Recent progress
on assimilation of microwave radiances at Météo-France

Operational context :

New HPC (mid-2013) – 2 BULLx 710DLC – 1Pflops

New operational NWP suites at high resolution (April 2014) : ARPEGE (ΔX: 10 -> 7.5 km – L70 -> L105)

AROME (Δx: 2.5 -> 1.3 km – L60 -> L90)

4D-VAR : higher resolution / more iterations / more EDA members (6-> 25)

Recent operational changes (04/2015):

-Assimilation of SAPHIR/Megha-Tropiques Tbs

-Revised thinning of SSMI/S Tbs (F16, 17,18)

-Assimilation of sounding channels from SSMI/S F17 and F18

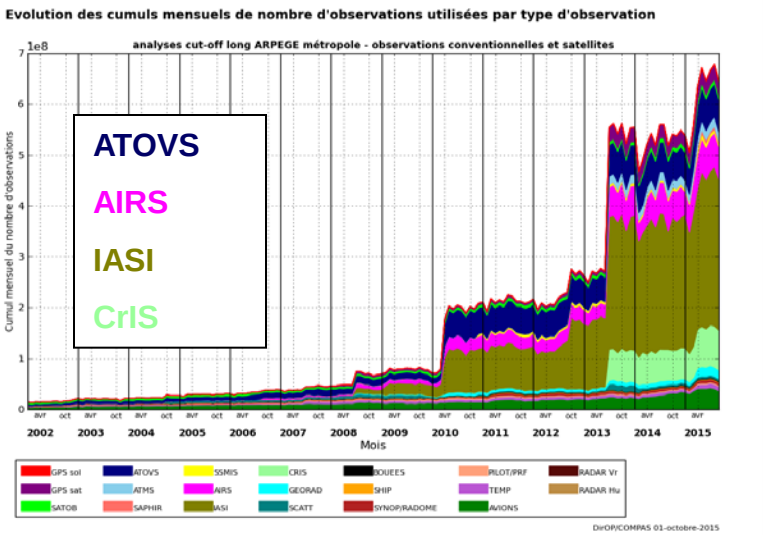
New operational changes (12/2015):

-RTTOV v11 + internal interpolation

-Revised observation errors for AMSU-B/MHS

-Spatial averaging of SSMI/S channels (noise reduction)

-Monitoring of GMI/GPM-Core Tbs



Ongoing activities : preparation of future instruments and improved usage of existing ones

-Improved specification of surface emissivity (oceans – wave model / sea-ice – specularity)

-Assimilation of new instruments : GMI/GPM-Core + SSMI/S/DMSP-F19 + FY-3C

-Simulation and inversion of all-sky Tbs in ALADIN and AROME models with RTTOV-SCATT

-Potential for NWP of hypothetical instruments: hyperspectral MW sounder and MW sounder on GEO