NCMRWF operational NWP system: new development status and observation impact analysis

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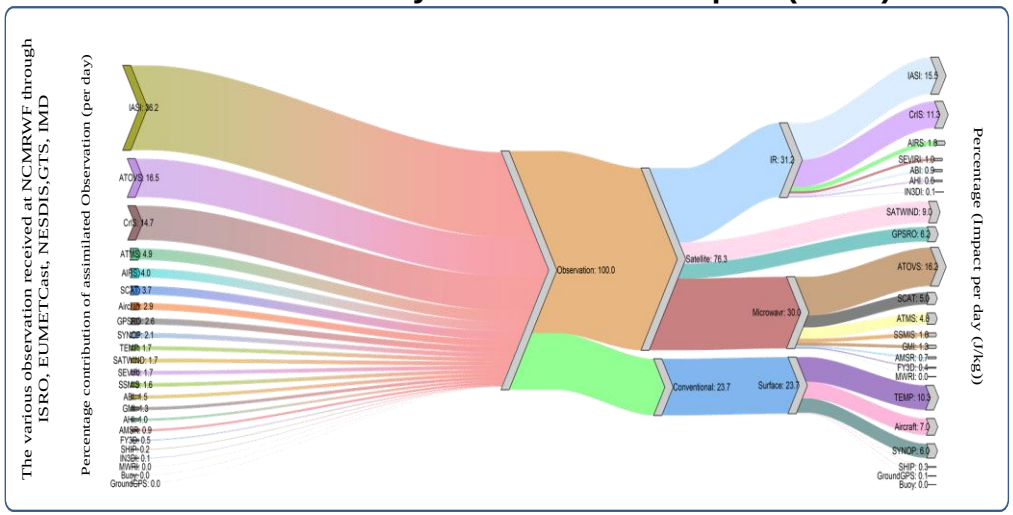
Impact of various observation NCUM forecast, using adjoint-based Forecast Sensitivity to Observation Impact (FSOI)



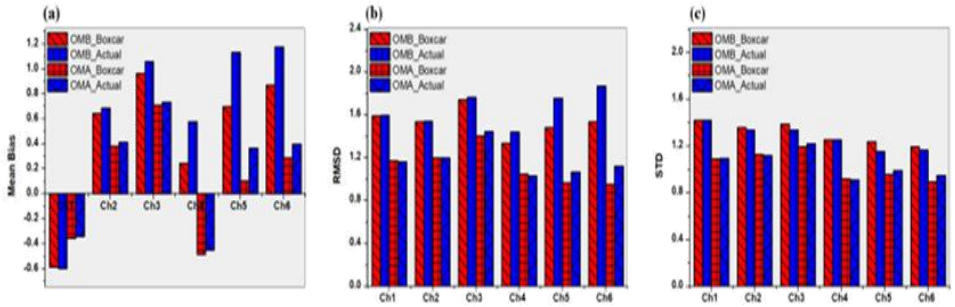
New development: Assimilation of Microsat-2B (EOS-07) Microwave Humidity Sounder radiance.

Salient features of Microsat-2B on SSLV-D2

- Single satellite in low-inclination orbit with a 6-channel Microwave Humidity Sounder (MHS) onboard
- 6-channel cross-track scanning Radiometer operating at 183.31±15.75 GHz band
- Vertical resolution < 2km and spatial resolution of 10 km @nadir.

Microsat-2B Radiance Assimilation at NCMRWF

- Assimilation of MHS Microsat-2B data assimilation systems leads to the reduction of mean bias, RMSD, and standard deviation of analysis innovation of all six channels.
- Assimilation of microsat-2B data improves the model initial conditions.



Weighting function for Microsat-2B and MT-SAPHIR channels and Microsat-2B passes that are assimilated in the NWP model in this study.