



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

**Tropical Cyclone Forecast Programme
Report Dated 14th November 2024**

Time of Issue: 1100 UTC

Synoptic features (based on 0300 UTC analysis):

Yesterday's cyclonic circulation over southwest Bay of Bengal off north Tamil Nadu now lay over south Tamil Nadu & neighbourhood at 0.9 km above mean sea level at 0300 UTC of today, the 14th November, 2024.

Yesterday's cyclonic circulation over southeast Arabian Sea off Kerala coast now lay over Lakshadweep and adjoining southeast Arabian Sea extending upto 3.1 km above mean sea level at 0300 UTC of today, the 14th November, 2024.

Environmental Features:

Parameter	Bay of Bengal (BoB)	Arabian Sea (AS)
Sea Surface Temperature (SST) °C	<ul style="list-style-type: none"> ➤ 29-31°C over entire BoB. 	<ul style="list-style-type: none"> ➤ 26-28°C over western parts of westcentral & southwest AS off Somalia, Yemen coasts. ➤ 29-31°C over rest of AS.
Tropical Cyclone Heat Potential (TCHP) kJ/cm²	<ul style="list-style-type: none"> ➤ 160-180 over north & eastcentral BoB & 100-140 over south Andaman Sea and north, southeast BoB & adjoining EIO. ➤ 70-80 over remaining parts of BoB 	<ul style="list-style-type: none"> ➤ 100-110 over southeast AS & adjoining EIO. ➤ 30-60 over westcentral & southwest AS off Oman, Yemen & Somalia coasts. ➤ 60-80 over rest of the Arabian Sea.
Cyclonic Relative vorticity (X10⁻⁶s⁻¹)	<ul style="list-style-type: none"> ➤ 20-30 over southwest BoB & Gulf of Mannar on Sri Lanka/Tamil Nadu coast. 	20-30 over some parts of westcentral AS and off Somalia coast. 10-20 over Lakshadweep island area off Karnataka coast.
Low Level convergence (X10⁻⁵ s⁻¹)	<ul style="list-style-type: none"> ➤ 5-10 over southwest & adjoining westcentral BoB off Tamil Nadu/Sri Lanka coasts. 	-
Upper-Level divergence (X10⁻⁵ s⁻¹)	<ul style="list-style-type: none"> ➤ 5-10 over southwest & adjoining westcentral BoB on Tamil Nadu/Sri Lanka coasts. 	--
Vertical Wind Shear (VWS knots) Low: 05-10 knots Moderate: 10-20 knots	<ul style="list-style-type: none"> ➤ High over north BoB. ➤ Low-Moderate over rest of BoB. 	<ul style="list-style-type: none"> ➤ High over north AS. ➤ Low-Moderate over rest of AS.

High: >20 knots		
Wind Shear Tendency (knots)	Decreasing over northern parts of BoB and increasing over Andaman islands area.	Increasing over north & south AS, decreasing over central parts of AS.
Upper tropospheric Ridge	At 15 ⁰ N.	At 15 ⁰ N.

Satellite observations based on INSAT imagery (0300 UTC):

a) Over the BoB & Andaman Sea: -

Scattered low and medium clouds with embedded intense to very intense convection lay over south Bay of Bengal and south Andaman sea. Scattered low and medium clouds with embedded moderate to intense convection lay over south parts of northwest Bay of Bengal & westcentral Bay of Bengal.

b) Over the Arabian Sea:

Scattered low and medium clouds with embedded intense to very intense convection lay over eastcentral & southeast Arabian sea off Karnataka-Kerala coasts, Lakshadweep islands area & Comorin area. Scattered low and medium clouds with embedded moderate to intense convection lay over rest southeast Arabian sea and isolated weak to moderate convection lay over westcentral & southwest Arabian sea.

c) Outside India:

Scattered low and medium clouds with embedded moderate to intense convection lay over Palk Strait, Gulf of Mannar, Maldives, exterior north Pakistan, north Tibet, China yellow sea, east China sea, south Thailand, Gulf of Thailand, Cambodia, Sumatra Strait of Malacca, Malaysia, Borneo, south China sea, Java islands & sea, Celebes islands & sea, Philippines sulu sea, Madagascar, Mozambique channel and over Indian ocean between latitude 5.0⁰ N to 22.0⁰ S longitude 40.0⁰ E to 110.0⁰ E.

M.J.O. Index:

Madden Julian Oscillation (MJO) index is currently in Phase 2 with an amplitude less than 1. Thereafter it will slowly move to phase 3 during next 1 day with amplitude less than 1, it will remain in the same phase till 20th with amplitude less than 1.

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

Vortex (Toraji) over South China sea (area F05) centered near 21.0 N / 114.0 E. Intensity T1.0/2.0. Maximum sustained winds 28-33 kts. Associated scattered low and medium clouds with embedded weak to moderate convection lay over area between latitude 21.0 N to 30.0 N longitude 114.0 E to 120.0 E.

Vortex (Usagi) over Philippines sea centered near 17.5⁰ N / 122.7⁰ E. Intensity T6.0/6.5. Maximum sustained winds 120-127 kts. Associated broken low and medium clouds with embedded intense to very intense convection lay over area between latitude 10.0⁰ N to 20.0⁰ N longitude 120.0⁰ E to 129.0⁰ E & philippines.

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	No Significant circulation over BoB.	No Significant circulation over AS.
IMD-GEFS	No Significant circulation over BoB.	No Significant circulation over AS.
IMD-WRF	No Significant circulation over BoB.	No Significant circulation over AS.
NCMRWF-NCUM(G)	No Significant circulation over BoB.	No Significant circulation over AS.
NCMRWF-NCUM(R)	No Significant circulation over BoB.	No Significant circulation over AS.
NCMRWF-NEPS	No Significant circulation over BoB.	No Significant circulation over AS.
ECMWF	No Significant circulation over BoB.	No Significant circulation over AS.
NCEP-GFS	No Significant circulation over BoB.	No Significant circulation over AS.

Summary:

(a) Bay of Bengal:

Most of the models are indicating no significant cyclonic circulation over Bay of Bengal for the next seven days.

(b) Arabian Sea

Most of the models are indicating no significant cyclonic circulation over Arabian Sea for the next seven days.

Inference:

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

No fresh cyclogenesis is likely over the Bay of Bengal & Arabian Sea for the next seven days.

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:

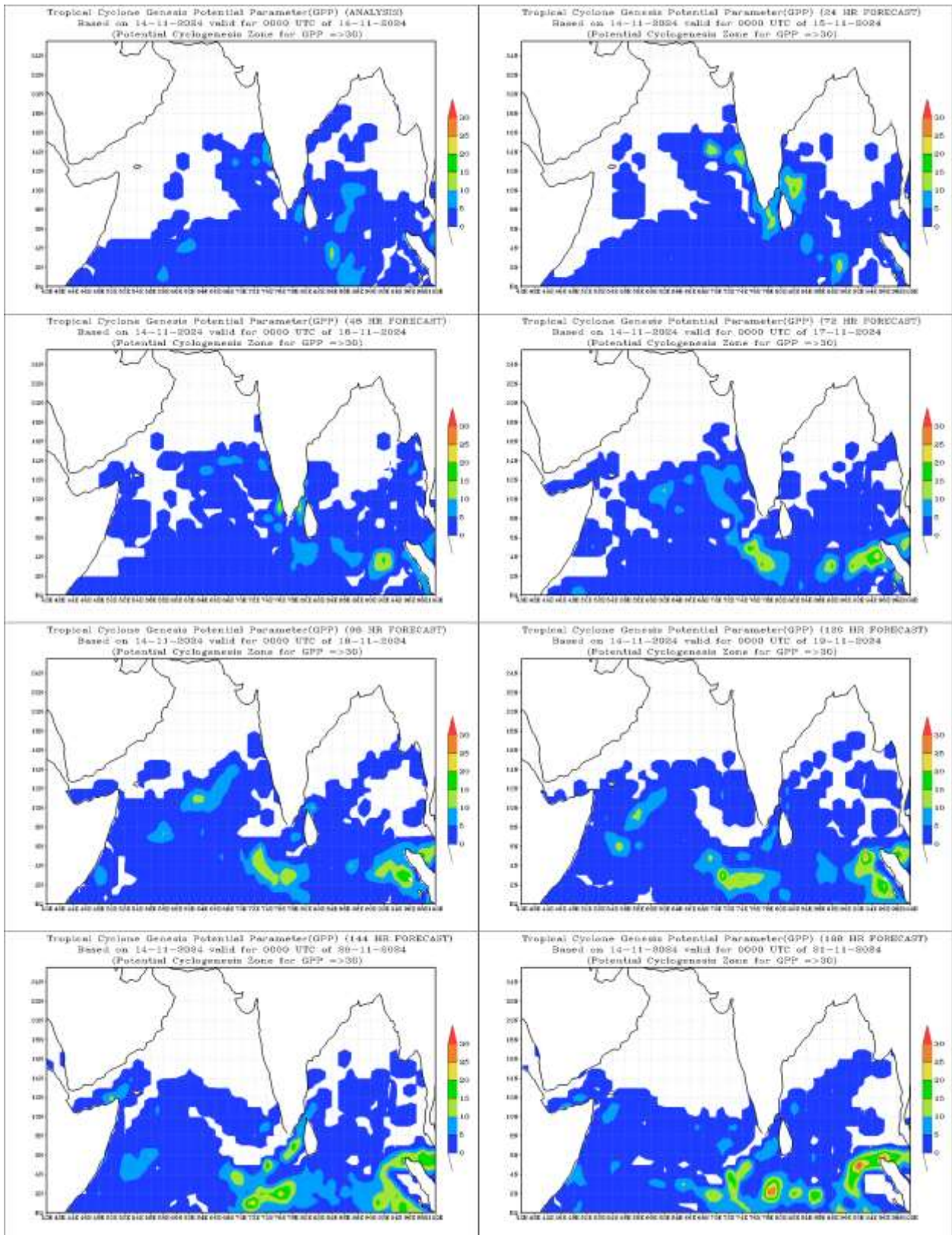
24 HOURS	24-48 HOURS	48-72 HOURS	72-96 HOURS	96-120 HOURS	120-144 HOURS	144-168 HOURS
NIL	NIL	NIL	NIL	NIL	NIL	NIL

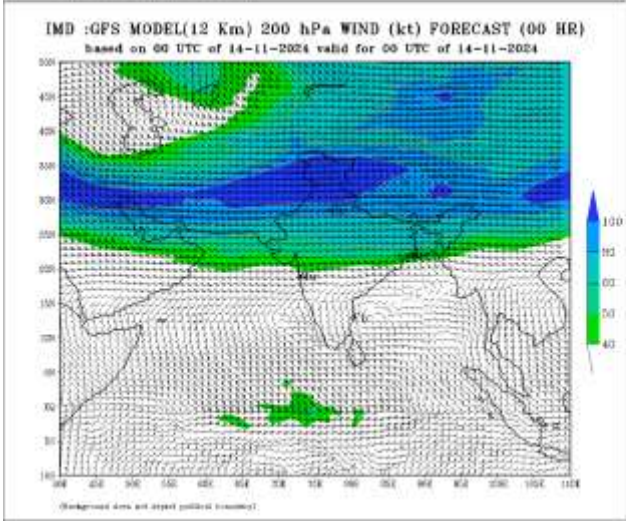
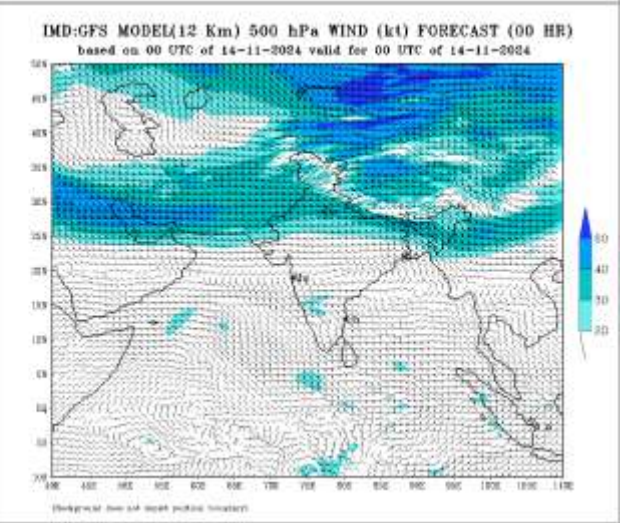
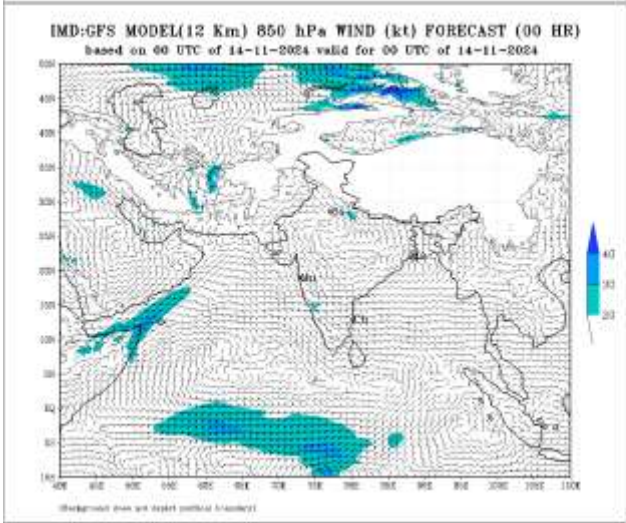
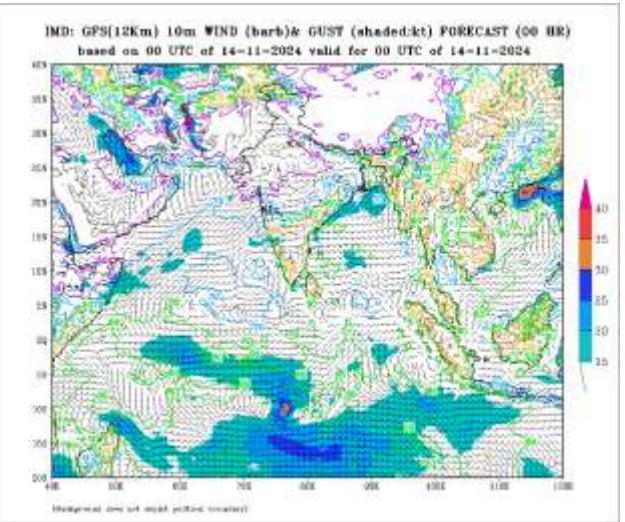
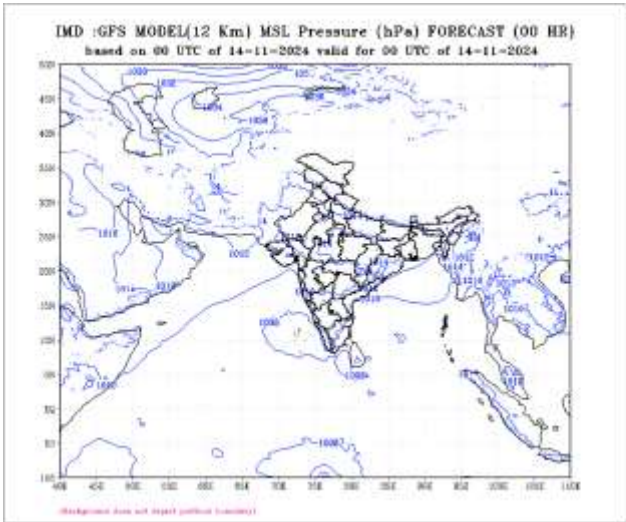
“-“indicates genesis has already occurred.

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

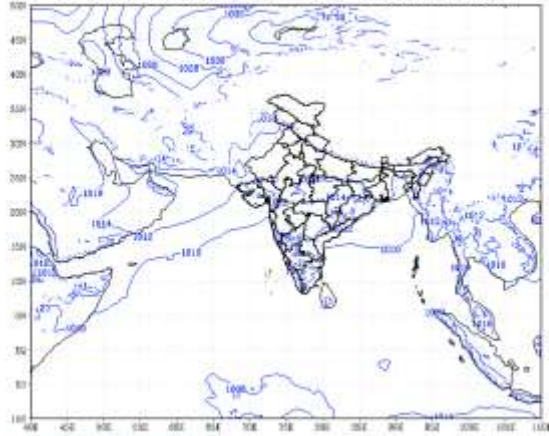
Intense Observation Period (IOP): NIL

ANNEXURE

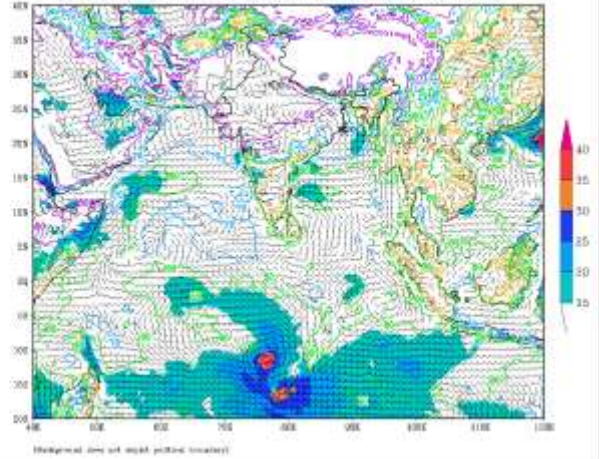




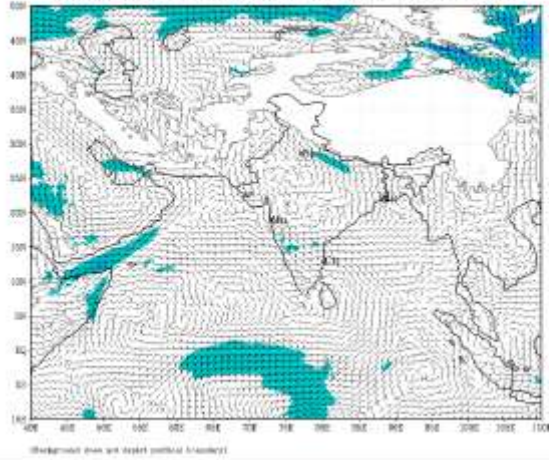
IMD :GFS MODEL(12 Km) MSL Pressure (hPa) FORECAST (24 HR)
based on 00 UTC of 14-11-2024 valid for 00 UTC of 15-11-2024



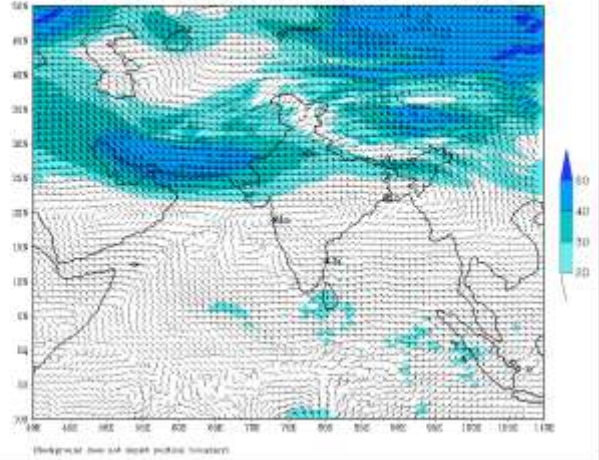
IMD: GFS(12Km) 10m WIND (barb)& GUST (shaded:kt) FORECAST (24 HR)
based on 00 UTC of 14-11-2024 valid for 00 UTC of 15-11-2024



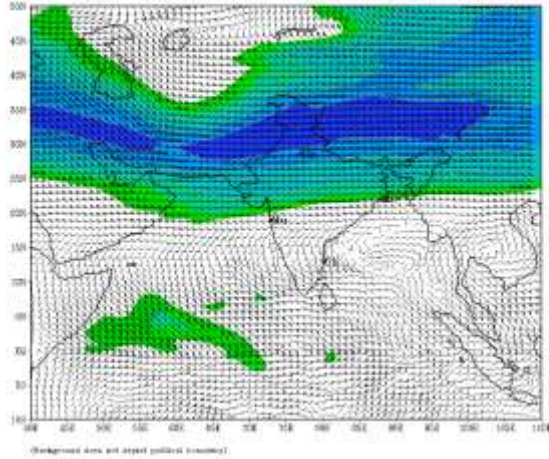
IMD:GFS MODEL(12 Km) 850 hPa WIND (kt) FORECAST (24 HR)
based on 00 UTC of 14-11-2024 valid for 00 UTC of 15-11-2024



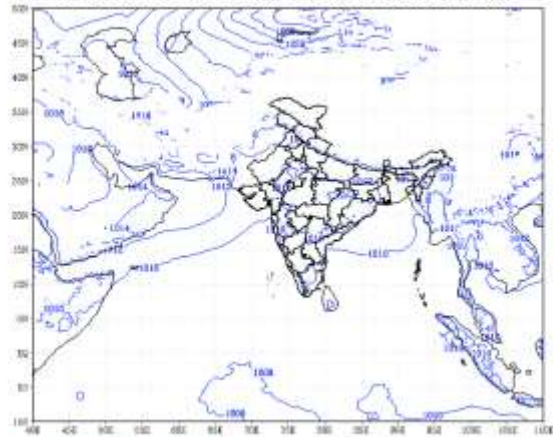
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IMD :GFS MODEL(12 Km) 200 hPa WIND (kt) FORECAST (24 HR)
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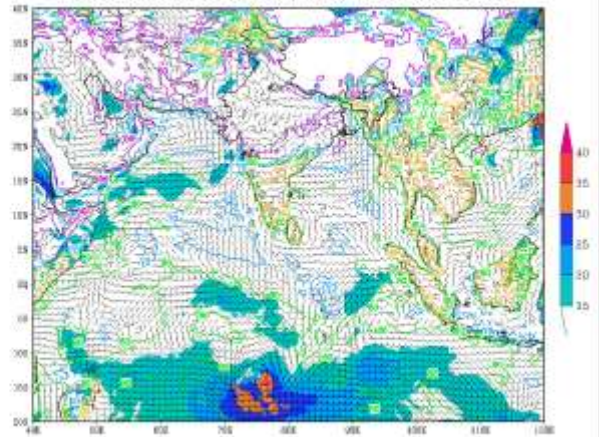


IMD :GFS MODEL(12 Km) MSL Pressure (hPa) FORECAST (48 HR)
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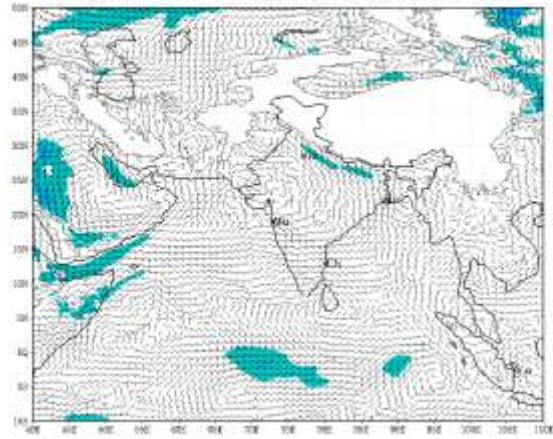
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IMD: GFS(12Km) 10m WIND (barb)& GUST (shaded:kt) FORECAST (48 HR)
based on 00 UTC of 14-11-2024 valid for 00 UTC of 16-11-2024



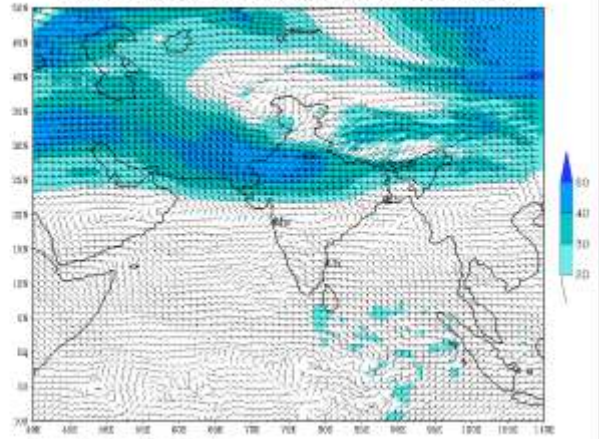
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based on 00 UTC of 14-11-2024 valid for 00 UTC of 16-11-2024



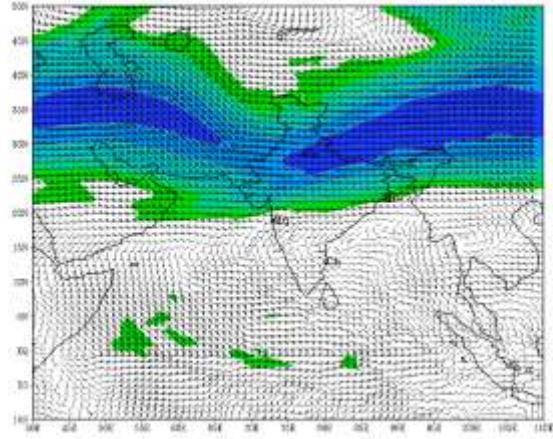
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IMD:GFS MODEL(12 Km) 500 hPa WIND (kt) FORECAST (48 HR)
based on 00 UTC of 14-11-2024 valid for 00 UTC of 16-11-2024



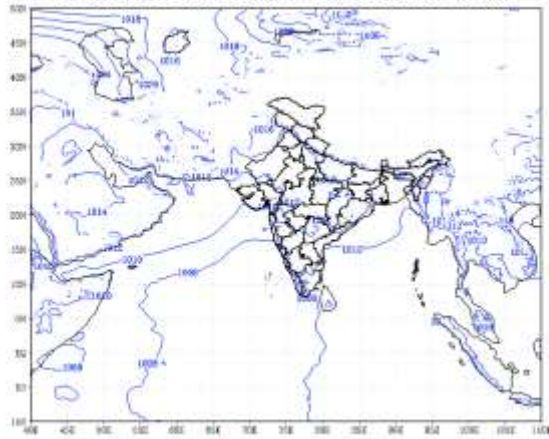
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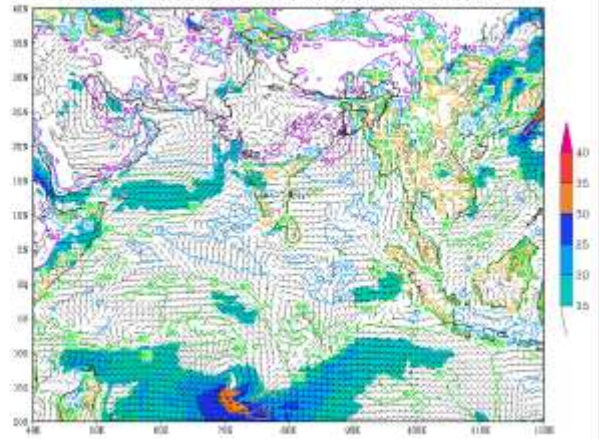
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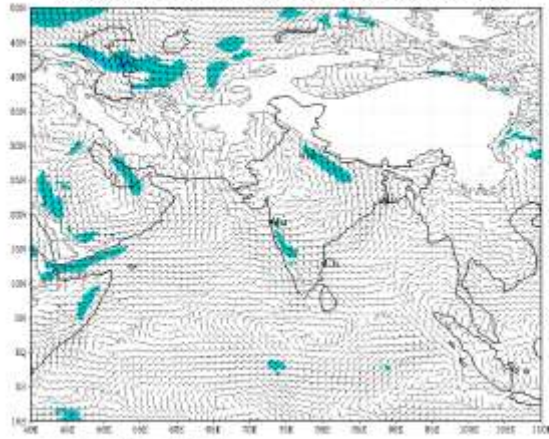
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based on 00 UTC of 14-11-2024 valid for 00 UTC of 17-11-2024



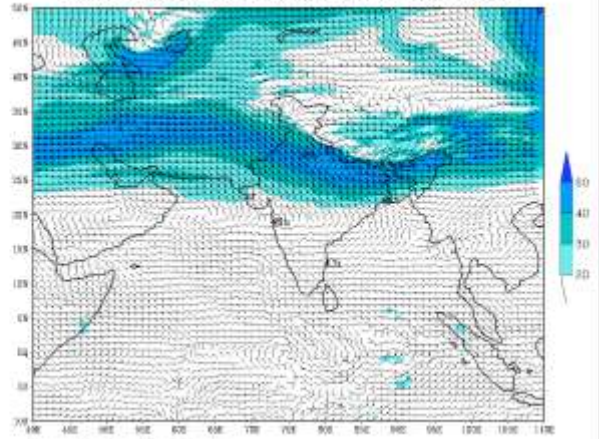
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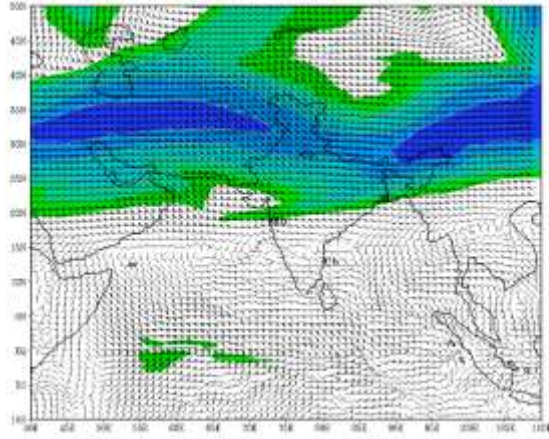
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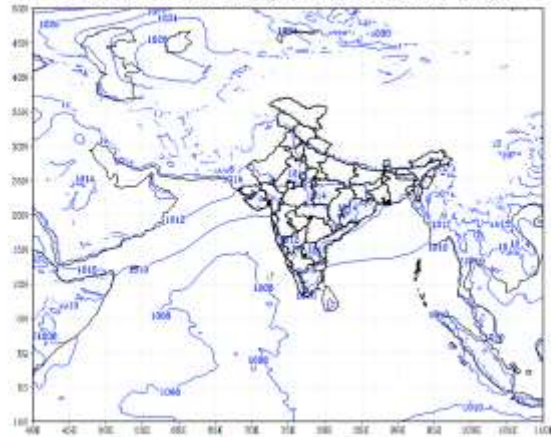
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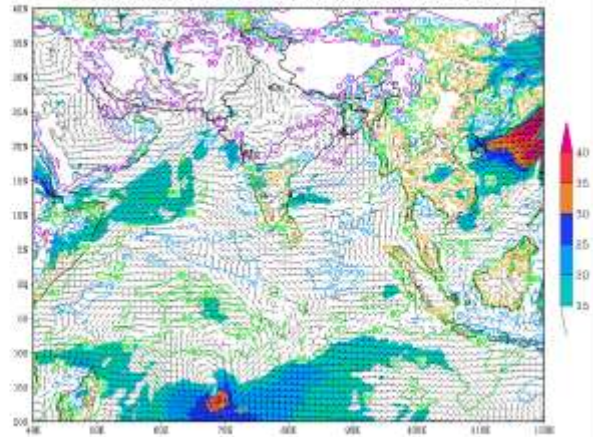
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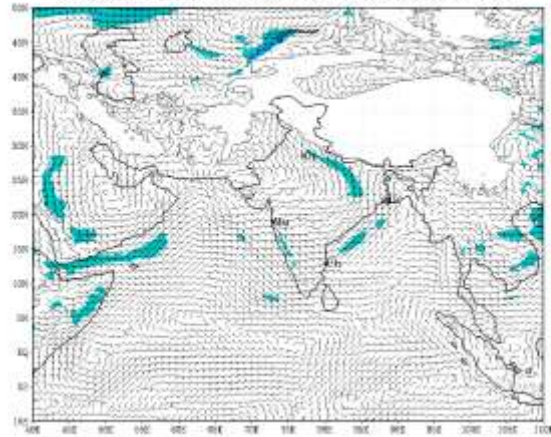
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IMD: GFS(12Km) 10m WIND (barb)& GUST (shaded:kt) FORECAST (96 HR)
 based on 00 UTC of 14-11-2024 valid for 00 UTC of 18-11-2024



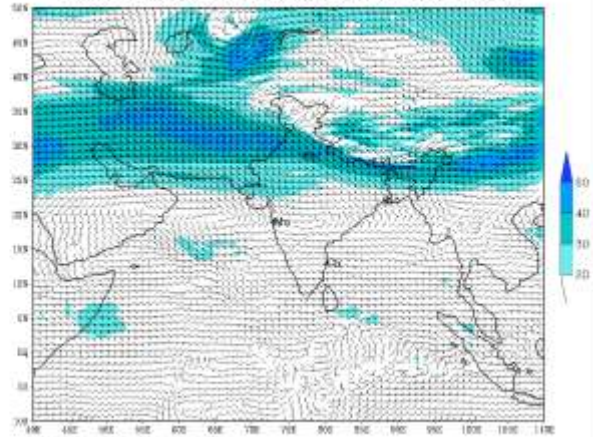
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IMD:GFS MODEL(12 Km) 850 hPa WIND (kt) FORECAST (96 HR)
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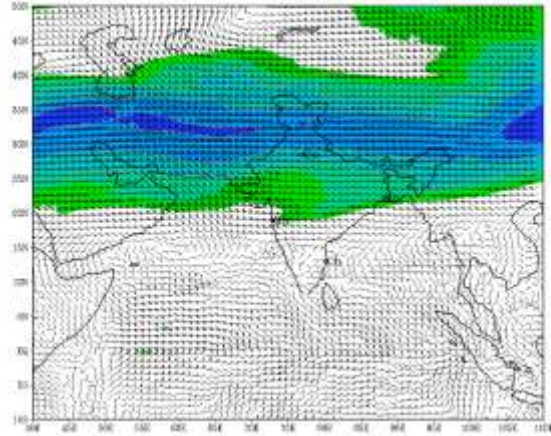
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