

P5 Impact of assimilating AMSR-2 radiance observations on forecast of Hurricane Sandy

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The impacts of assimilating Advanced Microwave Scanning Radiometer 2 (AMSR2) radiance observations in the clear-sky and all-sky on the analysis and forecasts of Hurricane Sandy (2012) are assessed with Weather Research and Forecasting Data Assimilation (WRFDA). The impact of AMSR2 in the clear-sky radiance assimilation is examined by using a baseline experiment that had no microwave imager data. Improvements of AMSR2 assimilation are found both on the analysis and forecast. Consistent positive impacts on the 72-h forecast for track, central sea level pressure (CSLP) are confirmed. And compared with Global Forecast System (GFS) 5-day forecast, a significant improvement is obtained by assimilating AMSR2. For all-sky radiance assimilation, those observations over cloudy area, which are rejected in clear-sky assimilation, are also assimilated. And, it results in an obvious reduction in mean standard deviation of analysis departure and the forecast error of track and CSLP. This indicates that all-sky assimilation can provide better analysis and forecast than clear-sky assimilation.