2.3 THE USE OF TOVS/ATOVS IN DATA ASSIMILATION/ NUMERICAL WEATHER PREDICTION (DA/NWP)

Working Group members: S. English (Co-Chair) and J. Derber(Co-Chair), S. Boukabara, D. Anselmo, N. Bormann, D. Blumstein, N. Fourrie, T. Auligné, T. McNally, N. Baker, C. Tingwell, B. Candy, K. Okamoto, R. Randriamampianina, D. Devenyi, G. Deblonde, W. Wolf, P. Dahlgren, D. Herdies

Recommendation DA/NWP-1 to satellite agencies
The working group feels that the notification of users about significant changes to future and current observation systems has not been sufficient. For example, information concerning the cancellation of the HES instrument and the turning on of the RADCAL instrument on the DMSP F-15 satellite was not communicated quickly enough to the users. Quick communication of these decisions is necessary for planning and preparation by the NWP community

Action DA/NWP-1
Agency representatives to ensure that significant decisions relevant to future and current observation systems are communicated to the ITSC NWP community as soon as possible.

To be discussed in working group session: find out from DA/NWP members whether this has improved.

Action DA/NWP-2
All members of the ITWG NWP working group to examine mail list for missing relevant e-mail addresses. Steve English maintain and update the e-mail list.

Members were consulted 2 months prior to ITSC-16.

New members are welcome and should contact either of the NWP WG co-chairs.

Action DA/NWP-3
NWP WG co chairs to ask developers of software packages e.g. JCSDA and NWPSAF to announce new software releases on ITWG NWP mailing list.

Added ITWG_NWP to CRTM mailing list and ITWG_NWP is already on mailing list of NWP SAF.

Other software developers are invited to contact either of the NWP WG co-chairs if interested in adding the ITWG_NWP mail list to their own distribution list.

Action DA/NWP-4 (open from ITSC-XIV)

Tony McNally to provide information from ITWG NWP survey on ITWG Web page. Make the survey resident on the ITWG NWP web site and if possible allow updating as operational systems change.

Done. Latest results will be presented tomorrow in Session 6.1.

NWP groups are encouraged to contact either of the NWP WG chairs if a change in their system warrants a change in the survey table.

Action DA/NWP-5
Walter Wolf to email content and format of MODIS BUFR dataset to ITWG NWP mailing list for comment.

Action DA/NWP-6
Walter Wolf to provide AIRS MODIS dataset and MODIS BUFR dataset as soon as possible on NOAA server.

Action DA/NWP-7
NWP centres to evaluate both MODIS datasets.

Due to hardware issues last year, the MODIS processing related to AIRS was turned off. Currently being ported to a LINUX system, where they hope to turn it back on.

Recommendation DA/NWP-2 to SSMIS user community
The WG encourages development and implementation of a single data correction and selection method.

Action DA/NWP-8
NRL, Met Office and NESDIS to participate in and report the results of unification of operational SSMIS processing, calibration (including corrections applied going from antenna temperatures to brightness temperatures) and distribution.

Action DA/NWP-9
Nancy Baker to report on F17 cal/val and data distribution plans.

Recommendation DA/NWP-3 to SSMIS user community
The WG encourages research into investigating some of the theoretical benefits of a combined microwave imager sounder (for example it may help with assimilation over difficult emissivity surfaces).

Presentations by N. Baker, S. Swadley, and B. Bell will cover this topic. Questions should be directed to either Nancy Baker or Bill Bell at this meeting.

Recommendation DA/NWP-4 to NWPSAF and JCSDA.
Continue on going collaboration on RT development and report on progress to ITSC.

Action DA/NWP-10
NWP WG co-chairs to ask Roger Saunders and Paul van Delst to circulate report to mailing list and next ITSC.

Reports not sent to mailing list. Presentations by R. Saunders and P. van Delst at this ITSC.

Recommendation DA/NWP-5 to WMO
Continue to support fast delivery initiatives (RARS), extending where possible (e.g. Hawaii). However, the working group believes that the system should continue to be low-cost. Extension of RARS towards complete global coverage is encouraged until the point is reached where further improvements are no longer cost effective.

Action DA/NWP-11
NWP WG co-chairs to bring recommendation DA/NWP-5 to the attention of WMO.

Recommendation was mentioned to J. Eyre in his role as chair of the WMO ET-EGOS (Expert Team of the Evolution of the Global Observing System).

Recommendation DA/NWP-6 to IPO
The short operational delivery time of NPOESS data to NWP centres is an extremely attractive component of the system design. The working group would like to ensure that this component be retained in the restructuring of the NPOESS program.

Action DA/NWP-12
John Derber to ask JCSDA and NESDIS to present recommendation DA/NWP-6 to IPO.

Done. For now, it is unlikely that the short delivery time will not be met.

Recommendation DA/NWP-7 to all satellite agencies
Operational NWP centres to be part of the early cal/val operation for future missions and to receive near real time data before final quality of the data has been established.

Action DA/NWP-13
John Derber and Stephen English to ask ITWG Co-Chairs to ensure recommendation DA/NWP-7 is conveyed to all satellite agencies and operational NWP centres via appropriate international bodies (e.g. CGMS).

Done, Steve? but ongoing problem.

Recommendation DA/NWP-8 to space agencies
A 3 orbit system (ideally equally separated) of microwave and IR polar orbiting instruments has been shown to produce positive impact over a 2 orbit system. The WG recommends consideration of a 3 orbit system containing space proven state of the art microwave and IR sounders in each orbit.

Action DA/NWP-14
NWP WG co-chairs to pass recommendation DA/NWP-8 to WMO and space agencies.

The recommendation was passed on but the request is unlikely to be satisfied.

Action DA/NWP-15 (open action from ITSC-XIV)
John LeMarshall to ensure establishment of the NPP non-GTS data distribution policy for countries outside the United States and report to the WG.

The policy for the distribution of NPP non-GTS data to countries outside of the United States of America is that key data will be distributed freely to all WMO member countries. The data will include key products such as radiances, cloud cleared radiances temperature profiles, moisture profiles, ozone profiles, sea surface temperature and NDVI. Where appropriate data will be in buffer format and the data will be distributed from a server in OSDPD (NESDIS operations).

Action DA/NWP-16
Thomas Auligné and Tony McNally to propose a method for communicating a subset of the monitoring for IASI and set up a system for producing a web based display of participating centres results. Proposal will be sent to WG members for suggestions and approval through the WG mailing list.

From T. McNally: enthusiasm diminished as we all monitor IASI and there is a standard set of channels in circulation and it doesn't seem so urgent.

"Selection of IASI channels for use in NWP"
A.D. Collard
QJRMS vol: 133 pp 1977-1991 2007"

Recommendation DA/NWP-9 to satellite agencies and WMO
The WG encourages research and operational satellite agencies to work together towards the next generation of operational satellites.

Action DA/NWP-17
NWP WG co-chairs to pass recommendation DA/NWP-9 to WMO and space agencies.

Done and ongoing.

Action DA/NWP-18
John Derber and Stephen English to ask ITWG Co-Chairs to ensure recommendation DA/NWP-9 is conveyed to all satellite agencies via appropriate international bodies (e.g. CGMS).

Done and ongoing.

Recommendation DA/NWP-10 to satellite agencies and WMO
The geostationary orbit is ideal for observing the rapidly changing components of the atmospheric fields. The WG recommends the development of a demonstration system observing with high spectral resolution IR and/or microwave instruments. Ideally if both missions are possible the microwave and IR instruments should observe the same portion of the atmosphere at the same time.

Action DA/NWP-19
NWP WG co-chairs to pass recommendation DA/NWP-10 to WMO and space agencies.

Done and ongoing.

Recommendation DA/NWP-11 to satellite agencies and WMO
Conical microwave imagers have a well established role in NWP which the WG wished to continue. The WG expressed concern that there could be a loss of continuity in microwave imagery in the NPOESS era.

Action DA/NWP-20
NWP WG co-chairs to pass recommendation DA/NWP-11 to WMO and space agencies.

Done and ongoing.

Recommendation DA/NWP-12 to satellite agencies and NWP centres
The WG would like to encourage the development of an international effort directed towards improving the observing system design. The EUCOS (EUMETNET Composite Observing System) is an example. OSSEs are one tool that can be used for the observing system design problem. However, OSSEs must be done very carefully to ensure that they are unbiased and properly estimate the impact of new observing systems.

Action DA/NWP-21
John Derber will distribute an initial template for OSSE experiments to the WG for comment and enhancement.

Not done but reference to paper on this topic will be distributed via the ITWG_NWP distribution list.

Action DA/NWP-22
NWP WG to continue to update the NWP WG Web page with assistance of Leanne Avila.

Done.

Suggestions for improvements to web page from the group are welcome and will be solicited by the NWP WG co-chairs during the NWP WG meeting at this ITSC.

Action DA/NWP-23
NWP WG Co-Chairs to review the status of the actions and recommendations in April 2007 and at regular intervals before ITSC-XVI and email a status report to WG members and ITWG Co-Chairs.

Not Done.

Action DA/NWP-24
NWP WG Co-chairs to solicit ideas through NWP WG mailing list for WG topics 1 month prior to ITSC-16.

Done. Topics provided have been added to WG topic list for discussion.

NWP WG meeting at 9h30 AM on Saturday.