



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

**Tropical Cyclone Forecast Programme
Report Dated 03rd December 2024**

Time of Issue: 1200 UTC

Synoptic features (based on 0900 UTC analysis):

The well marked low pressure area over Coastal Karnataka and adjoining east central Arabian sea moved westwards and lay over east central Arabian sea and adjoining Coastal Karnataka at 1630 hours IST of today, the 03rd December, 2024. The associated cyclonic circulation extends upto mid tropospheric levels. It is likely to move west-northwestwards over eastcentral Arabian Sea during next 2 days.

Environmental Features based on 03 UTC:

Parameter	Bay of Bengal (BoB)	Arabian Sea (AS)
Sea Surface Temperature (SST) °C	<ul style="list-style-type: none"> ➤ 26-28°C along & off west coast. ➤ 28-30°C over rest of BoB. 	<ul style="list-style-type: none"> ➤ 26-28°C over west-central AS along and off Oman, Yemen & Somalia coast. ➤ 28-30°C over most parts of AS.
Tropical Cyclone Heat Potential (TCHP) kJ/cm²	<ul style="list-style-type: none"> ➤ 140-150 over northeast BoB, Andaman sea and extreme south BoB & adjoining EIO. ➤ 100-110 eastcentral & northwest BoB. ➤ 40-50 over rest of BoB. 	<ul style="list-style-type: none"> ➤ 100-120 over southeast AS and Lakshadweep Island. ➤ 20-40 over some parts of westcentral and southwest AS off Oman, Yemen & Somalia coasts and Comorin area. ➤ 50-60 over rest of AS
Cyclonic Relative vorticity (X10⁻⁶s⁻¹)	20-30 over southern parts of southwest BoB.	60-70 over some parts of eastcentral AS off Karnataka-Kerala coasts and Lakshadweep Island.
Low-Level convergence(X10⁻⁵ s⁻¹)	➤ 05-10 over westcentral BoB.	5-20 over some parts of eastcentral AS off Karnataka, Maharashtra & Goa coasts.
Upper-Level divergence (X10⁻⁵ s⁻¹)	➤ 05 over some parts west central BoB.	➤ 10-30 over eastcentral AS off Karnataka, Maharashtra & Goa coasts and Lakshadweep Islands area.
Vertical Wind Shear (VWS knots) Low: 05-10 knots	<ul style="list-style-type: none"> ➤ High over extreme north and extreme South BoB. ➤ Low-moderate over 	➤ High over entire AS.

Moderate: 10-20 knots High: >20 knots	rest of BoB.	
Wind Shear Tendency (knots)	<ul style="list-style-type: none"> ➤ Increasing over Andaman Sea and some parts of southeast & southwest BoB. ➤ Decreasing over west coast and southern parts of south BoB & adjoining EIO. 	➤ Increasing over entire AS.
Upper tropospheric Ridge	➤ At 17 ⁰ N.	➤ At 17 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 central & southeast Bay of Bengal and south Andaman Sea (minimum CTT minus 70-85 Deg Cel). Scattered low and medium clouds with embedded moderate to intense convection lay over the north & southwest Bay of Bengal.

b) Over the Arabian Sea:

Scattered low and medium clouds with embedded intense to very intense convection lay over the southeast and east-central Arabian Sea off Kerala-Karnataka Coast Lakshadweep Islands area (minimum CTT minus 70-90 Deg Cel). Scattered low and medium clouds with embedded isolated weak to moderate convection lay over the northwest & east-central Arabian Sea rest south Arabian Sea, Maldives & Comorin Area.

c) Outside India:

Scattered low & medium clouds with embedded moderate to intense convection over Sri Lanka, Maldives, Pakistan, China, East China sea, Myanmar, Gulf of Thailand, Vietnam, Sumatra, Strait of Malacca, Malaysia, Borneo, south China Sea, Java islands & Sea, Celebes islands & Sea, Philippines, Sulu sea, Madagascar, North Mozambique Channel and over Indian Ocean between latitude 5.0N to 15.0S longitude 40.0E to 120.0E.

M.J.O. Index:

Madden Julian Oscillation (MJO) is in phase 5 with amplitude more than 1 and would remain in same phase during next 7 days with amplitude more than 1.

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 cyclonic circulation over Bay of Bengal.	The remnant of Bay of Bengal system has lay over eastcentral Arabian Sea & adjoining coastal Karnataka as of today as WML. It will move in west-southwestward direction without further intensification till 6 th Dec and become less marked thereafter.
IMD-GEFS	No Significant cyclonic circulation Over Bay of Bengal.	The remnant of Bay of Bengal system has lay over eastcentral Arabian Sea & adjoining coastal Karnataka as of today as WML. It will move in west-southwestward direction without further intensification till 6 th Dec and become less marked thereafter.
IMD-WRF	No Significant cyclonic circulation over Bay of Bengal.	The remnant of Bay of Bengal system has emerged into the eastcentral Arabian Sea & adjoining coastal Karnataka as of today as WML. It will move in west-southwestward direction without further intensification till 6 th Dec.
NCMRWF-NCUM(G)	No Significant cyclonic circulation over Bay of Bengal.	The remnant of Bay of Bengal system has emerged into the eastcentral Arabian Sea & adjoining coastal Karnataka as of today as WML. It will move in west-southwestward direction without further intensification till 5 th Dec and become less marked thereafter.
NCMRWF-NCUM(R)	No Significant cyclonic circulation over Bay of Bengal.	The remnant of Bay of Bengal system has lay over eastcentral Arabian Sea & adjoining coastal Karnataka as of today as WML. It will move in west-southwestward direction without further intensification till 5 th Dec.
NCMRWF-NEPS	No Significant cyclonic circulation over Bay of Bengal.	The remnant of Bay of Bengal system has lay over eastcentral Arabian Sea & adjoining coastal Karnataka as of today as WML. It

		will move in west-southwestward direction without further intensification till 5 th Dec and become less marked thereafter.
ECMWF	No Significant cyclonic circulation over Bay of Bengal.	The remnant of Bay of Bengal system has lay over eastcentral Arabian Sea & adjoining coastal Karnataka as of today as WML. It will move in west-southwestward direction without further intensification till 4 th Dec and become less marked thereafter.
NCEP-GFS	No Significant cyclonic circulation over Bay of Bengal.	The remnant of Bay of Bengal system has lay over eastcentral Arabian Sea & adjoining coastal Karnataka as of today as WML. It will move in west-southwestward direction without further intensification till 6 th Dec and become less marked thereafter.

Summary:

(a) Bay of Bengal:

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

(b) Arabian Sea

All the models are indicating that the remnant of Bay of Bengal has emerged into the eastcentral Arabian Sea and lay over eastcentral Arabian Sea & adjoining coastal Karnataka as WML. Models are indicating that system will move west-southwestwards and without having significant intensification.

Inference:

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

The well marked low pressure area over Coastal Karnataka and adjoining east central Arabian sea moved westwards and lay over east central Arabian sea and adjoining Coastal Karnataka at 1630 hours IST of today, the 03rd December, 2024. The associated cyclonic circulation extends upto mid tropospheric levels. It is likely to move west-northwestwards over eastcentral Arabian Sea during next 2 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

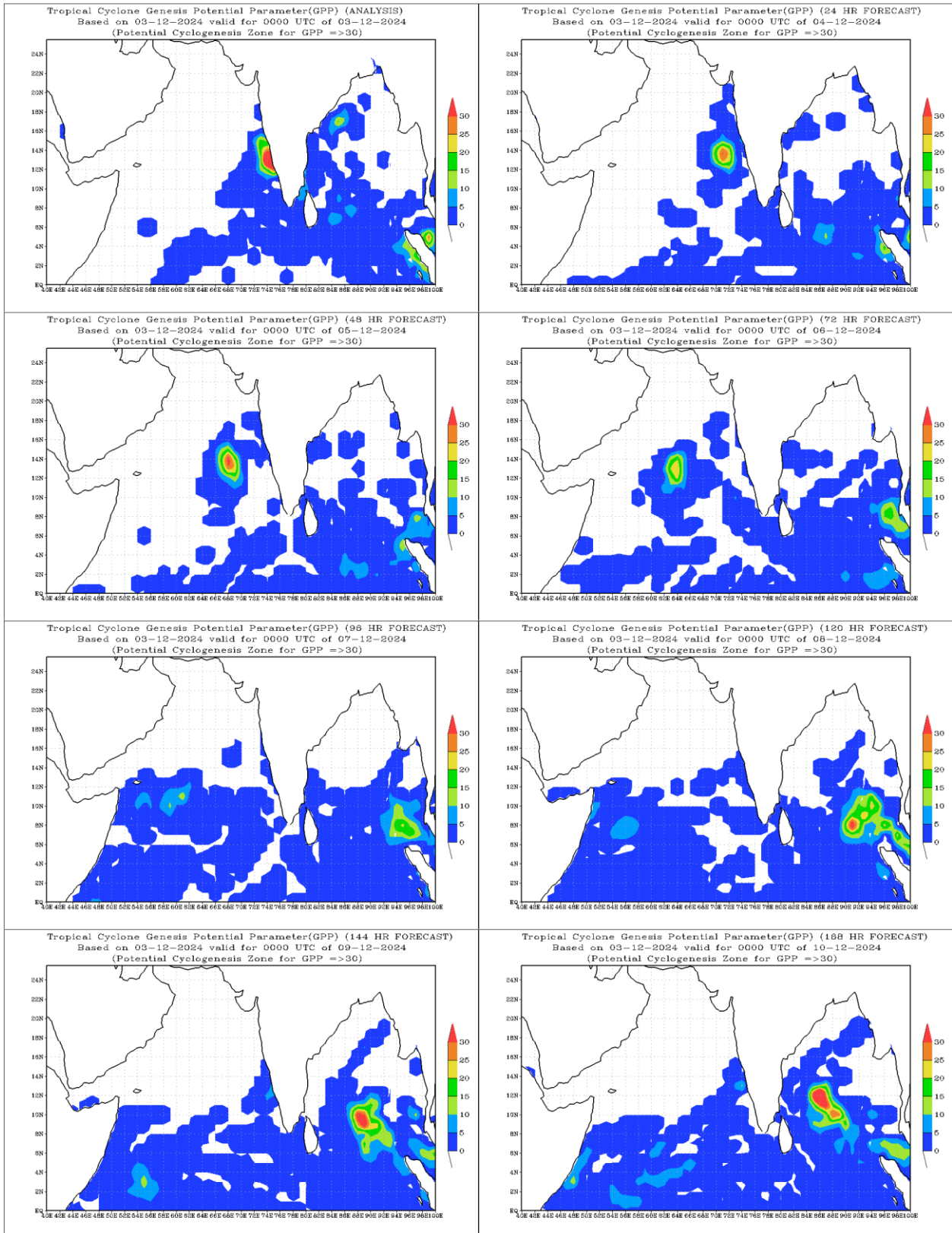
Probability of cyclogenesis (formation of depression and above intensity systems) over the Arabian Sea during next 168 hours:

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

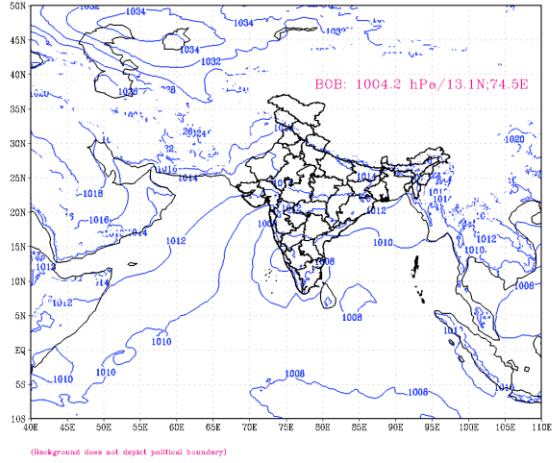
“- “indicates genesis has already occurred.

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

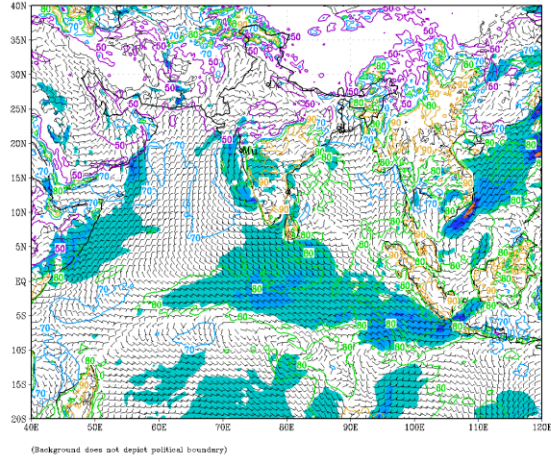
Intense Observation Period (IOP): NIL



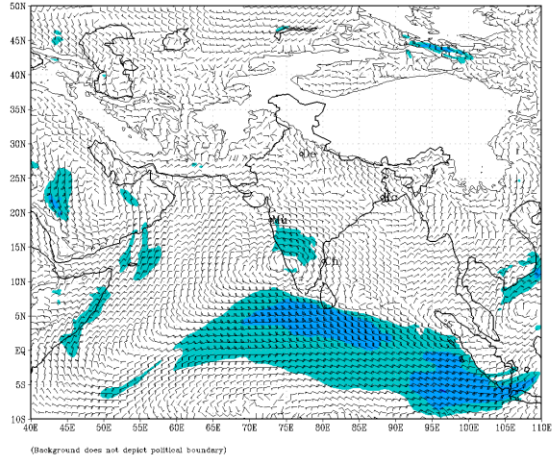
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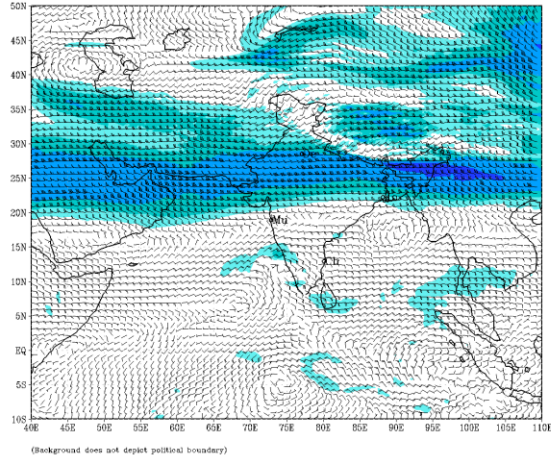
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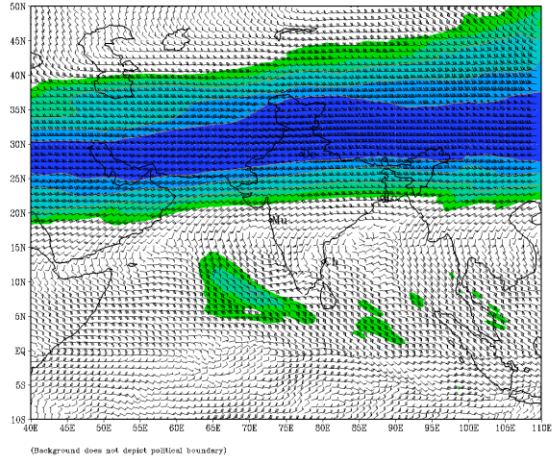
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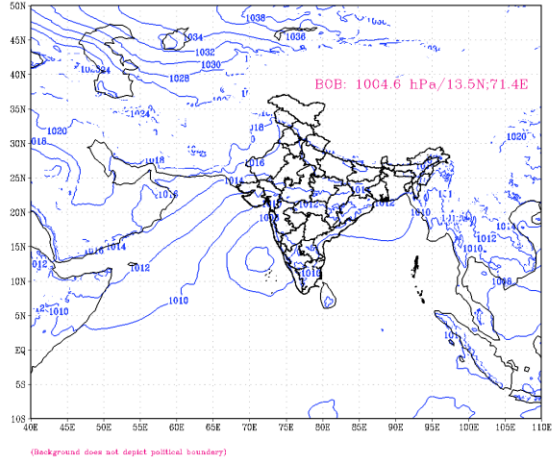
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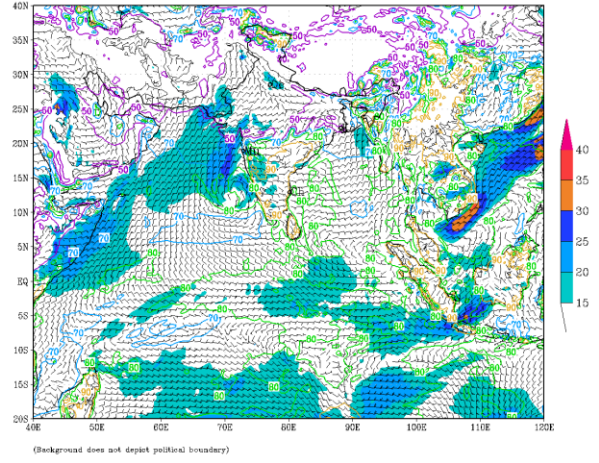
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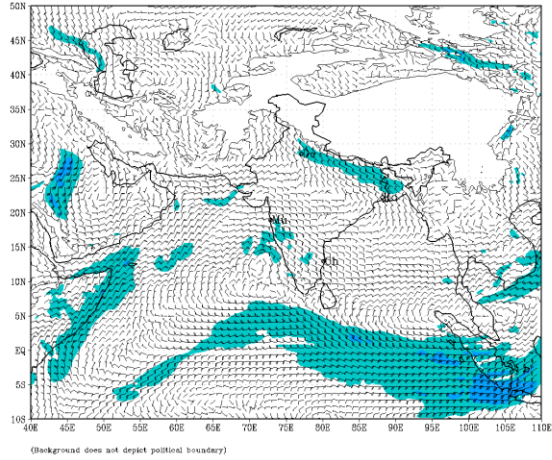
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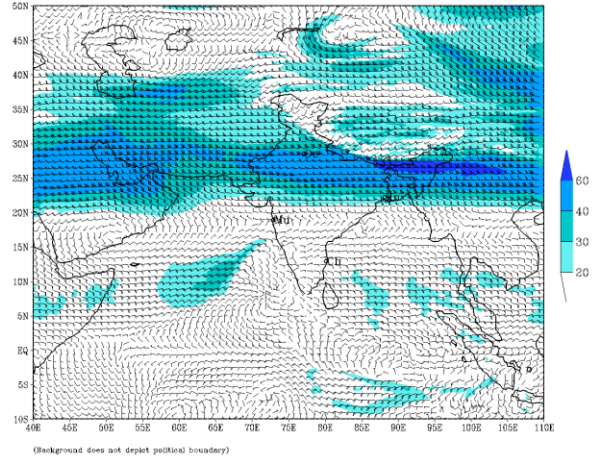
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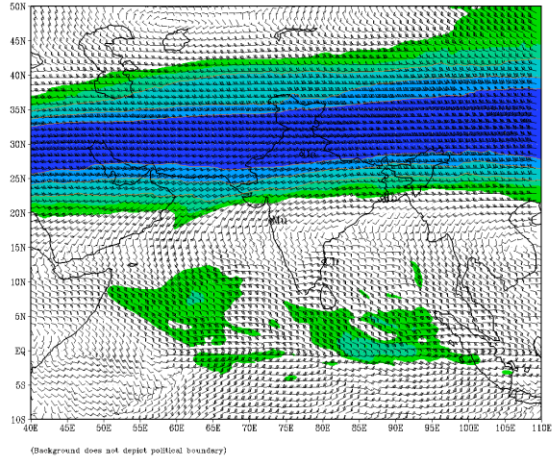
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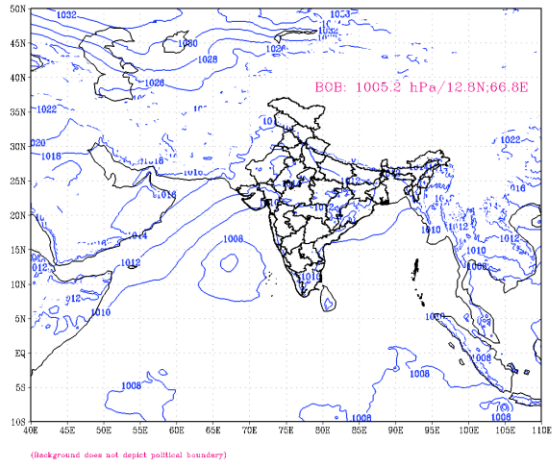
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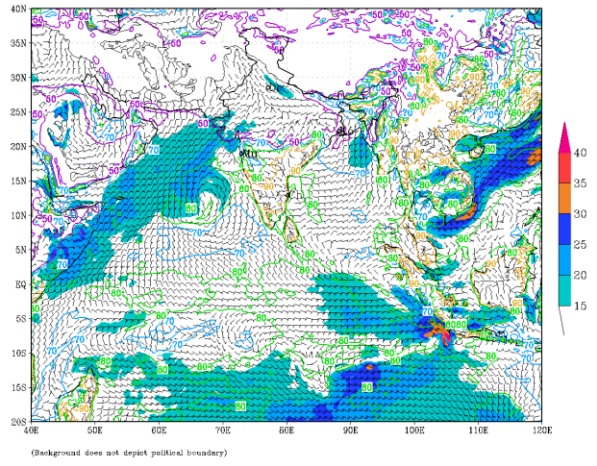
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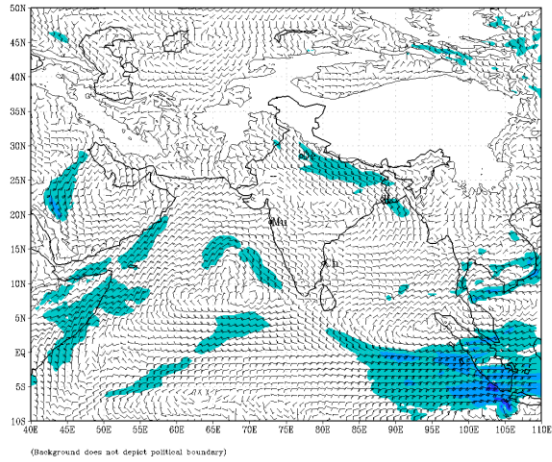
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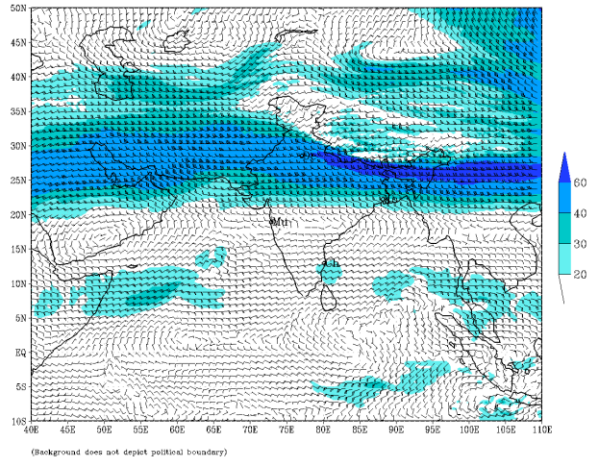
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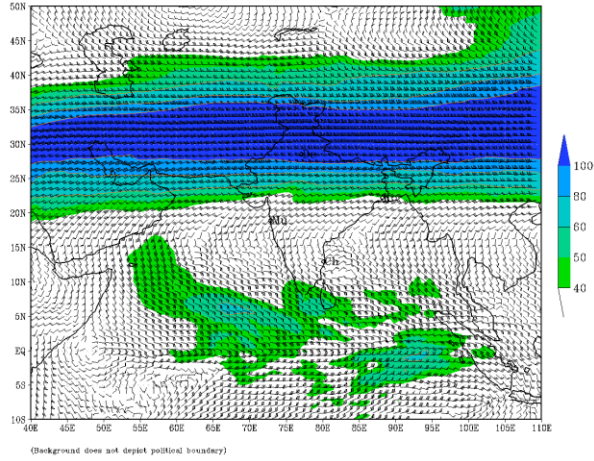
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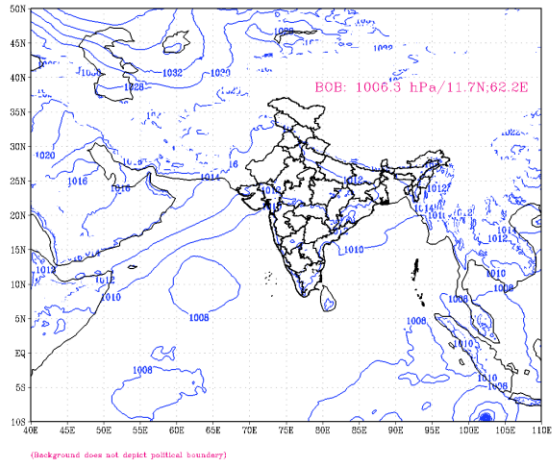
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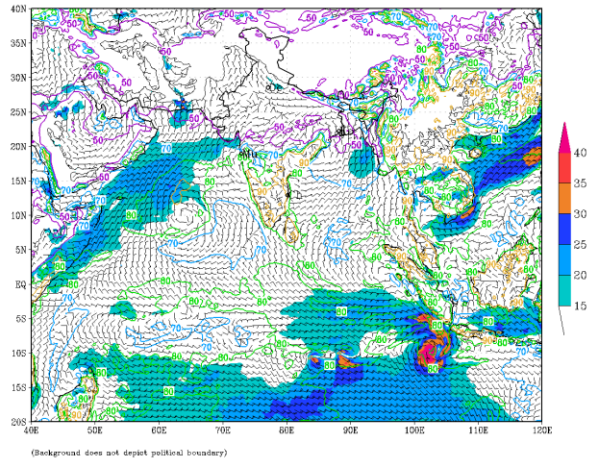
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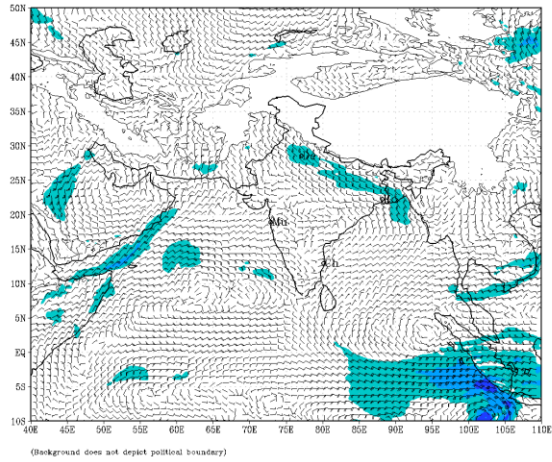
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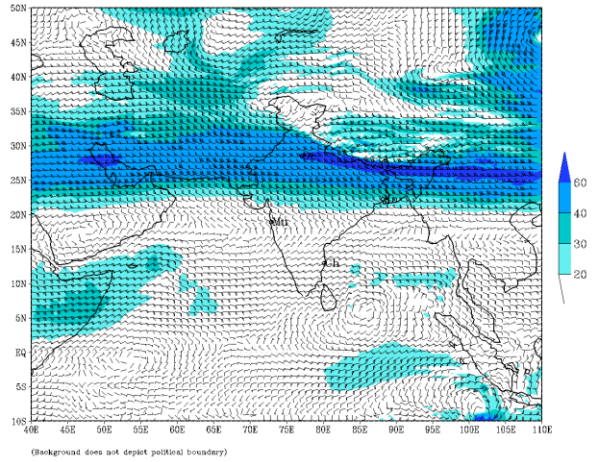
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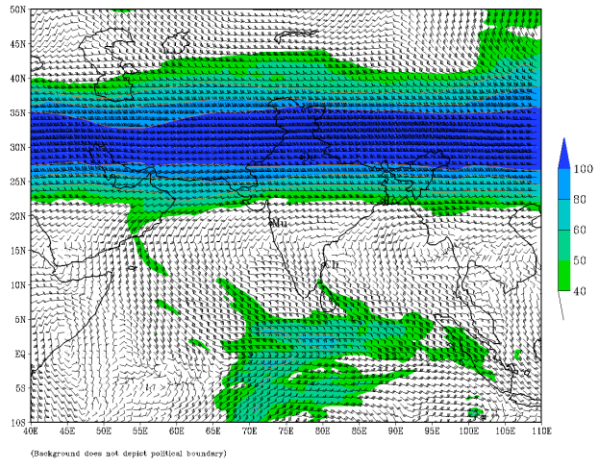
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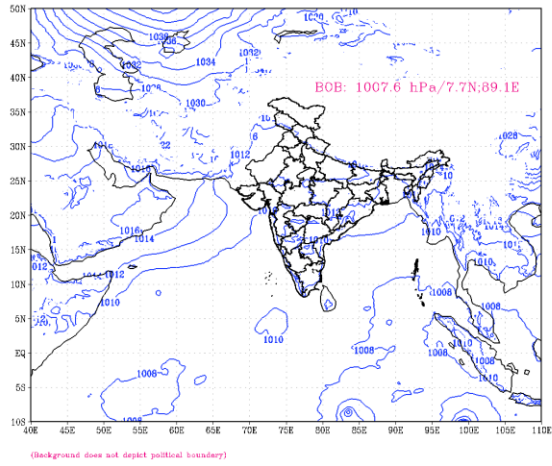
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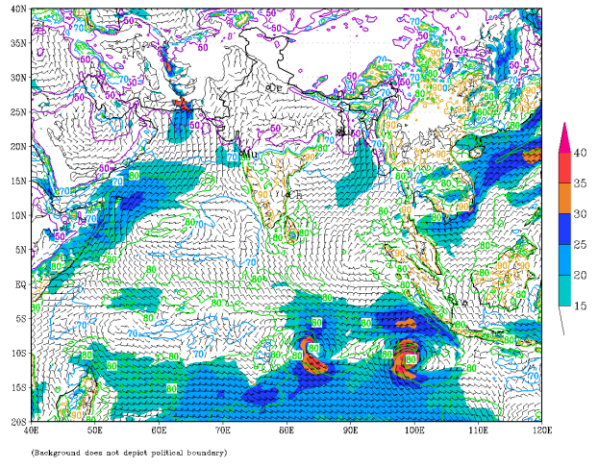
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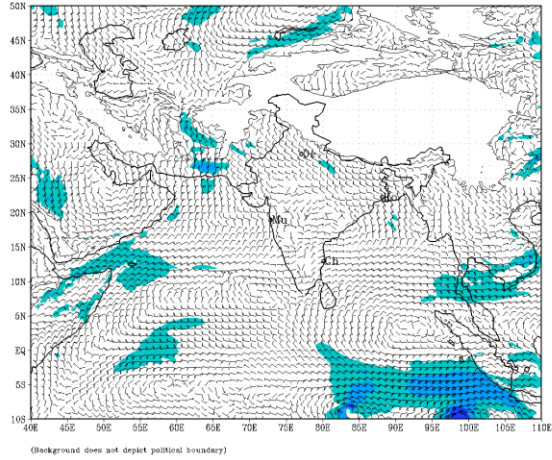
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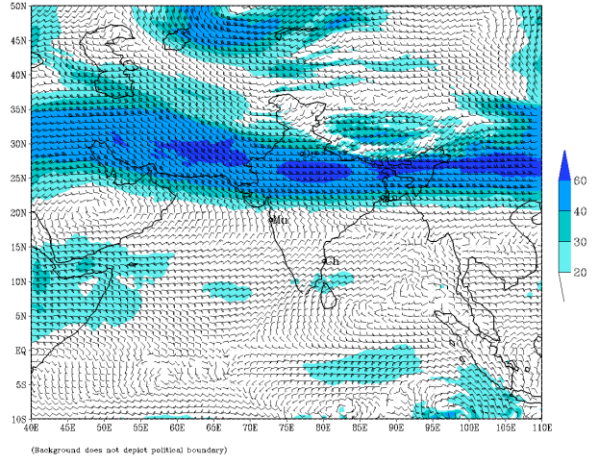
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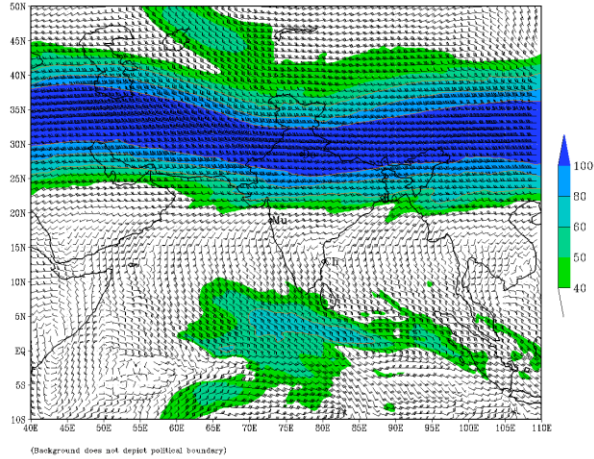
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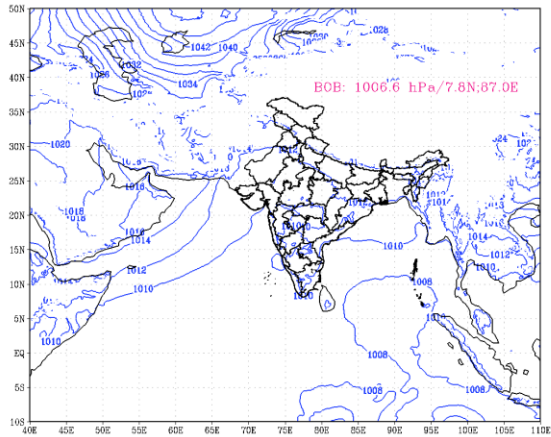
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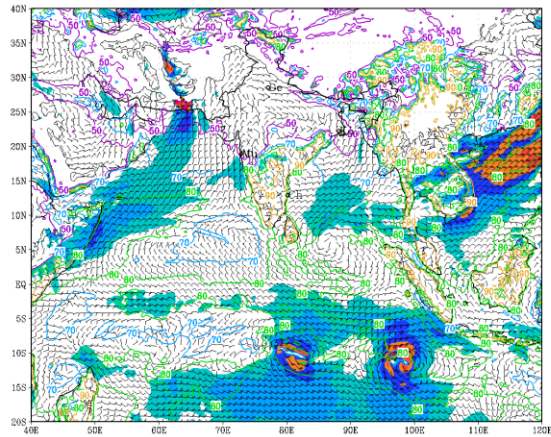


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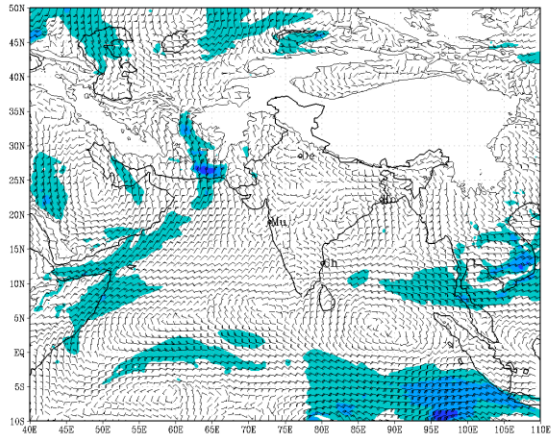
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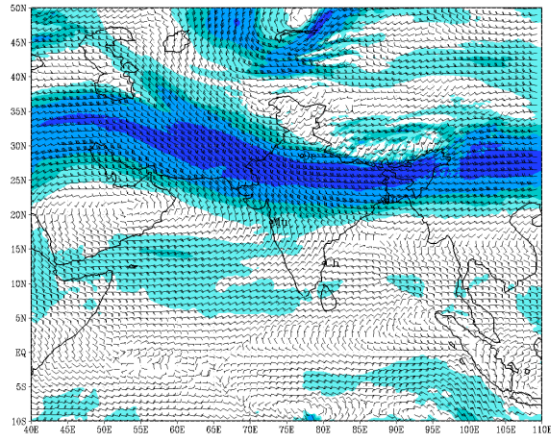
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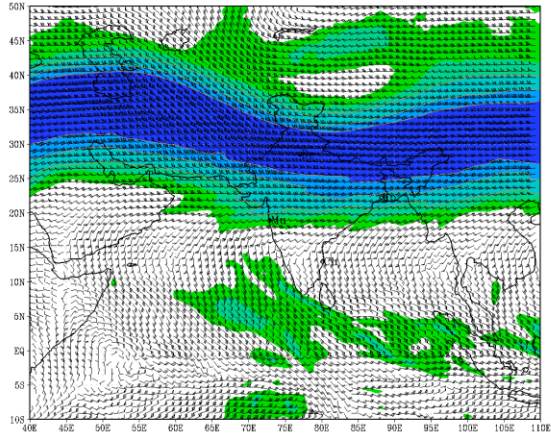
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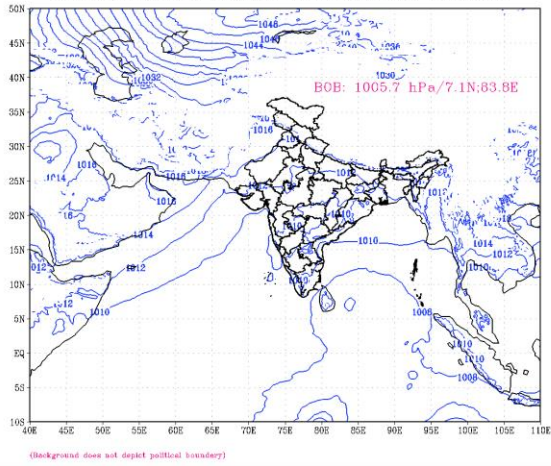
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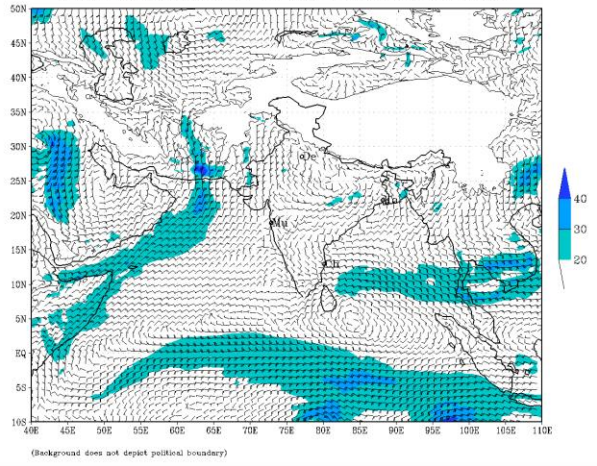


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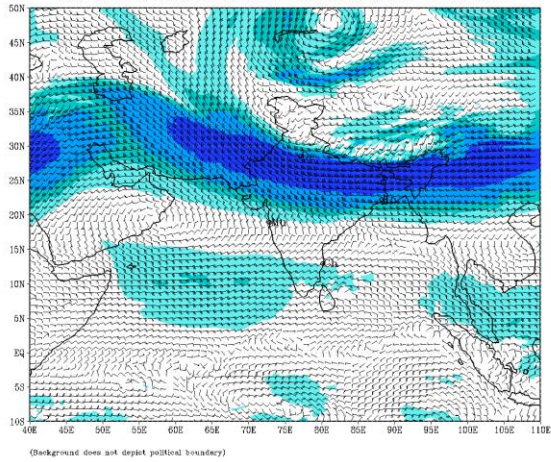
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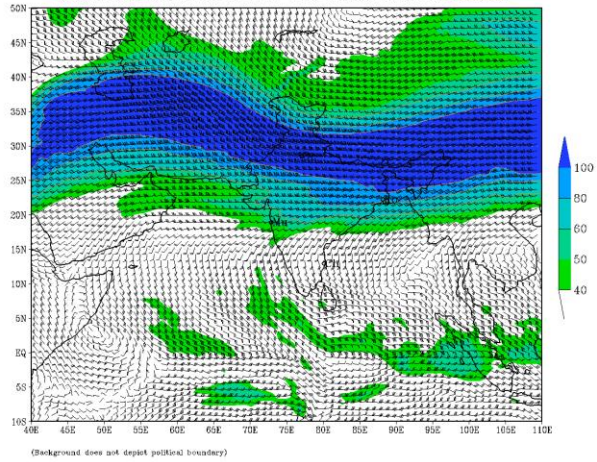
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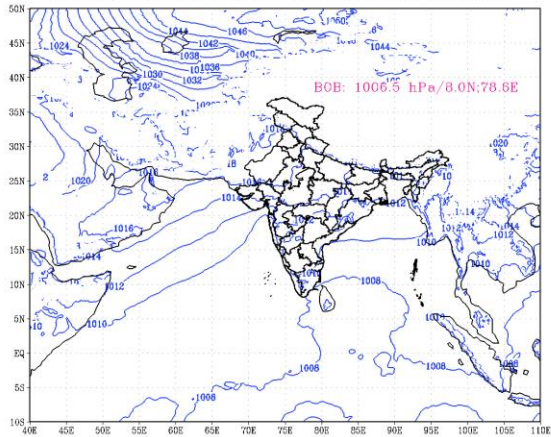
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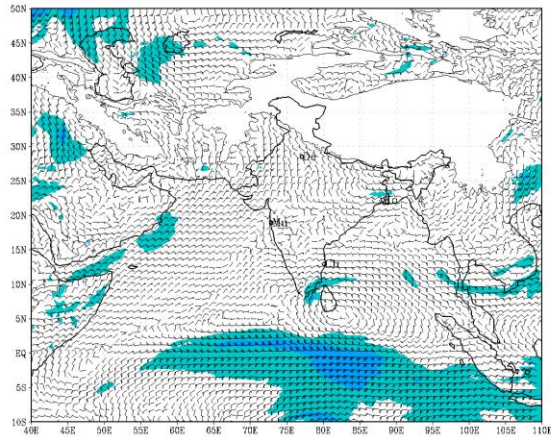


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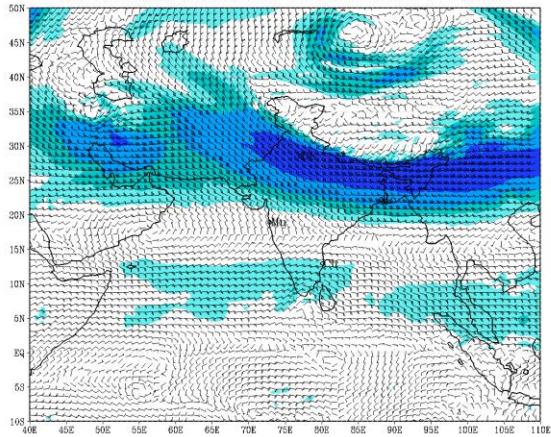
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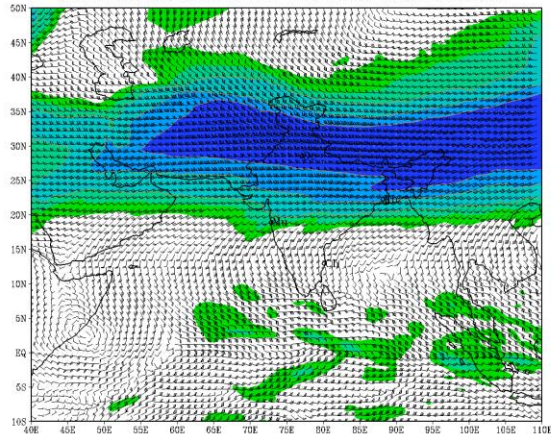
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