

# **Impact of Assimilation of quickcat data in a Tropical Storm**

Elizabeth Silvestre E. (1), Kobi Mosquera (2)

(1) Jicamarca Radio Observatory (ROJ)-Instituto Geofísico del Peru (esilvestre@jro.igp.gob.pe), (2) Centro de Prediccion Numérica del Tiempo y Clima (CPNTC)-Instituto Geofísico (kobi@chavin.igp.gob.pe)

Data Assimilation is a procedure that combines satellite data and other more direct measurements, such as those taken from balloon-based platforms, with information from predictive models to give the best possible estimate of the Earth's atmosphere and surface at given time. Single snapshots are also used to initialize weather forecasting models. Satellite data are critical component of data assimilation systems, because they are able to observe areas are not covered well by direct measurement, conventional observations. In this paper is presented the results to assimilate Quikscat data, in the tropical storm in January 19 of 2004, when was observed the storm cyclonic circulation in northeast of Brazil, this storm caused heavy precipitations in the region, was very affected regions naturally dry. The CPTEC have the analysis obtained assimilating conventional data and data satellite coming from ATOVS, this results was used in this work to compare with the new assimilation. In this work, including into system assimilation the Quikscat data in the ocean, the system use the quikscat data like winds in surface. The system was running in cyclic form during 18 to 22 janeiro of 2004, considering four times at day, in all the levels of the model. The forecast was for 4 days started at 00 UTC and 12 UTC, and in the 06UTC and 18 UTC, was for 18 hours. Was evaluate the results considering surface parameters, and show that 72 hour before the storm the numerical model including in the system assimilation the quickscat data capture better without data quickscat, during the storm the inclusion of the data quickscat show with more accuracy the end of the storm. The important conclusions is that in weather forecast the data assimilation help us to improve the forecast using the data observations properly and prevent some natural hazards related with the atmospherics phenomenals.