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Status and Outlook of QPESUMS System in Central Weather Bureau, Taiwan

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Abstract

The Quantitative Precipitation Estimation-Segregation Using Multiple Sensors (QPESUMS) system for real-time (0-2hr) severe weather forecasts is under a joint development program between NSSL/NOAA and Central Weather Bureau (CWB) (Gourley et al. 2002) since 2002. In QPESUMS, the data and their mosaic from Doppler Radars (reflectivity and radial wind) are used to make QPE. The QPE is adjusted by other data sources, such as the raingauge and satellite infrared data, etc. To enhance the usefulness of QPESUMS for near real-time quantitative precipitation forecast (QPF), several features were added in 2003: (1) Radar Echo Statistics for Data Quality Control; (2) Doppler Velocity Dealiasing Algorithm; (3) GIS/Surface Observation Overlay; (4) Severe Storm/Typhoon Track Overlay. Products from QPESUMS are presented in web page format. Currently, the QPESUMS shows a good agreement of her QPE with the surface observation when local and areal precipitation rate is greater than 10mm/hr, which is consistent with our expectation. The goal set for the QPESUMS is to be able to make reliable 0-2hr QPF on the local severe weather systems (Mei-Yu fronts, typhoons, etc.) by the end of 2005.

References

Gourley, J. J., R.A. Maddox, D.W. Burgess, and K.W. Howard, 2002: An exploratory multisensor technique for quantitative estimation of stratiform rainfall. *J. Hydrometeor.*, **3**, 166-180.