



Assimilation of AIRS Radiances at CPTEC/INPE Using the LETKF System

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Assimilation system: 4D LETKF (Hunt et al, 2004,2007, Szunyogh et al. 2008, Fertig et. al, 2008);

Global Model: GFS T62L28

H-Operator : Forward CRTM V 1.13.2.12

Experiments Configurations (20040101 – 20040229)

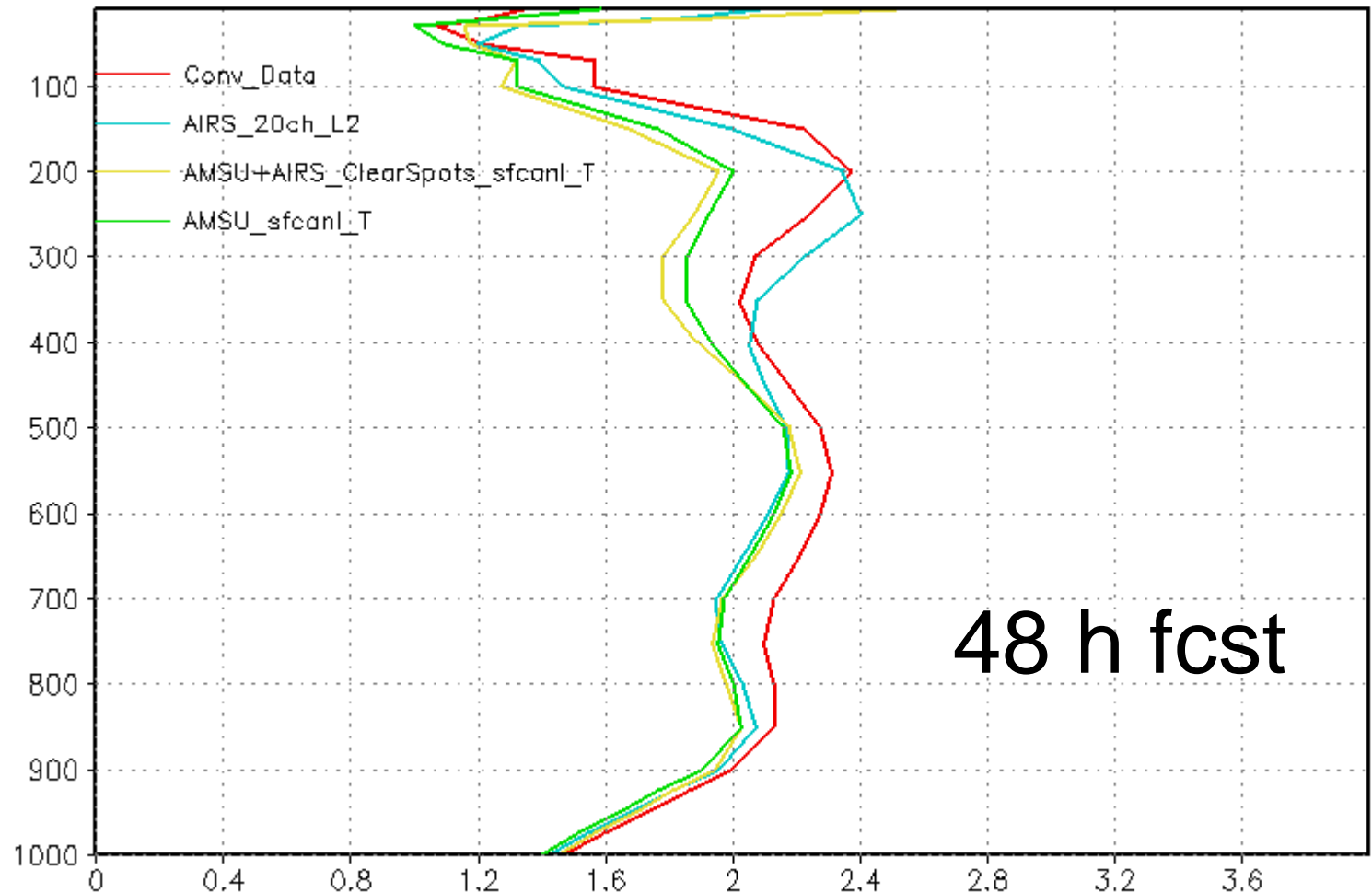
1. Conventional Data;
2. Conv. + AMSUA 8 channels ;
3. Conv. + AIRS L2CC 20 channels;
4. Conv. + AMSUA + 20 AIRS channels only cloud clear spots



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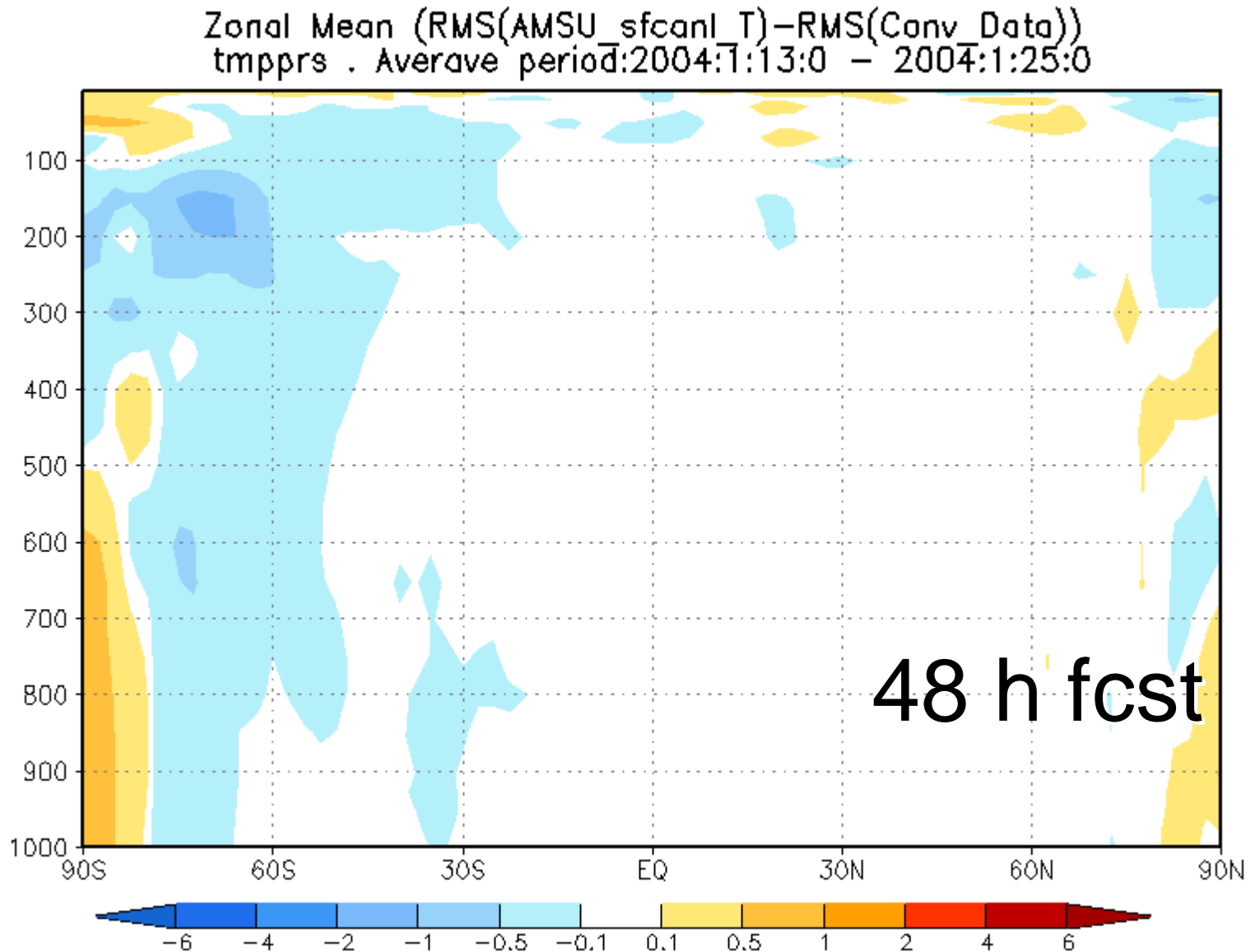


48h FCST RMS error in tmpprs in: LAT set to $-90 -30$
Average period: 2004:1:15:0 - 2004:1:25:0



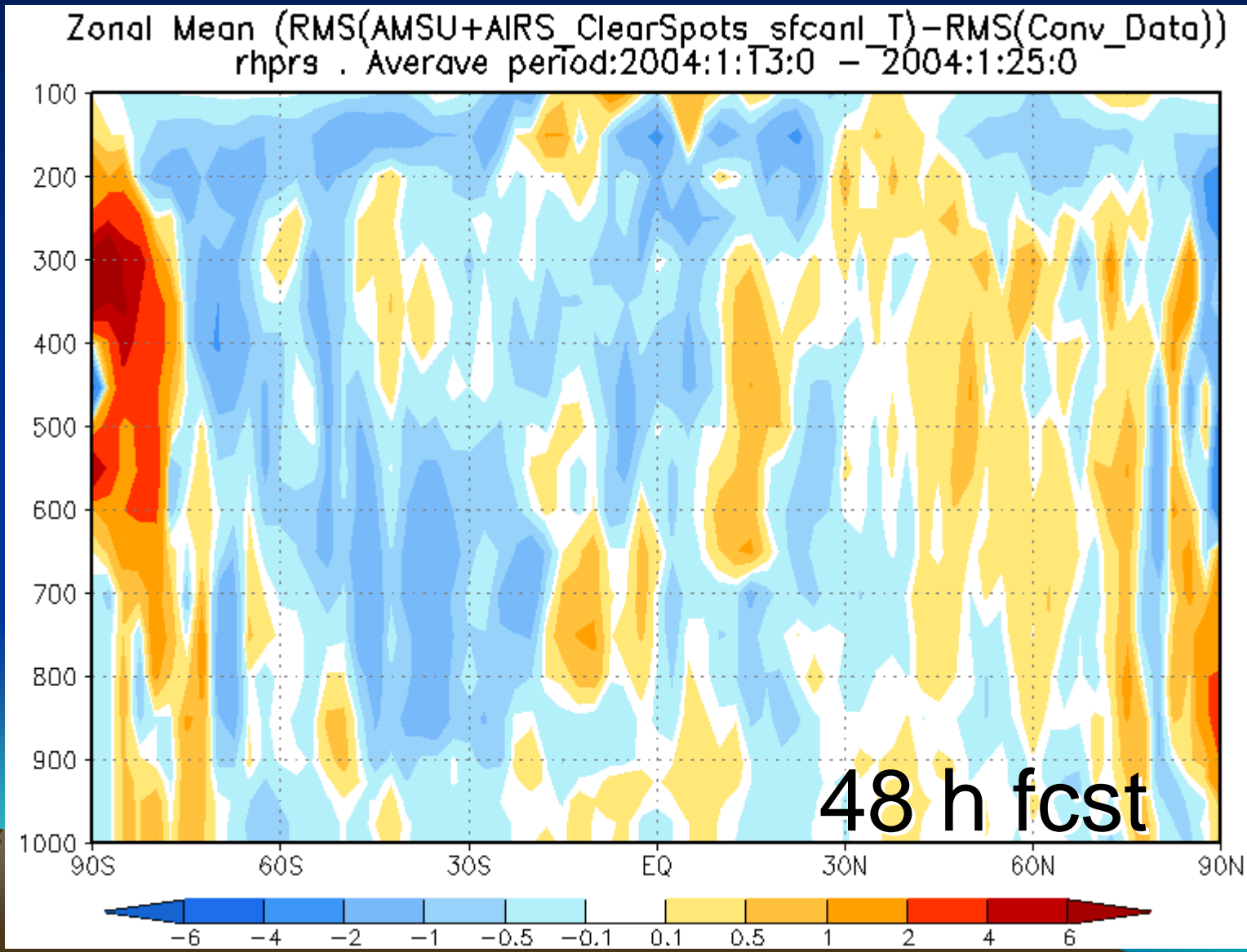


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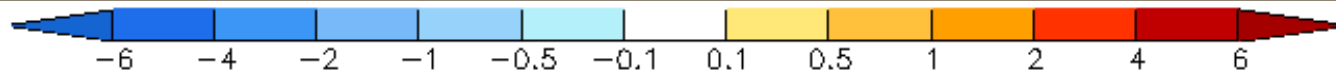
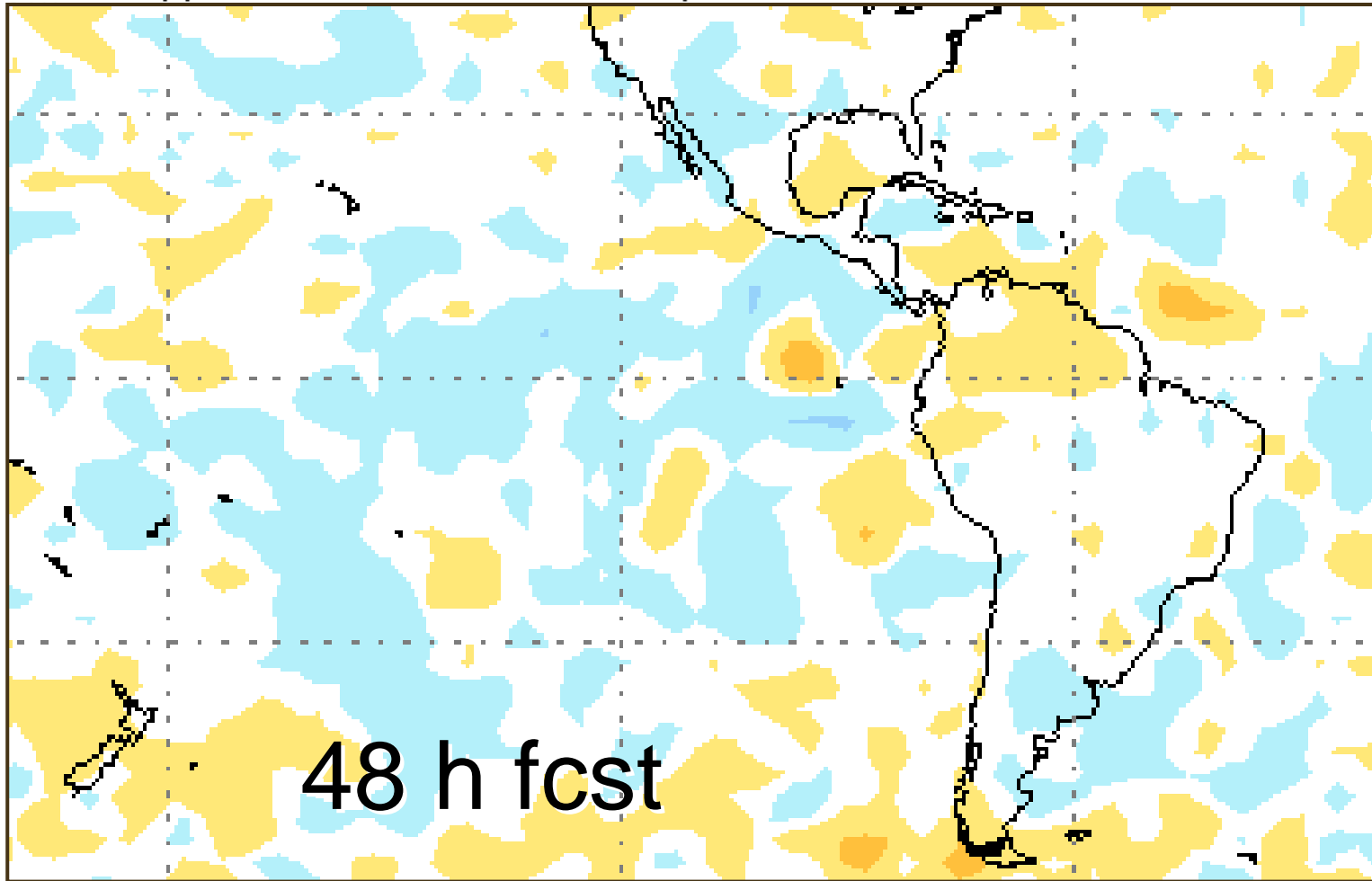




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$\text{RMS}(\text{AMSU} + \text{AIRS ClearSpots_sfc anl T}) - \text{RMS}(\text{AMSU_sfc anl T})$
tmpprs at 500 hPa. Average period: 2004:1:13:0 - 2004:1:25:0





Conclusions and Future Work

- Radiances capability in the LETKF gives a positive impact
- More channels need to be assimilated
- Access global real time data
- To study retrievals impact in this system
- Implement LETKF to regional model
- Regional Reanalysis



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