is to provide human forecasters with a highly accurate, skillful, and consistent starting point in the generation of an official gridded forecast. The most recent version of NBM (v3.1; October 2018) delivers hourly gridded and station-based guidance for US areas of interests for many sensible weather elements.

Within the NBM, the calibrated probability of precipitation (POP) and deterministic quantitative precipitation forecasts (QPF) products are generated via Quantile Mapping [and Dressing] (QMD). Cumulative distribution functions (CDFs) are populated for forecast and analysis datasets using training data from the previous 60 days. Real-time model forecasts are then quantile-mapped using CDFs for the model and analysis distribution. The QMD is performed four times per day for over 160 NWP models for lead times out to Day 10 over contiguous United States (CONUS).