REPORT OF THE CHAIRPERSON OF SESSION VII: MICROWAVE / LIDAR STUDIES

Chairperson: Sant Prasad

In all, there were six presentations during this session which covered assimilation of Quickscat data in various models and Doppler wind Lidar data for extreme weather prediction.

Dr. A.F. Nerusher presented a method to determine a smoothed spatial distribution of wind speed near a sea surface (Vs) in the whole region of cyclone action – from the center to periphery. The method has been tested on the sounding data of SSMI and TMI in the zones of tropical cyclone action in the Atlantic and Pacific oceans in 1998 and 1999. The method is applicable for cyclones with distinctly pronounced structural parameters- the eye, the eye-cloud wall, hurricane and storm wind zone.

Dr. Masami Tokuno presented the results of assimilation of Quickscat Winds into the operational meso-4D Var system at JMA. Prior to this, the results of the impact studies using Quickscat Winds in December, 2001 and July, 2002 were presented with T213L40 version of the global NWP model. There were small positive impacts on forecast performance on the northern hemisphere in summer. But remarkable positive impacts were recognized for forecasting tracks of typhoons.

Lt. Commander G. Rambabu presented the results of a cyclone simulation case utilizing the scatterometer winds, in Mesoscale Atmospheric Model (MM5). Quickscat derived winds were used to diagnose the motion of the cyclone that formed over Bay of Bengal during the year 2001.

Dr. Ad Stoffelen of KNMI made two presentations in this session. The first presentation described a method for generation of high resolution scatterometer wind product from the use of advanced filtering technique to retain small scale meteorological properties. His second presentation is on the assimilation of synthetic Doppler Wind Lidar observation for extreme weather prediction. The presentation demonstrated results of sensitivity computations performed at ECMWF.

In this session, the last presentation by Dr. Paul Ingmann of ESTEC focused on convective activities on the contribution of ADM-Aeolus to tropical analysis and on the potential impact of the line of sight (LOS) wind observations on model analysis and forecast.

During all presentations, there were a number of questions/querries and clarifications asked by the participants which led to a fruitful session.

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