



**Ministry of Earth Sciences
India Meteorological Department
Cyclone Warning Division, New Delhi**

**Tropical Cyclone Forecast Programme
Report Dated 25th October, 2023**

Time of Issue: 1200 UTC

Synoptic features (based on 0300 UTC analysis):

- ❖ Yesterday's Severe Cyclonic Storm "Tej" over Coastal Yemen weakened rapidly after making landfall over Yemen, into a Cyclonic Storm over around noon (1130 hours IST), Deep Depression in the afternoon (1430 hours IST), Depression in the evening (1730 hours IST) and Well Marked Low Pressure area over Yemen in the same night (2030 hours IST) of 24th October, 2023.
- ❖ Yesterday's Very Severe Cyclonic Storm over Northwest and adjoining Northeast Bay of Bengal moved northeastward and weakened into a Severe Cyclonic Storm over northeast Bay of Bengal in the evening (1730 hours IST) of yesterday 24th October, 2023. It further weakened into a Cyclonic Storm and crossed Bangladesh coast to the south of Chittagong near latitude 21.9°N and longitude 91.9°E between 0130 hours IST & 0230 hours IST of today, the 25th October as a Cyclonic Storm with wind speed of 75-85 kmph gusting to 95 kmph. It further weakened into a Deep Depression and lay centered at 0830 hours IST of today, the 25th October over southeast Bangladesh & adjoining Mizoram near latitude 22.4°N and longitude 92.4°E, about 60 km east of Chittagong (Bangladesh) and 150 km south-southeast of Aizawl (Mizoram).

Dynamical and thermo-dynamical features

Parameter	Bay of Bengal (BoB)	Arabian Sea (AS)
Sea Surface Temperature (SST) °C	28-30°C almost over entire BoB, 26-28 over southwest BoB adjoining to Sri Lanka coast, Gulf of Mannar, Comorin area.	29-30°C over southeast and adjoining southwest Arabian Sea, north AS. 26-28 over the eastcentral and some parts of southwest AS, and less than 24 along and off Somalia, Yemen, Oman coasts.
Tropical Cyclone Heat Potential (TCHP) kJ/cm²	100-110 over eastcentral BoB. 50-60 over most parts of BOB and Andaman Sea. Less than 40 along Andhra Pradesh and Tamil Nadu coasts, adjoining sea areas, less than 20 over Gulf of Mannar and Comorin area, some parts of southwest BoB.	60-80 over southeast & adjoining eastcentral, adjoining southwest Arabian Sea. Less than 30 over eastcentral and adjoining northeast AS, along and off west coast of India, less than 10 over westcentral and southwest AS.
Cyclonic Relative vorticity (X10⁻⁶s⁻¹)	30-40 over southwest BoB with vertical extension upto 700 hpa	20 over central AS.

	level.	
Low Level convergence ($X10^{-5} s^{-1}$)	5 over the south Andaman Sea.	-5 over most parts of AS.
Upper Level divergence ($X10^{-5} s^{-1}$)	-5 to -10 over northeast and adjoining northwest BoB.	-5 over southwest AS, northeast AS, 5 over central AS.
Vertical Wind Shear (VWS knots)	20-30 over the central and south BoB, 30 over the north BoB.	30-40 over north and adjoining central AS, 10-15 over the south AS.
Wind Shear Tendency (knots)	increasing tendency over central parts of BoB.	Decreasing tendency over the south and central AS, increasing tendency over north and adjoining central AS.
Upper tropospheric Ridge	Along 15°N over BoB	Along 16°N over AS

Satellite observations based on INSAT imagery (0300 UTC):

(a) Over the BoB & Andaman Sea:-

Scattered low/mod clouds with embedded mod to intense convection over south parts of northeast BoB, eastcentral BoB, Arakan coast, Andaman Sea and Tenasserim coast. Scattered low/mod clouds with embedded isolated weak to moderate convection over rest BoB and Gulf of Martaban.

(b) Over the Arabian Sea:-

Scattered low/med clouds with embedded mod to intense convection over south AS, Lakshadweep islands area and Comorin area. Scattered low/med clouds with embedded isolated weak to mod convection over northwest & central AS.

(c) Convection outside India:

Scattered low/med clouds with embedded mod to intense convection over Maldives, Tibet, China, East China Sea, Myanmar, Thailand, Gulf of Thailand, Cambodia, Laos, Vietnam, Gulf of Tonkin, Hainan, Sumatra, Strait of Malacca, Malaysia, Borneo, South China Sea, Java islands & sea, Celebes islands & sea, Philippines, Sulu Sea and over Indian Ocean between lat 5.0N to 5.0S long 40.0E to 106.0E and bet lat 5.0S to 35.0S long 40.0E to 80.0E.

M.J.O. Index:

MJO index is in Phase 8 with amplitude less than 1. It remains in phase 8 for next seven days with amplitude less than 1.

Storms and Depression over South China Sea/ South Indian Ocean:

NIL

Input for FDP Cyclone based on 0000 UTC for the next 7 days

MODEL GUIDANCE	Bay of Bengal (BoB)	Arabian Sea (AS)
IMD-GFS	No significant system.	No significant system.
IMD-GEFS	No significant system.	No significant system.
IMD-WRF	No significant system.	No significant system.
NCMRWF-NCUM	Extended cycir over southwest BoB on 30 th Oct, moves westward and lay as cycir over southwest BoB off Tamil Nadu coast on 31 st Oct.	No significant system.
NCMRWF-NEPS	No significant system.	No significant system.
NCMRWF-UM	No significant system.	No significant system.

(Regional)		
ECMWF	No significant system.	No significant system.
NCEP-GFS	No significant system.	No significant system.
IMD-Genesis Potential Parameter	No potential zone over Bay of Bengal for next 7 days	No potential zone over Arabian Sea for next 7 days

Summary and conclusion:

1. For the Bay of Bengal:

Most of the models are indicating that no significant system over Bay of Bengal for the next seven days. However, NCMRWF-NCUM model is indicating an extended circulation over southwest Bay of Bengal during 30th and 31st October.

Probability of cyclogenesis (formation of depression and above intensity systems) over the Bay of Bengal and Andaman Sea during next 168 hours:

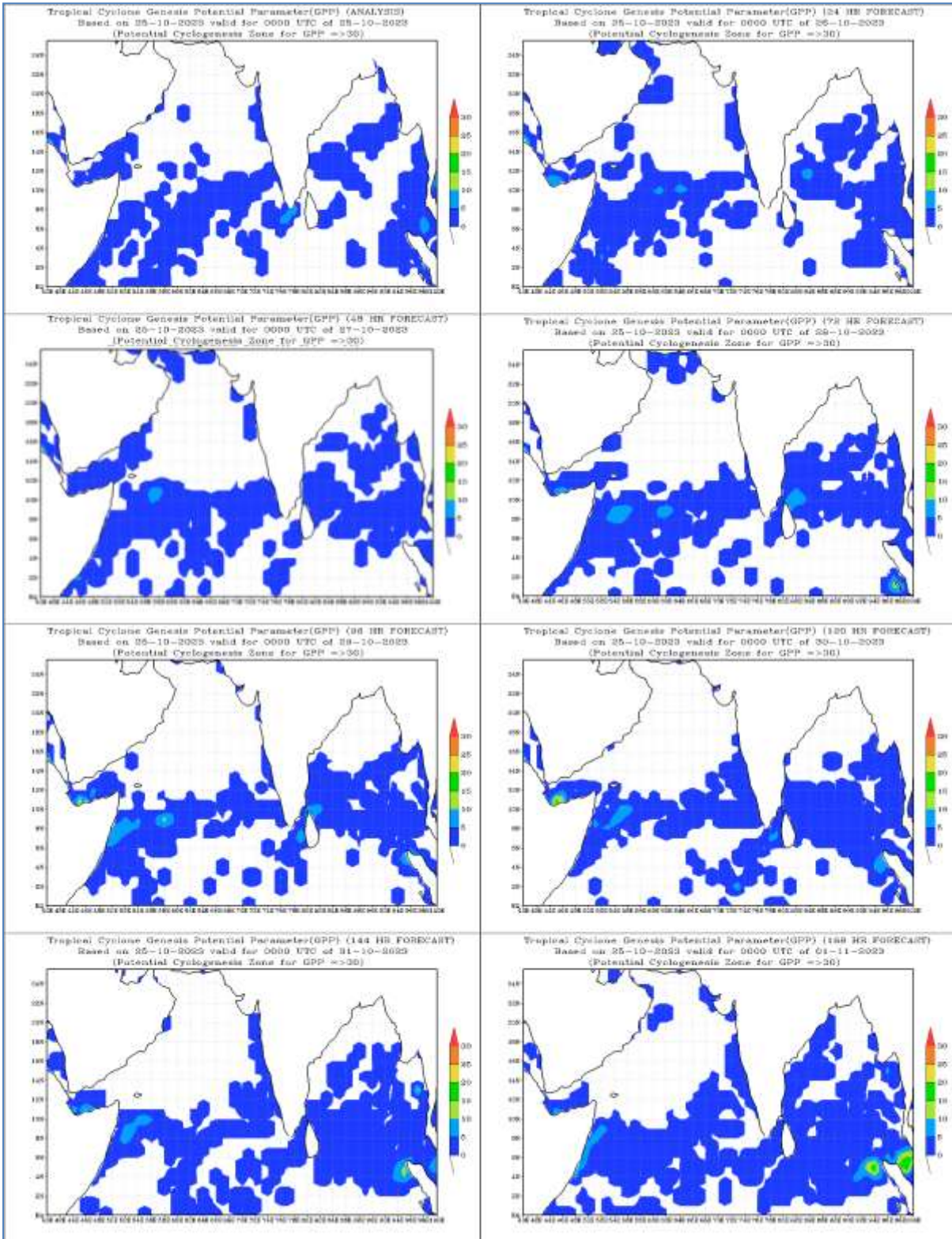
24 HOURS	24-48 HOURS	48-72 HOURS	72-96 HOURS	96-120 HOURS	120-144 HOURS	144-168 HOURS
NIL	NIL	NIL	NIL	NIL	NIL	NIL

2. For the Arabian Sea:

All the models are indicating that there will be no significant system over Arabian Sea for the next seven days.

Probability of cyclogenesis (formation of depression and above intensity systems) over the Arabian Sea during next 168 hours:

24 HOURS	24-48 HOURS	48-72 HOURS	72-96 HOURS	96-120 HOURS	120-144 HOURS	144-168 HOURS
NIL	NIL	NIL	NIL	NIL	NIL	NIL

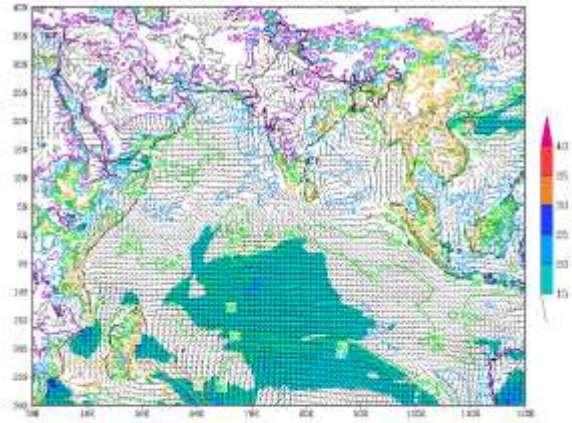


IMD-GFS MODEL(12 Km) MSL Pressure (hPa) FORECAST (00 HR)
based on 00 UTC of 25-10-2023 valid for 00 UTC of 25-10-2023



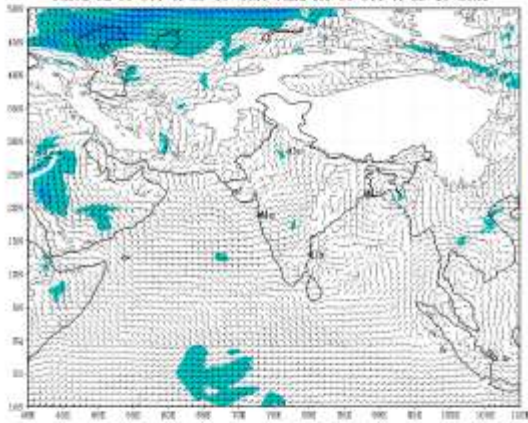
(Background line and depth political boundary)

IMD-GFS (T1534) 10m WIND (kt) AND 2m RH (%) FORECAST (00 HR)
based on 00 UTC of 25-10-2023 valid for 00 UTC of 25-10-2023



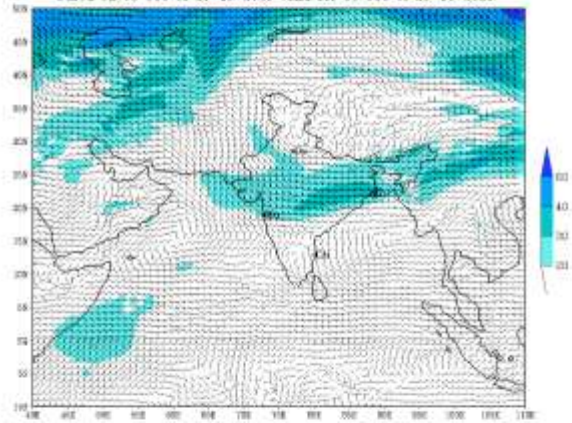
(Background line and depth political boundary)

IMD-GFS MODEL(12 Km) 850 hPa WIND (kt) FORECAST (00 HR)
based on 00 UTC of 25-10-2023 valid for 00 UTC of 25-10-2023



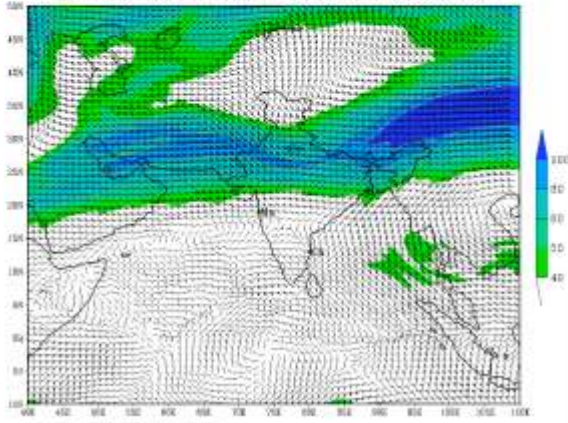
(Background line and depth political boundary)

IMD-GFS MODEL(12 Km) 500 hPa WIND (kt) FORECAST (00 HR)
based on 00 UTC of 25-10-2023 valid for 00 UTC of 25-10-2023



(Background line and depth political boundary)

IMD-GFS MODEL(12 Km) 200 hPa WIND (kt) FORECAST (00 HR)
based on 00 UTC of 25-10-2023 valid for 00 UTC of 25-10-2023



(Background line and depth political boundary)

IMD-GFS MODEL(12 Km) MSL Pressure (hPa) FORECAST (24 HR)
 based on 00 UTC of 25-10-2023 valid for 00 UTC of 26-10-2023



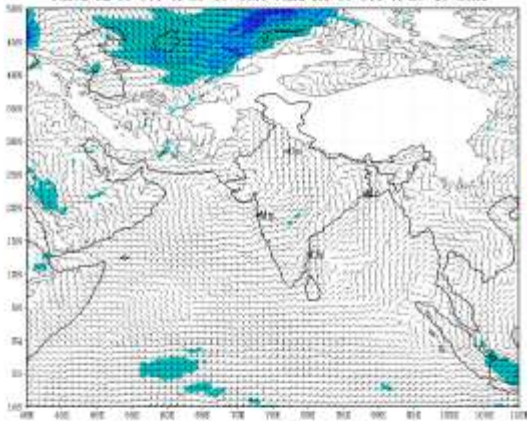
(Background line art depicts political boundary)

IMD-GFS (T1534) 10m WIND (kt) AND 2m RH (%) FORECAST (24 HR)
 based on 00 UTC of 25-10-2023 valid for 00 UTC of 26-10-2023



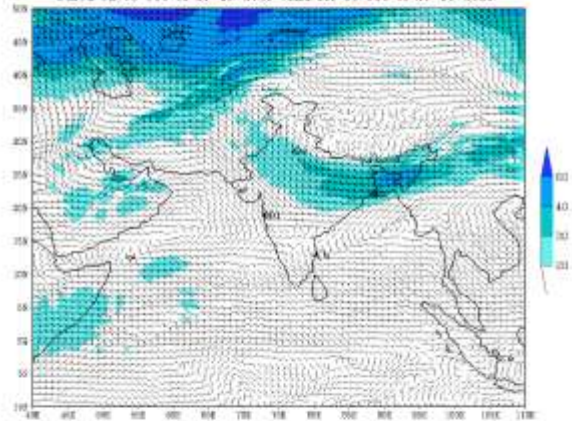
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IMD-GFS MODEL(12 Km) 850 hPa WIND (kt) FORECAST (24 HR)
 based on 00 UTC of 25-10-2023 valid for 00 UTC of 26-10-2023



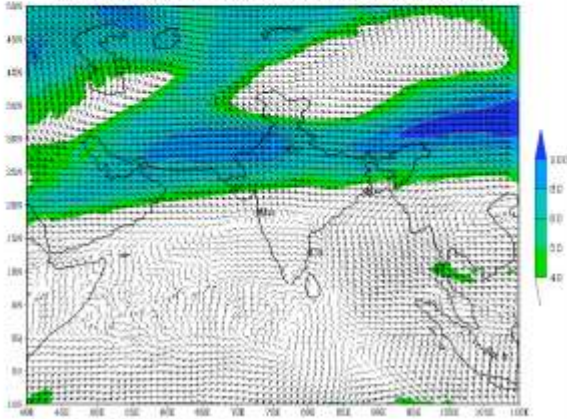
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IMD-GFS MODEL(12 Km) 500 hPa WIND (kt) FORECAST (24 HR)
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IMD-GFS MODEL(12 Km) 200 hPa WIND (kt) FORECAST (24 HR)
 based on 00 UTC of 25-10-2023 valid for 00 UTC of 26-10-2023



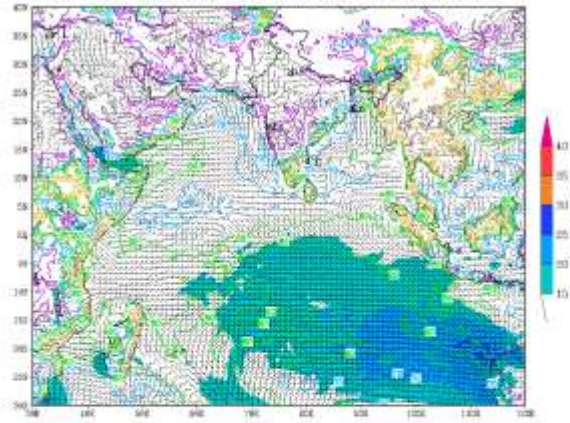
(Background line art depicts political boundary)

IMD-GFS MODEL(12 Km) MSL Pressure (hPa) FORECAST (48 HR)
 based on 00 UTC of 25-10-2023 valid for 00 UTC of 27-10-2023



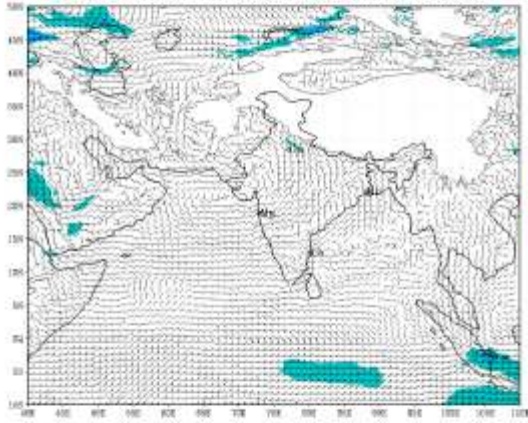
(Background line of model output boundary)

IMD-GFS (T1034) 10m WIND (kt) AND 2m RH (%) FORECAST (48 HR)
 based on 00 UTC of 25-10-2023 valid for 00 UTC of 27-10-2023



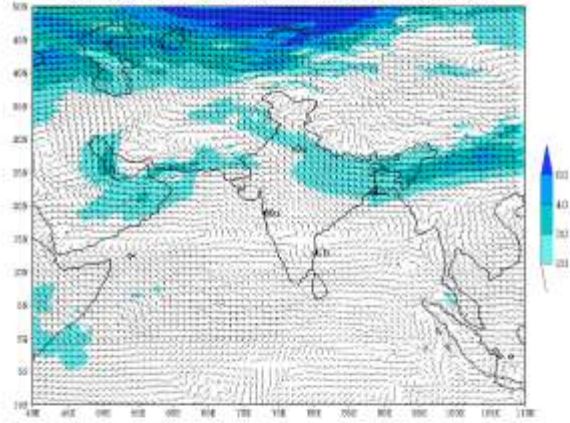
(Background line of model output boundary)

IMD-GFS MODEL(12 Km) 850 hPa WIND (kt) FORECAST (48 HR)
 based on 00 UTC of 25-10-2023 valid for 00 UTC of 27-10-2023



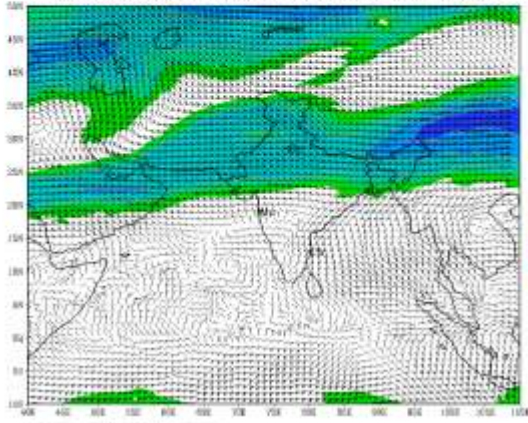
(Background line of model output boundary)

IMD-GFS MODEL(12 Km) 500 hPa WIND (kt) FORECAST (48 HR)
 based on 00 UTC of 25-10-2023 valid for 00 UTC of 27-10-2023



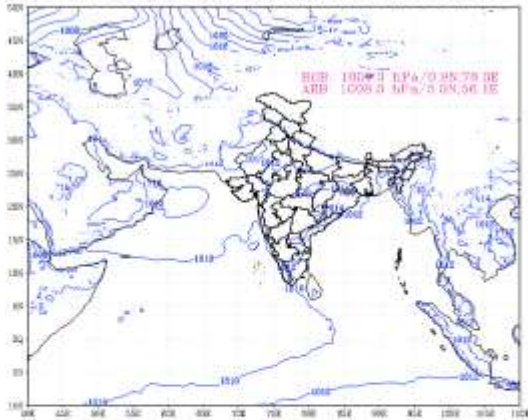
(Background line of model output boundary)

IMD-GFS MODEL(12 Km) 200 hPa WIND (kt) FORECAST (48 HR)
 based on 00 UTC of 25-10-2023 valid for 00 UTC of 27-10-2023

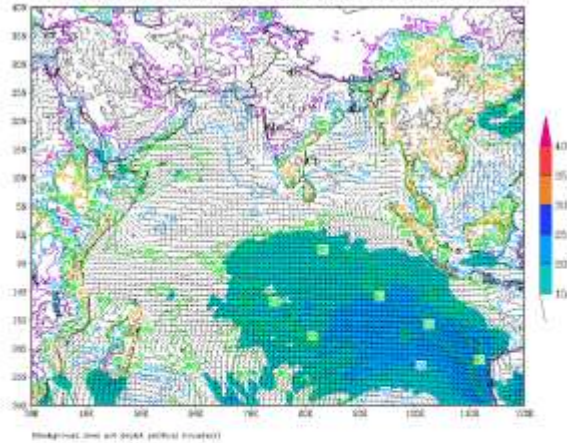


(Background line of model output boundary)

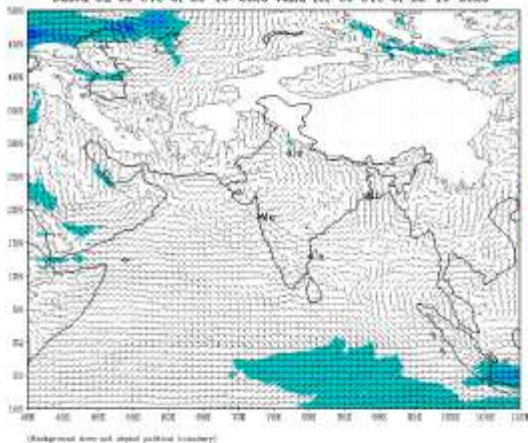
IMD-GFS MODEL(12 Km) MSL Pressure (hPa) FORECAST (72 HR)
based on 00 UTC of 25-10-2023 valid for 00 UTC of 28-10-2023



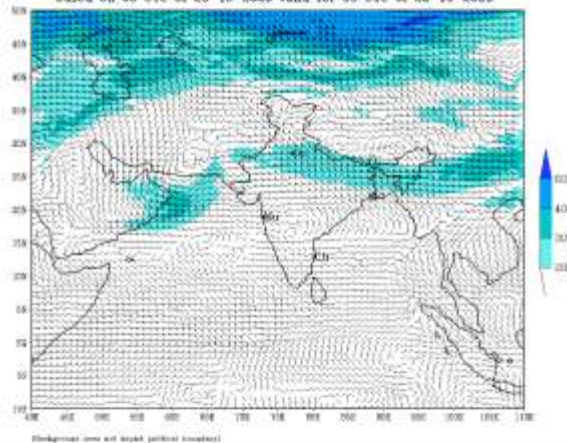
IMD-GFS (T1534) 10m WIND (kt) AND 2m RH (%) FORECAST (72 HR)
based on 00 UTC of 25-10-2023 valid for 00 UTC of 28-10-2023



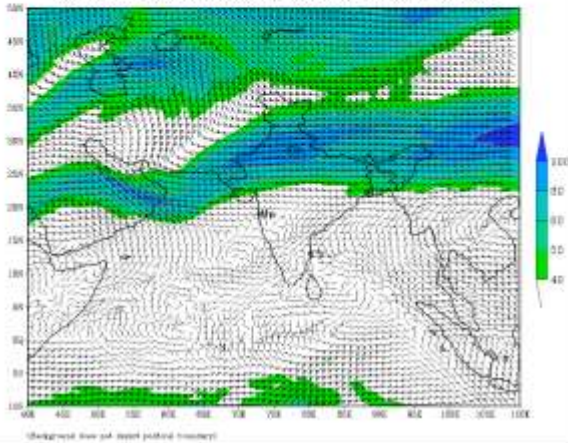
IMD-GFS MODEL(12 Km) 850 hPa WIND (kt) FORECAST (72 HR)
based on 00 UTC of 25-10-2023 valid for 00 UTC of 28-10-2023



IMD-GFS MODEL(12 Km) 500 hPa WIND (kt) FORECAST (72 HR)
based on 00 UTC of 25-10-2023 valid for 00 UTC of 28-10-2023



IMD-GFS MODEL(12 Km) 200 hPa WIND (kt) FORECAST (72 HR)
based on 00 UTC of 25-10-2023 valid for 00 UTC of 28-10-2023



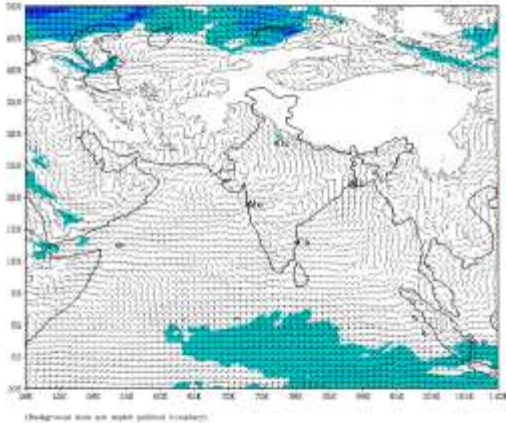
IMD :GFS MODEL(12 Km) MSL Pressure (hPa) FORECAST (96 HR)
based on 00 UTC of 25-10-2023 valid for 00 UTC of 29-10-2023



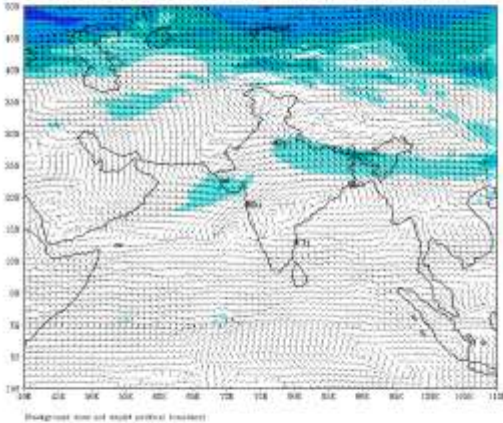
IMD GFS (T1534) 10m WIND (kt) AND 2m RH (%) FORECAST (96 HR)
based on 00 UTC of 25-10-2023 valid for 00 UTC of 29-10-2023



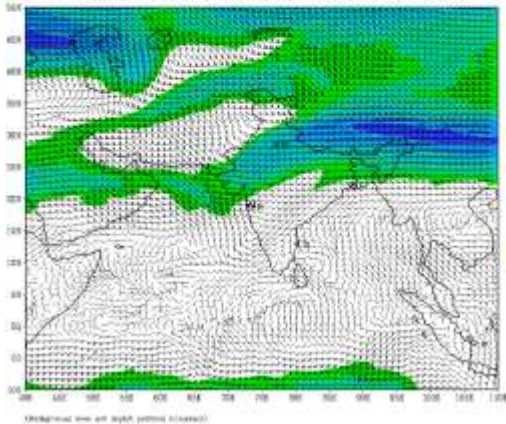
IMD:GFS MODEL(12 Km) 950 hPa WIND (kt) FORECAST (96 HR)
based on 00 UTC of 25-10-2023 valid for 00 UTC of 29-10-2023



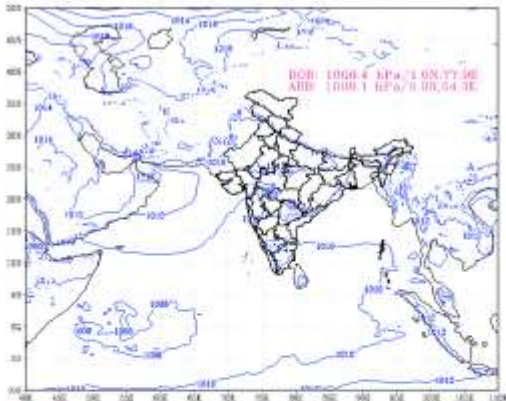
IMD:GFS MODEL(12 Km) 500 hPa WIND (kt) FORECAST (96 HR)
based on 00 UTC of 25-10-2023 valid for 00 UTC of 29-10-2023



IMD :GFS MODEL(12 Km) 200 hPa WIND (kt) FORECAST (96 HR)
based on 00 UTC of 25-10-2023 valid for 00 UTC of 29-10-2023

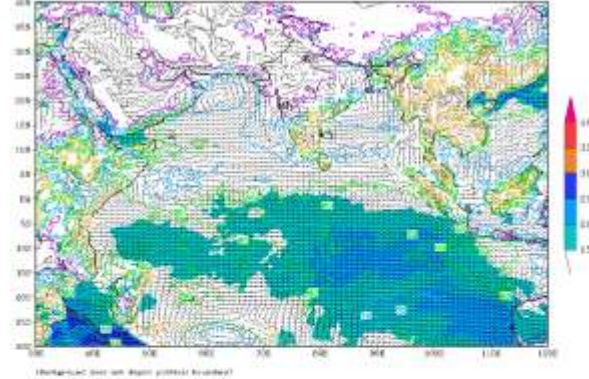


IMD :GFS MODEL(12 Km) MSL Pressure (hPa) FORECAST (120 HR)
based on 00 UTC of 25-10-2023 valid for 00 UTC of 30-10-2023



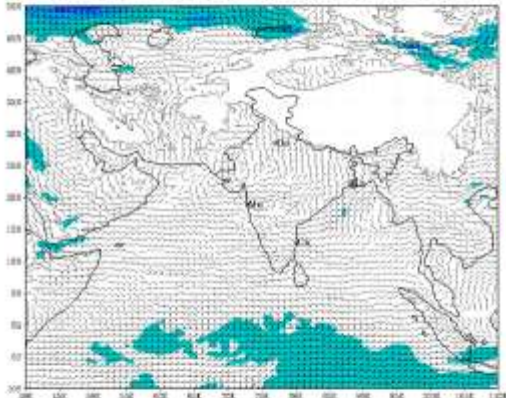
(Background color and depth plotted together)

IMD GFS (T1534) 10m WIND (kt) AND 2m RH (%) FORECAST (120 HR)
based on 00 UTC of 25-10-2023 valid for 00 UTC of 30-10-2023



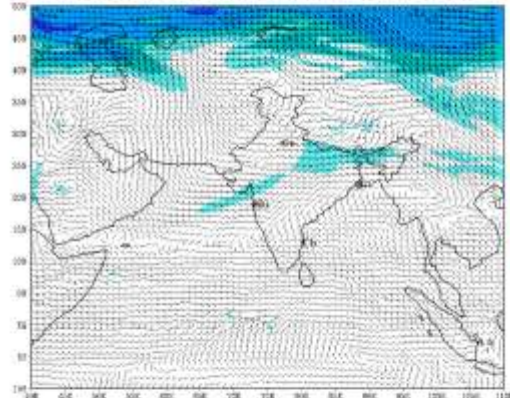
(Background color and depth plotted together)

IMD:GFS MODEL(12 Km) 850 hPa WIND (kt) FORECAST (120 HR)
based on 00 UTC of 25-10-2023 valid for 00 UTC of 30-10-2023



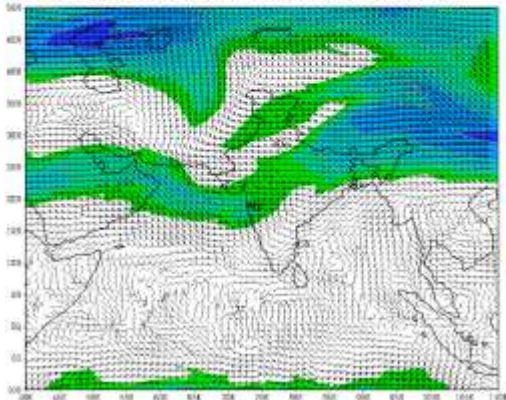
(Background color and depth plotted together)

IMD:GFS MODEL(12 Km) 500 hPa WIND (kt) FORECAST (120 HR)
based on 00 UTC of 25-10-2023 valid for 00 UTC of 30-10-2023



(Background color and depth plotted together)

IMD :GFS MODEL(12 Km) 200 hPa WIND (kt) FORECAST (120 HR)
based on 00 UTC of 25-10-2023 valid for 00 UTC of 30-10-2023



(Background color and depth plotted together)

