

# Monitoring and Assessment of AMV's from Multiple Platforms Using the Global Forecast System at NCMRWF

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## Objective:

- *For optimal use of resources and betterment of NWP model forecasts, assimilated dataset needs regular monitoring and evaluation.*
- *This presentation summarizes the assimilation of 'Atmospheric Wind Vector' (AMV) in GFS system at NCMRWF.*
- *This includes observation from both existing and new platforms.*
- *GSI-4dEnVar is used as the assimilation scheme with Global Forecast System (GFS) at NCMRWF.*

## AMV Platforms Assimilated on Routine Basis in GFS system at NCMRWF

Sl. No.	Platforms	Channel		
		Infrared	Water Vapour	Visible
1.	GOES – 16, 17 (USA)	✓	✓	✓
2.	INSAT – 3D, 3DR (INDIA)	✓	✓	✓
3.	HIMAWARI-8 (JAPAN)	✓	✓	✓
4.	METEOSAT – 8, 11 (EUMETSAT)	✓	✓	✓
5.	AVHRR (USA & EUMETSAT)	✓		
6.	MODIS (USA)	✓		✓
7.	VIIRS – NPP (USA)	✓		

## *New AMV platforms undergoing assessment and evaluation:*

- ❖ KMA (Korea Meteorological Administration) : GK-2
- ❖ CMA (China Meteorological Administration) : FY-3G & FY-3H
- ❖ METOP Dual



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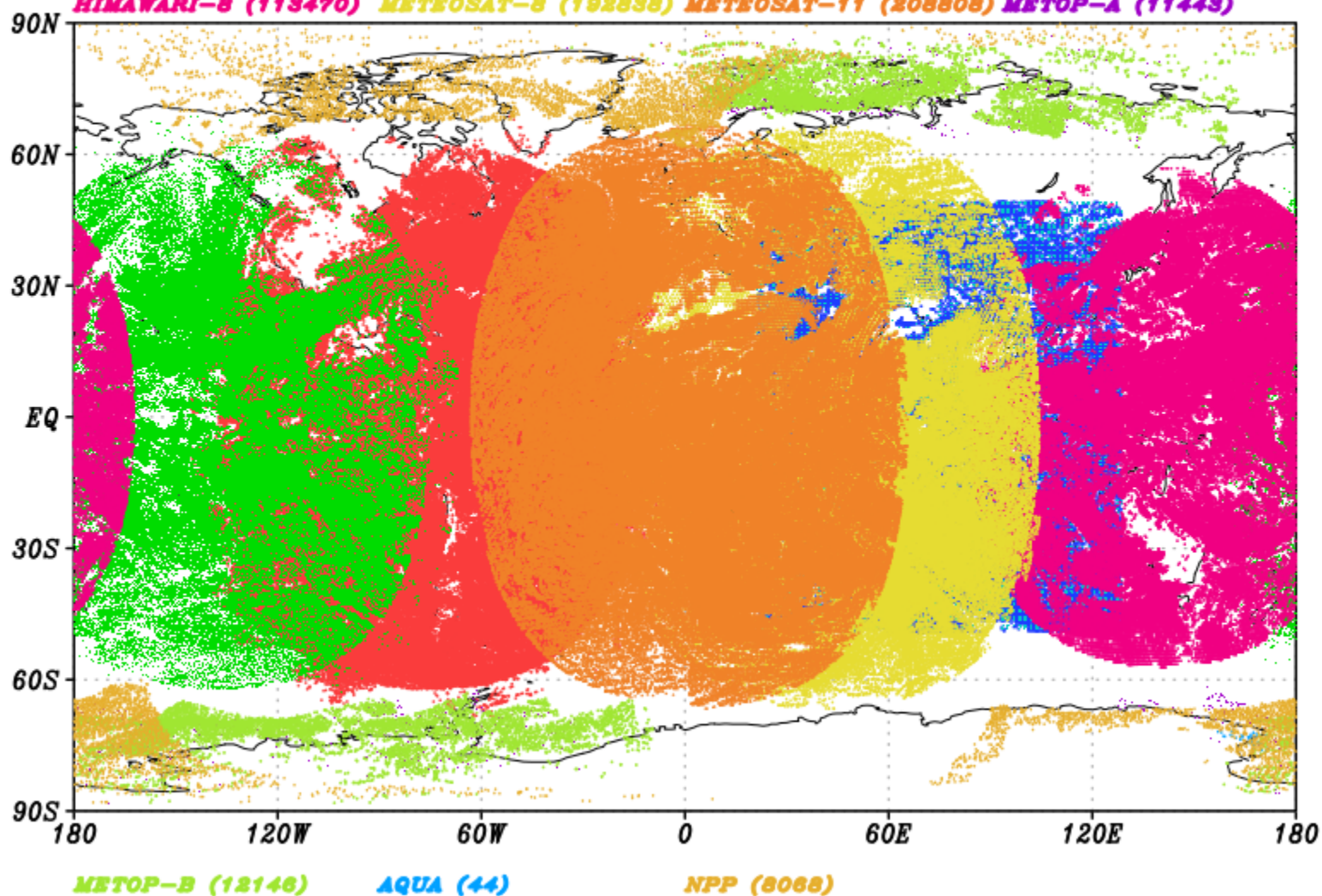


## AMV Global Coverage (Received at NCMRWF)

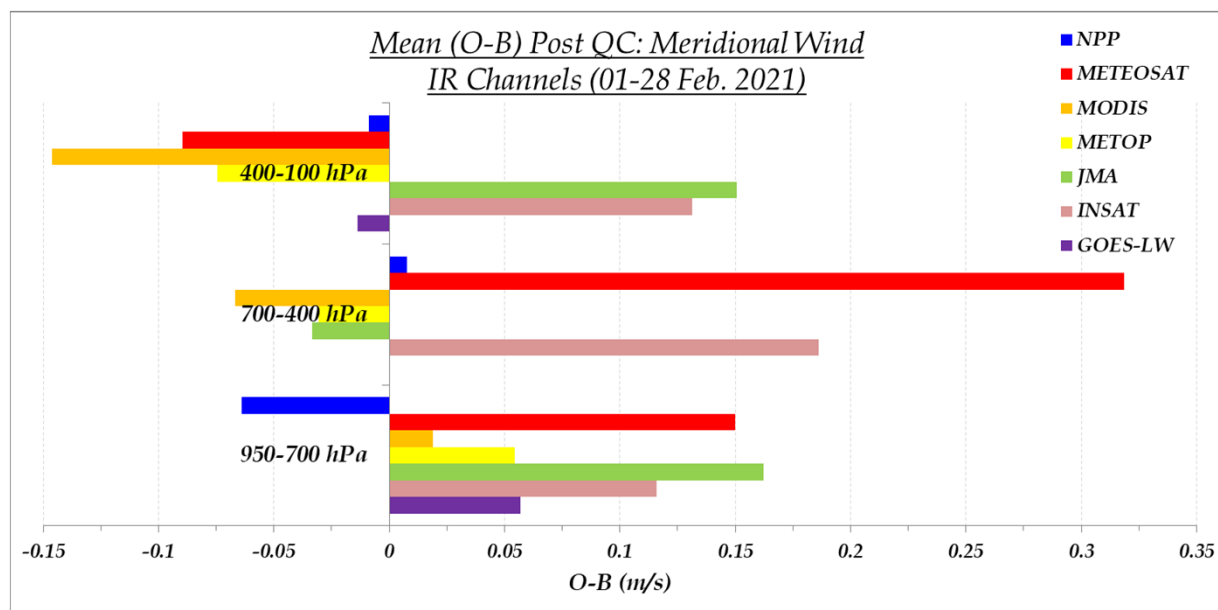
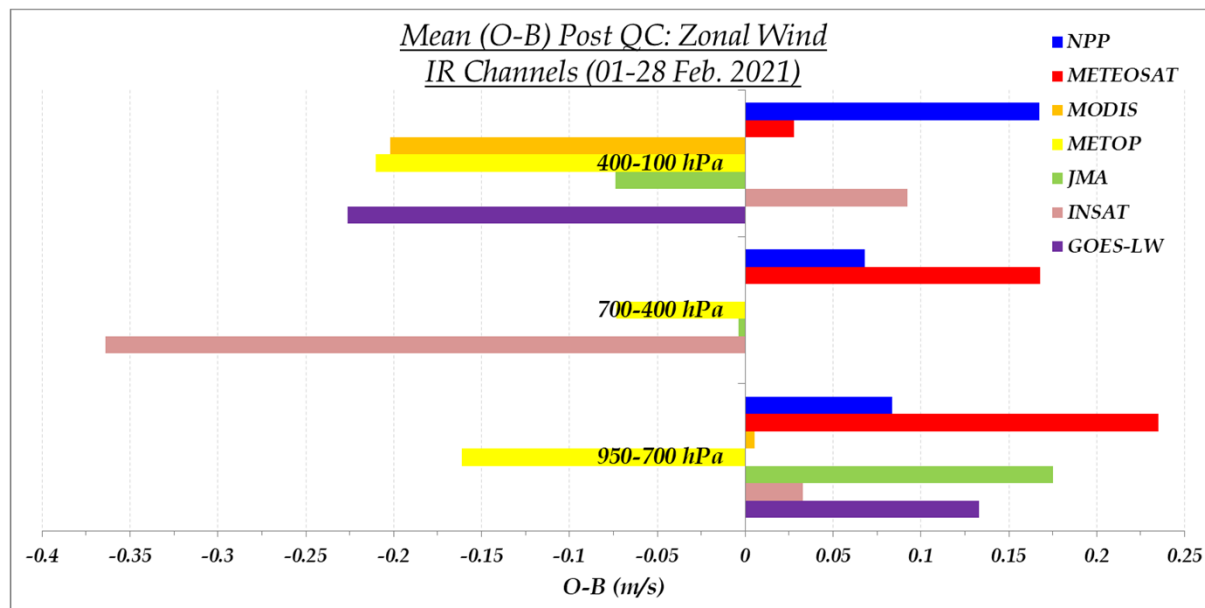
2021030112 (+/- 03hrs)

GOES-16 (912973) GOES-17 (443290) INSAT-3D (77718) INSAT-3DR (126721)

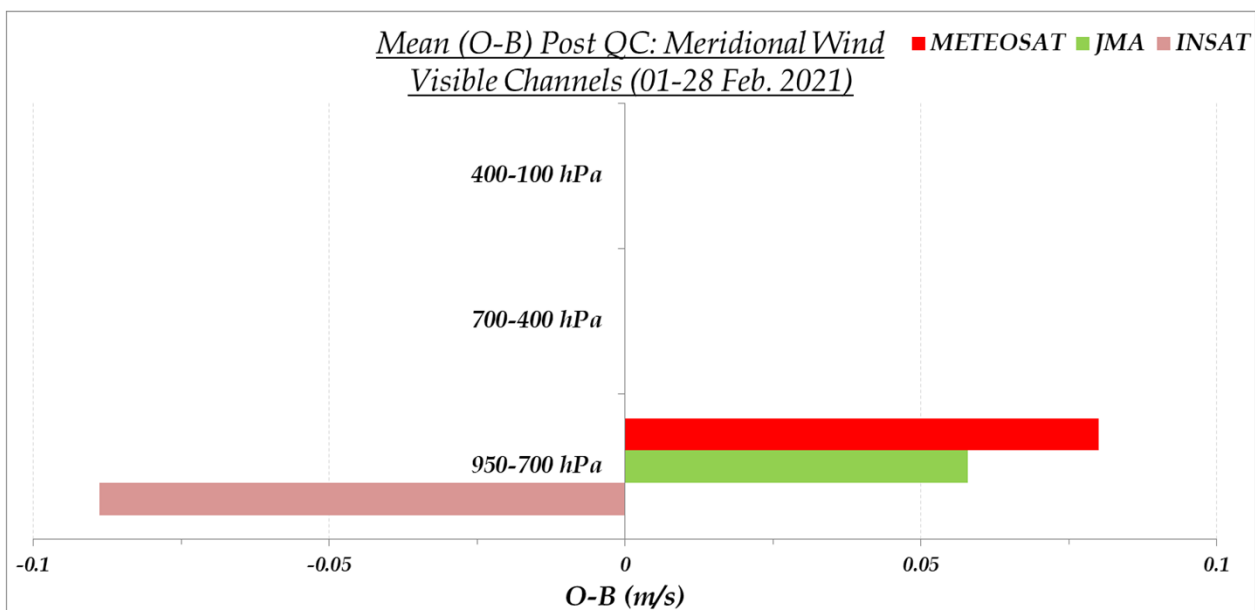
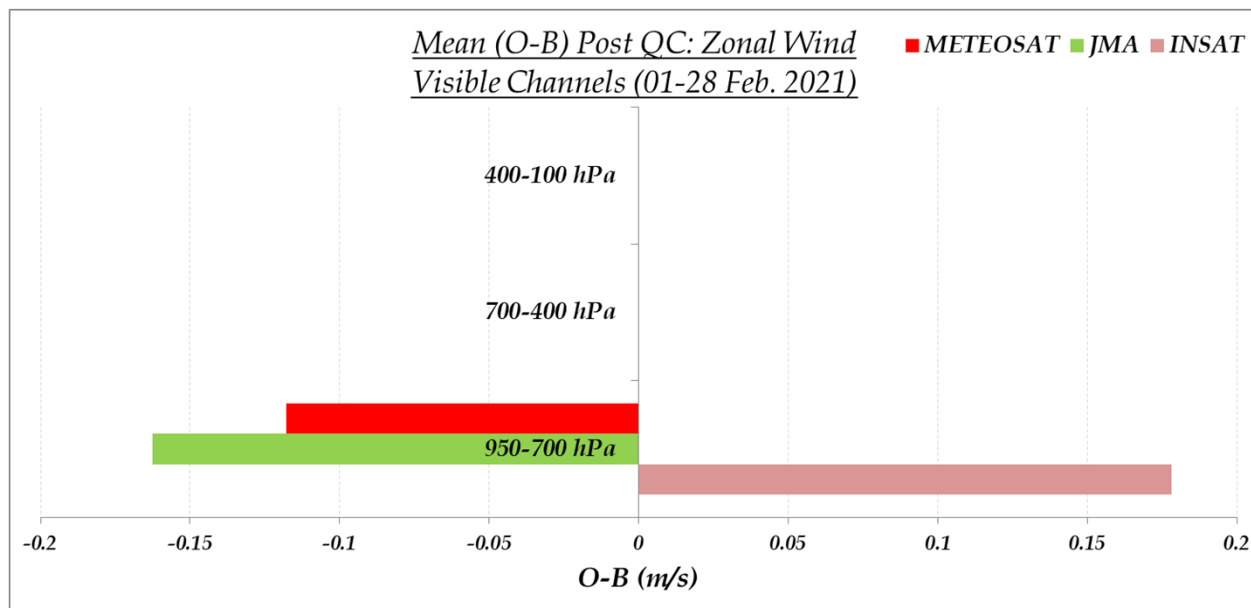
HIMAWARI-8 (113470) METEOSAT-8 (192838) METEOSAT-11 (208808) METOP-A (11443)



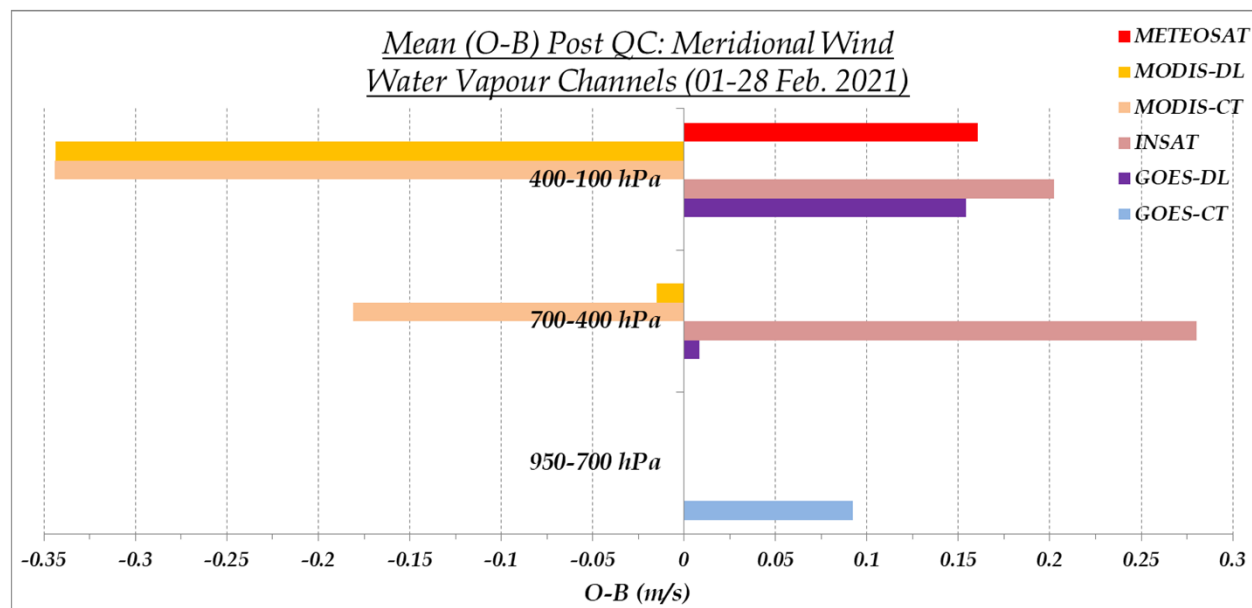
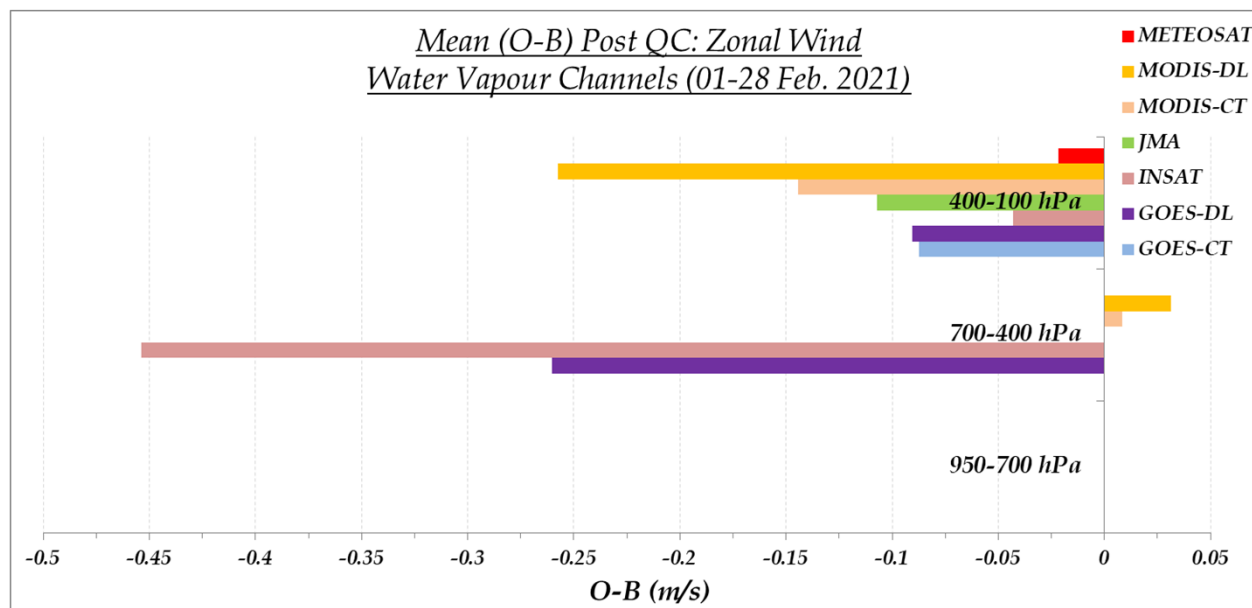
# Infrared Channels Assimilated



# Visible Channels Assimilated



# Water Vapour Channels Assimilated





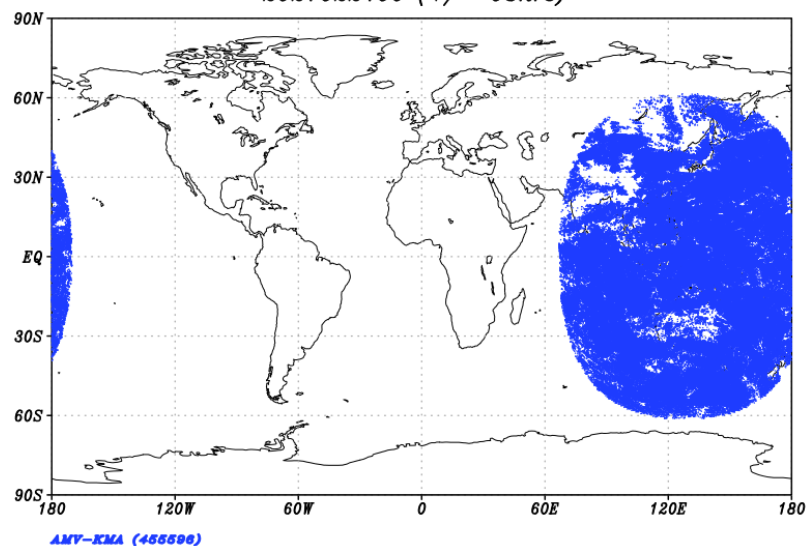


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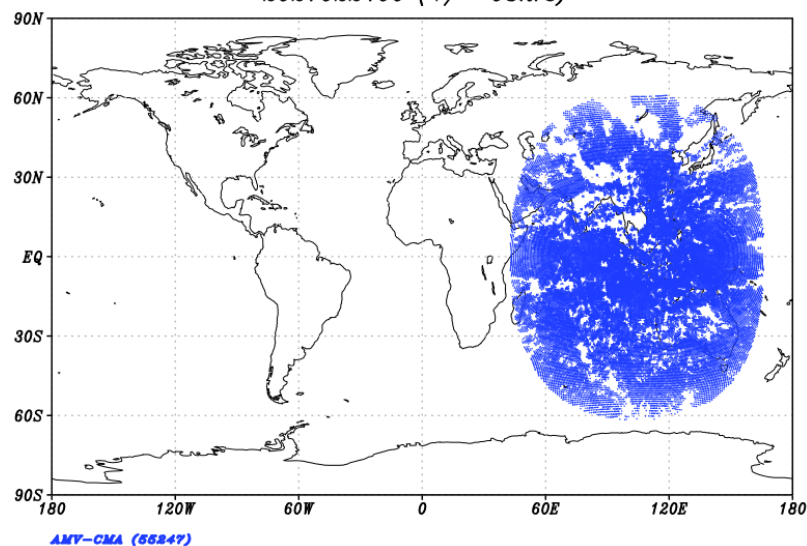


## New AMV Platforms under Evaluation

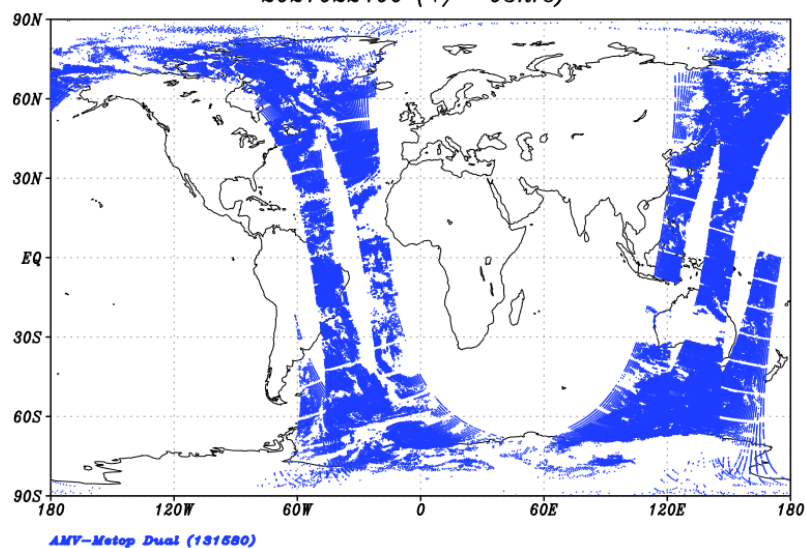
*AMV-KMA Global Coverage (Received at NCMRWF)  
2021022400 (+/- 03hrs)*



*AMV-CMA Global Coverage (Received at NCMRWF)  
2021022400 (+/- 03hrs)*



*AMV- METOPDual Global Coverage (Received at NCMRWF)  
2021022400 (+/- 03hrs)*

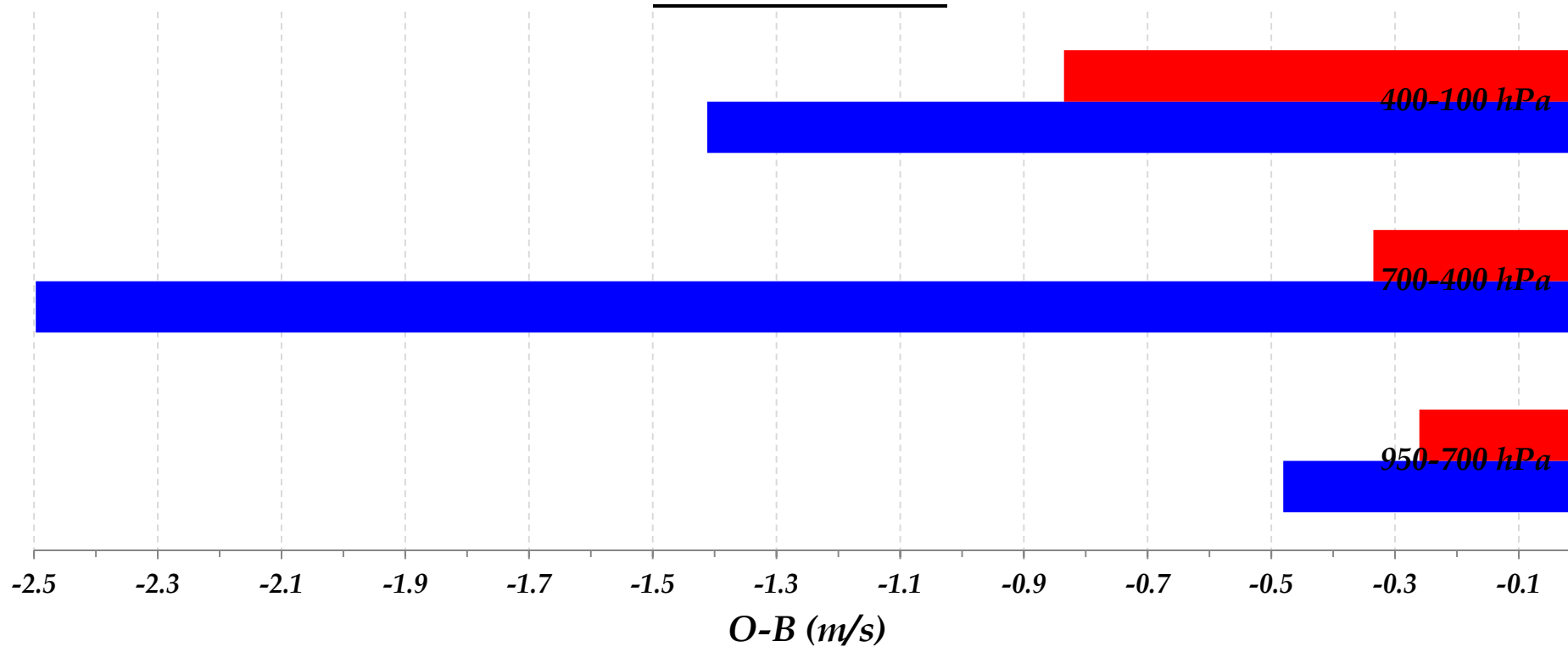


Mean (O-B) Post QC: Zonal Wind

■ METOP-Dual

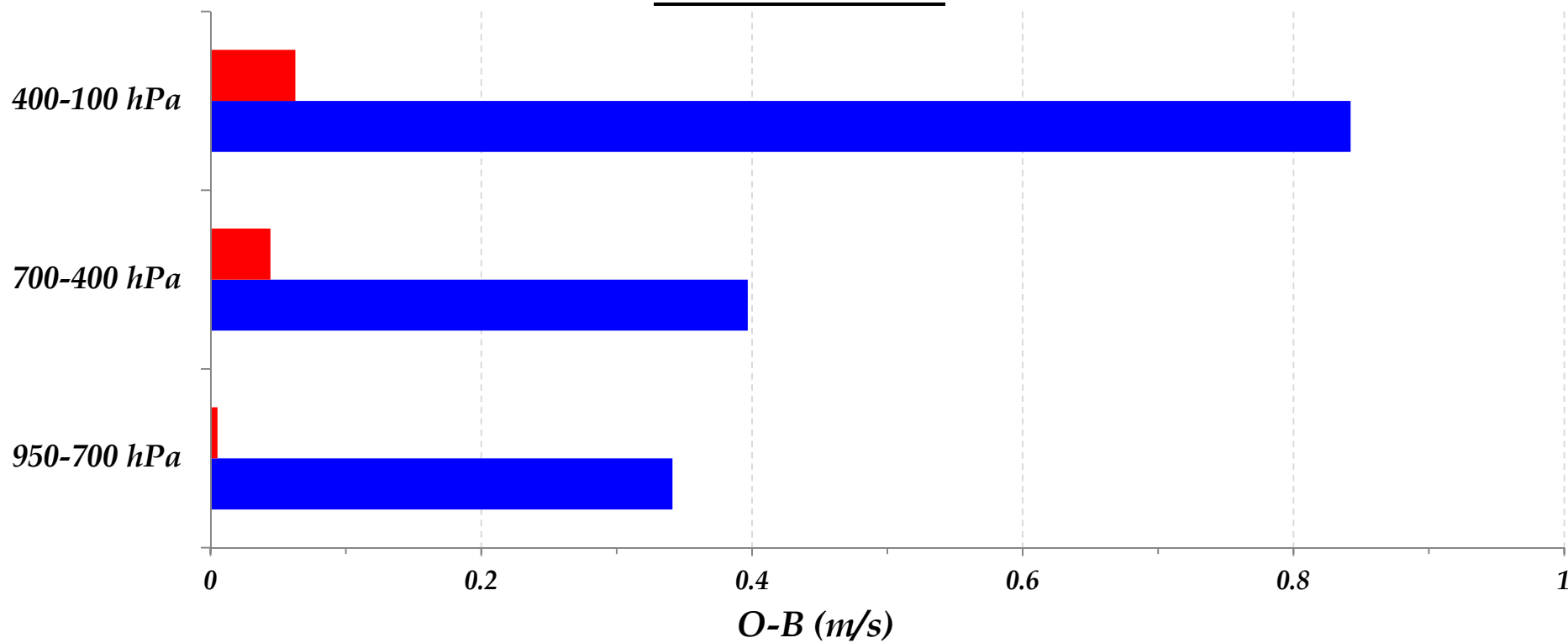
■ CMA

16-25 Feb. 2021



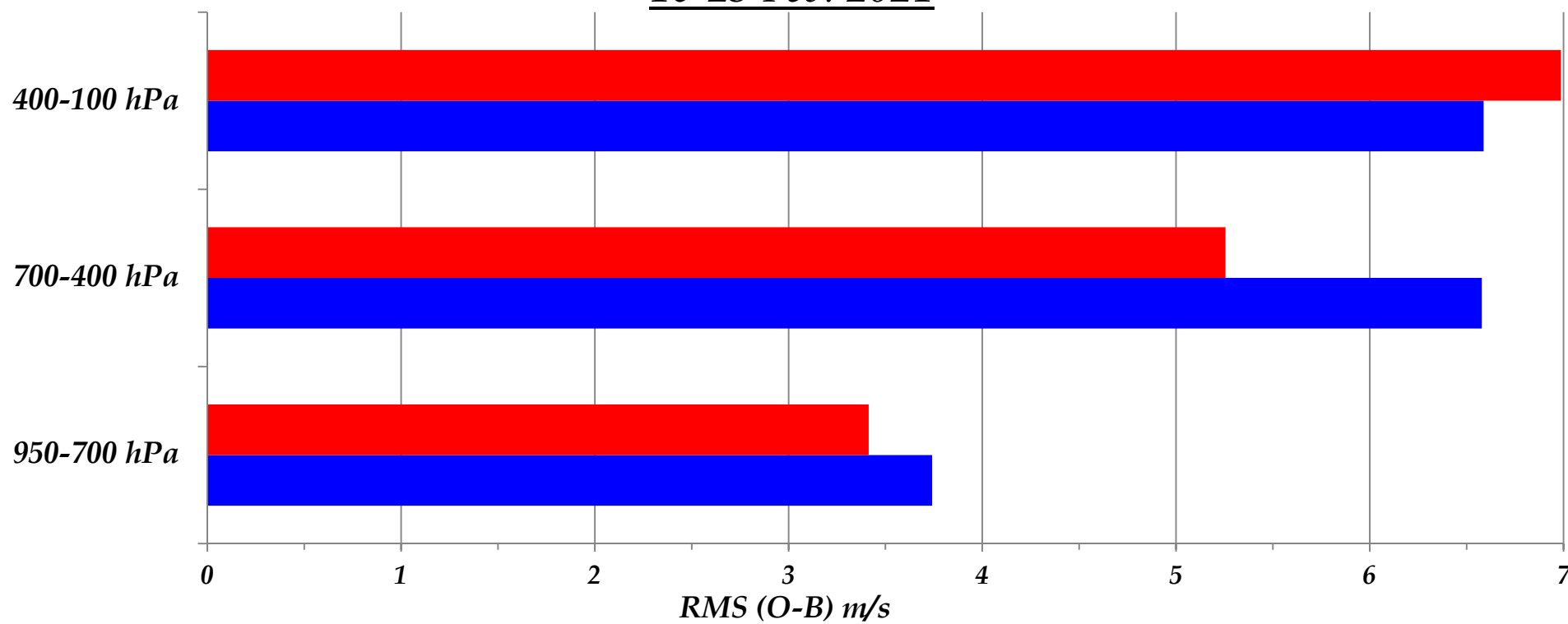
Mean (O-B) Post QC: Meridional Wind  
16-25 Feb. 2021

■ METOP-Dual ■ CMA



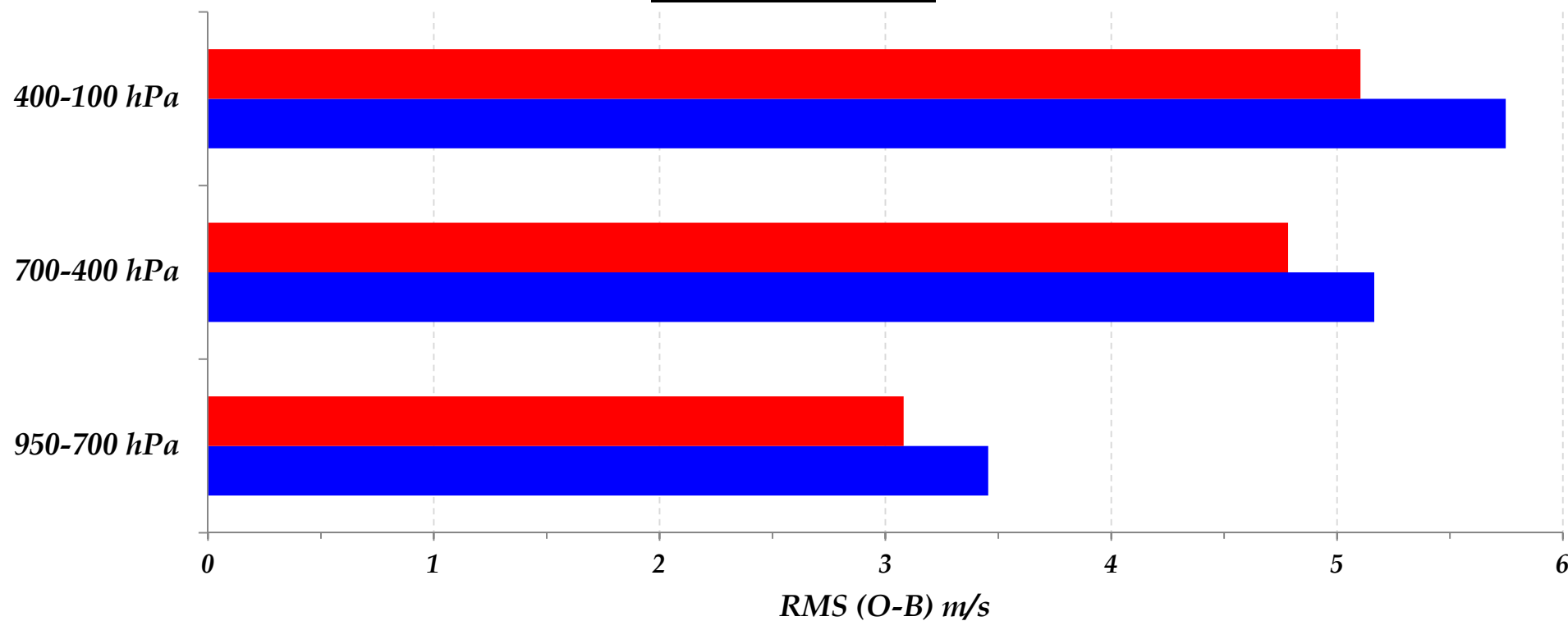
*RMS (O-B) Post QC: Zonal Wind*  
*16-25 Feb. 2021*

■ METOP-Dual ■ CMA



*RMS (O-B) Post QC: Meridional Wind*  
*16-25 Feb. 2021*

■ METOP-Dual ■ CMA



## ❖ Future Objectives

- Intensive testing and evaluation of the new platforms through Observing System Experiment.
- Application of stringent quality control criteria, especially for KMA to reduce the high (O-B) for the zonal winds over global domain.



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*Thank You*