



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

FDP (Cyclone) NOC Report Dated 06th December, 2021

Time of Issue: 1200 UTC

Synoptic features (based on 0900 UTC analysis):

- ❖ Yesterday's deep depression over westcentral Bay of Bengal (BoB) moved north-northeastwards and weakened into a depression over westcentral BoB about 30 km southeast of Paradip in the same evening (1730 hours IST/1200 UTC of 5th December). Thereafter, it moved northeastwards and weakened into a well marked low pressure area over northwest BoB and adjoining West Bengal & Bangladesh coasts in the morning (0530 hours IST/0000 UTC) and into a low pressure area over the same region in the forenoon (0830 hours IST/0300 UTC) of today, the 6th December, 2021. It persisted over the same region at 0900 UTC.
- ❖ The cyclonic circulation over Northeast Arabian Sea off south Gujarat lay over Eastcentral Arabian Sea off Maharashtra coast at 1.5 km above mean sea level.
- ❖ The cyclonic circulation over Gulf of Mannar & neighbourhood lay over Comorin Area and extended upto 0.9 km above mean sea level.

Dynamical and thermodynamical features

Parameter	Bay of Bengal (BoB)	Arabian Sea (AS)
Sea Surface Temperature (SST) °C	28-29°C over westcentral BoB. Slightly less 26-28°C over northwest BoB. Less than 26°C off West Bengal-Bangladesh coast.	28-29°C over major parts of south and eastcentral AS. 26-28°C over westcentral and southwest AS.
Tropical Cyclone Heat Potential (TCHP) kJ/cm²	100-120 over south Andaman Sea, southeast BoB and adjoining Equatorial Indian Ocean. 60-80 over westcentral and adjoining northwest BoB. It is becoming less than 50 over northwest BoB off north Odisha-West Bengal-Bangladesh coasts.	60-80 over southeast & parts of eastcentral AS. Less than 50 over major parts of west AS.
Cyclonic Relative vorticity (X10⁻⁶s⁻¹)	Vorticity has decreased during past 24 hours and is around 40-50 over northwest BoB & adjoining north Odisha coast with vertical extension upto 700 hPa. Another positive zone 10-20 over Andaman Sea, Equatorial Indian	10-20 over eastcentral and southwest AS.

		Ocean & adjoining south BoB.	
Low Level convergence ($\times 10^{-5} \text{ s}^{-1}$)		Low level convergence is 20 over northeast BoB. Another zone of 10-15 over southwest and adjoining westcentral BoB (north-south oriented).	Some small pockets of value 05 over eastcentral AS.
Upper Level divergence ($\times 10^{-5} \text{ s}^{-1}$)		No significant zone	05-10 over Comorion Area. 05 over westcentral AS and another zone of 05-10 over southwest AS.
Vertical Wind Shear (VWS Knots)		Moderate (15-20) over central BoB. It is high over north BoB and south BoB.	Moderate 15-20 over south and central AS. High over remaining parts of AS.
Wind Shear Tendency (knots)		Increasing over extreme North BoB. Decreasing over entire BoB.	Decreasing over major parts of AS.
Upper tropospheric Ridge		Along 18.5°N over the central BoB.	Not well defined..

Satellite observations based on INSAT imagery (0900 UTC):

(a) Low level circulation over south Gangetic West Bengal, adjoining Bangladesh and neighbourhood:

Scattered to broken low & medium clouds with embedded isolated moderate to intense convection lay over Gangetic West Bengal and adjoining west Bangladesh.

(b) Bay of Bengal:

Scattered to broken low & medium clouds with embedded moderate to intense convection lay over north and adjoining central BoB, southeast BoB and Andaman Sea.

(c) Arabian Sea

Scattered low & medium clouds with embedded isolated moderate to intense convection lay over southeast AS and Comorin Area.

M.J.O. Index:

MJO index is currently in Phase 6 with amplitude more than 1. It will continue in same phase for next 7 days.

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

No system over the area.

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

Model	BoB	AS
IMD-GFS	Indicates the remnant Low Pressure Area (LPA) of the Cyclonic Storm JAWAD over northwest BoB off north Odisha - West Bengal coasts on 6 th , over north BoB and adjoining southeast Bangladesh coast on 7 th and dissipation on 8 th .	No significant development is indicated.
IMD-GEFS	Same as above	Same as above
IMD-WRF	No significant development is indicated.	No significant development is indicated.

NCMRWF-NCUM(Global)	Indicates the remnant Low Pressure Area (LPA) of the Cyclonic Storm JAWAD over northwest BoB and adjoining north coastal Odisha on 6 th and dissipation on 8 th .	No significant development is indicated.
NCMRWF-NEPS	Similar to NCUM-G	Similar to NCUM-G
NCMRWF-UM (Regional)	Indicates the remnant Low Pressure Area (LPA) of the Cyclonic Storm JAWAD over coastal West Bengal and adjoining northwest BoB on 6 th and dissipation on 8 th .	Same as above
ECMWF	Indicates the remnant Low Pressure Area (LPA) of the Cyclonic Storm JAWAD over northwest BoB off north Odisha coast on 6 th , its northeastward moving over to Bangladesh coast with further weakening on 7 th and dissipation on 8 th .	No significant development is indicated.
ECMWF-EPS	NIL cyclogenesis / strike probability	NIL cyclogenesis / strike probability
NCEP-GFS	Indicates the remnant Low Pressure Area (LPA) of the Cyclonic Storm JAWAD over northwest BoB off West Bengal - Bangladesh coasts on 7 th and dissipation on 8 th .	No Low pressure system predicted.
IMD-GPP	A very small Potential zone over equatorial Indian Ocean & adjoining south Andaman Sea to the west of Sumatra on 12 th , but NIL on 13 th .	No potential zone.

GPP- Genesis Potential Parameter based on Dynamical Statistical model developed by IMD.

Summary and Conclusion:

Based on the initial conditions of 00 UTC of today, the 6th December, there is no indication of any fresh development / cyclogenesis over the north Indian Ocean (comprising the Bay of Bengal & the Arabian Sea) during next 7 days.

It may thus be concluded that, no cyclogenesis is likely over the Bay of Bengal & the Arabian Sea during next 7 days.

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

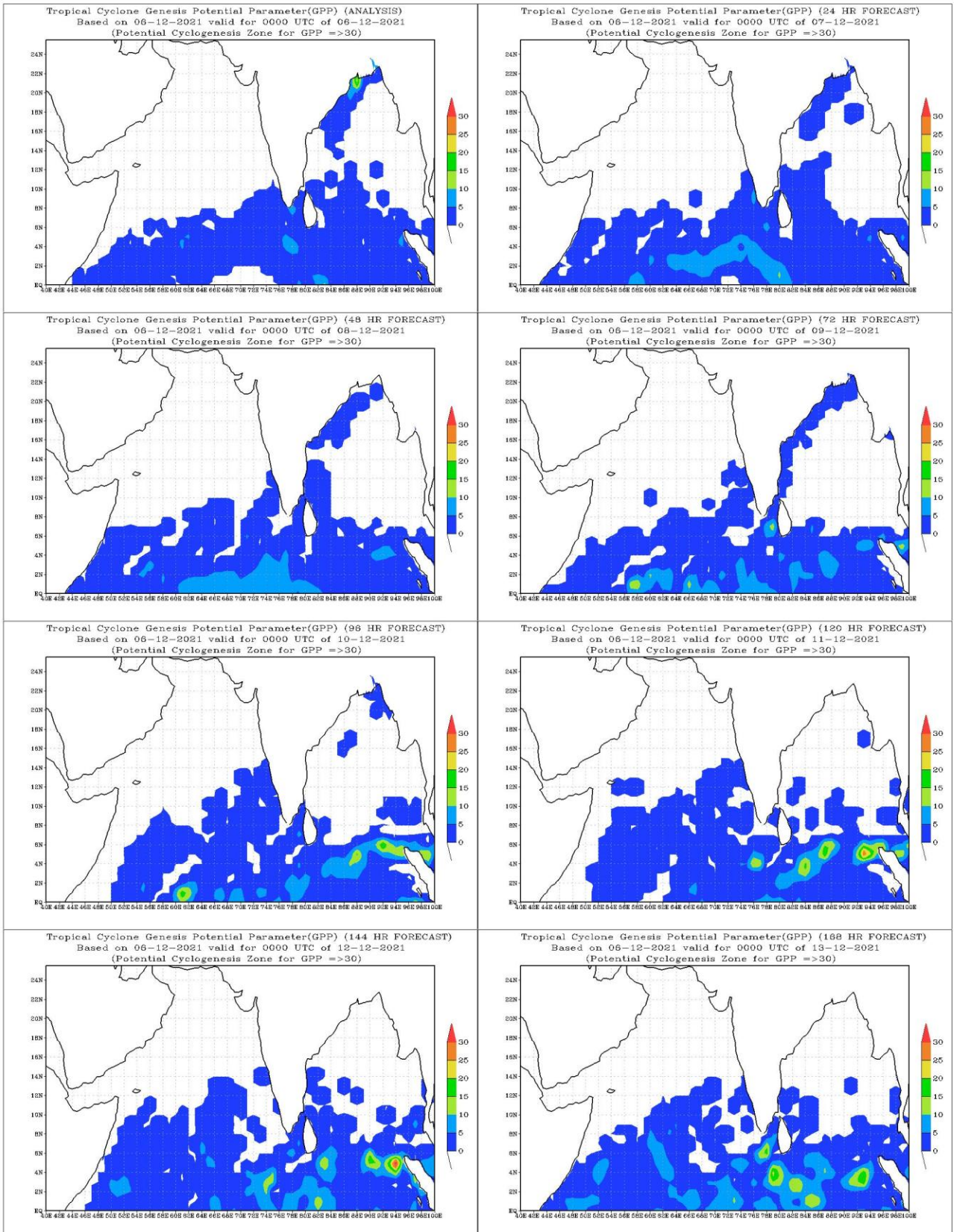
24 HOURS	24-48 HOURS	48-72 HOURS	72-96 HOURS	96-120 HOURS	120-144 HOURS	144-168 HOURS
NIL	NIL	NIL	NIL	NIL	NIL	NIL

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

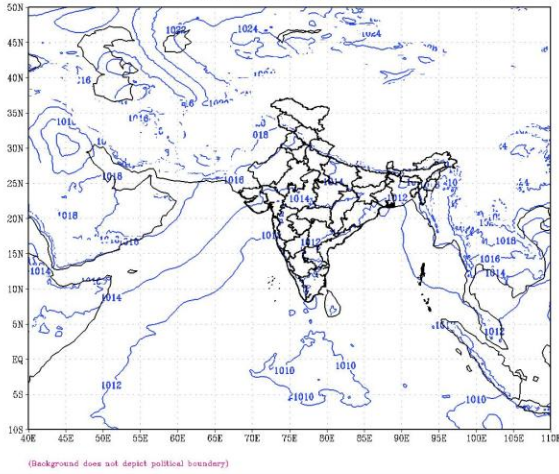
24 HOURS	24-48 HOURS	48-72 HOURS	72-96 HOURS	96-120 HOURS	120-144 HOURS	144-168 HOURS
NIL	NIL	NIL	NIL	NIL	NIL	NIL

Advisory: NIL

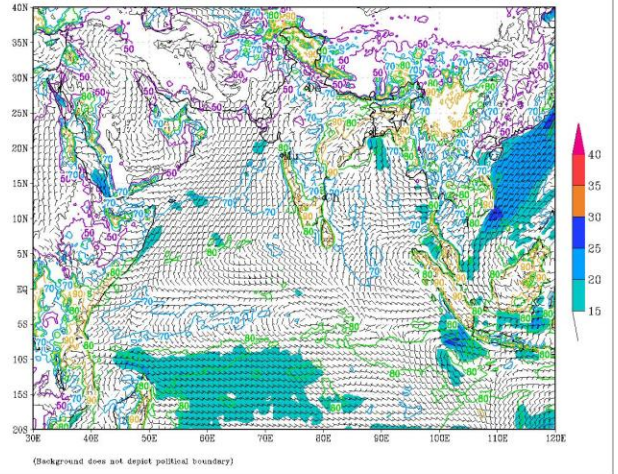
No IOP is suggested.



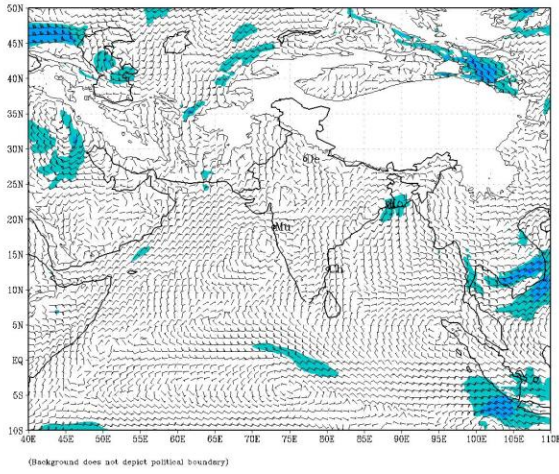
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based on 00 UTC of 06-12-2021 valid for 00 UTC of 06-12-2021



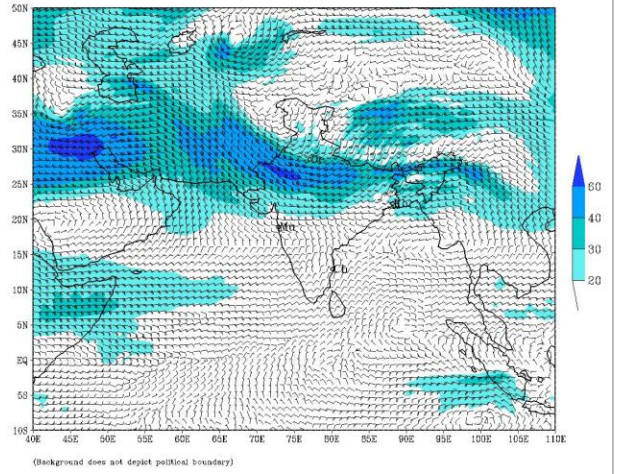
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based on 00 UTC of 06-12-2021 valid for 00 UTC of 06-12-2021



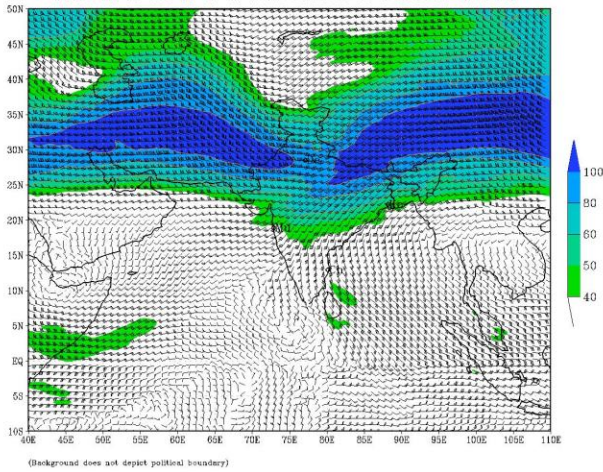
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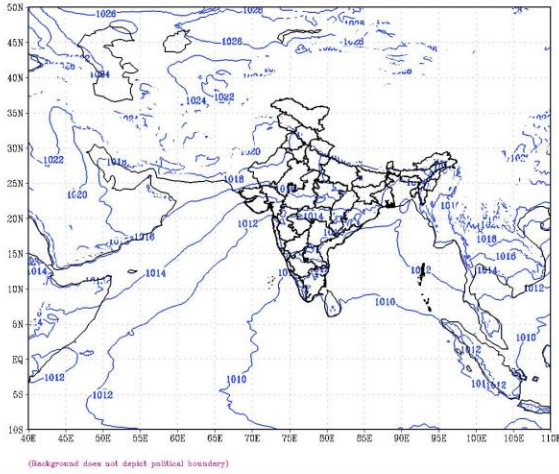
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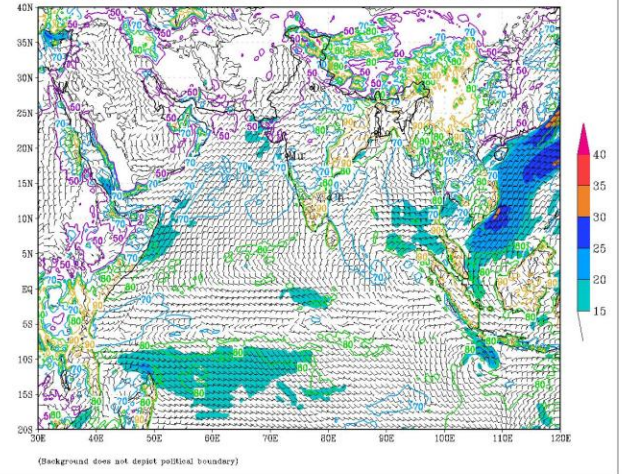
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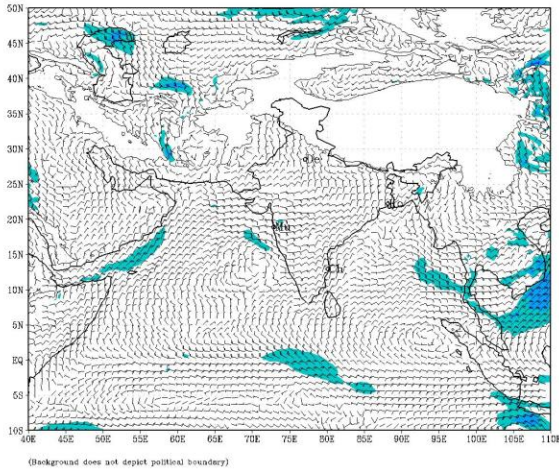
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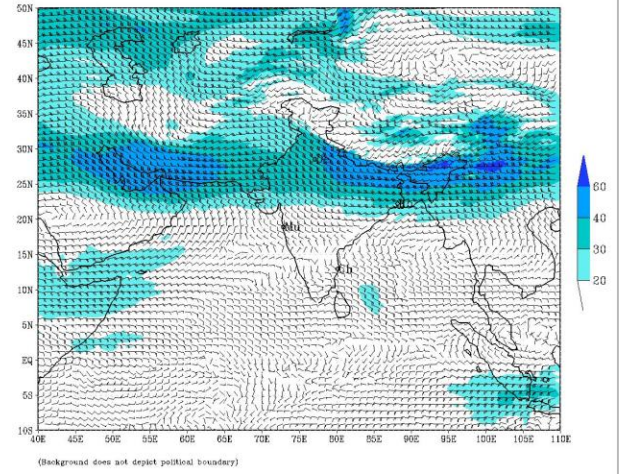
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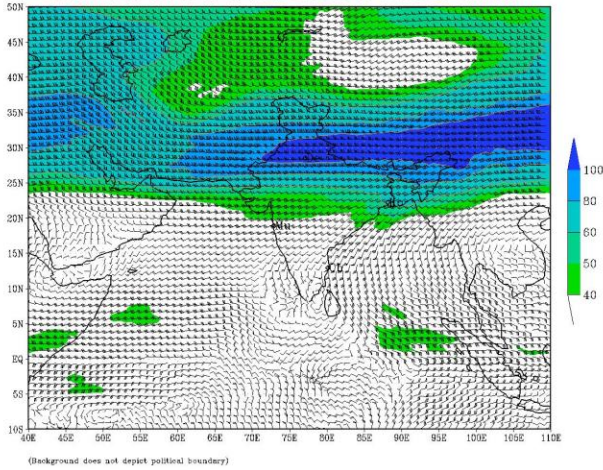
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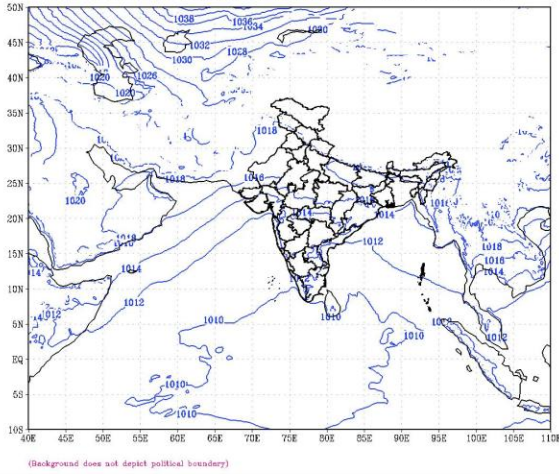
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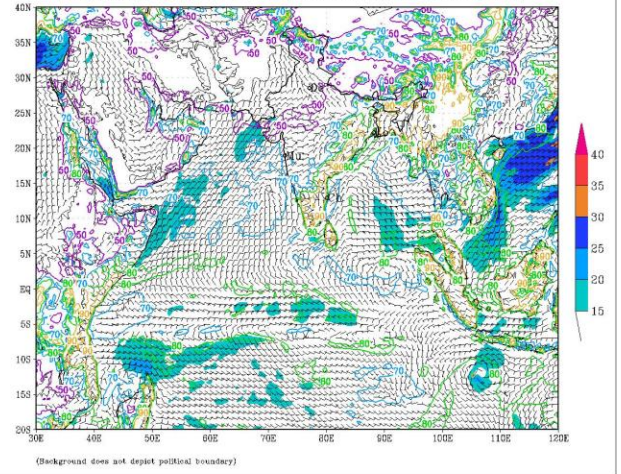
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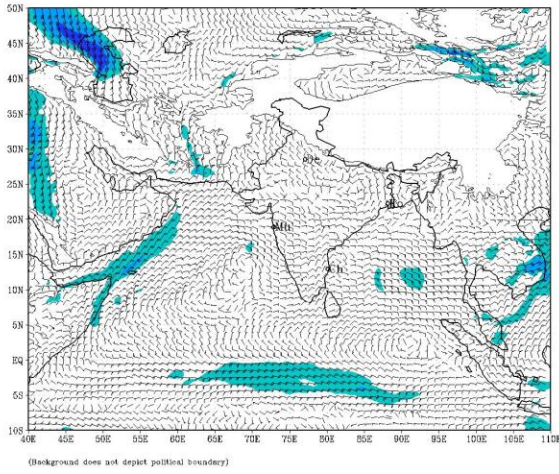
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based on 00 UTC of 06-12-2021 valid for 00 UTC of 08-12-2021



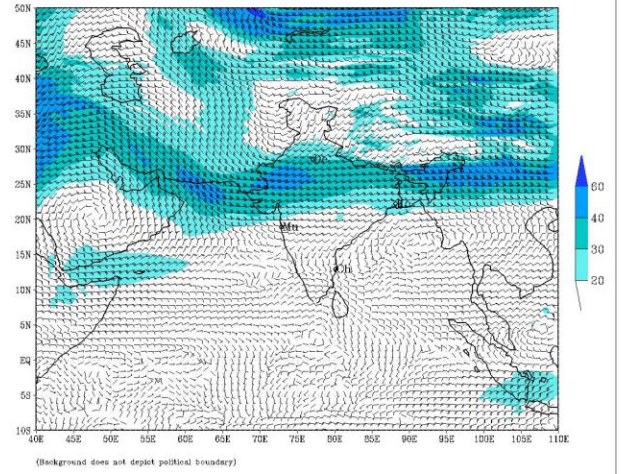
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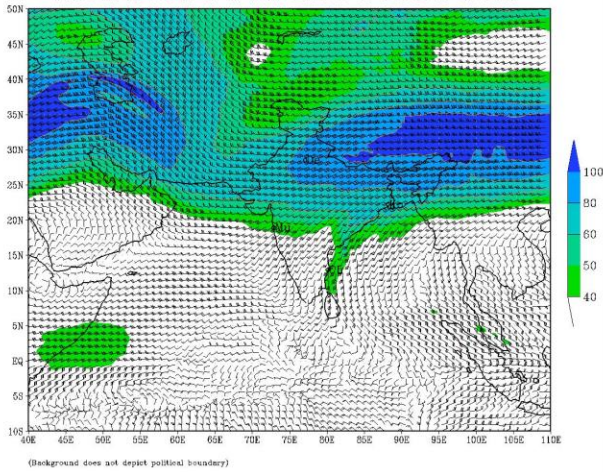
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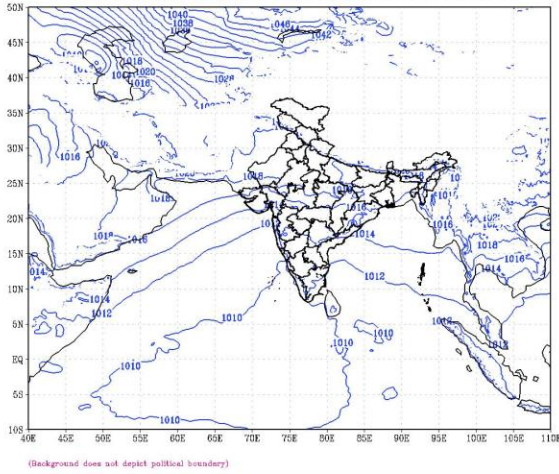
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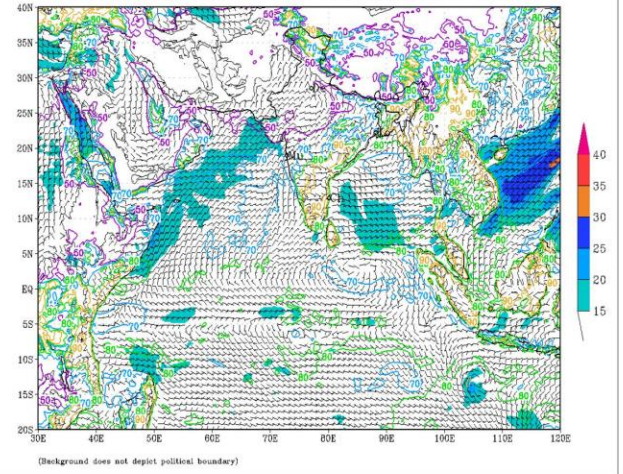
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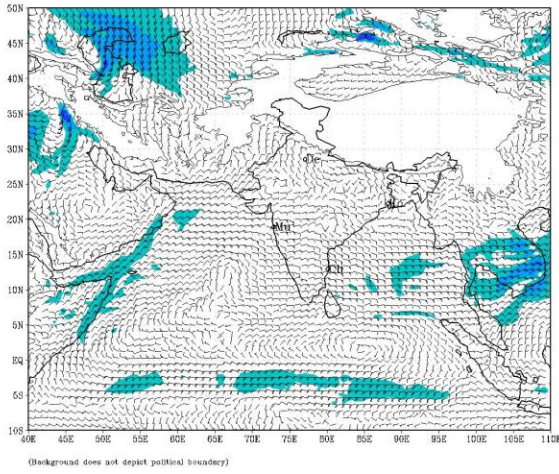
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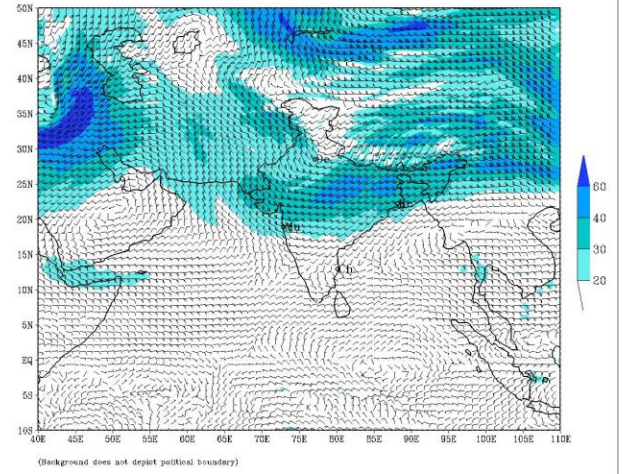
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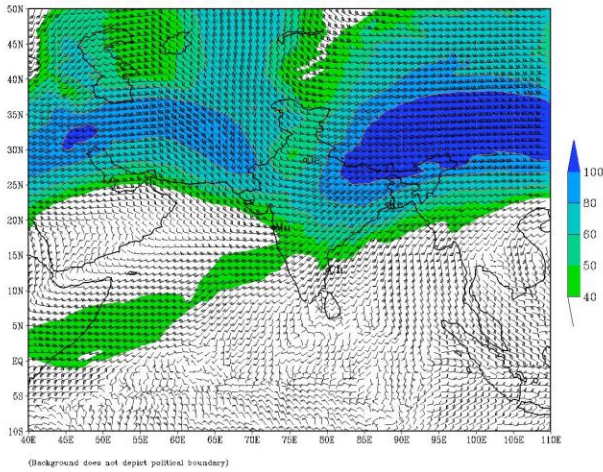
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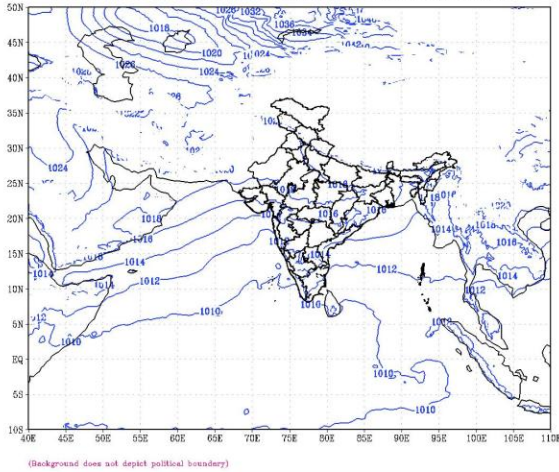
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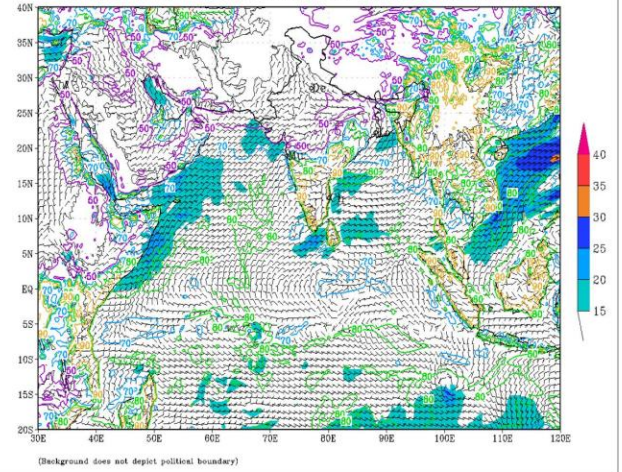
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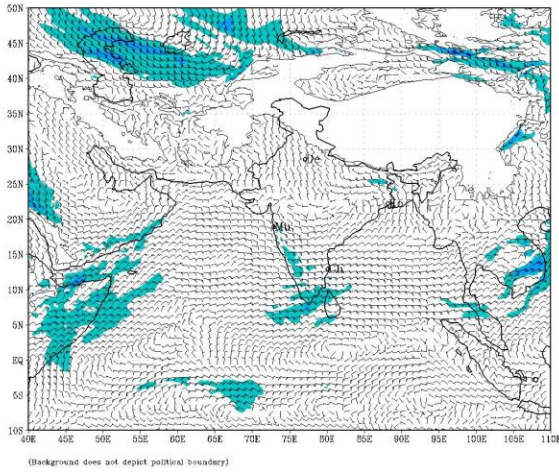
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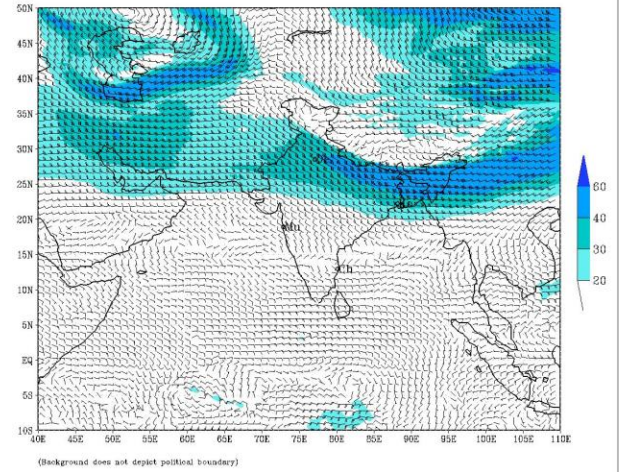
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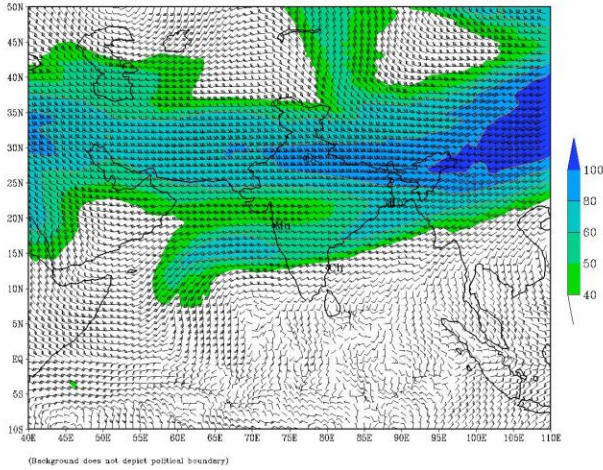
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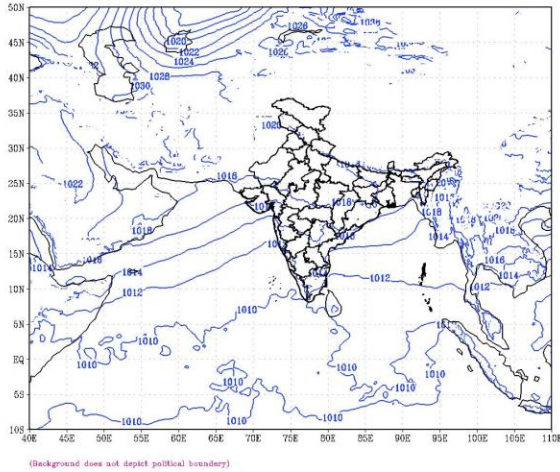
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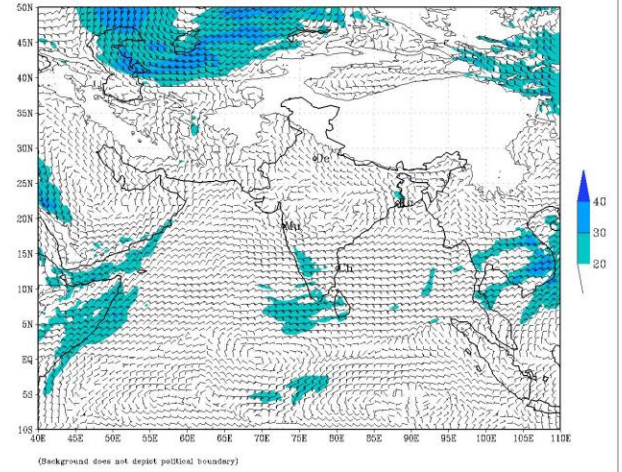
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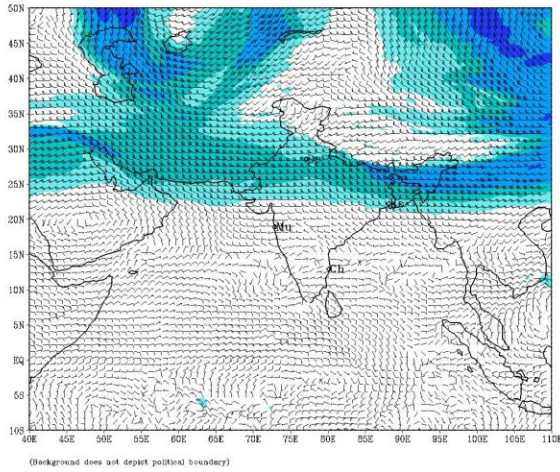
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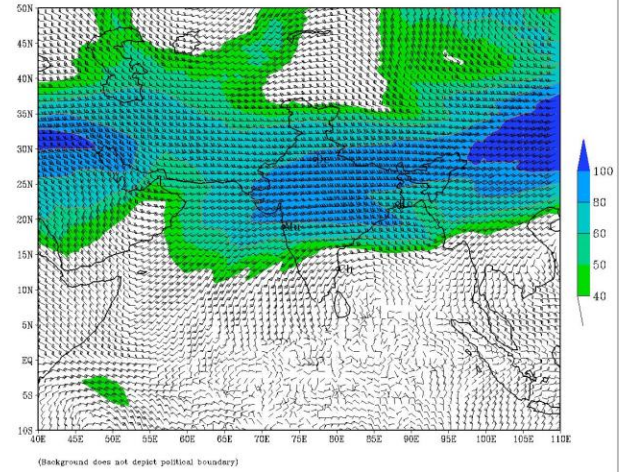
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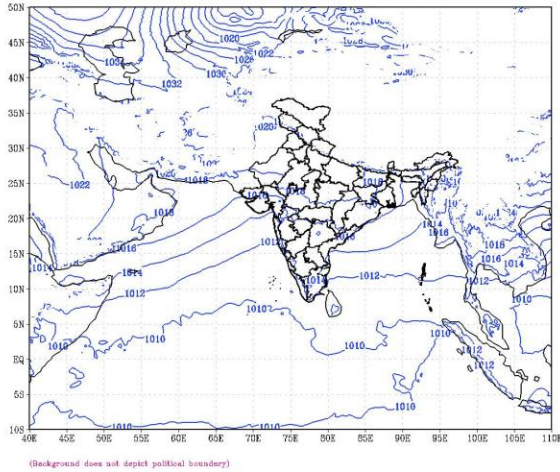
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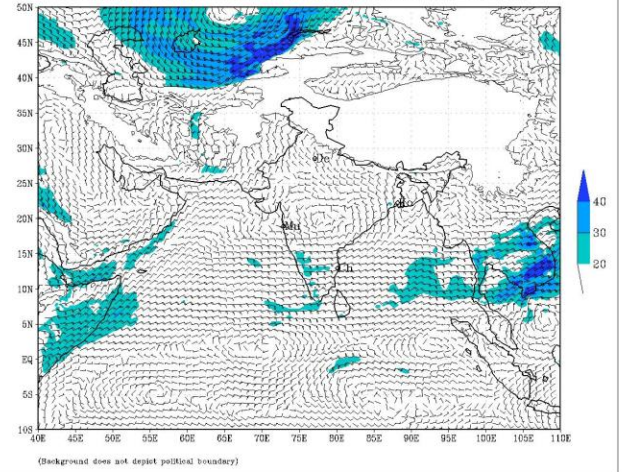
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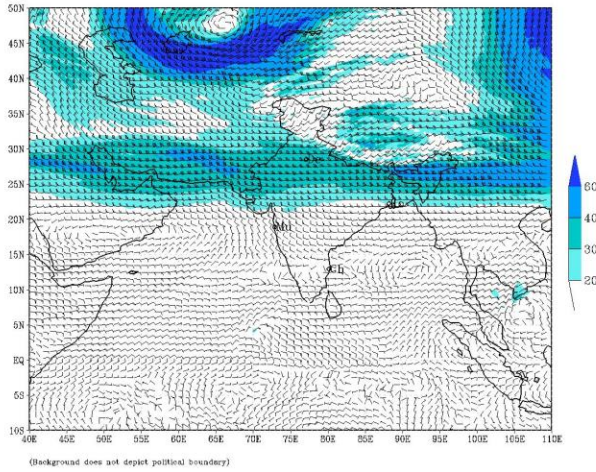
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IMD:GFS MODEL(12 Km) 850 hPa WIND (kt) FORECAST (168 HR)
based on 00 UTC of 06-12-2021 valid for 00 UTC of 13-12-2021



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