

Impact of OScat surface wind data on T574L64 assimilation and forecasting system – a study involving tropical cyclone Thane

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Ocean surface wind vector data from scatterometer (OScat) on-board India's Oceansat-2 satellite are available to global meteorological and oceanographic community on near real-time basis from the National Remote Sensing Centre (NRSC), Hyderabad. The quality of these wind vectors has improved recently and now is almost equivalent to that of any other present-day scatterometer sensors. The OScat winds are available in real-time and hence analysis procedures are developed for assimilating these winds into T574L64 Global Data Assimilation and forecasting (GDAF) system at NCMRWF, Noida. In this study an attempt is made to quantify the impact of the OScat data through an observational system experiment using the procedure developed. The impact has been examined for the 17 December 2011-1 January 2012 involving the case of tropical cyclone Thane. This case study clearly demonstrates that the inclusion of OScat data is beneficial to the GDAF system, especially in simulating active cyclonic systems in both analysis and forecast.

Keywords: Cyclone Thane, Oceansat-2, OScat surface, scatterometer sensors, wind vectors.