

Changes in the operational use of passive sounding data in the ECMWF NWP system since ITSC-21

3p.05

New instruments activated:

- NOAA-20 (ATMS, CrIS); Metop-C (AMSU-A, MHS, IASI), Meteosat-11, GOES-16

Now assimilate 11 MW Q-sounders, 9 MW T-sounders, 5 hyperspectral IR, 5 geo imagers, 3 MW imagers

Main changes in radiance use in two system upgrades (45r1 & 46r1):

- RTTOV/RTTOV-SCAT 12, 12.2 (incl. new permittivity model, new MW coefficients)
- Constrained VarBC for top-most AMSU-A/ATMS channels
- Correlated errors for S-NPP ATMS
- All-sky assimilation of 150/166 GHz channels from SSMIS and GMI
- Increased number of used IASI WV channels from 10 to 39
- Activation of hyperspectral IR data over land
- Improved assimilation of geostationary radiances (slant path, extended disk, correlated errors)

Main data assimilation changes (46r1):

- Continuous Data Assimilation
- 50 member Ensemble of Data Assimilation (EDA) for background error specification
- Weakly coupled data assimilation for sea-surface temperature in the tropics