

CGMS-XXIX
Prepared by: USA
USA-WP-29
Agenda Item: II/3
Discussed WG II

**REPORT FROM
THE INTERNATIONAL TOVS WORKING GROUP**

A report from the ITOVS Working Group for
CGMS consideration.

Report from the International TOVS Working Group

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I. Introduction

The twelfth International TOVS Study Conference (ITSC-XII) will take place in Lorne, Victoria, Australia from 27 February through 5 March 2002. The co-chairs, Dr. Guy Rochard from CMS, Lannion, France and Dr. John LeMarshall from BMRC, Melbourne, Australia, are proposing that key issues for the meeting should be

- Use of ATOVS, SSM/T and SSM/IS data;
- Applications of ATOVS data to numerical weather prediction; generation of geophysical parameters (profiles, clouds, surface characteristics) and to nowcasting;
- Application of ATOVS data in climate monitoring and research and in global change research; and
- Preparation for advanced infrared and microwave sounders. Examples include those carried on AQUA, EO-3, NPP, METOP, NPOESS and FY3.

Other important issues will include the treatment of cloud, new developments in TOVS/ATOVS retrieval science, validation and tuning of radiative transfer models.

ITSC-XI (September 2000) had several significant conclusions that were reported at CGMS XXVIII. They are summarized in the Executive Summary of the Report on the Eleventh International TOVS Study Conference and repeated here for convenience.

- Considerable benefits have been demonstrated from ATOVS in NWP and other applications;
- Continuing excellent results are being demonstrated from advanced data assimilation techniques;
- Firm evidence is emerging of the utility of the TOVS/ATOVS data over land in Northern Hemisphere NWP;
- The contribution of satellite sounding data to the integrated global observing system is vital and increasing;
- Although a significant amount of work has been done since ITSC-X in the area of radiative transfer modelling - radiative transfer modelling (including clouds), surface property modelling and calibration are areas still requiring attention;
- The intercomparison of radiative transfer calculations is important and needs to be continued;
- There is a need to emphasise climate activity and establish links with climate community;
- NASA is to be complimented for their plan to launch an advanced geostationary sounder. This sounding system provides an opportunity for operational agencies to include information from this system in the development of their own plans;
- There is a need to develop further the interface with the CBS of WMO;
- The development of community software for ATOVS processing has progressed well. The free distribution of ATOVS processing software has been essential in the use of ATOVS in the meteorological community;

- The development of community software for AIRS is proceeding well, with a requirement for ingest software still outstanding. The development and distribution of this software is essential for the effective use of AIRS data in the meteorological community;
- The requirement for near real time AIRS and MODIS data remains important;
- The GTS/DDS bandwidth needs to be increased to carry advanced sounder data.
- The SSMIS will provide important upper atmospheric observations. Access to SSMIS data and the related data archive is important; and
- Easy access to radiance data at NOAA/NESDIS after the transition to NPOES needs to be established.

II. Items presented to CGMS XXVIII

ITSC-XI made several recommendations to CGMS XXVIII, which are listed below in *italic*, followed by the CGMS response:

- *ITWG again expressed appreciation for dissemination of 1b data to Pathfinder and re-analysis groups and encourages continued low-cost, efficient dissemination of data from future instruments, including METOP, NPOESS, and ATOVS.*

This was noted at CGMS XXVIII.

- *ITWG recommended that future infrared sounding instruments should observe radiances covering the same spectral bands as HIRS to ensure that its data record will be continued for as long as possible.*

This was noted at CGMS XXVIII.

- *ITWG encouraged CGMS and WMO to consider coordination of polar-orbiting equator crossing times to optimise satellite utilisation while minimising potential conflicts in data reception.*

This was to be covered by ACTION 28.18 - WMO to host a task force meeting to discuss coordination of data formats and frequency planning for all polar-orbiting satellites including their equator cross-times.

- *ITWG encouraged NASA/IPO to consider placing the NPP sounder in a p.m. orbit. ITWG also encourages RASA to finalize manufacturing of the very high spectral resolution IFRS and launch it on METEOR 3M N2 in 2003.*

NASA is currently committed to an a.m. NPP orbit for terrestrial considerations. RASA acknowledged this encouragement and will seek ways to realise the request.

- *ITWG encouraged CGMS and WMO to review the monitoring procedures and practices for satellite data and products placed on the GTS with a goal towards improving them. The review should also identify the future monitoring policy once the Initial Polar System of NOAA/NESDIS and EUMETSAT becomes operational.*

With regard to the latter CGMS placed ACTION 28.24 - NOAA/NESDIS and EUMETSAT to report at CGMS XXIX on their monitoring procedures and practices for satellite data and products placed on the GTS. In addition there is ACTION 28.25 - WMO to report at CGMS XXIX on the future monitoring policy for the IPS.

- *ITWG encouraged WMO to increase the GTS capacity through the implementation of the Distributed Database System Concept.*

This was noted at CGMS XXVIII. WMO response is pending.

- *ITWG requested CGMS clarify the situation concerning the availability of SSMIS data.*

This resulted in ACTION 28.26 - NOAA/NESDIS to report at CGMS XXIX on availability of SSMIS data.

- *ITWG requested information from CGMS as to plans for IPS products and their distribution over the GTS.*

This is addressed under ACTION 28.24 above.

- *ITWG requested CGMS seek clarification from the NPOESS IPO as to the availability of radiance products (referenced to level 1b as is heritage from FGGE onwards) as part of the suite of NPOESS SDRs.*

This is covered by ACTION 28.05 - USA to investigate whether global or a selection of NPOESS level 1B data can be made available to end-users in near real-time, and report at CGMS XXIX.

These Actions will be discussed at CGMS XXIX; the ITOVS community will be informed of the responses at ITSC-XII through the rapporteur.

III. Additional items for discussion at CGMS XXIX

Several items follow that were not discussed at the last CGMS but appear in the full report from ITSC-XI.

- *ITWG recommended that WMO/NESDIS/EUMETSAT should develop and publicize procedures for handling real-time data requests for external users.*
- *ITWG recommended the exploration of an additional 226-230 GHz channel to future microwave humidity sounders (AMSU-B, MHS follow-on) to assist with processing of ice water effects at 183 GHz.*
- *ITWG recommended that data transfer links needed for routine transfer of AIRS radiance and retrieval products be established many months prior to the launch of Aqua so that simulated AIRS data can be used to develop and improve data processing and assimilation procedures for AIRS.*
- *ITWG recommended that ingest code for advanced sounder data should be made available to user community, to permit effective exploitation of direct read-out data.*
- *ITWG recommended that EUMETSAT considers the integration of IASI level 1 ingest code into an extended version of the AAPP software via activities in the EUMETSAT SAF for NWP.*
- *ITWG recommended that IPO plan for initial distribution of CrIS ingest code to users 1-2 years before the launch of the NPP satellite.*
- *ITWG recommended that the user community be provided with and invited to review the draft specifications (content and format) for the raw data records (RDRs) and sensor data records (SDRs) for CrIS.*

IV. ITSC-XII

ITSC-XII will take place in Lorne, Victoria, Australia from 27 February through 5 March 2002.