

## SUMMARY OF THE EIGHTH INTERNATIONAL WINDS WORKSHOP

The Eighth International Winds Workshop (IWW8) was held in Beijing, China, from 24-28 April 2006. The workshop was organised jointly by the Chinese Meteorological Administration (CMA), EUMETSAT, and the Co-operative Institute for Meteorological Satellite Studies (CIMSS). CMA provided support for the venue and for local arrangements, which were expertly handled by Mr. Luo Dongfeng of CMA. The event was co-sponsored by the World Meteorological Organisation (WMO), the Japanese Meteorological Organisation (JMA), and the National Environmental Satellite Data and Information Service (NESDIS) of NOAA. These organisations provided travel support for a limited number of international participants.

The IWWs provide an established forum for satellite data providers, users and the science community to portray advances and exchange ideas on the use and interpretation of satellite-derived Atmospheric Motion Vectors (AMVs). They also provide the WMO with a synopsis of AMV advances, issues and recommendations from which action items may be drafted for consideration by the international community.

The IWW8 was attended by 52 scientists from 20 countries. With CMA, JMA, NOAA/NESDIS, IMD and EUMETSAT most of the operational satellite data centres producing AMVs were represented. Most global numerical weather prediction (NWP) centers did participate, some of which with several contributors reflecting the importance of AMV products for NWP.

The workshop was opened with a series of welcome addresses, by Co-Chair Chris Velden (CIMSS), Dr. Xu Xiaofeng, vice-administrator of CMA, and by Dr. Johannes Schmetz on behalf of Dr. Lars Prahm, director-general of EUMETSAT. It proceeded with seven plenary sessions, focussing on topics relevant to the processing and utilisation of AMVs, as well as other satellite-based observing platforms which are producing, or are planned to produce, wind information.

On the second day there was a plenary discussion on AMV characteristics, emphasizing the question was raised whether vector height assignment is still the primary error source. Participants welcomed this discussion, since it is well recognized that height assignment, and especially the uncertainties therein, pose major problems to the NWP models.

The workshop included working group sessions on three issues related to AMV topics: (1) extraction methods, (2) data assimilation, and (3) characterization. Preceding the working group meetings there was a plenary discussion, providing relevant background information and guidance from CGMS and from a representative of the NWP community for the working group discussions. The lead persons recalled the highlights of the Seventh International Winds Workshop and presented the recommendations from CGMS-33 (33<sup>rd</sup> meeting of the Co-ordination Group on Meteorological Satellites). They also elaborated on the requirements from the NWP community with regard to open areas for research and development of AMVs.

Some of the highlights from IWW8 can be summarized as follows:

- 1) Initial results using AMV data from new satellites, i.e. MSG-2 (EUMETSAT, launched December 2005) and MTSAT-1R (Japan, launched June 2005), were in line with expectation and hold good promise for sustained quality and further product improvement. Data from the FY-2C satellite (China, launched October 2004) are being monitored.
- 2) MODIS polar winds have become an important part of the standard observing system at most NWP centers showing good impact on forecast quality.
- 3) ECMWF announced support to plans for testing the retrieval of AMVs on model simulated images in order to help better characterize the error of the real AMVs.
- 4) There were several presentations on the assimilation of AMVs into regional models, showing promising results. This is considered a major step with regard to previous IWWs.
- 5) There was progress in deriving a height assignment error estimate, or confidence indicator with each AMV. As this issue has been around since the 1<sup>st</sup> IWW and has been persistently requested by NWP community the progress has warmly been welcomed.

6) Preliminary evidence was presented that AMVs can be better characterized as representing flows over tropospheric layers, rather than being assigned to specific levels. This issue will be further studied and results presented at IWW9.

The summarized reports of all seven plenary sessions, two plenary discussions, and three working group sessions are provided in the following pages.

The general consensus was that IWW8 was a very successful workshop and that future workshops should be continued in their current format. The next IWW is being planned for 2008, possibly in conjunction with the International TOVS and Precipitation WGs.

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