P44   Using less conventional observations to identify model physics errors in a CONUS-wide ensemble.

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The Big Weather Web (BWW) project is a multi-university effort to create a sharable ensemble of WRF-ARW simulations for the conterminous United States (CONUS) at 20 km horizontal resolution. The ensemble was established in January 2016 and consists of 45 members (of which the University at Albany contributes 13), all initialized from either the Global Forecast System (GFS) or its ensemble component at 0000 UTC. The Albany members emphasize model physics variations relating to the cumulus, boundary layer, and land surface schemes.
We have conducted extensive verification of daily simulations for a warm (July) and cool (December) season month, using the Model Evaluation Tools (MET) package. Two "new" data sources are employed: one-minute data from automated airport stations (ASOS) and raw radiosondes with very high vertical resolution. The former is used to test a gust parameterization and a hypothesis regarding systematic wind forecast errors. The latter is employed to reveal problems in boundary layer and land surface models and to suggest remediations. Both data sources are also compared to their conventional counterparts and their relative strengths and weaknesses assessed.