



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

**Tropical Cyclone Forecast Programme
Report Dated 08TH November, 2023**

Time of Issue: 1130 UTC

Synoptic features (based on 0300 UTC analysis):

- Yesterday's cyclonic circulation over southeast Arabian sea & neighbourhood persists and lies over southeast Arabian sea & adjoining Maldives area extending upto 4.5 km above mean sea level.

Dynamical and thermo-dynamical features (06 UTC)

Parameter	Bay of Bengal (BoB)	Arabian Sea (AS)
Sea Surface Temperature (SST) °C	27-28 over southeast major parts of BoB & Andaman sea and Comorin area. Around 26 over north and rest of BoB.	29-30 over southeast and adjoining eastcentral AS, along and off Karnataka, Kerala coasts. 26-27 over major parts of central and southwest AS and North AS, Around 27-28 over eastcentral adjoining southeast AS along and off the Maharashtra, Goa coast.
Tropical Cyclone Heat Potential (TCHP) kJ/cm²	70-80 over parts of Andaman Sea, parts of central BoB, Gulf of Mannar, southwest BoB close to Sri Lanka coast. 30-40 over the rest parts of BoB.	110-120 over southeast and adjoining westcentral AS. 80-100 over parts of eastcentral AS. 70-80 along and off the west coast.
Cyclonic Relative vorticity (X10⁻⁶s⁻¹)	Around 20-30 over north BoB along and off Bangladesh coast.	50-60 over parts of southeast AS and adjoining Lakshadweep area, 10-20 over parts of south and central AS, parts of central AS.
Low Level convergence (X10⁻⁵ s⁻¹)	5 over few parts of southwest BoB along and off Sri Lanka coast.	10-20 over southeast AS adjoining to EIO, Comorin area.
Upper Level divergence (X10⁻⁵ s⁻¹)	-5 over major parts of south BoB.	10-20 over southeast and adjoining east central AS, Comorin area. -5 to -10 over north and adjoining central AS.
Vertical Wind Shear (VWS knots) Low: 05-10 knots	5-15 over south and central BoB, Andaman Sea, 20 over southern parts of north BoB.	5-15 over south and adjoining central AS, 20 southern parts of central AS, High over (>20 knots) over remaining

Moderate: 10-20 knots High: >20 knots	High (>20 knots) over most parts of north BoB.	parts of AS.
Wind Shear Tendency (knots)	Decreasing over most parts of BoB.	Decreasing over most parts of south and adjoining central AS. Increasing over most parts of central and north AS.
Upper tropospheric Ridge	Along 13°N over BoB	Along 12°N over AS.

Satellite observations based on INSAT imagery (0300 UTC):

(a) Over the BoB & Andaman Sea:-

Scattered low and medium clouds with embedded isolated moderate to intense convection lay over northeast and southwest Bay of Bengal and isolated weak to moderate convection lay over rest Bay of Bengal and Andaman Sea.

(b) Over the Arabian Sea:-

Scattered to broken low and medium clouds with embedded intense to very intense convection lay over southeast Arabian Sea & comorin area. Scattered low and medium clouds with embedded isolated moderate to intense convection lay over eastcentral & southwest Arabian Sea.

(c) Convection outside India:-

Scattered low and medium clouds with embedded moderate to intense convection lay over Sri Lanka, Maldives, Nepal, Bhutan, Tibet, China, Myanmar, Thailand, Gulf of Thailand, Sumatra strait of Malacca, Malaysia, Borneo, South China sea, Java islands & sea, Celebes islands & sea, North Madagascar, north Mozambique channel and over Indian ocean between latitude 10.0N to 10.0S longitude 40.0E to 110.0E.

M.J.O. Index:

MJO index is currently in Phase 5 with amplitude greater than 1 & will remain there till 10th December with amplitude greater than 1. It will move to phase 6 with amplitude less than 1 on 11th November & it will remain there till 15th December with amplitude less than 1.

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

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.	Extend low on 8 th Nov over southeast AS and adjoining Lakshadweep area will have westward movement without further intensification till 13 th Nov.
IMD-GEFS	No significant system.	LPA on 8 th Nov over southeast AS and adjoining Lakshadweep area will have westward movement without further intensification till 12 th Nov. It will become extended low on 13 th and less marked thereafter.
IMD-WRF	No significant system.	LPA on 9 th Nov over southeast AS and adjoining Lakshadweep area will have westnorthwestward movement and lay over the same region with slight intensification on 10 th Nov.
NCMRWF-NCUM	No significant system.	Extend low on 8 th Nov over southeast AS

		and adjoining Lakshadweep area will have westward movement and lay over same region as LPA on 10 th Nov. It will continue in same direction till 11 th Dec and less marked thereafter.
NCMRWF-NEPS	No significant system.	No significant system.
NCMRWF-UM (Regional)	No significant system.	No significant system.
ECMWF	No significant system.	LPA over southeast and adjoining Lakshadweep area on 9 th Dec 18 UTC. It will have westnorthwestward movement without further intensification.
NCEP-GFS	No significant system.	No significant system.
IMD-Genesis Potential Parameter	No potential zone over AS for next 7 days.	A potential zone over southeast AS and adjoining Lakshadweep area as on tode i.e., 8 th December, it will move westnorthwestward and lay over same region on 9 th Dec.

Summary and conclusion:

1. For Bay of Bengal:

As per model guidance, no significant cyclonic disturbance is likely over the Bay of Bengal during next seven days.

Probability of Cyclogenesis (formation of depression and above intensity systems) over 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

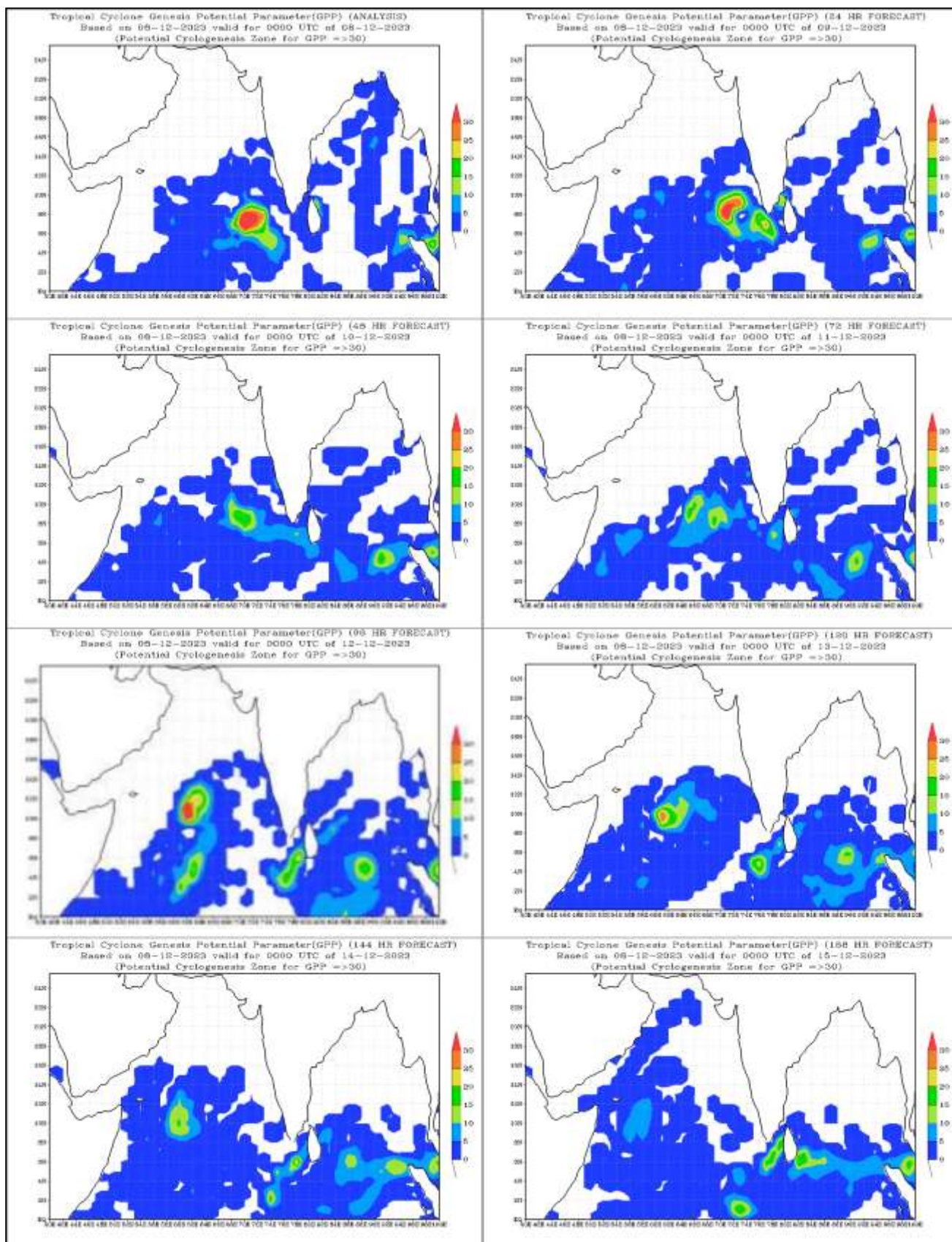
2. For the Arabian Sea:

IMD-GFS, IMD-GEFS, IMD-WRF, NCUM-Global and ECMWF models are indicating a low pressure area (LPA) or extended low over southeast Arabian Sea and adjoining Lakshadweep area around 9th December. It will have westnorthwestward movement without further intensification.

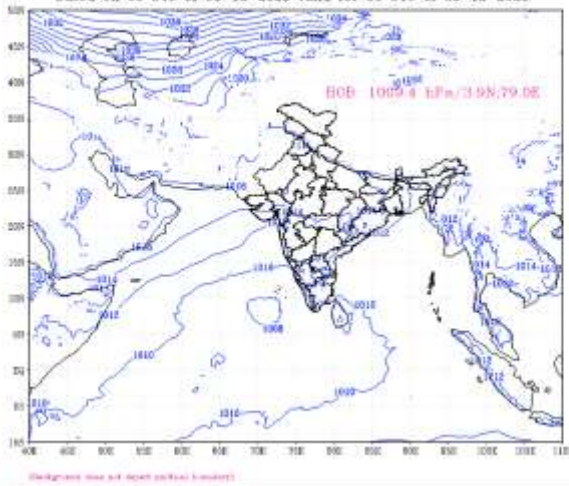
Probability of Cyclogenesis (formation of depression and above intensity systems) over the Arabian Sea during next 168 hours:

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

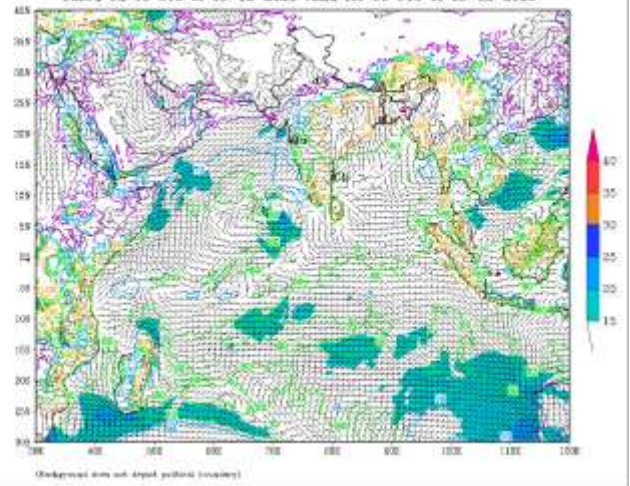
IOP: Nil.



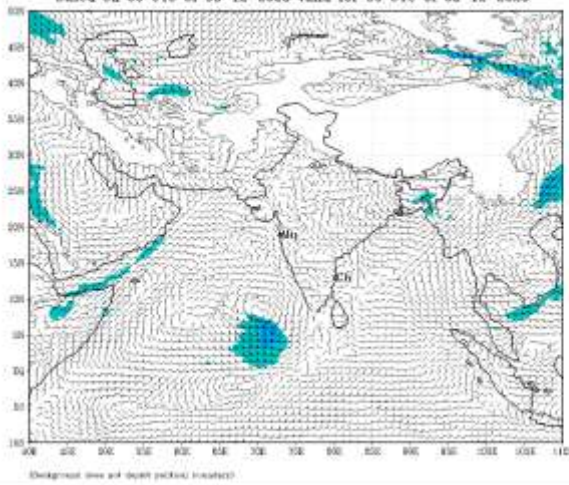
IMD :GFS MODEL(12 Km) MSL Pressure (hPa) FORECAST (00 HR)
 based on 00 UTC of 08-12-2023 valid for 00 UTC of 08-12-2023



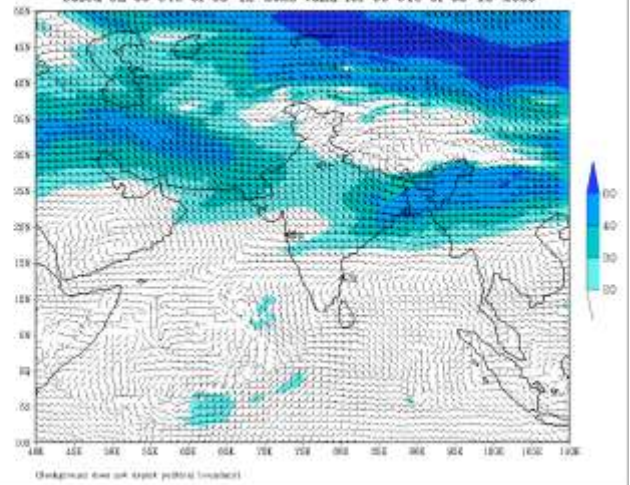
IMD GFS (T1534) 10m WIND (kt) AND 2m RH (%) FORECAST (00 HR)
 based on 00 UTC of 08-12-2023 valid for 00 UTC of 08-12-2023



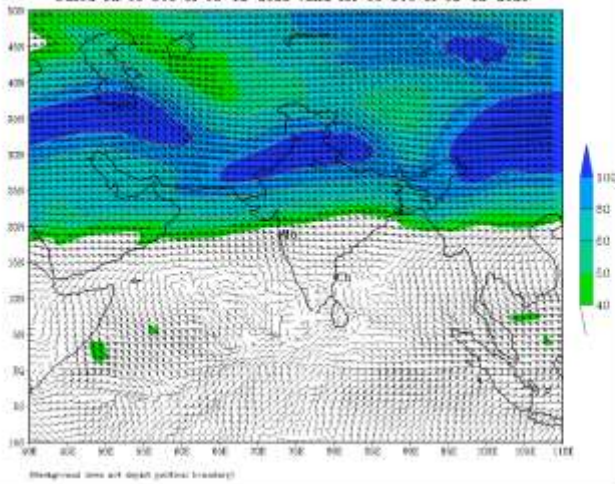
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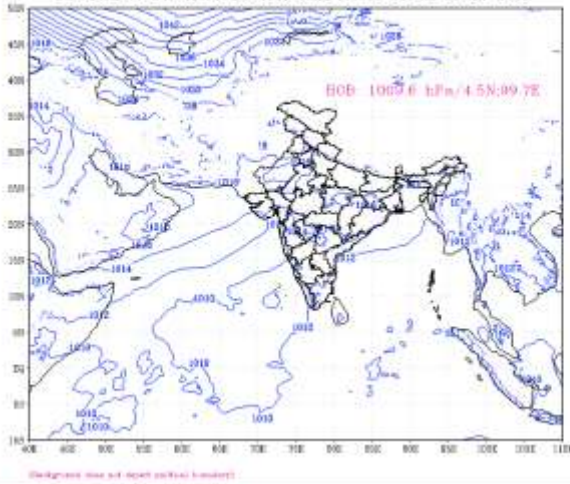
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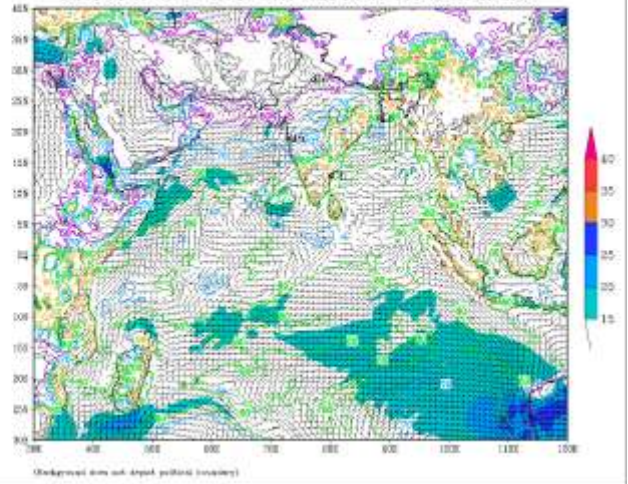
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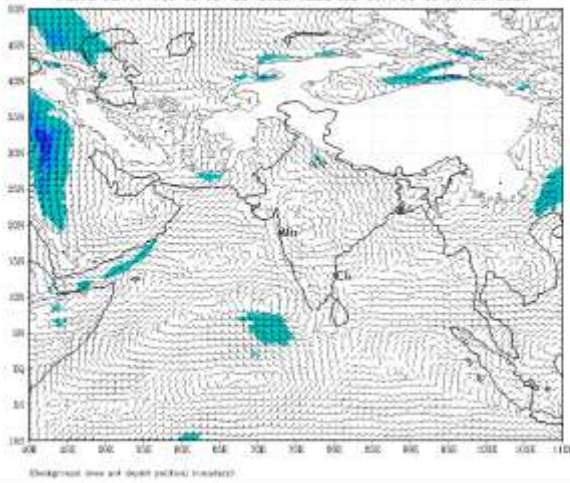
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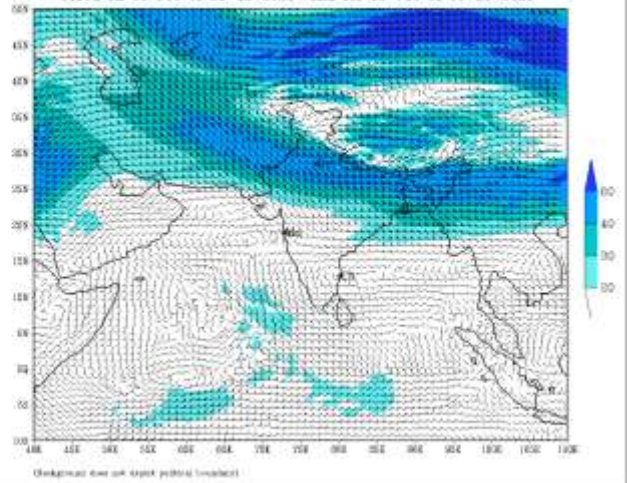
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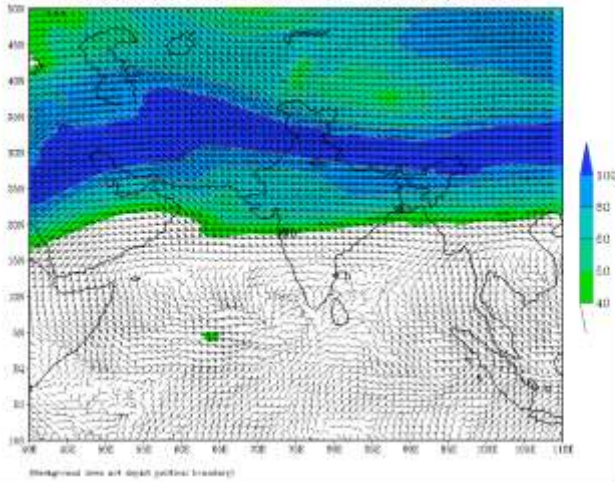
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IMD :GFS MODEL(12 Km) MSL Pressure (hPa) FORECAST (48 HR)
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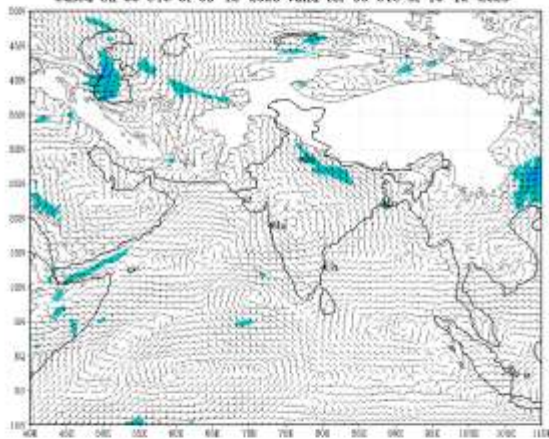
(Background over sea level political boundary)

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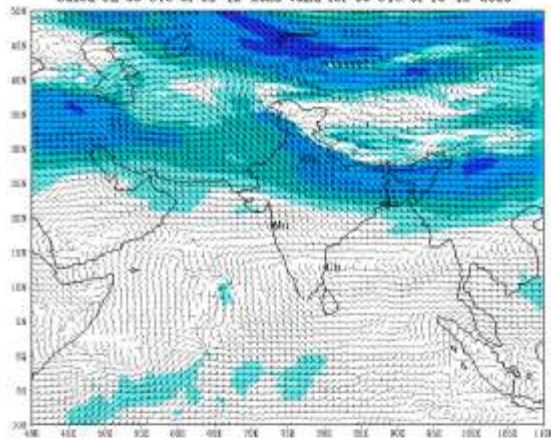
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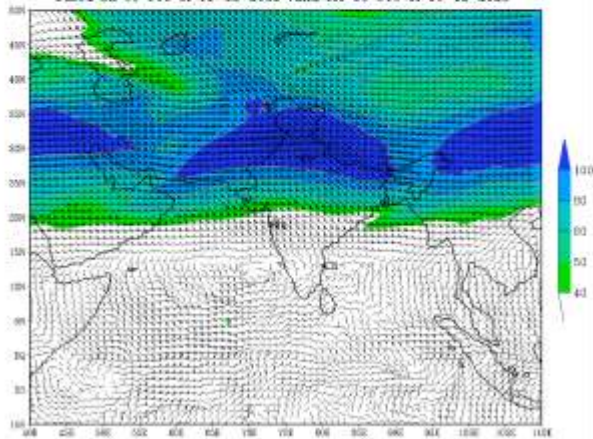
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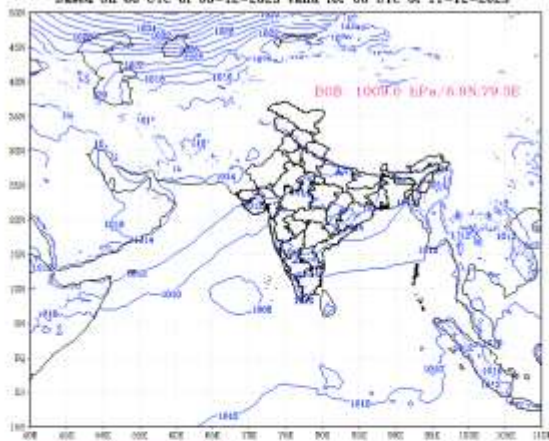
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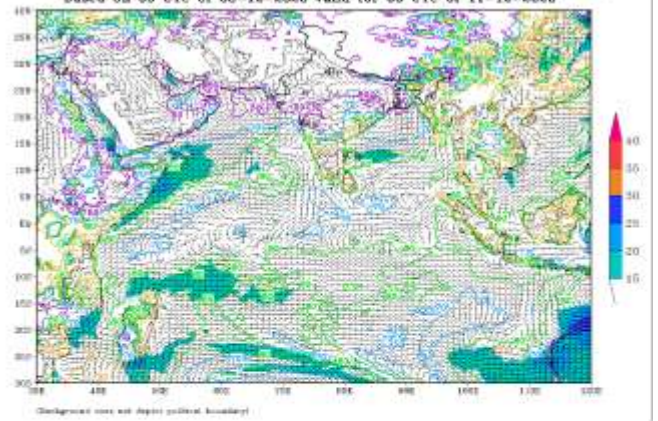


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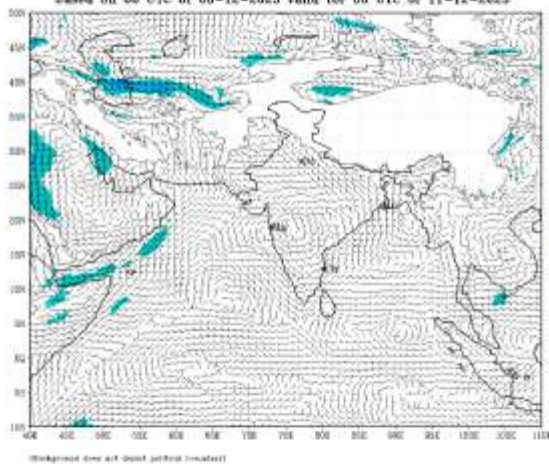
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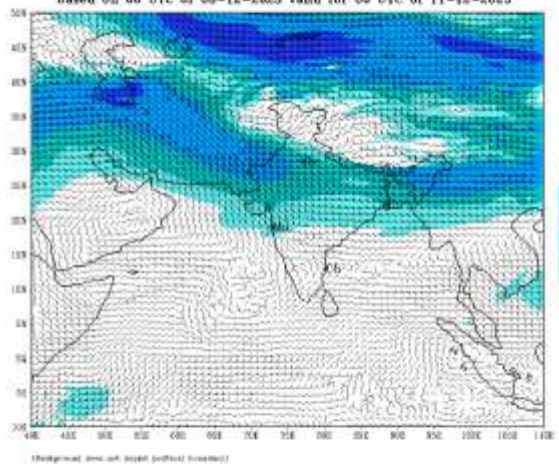
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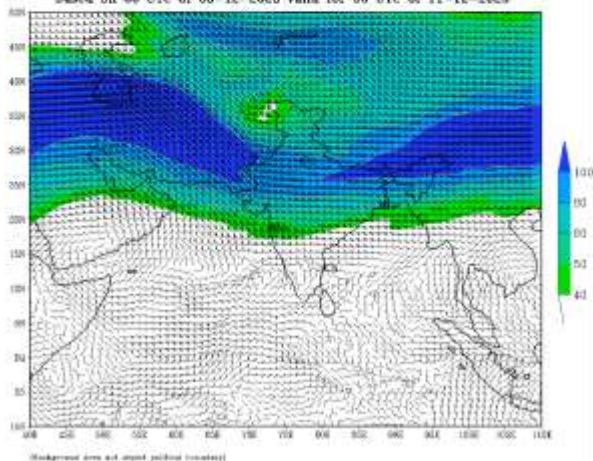
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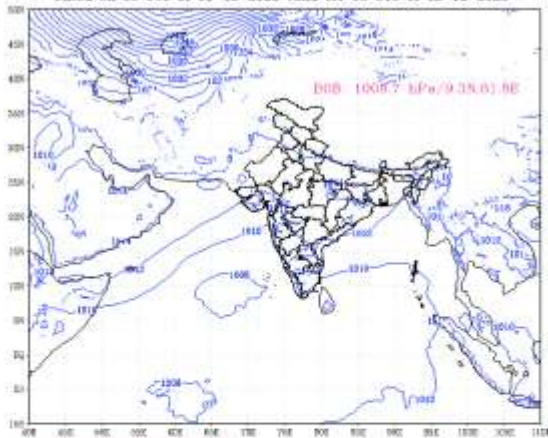
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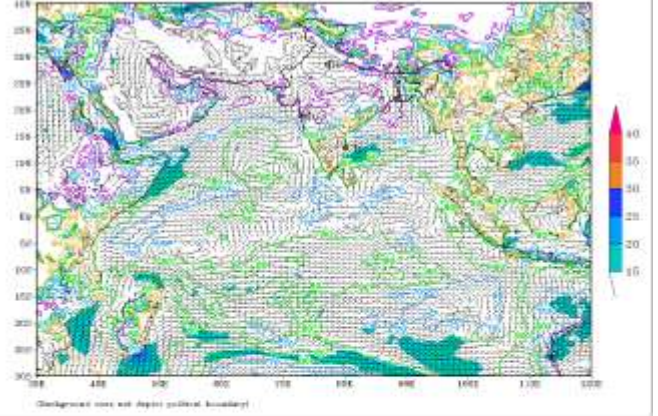
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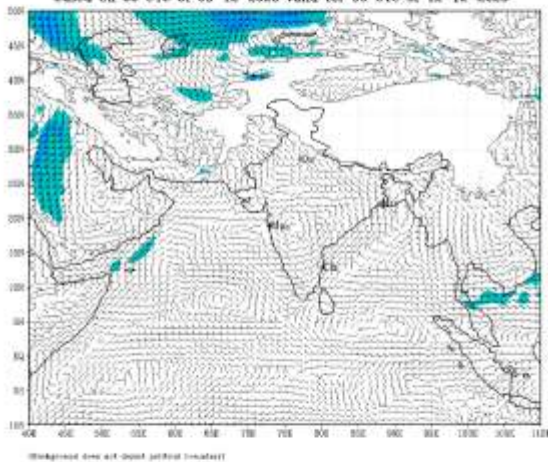
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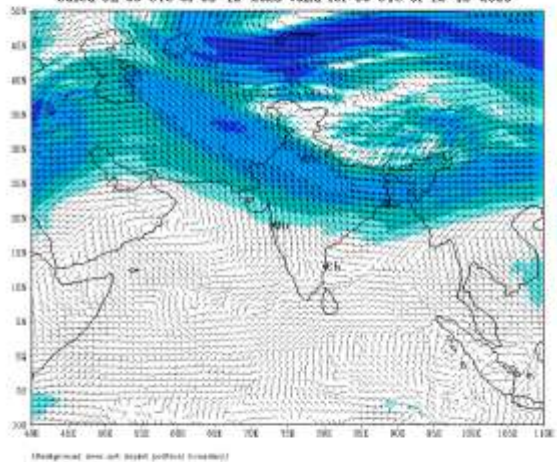
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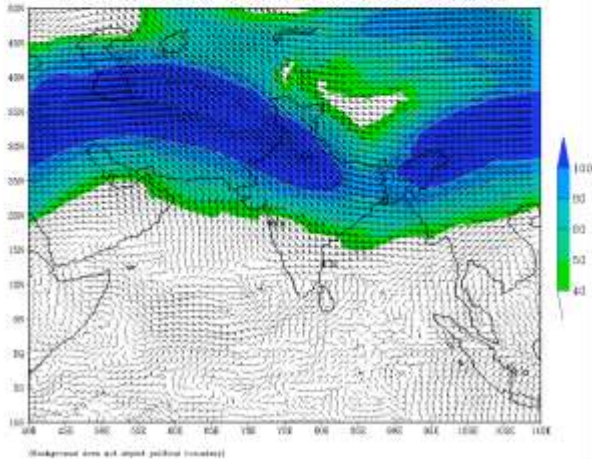
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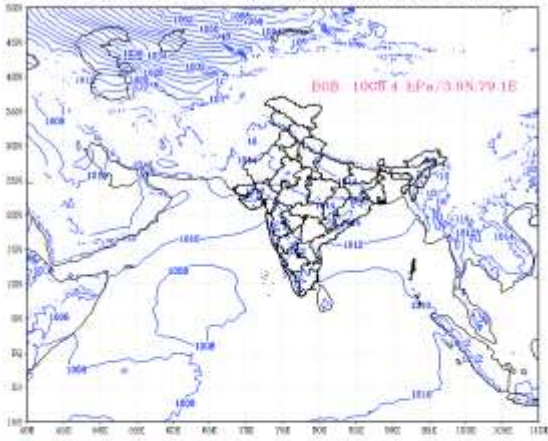
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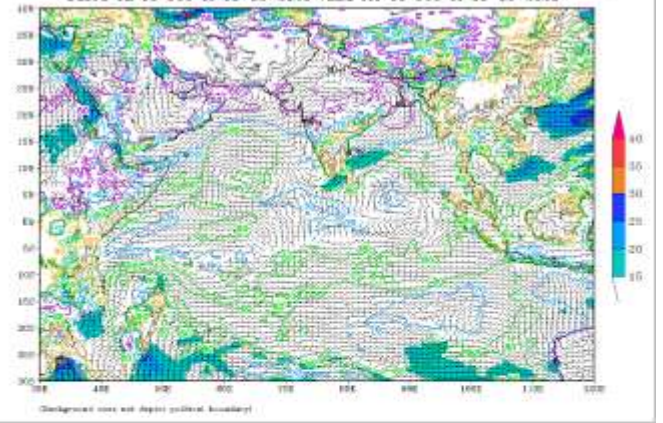
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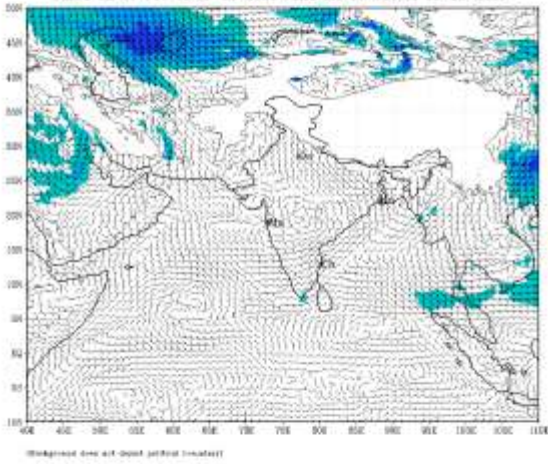
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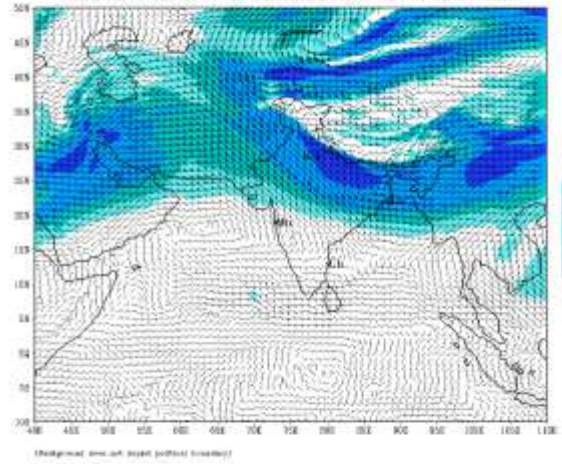
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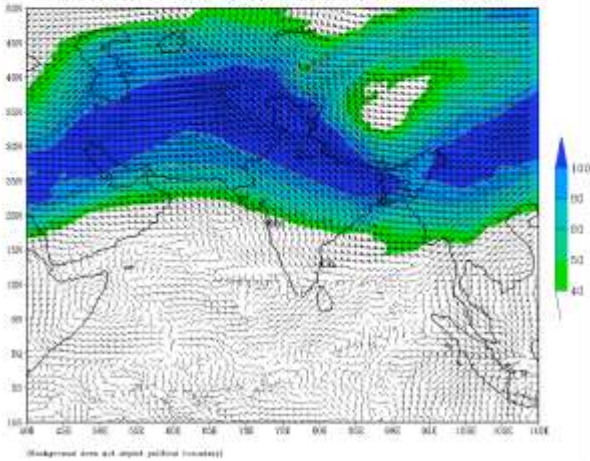
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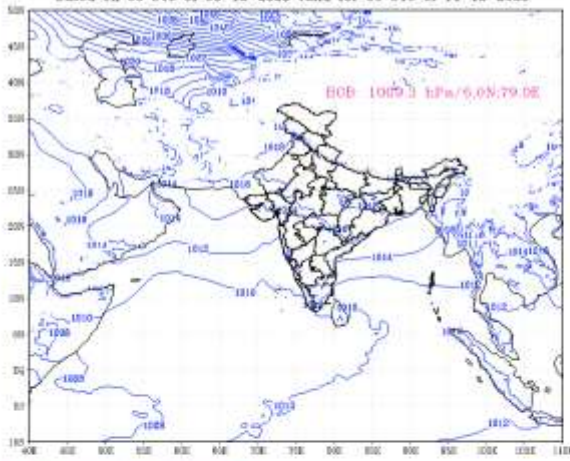
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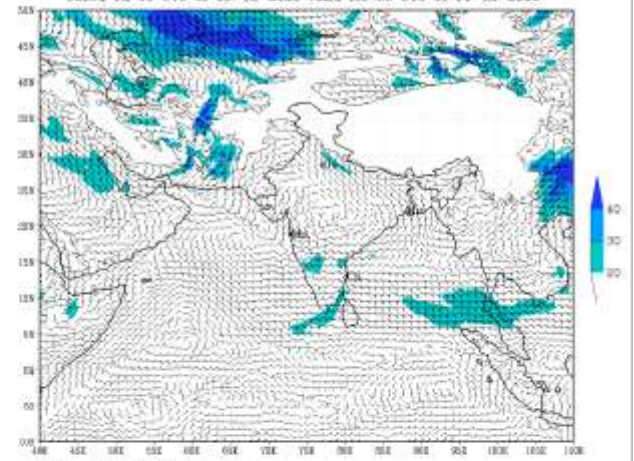


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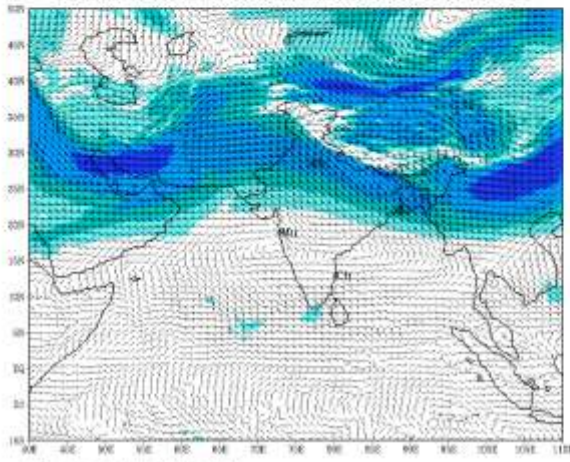
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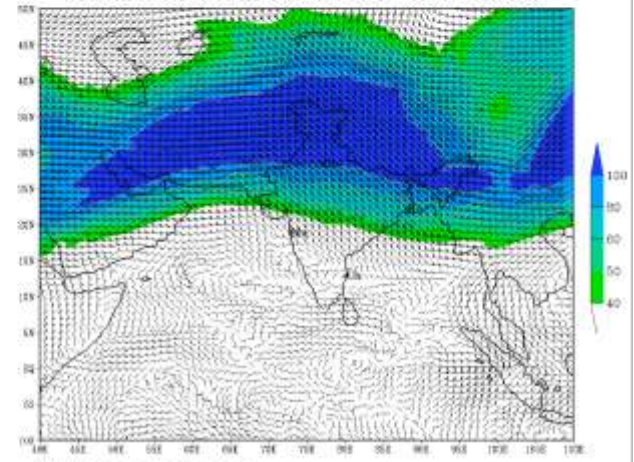
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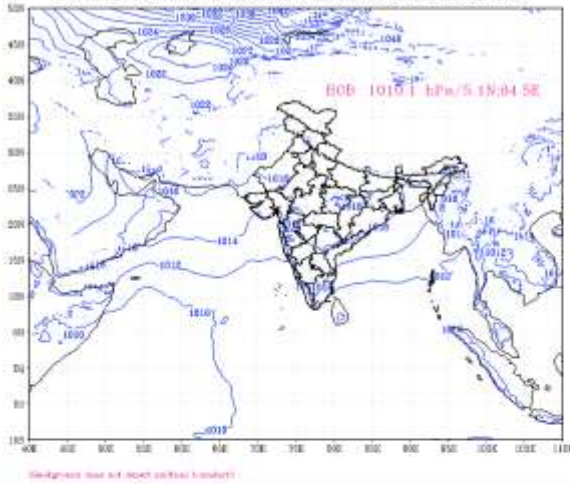
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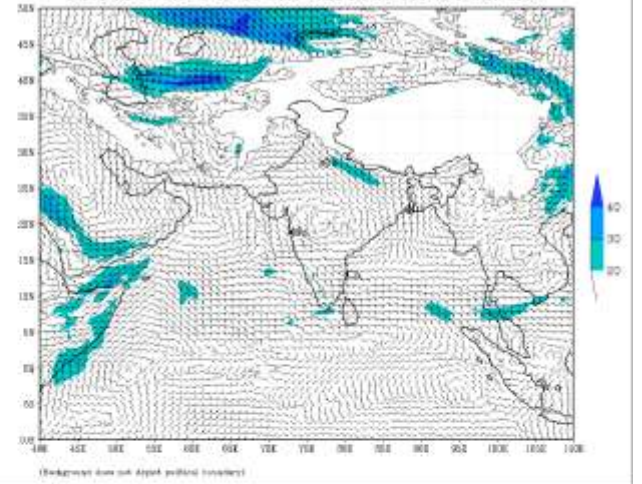


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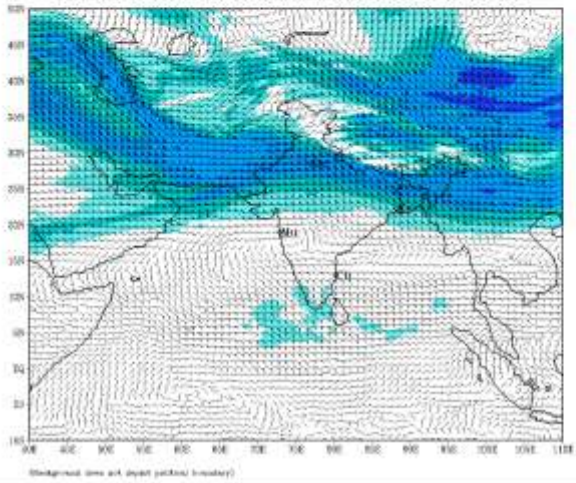
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IMD:GFS MODEL(12 Km) 500 hPa WIND (kt) FORECAST (168 HR)
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