

# Monitoring and validation of IAPP and ICI products over the Madison, Wisconsin acquisition area

[http://cimss.ssec.wisc.edu/iapp\\_ici](http://cimss.ssec.wisc.edu/iapp_ici)



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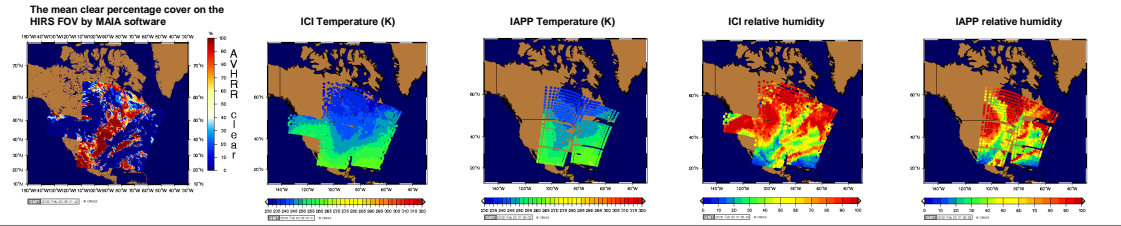
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## Introduction

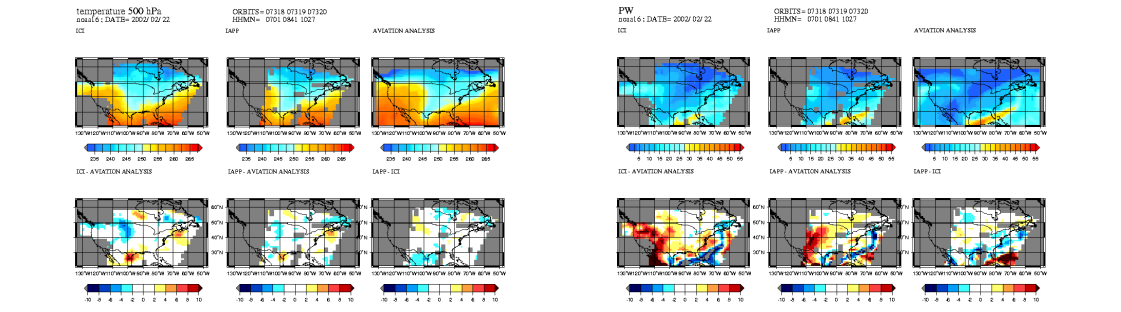
The NOAA16 satellite became operational in February 2001. Since then, the direct broadcast NOAA16/ATOVS data are processed operationally at CIMSS/SSEC with both the International ATOVS processing Package (IAPP) developed by CIMSS/SSEC and Inversion Coupled with Imager (ICI) software developed by Meteo France.

Show here the 500 hPa product fields and their differences from NWP analyses (NCEP AVIATION model analyses are used). These results are displayed daily at [http://cimss.ssec.wisc.edu/iapp\\_ici](http://cimss.ssec.wisc.edu/iapp_ici). This example shows results from February 22, 2002, some ICI statistics and the MAIA cloud mask over the Madison, Wisconsin direct broadcast acquisition area. The images and figures are made by using the web graphical tools of ICI software.

## IAPP and IC 500 hPa temperature and humidity fields

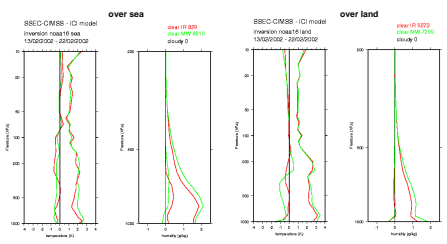


## Difference of 500 hPa temperature and PWV fields between ICI, IAPP retrieved and NWP analysis fields



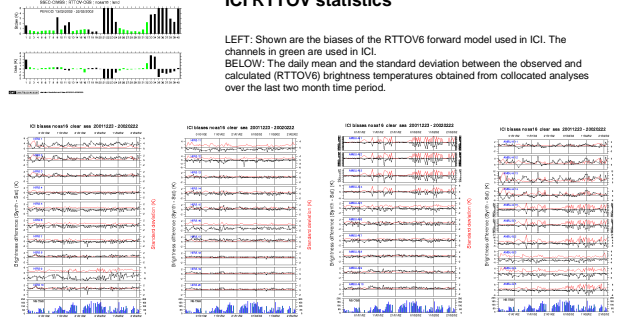
## ICI profile statistics

The mean and the standard deviations are shown for comparisons between temperature (left) and humidity (right) retrievals and the collocated NWP analyses profiles. These statistics are presented for data collected over the past 10 days. Results are shown for ocean, land, and clear(ied), partly cloudy (green) and cloudy (black) cases. The number of collocations for the different cloudy cases are also shown on the figure.



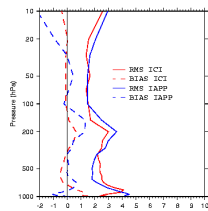
## ICI RTTOV statistics

LEFT: Shown are the biases of the RTTOV6 forward model used in ICI. The channels in green are used in ICI. BELOW: The daily mean and the standard deviation between the observed and calculated (RTTOV6) brightness temperatures obtained from collocated analyses over the last two month time period.



## ICI - IAPP comparison

Comparison of IAPP and ICI temperature profiles wrt. NWP analyses at Madison between Dec. 15, 2001 and Feb. 20, 2002



## Future plans

Create a validation module with web graphical tools for IAPP software that daily calculates both 1-day and 10-day statistics, and subsequently compares the retrievals from satellite observations to the collocated radiosonde and analysis profiles. (similar to the ICI validation module)

Continue the moisture validation for both software packages under the International H<sub>2</sub>O Project (IHOP 2002) from 13 May to 30 June 2002 using data from the Department of Energy Atmospheric Radiation Measurement program Southern Great Plains (SGP) site.

## Acknowledgements

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