



Observation Monitoring

based on data
received/decoded at NCMRWF
(within operational data cut-off)
and NGFS GDAS

for 14102024 (1200 UTC)



Indian Observation Coverage

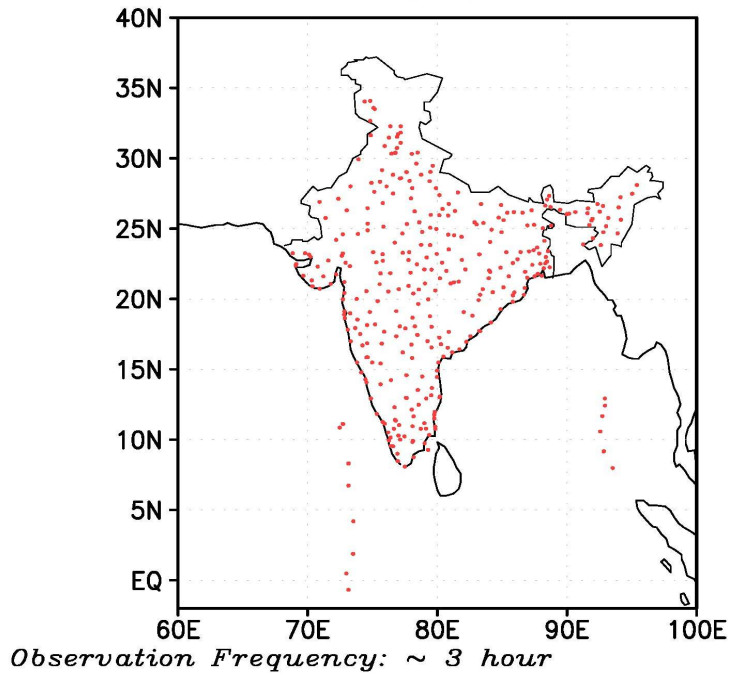


NCMRWF OBSERVATIONS MONITORING

U_CYC

Data Coverage: Surface (14102024 1200UTC +/- 03Hrs)
Total Number of Observations Received at NCMRWF: 522
(42 & 43 Block)

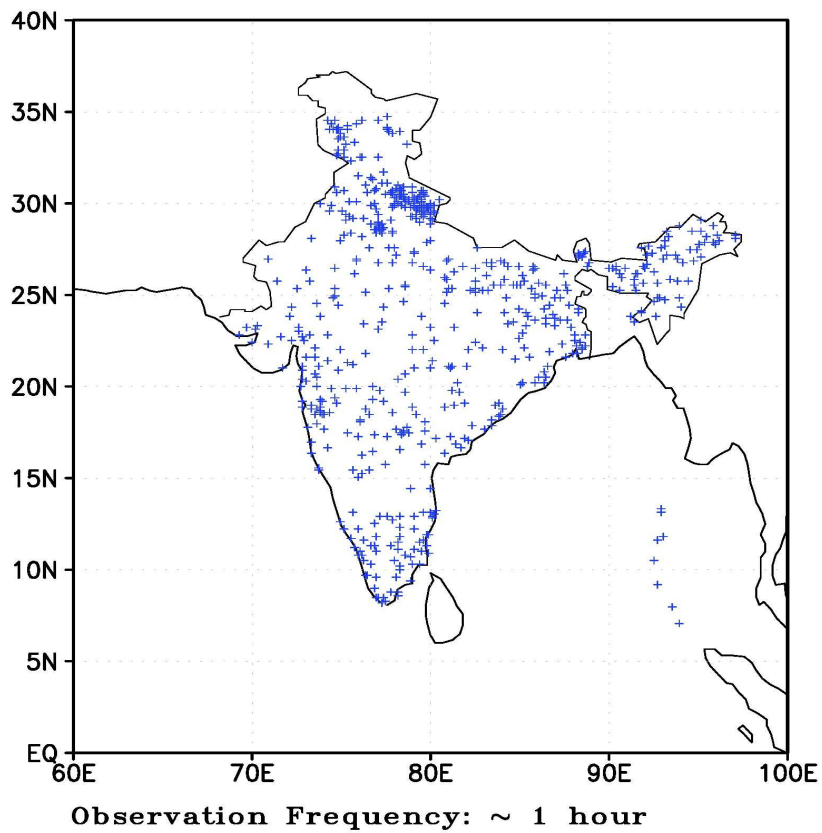
SYNOP(522)





NCMRWF OBSERVATIONS MONITORING

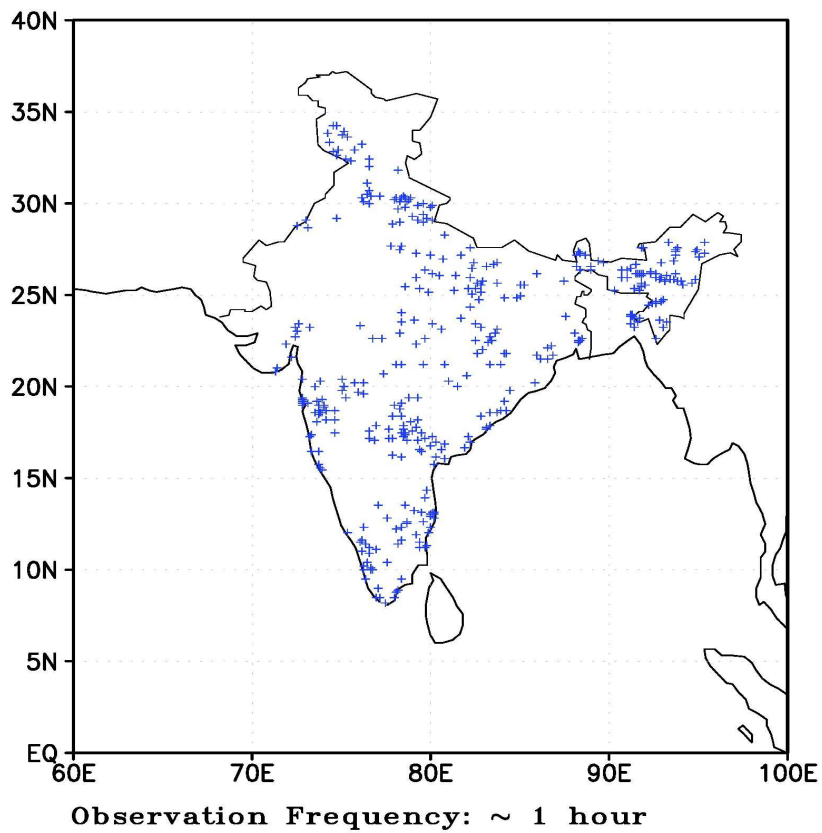
Data Coverage: Indian AWS (14102024 1200UTC +/- 3 Hrs) U_CYC
Total Number of Observations Received at NCMRWF: 3400





NCMRWF OBSERVATIONS MONITORING

Data Coverage: Indian ARG (14102024 1200UTC +/- 3 Hrs) U_CYC
Total Number of Observations Received at NCMRWF: 2252





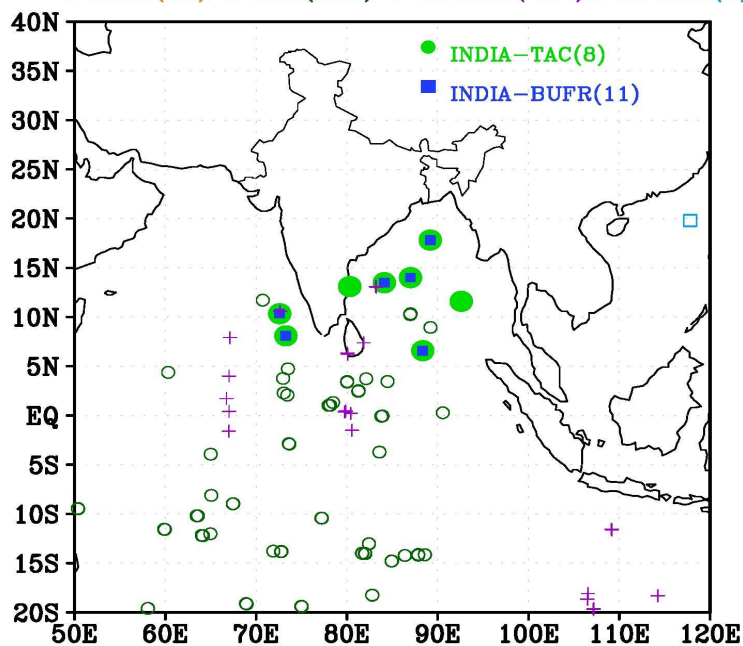
NCMRWF OBSERVATIONS MONITORING

U_CYC

Data Coverage: BUOY (14102024 1200UTC +/- 3 Hrs)

Total Number of Observations Received at NCMRWF: 291

country code in GTS as ● INDIA(19) ○ USA(155) + FRANCE(114) □ OTHERS(3)



Observation Frequency: ~ 1 hour & ~ 3 hour (India)

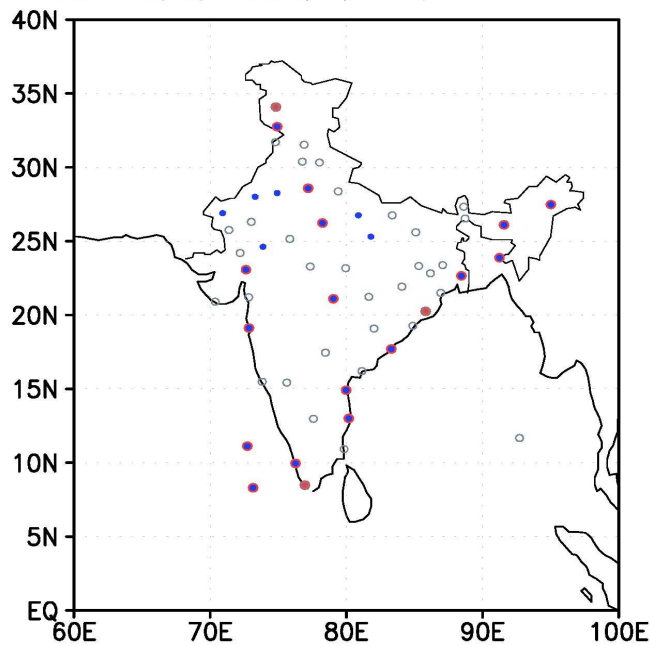


NCMRWF OBSERVATIONS MONITORING

U_CYC

Data Coverage: Sonde (14102024 1200UTC +/- 03Hrs)
Total Number of Observations Received at NCMRWF: 41
(42 & 43 Block)

TMPLND(19) PILOT(22) Reported, no ascent



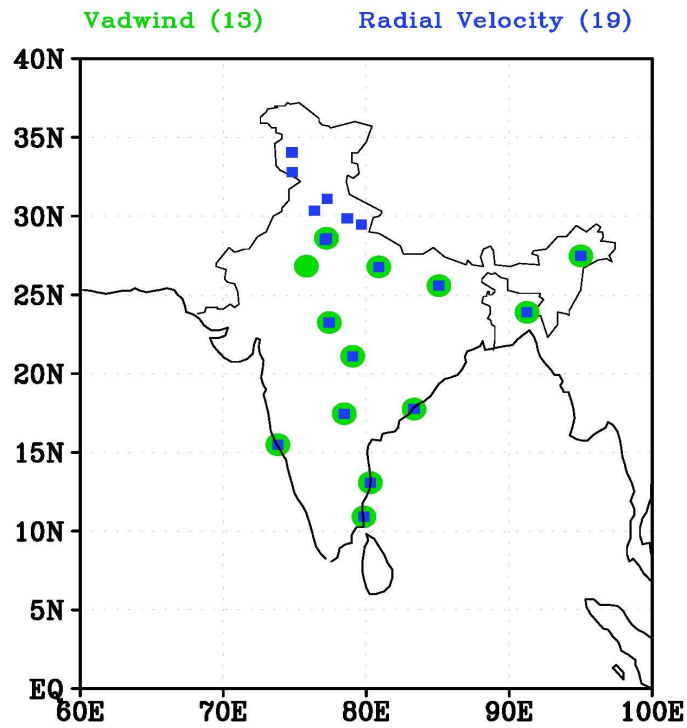
Observation frequency: ~ 6 hour



NCMRWF OBSERVATIONS MONITORING

U_CYC

Data Coverage: Indian DWR Stations (14102024 1200UTC +/- 03Hrs)



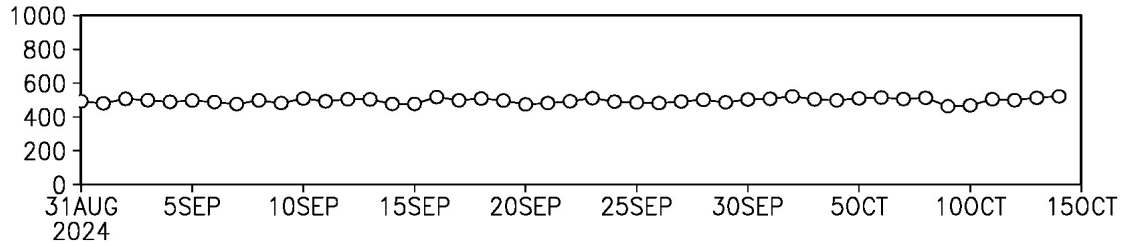


NCMRWF OBSERVATIONS MONITORING

Count for different types of observation (Over Indian Region)
for the last 45 days (valid for 12 UTC) U_CYC

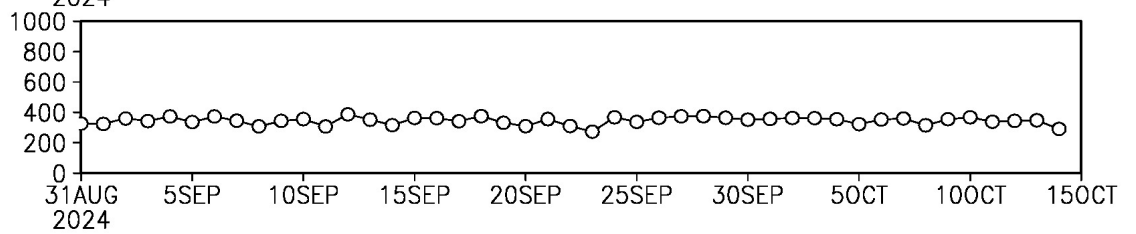
SYNOP

Avg=505
Today_Cnt=522
Dep=3. %



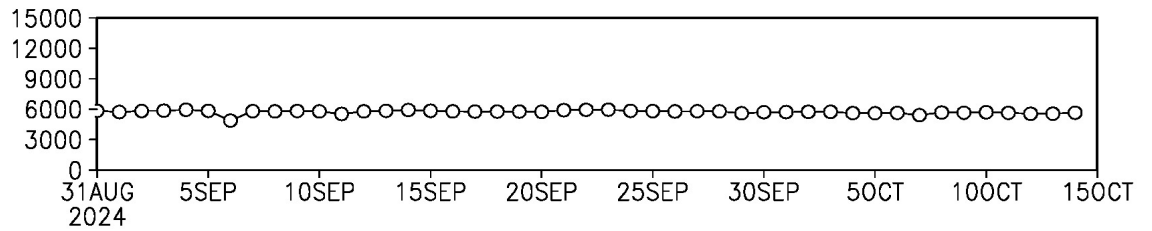
BUOY

Avg=362
Today_Cnt=291
Dep=-20. %



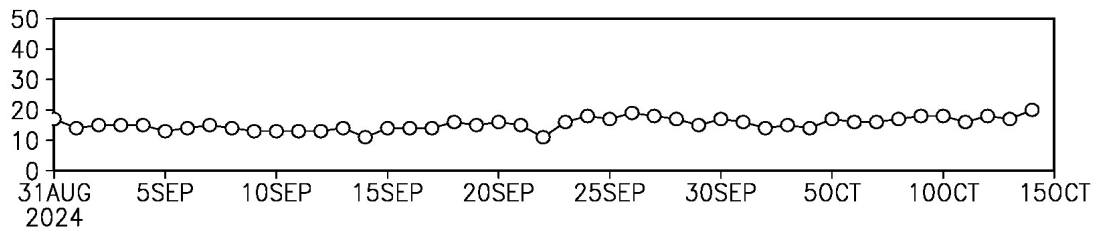
AWS+ARG

Avg=5822
Today_Cnt=5652
Dep=-3. %



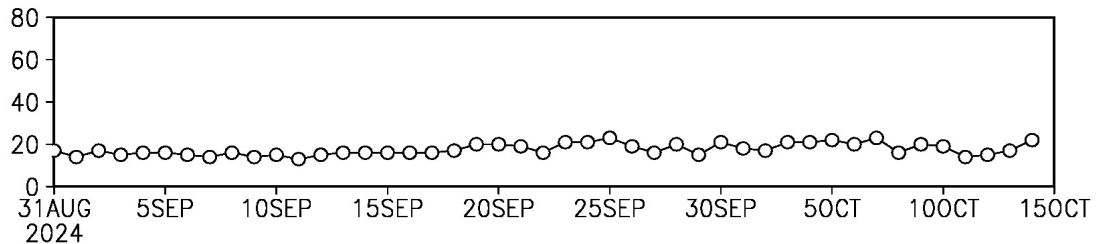
RS/RW

Avg=16
Today_Cnt=20
Dep=25. %



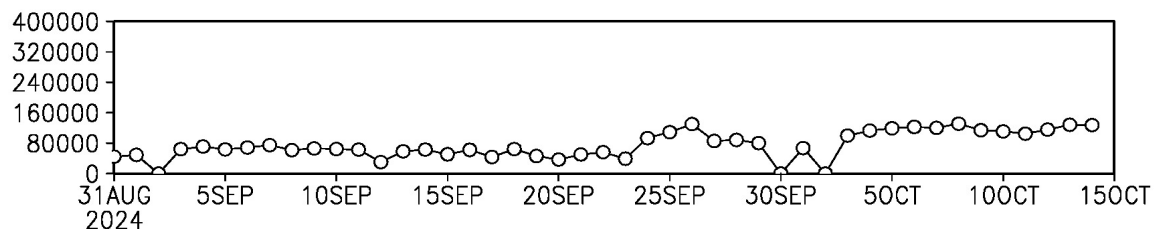
PILOT

Avg=19
Today_Cnt=22
Dep=16. %



INSAT-3DR AMV

Avg=86150
Today_Cnt=101815
Dep=18. %





Global Observation Coverage



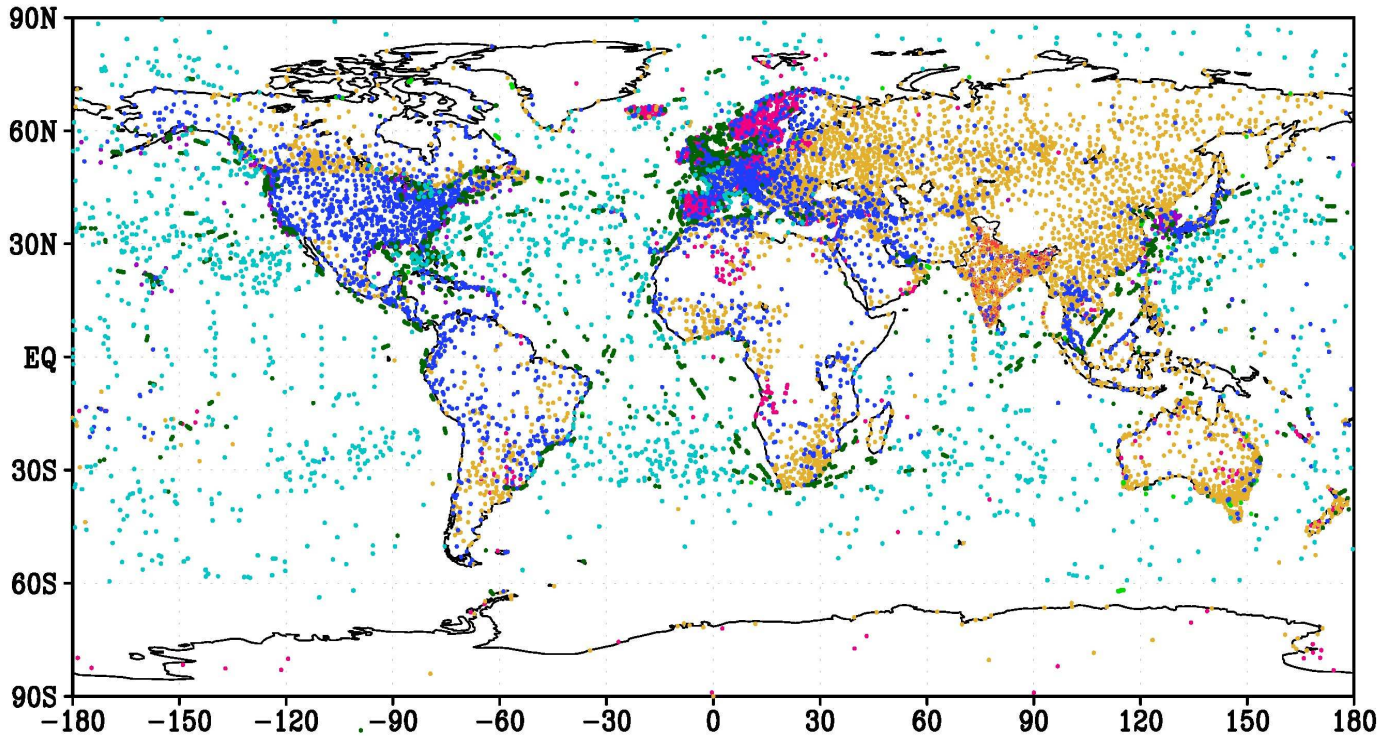
NCMRWF OBSERVATIONS MONITORING

U_CYC

Data Coverage: Surface (14102024 1200UTC +/- 03Hrs)
Total Number of Observations Received at NCMRWF: 72362

LNDSYN(17493) SHIP(3030) BUOY(6706) METAR(20500) MOBILE/AWS(5652)

LNDSYN_BUFR(6812) SHIP_BUFR(3574) BUOY_BUFR(8595)



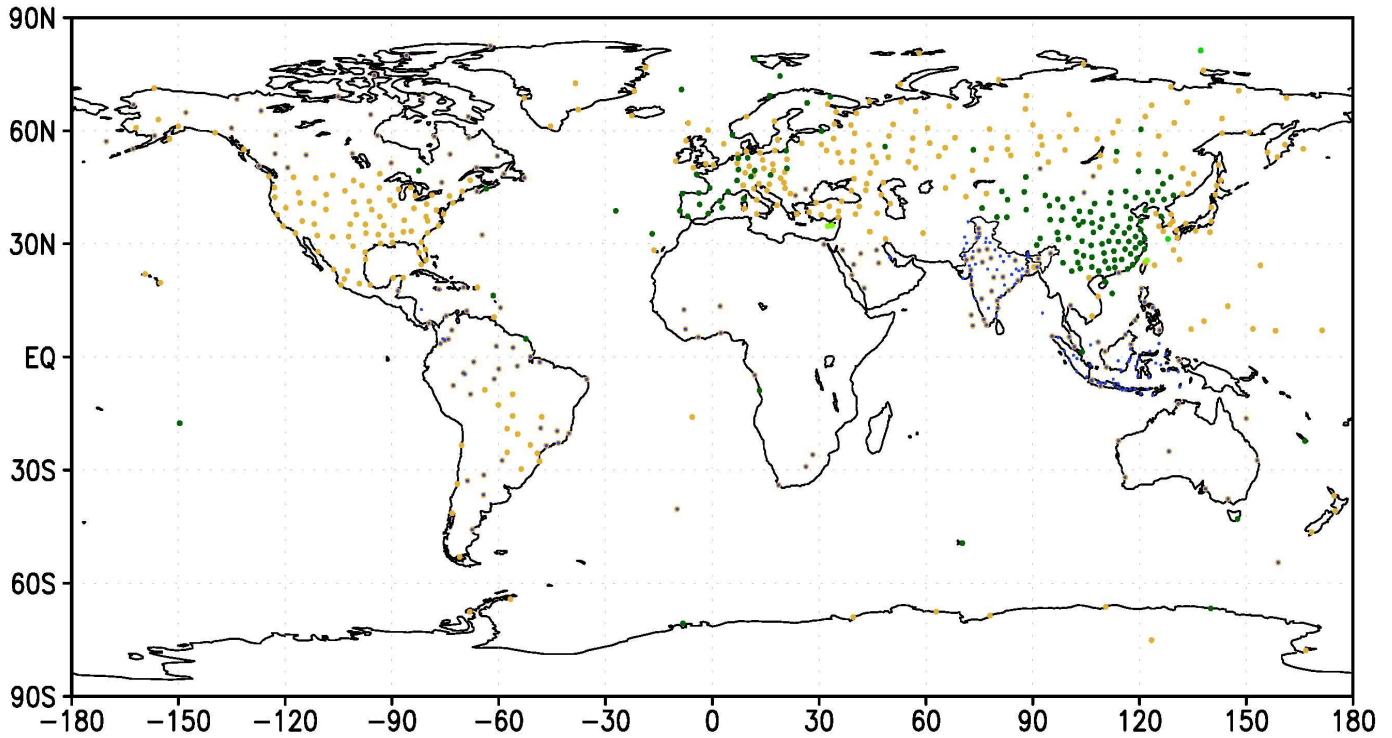


NCMRWF OBSERVATIONS MONITORING

U_CYC

Data Coverage: Sonde (14102024 1200UTC +/- 03Hrs)
Total Number of Observations Received at NCMRWF: 673

TMPLND(448) TmpsHP(2) TMPDRP(0) TMPMOB(0) PILOT(223) PROFILER(0)
TMPLND_BUF(138) PILOT_BUF(3)





NCMRWF OBSERVATIONS MONITORING

U_CYC

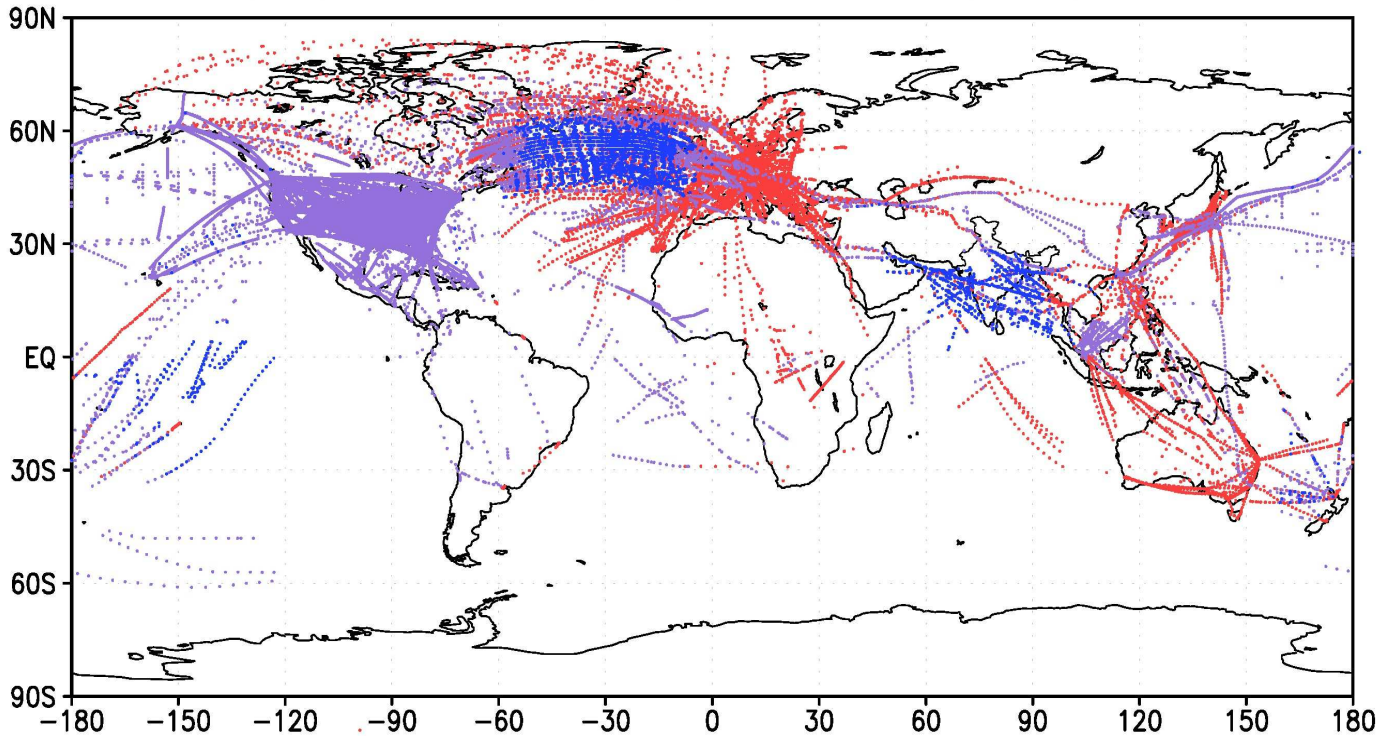
Data Coverage: AIRCFT (14102024 1200UTC +/- 03Hrs)

Total Number of Observations Received at NCMRWF: 147750

AIREP(5813)

AMDAR(35943)

WIGOS-AMDAR(105994)



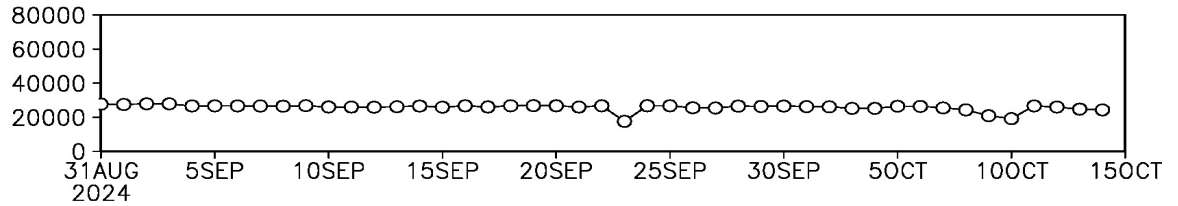


NCMRWF OBSERVATIONS MONITORING

Count for different types of observation (Global)
for the last 45 Days (valid for 12 UTC) U_CYC

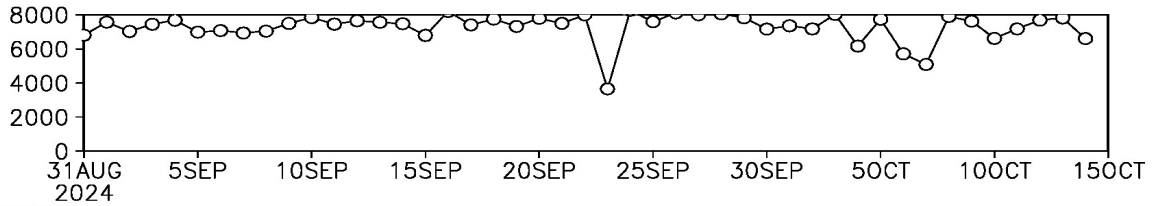
SYNOP

Avg=26632
Today_Cnt=24305
Dep=-9. %



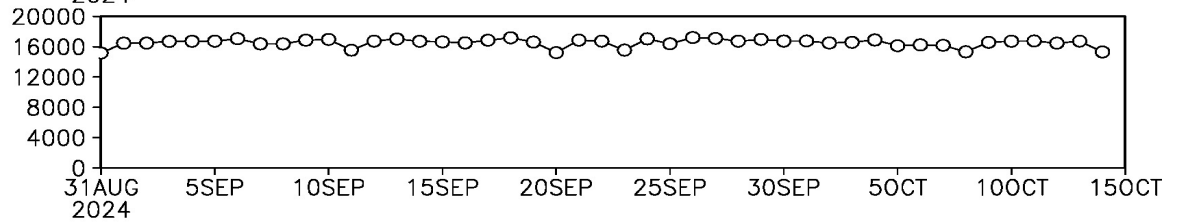
SHIP

Avg=7726
Today_Cnt=6604
Dep=-15. %



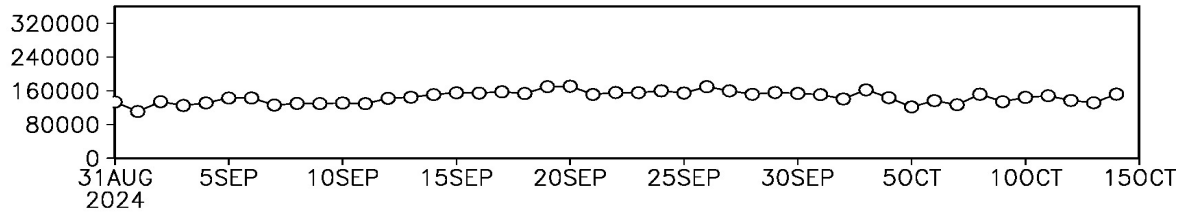
BUOY

Avg=16820
Today_Cnt=15301
Dep=-9. %



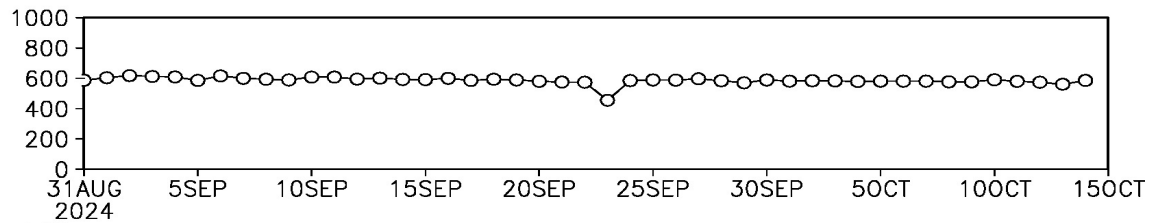
AIRCRAFT

Avg=151609
Today_Cnt=147750
Dep=-3. %



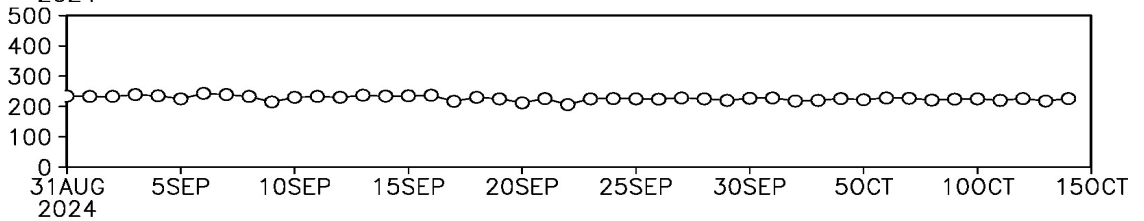
RS/RW

Avg=597
Today_Cnt=586
Dep=-2. %



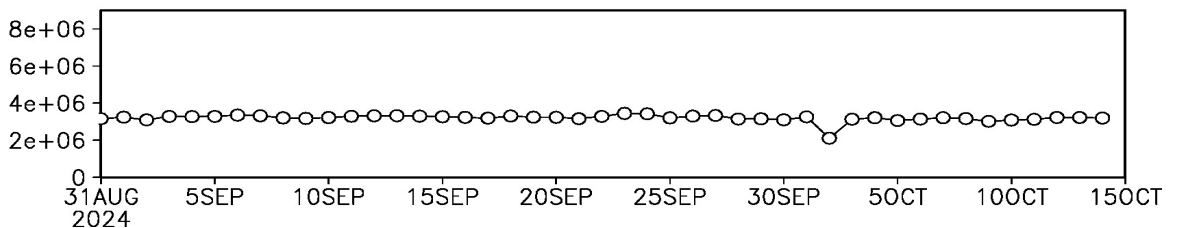
PILOT

Avg=231
Today_Cnt=226
Dep=-2. %



AMV

Avg=3275689
Today_Cnt=3192736
Dep=-3. %





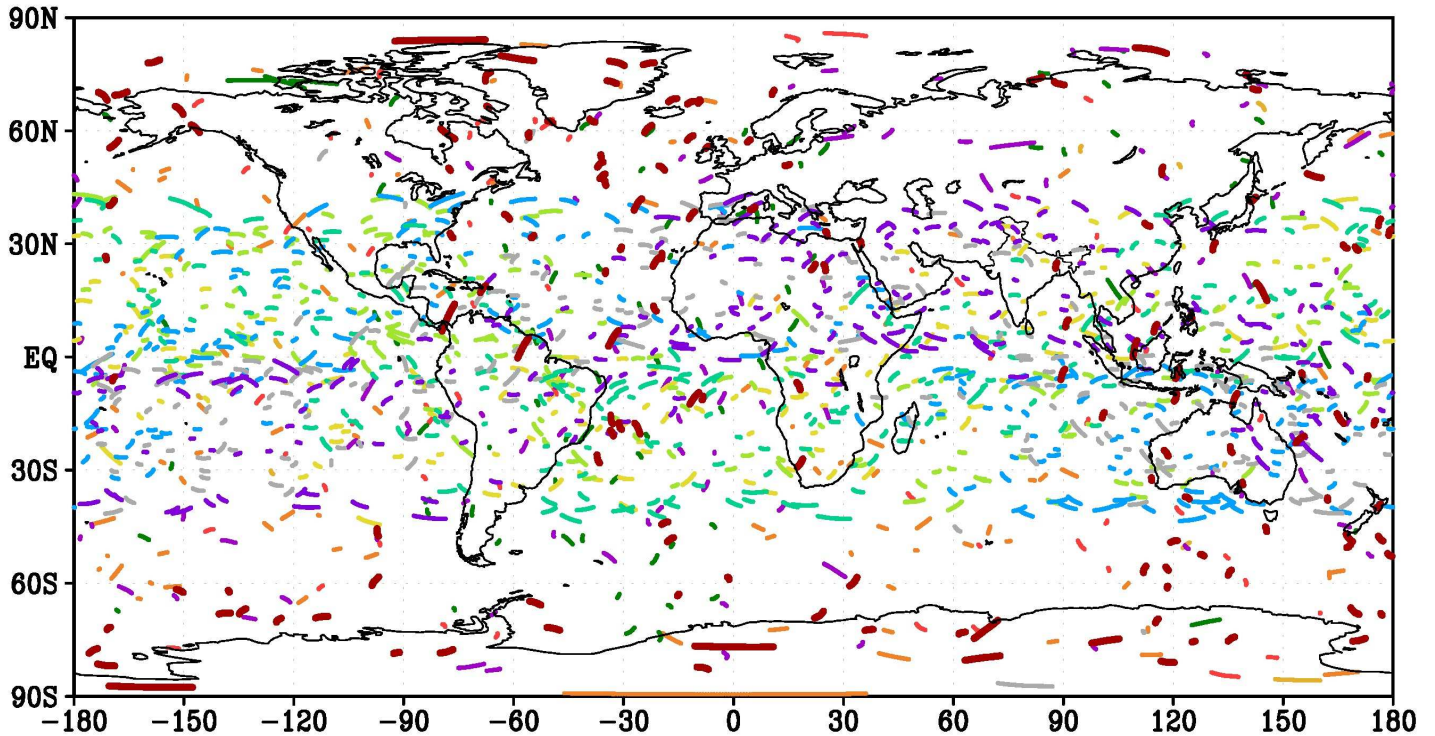
NCMRWF OBSERVATIONS MONITORING

U_CYC

Data Coverage:GNSSRO (14102024 1200UTC +/-03Hrs)

Total Number of Observations Received at NCMRWF: 430063

| | | | | |
|-------------------|-------------------|-------------------|-------------------|-------------------|
| TerraSAR-X(13343) | TenDEM-X(2028) | FY-3D(24516) | SPIRE(36101) | COSMIC-2E1(38099) |
| COSMIC-2E2(50640) | COSMIC-2E3(55476) | COSMIC-2E4(55383) | COSMIC-2E5(55612) | COSMIC-2E6(52201) |
| METOP-B(23668) | METOP-C(19096) | PAZ(3900) | KOMPSAT-5(0) | GeoOptics(0) |





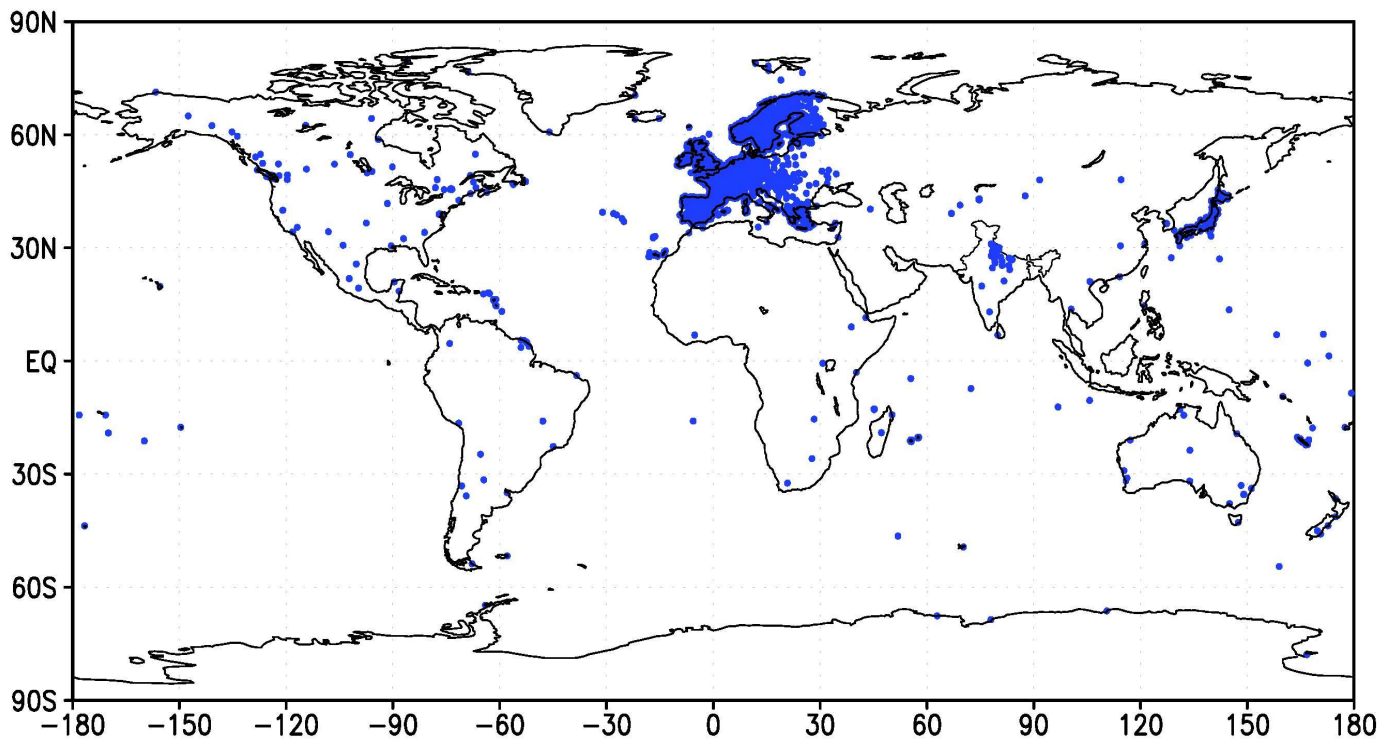
NCMRWF OBSERVATIONS MONITORING

U_CYC

Data Coverage: GNSS-IPW (14102024 1200UTC +/- 03Hrs)

Total Number of Observations Received at NCMRWF: 23520

GPSIPW(23520)





NCMRWF OBSERVATIONS MONITORING

U_CYC

Data Coverage: OZONE (14102024 1200UTC +/- 03Hrs)

Total Number of Observations Received at NCMRWF: 0

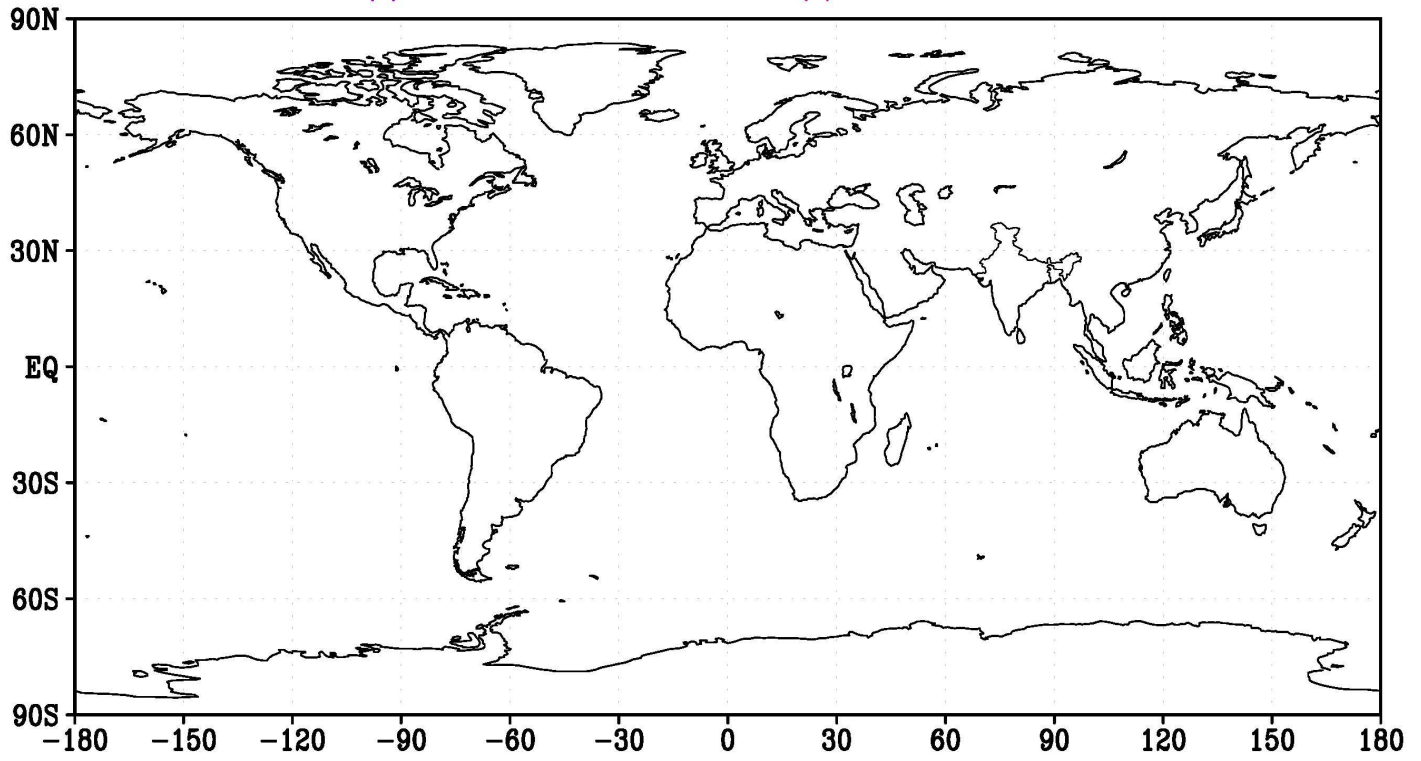
GOME-METOP-B(0)

OMPS-Nadir-NPP(0)

OMPS-Nadir-NOAA20(0)

OMPS-TotCol-NPP(0)

OMPS-TotCol-NOAA20(0)





NCMRWF OBSERVATIONS MONITORING

U_CYC

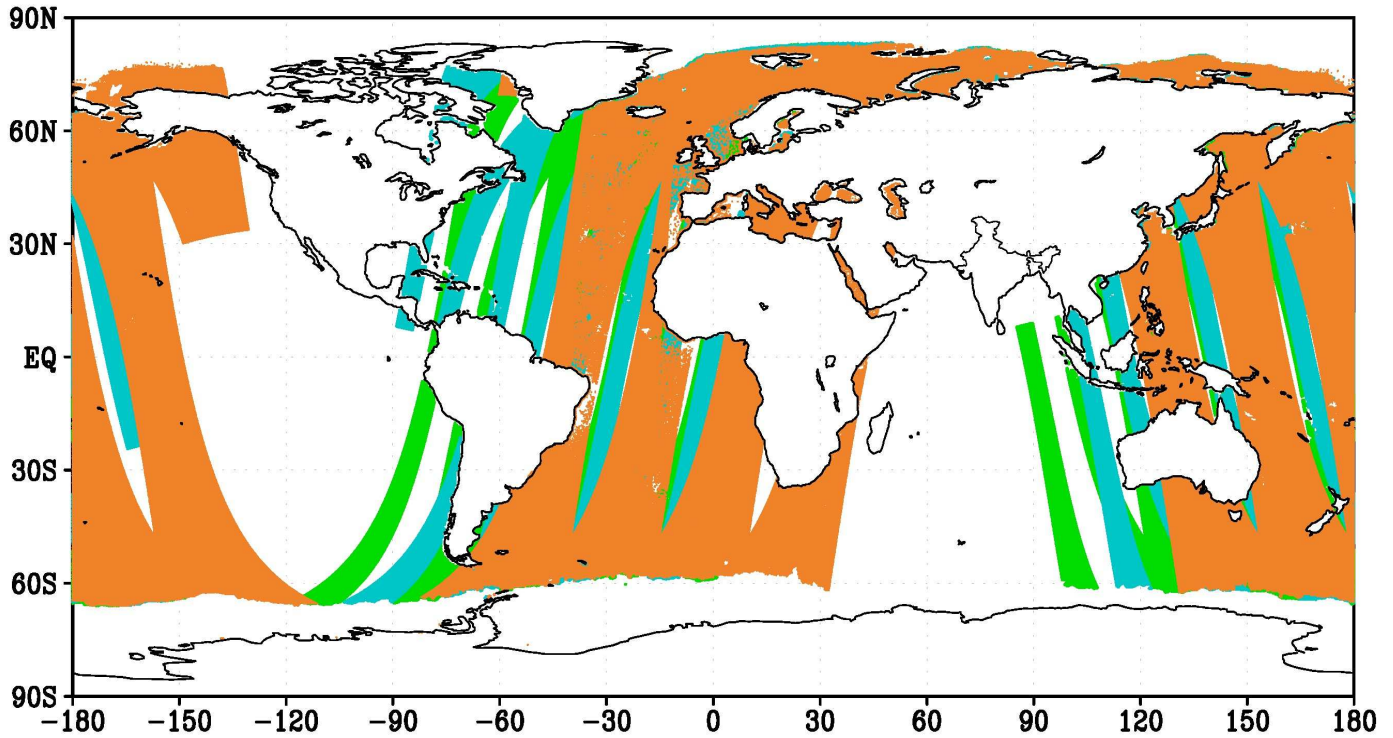
Data Coverage: Scatterometer winds (14102024 12UTC +/- 03Hrs)

Total Number of Observations Received at NCMRWF: 1971729

ASCAT (METOP-B) (515455)

ASCAT (METOP-C) (488776)

SCATSAT (OCEANSAT-3) (967498)





Atmospheric Motion Wind Vectors



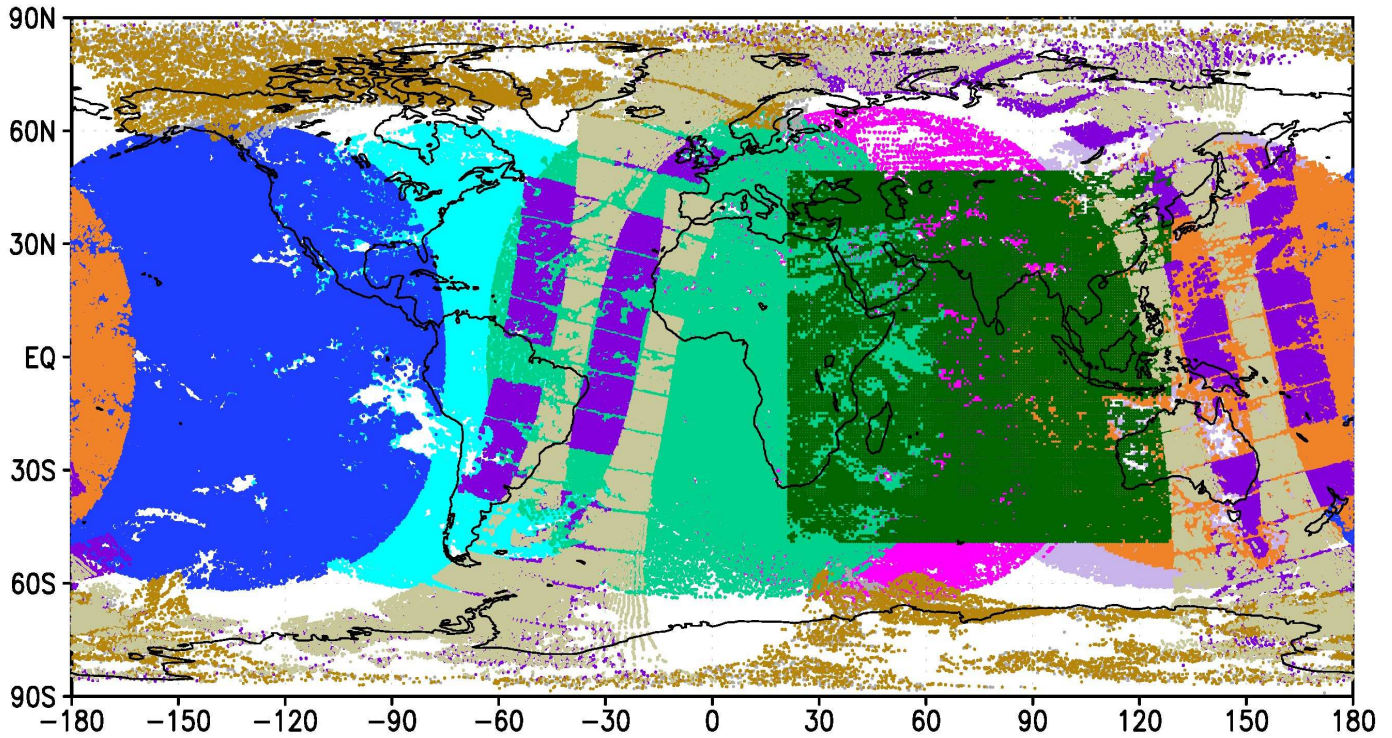
NCMRWF OBSERVATIONS MONITORING

U_CYC

Total Number of Observations Received at NCMRWF: 3192735

Data Coverage: AMV_ALL (14102024 1200UTC +/- 03Hrs)

| | | | | |
|-----------------|-----------------|---------------------|-------------------|--------------------|
| GOES-16(675747) | GOES-18(997457) | NOAA-18(0) | NOAA-19(0) | METEOSAT-9(209525) |
| METEOSAT-11(0) | NPP(18669) | NOAA-20(23187) | MODIS/Terra(0) | MODIS/Aqua(0) |
| METOP-B(54034) | METOP-C(54054) | INSAT-3D(0) | INSAT-3DR(101814) | HIMAWARI-9(123962) |
| NOAA-15(0) | COMS-2(697215) | METEOSAT-10(213604) | | |



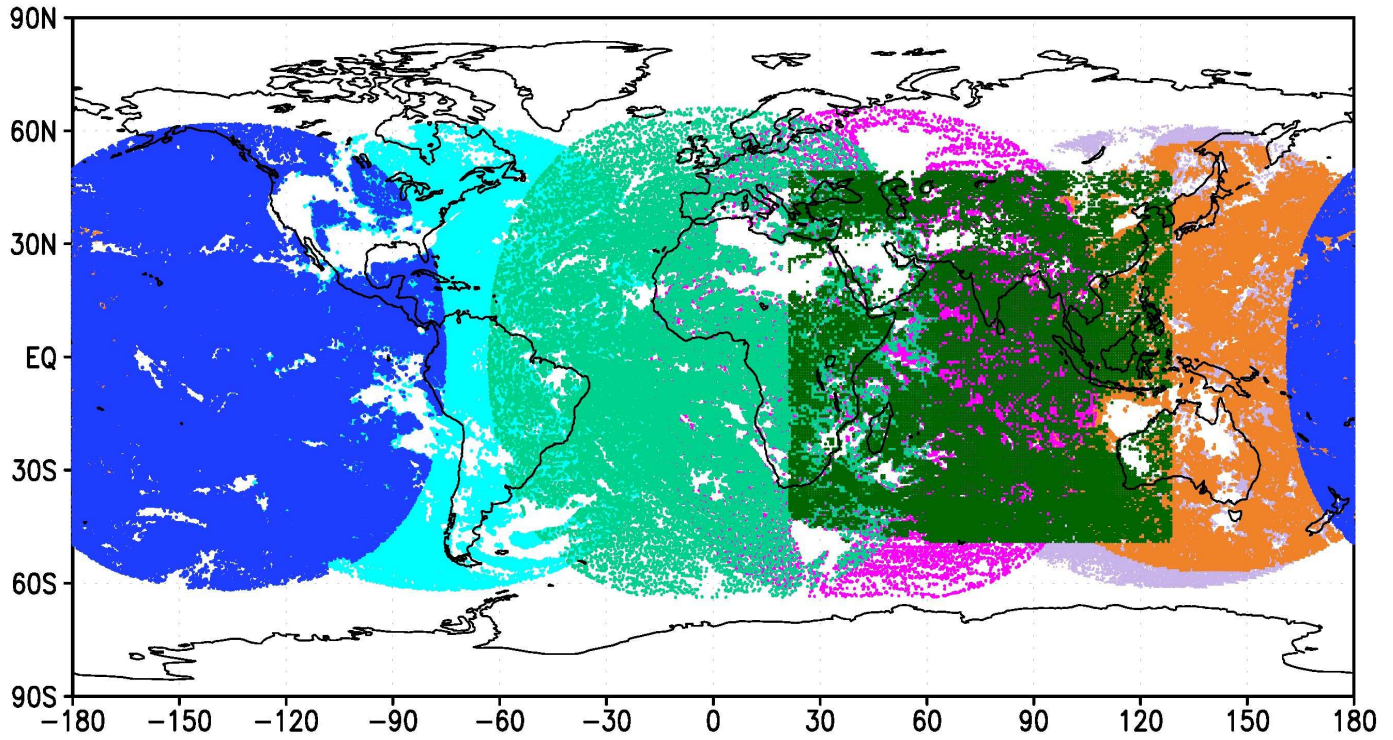


NCMRWF OBSERVATIONS MONITORING

U_CYC

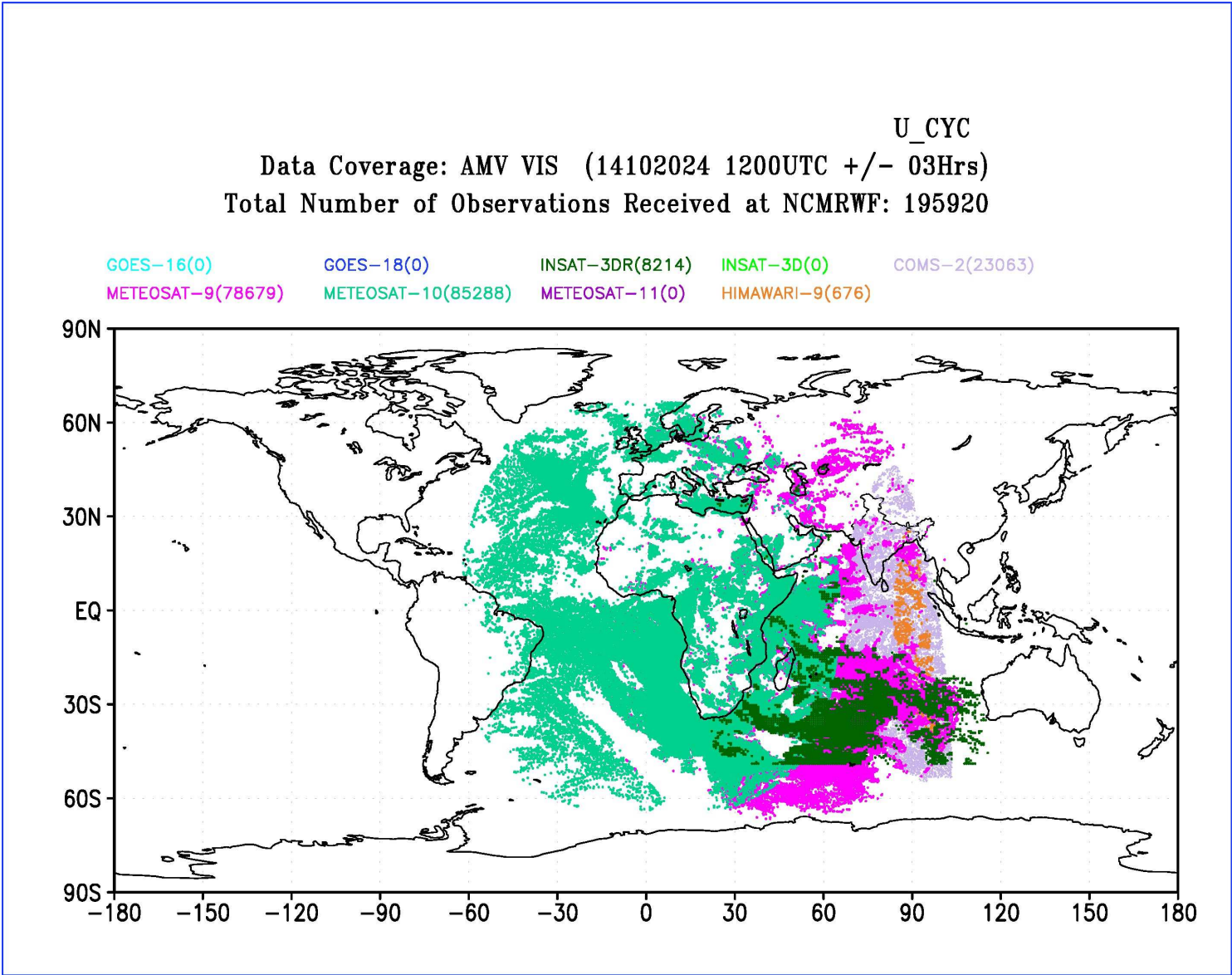
Data Coverage: AMV IR (14102024 1200UTC +/- 03Hrs)
Total Number of Observations Received at NCMRWF: 1749537

- GOES-16(413287)
- GOES-18(762524)
- INSAT-3DR(51533)
- INSAT-3D(0)
- COMS-2(364612)
- METEOSAT-9(45681)
- METEOSAT-10(46176)
- METEOSAT-11(0)
- HIMAWARI-9(65724)





NCMRWF OBSERVATIONS MONITORING



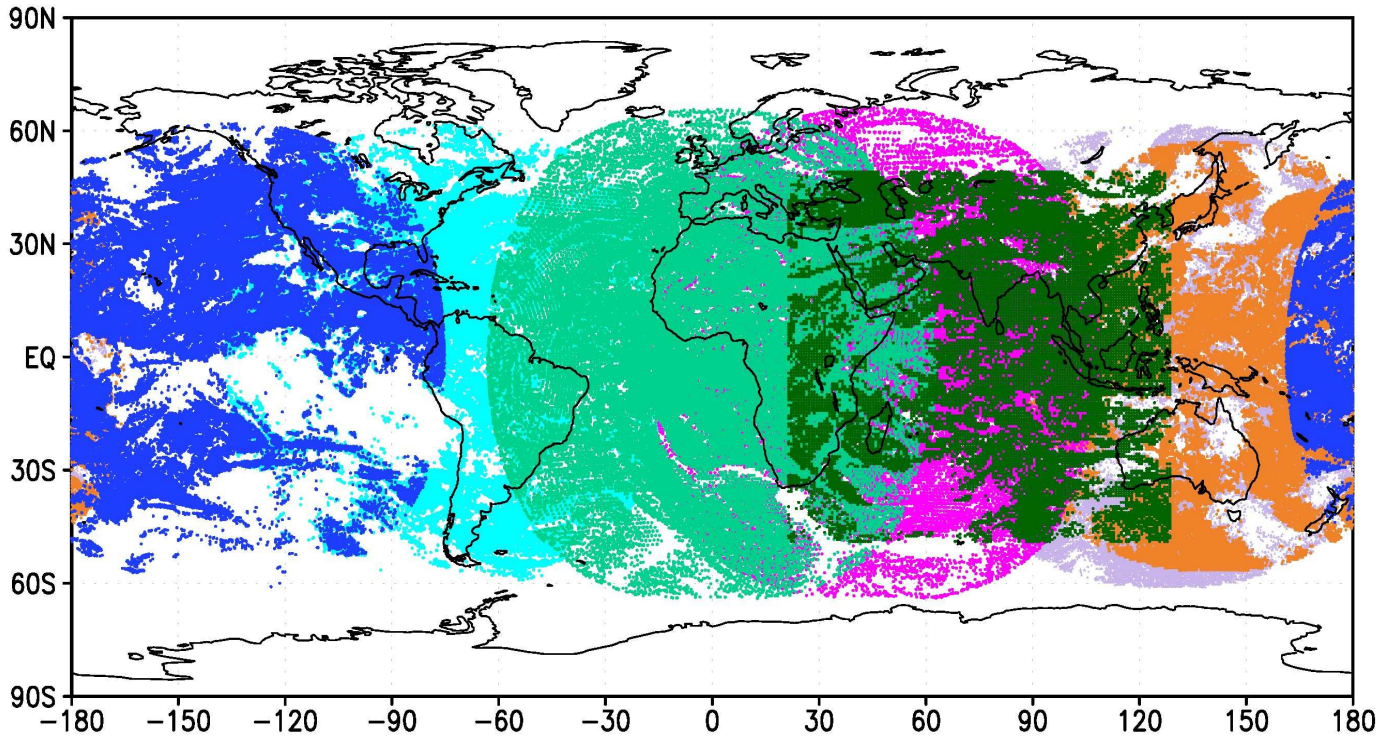


NCMRWF OBSERVATIONS MONITORING

U_CYC

Data Coverage: AMV WV (14102024 1200UTC +/- 03Hrs)
Total Number of Observations Received at NCMRWF: 1073864

GOES-16(262460) GOES-18(234933) INSAT-3DR(42064) INSAT-3D(0) COMS-2(309540)
METEOSAT-9(85165) METEOSAT-10(82140) METEOSAT-11(0) HIMAWARI-9(57562)



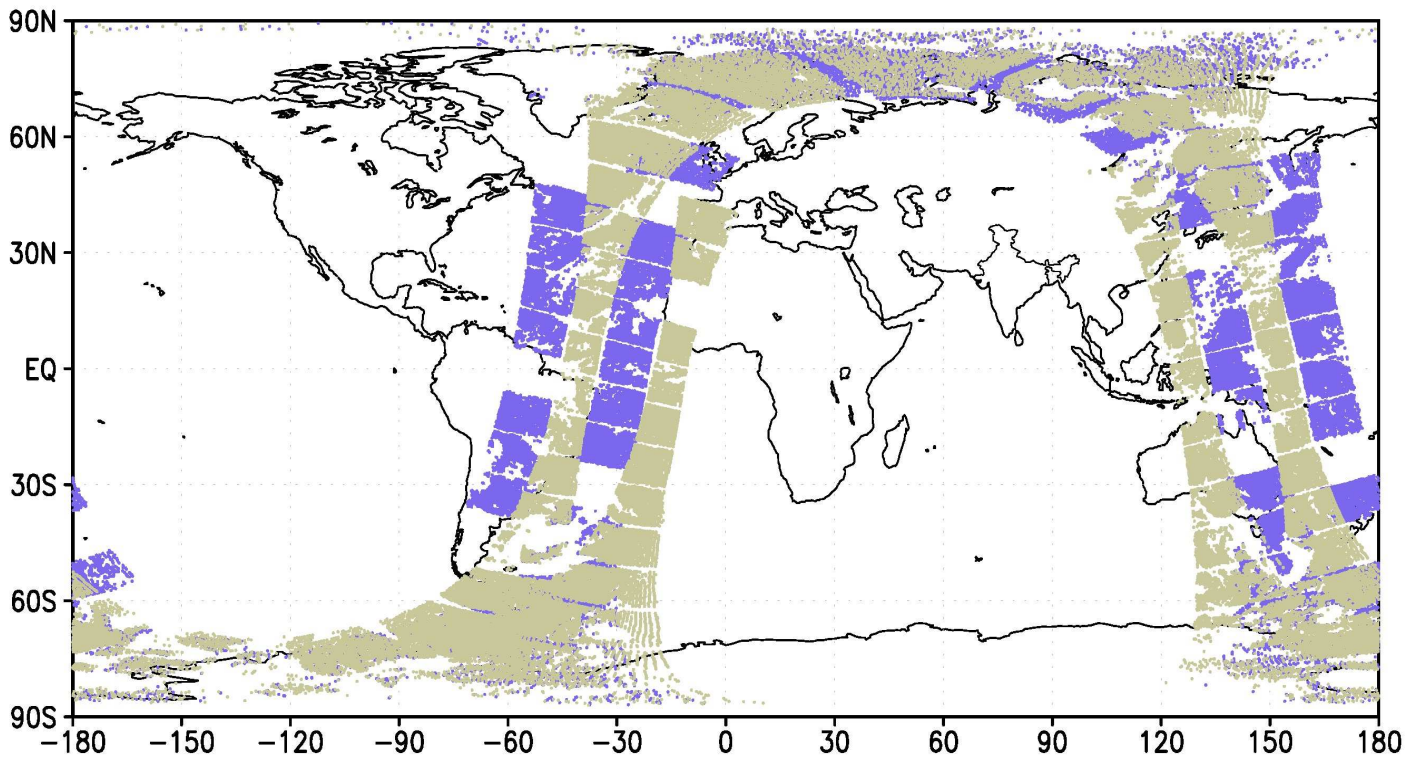


NCMRWF OBSERVATIONS MONITORING

AMV POLAR (14102024 1200UTC +/- 03Hrs) U_CYC

Total Number of Observations Received at NCMRWF: 108088

NOAA-15(0) NOAA-18(0) NOAA-19(0) MODIS/Aqua(0) MODIS/Terra(0)
METOP-B(0) DUAL-MetOp-B(54034) DUAL-MetOp-C(54054)



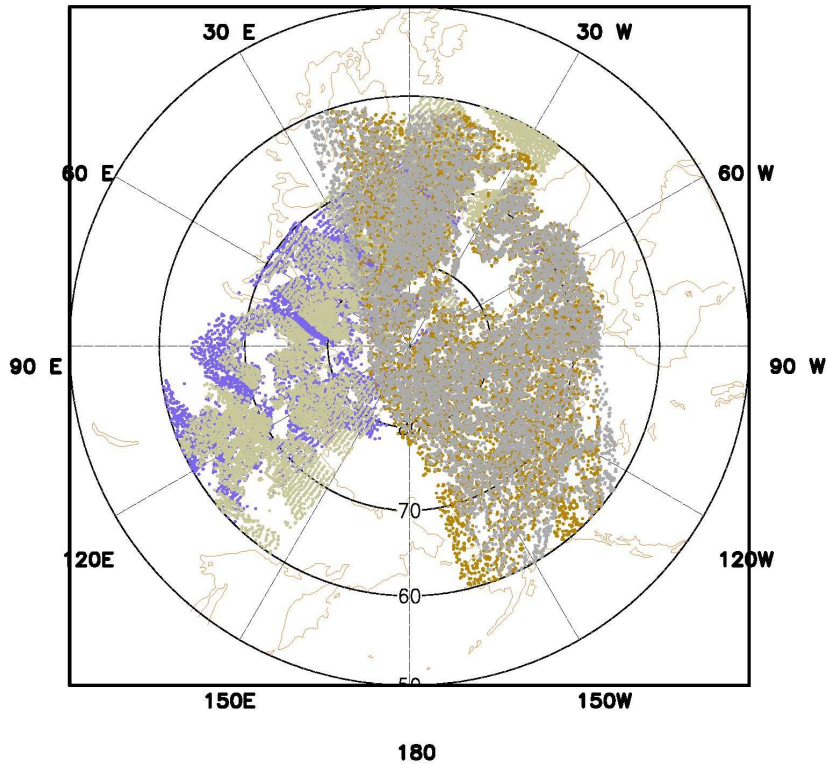


NCMRWF OBSERVATIONS MONITORING

AMV IR POLAR NH (14102024 1200UTC +/- 03Hrs) U_CYC

Total Number of Observations Received at NCMRWF: 57807

| | | | |
|------------|---------------|------------------|----------------|
| NOAA-15(0) | NOAA-18(0) | NOAA-19(0) | NOAA-20(13428) |
| NPP(13765) | MODIS/Aqua(0) | MODIS/Terra(0) | |
| METOP-B(0) | METOP-C(8038) | DUAL-METOP(9184) | |



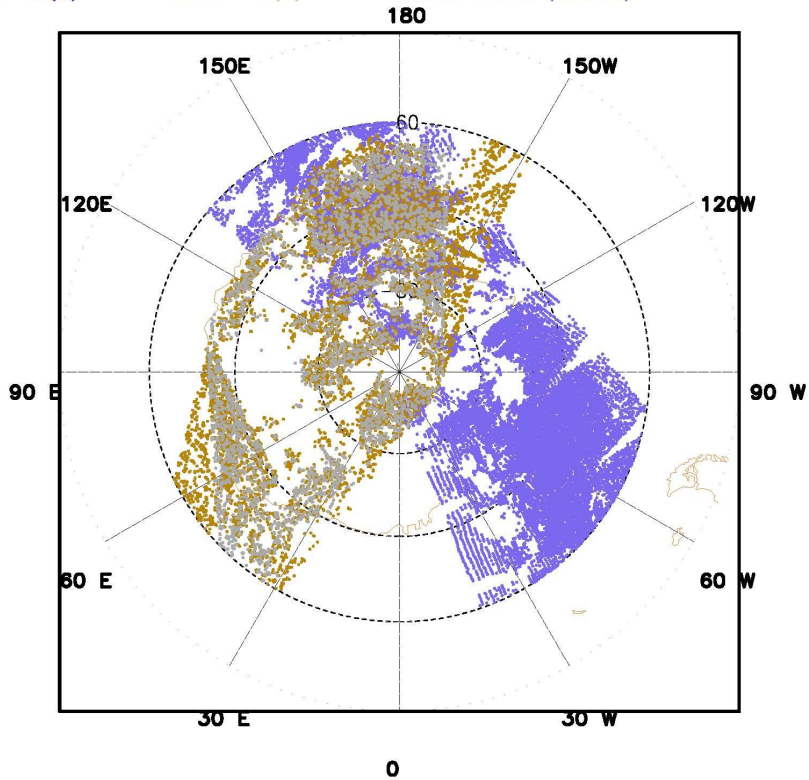


NCMRWF OBSERVATIONS MONITORING

AMV IR POLAR SH (14102024 1200UTC +/- 03Hrs) U_CYC

Total Number of Observations Received at NCMRWF: 42119

- NOAA-15(0)
- NOAA-18(0)
- NOAA-19(0)
- NOAA-20(9410)
- NPP(4665)
- MODIS/Aqua(0)
- MODIS/Terra(0)
- METOP-B(0)
- METOP-C(0)
- DUAL-METOP(18269)





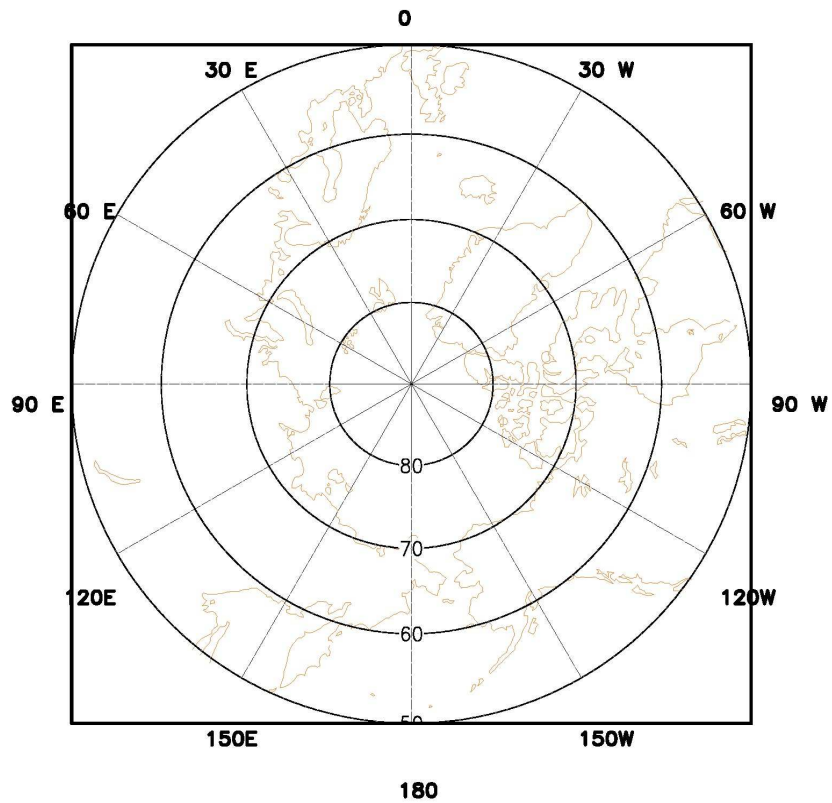
NCMRWF OBSERVATIONS MONITORING

AMV WV POLAR NH (14102024 1200UTC +/- 03Hrs) U_CYC

Total Number of Observations Received at NCMRWF: 0

MODIS/Aqua(0)

MODIS/Terra(0)





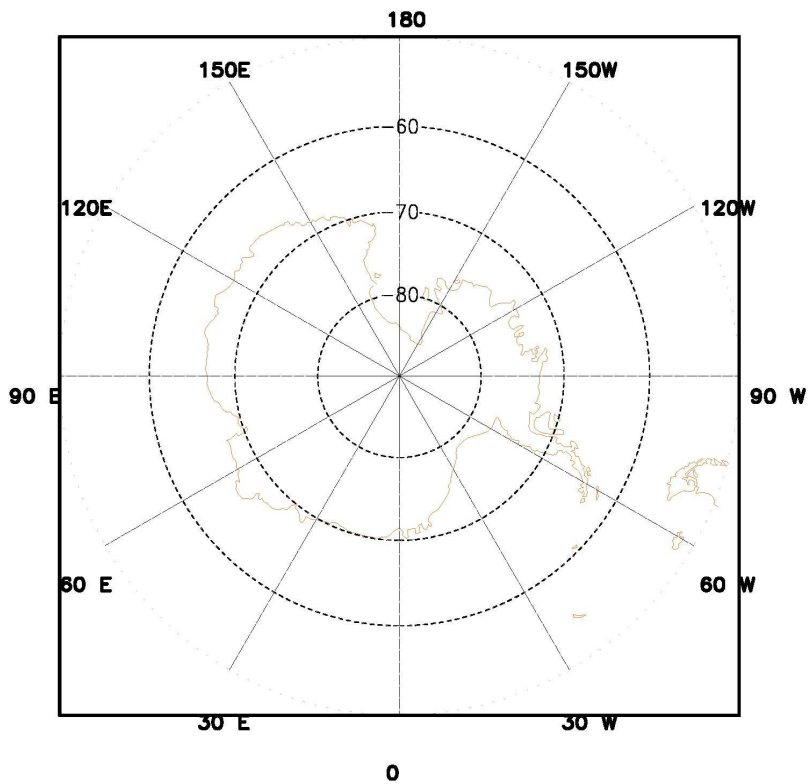
NCMRWF OBSERVATIONS MONITORING

AMV WV POLAR SH (14102024 1200UTC +/- 03Hrs) U_CYC

Total Number of Observations Received at NCMRWF: 0

MODIS/Aqua(0)

MODIS/Terra(0)





Radiance Observations



NCMRWF OBSERVATIONS MONITORING

U_CYC

Geostationary Radiance (14102024 1200UTC +/- 03Hrs)

Total Number of Observations Received at NCMRWF: 969137

METEOSAT-9(226536)

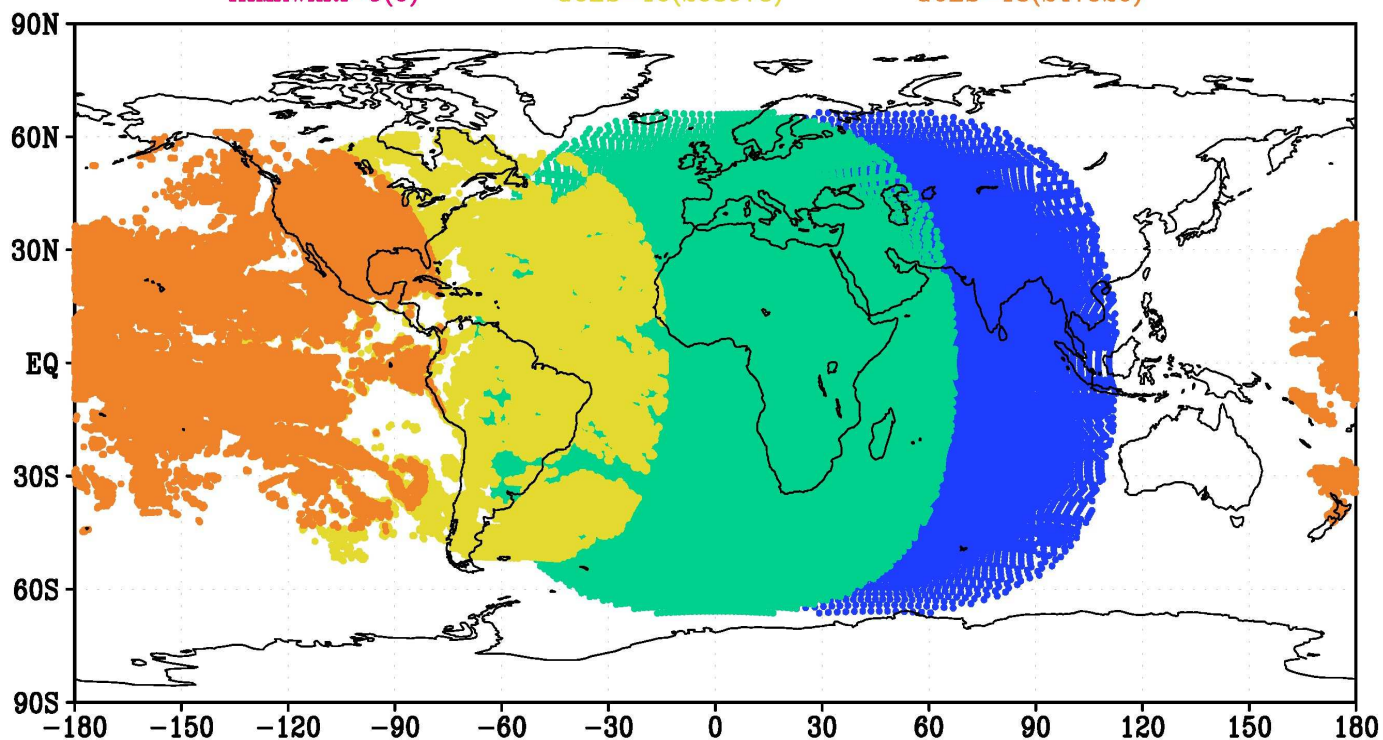
METEOSAT-10(226097)

METEOSAT-11(0)

HIMAWARI-9(0)

GOES-16(268978)

GOES-18(247526)





NCMRWF OBSERVATIONS MONITORING

U_CYC

Data Coverage: SAT RADIANCE (EARS+IMD RARS) (14102024 1200UTC +/- 03Hrs)

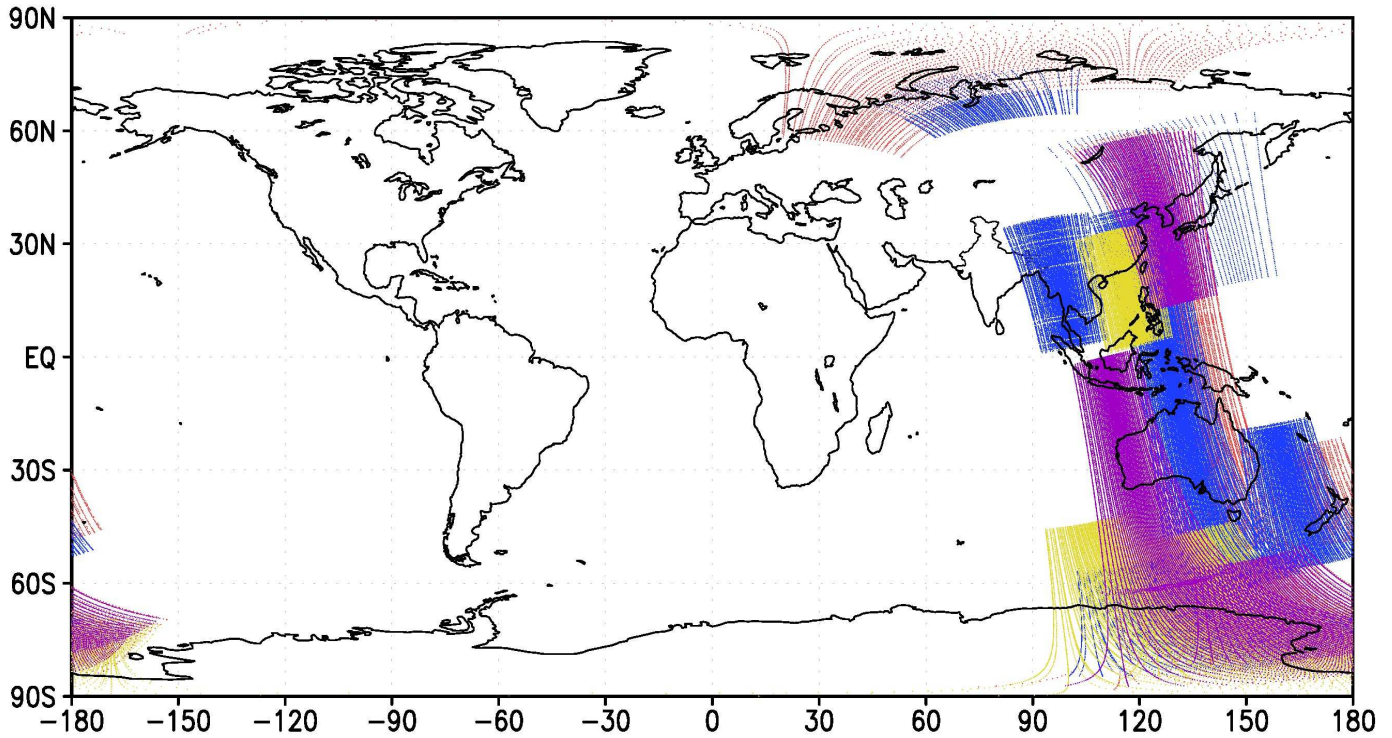
Total Number of Observations Received at NCMRWF: 432142

NOAA18(51716)

NOAA19(183626)

METOP-B(90114)

METOP-C(106686)





NCMRWF OBSERVATIONS MONITORING

U_CYC

Data Coverage: Humidity Sounders (14102024 1200UTC +/- 03Hrs)

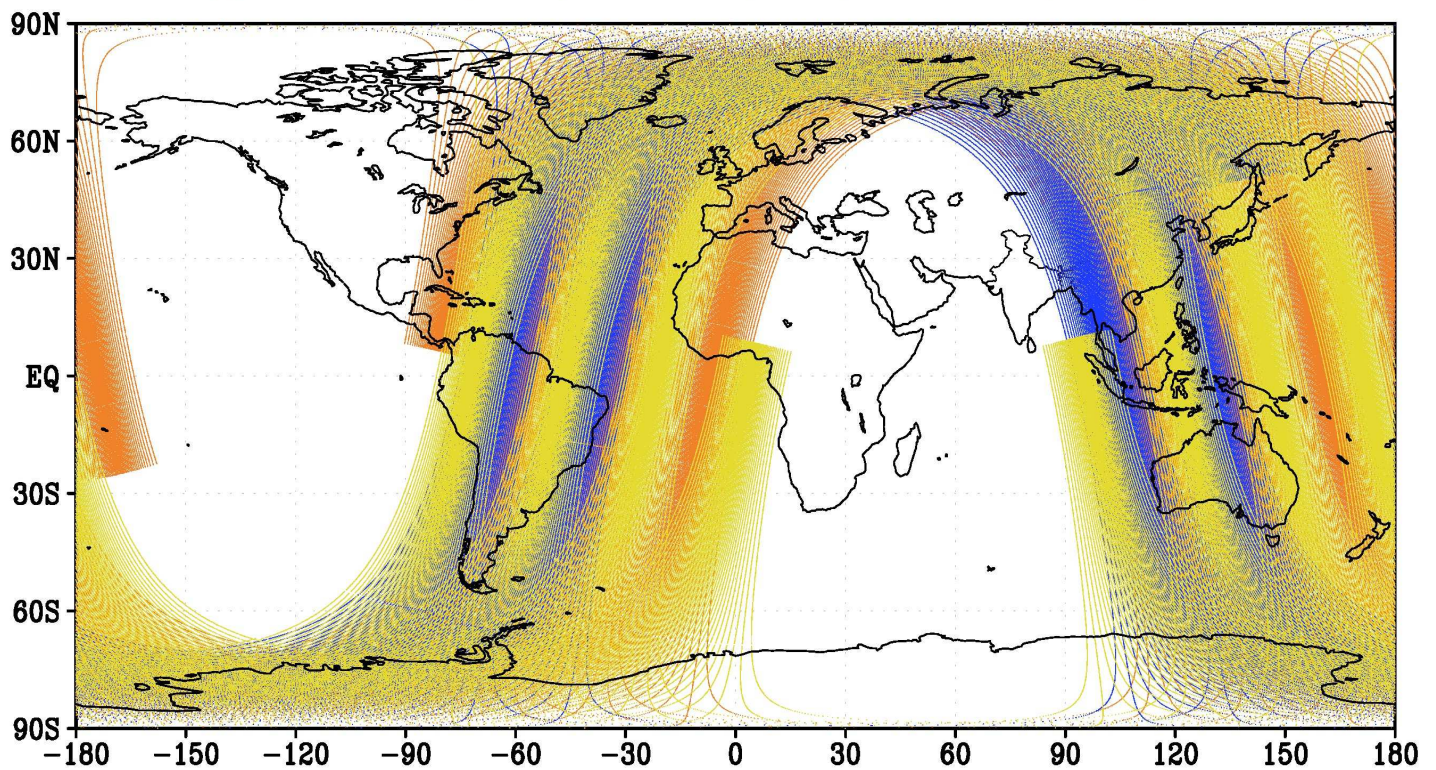
Total Number of Observations Received at NCMRWF: 1174207

SAPHIR(0)

NOAA19(444670)

METOP-B(729537)

METOP-C(715525)





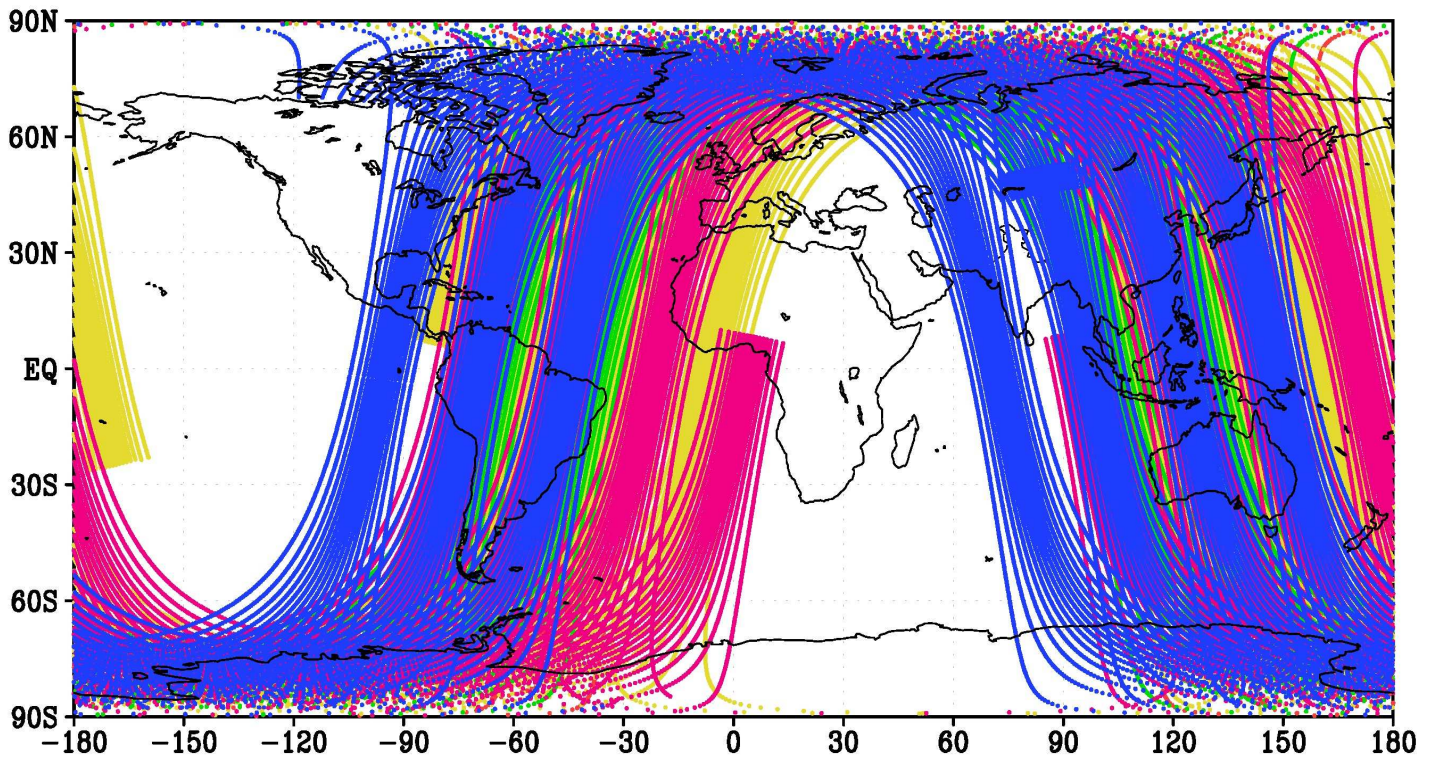
NCMRWF OBSERVATIONS MONITORING

U_CYC

Data Coverage: AMSUA (14102024 1200UTC +/- 03Hrs)

Total Number of Observations Received at NCMRWF: 332059

NOAA15(82948) NOAA18(37202) NOAA19(49560) METOP-B(81172) METOP-C(81177)





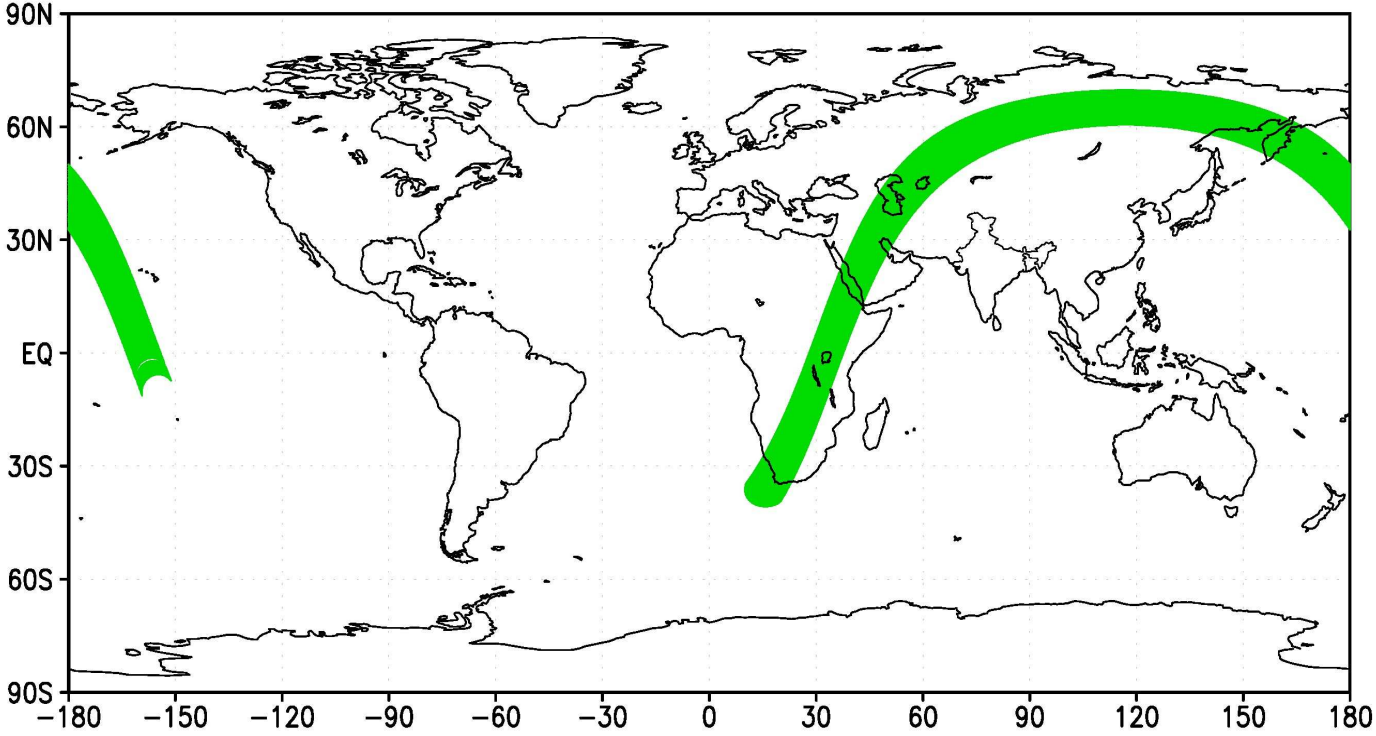
NCMRWF OBSERVATIONS MONITORING

U_CYC

Data Coverage: GPM-GMI (14102024 1200UTC +/- 03Hrs)

Total Number of Observations Received at NCMRWF: 424320

GPM(424320)





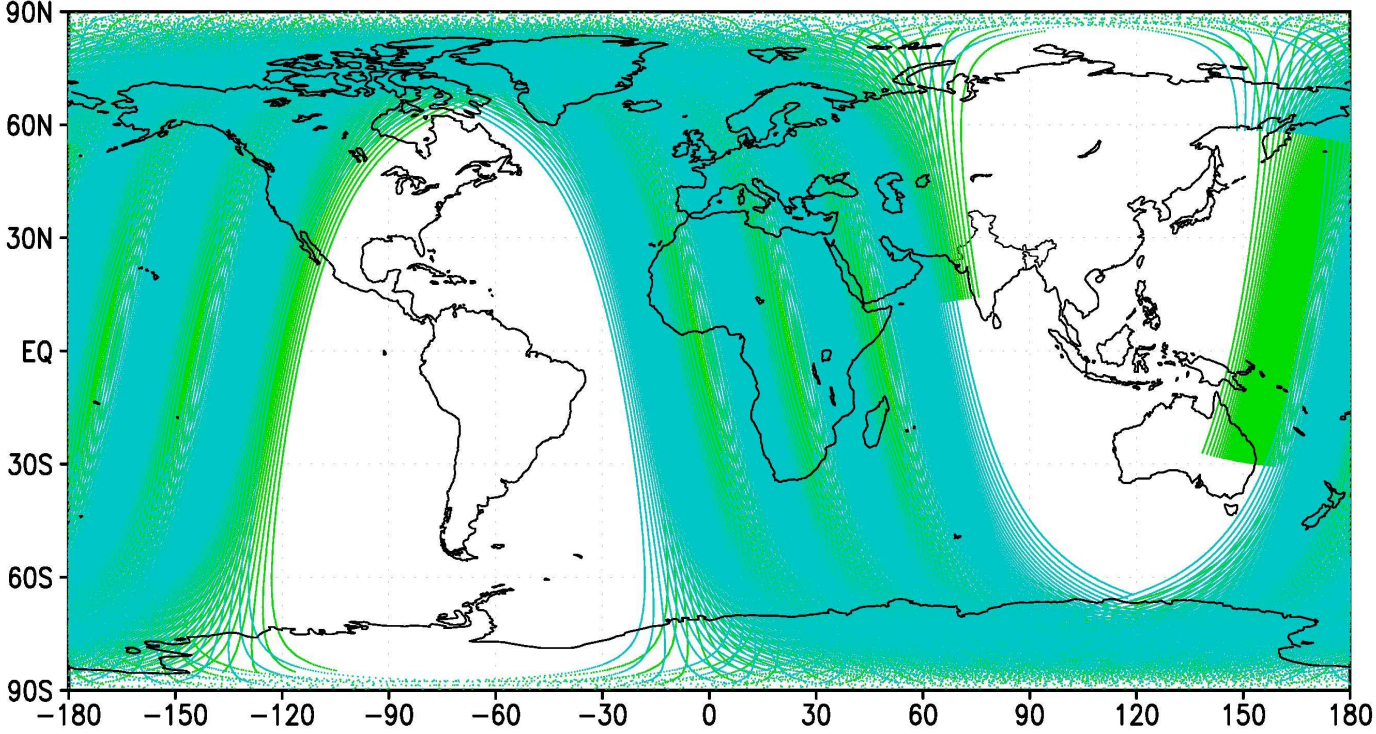
NCMRWF OBSERVATIONS MONITORING

U_CYC

Data Coverage: ATMS (14102024 1200UTC +/- 03Hrs)

Total Number of Observations Received at NCMRWF: 1538946

NOAA-20(777600) NPP(761346)





NCMRWF OBSERVATIONS MONITORING

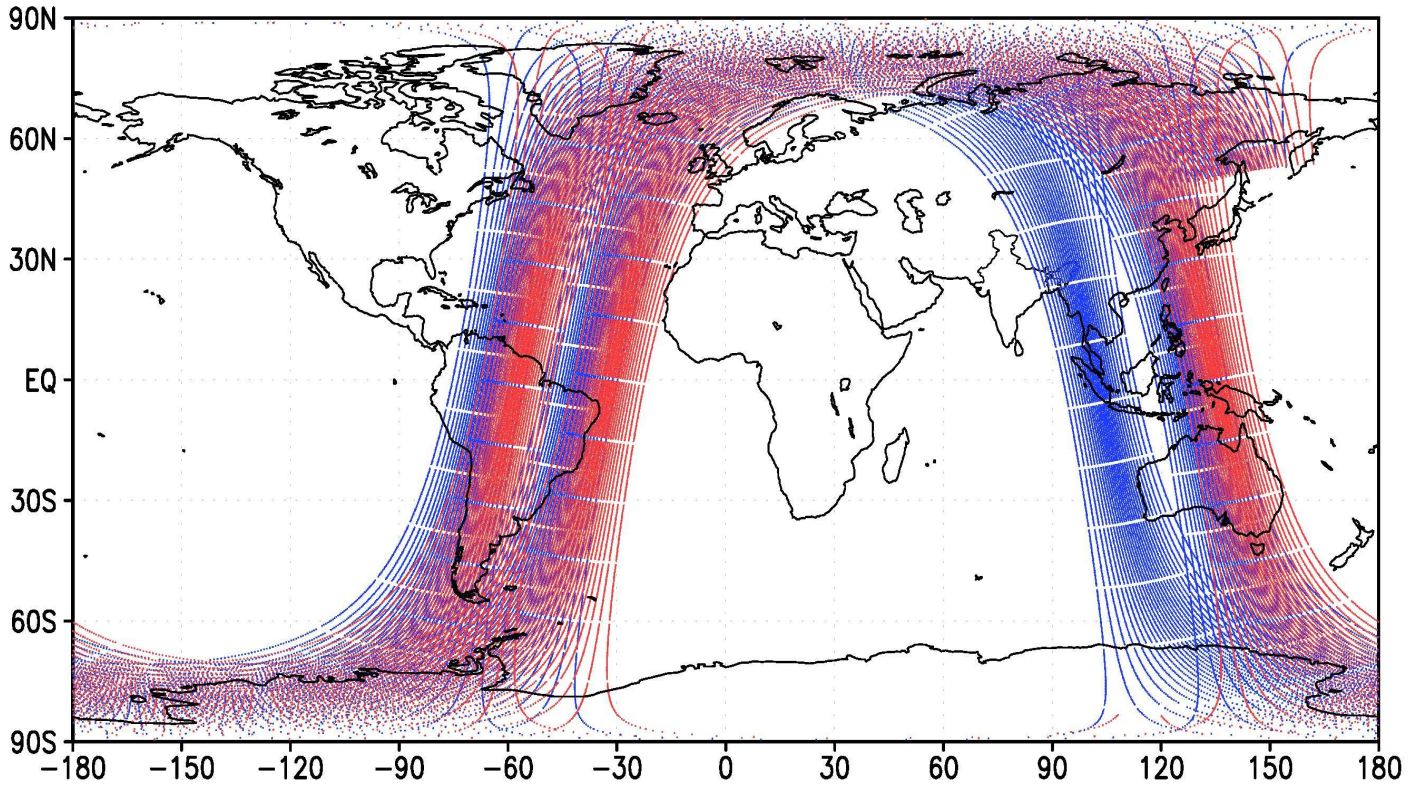
U_CYC

Data Coverage: HIRS (14102024 1200UTC +/- 03Hrs)

Total Number of Observations Received at NCMRWF: 192512

NOAA18(82435)

NOAA19(110077)





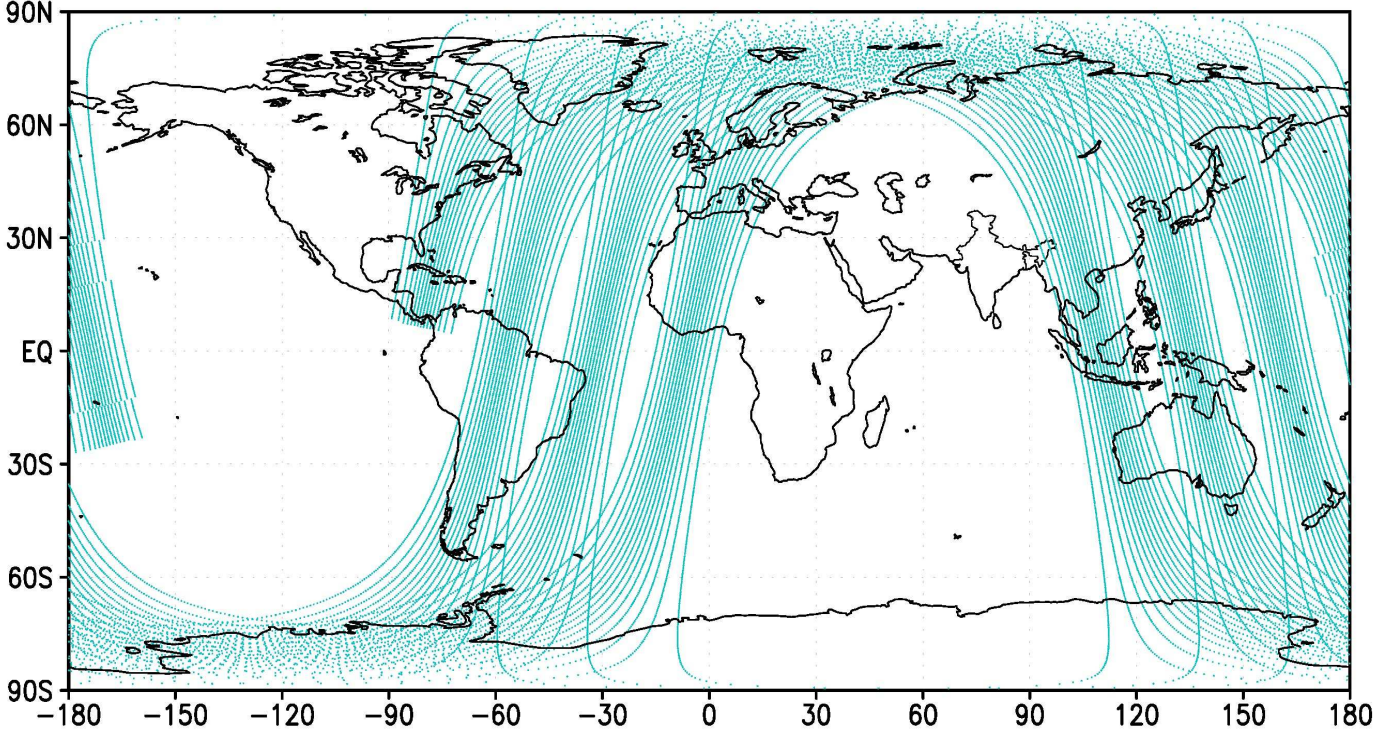
NCMRWF OBSERVATIONS MONITORING

U_CYC

Data Coverage: IASI (14102024 1200UTC +/- 03Hrs)

Total Number of Observations Received at NCMRWF: 81000

METOP-C(81000) METOP-B(0)





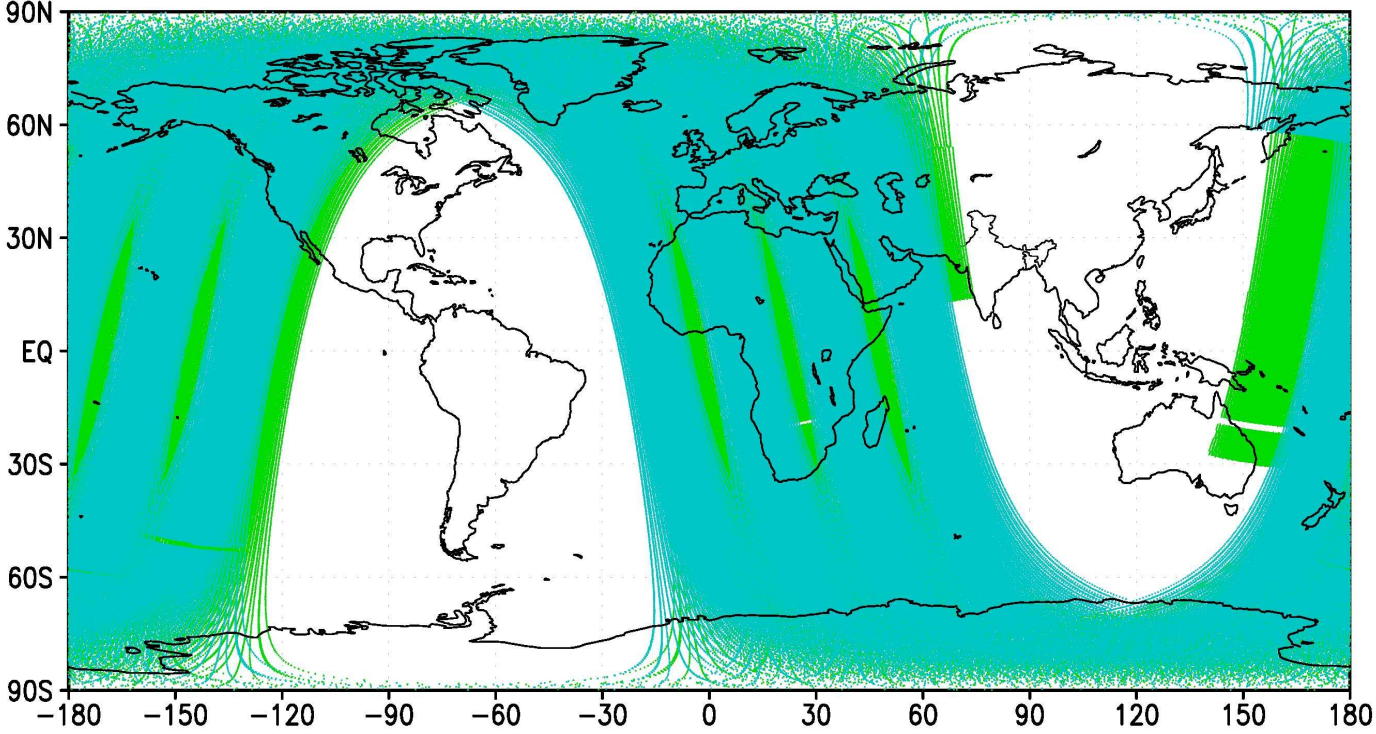
NCMRWF OBSERVATIONS MONITORING

U_CYC

Data Coverage: CrIS (14102024 1200UTC +/- 03Hrs)

Total Number of Observations Received at NCMRWF: 1455418

NOAA-20(728018) NPP(727400)





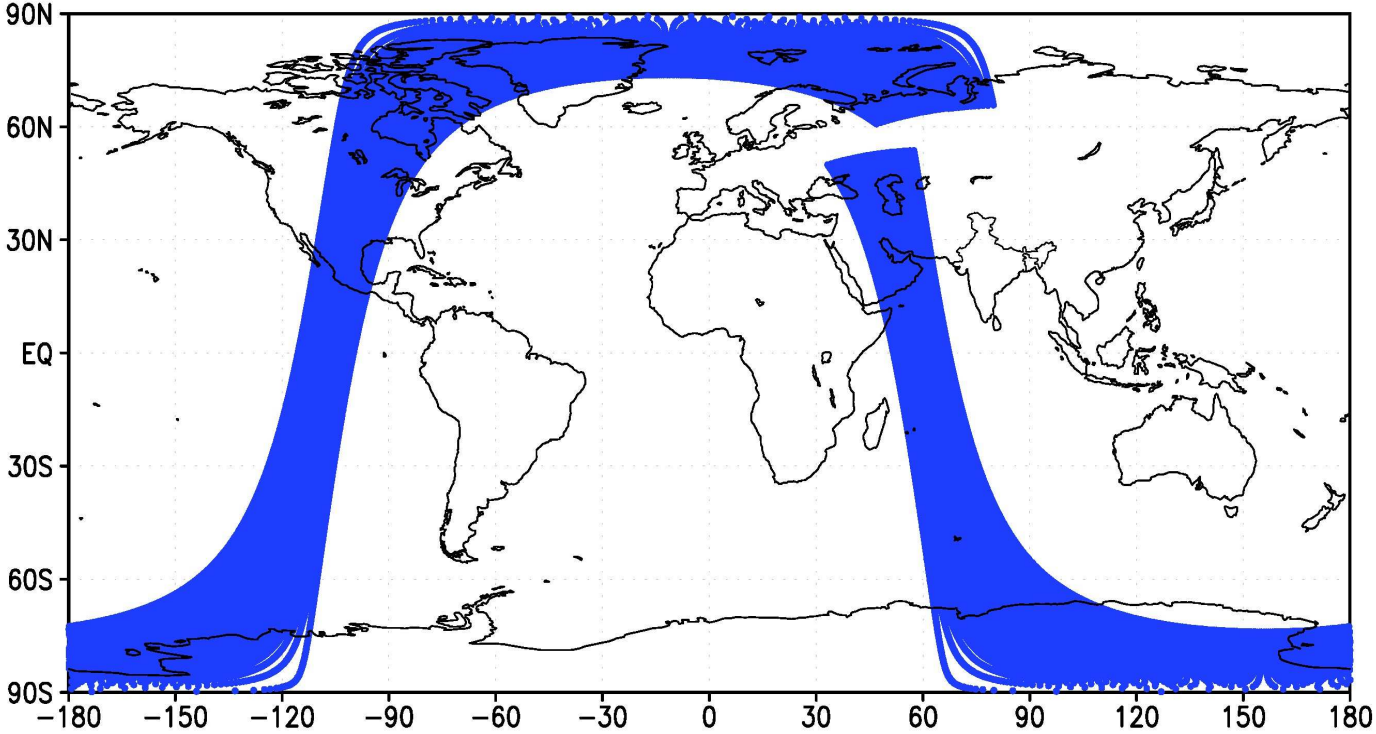
NCMRWF OBSERVATIONS MONITORING

U_CYC

Data Coverage: AIRS (14102024 1200UTC +/- 03Hrs)

Total Number of Observations Received at NCMRWF(UM): 193079

AQUA(193079)





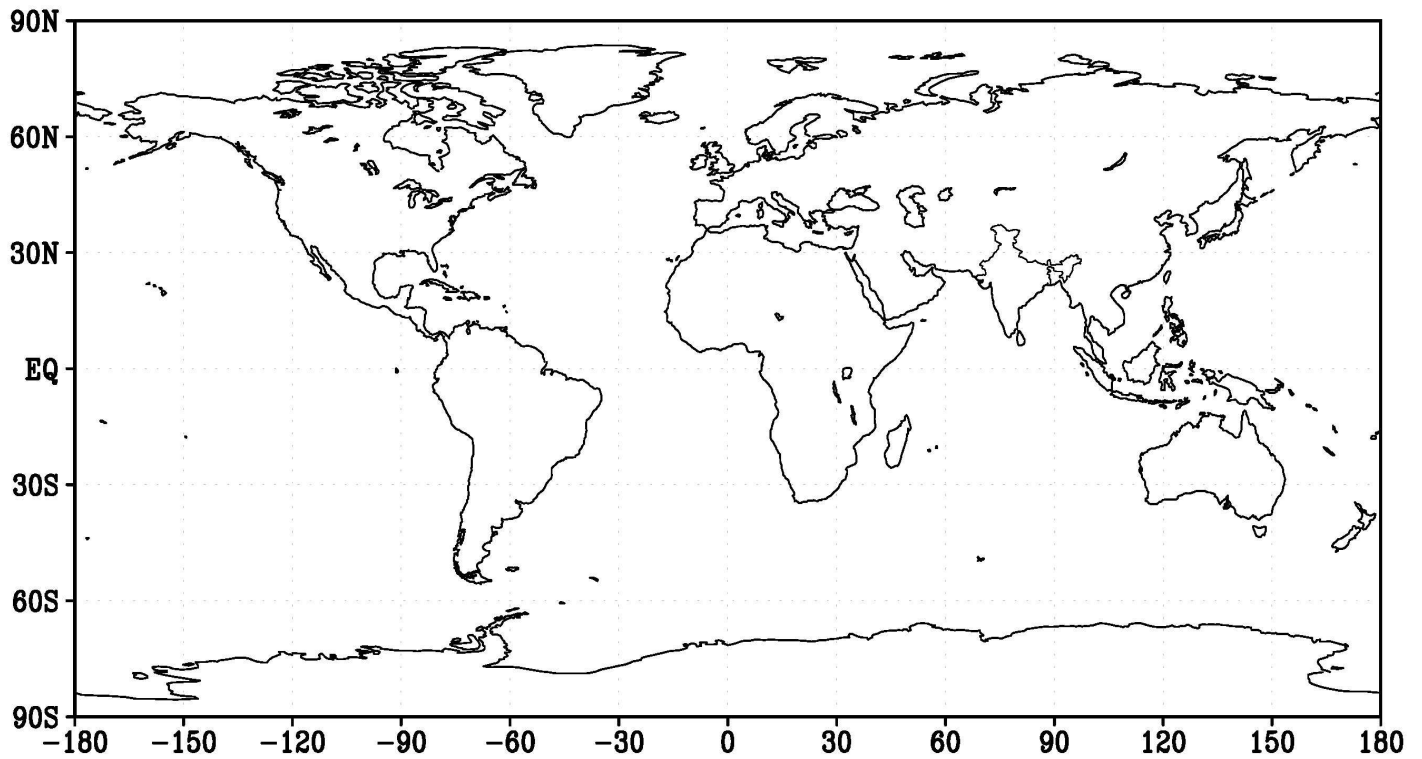
NCMRWF OBSERVATIONS MONITORING

U_CYC

Data Coverage: UV radiances (14102024 1200UTC +/- 03Hrs)

Total Number of Observations Received at NCMRWF: 0

SBUV-NOAA19(0)





NCMRWF OBSERVATIONS MONITORING

U_CYC

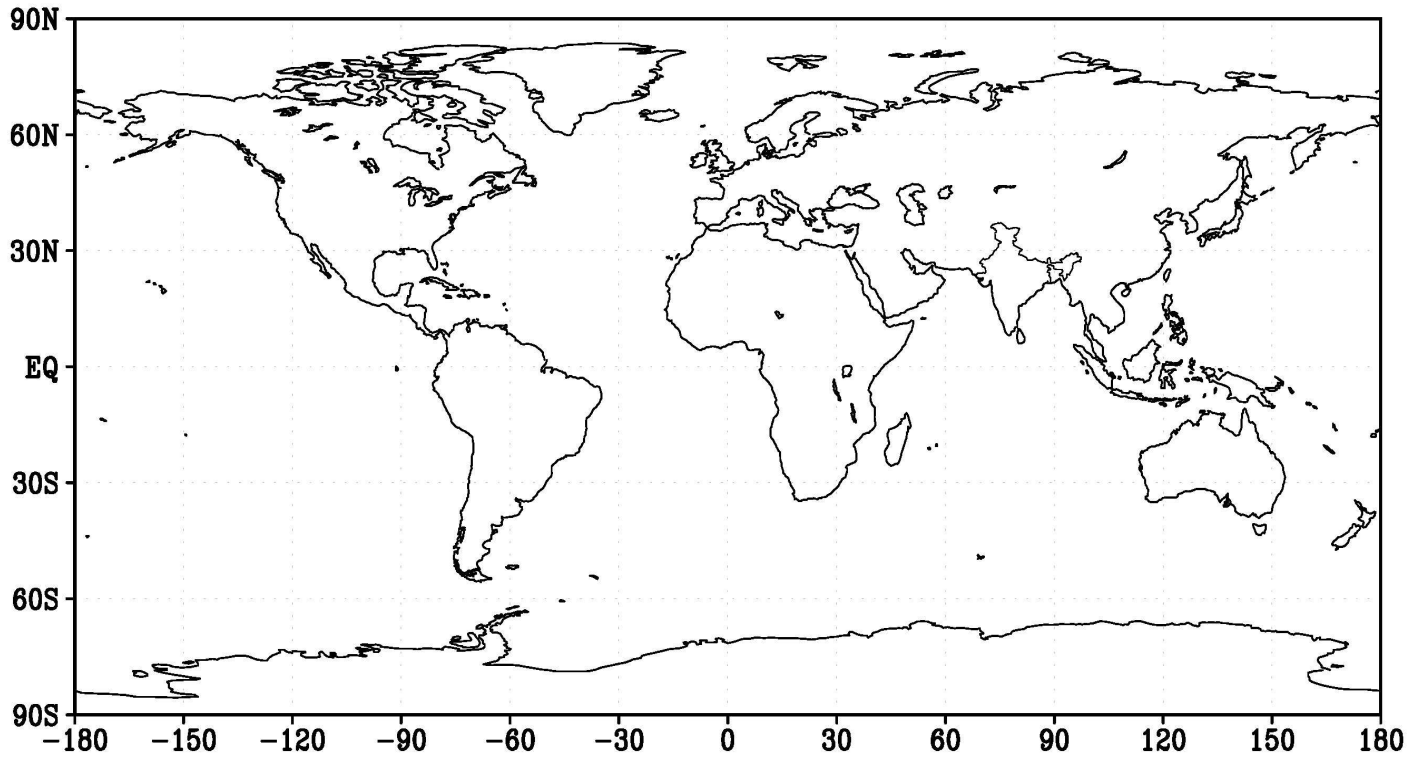
Data Coverage: AVHRR NCEP-BT (14102024 1200UTC +/- 03Hrs)

Total Number of Observations Received at NCMRWF: 0

NOAA18(0)

METOP-B(0)

METOP-C(0)





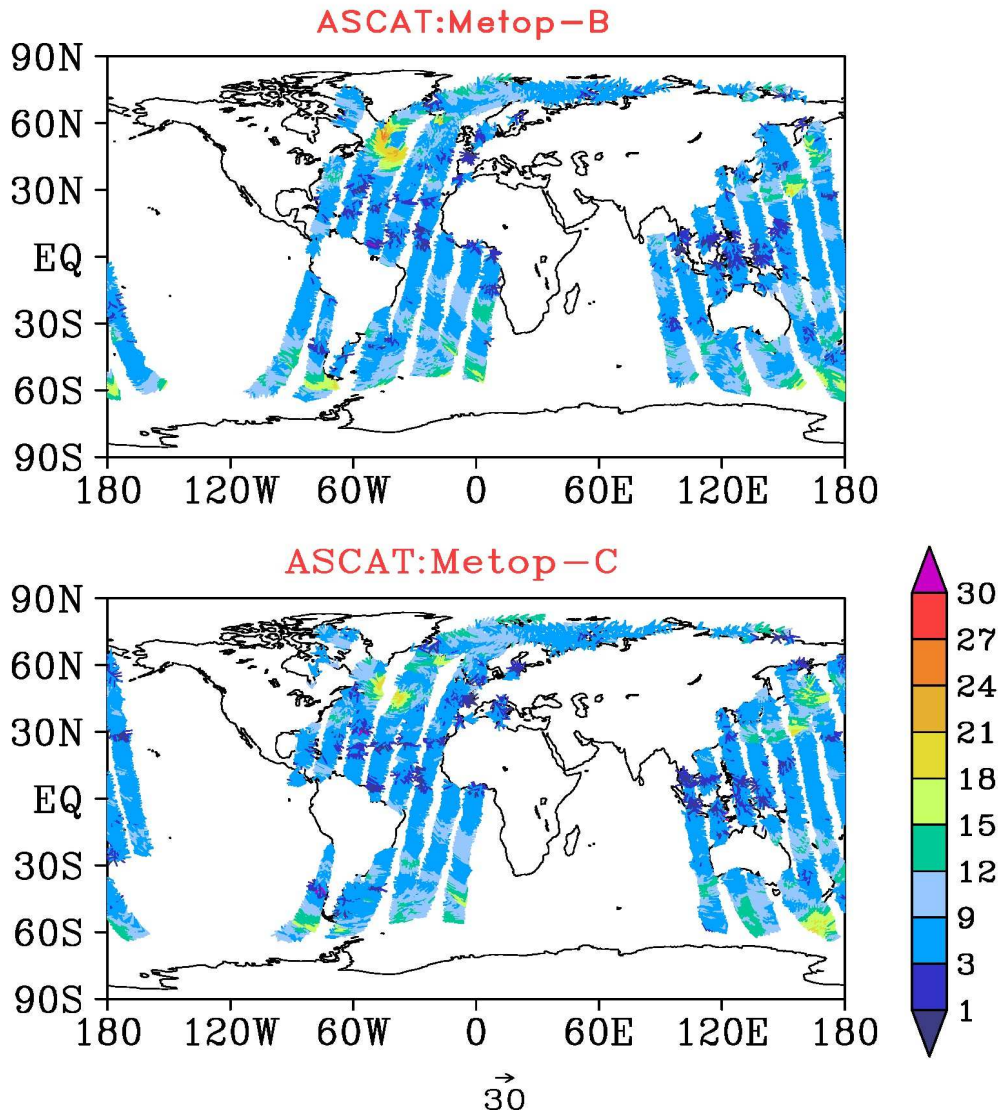
SCATTEROMETER WIND VECTORS

RECEIVED AT NCMRWF (20241014 12Z)



NCMRWF OBSERVATIONS MONITORING

SCATTEROMETER SURFACE WINDS (14102024 1200UTC +/- 03Hrs)

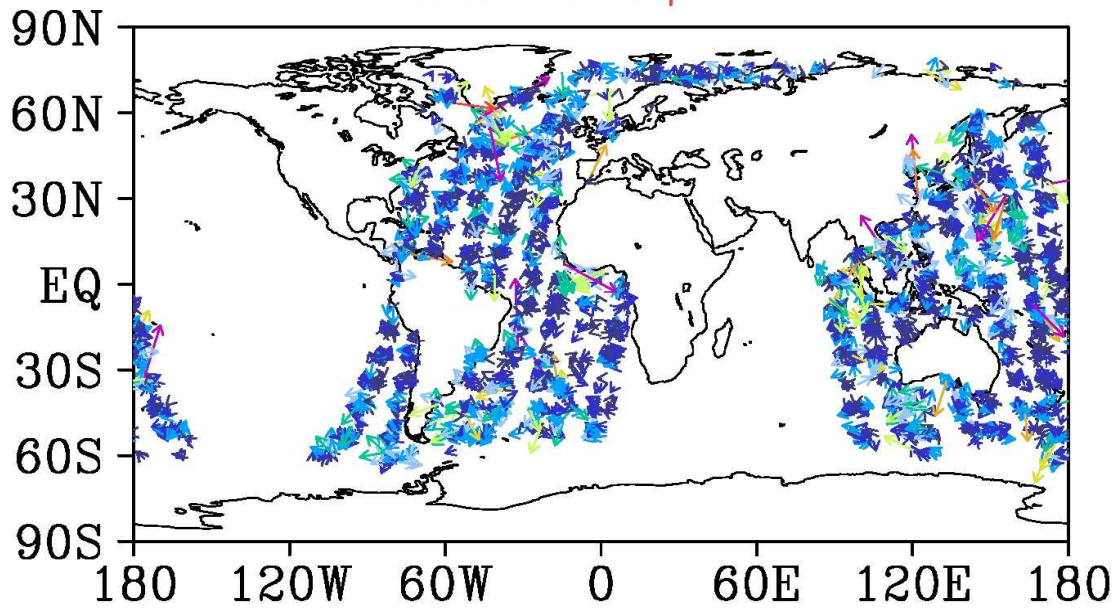




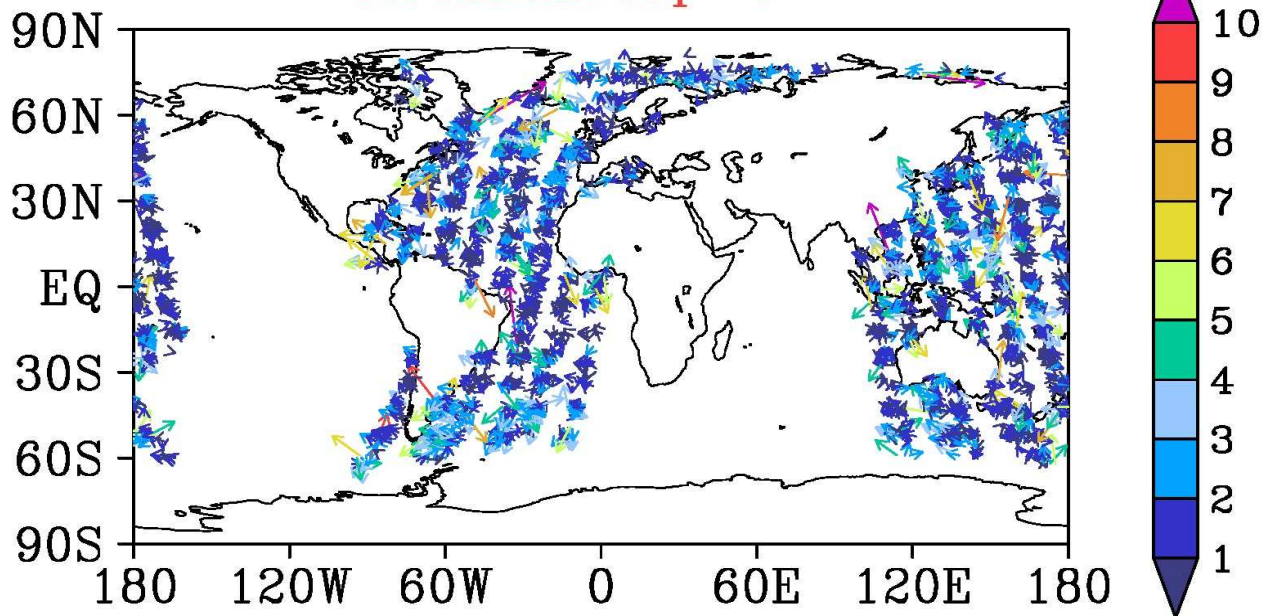
NCMRWF OBSERVATIONS MONITORING

OBSERVATION—FIRST GUESS (14102024 12 UTC):NCMRWF

ASCAT:Metop-B



ASCAT:Metop-C





ATMOSPHERIC MOTION VECTORS (AMVs)

INFRARED (IR) WINDS

WATER VAPOUR (WV) WINDS

VISIBLE (VIS) WINDS

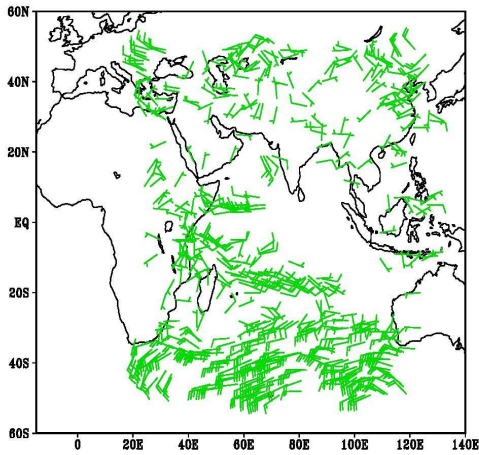
AMV DEVIATION
(OBSERVATION – FIRST GUESS)



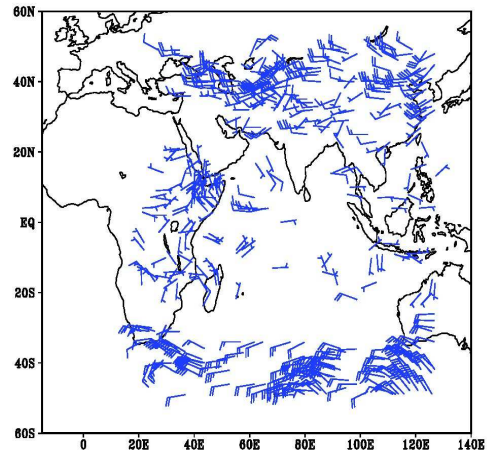
NCMRWF OBSERVATIONS MONITORING

INSAT-3DR ATMOSPHERIC MOTION VECTORS (IR,10.8) (14102024 1200UTC)

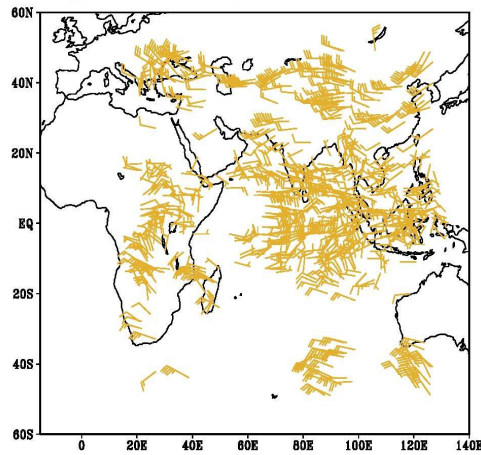
Low Level (Below 700 hPa)



Mid Level (700 - 401 hPa)



High Level (Above 400 hPa)

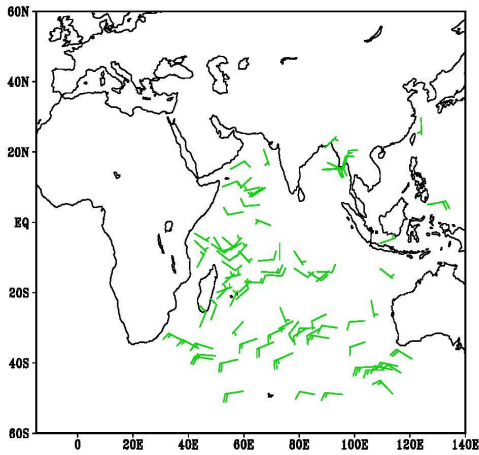




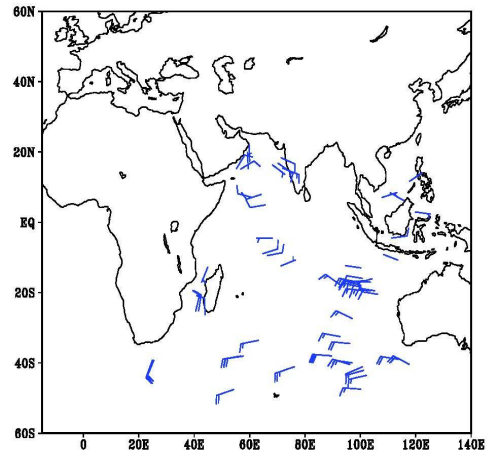
NCMRWF OBSERVATIONS MONITORING

INSAT-3DR ATMOSPHERIC MOTION VECTORS (IR,3.8) (14102024 1200UTC)

Low Level (Below 700 hPa)



Mid Level (700 - 401 hPa)

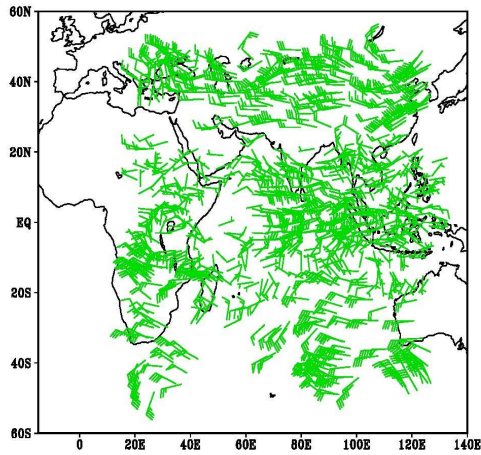




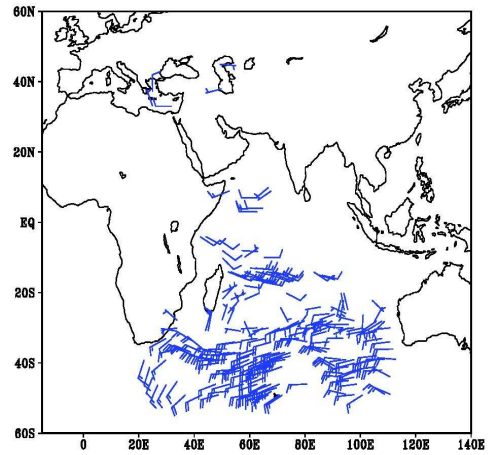
NCMRWF OBSERVATIONS MONITORING

INSAT-3DR ATMOSPHERIC MOTION VECTORS (WV & VIS) (14102024 1200UTC)

WV, High Level (Above 400 hPa)



VIS, Low Level (Below 700 hPa)

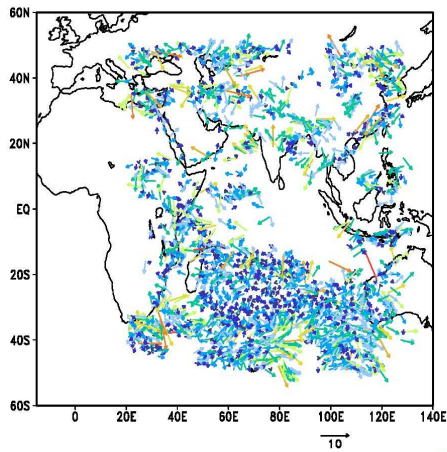




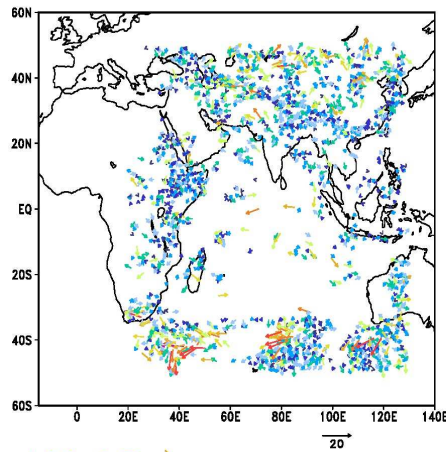
NCMRWF OBSERVATIONS MONITORING

INSAT-3DR ATMOSPHERIC MOTION VECTORS (IR,10.8) DEVIATION (14102024 1200UTC)

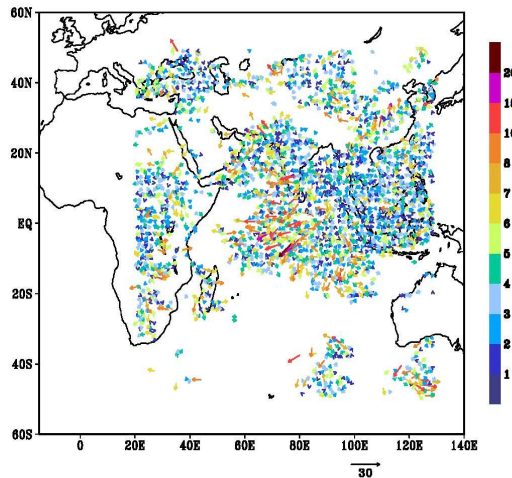
Low Level (Below 700 hPa)



Mid Level (700 - 401 hPa)



High Level (Above 400 hPa)

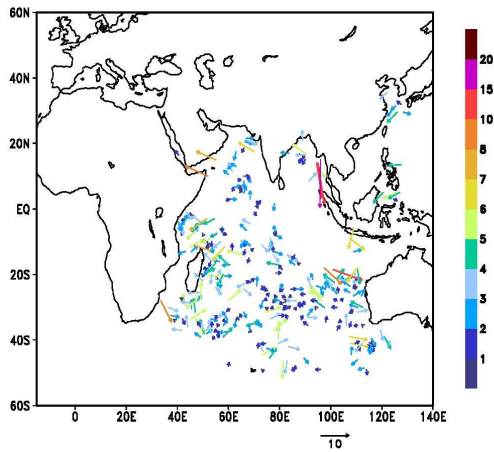




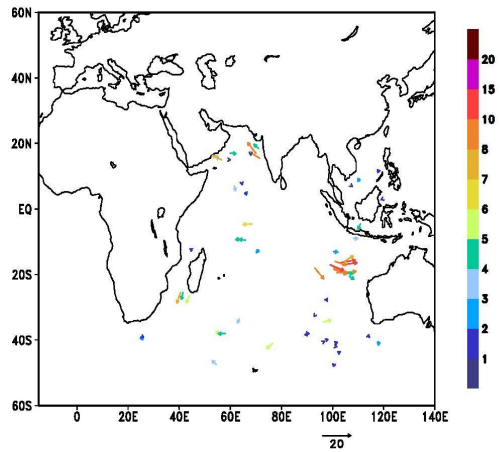
NCMRWF OBSERVATIONS MONITORING

INSAT-3DR ATMOSPHERIC MOTION VECTORS (IR,3.8) DEVIATION (14102024 1200UTC)

Low Level (Below 700 hPa)



Mid Level (700 - 401 hPa)

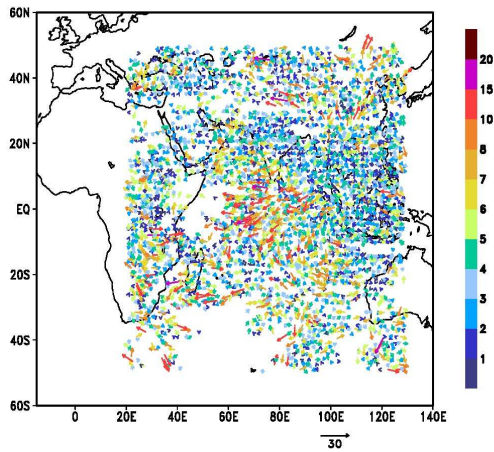




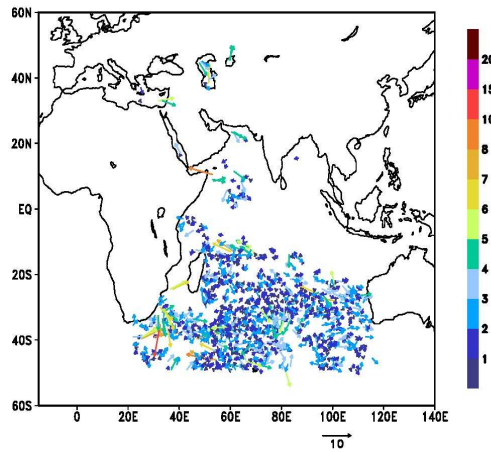
NCMRWF OBSERVATIONS MONITORING

INSAT-3DR ATMOSPHERIC MOTION VECTORS (WV & VIS) DEVIATION (14102024 1200UTC)

WV, High Level (Above 400 hPa)



VIS, Low level (Below 700 hPa)

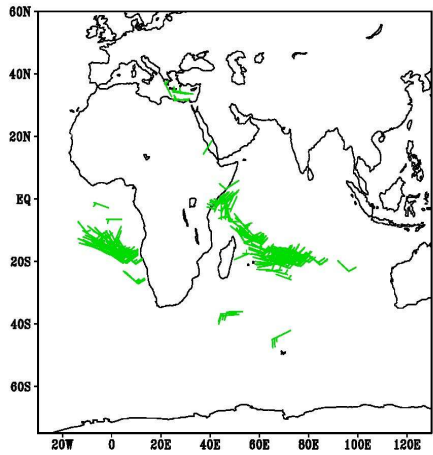




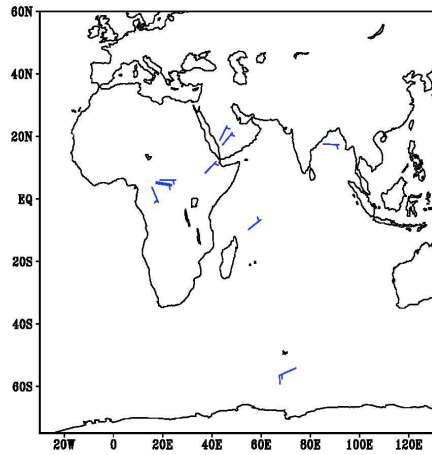
NCMRWF OBSERVATIONS MONITORING

METEOSAT-9 ATMOSPHERIC MOTION VECTORS (IR)(14102024 1200UTC)

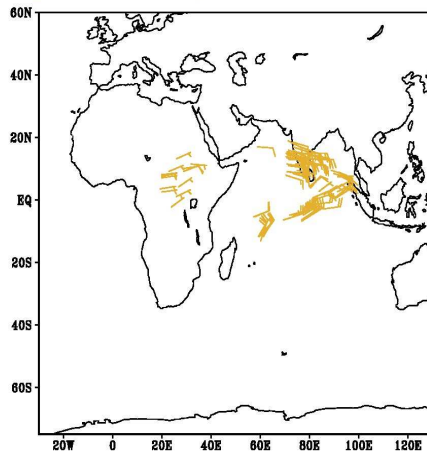
Low level (Below 700 hPa)



Mid Level (700 - 401 hPa)



High Level (Above 400 hPa)

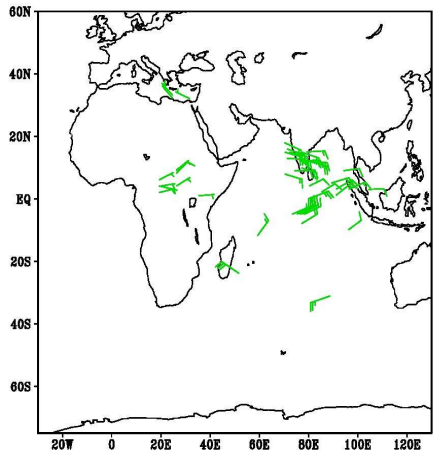




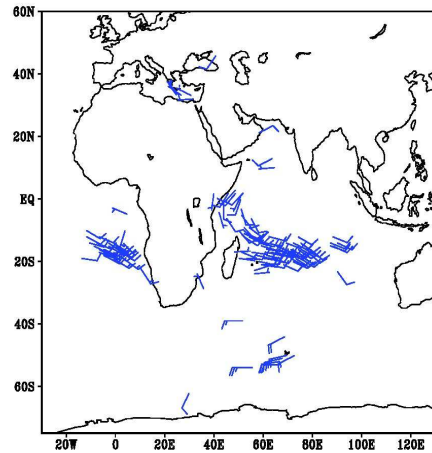
NCMRWF OBSERVATIONS MONITORING

METEOSAT-9 ATMOSPHERIC MOTION VECTORS (WV & VIS)(14102024 1200UTC)

WV, High Level (Above 400 hPa)



VIS, Low Level (Below 700 hPa)

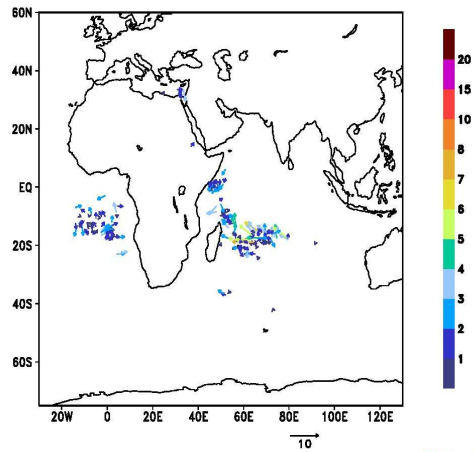




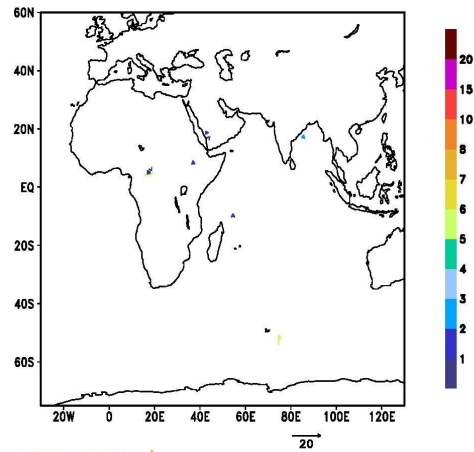
NCMRWF OBSERVATIONS MONITORING

METEOSAT-9 ATMOSPHERIC MOTION VECTORS (IR) DEVIATION (14102024 1200UTC)

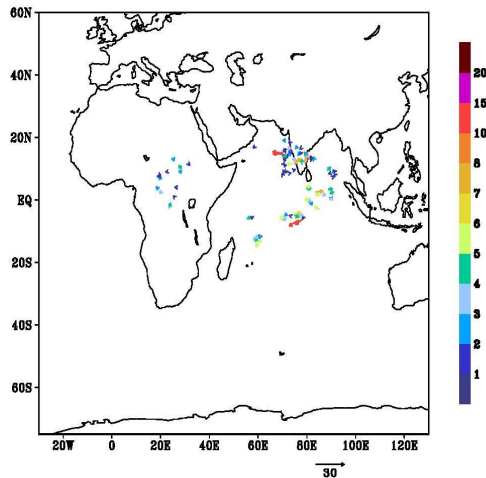
Low Level (Below 700 hPa)



Mid Level (700 – 401 hPa)



High Level (Above 400 hPa)

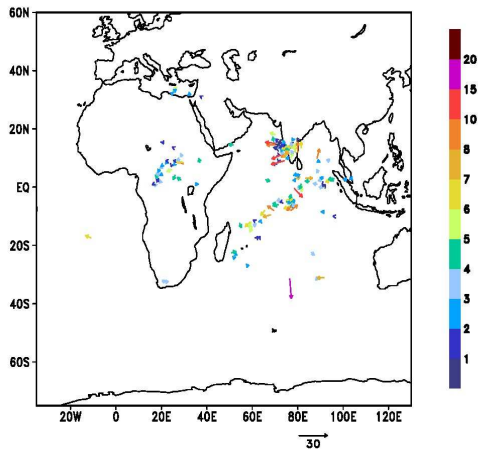




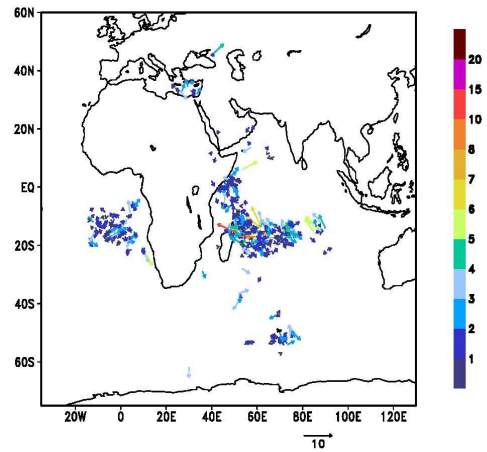
NCMRWF OBSERVATIONS MONITORING

METEOSAT-9 ATMOSPHERIC MOTION VECTORS(WV & VIS) DEVIATION (14102024 1200UTC)

WV, High Level (Above 400 hPa)



VIS, Low level (Below 700 hPa)



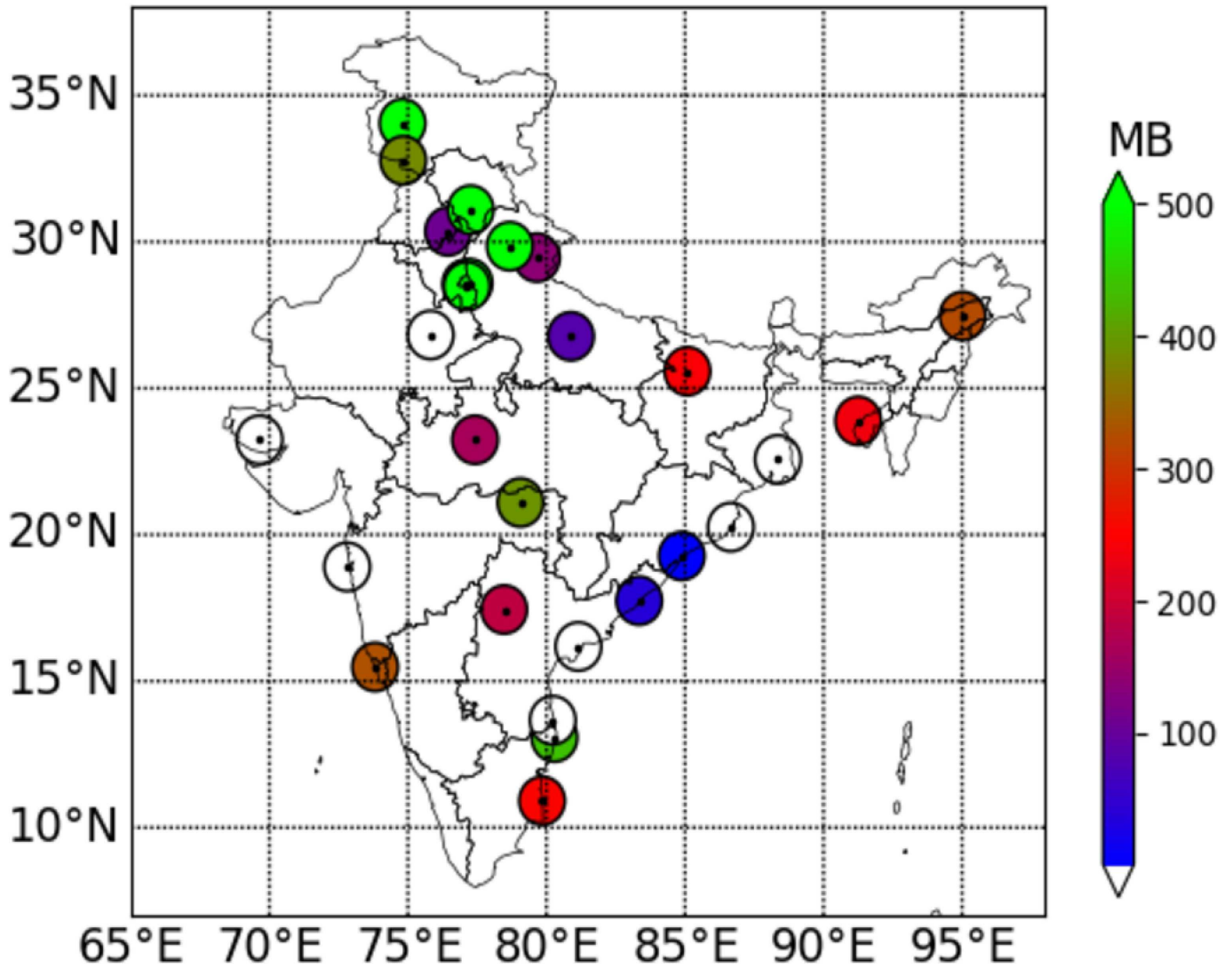


Indian Doppler Weather Radar Data Monitoring



NCMRWF OBSERVATIONS MONITORING

Volume of DWR observations received at NCMRWF
Date: 20241014 at : 12 UTC





Quality of Indian RS/RW Observations

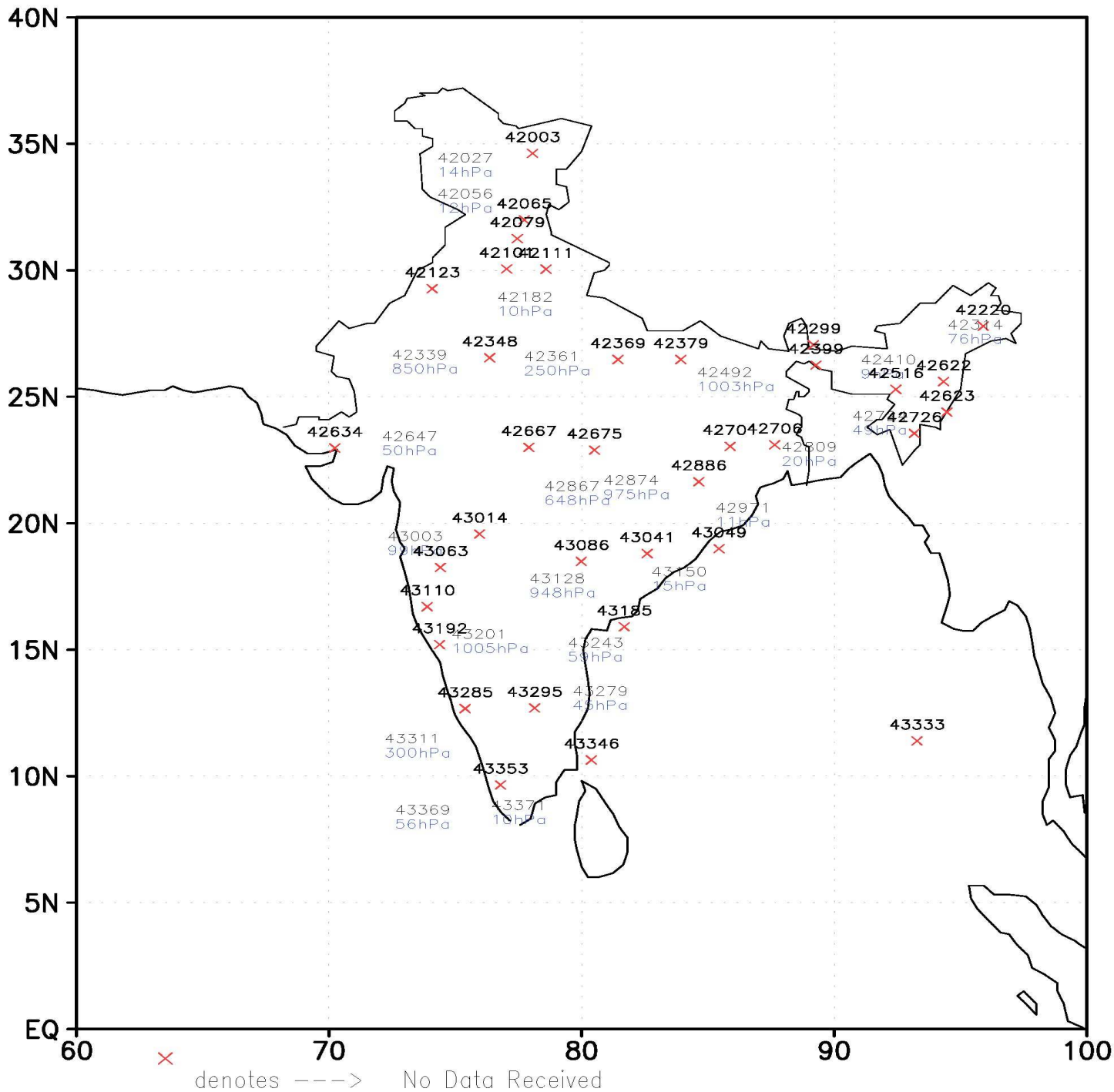
Maximum height reported
by RS/RW ascents

Temperature and Zonal Wind
Rejections by NGFS GDAS



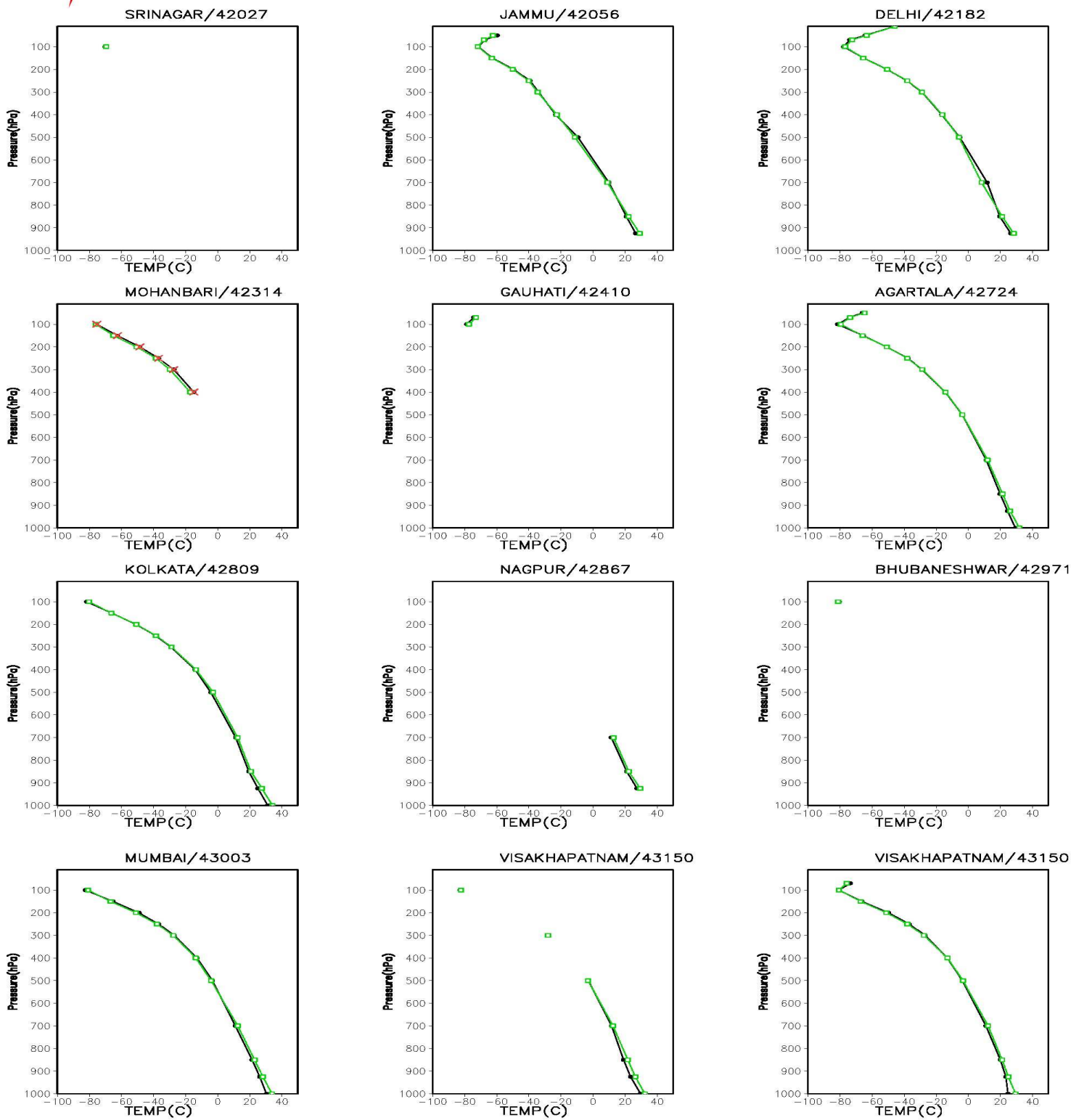
NCMRWF OBSERVATIONS MONITORING

Highest Level Reported by RS/RW (14102024 1200UTC +/- 03Hrs U_CYC)





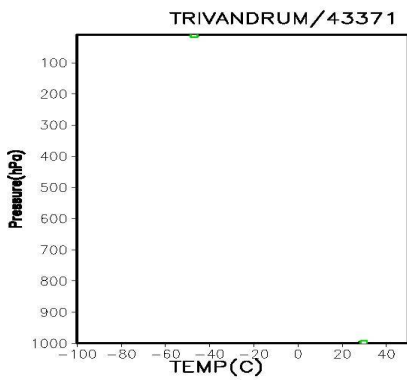
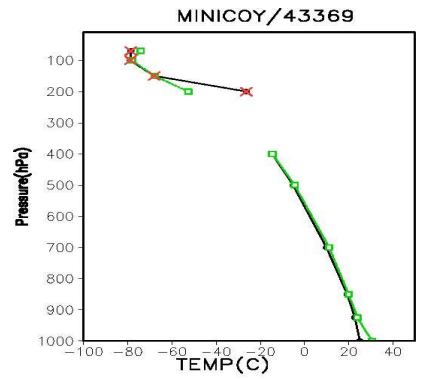
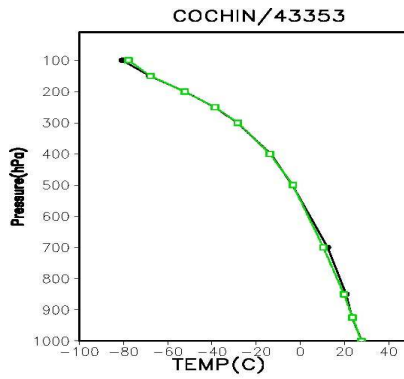
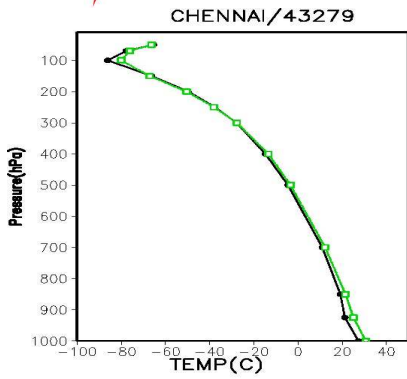
NCMRWF OBSERVATIONS MONITORING



Observed (—) and 1st-guess (—) Temperature (Deg C) for 12UTC 14102024
 × -- denotes the rejection of observation by NGFS GDAS
 (plotted for standard pressure levels only)



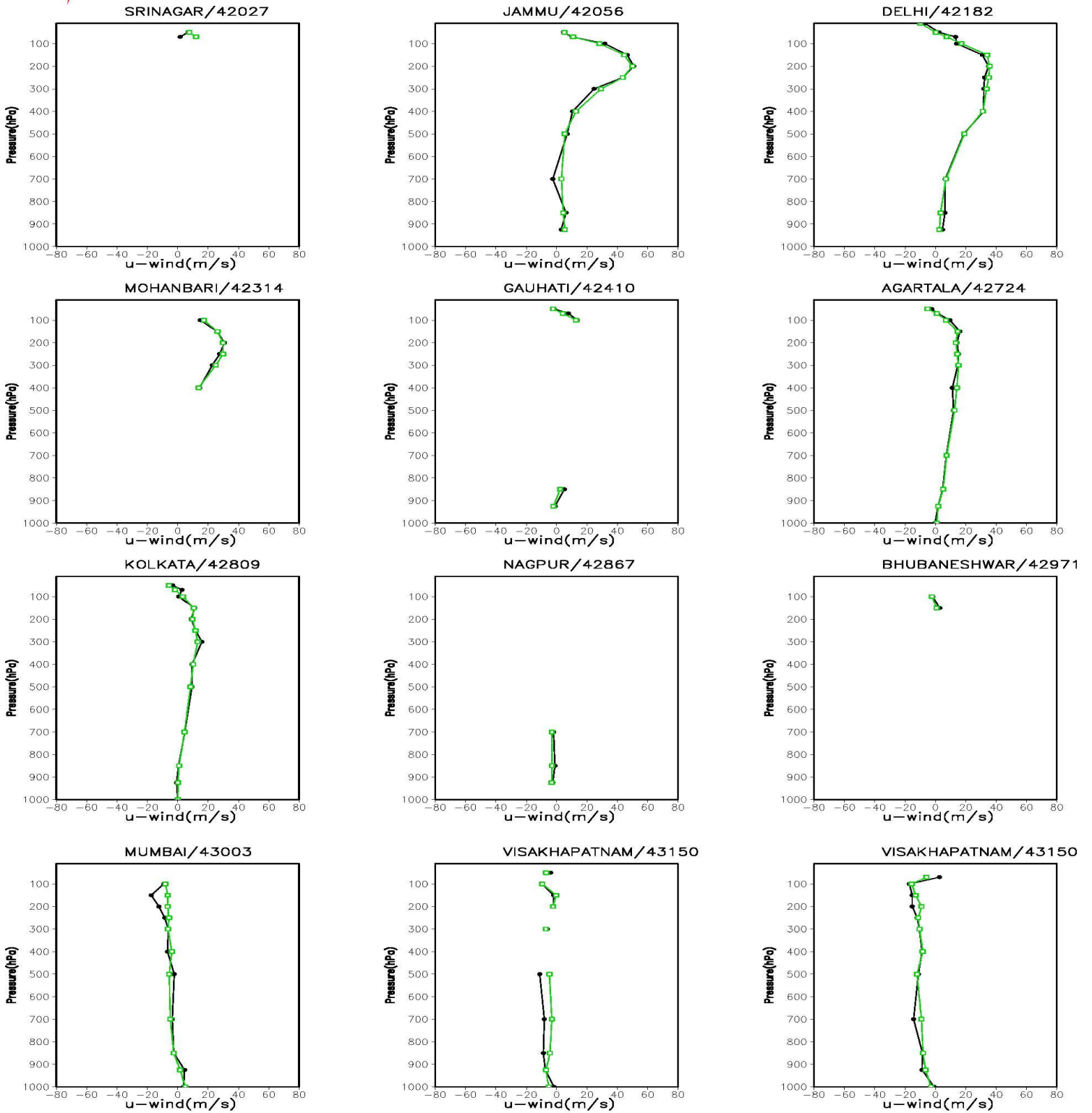
NCMRWF OBSERVATIONS MONITORING



Observed (—) and 1st-guess (—) Temperature (Deg C) for 12UTC 14102024
 × — denotes the rejection of observation by NGFS GDAS
 (plotted for standard pressure levels only)



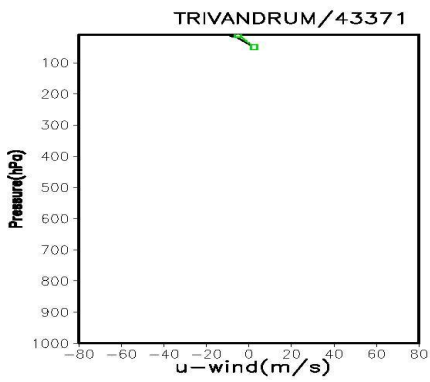
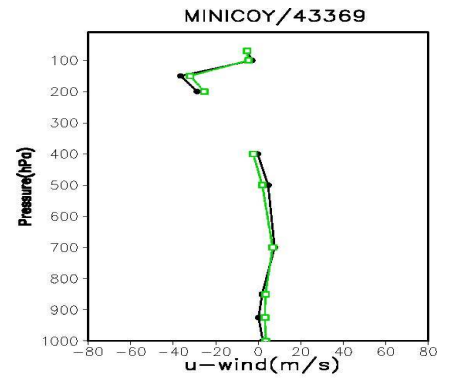
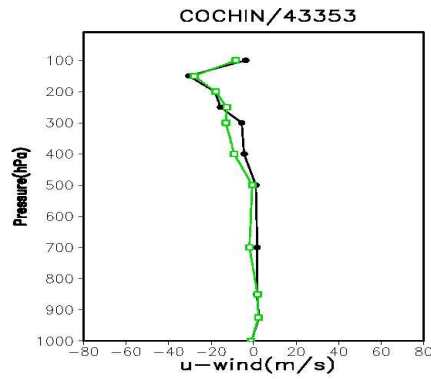
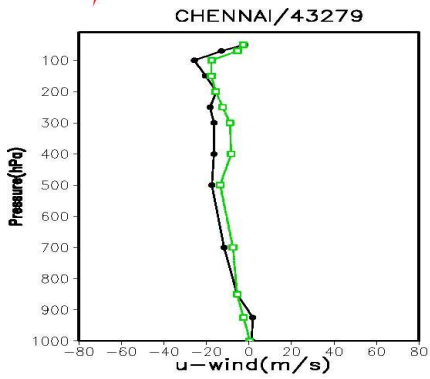
NCMRWF OBSERVATIONS MONITORING



Observed (—) and 1st-guess (—) Zonal wind (m/s) for 12UTC 14102024
 ✗ -- denotes the rejection of observation by NGFS GDAS
 (plotted for standard pressure levels only)



NCMRWF OBSERVATIONS MONITORING



Observed (—) and 1st-guess (- -) Zonal wind (m/s) for 12UTC 14102024
 × -- denotes the rejection of observation by NGFS GDAS
 (plotted for standard pressure levels only)