

Radiance Data Assimilation for WRF model: overview and results

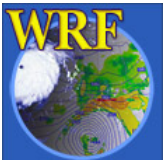
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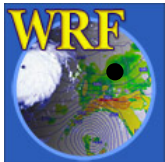
Work supported by AFWA, NASA, NSF, KMA

ITSC-16, 7~13 May 2008

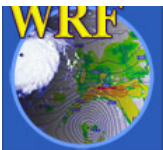
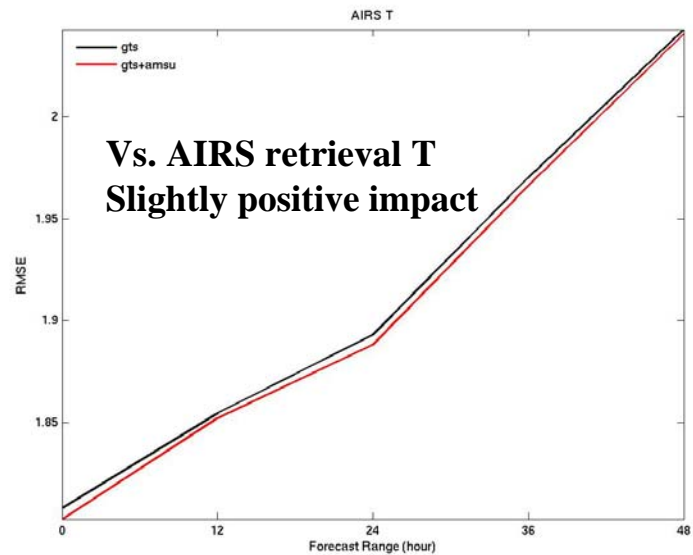
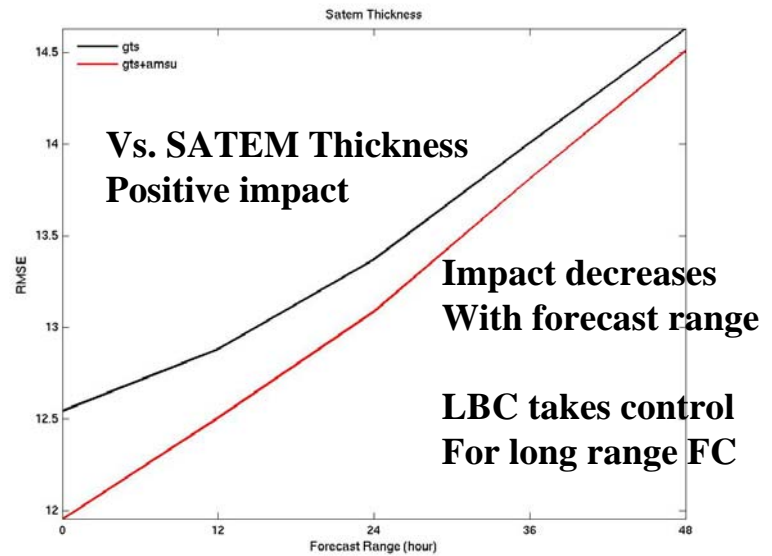
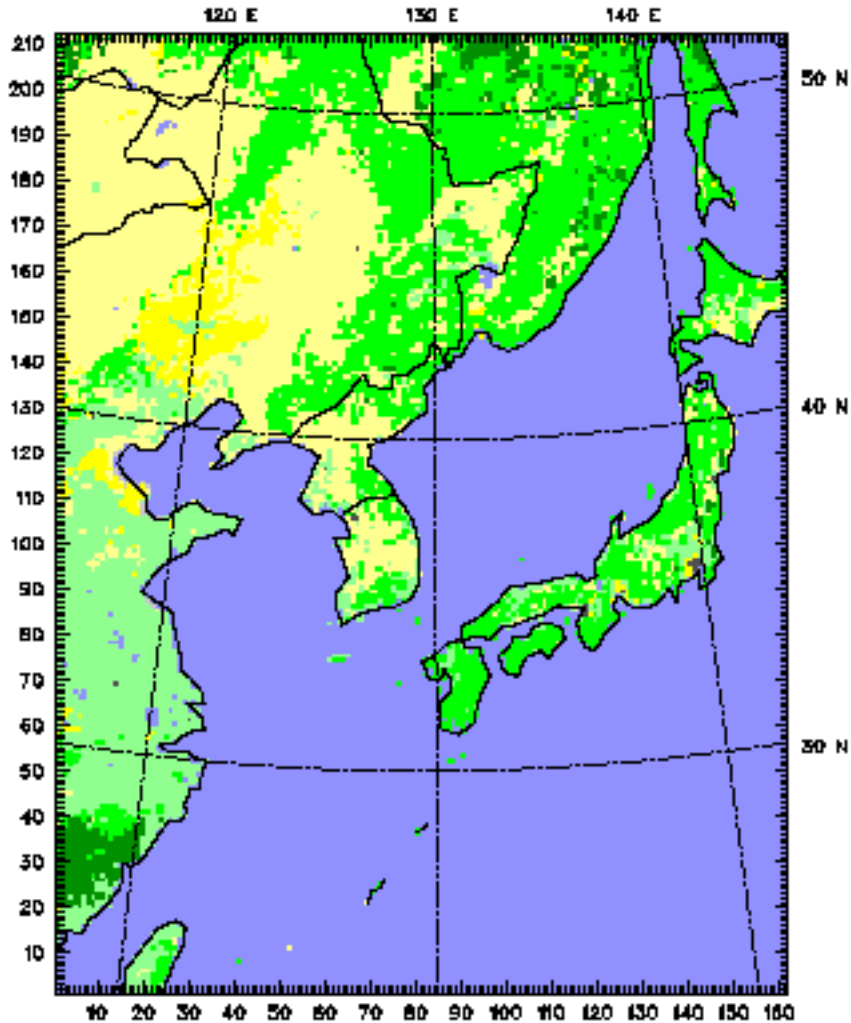


Components of radiance assimilation

- Data Ingestion
 - NCEP radiance BUFR data
 - AMSU-A/B, MHS, HIRS, AIRS
 - SSMIS from AFWA/NRL, UPP produced
- Radiative Transfer Model
 - Both CRTM_1.1 and RTTOV8_7
- Bias Correction
 - Scan bias and air-mass bias (Harris and Kelly, 2001)
 - Variational Bias Correction (Derber and Wu, 1998)
- Quality Control: AMSU/MHS, SSMIS, AIRS
- Thinning and Load balancing
- Observation error tuning (Desroziers & Ivanov, 2001)
- Monitoring tool
- Work for 3DVAR/FGAT/4DVAR
- Initial cloudy radiance capability

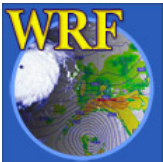


DATC: East Asia Testbed

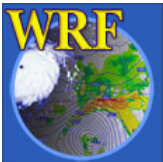


Future plans

- Add more instruments
 - IASI, GOES platforms
- Tune the system for various testbeds
- Further developments for cloudy radiance assimilation and 4DVAR+radiance
- Explore ensemble-based radiance assimilation



Come to see Poster 6.11
for more detail



International TOVS Study Conference, 16th, ITSC-16, Angra dos Reis, Brazil, 7-13 May 2008.
Madison, WI, University of Wisconsin-Madison, Space Science and Engineering Center,
Cooperative Institute for Meteorological Satellite Studies, 2008.