

SESSION VI

Regional and Mesoscale Applications

Co-Chairs: Ramesh Bhatia and Iliana Genkova

The *Regional and Mesoscale Applications* Session discussed the use of satellite winds in Numerical Weather Prediction models and their impact on forecasting mesoscale phenomena. Seven talks were presented.

The Session started with Rama Rao's report "*Impact of satellite data on limited area model analysis and forecast system in IMD*". It discussed the assimilation of INSAT and QuikSCAT data, which is not used operationally by the India Meteorological Department. Verification analysis and forecast fields of recent major regional synoptic events using the additional data improved the initial analysis and model predicted rainfall.

Next, Bjarne Amstrup gave an overview of the "*Status on the use of Atmospheric Motion Vectors in DML – HIRLAM*". Starting 31 May 2005, Meteosat-8 AMV were made operational in the DMI-Hirlam 3D-VAR Analysis. An impact study of using additional data over land surfaces was presented as well.

Devendra Singh from IMD Satellite division introduced the "*Recent developments in CMVs derived from KALPANA-1 and INSAT-3A satellites and their impact on NWP model*". The replacement of the IMD LAM with a global forecast model is resulting in a significant increase in the number of good quality CMVs, and their assimilation demonstrates an improvement in capturing wind circulations, and forecasting surface pressure and rainfall.

Raghavendra Ashrit from the National Center for Medium Range Weather Forecasting, India, presented '*Impact of satellite winds on simulation of tropical cyclone over Indian seas*', illustrating the positive impact of assimilating satellite winds from Meteosat on tropical cyclone track prediction using a local mesoscale model.

Next, Javier García-Pereda from the National Institute of Meteorology, Madrid, Spain, presented "*Description and verification results of the high resolution wind product (HRW) from HRVIS MSG channel at the EUMETSAT Nowcasting SAF (SAFNWC)*". A thorough description of the HRW Product and its validation was given and followed by information on how it has been distributed to users. A number of questions were asked on the orographic flag introduced in this product for the first time, how were end-users trained to use the product, and how were the QI implemented.

Javier García-Pereda also presented, on behalf of José Miguel Fernández-Serdán, "*Objective use of high resolution winds product from HRVIS MSG channel for nowcasting purposes*". This talk elaborated on the possible applications of HRW for

Nowcasting and showed examples of detection of cyclogenetic zones, areas of convergence/divergence, and monitoring of mesoscale rapid changes.

The last presentation in this session was given by Massimo Bonavita from the Italian Meteorological Service - CNMCA, Rome. His talk - '*Characterization and use of MSG AMVs in the Italian weather service regional NWP system*', described the CNMCA NWP and focused on the system error characteristics of Meteosat-8 AMVs as well as the spatial structure of the errors.

All presentations were followed by comments leading to fruitful discussions.