



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

Tropical Cyclone Forecast Programme  
Report Dated 30<sup>th</sup> October, 2022

Time of Issue: 1200 UTC

**Synoptic features (based on 0600 UTC analysis):**

- ❖ Yesterday's cyclonic circulation (cycir) over Southeast Bay of Bengal & adjoining Equatorial north Indian ocean merged with the cycir over Southwest Bay of Bengal & adjoining Sri Lanka at 0300 UTC and persisted over the same region at 0900 UTC of today, the 30<sup>th</sup> October.

**Dynamical and thermo-dynamical features**

Parameter	Bay of Bengal (BoB)	Arabian Sea (AS)
Sea Surface Temperature (SST) °C	About 29-31°C over entire BoB	29-30°C over north AS, along and off south Gujarat, Maharashtra coasts, southeast AS. 27-29°C over eastcentral and adjoining westcentral and southwest AS. Less than 24°C off Oman & Somalia coast and adjoining parts of southwest and westcentral AS.
Tropical Cyclone Heat Potential (TCHP) kJ/cm <sup>2</sup>	>100 KJ/cm <sup>2</sup> over eastcentral BoB & Andaman Sea, 70-80 KJ/cm <sup>2</sup> over north BoB & westcentral BoB, less than 40 KJ/cm <sup>2</sup> off east coast of India & a small pocket over southwest BoB.	(a) 60-80 over southeast AS & adjoining eastcentral AS. (b) Less than 30 KJ/cm <sup>2</sup> over remaining AS and also off west coast of India.
Cyclonic Relative vorticity (X10 <sup>-6</sup> s <sup>-1</sup> )	Positive vorticity of 40-50 over southwest BoB.	Positive vorticity of 30-40 over southeast & southwest AS.

<b>Low convergence (<math>\times 10^5 \text{ s}^{-1}</math>)</b>	<b>Level</b>	Has increased significantly over southwest BoB off Tamil Nadu-Sri Lanka coast and is around 30..	05 over southeast AS & off Kerala coast..
<b>Upper divergence (<math>\times 10^5 \text{ s}^{-1}</math>)</b>	<b>Level</b>	05-10 over North Andaman Sea and adjoining eastcentral BoB. 05-10 over south Andaman Sea and adjoining Equatorial Indian Ocean (EIO).	05 over central parts of south AS.
<b>Vertical Shear (VWS knots)</b>	<b>Wind</b>	Moderate 10-20 knots over major parts of BoB except over extreme North BoB.	10-20 over major parts of central & south AS except over north AS.
<b>Wind Shear Tendency (knots)</b>	<b>Shear</b>	Decreasing tendency over North Andaman Sea and adjoining eastcentral BoB	Decreasing over southeast & AS and Lakshaeep area.
<b>Upper tropospheric Ridge</b>		Along 18.0°N over the BoB.	Along 18.0°N over the AS.
<b>Trough in westerlies</b>			

### **Satellite observations based on INSAT imagery (0900 UTC):**

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

Scattered low/medium clouds with embedded intense to very intense convection over central & South BoB. and Andaman Sea. Scattered low/medium clouds with embedded moderate to intense convection over northeast BoB and North Andaman Sea.

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

Scattered low/medium clouds with embedded moderate to intense convection lay over eastcentral AS off Karnataka coast and southeast BoB off Kerala coast & Comorin area. Scattered low/medium clouds with embedded isolated weak to moderate convection over Lakshadweep Islands area.

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

MJO index is currently in Phase 6 with amplitude greater than 1. It will continue in same phase for next 6 days with amplitude remaining greater than 1. Thereafter, it would enter into phase 7

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

Vortex (NALGAE) over South China Sea centered near 15.0N/117.2E. Intensity of the system is T 2.5/CI 3.0. Corresponding maximum sustained winds of 48-63 kts. Broken low/medium clouds with embedded intense to very intense convection over area between 11N-17N and 113E-120E & Phillipines.

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

<b>MODEL GUIDANCE</b>	<b>BoB</b>	<b>AS</b>
<b>IMD-GFS</b>	The cycir over southwest BoB is likely to persist over the same region till 3 <sup>rd</sup> November. Thereafter it is likely to move across southern peninsular India and	The cycir from southwest BoB to emerge into southeast AS on 4 <sup>th</sup> and another cycir over southwest AS. Both are likely to gradually move westwards

	emerge into southeast AS on 4 <sup>th</sup> November.	till 8 <sup>th</sup> November towards Somalia coast.
<b>IMD-GEFS</b>	A cyclonic circulation over southwest BoB on 29 <sup>th</sup> moving nearly westwards and emerge into southeast AS on 4 <sup>th</sup> November.	The cycir from southwest BoB to emerge into southeast AS on 5 <sup>th</sup> November and move westwards thereafter.
<b>GEFS Probabilistic guidance</b>	Not available	Not available
<b>IMD WRF</b>	The cycir over southwest on 30 <sup>th</sup> to persist over the same region till 2 <sup>nd</sup> November.	A fresh cycir over southwest AS on 2 <sup>nd</sup> November.
<b>NCMRWF-NCUM</b>	Cycir over southwest BOB on 30 <sup>th</sup> October to persist over the same region for next 2 days and move westwards thereafter. Fresh cycir over southeast BoB on 4 <sup>th</sup> , to move westwards towards Sri Lanka coast till 8 <sup>th</sup> November.	Cycir over southeast AS on 3 <sup>rd</sup> November. To move westwards gradually. Another cycir over north AS during 1 <sup>st</sup> - 5 <sup>th</sup> November.
<b>NCMRWF-NEPS</b>	No significant system over BoB	No significant system over AS
<b>NCMRWF-UM (Regional)</b>	A cyclonic circulation over southwest BOB on 30 <sup>th</sup> October, moving westwards till 1 <sup>st</sup> November.	Another cycir over northeast AS moving westwards during 30 <sup>th</sup> October - 2 <sup>nd</sup> November
<b>ECMWF</b>	No significant system over BoB.	No significant system over AS.
<b>ECMWF ensemble</b>	Not available	Not available
<b>NCEP-GFS</b>	The cycir over southwest BoB is likely to persist over the same region till 3 <sup>rd</sup> November. Thereafter it is likely to move across southern peninsular India and emerge into southeast AS on 4 <sup>th</sup> November.	The cycir from southwest BoB to emerge into southeast AS on 4 <sup>th</sup> and another cycir over southwest AS. Both are likely to gradually move westwards till 8 <sup>th</sup> November towards Somalia coast.
<b>IMD MME</b>	Available during cyclonic disturbance period only	Available during cyclonic disturbance period only
<b>IMD HWRF</b>	Available during cyclonic disturbance period only	Available during cyclonic disturbance period only
<b>IMD-Genesis Potential Parameter</b>	A potential zone over southwest BoB during 4 <sup>th</sup> & 5 <sup>th</sup> November and over Comorin area on 6 <sup>th</sup> November.	No significant zone.

**Summary and conclusion:**

## 1. For the Bay of Bengal:

The existing cyclonic circulation over southwest BoB and adjoining Sri Lanka is likely to become continue over the same region during next 2-3 days and emerge into southeast AS on 4<sup>th</sup> November. Another cycir is likely over southeast BoB on 4<sup>th</sup> November.

In view of all the above, it is inferred that no cyclogenesis is predicted over the Bay of Bengal during next 7 days. However, (i) movement of the existing cycir over southern Peninsular region during 2<sup>nd</sup> to 3<sup>rd</sup> November & it's emergence into southeast AS on 4<sup>th</sup> and (ii) development of fresh cycir over southeast BoB on 4<sup>th</sup> November need to be monitored.

## 2. For the Arabian Sea:

A cycir is likely to emerge into southeast AS around 4<sup>th</sup>. It is likely to move westwards without any significant intensification.

**No cyclogenesis is predicted during next 7 days.**

### **Probability of cyclogenesis (formation of depression and above intensity systems) over the BAY OF BENGAL 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

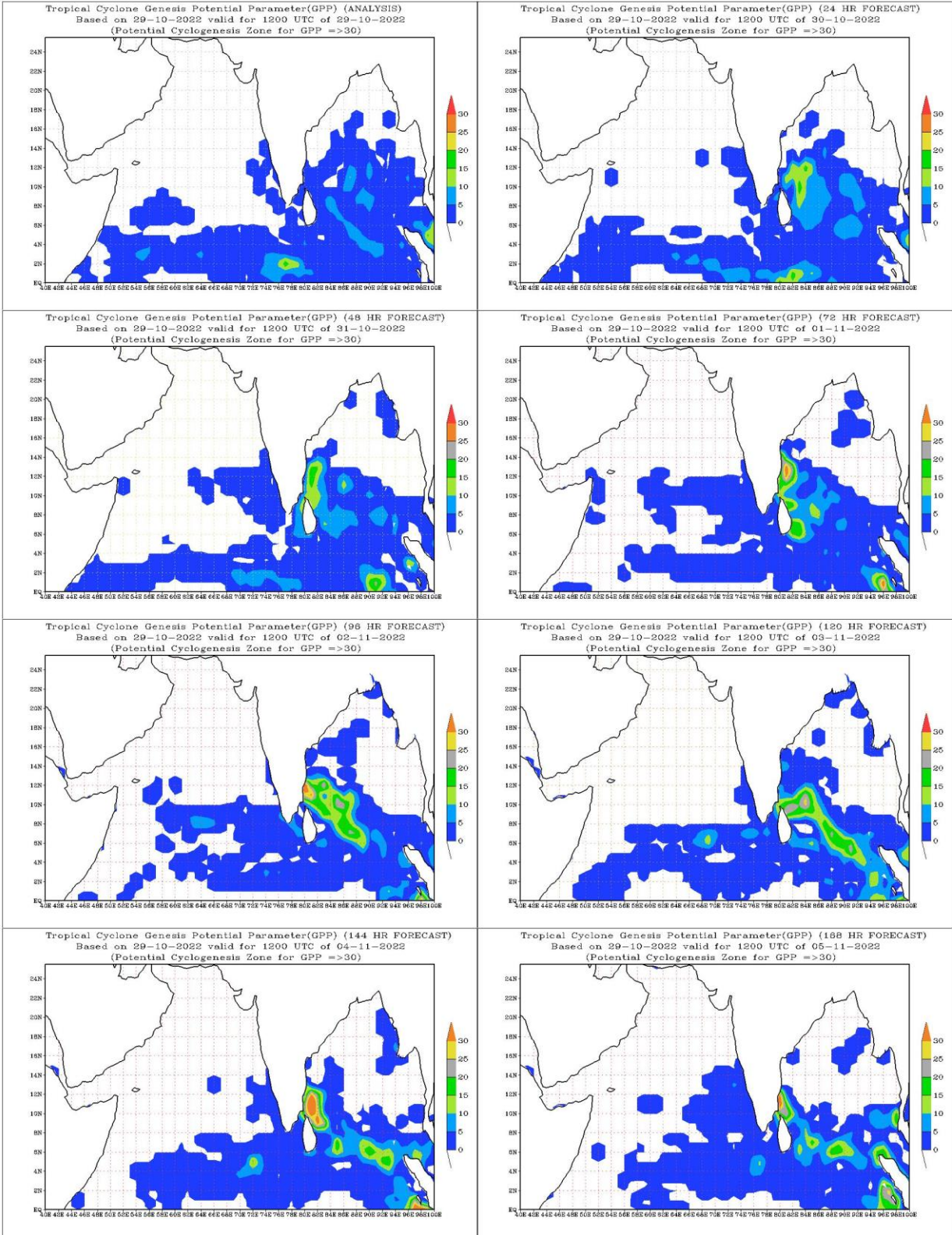
### **Probability of cyclogenesis (formation of depression and above intensity systems) over the Arabian Sea during next 168 hours:**

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

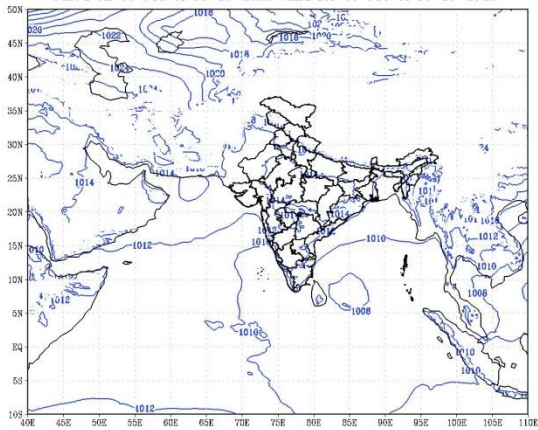
#### **Advisory:**

Nil.

**IOP: Nil**

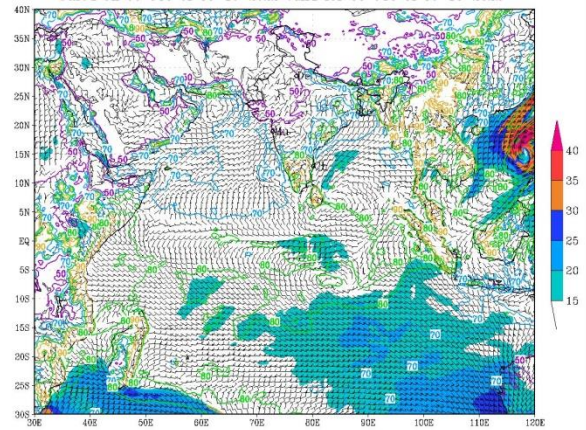


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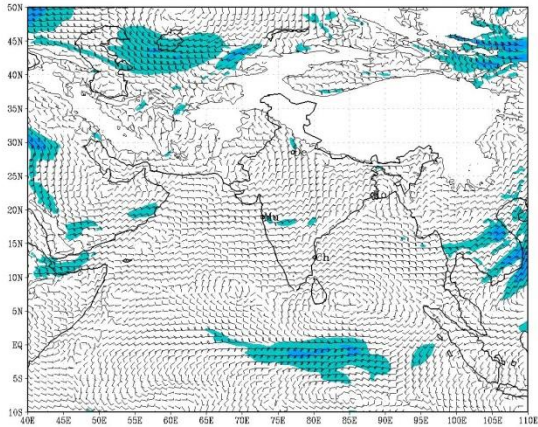
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IMD GFS (T1534) 10m WIND (kt) AND 2m RH (%) FORECAST (00 HR)  
based on 00 UTC of 30-10-2022 valid for 00 UTC of 30-10-2022



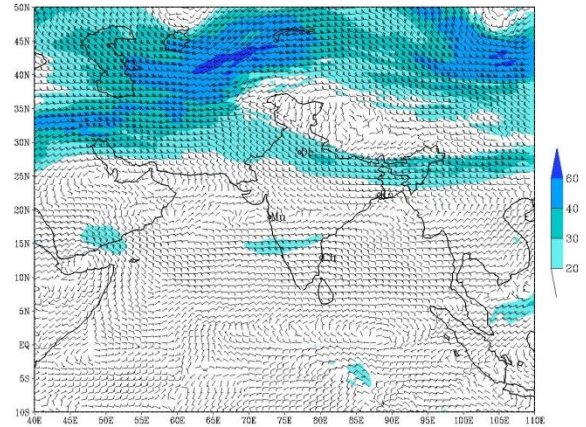
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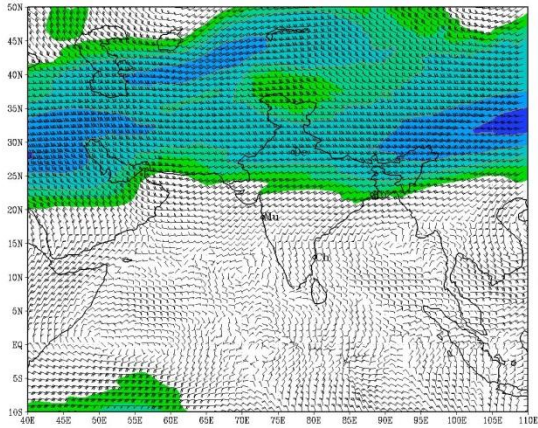
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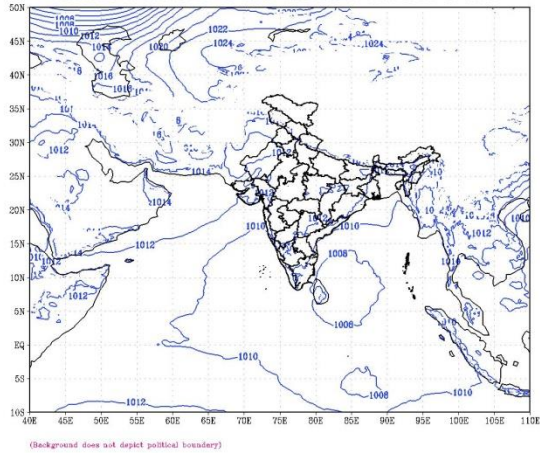
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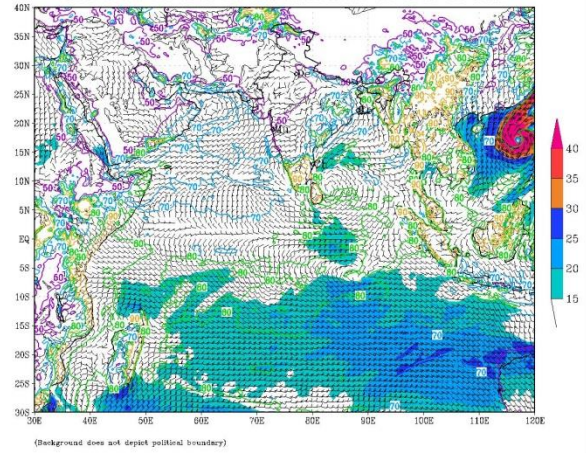


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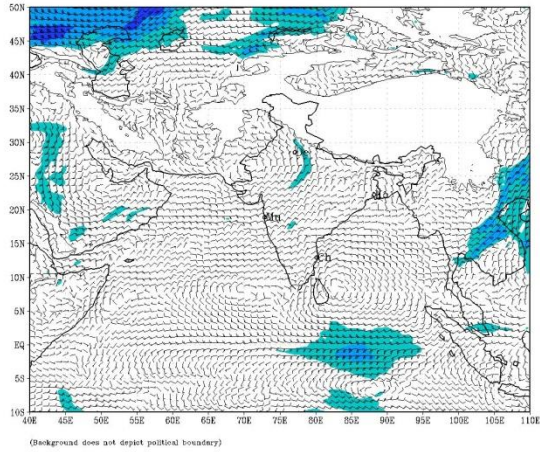
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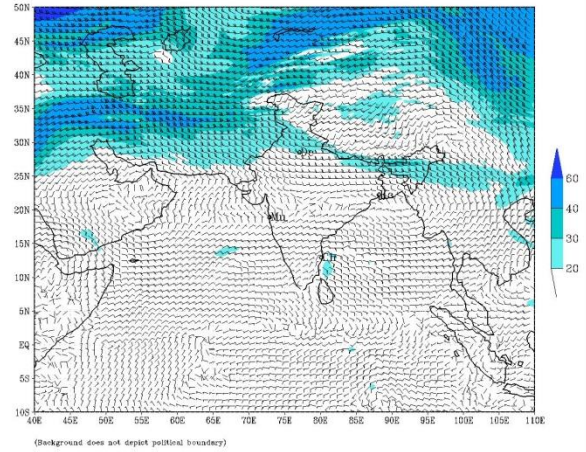
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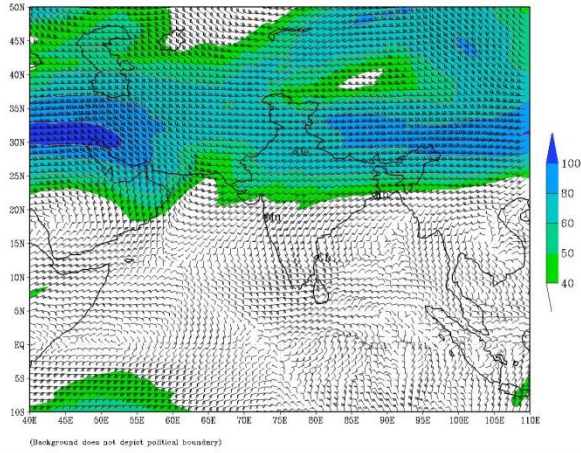
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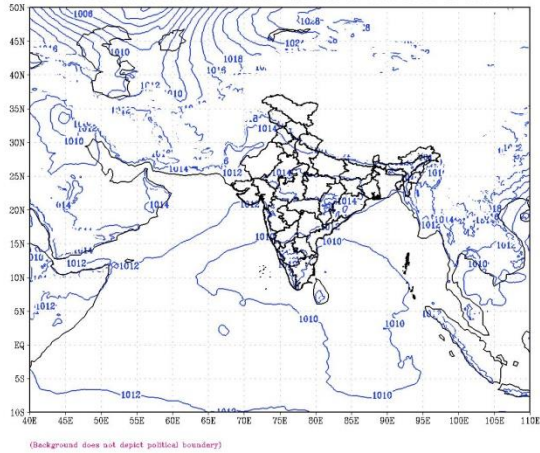
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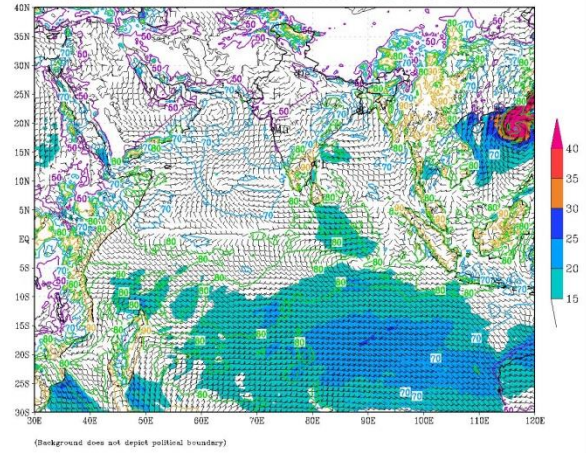
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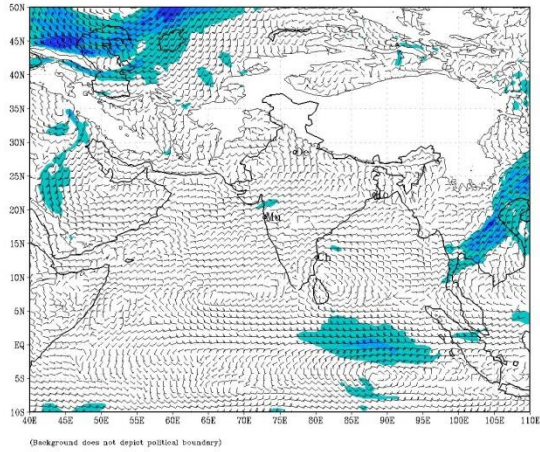
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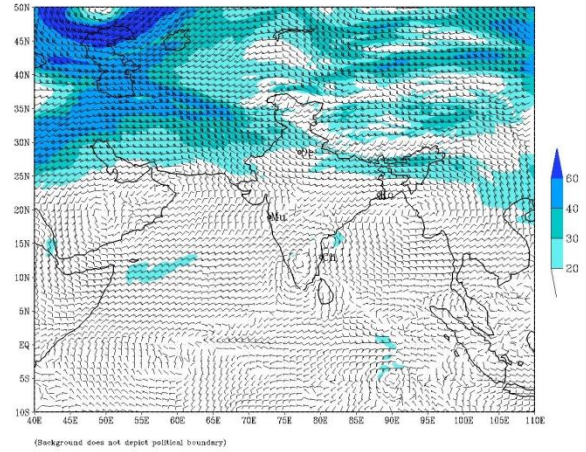
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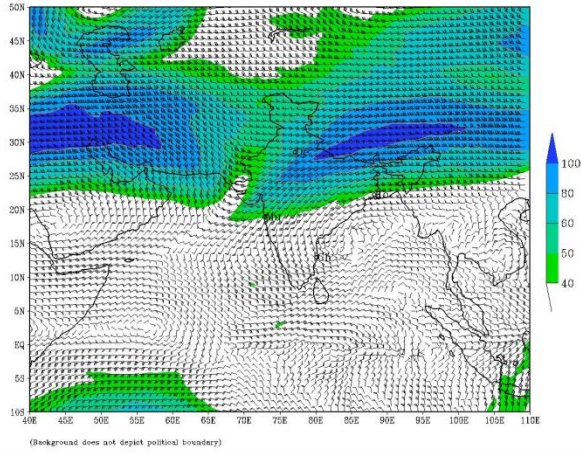
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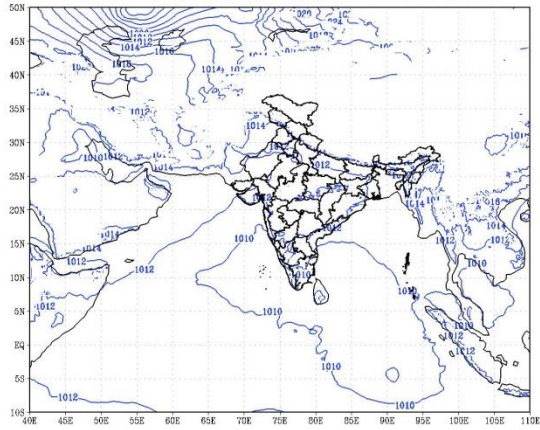


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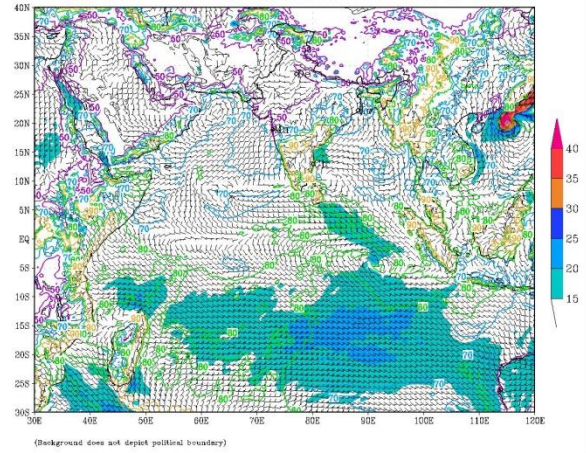




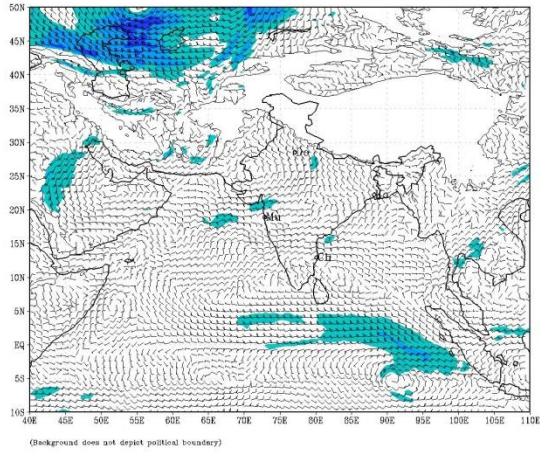
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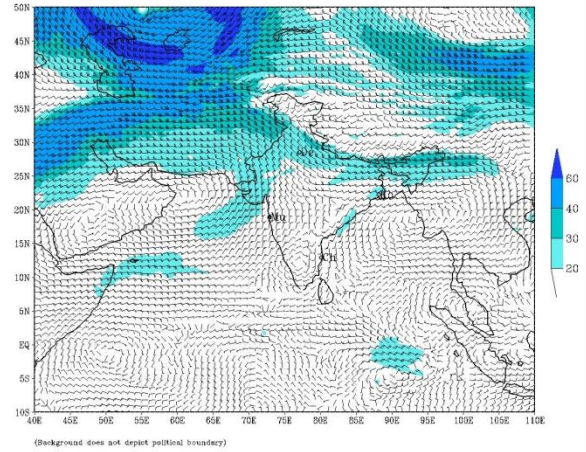
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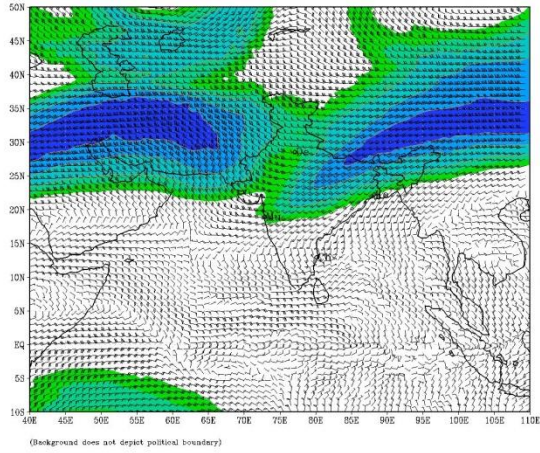
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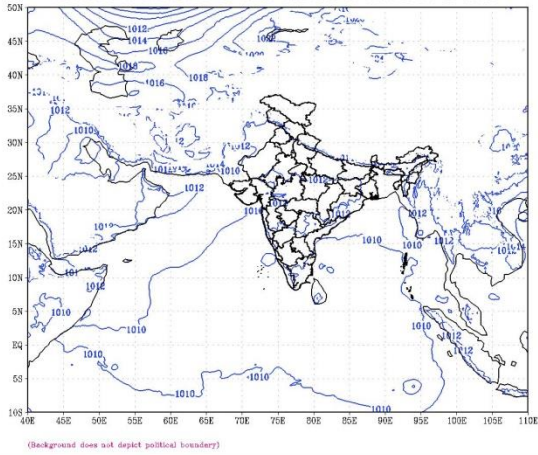
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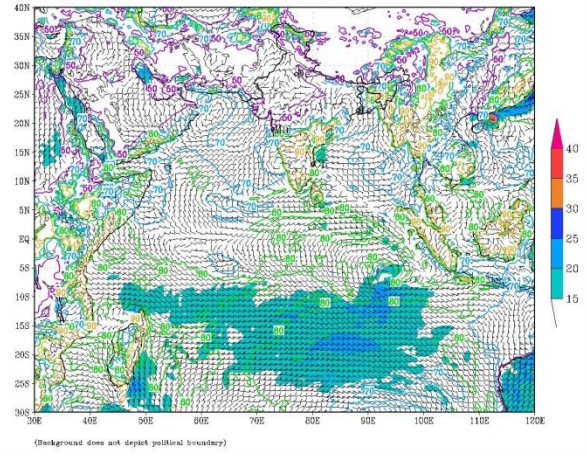
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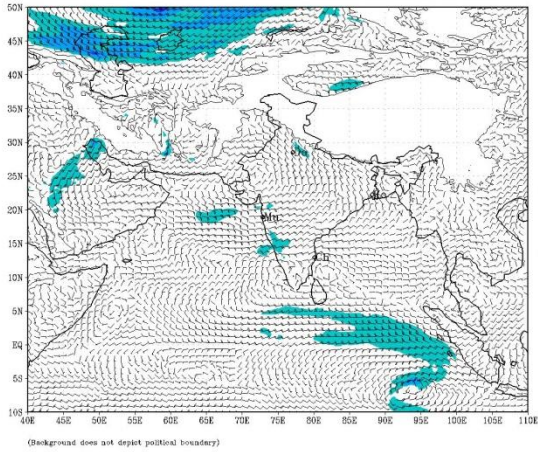
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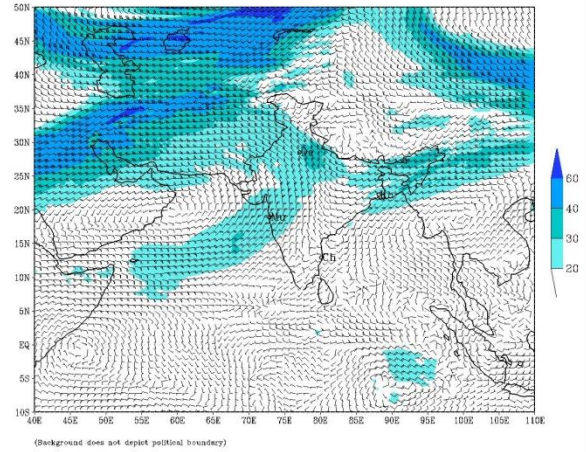
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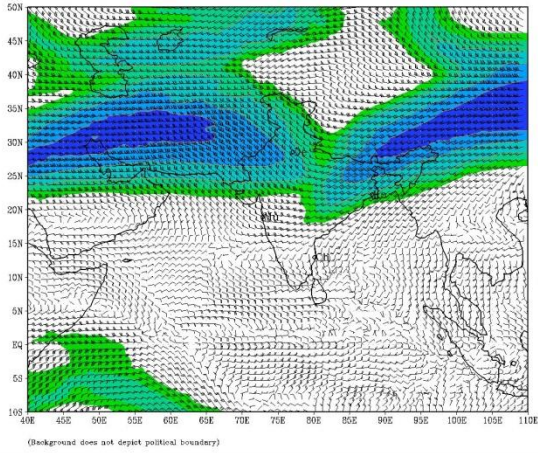
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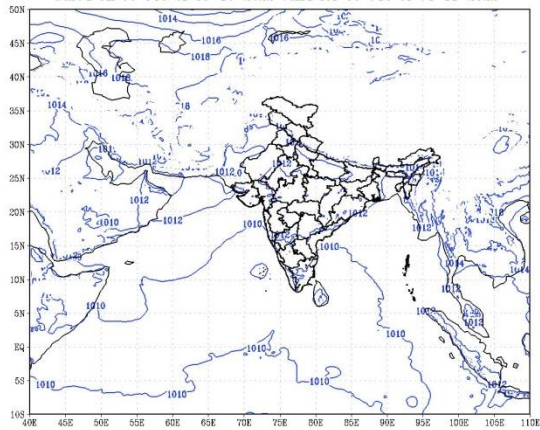
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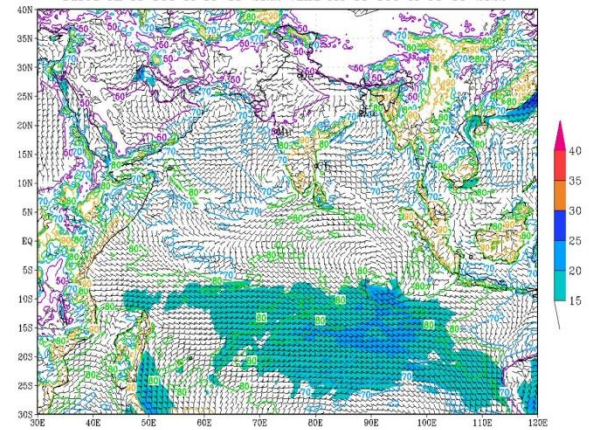
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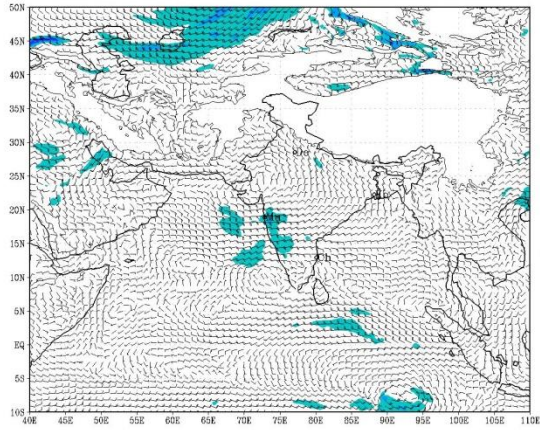
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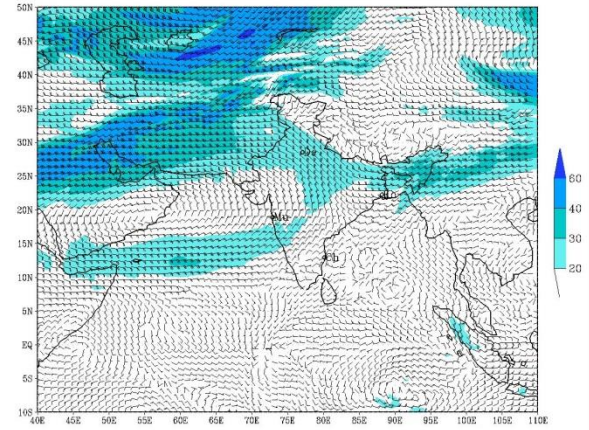
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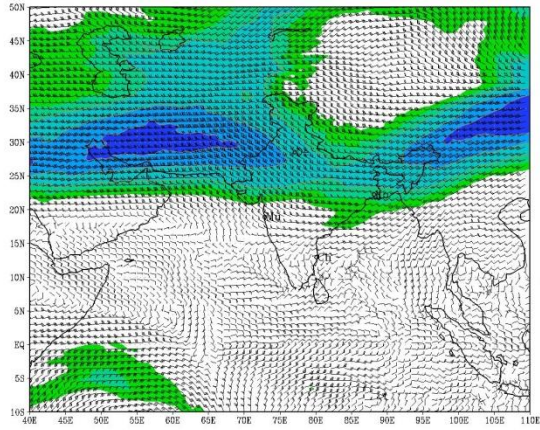
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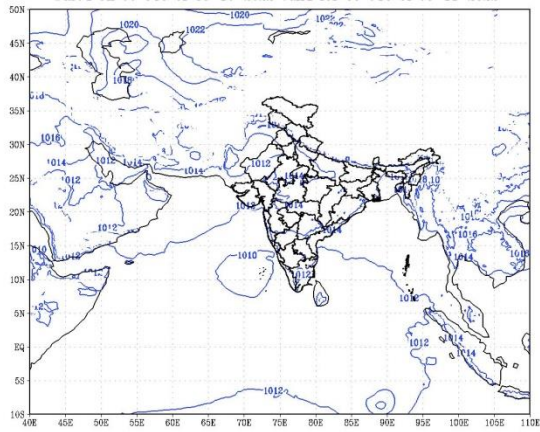
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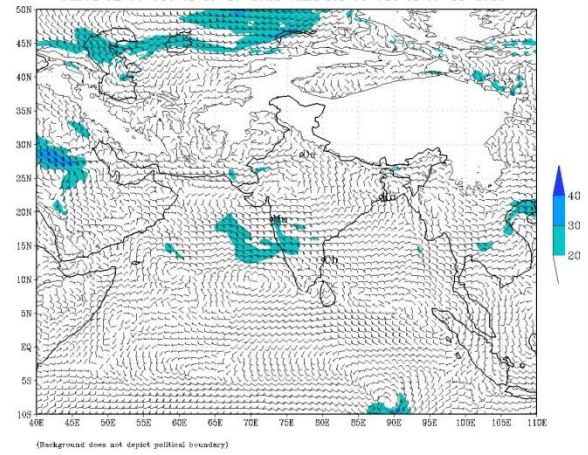
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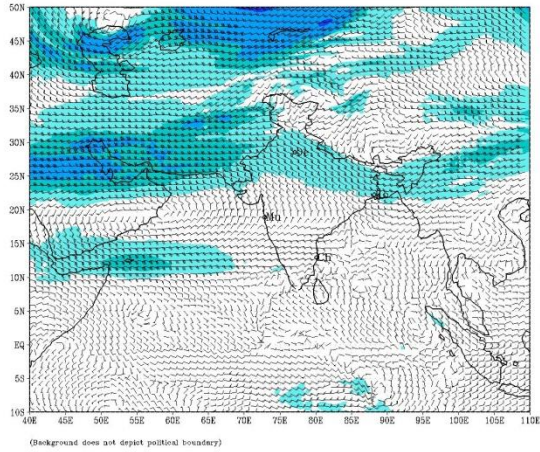
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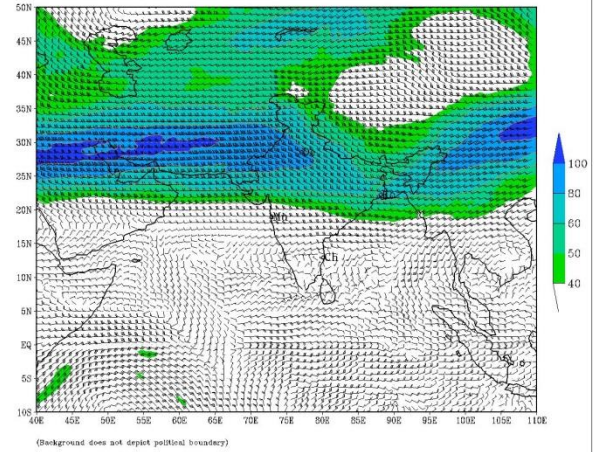
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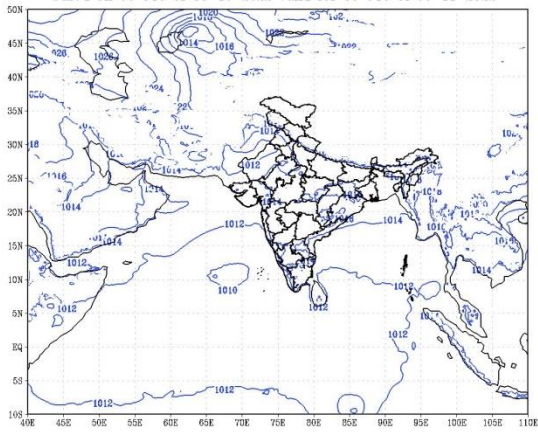
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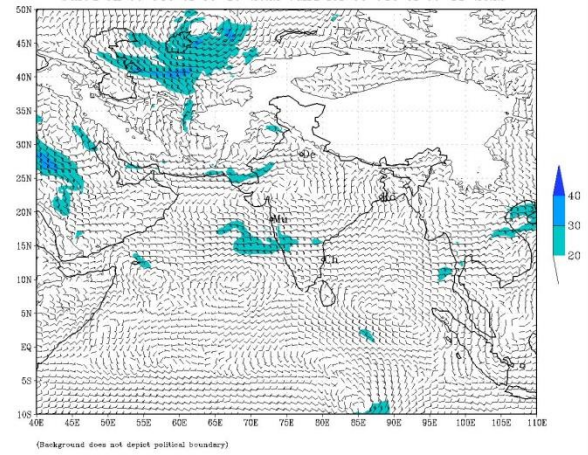
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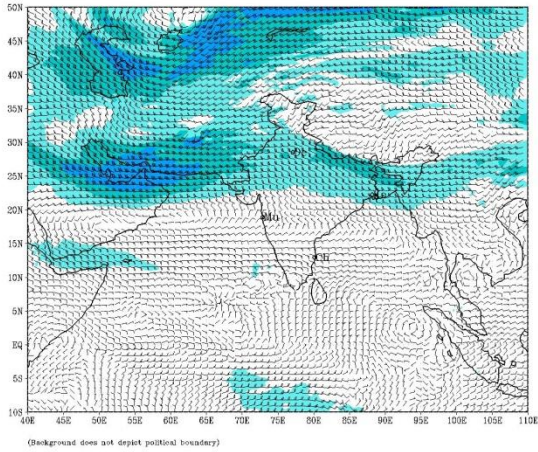
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based on 00 UTC of 30-10-2022 valid for 00 UTC of 06-11-2022



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based on 00 UTC of 30-10-2022 valid for 00 UTC of 06-11-2022



IMD :GFS MODEL(12 Km) 200 hPa WIND (kt) FORECAST (168 HR)  
based on 00 UTC of 30-10-2022 valid for 00 UTC of 06-11-2022

