



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

**Tropical Cyclone Forecast Programme
Report Dated 29th October, 2024**

Time of Issue: 1000 UTC

Synoptic features (based on 0300 UTC analysis):

- ❖ Yesterday's upper air cyclonic circulation over southwest Arabian Sea persisted over the same region and extended upto 1.5 km above mean sea level at morning (0830 hours IST) of today, the 29th of October.

Environmental Features:

Parameter	Bay of Bengal (BoB)	Arabian Sea (AS)
Sea Surface Temperature (SST) °C	30°C over entire BoB	➤ 28-30°C over eastern parts of AS. ➤ 27°C over the western parts of AS
Tropical Cyclone Heat Potential (TCHP) kJ/cm²	➤ >100 KJcm ⁻² over north BoB, south Andaman Sea. ➤ 80-100 KJcm ⁻² over central BoB & north Andaman Sea of BoB. ➤ <50 over southwest BoB and adjoining areas of eastcentral BoB.	➤ 90-100 over central parts of south AS and adjoining EIO. ➤ 60-70 over eastern & northern parts of AS. ➤ < 40 over westcentral & southwest AS & off Oman and Somalia coasts.
Cyclonic Relative vorticity (X10⁻⁶s⁻¹)	10-20 over coastal Odisha & Andhra Pradesh and westcentral BoB.	30-40 over southwest AS & Comorin area with vertical extension upto 200 hPa level.
Low Level convergence (X10⁻⁵ s⁻¹)	5 over southeast BoB	5 over Comorin area.
Upper Level divergence (X10⁻⁵ s⁻¹)	5 over southeast BoB.	5 over southeast AS.
Vertical Wind Shear (VWS knots) Low: 05-10 knots Moderate: 10-20 knots High: >20 knots	Low to Moderate over entire BoB.	Low Moderate over entire AS except extreme north AS.
Wind Shear Tendency (knots)	Decreasing over entire BoB.	Decreasing over Lakshadweep and adjoining eastcentral AS and south AS.
Upper tropospheric Ridge	along 18.0°N in association with anticyclonic circulation over Myanmar	Around 20.0°N.

Satellite observations based on INSAT imagery (0300 UTC):

(a) Over the BoB & Andaman Sea: -

Scattered low & medium clouds with embedded moderate to intense convection lay over south Bay of Bengal, east part of Andaman sea & Tenasserim coast. Scattered low & medium clouds with embedded weak to moderate convection lay over northwest & central Bay of Bengal.

(b) Over the Arabian Sea:

Scattered low & medium clouds with embedded moderate to intense convection lay over south Arabian Sea, Lakshadweep islands area and isolated weak to moderate convection lay over eastcentral Arabian Sea and off south Maharashtra-Goa-Karnataka coasts.

(c) Outside India:

Scattered Low & medium clouds with embedded moderate to intense convection lay over Maldives extreme north Pakistan, China, east China sea, south 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, Madagascar, south Mozambique channel and over Indian Ocean between latitude 5.0⁰N to 15.0⁰S and longitude 50.0⁰E to 100.0⁰E.

M.J.O. Index:

Madden Julian Oscillation (MJO) index is currently in Phase 7 with amplitude greater than 1. It is likely to move across phases 7 & 8 during next seven days with amplitude remaining more than 1.

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

Nil

NWP Guidance for FDP Cyclone based on 0000 UTC for the next 7 days

MODEL GUIDANCE	Bay of Bengal (BoB)	Arabian Sea (AS)
IMD-GFS	IMD GFS is indicating a trough over central parts of south BoB on 4 th November, cyclonic circulation over southwest BoB off Tamil Nadu coast on 6 th November.	Cyclonic circulation over southwest Arabian Sea on today with westwards movement till 30 th .
IMD-GEFS	No significant system over BoB during next 7 days.	Cyclonic circulation over southwest Arabian Sea on today with westwards movement towards Somalia coast till 01 st November.
IMD-WRF	No significant system over BoB during next 3 days.	Cyclonic circulation over southwest Arabian Sea on today with westwards movement till 30 th .

NCMRWF-NCUM(G)	No significant system over BoB during next 7 days.	Cyclonic circulation over southwest Arabian Sea on today with westwards movement till 30 th .
NCMRWF-NCUM(R)	No significant system over BoB during next 3 days.	No significant system over AS during next 3 days.
NCMRWF-NEPS	Cyclonic circulation over southwest BoB with westwards movement towards Tamil Nadu-Sri Lanka coasts.	No significant system over AS during next 7 days.
ECMWF	No significant system over BoB during next 7 days.	No significant system over AS during next 7 days.
NCEP-GFS	A Low Pressure area over southwest BoB off Tamil Nadu-Sri Lanka coasts on 7 th November with westwards movement till 9 th November.	No significant system over AS during next 7 days.

Summary:

(a) Bay of Bengal:

No significant cyclonic disturbance is indicated by any of the models. However, GFS group of models is indicating a cyclonic circulation over southeast Bay of Bengal and adjoining Andaman Sea around 4th November and Low pressure area over southwest Bay of Bengal on 8th November.

(b) Arabian Sea

No significant cyclonic disturbance is indicated by any of the models.

Inference:

Considering various environmental conditions and model guidance, it is inferred that:

No fresh cyclogenesis is likely over Bay of Bengal & Arabian Sea for the next seven days. However, likely formation of a cyclonic circulation over southeast Bay of Bengal around 4th November leading to formation of Low pressure Area over southwest Bay of Bengal off Tamil Nadu-Sri Lanka coasts around 7th November need to be monitored.

Probability of cyclogenesis (formation of depression and above intensity systems) over the Bay of Bengal 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

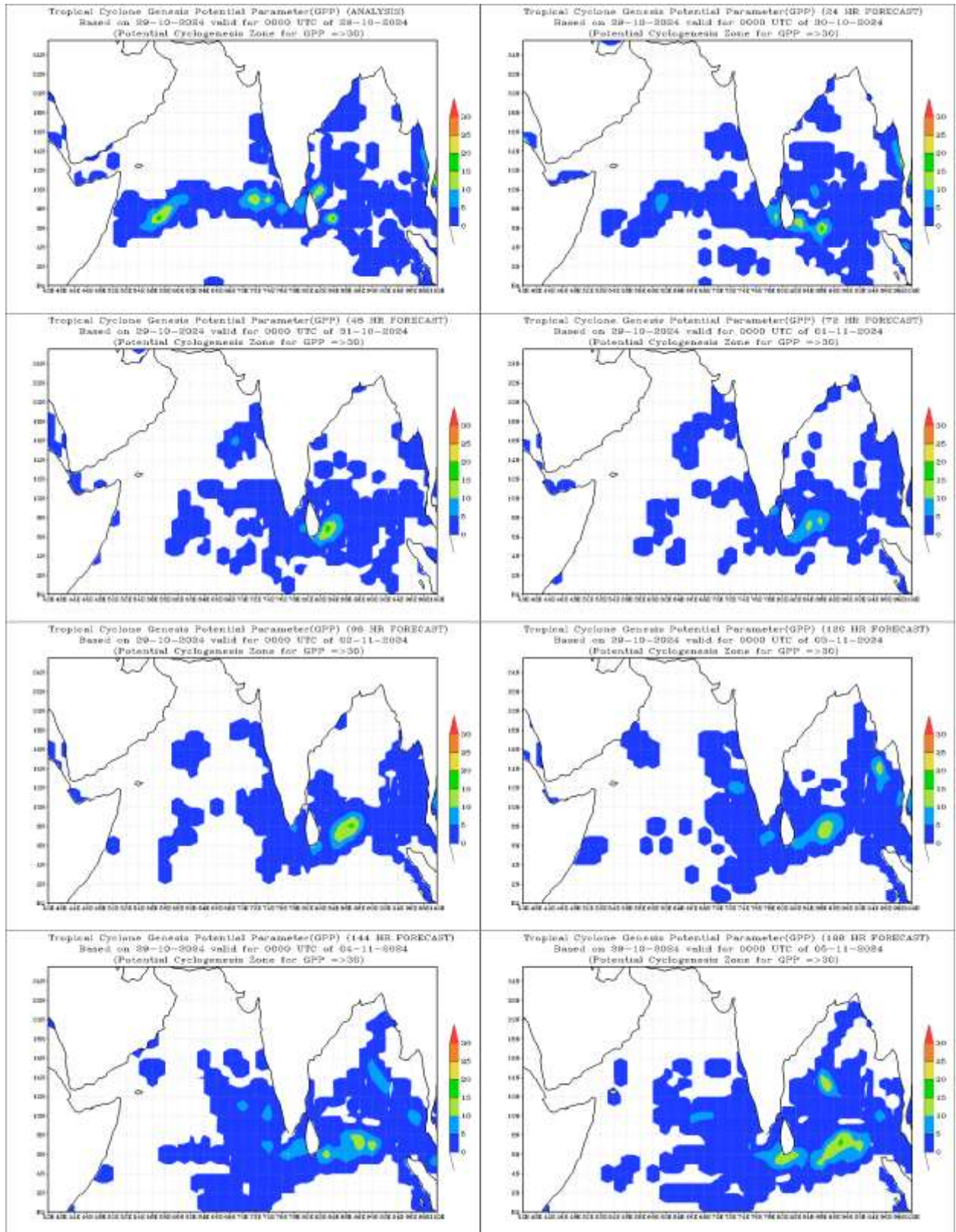
Probability of cyclogenesis (formation of depression and above intensity systems) over the Arabian Sea during next 168 hours:

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

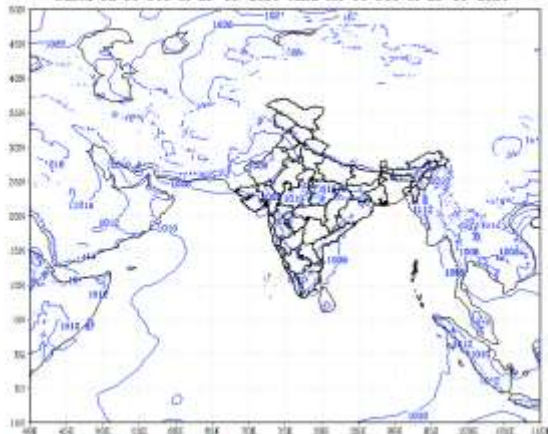
“-“ indicate genesis has already occurred.

Probability is indicated as NIL for 0%, LOW for 1-33%, MOD for 34-67% and High for 68-100%.

Annexure

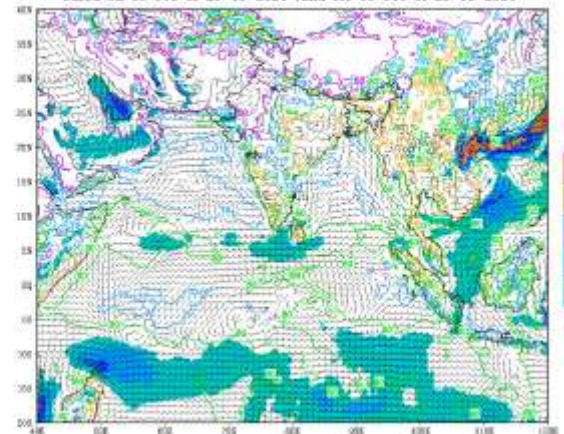


IMD :GFS MODEL(12 Km) MSL Pressure (hPa) FORECAST (00 HR)
based on 00 UTC of 29-10-2024 valid for 00 UTC of 29-10-2024



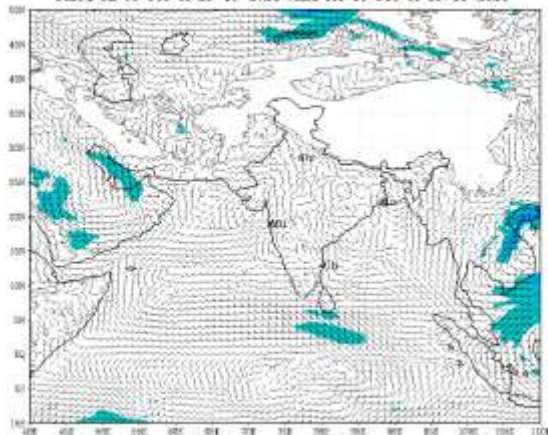
(Background area not depict political boundary)

IMD: GFS(12Km) 10m WIND (barb)& GUST (shaded:kt) FORECAST (00 HR)
based on 00 UTC of 29-10-2024 valid for 00 UTC of 29-10-2024



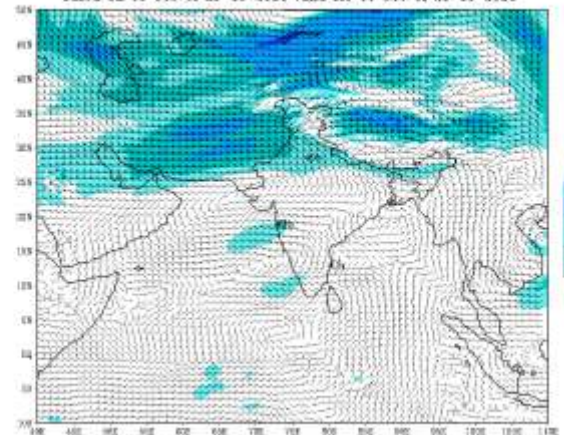
(Background area not depict political boundary)

IMD:GFS MODEL(12 Km) 850 hPa WIND (kt) FORECAST (00 HR)
based on 00 UTC of 29-10-2024 valid for 00 UTC of 29-10-2024



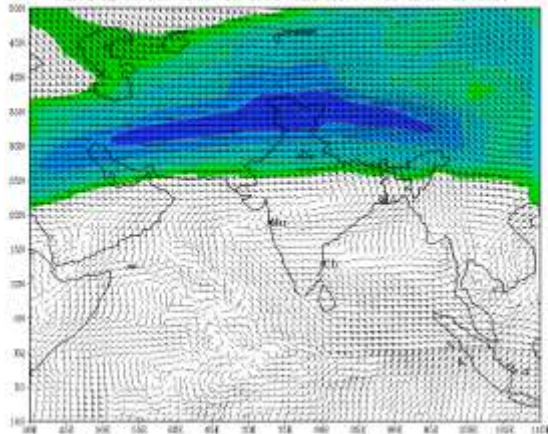
(Background area not depict political boundary)

IMD:GFS MODEL(12 Km) 500 hPa WIND (kt) FORECAST (00 HR)
based on 00 UTC of 29-10-2024 valid for 00 UTC of 29-10-2024



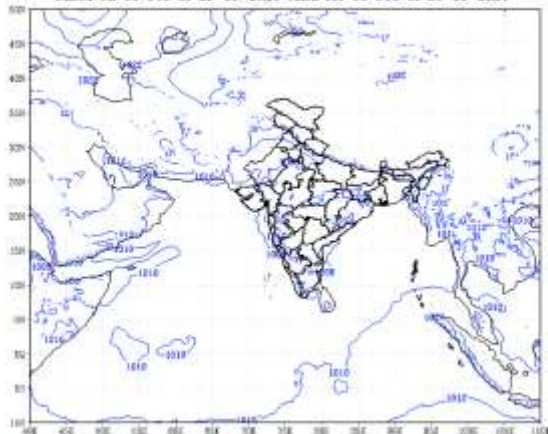
(Background area not depict political boundary)

IMD :GFS MODEL(12 Km) 200 hPa WIND (kt) FORECAST (00 HR)
based on 00 UTC of 29-10-2024 valid for 00 UTC of 29-10-2024

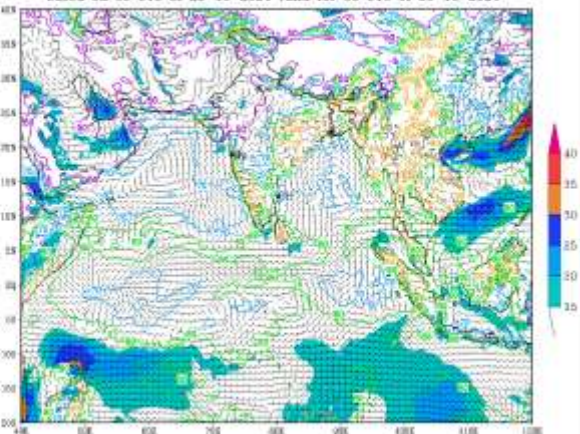


(Background area not depict political boundary)

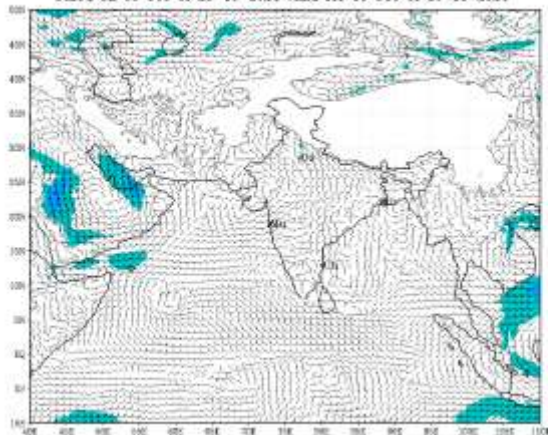
IMD :GFS MODEL(12 Km) MSL Pressure (hPa) FORECAST (24 HR)
based on 00 UTC of 29-10-2024 valid for 00 UTC of 30-10-2024



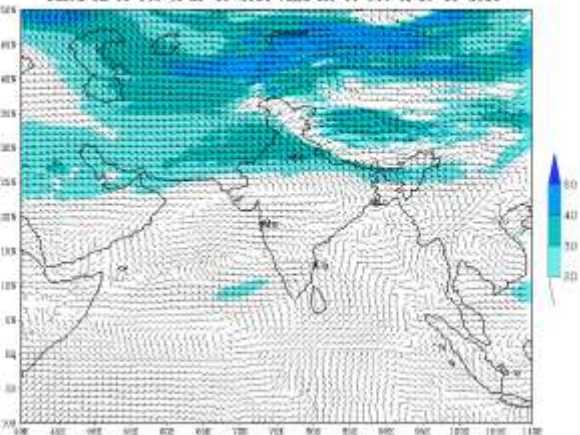
IMD: GFS(12Km) 10m WIND (barb)& GUST (shaded:kt) FORECAST (24 HR)
based on 00 UTC of 29-10-2024 valid for 00 UTC of 30-10-2024



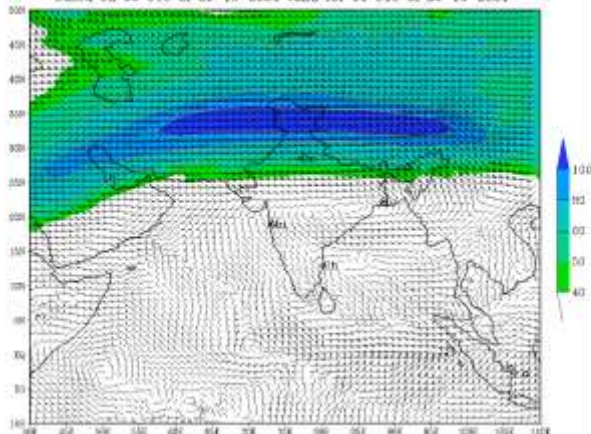
IMD:GFS MODEL(12 Km) 850 hPa WIND (kt) FORECAST (24 HR)
based on 00 UTC of 29-10-2024 valid for 00 UTC of 30-10-2024



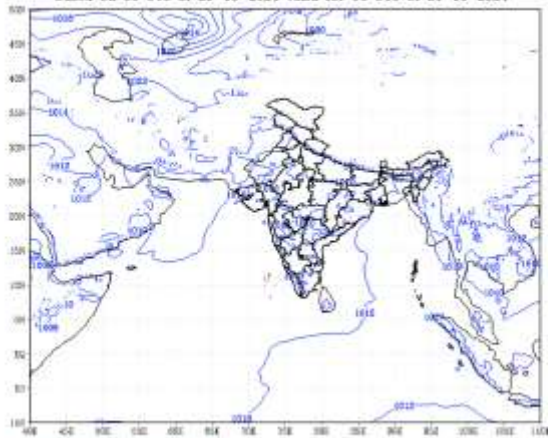
IMD:GFS MODEL(12 Km) 500 hPa WIND (kt) FORECAST (24 HR)
based on 00 UTC of 29-10-2024 valid for 00 UTC of 30-10-2024



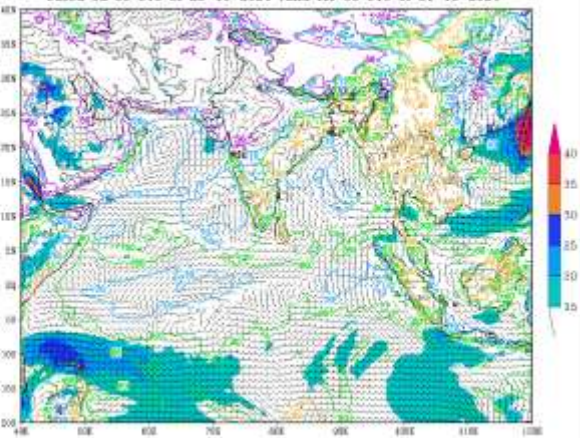
IMD :GFS MODEL(12 Km) 200 hPa WIND (kt) FORECAST (24 HR)
based on 00 UTC of 29-10-2024 valid for 00 UTC of 30-10-2024



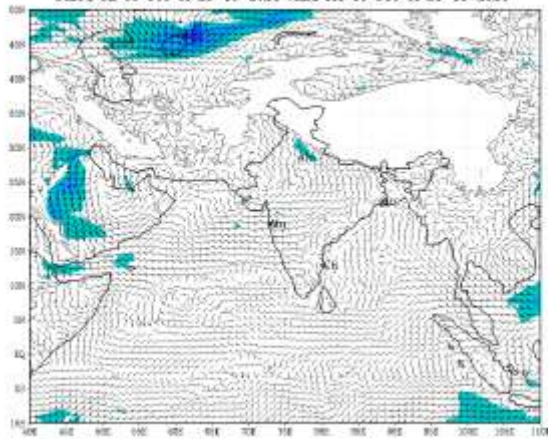
IMD :GFS MODEL(12 Km) MSL Pressure (hPa) FORECAST (48 HR)
based on 00 UTC of 29-10-2024 valid for 00 UTC of 31-10-2024



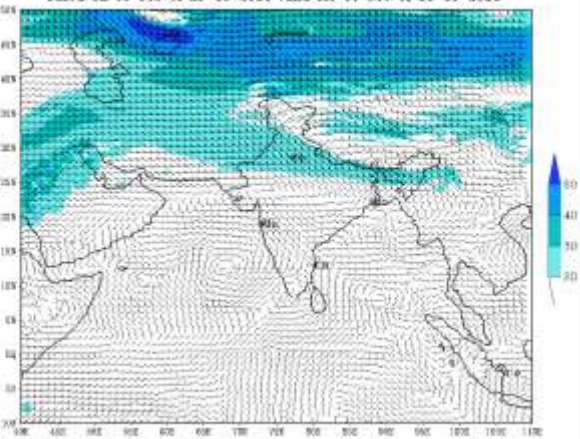
IMD: GFS(12Km) 10m WIND (barb)& GUST (shaded:kt) FORECAST (48 HR)
based on 00 UTC of 29-10-2024 valid for 00 UTC of 31-10-2024



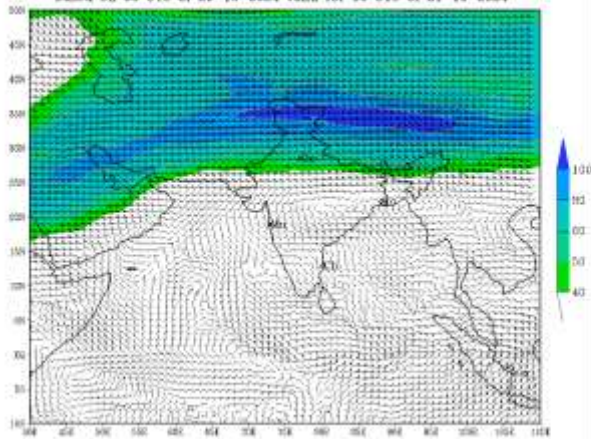
IMD:GFS MODEL(12 Km) 850 hPa WIND (kt) FORECAST (48 HR)
based on 00 UTC of 29-10-2024 valid for 00 UTC of 31-10-2024



IMD:GFS MODEL(12 Km) 500 hPa WIND (kt) FORECAST (48 HR)
based on 00 UTC of 29-10-2024 valid for 00 UTC of 31-10-2024



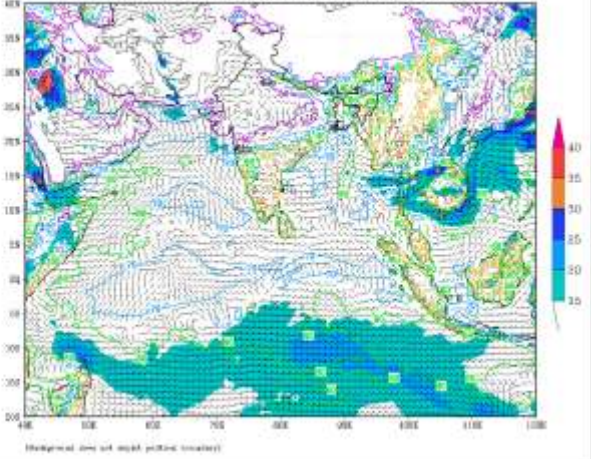
IMD :GFS MODEL(12 Km) 200 hPa WIND (kt) FORECAST (48 HR)
based on 00 UTC of 29-10-2024 valid for 00 UTC of 31-10-2024



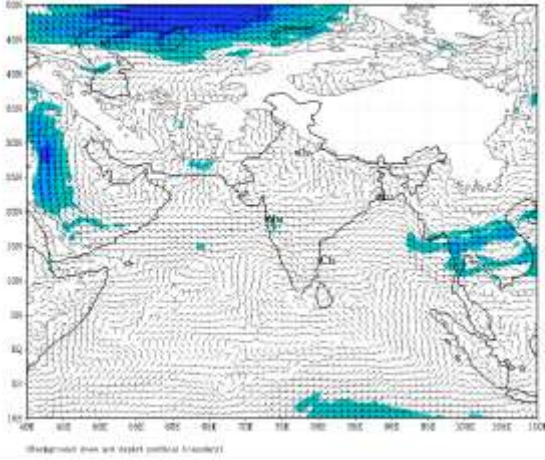
IMD :GFS MODEL(12 Km) MSL Pressure (hPa) FORECAST (120 HR)
based on 00 UTC of 29-10-2024 valid for 00 UTC of 03-11-2024



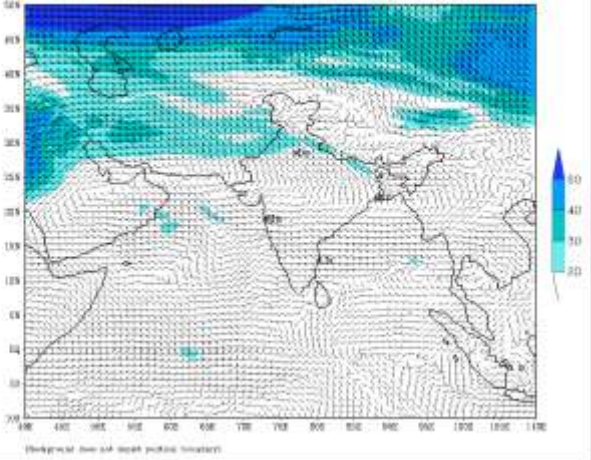
IMD: GFS(12Km) 10m WIND (barb)& GUST (shaded:kt) FORECAST (120 HR)
based on 00 UTC of 29-10-2024 valid for 00 UTC of 03-11-2024



IMD-GFS MODEL(12 Km) 850 hPa WIND (kt) FORECAST (120 HR)
based on 00 UTC of 29-10-2024 valid for 00 UTC of 03-11-2024



IMD-GFS MODEL(12 Km) 500 hPa WIND (kt) FORECAST (120 HR)
based on 00 UTC of 29-10-2024 valid for 00 UTC of 03-11-2024



IMD :GFS MODEL(12 Km) 200 hPa WIND (kt) FORECAST (120 HR)
based on 00 UTC of 29-10-2024 valid for 00 UTC of 03-11-2024

