



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

**Tropical Cyclone Forecast Programme  
Report Dated 05<sup>TH</sup> November, 2023**

**Time of Issue: 1200 UTC**

**Synoptic features (based on 0300 UTC analysis):**

Yesterday's upper air cyclonic circulation over south Tamil Nadu & neighbourhood lay over North Tamilnadu & neighbourhood extending upto 5.8 km above sea level and tilting southwestwards with height at 0300 UTC of today, the 5<sup>th</sup> November. It is likely to move west-northwestwards towards Southeast and adjoining Eastcentral Arabian Sea during next 2 days. Under its influence, a Low Pressure Area is likely to form over Eastcentral Arabian Sea around 08th November, 2023.

**Dynamical and thermo-dynamical features**

<b>Parameter</b>	<b>Bay of Bengal (BoB)</b>	<b>Arabian Sea (AS)</b>
<b>Sea Surface Temperature (SST) °C</b>	29-31°C over major parts of BoB, Andaman Sea, Gulf of Mannar, 26-28°C over parts of southwest BoB.	29-31°C over southeast, adjoining southwest and adjoining eastcentral AS, north AS, along and off south Gujarat, Maharashtra coasts, 26-28°C over central, adjoining north AS, southwest AS, along and off Kerala and Karnataka coasts. Less than 24 along and off Yemen-Oman coasts and adjoining sea areas.
<b>Tropical Cyclone Heat Potential (TCHP) kJ/cm<sup>2</sup></b>	100-120 over eastcentral BoB adjoining southeast BoB. 80-100 over south Andaman Sea. 60-70 over most parts of BOB and north Andaman Sea adjoining south Andaman Sea. Less than 40 along Andhra Pradesh and Tamil Nadu coasts, adjoining sea areas, less than 20-30 over Gulf of Mannar and adjoining Comorin area, parts of southwest BoB.	60-90 over southeast, adjoining eastcentral and adjoining southwest AS, 50-60 over Gulf of Khambat, Less than 20 over eastcentral and adjoining southeast & north AS, along and off Kerala, Karnataka and south Maharashtra coasts, less than 10 over westcentral and southwest AS.
<b>Cyclonic Relative vorticity (X10<sup>-6</sup>s<sup>-1</sup>)</b>	10-20 over along and off south Tamil Nadu coast.	20-30 over eastcentral AS, 10-20 over southeast & adjoining eastcentral AS along and off Karnataka-Kerala coasts, , some parts of southwest and westcentral AS.
<b>Low Level convergence</b>	5 over southwest BoB, along	30 over West Equatorial Indian

( $\times 10^{-5} \text{ s}^{-1}$ )	and off Sri Lanka coast and Gulf of Mannar	Ocean (EIO) and adjoining southwest AS. 10-15 elongated zone over southeast & adjoining southwest AS.
<b>Upper Level divergence</b> ( $\times 10^{-5} \text{ s}^{-1}$ )	05 over southwest and adjoining westcentral BoB. 05-10 over southwest & adjoining East EIO.	30 over West Equatorial Indian Ocean (EIO) and adjoining southwest AS. 10-20 elongated zone over southeast & adjoining southwest AS
<b>Vertical Wind Shear</b> (VWS knots)	5-15 over south BoB, Andaman Sea, 20 over adjoining areas of central BoB. High (>20 knots) over remaining parts of BoB.	5-15 over south AS and adjoining West EIO. High over (>20 knots) over remaining parts of AS.
<b>Wind Shear Tendency</b> (knots)	Decreasing over major parts of BoB including southwest, central & north BoB.	Decreasing tendency over southeast AS, increasing tendency over remaining parts of AS.
<b>Upper tropospheric Ridge</b>	Along 12°N over BoB	Along 10°N over AS.

### **Satellite observations based on INSAT imagery (0300 UTC):**

**(a) Over the BoB & Andaman Sea:-**

Scattered low and medium clouds with embedded moderate to intense convection lay over westcentral & south Bay of Bengal and Andaman Sea. Scattered low and medium clouds with embedded isolated weak to moderate convection lay over North Bay of Bengal.

**(b) Over the Arabian Sea:-**

Scattered to broken low and medium clouds with embedded intense to very intense convection lay over south Arabian Sea and Lakshadweep Islands area. Scattered low and medium clouds with embedded moderate to intense convection lay over eastcentral Arabian Sea, and Comorin Area.

**(c) Convection outside India:-**

Scattered low and medium clouds with embedded moderate to intense convection lay over East Sri Lanka, Maldives, East China, Gulf of Thailand, Cambodia, Sumatra, Strait of Malacca, Malaysia, Borneo South China Sea, Java Islands & Sea, Phillipines, Yellow Sea, Madagascar, Mozambique Channel and over Indian Ocean between Equator To Latitude 5.0N Longitude 50.0E To 100.0E and between Equator To Latitude 35.0S and Long 40.0E & 70.0E.

**M.J.O. Index:**

MJO index is currently in Phase 2 with amplitude less than 1. It will remain in phase 2 for one day with amplitude less than 1. It will subsequently move to Phase 1 on 5<sup>th</sup> November with amplitude less than 1 and it will remain in phase 1 till 6<sup>th</sup> November. It then would then move to phase 7 on 7<sup>th</sup> November with amplitude less than 1 & would remain there till 11<sup>th</sup> Nov.

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

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

<b>MODEL GUIDANCE</b>	<b>Bay of Bengal (BoB)</b>	<b>Arabian Sea (AS)</b>
<b>IMD-GFS</b>	Cycir over South Andaman Sea on 8 <sup>th</sup> Nov.. To move west-northwestwards till 9 <sup>th</sup> Nov., becoming insignificant thereafter.	A Cyclonic Circulations over North Interior TamilNadu on 5 <sup>th</sup> November, moving as a trough of low over south AS during next 2 days
<b>IMD-GEFS</b>	No significant system.	No significant system.
<b>IMD-WRF</b>	No significant system.	Cyclonic Circulations over southeast and adjoining southwest AS on 6 <sup>th</sup> November

		with nearly westward movement for next two days. Another cycir over southeast AS on 7 <sup>th</sup> AS.
<b>NCMRWF-NCUM</b>	No significant system.	Cyclonic Circulations over southeast and adjoining southwest AS on 6 <sup>th</sup> November with gradual westwards till 9 <sup>th</sup> November) with no further intensification.
<b>NCMRWF-NEPS</b>	No significant system.	No significant system.
<b>NCMRWF-UM (Regional)</b>	No significant system.	No significant system.
<b>ECMWF</b>	No significant system.	No significant system.
<b>NCEP-GFS</b>	No significant system.	LPA over eastcentral AS on 8 <sup>th</sup> November, with nearly westwards movement for next 1 daya and less marked thereafter.
<b>IMD-Genesis Potential Parameter</b>	No potential zone over BoB for next 7 days.	Feeble zone for cyclogenesis over eastcentral AS during 6 <sup>th</sup> -8 <sup>th</sup> Nov.

**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

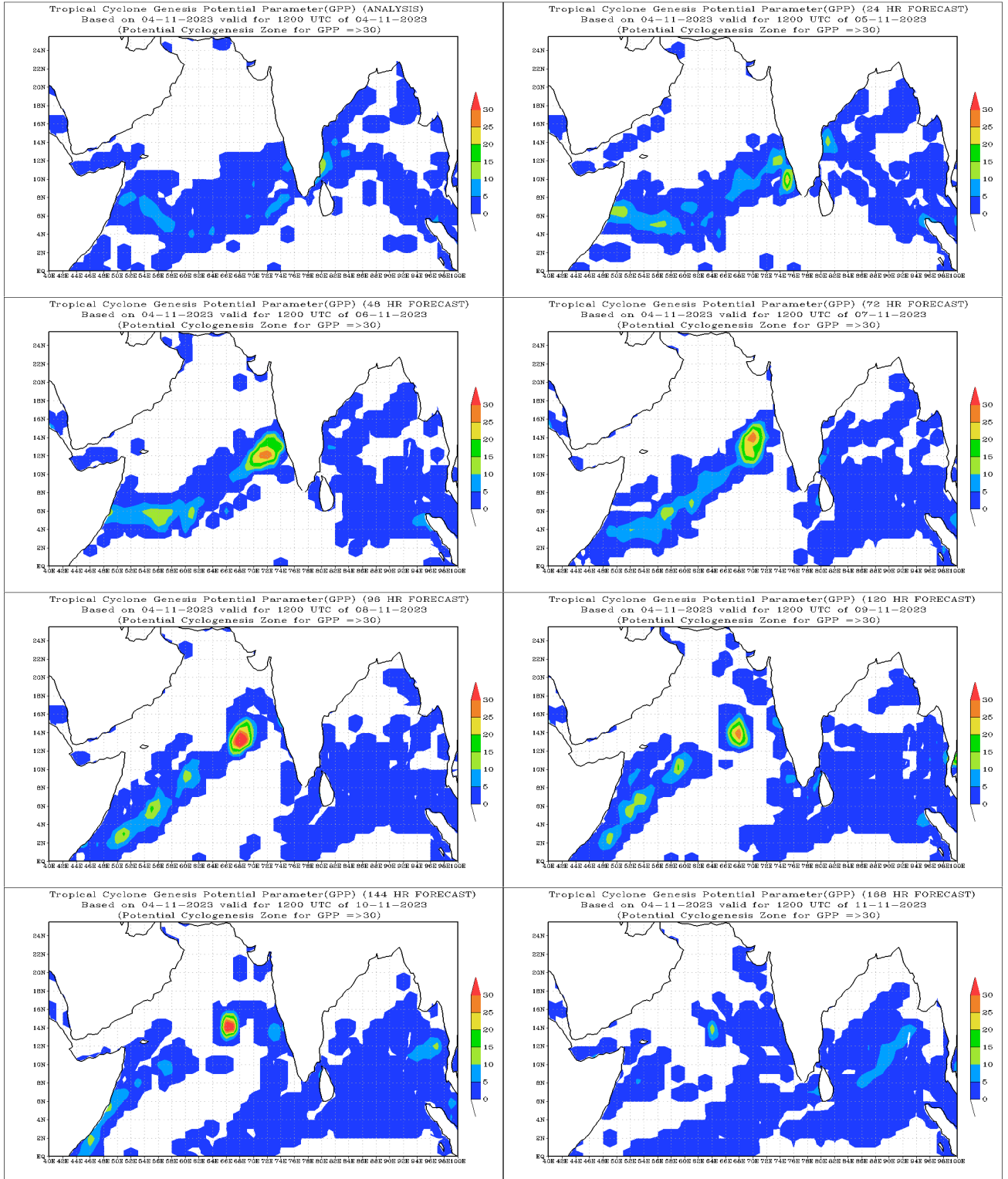
**2. For the Arabian Sea:**

Most of the models are indicating cyclonic circulation over southeast/eastcentral Arabian Sea (IMD-GFS, NCUM-G, NCEP GFS) with nearly westward movement without further intensification. IMD GPP is indicating a feeble potential zone over eastcentral AS during 6<sup>th</sup> - 8<sup>th</sup> Nov. From the consensus, it is inferred that the cyclonic circulation over North Tamil Nadu and neighbourhood, extending upto 5.8 km above mean sea level is likely to move west-northwestwards towards southeast & adjoining eastcentral Arabian Sea during next 2 days. Under it's influence, a low pressure area is likely to form over eastcentral Arabian Sea around 8<sup>th</sup> November. Hence, the probability for cyclogenesis over the Arabian Sea for the next seven days is assigned as Nil.

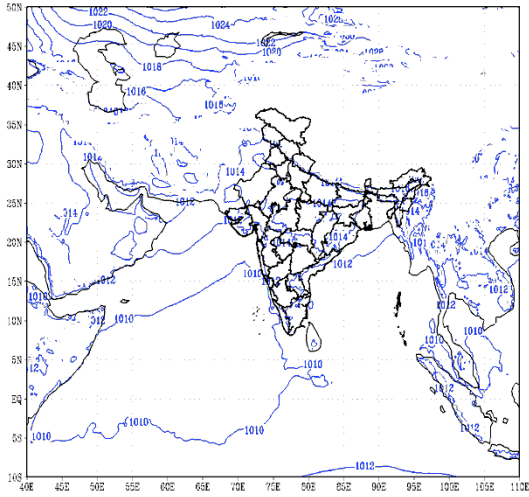
**Probability of Cyclogenesis (formation of depression and above intensity systems) over the Arabian Sea during next 168 hours:**

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

**IOP: Nil.**

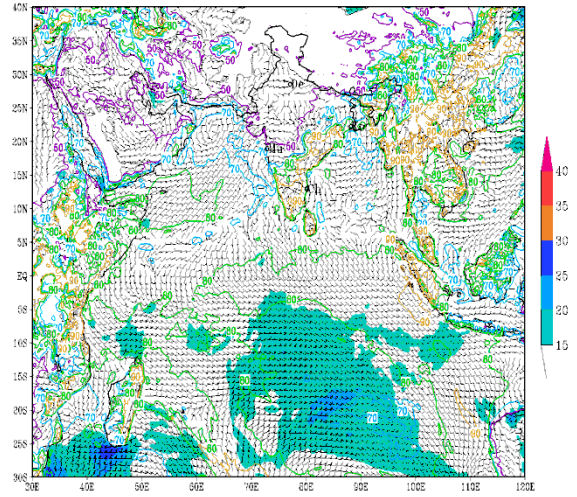


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based on 00 UTC of 05-11-2023 valid for 00 UTC of 05-11-2023



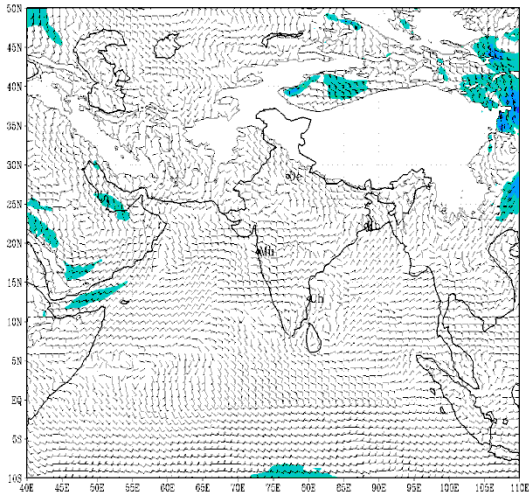
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IMD GFS (T1534) 10m WIND (kt) AND 2m RH (%) FORECAST (00 HR)  
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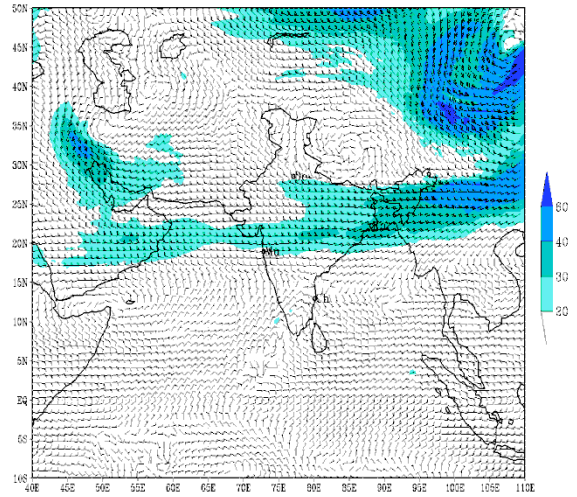
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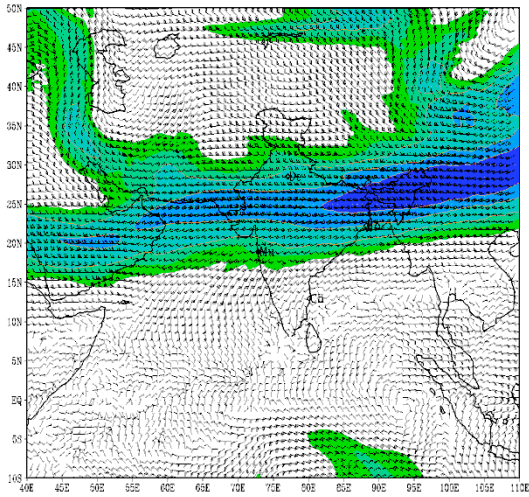
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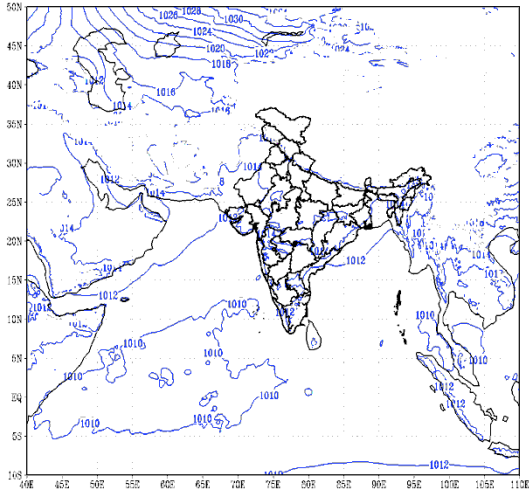
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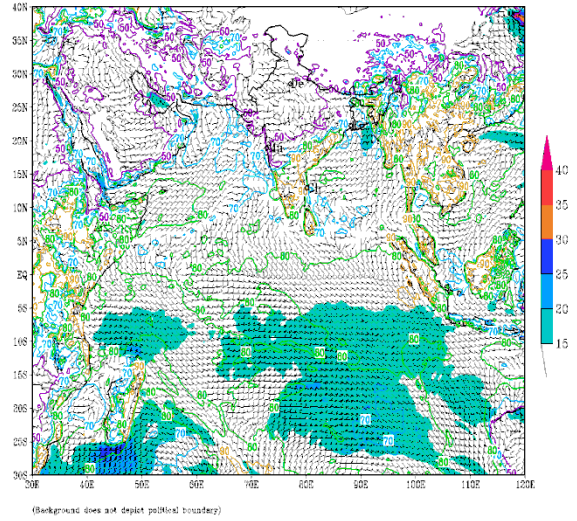


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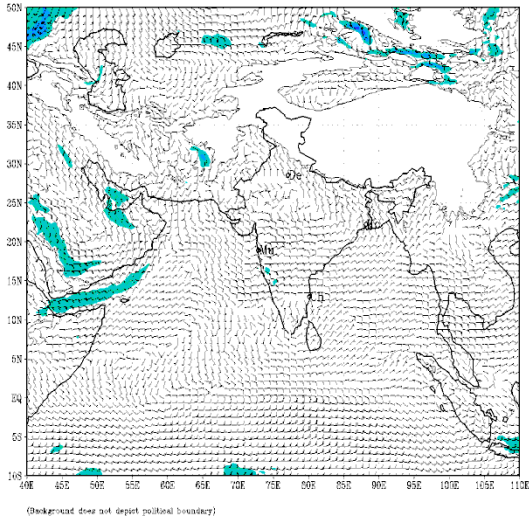
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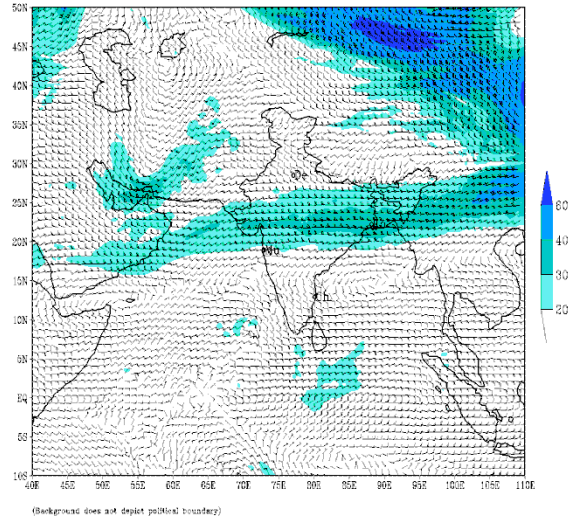
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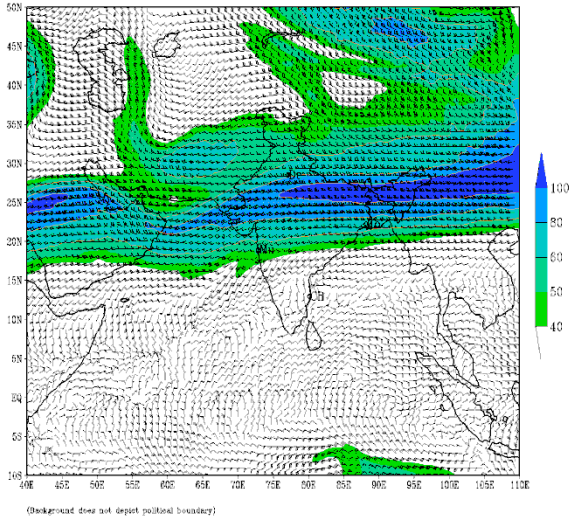
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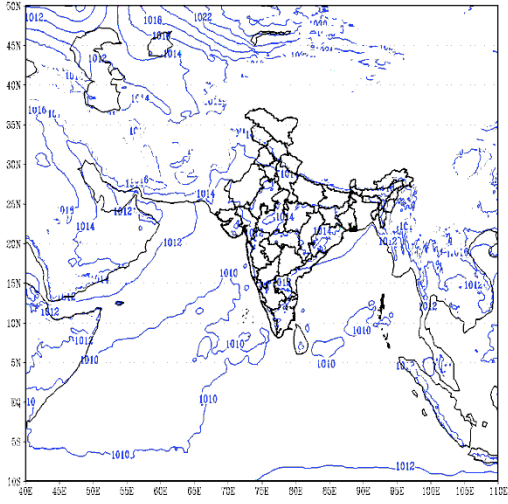
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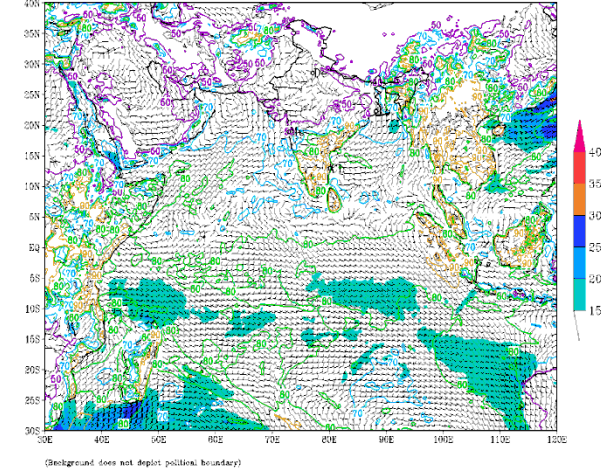


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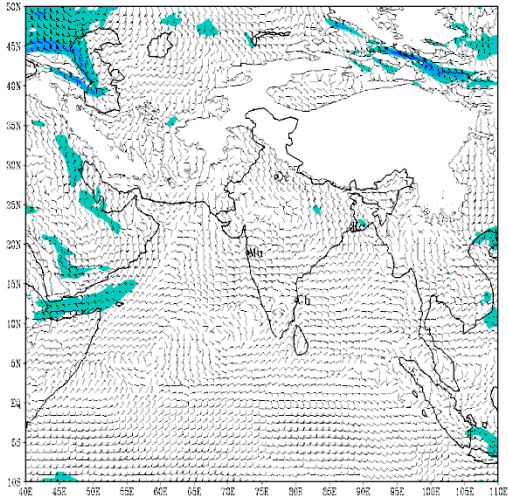
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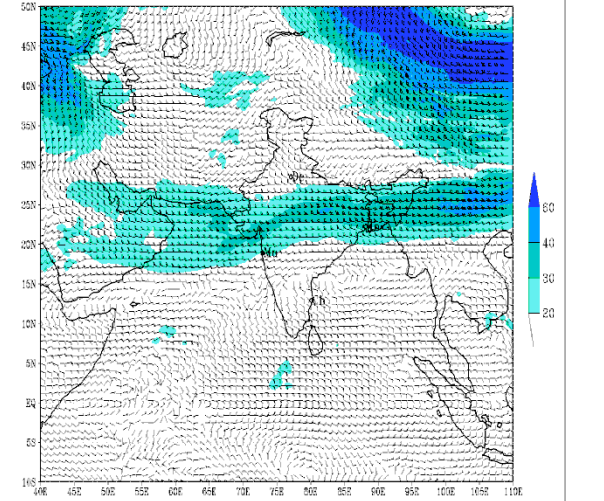
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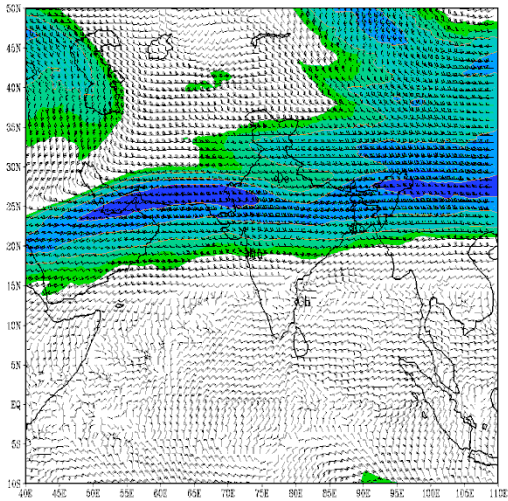
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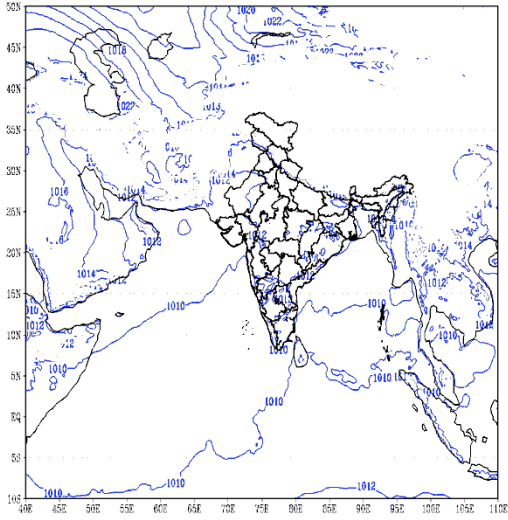
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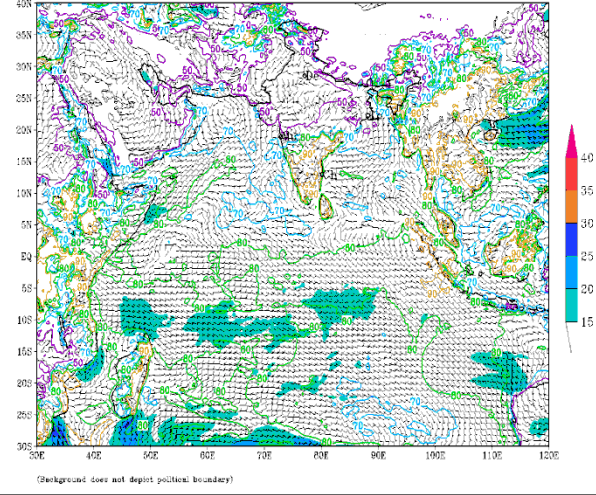
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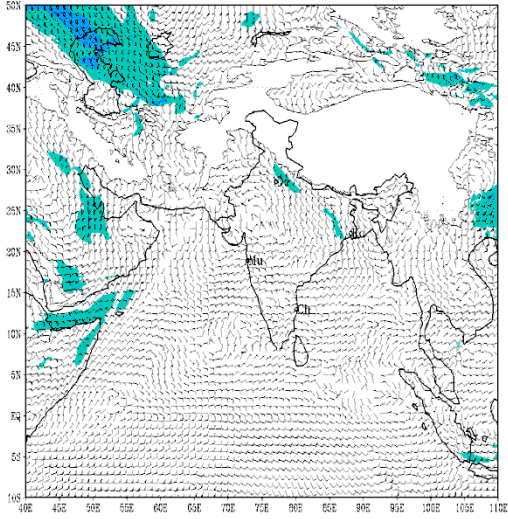
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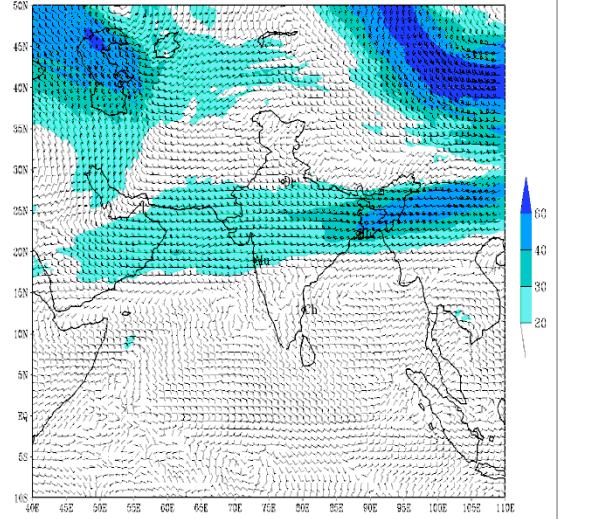
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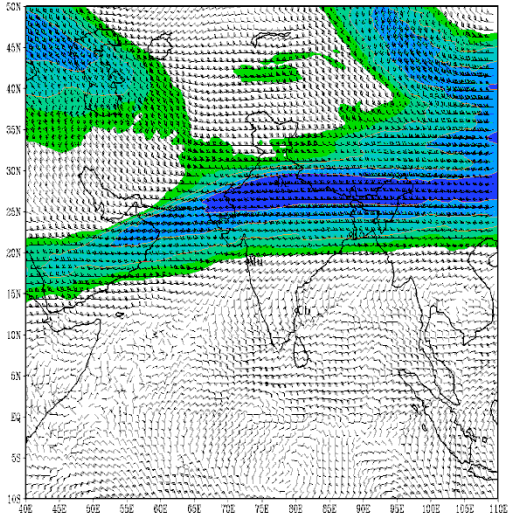
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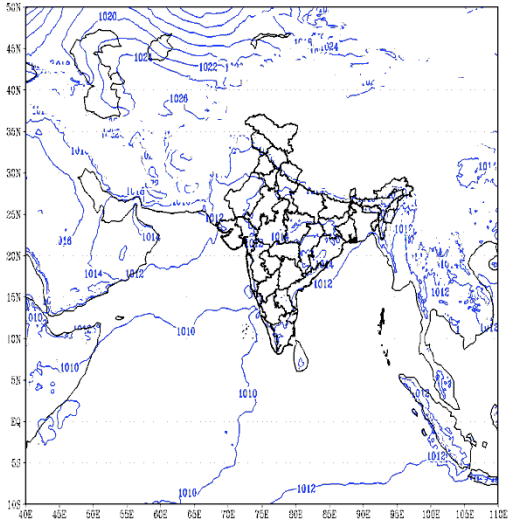
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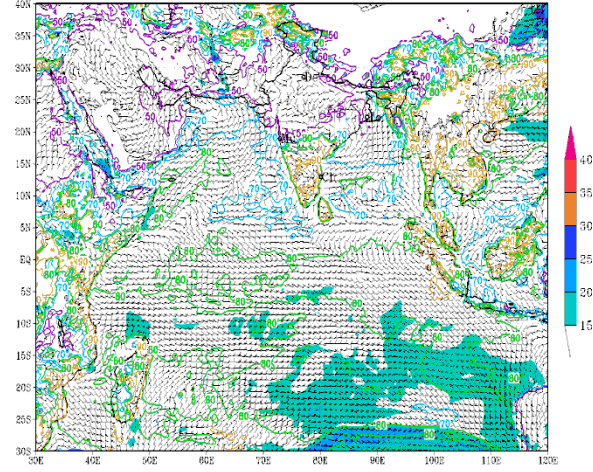


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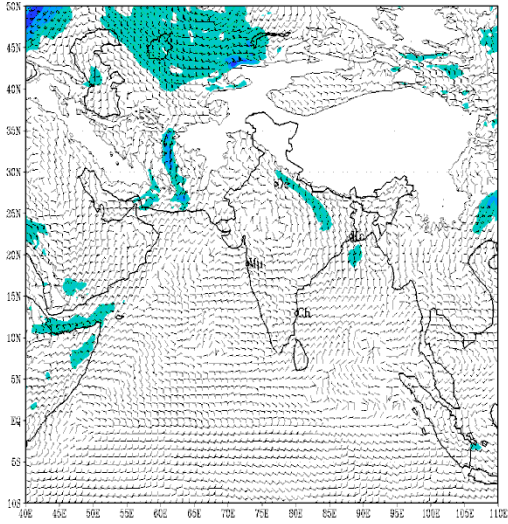
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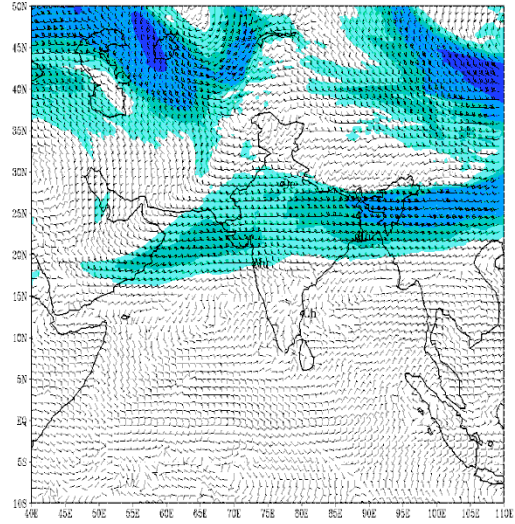
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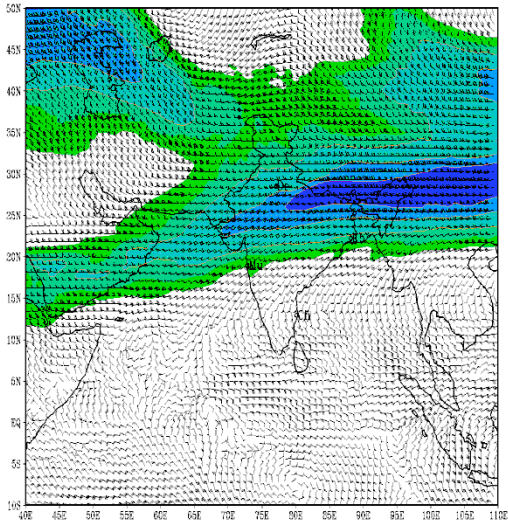
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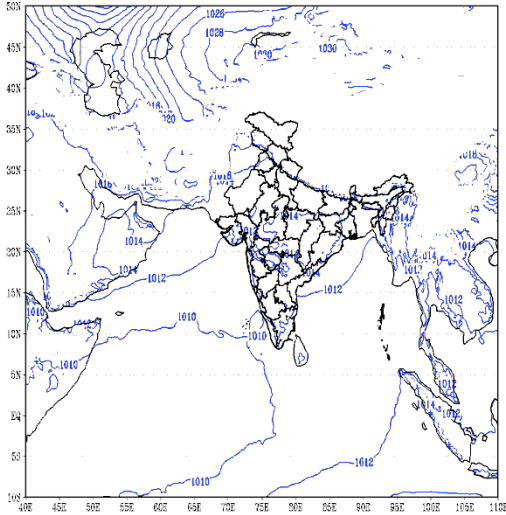
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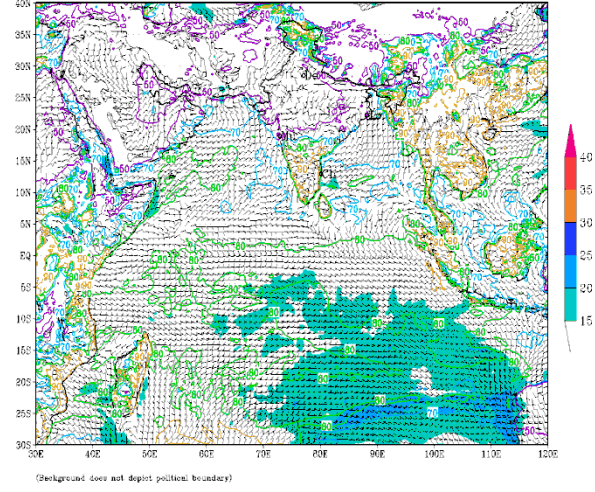


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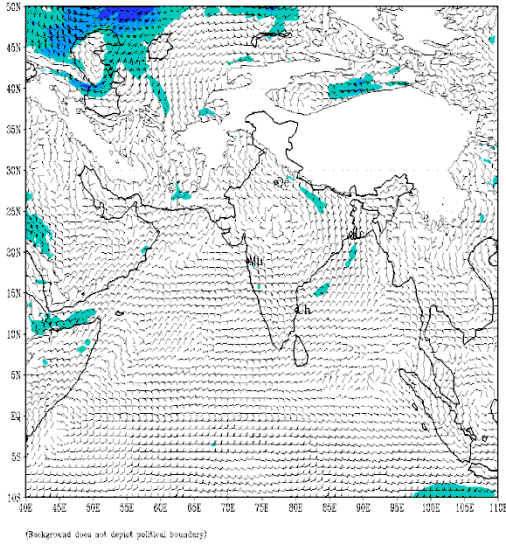
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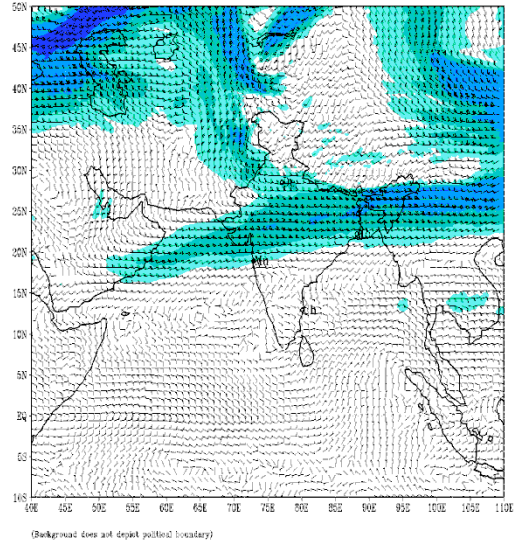
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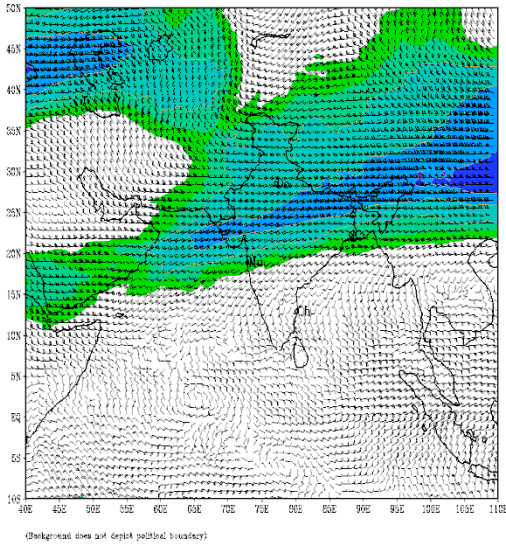
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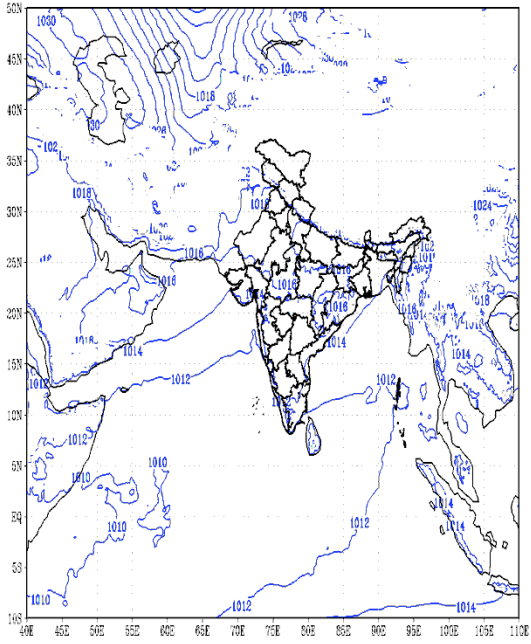
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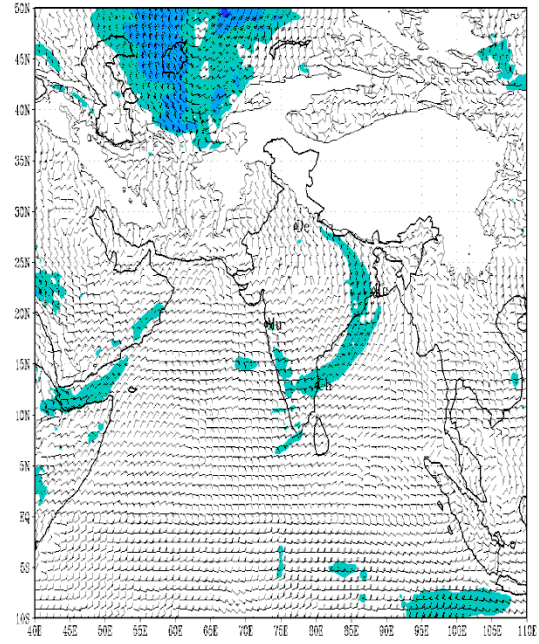


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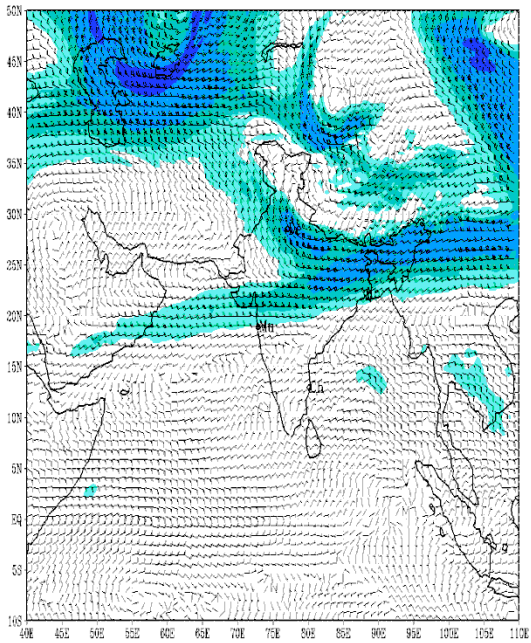
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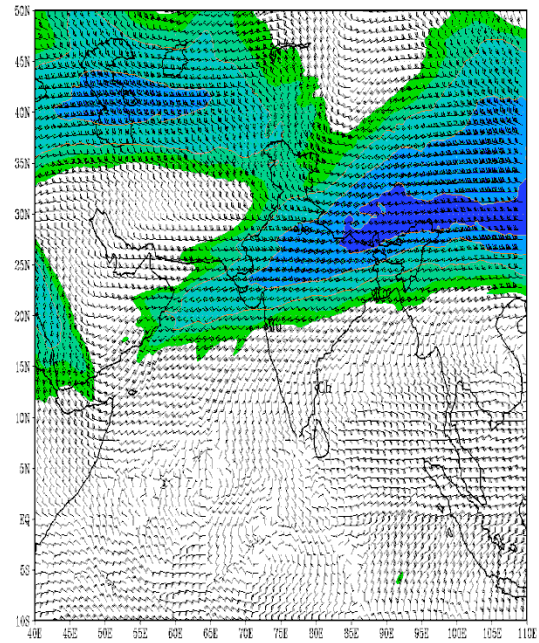
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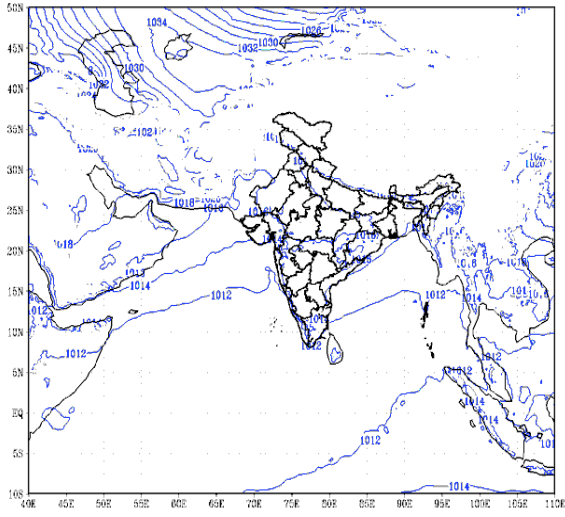
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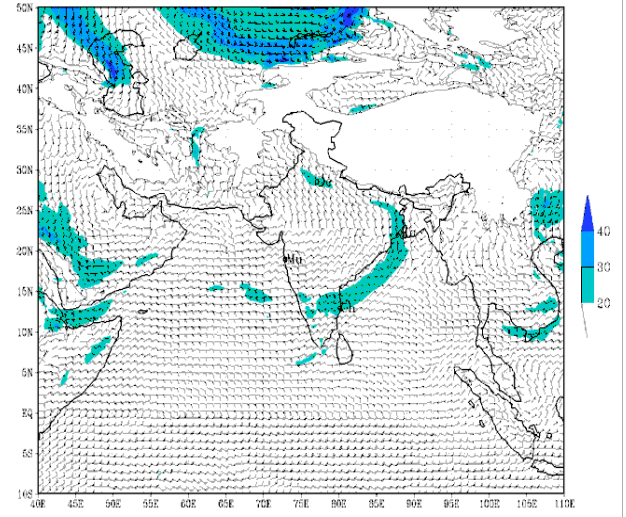
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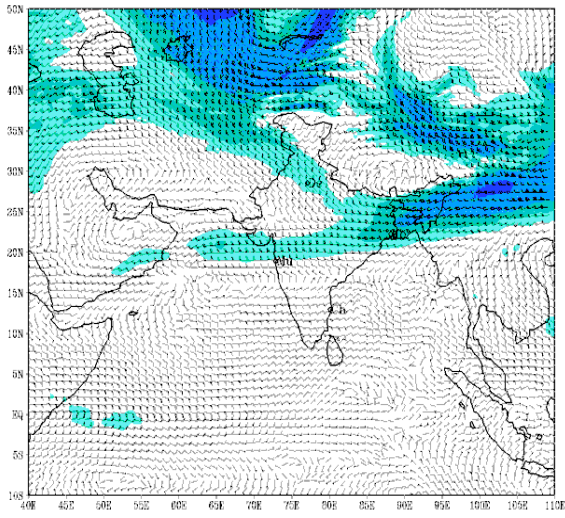
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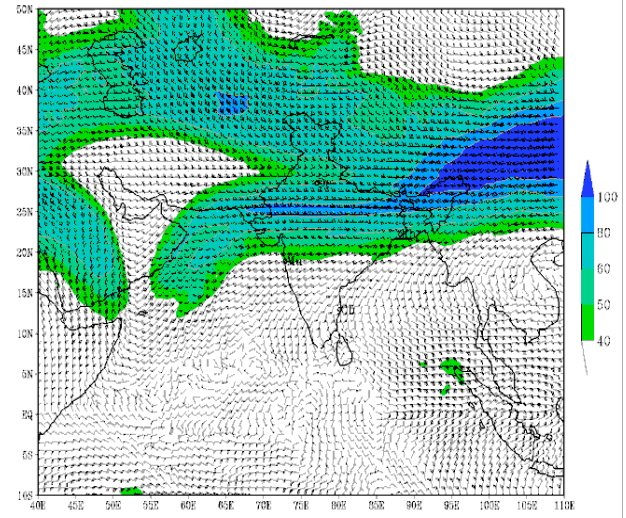
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