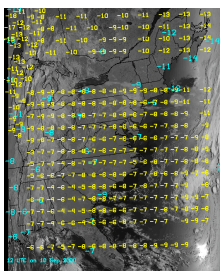


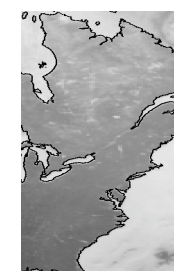
# THE INTERNATIONAL ATOVS PROCESSING PACKAGE (IAPP)



AVHRR Band 2 with IAPP 500 mb temp. and radiosonde 500 mb temp.



Jun Li, Hal Wolf, Thomas Achor  
 Cooperative Institute for Meteorological Satellite Studies  
 (CIMSS)  
 University of Wisconsin-Madison  
 Internet: <http://cimss.ssec.wisc.edu>



AMSU-B Band 1  
 20 October 2003

## BIAS ADJUSTMENT

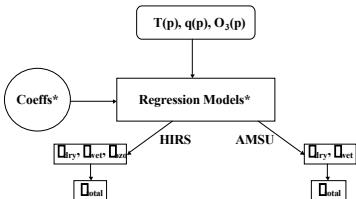
Coefs. →  $TBA(D) = a(D) + b(D) \cdot TBO(D)$

### Current Status

The bias adjustment scheme is currently turned off, pending the development of a more complete procedure.

The bias adjustment coefficients (a, b) were initially determined from approximately 5,000 global radiosonde/clear-radiance co-locations during November 1998.

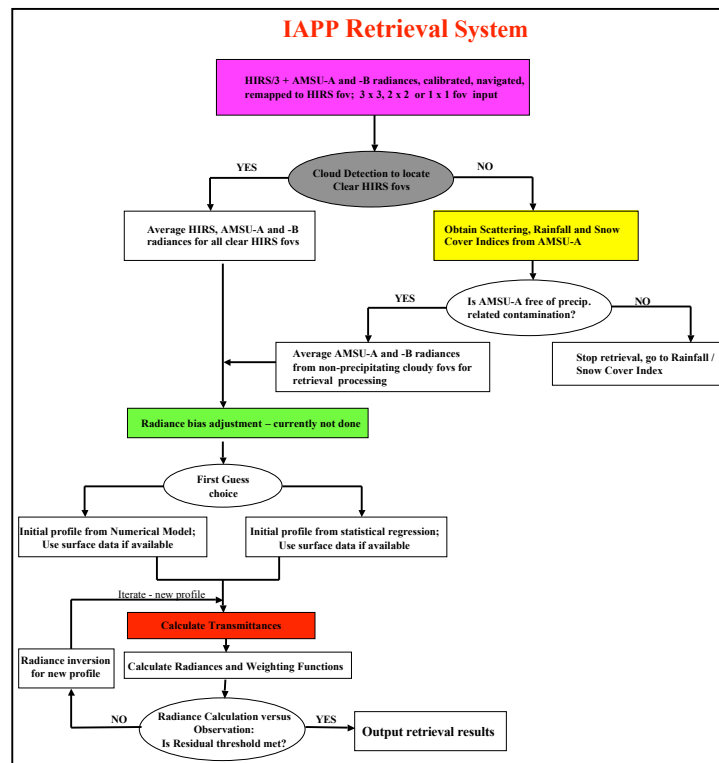
## TRANSMITTANCE CALCULATIONS



\* The algorithms employed, and the processes by which the coefficients were generated, are described in the paper by Wolf, Menzel, and Zhang (1999), "NOAA-15 HIRS/3 and AMSU Transmittance Model Validation," pp. 564-573 in the Technical Proceedings of ITSC-10.

## REFERENCES

Li, Wolf, Menzel, Zhang, Huang and Achor, "Global Soundings of the Atmosphere from ATOVS Measurements: The Algorithm and Validation." Journal of Applied Meteorology, Vol. 39, pp. 1248-1268, August 2000  
 Li, Wolf, Menzel, Zhang, Huang, Achor and Wolf, "International ATOVS Processing Package: the algorithm and its application in real data processing." Technical Proceedings of the Tenth International ATOVS Study Conference, 1999.  
 Wolf, Van Delst, and Zhang, "NOAA-15 HIRS/3 and AMSU transmittance model validation." Technical Proceedings of the Tenth International ATOVS Study Conference, 1999.  
 Zhang, Menzel, Li, Wolf, Wolf and Achor, "Total and boundary precipitable water retrieval from AMSU." Technical Proceedings of the Tenth International ATOVS Study Conference, 1999.



## FUTURE WORK – Resource dependent

1. Improve bias adjustment procedure
2. Develop AMSU-B moisture and cloud products
3. Create surface analysis from Metars and guess fields

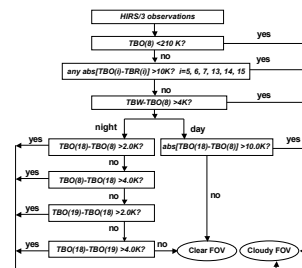
## CONTACT INFORMATION:

• Tom Achor  
 University of Wisconsin-Madison  
 Cooperative Institute for Meteorological Satellite Studies (CIMSS)  
 email: [tom.achor@ssec.wisc.edu](mailto:tom.achor@ssec.wisc.edu)  
 phone: +608-263-4206

## DATA INPUT TO IAPP RETRIEVAL

- HIRS/3, AMSU-A and -B Radiances
- Numerical Model / Regression First Guess
  - Surface Metar Observations (optional)
  - High Resolution Topography
  - Coefficients

## CLOUD DETECTION



TBO represents the observed HIRS/3 Tb, TBW represents the warmest adjacent fov's longwave window channel Tb, and TBR represents AMSU-A predicted HIRS/3 Tb.

## PRECIPITATION / SNOW COVER DETECTION

