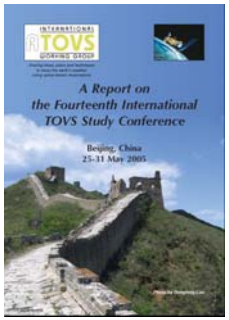


National Satellite Meteorological Center
Beijing, China

Activities of the International (A)TOVS Working Group (ITWG)

Thomas Achtor[1] and Roger Saunders[2]
ITWG Co-Chairs

1. Space Science and Engineering Center, University of Wisconsin-Madison, USA
2. Met Office, Exeter, Devon, UNITED KINGDOM

Participants at ITSC-14 in Beijing, China in May 2005

The ITWG MISSION

The International TOVS Working Group (ITWG) is convened as a sub-group of the Radiation Commission of the International Association of Meteorology and Atmospheric Sciences (IAMAS). ITWG organizes the International TOVS Study Conferences (ITSC), which have met every 18-24 months since 1983. Through this forum, operational and research users of TIROS Operational Vertical Sounder (TOVS) and Advanced TOVS (ATOVS) data from the NOAA series of polar orbiting satellites and other atmospheric sounding data have exchanged information on methods for extracting information from these data on atmospheric temperature, moisture and other fields, and on the impact of these data in numerical weather prediction and in climate studies. The ITWG meetings also result in recommendations to guide the directions of future research and to influence relevant programs of WMO and satellite provider agencies (e.g. NASA, NESDIS, EUMETSAT, NSMC, JMA).

An important part of the Group's work has been to foster and participate in the generation of software to be shared throughout the community to enable use to be made of these data for operations and research. The Group also has an important education and training role through the WMO.

International (A)TOVS Study Conferences (ITSC)

ITSC-XV	Maratea, Italy	October 2006
ITSC-XIV	Beijing, China	May 2005
ITSC-XIII	Sainte Adele, Canada	October 2003
ITSC-XII	Lorne, Australia	February 2002
ITSC-XI	Budapest, Hungary	September 2000
ITSC-X	Boulder, USA	January 1999
ITSC-IX	Igls, Austria	February 1997
ITSC-VIII	Queenstown, New Zealand	April 1995
ITSC-VII	Igls, Austria	February 1993
ITSC-VI	Airlie, USA	May 1991
ITSC-V	Toulouse, France	July 1989
ITSC-IV	Igls, Austria	March 1988
ITSC-III	Madison, USA	August 1986
ITSC-II	Igls, Austria	February 1985
ITSC-I	Igls, Austria	August 1983

ITWG - Special Focus Working Groups

1. Use of TOVS/ATOVS in Data Assimilation and Numerical Weather Prediction
- Operational and research applications of low earth orbit (LEO) sounder data in numerical weather prediction

2. Satellite Sounder Science and Products
- Promoting the development and utilization of meteorological techniques and products from operational and research satellites in weather and climate applications

3. Radiative Transfer and Surface Property Modeling
- Fostering the development of radiative transfer and surface models for ATOVS applications

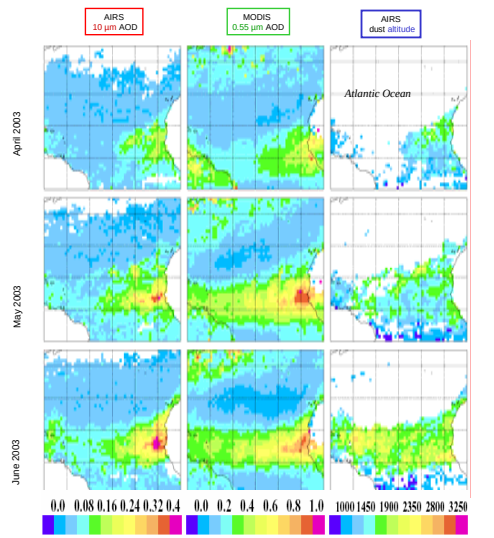
4. Use of TOVS/ATOVS Data in Climate Studies
- Studies applying the 30 year climate database from the NOAA polar sounder

5. Advanced Sounders
- Planning and recommendations in preparation for future instrumentation

6. International Issues and Future Systems
- Cooperative actions with the international weather satellite community on issues involving polar remote sensing

Paper 2.6: Retrieving the Effective Radius of Saharan Dust Coarse Mode from AIRS
Clemence Pierangelo, Presenter (1st Prize, Best Oral Presentation)

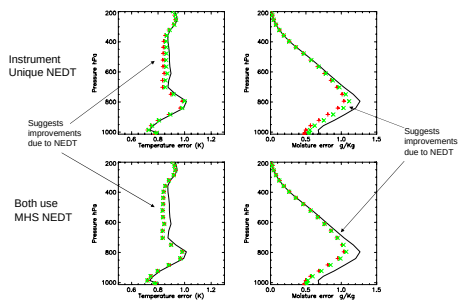
Results of a Case Study of Saharan Dust over the Atlantic Ocean – April to June 2003



(Pierangelo et al., *ACP*, 2004)

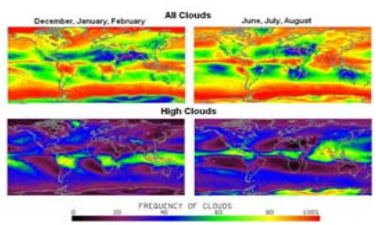
Paper 6.6: Comparison of Simulated Radiances, Jacobians, and Information Content for the MHS and the AMSU-B
Tom Kleespies, Presenter

Improvement of AMSU-B and MHS information over ECMWF covariances for the US Standard Atmosphere.



Paper 3.1: Using 22 Years of HIRS Observations To Infer Global Cloud Cover Trends
Paul Menzel, Presenter

HIRS Cloud Observations since 1979



How Cloudy is the Earth?

Source	All Clouds Land	Sea	Both	High Clouds Land	Sea	Both
ISCCP	56 %	70 %		25 %	20 %	
HIRS Pathfinder	71	77		34	32	
Surface Reports	52	65		54	43	
SAGE			73			53
CLAVR			60			
GLAS	66	80		34 *	31 *	

**GLAS High Cloud Frequencies adjusted because HIRS reported more high clouds during the GLAS period than its 21 year average.*

GLAS 22 Feb – 28 Mar 2003, HIRS 1979 – 2001, ISCCP 1983 – 2001, SAGE 1985-89, Surface Reports 1980-89, CLAVR 1982 - 2004
ISCCP reports 7-15% less cloud than HIRS because it misses thin cirrus.
HIRS and GLAS report nearly the same high cloud frequencies.
HIRS reports more clouds over land than GLAS probably because GLAS sees holes in low cumulus below the resolution of HIRS.

ITWG web site:- http://cimss.ssec.wisc.edu/itwg/