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Updates on the NCMRWF NWP systems (NGFS and NCUM) since ITSC-22

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NWP systems

Global deterministic NWP systems:

1. NGFS (IMD) :12 km, 64 vertical levels
2. NCUM (NCMRWF) : 12 km, 70 vertical levels

Global ensemble prediction systems:

1. NGEFS (12 km, 64 vertical levels with 21 members)
2. NEPS (12 km, 70 vertical levels with 23 members)

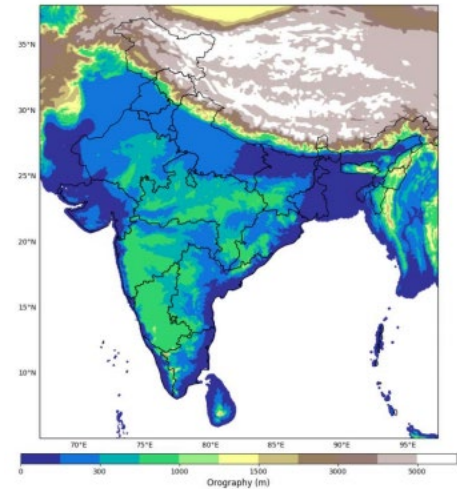
Regional deterministic :

NCUM-R (4 km, 80 vertical levels up to ~ 40 km)

Regional ensemble:

NEPS-R (4 km, 80 vertical levels up to ~ 40 km with 11 members)

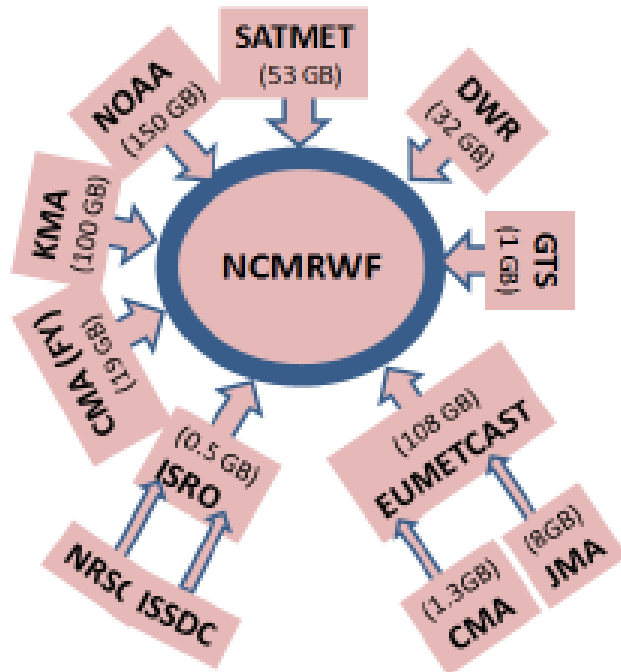
Regional domain



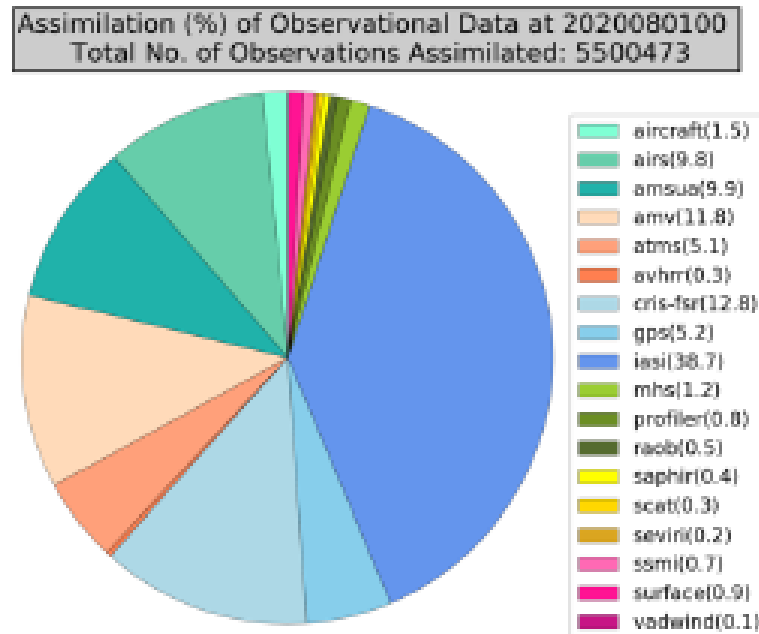


Data reception and percentage assimilation

(a)



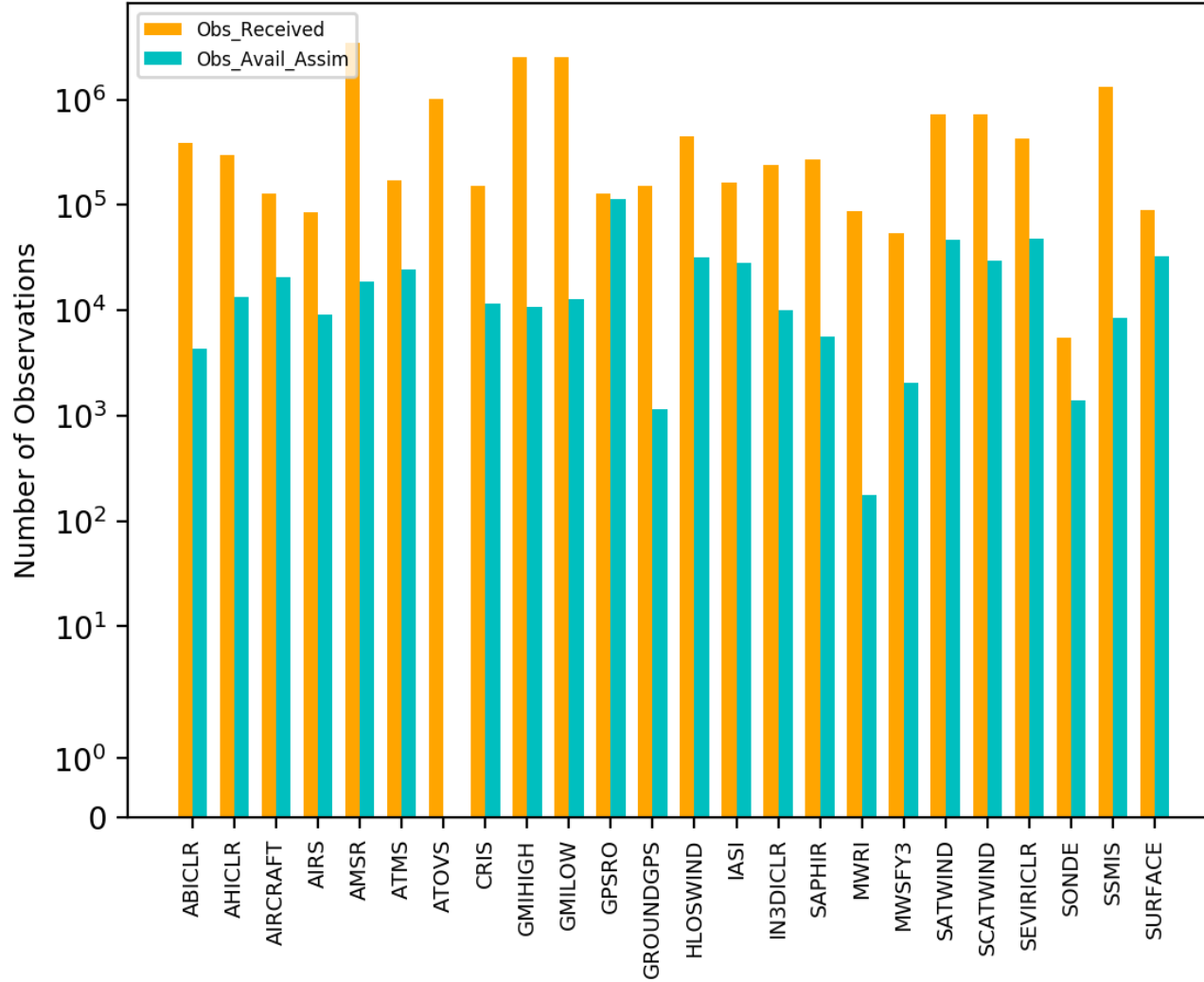
(b)





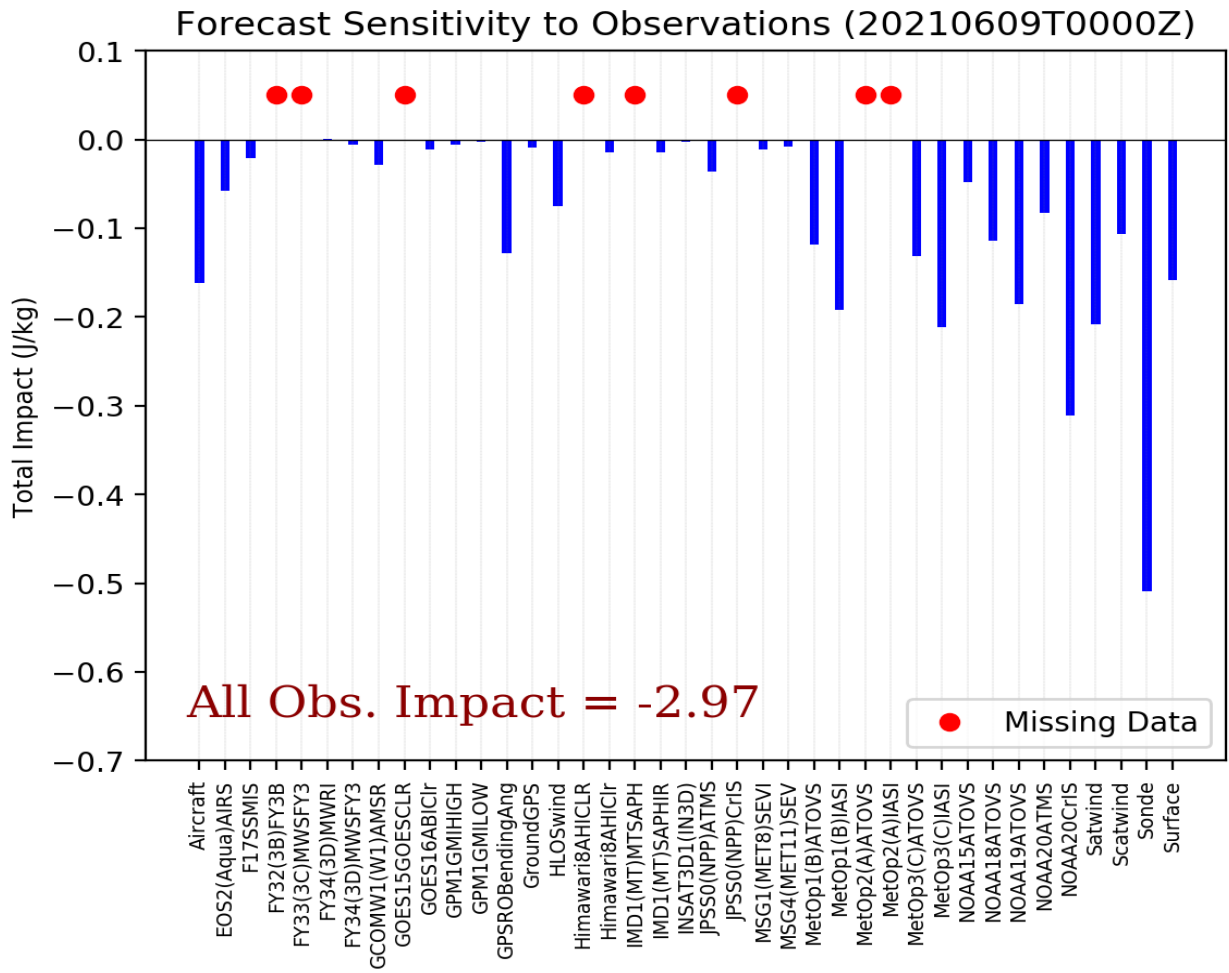
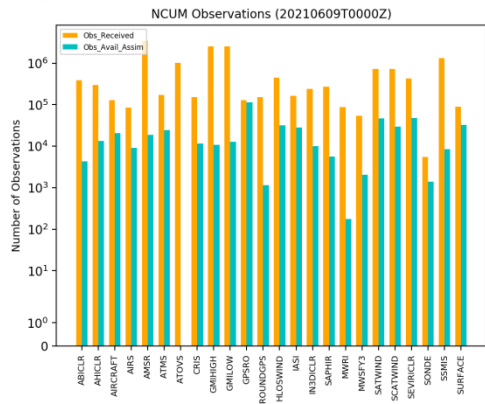
Data Monitoring

NCUM Observations (20210609T0000Z)



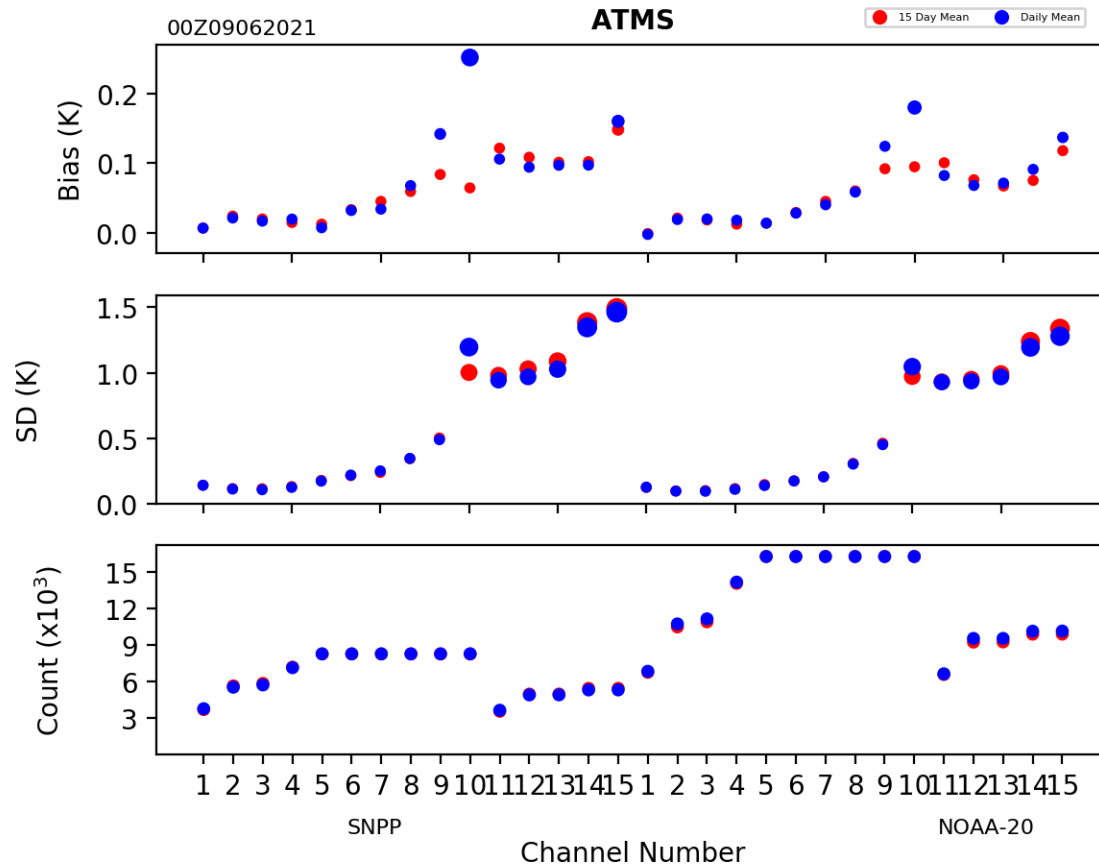


Data Monitoring



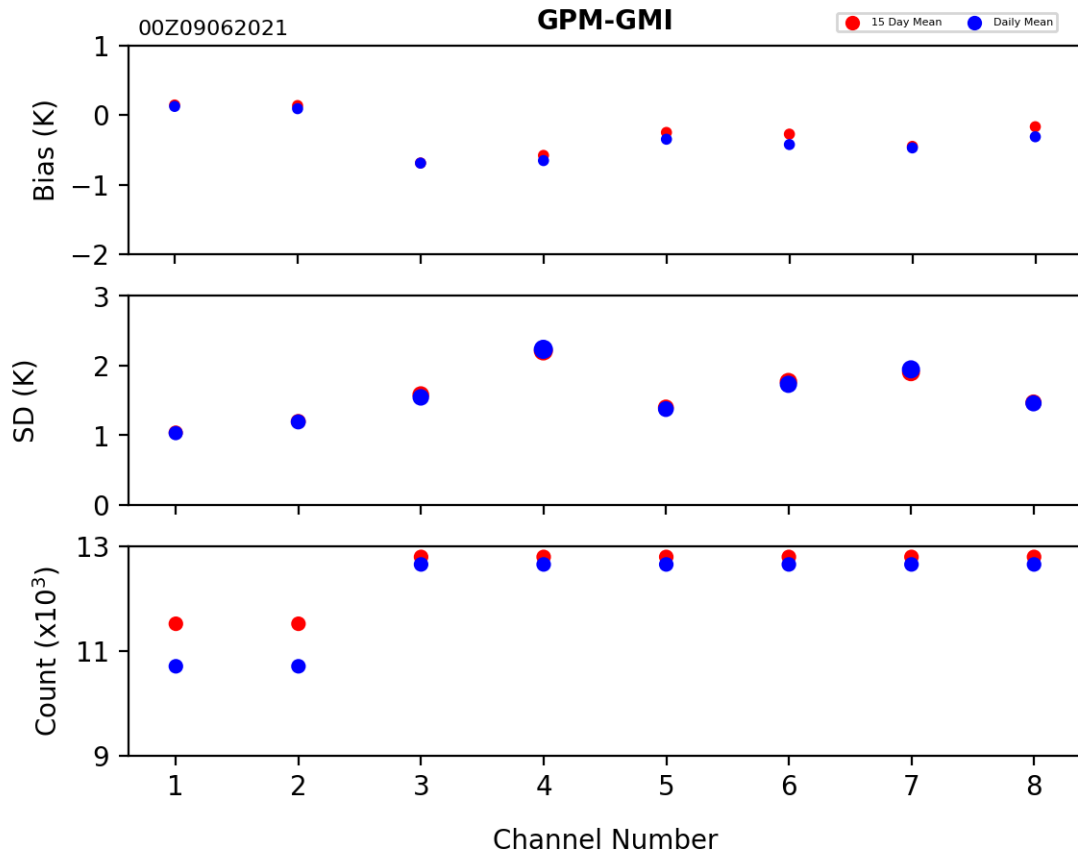
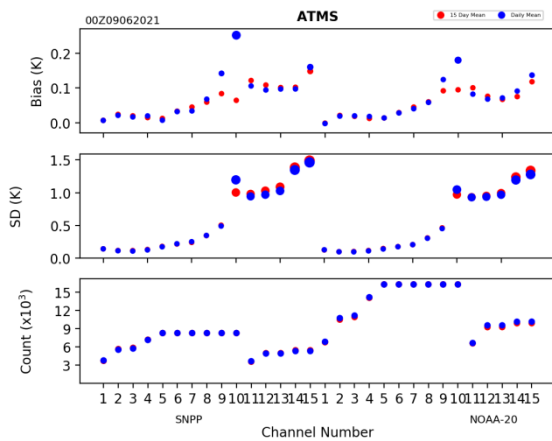


Data Monitoring





Data Monitoring





New observations

Conventional Data:

RS/RW, Ship, Buoy, SYNOP in BUFR

GPSRO:

COSMIC-2 series, KOMPSAT, PAZ, MetOp-C, FY3D

Radiances:

NOAA-20 :CrIS (FSR), ATMS

MetOp-C : IASI, ATOVS

FY3D: MWHS-2, MWTS-2, MWRI

GOES-16 : ABI

INSAT-3DR: Sounder

Wind Profiler :

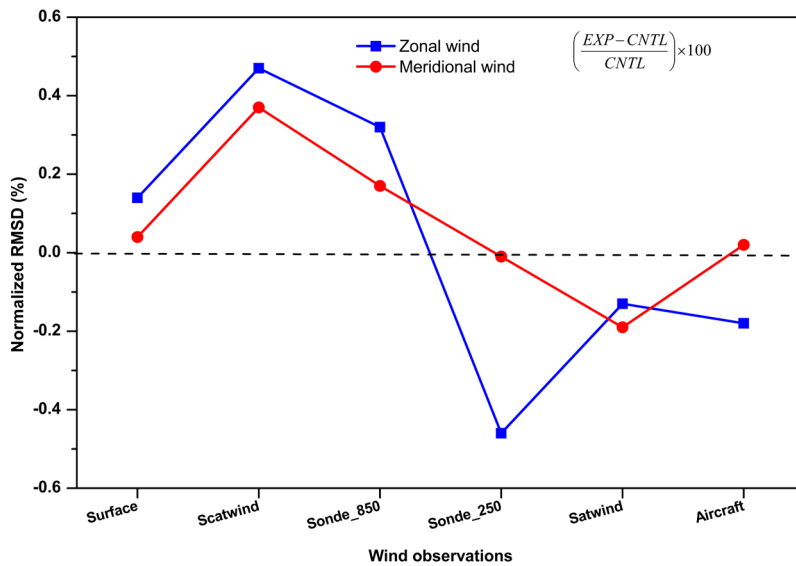
Aeolus



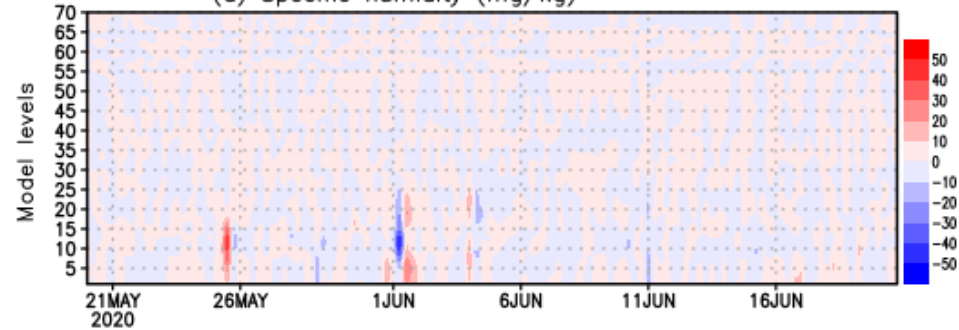
Assimilation of Aeolus HLOS winds

Analysis increments

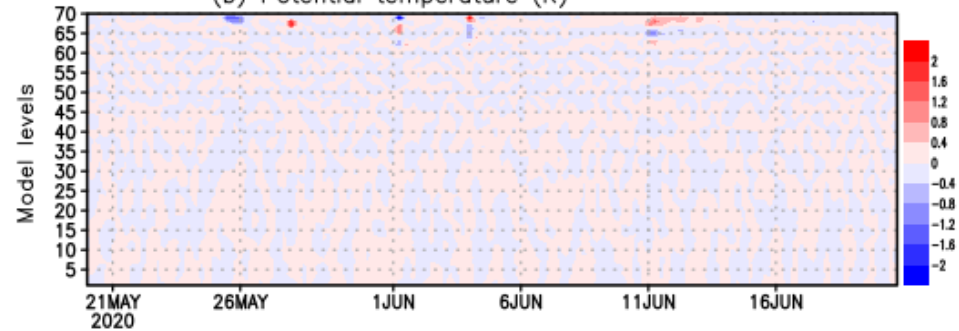
Background fit to other observations



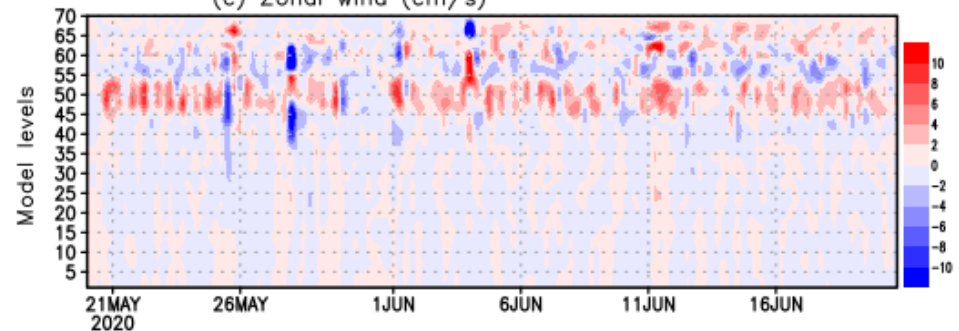
(a) Specific humidity (mg/kg)



(b) Potential temperature (K)

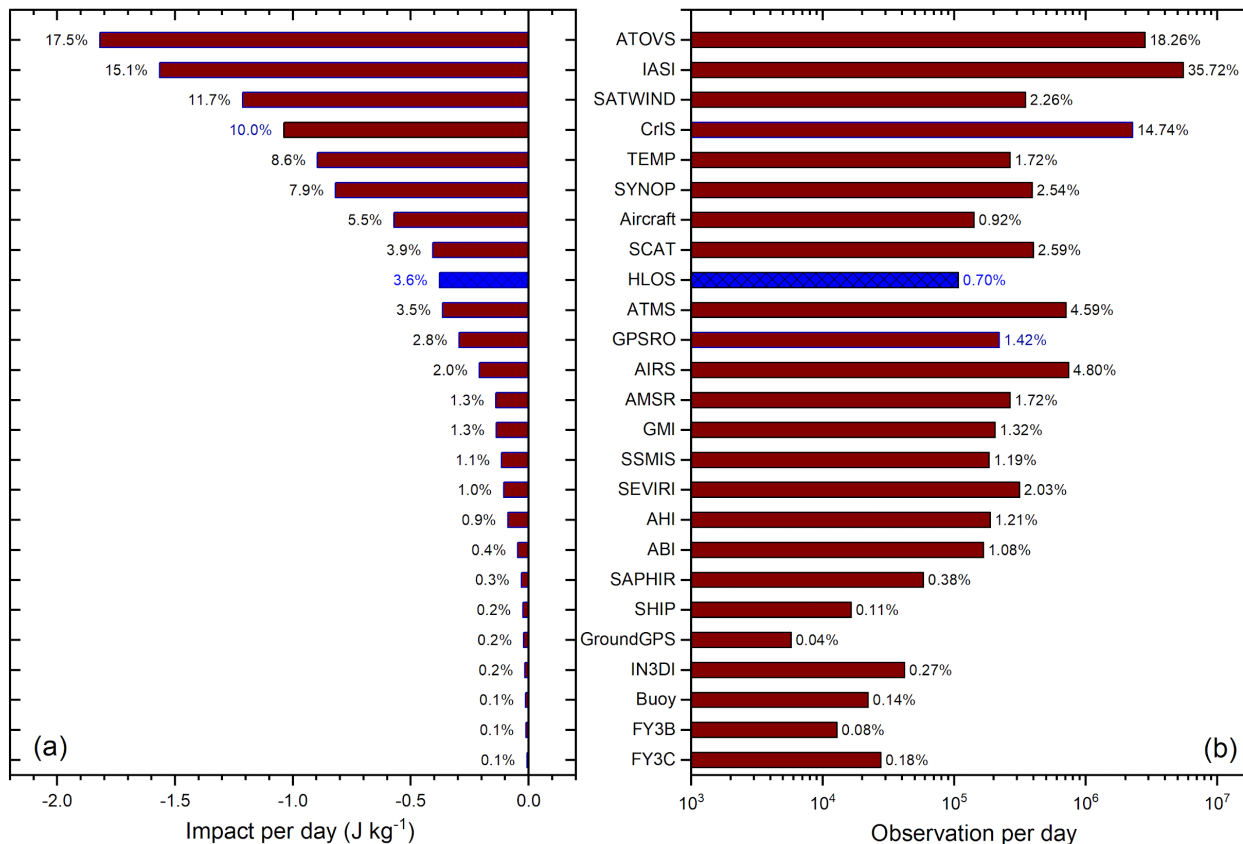


(c) Zonal wind (cm/s)





Forecast Sensitivity to observation Impact





Thank you