



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

**Tropical Cyclone Forecast Programme
Report Dated 26th November, 2022**

Time of Issue: 1200 UTC

Synoptic features (based on 0600 UTC analysis):

- Yesterday's cyclonic circulation over southeast Arabian sea and neighbourhood persists over same region at 0830 hours IST (0300 UTC) of today, the 26th November, 2022.
- Yesterday's cyclonic circulation over North & adjoining South Andaman Sea lay over Eastcentral Bay of Bengal & adjoining North Andaman at 0830 hours IST (0300 UTC) of today, the 26th November, 2022.

Dynamical and thermo-dynamical features

Parameter	Bay of Bengal (BoB)	Arabian Sea (AS)
Sea Surface Temperature (SST) °C	About 28-29°C over the system and major parts of BoB, 29-30°C over southeast BoB and along south Sri Lanka coast, 25-26°C over northwest BoB along West Bengal and Odisha coast.	About 29-30°C over the southeast AS and adjoining southwest, eastcentral AS, off south Gujarat and Maharashtra coasts, 26-28°C over eastcentral and adjoining north AS, adjoining southwest AS, less than 24°C over southwest AS off Oman and Yemen coasts and adjoining sea areas.
Tropical Cyclone Heat Potential (TCHP) kJ/cm²	>110 over south Andaman sea & eastcentral BoB, 70-80 over north Andaman Sea, north parts of southwest BoB and adjoining westcentral BoB, off Sri Lanka, north BoB, and less than 40 over westcentral BoB, along and off east coast of India, west coast of Sri Lanka, Gulf of Mannar, some parts of southwest BoB.	70-90 over southeast and adjoining eastcentral and adjoining southwest AS, Maldives & adjoining EIO, Comorin area and less than 40 over remaining AS and also off west coast of India, Comorin area.
Cyclonic Relative vorticity (X10⁻⁶s⁻¹)	40-50 over south Andaman sea 30-40 over southeast & adjoining eastcentral BoB, southwest BoB along & off east Sri Lanka coast.	40-50 over Lakshadweep and Comorin area. 20-30 over southeast & adjoining eastcentral AS.
Low Level convergence (X10⁻⁵ s⁻¹)	Small zone of 5 over southwest BoB.	Small zone of 5 over Lakshadweep area.
Upper Level divergence (X10⁻⁵ s⁻¹)	5-10 over Andaman Sea.	05-10 over northeast AS off Gujarat coast.
Vertical Wind Shear	10-15 over Andaman Sea and central BoB.	10-15 over Lakshadweep and Comorin area.

(VWS knots)		
Wind Shear Tendency (knots)	Decreasing over Andaman Sea and central BoB.	Decreasing over southeast AS and Comorin area
Upper tropospheric Ridge	Along 18.0°N over the BoB.	Along 16.0°N over the AS.
Trough in westerlies	No significant trough	

Satellite observations based on INSAT imagery (0900 UTC):

a) Over the BoB & Andaman Sea:-

Scattered to broken low and medium clouds with embedded intense to very intense convection lay over eastcentral Bay of Bengal, north Andaman sea. Scattered to broken low and medium clouds with embedded moderate to intense convection lay over southeast Bay of Bengal and south Andaman sea.

b) Over the Arabian Sea:-

Scattered low and medium clouds with embedded isolated moderate to intense convection lay over south & central Arabian sea .

M.J.O. Index:

The Madden Julian Oscillation (MJO) Index is currently in Phase 7 with amplitude more than 1. It will continue in same phase for next 7 days and continue there with gradually decreasing amplitude during subsequent 4 days.

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

NIL

Model guidance based on 0000 UTC for the next 7 days

MODEL GUIDANCE	Bay of Bengal (BoB)	Arabian Sea (AS)
IMD-GFS	A cyclonic circulation (cycir) over Southeast BoB on 26 th , to move slightly northwards, persist over central parts of BoB till 28 th & less marked thereafter. A Cycir over Gulf of Thailand on 3 rd December, to emerge into south Andaman Sea on 5 th and move westwards till 6 th .	Cycir over Southeast AS on 25 th , to move west-southwestwards and become less marked on 28 th Nov.
IMD-GEFS	No significant system during next 7 days	No significant system during next 7 days
GEFS Probablistic guidance	Not available	Not available
IMD WRF	A cycir over South Andaman Sea on 26 th , to move west-northwestwards till 28 th with no significant intensification.	Cycir over Southeast AS on 26 th , to move west-southwestwards and become till 28 th Nov. with no significant intensification.
NCMRWF-NCUM	Cycir over Andaman Sea on 26 th , to move north-northwestwards till 28 th towards eastcentral BoB, becoming less marked thereafter.	Cycir over southeast Arabian Sea on 26 th to move nearly west-southwestwards till 28 th and less marked thereafter.

	A fresh cycir to emerge into South Andaman Sea on 5 th Dec. and intensify into a depression over South Andaman Sea on 6 th Dec.	
NCMRWF-NEPS	Cycir over Andaman Sea on 26 th , to move north-northwestwards till 28 th towards eastcentral BoB, becoming less marked thereafter. A fresh cycir to emerge into South Andaman Sea on 5 th Dec. and intensify into a depression over South Andaman Sea on 6 th Dec.	Cycir over southeast Arabian Sea on 26 th to move nearly west-southwestwards till 28 th and less marked thereafter.
NCMRWF-UM (Regional)	Cycir over Andaman Sea on 26 th , to move north-northwestwards till 28 th towards eastcentral BoB, becoming less marked thereafter.	Cycir over southeast Arabian Sea on 26 th to move nearly west-southwestwards till 28 th and less marked thereafter.
ECMWF	Cycir over North Andaman Sea and adjoining eastcentral BoB on 26 th , to move initially westwards and then northwards without any intensification, till 28 th and become less marked thereafter. Fresh low pressure area/depression (remnant from South China Sea) is likely to emerge into South Andaman Sea on 5 th Dec., to move gradually westwards with significant intensification	Cycir over southeast AS on 26 th . To move nearly westwards till 28 th Nov. No significant intensification of system.
ECMWF ensemble	Likely cyclogenesis (30-40% probability) over South BoB during next 3-4 days with intensification upto depression only. Another cyclogenesis expected over South BoB during 4 th -8 th Dec. with intensification upto Cyclonic Storm (50-60% probability). 20-30% Enesml members indicate likely northwestwards movement towards Andhra Pradesh coast.	No significant system
NCEP-GFS	Cycir over North Andaman Sea& adjoining eastcentral BoB on 26 th , to move west-northwestwards till 27 th & less marked thereafter. A fresh cycir/low pressure area to emerge into Andaman Sea around 4 th December from South China Sea. To move northwestwards towards westcentral & adjoining northwest BoB without significant intensification.	Cycir over southeast AS on 25 th , to move west-southwestwards and become less marked on 27 th Nov.
IMD MME		No significant system
IMD HWRF	Available during cyclonic disturbance period only	No significant system
IMD-Genesis Potential Parameter	No potential zone over Bay of Bengal during next 7 days	No potential zone over Arabian Sea during next 7 days

Summary and conclusion:

- Most of the models are indicating that the cyclonic circulation over southeast Arabian Sea would move west-southwestwards with no significant intensification for subsequent 2-3 days.
- Most of the models are indicating that the existing cyclonic circulation over North Andaman Sea and adjoining eastcentral Bay of Bengal would slowly move initially northwestwards followed by northwards movement towards central Bay of Bengal with no significant intensification.
- Most of the models are also indicating likely emergence of another cyclonic circulation/low pressure area (remnant from South China Sea) into Andaman Sea around 4th/5th December. However NCUM group and ECMWF are indicating emergence of depression into South Andaman Sea around 5th and further intensification of this system.

In view of all the above, it is inferred that

1. For the Bay of Bengal:

The cyclonic circulation over Eastcentral Bay of Bengal and adjoining North Andaman Sea is likely to move west-northwestwards initially followed by nearly northwards movement towards Bay of Bengal with no significant intensification. Thus, Nil probability is assigned to it's intensification into a depression.

Another cyclonic circulation (remnant from South China Sea) is likely to emerge into Andaman Sea around 4th/5th December. The movement and intensification of this system need to be critically monitored during 4th-10th December.

2. For the Arabian Sea:

The cyclonic circulation over southeast Arabian Sea is likely to move gradually west-southwestwards with no significant intensification during next 2-3 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

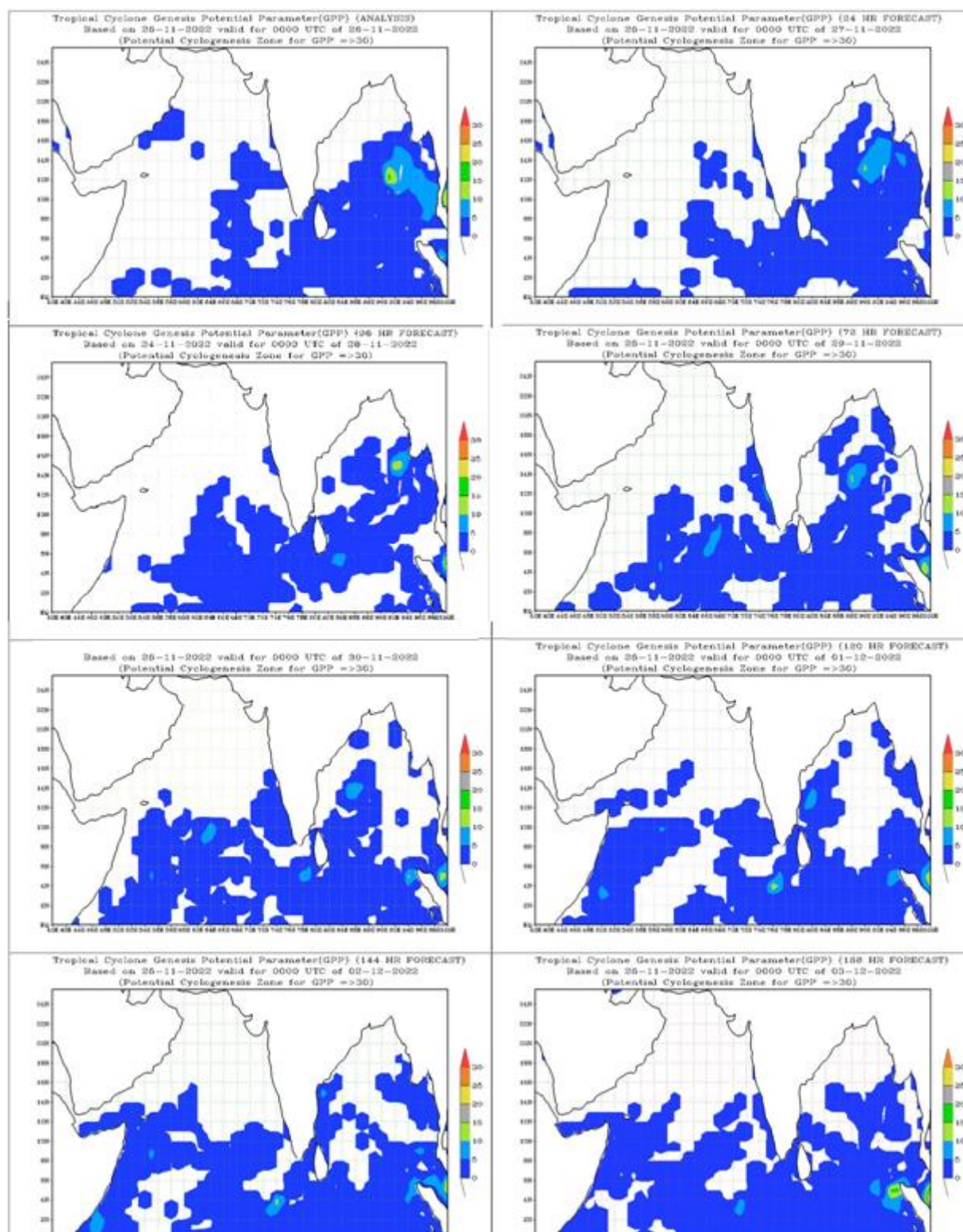
Probability of cyclogenesis (formation of depression and above intensity systems) over the Arabian Sea during next 168 hours:

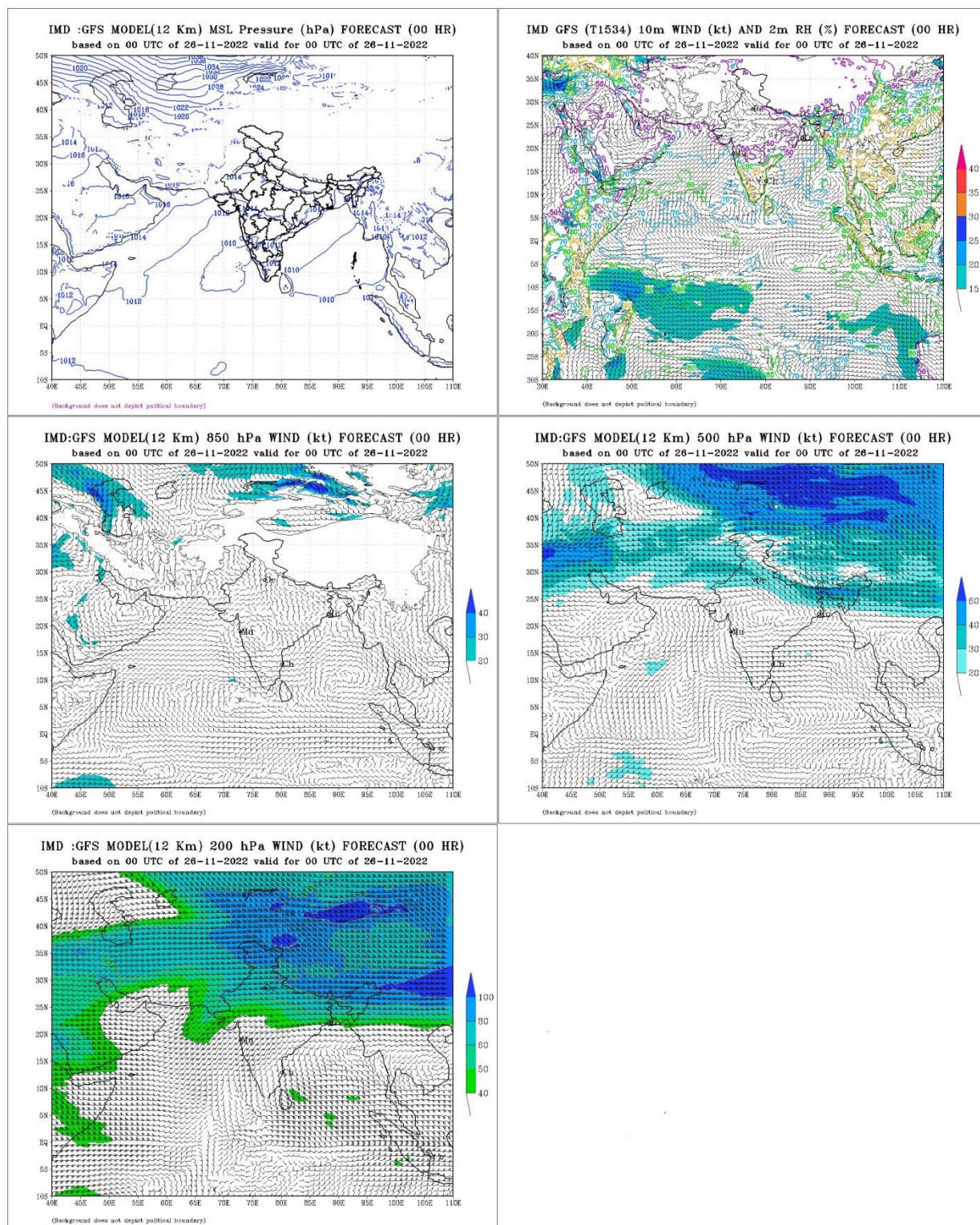
24 HOURS	24-48 HOURS	48-72 HOURS	72-96 HOURS	96-120 HOURS	120-144 HOURS	144-168 HOURS
NIL	NIL	NIL	NIL	NIL	NIL	NIL

Advisory:

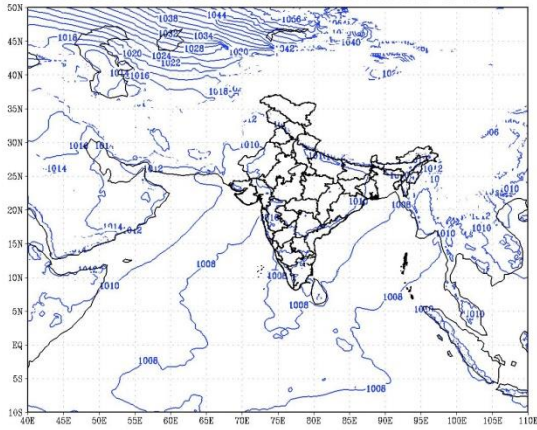
The movement and intensification of the cyclonic circulation over Eastcentral Bay of Bengal and adjoining North Andaman Sea need to be monitored.

IOP: NIL

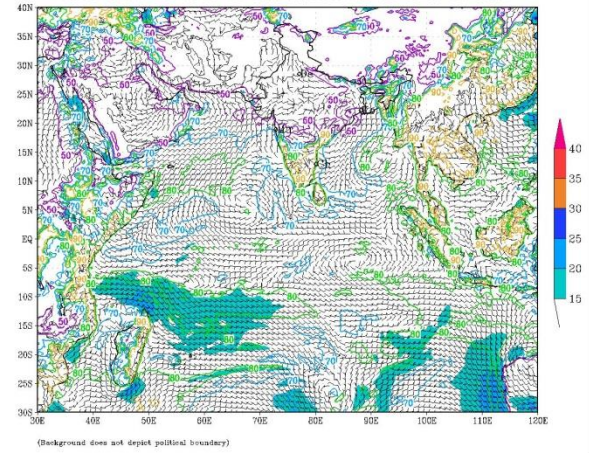




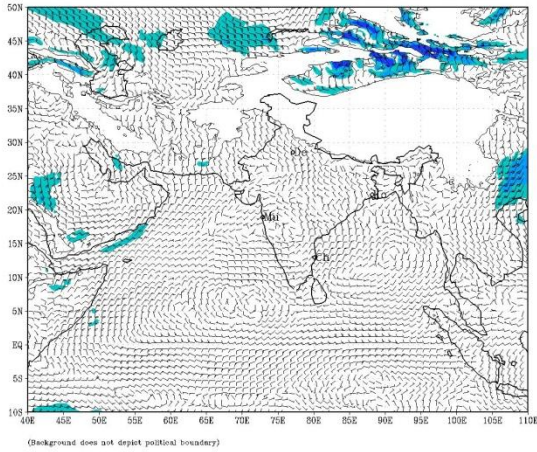
IMD :GFS MODEL(12 Km) MSL Pressure (hPa) FORECAST (24 HR)
based on 00 UTC of 26-11-2022 valid for 00 UTC of 27-11-2022



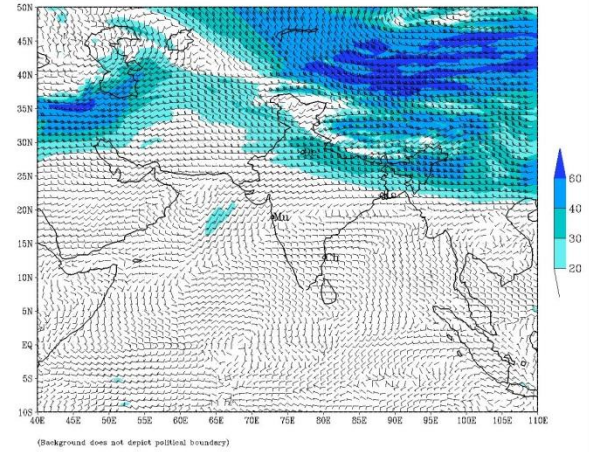
IMD GFS (T1534) 10m WIND (kt) AND 2m RH (%) FORECAST (24 HR)
based on 00 UTC of 26-11-2022 valid for 00 UTC of 27-11-2022



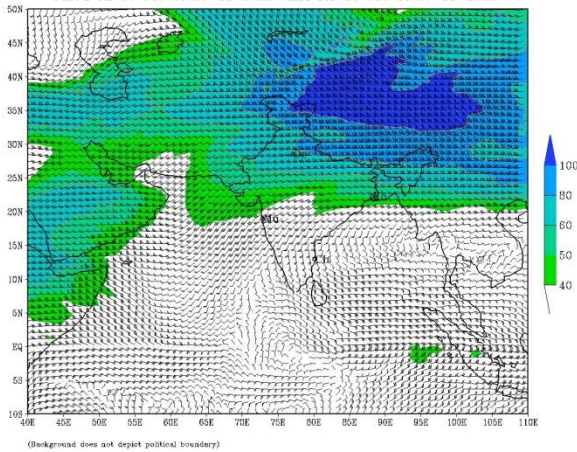
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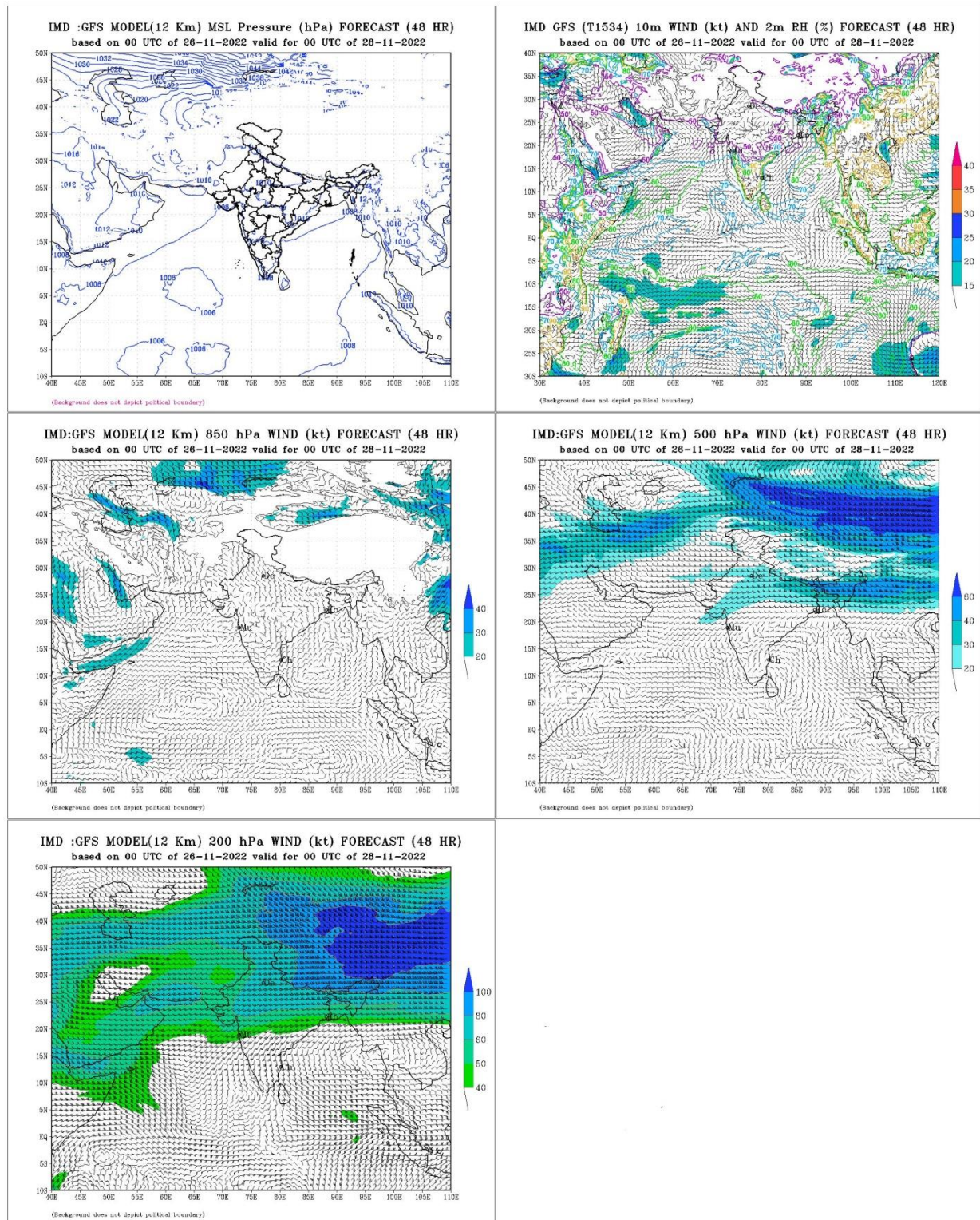


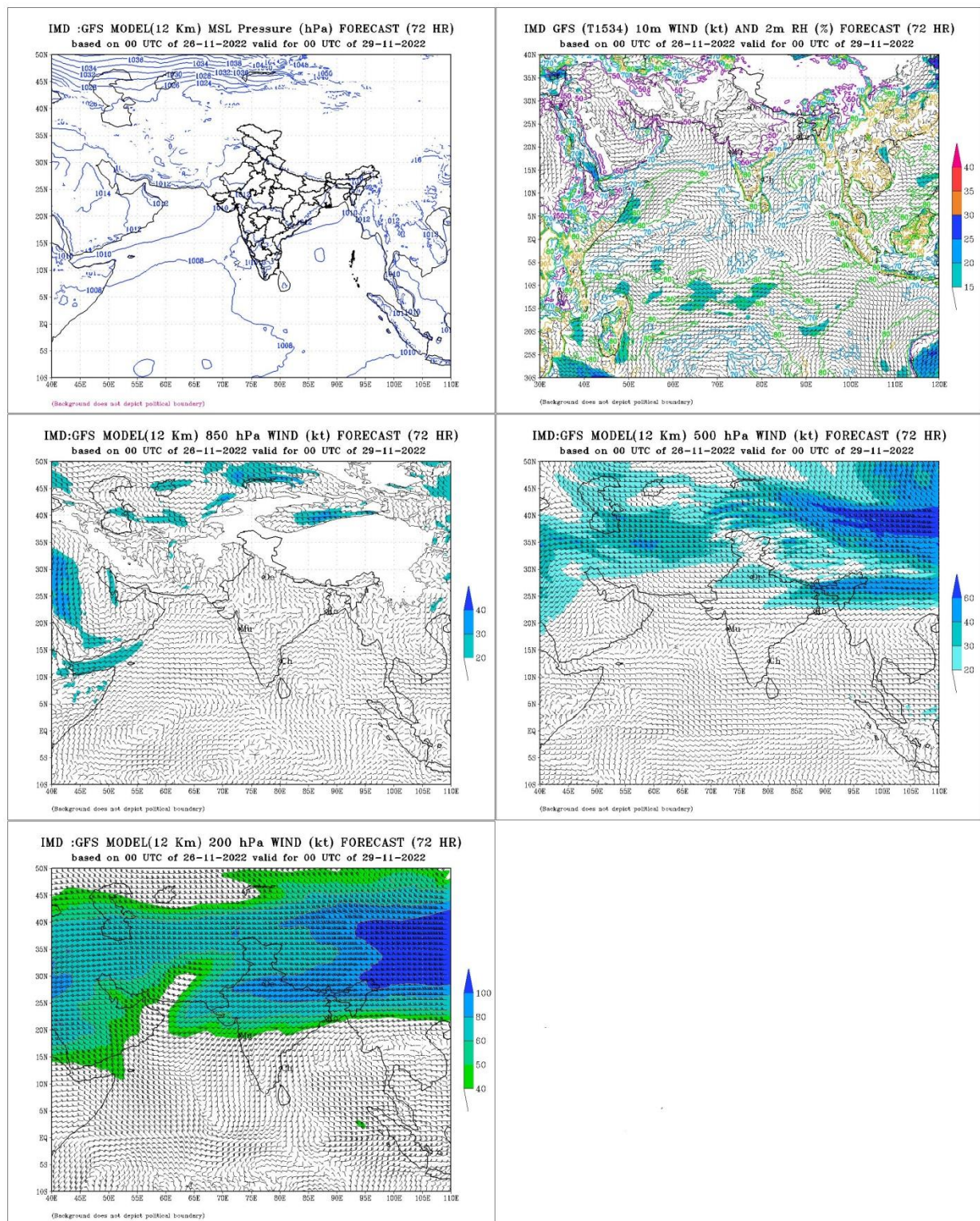
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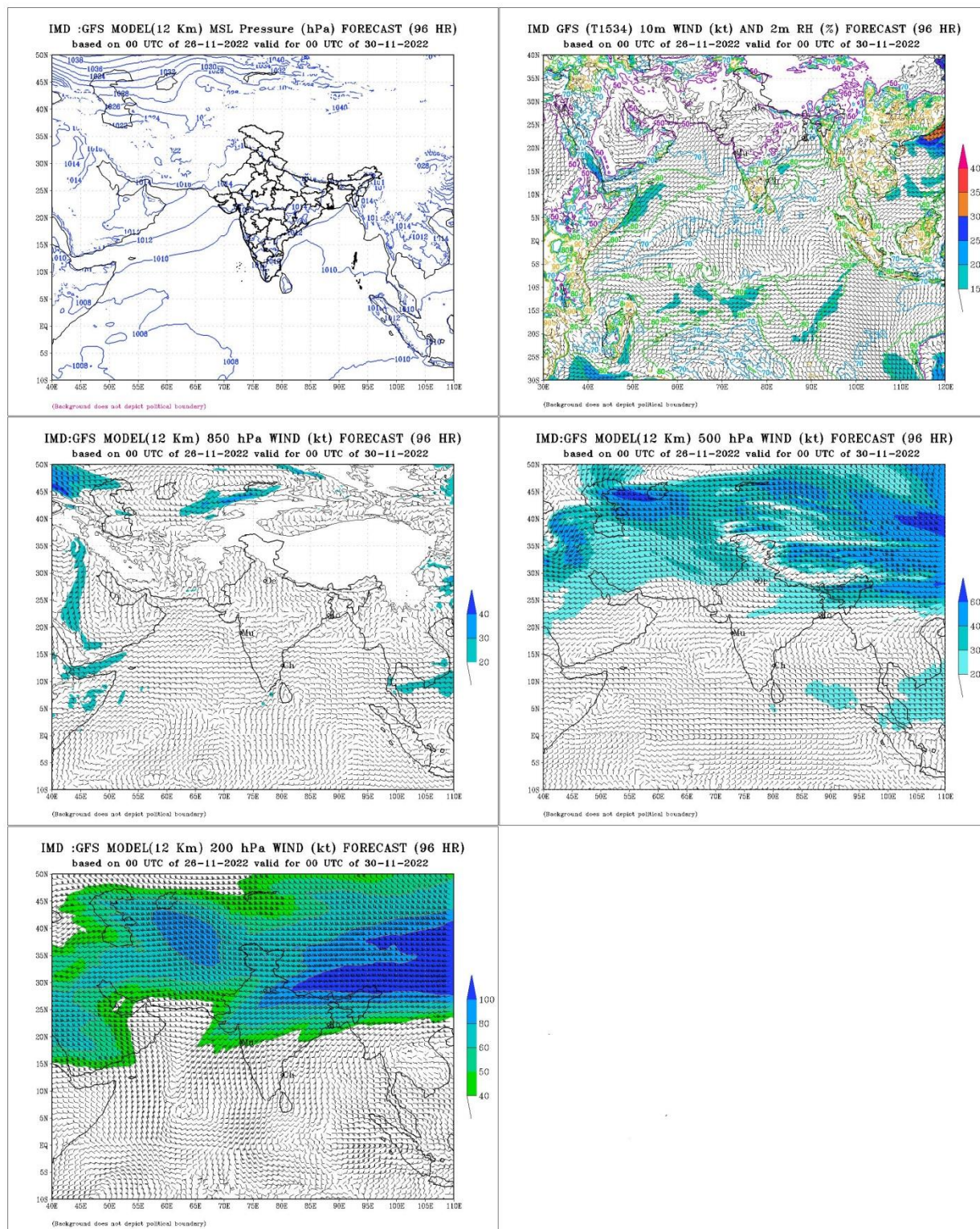


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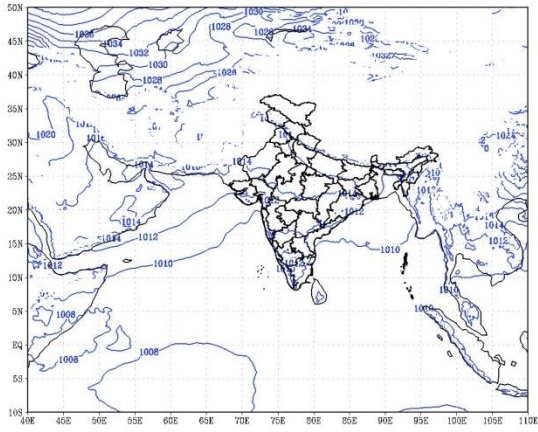




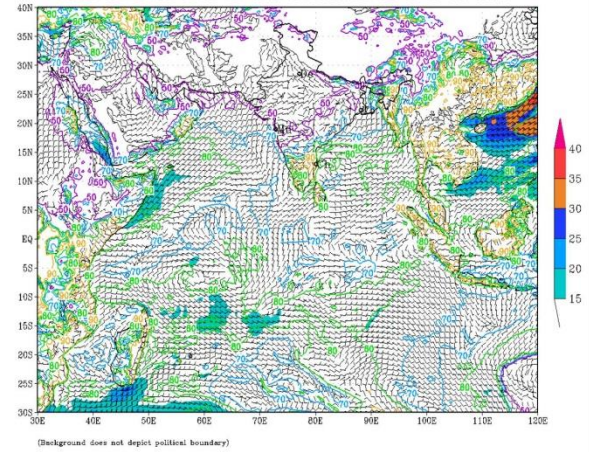




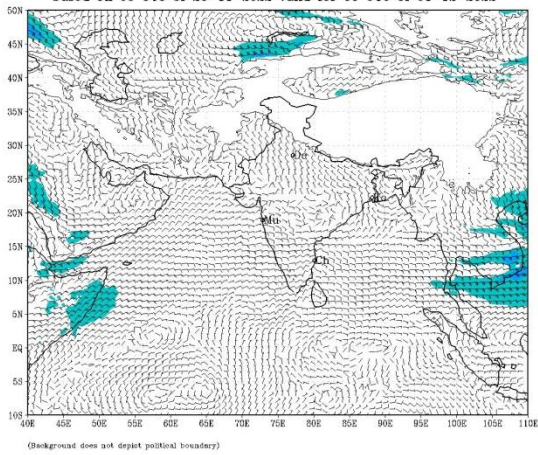
IMD :GFS MODEL(12 Km) MSL Pressure (hPa) FORECAST (120 HR)
based on 00 UTC of 26-11-2022 valid for 00 UTC of 01-12-2022



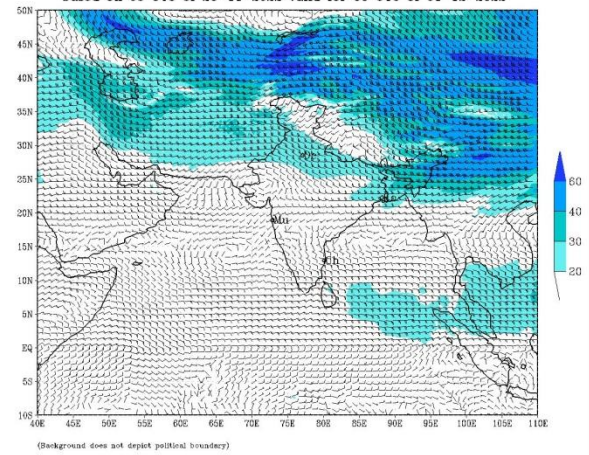
IMD GFS (T1534) 10m WIND (kt) AND 2m RH (%) FORECAST (120 HR)
based on 00 UTC of 26-11-2022 valid for 00 UTC of 01-12-2022



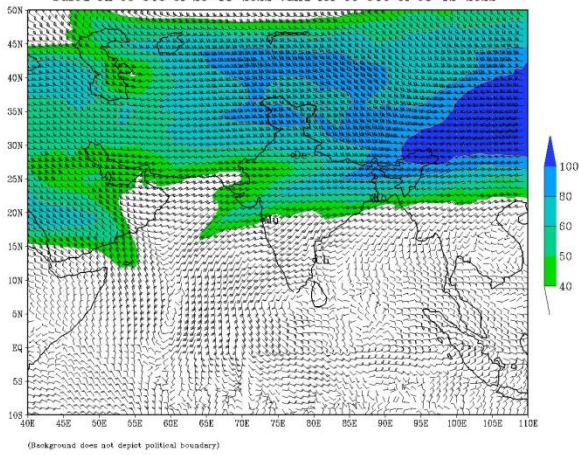
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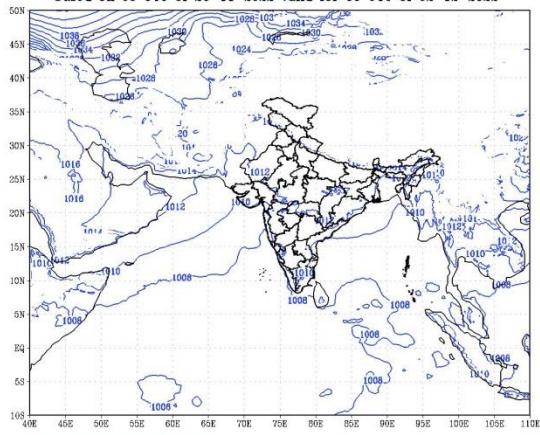
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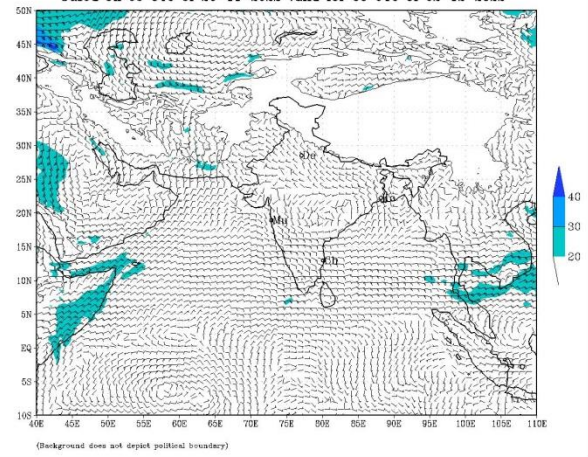
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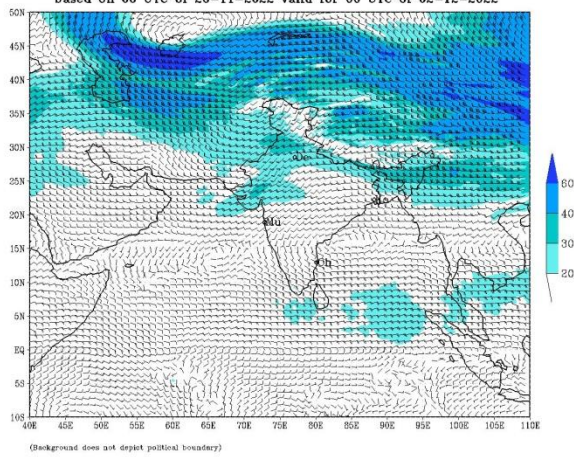
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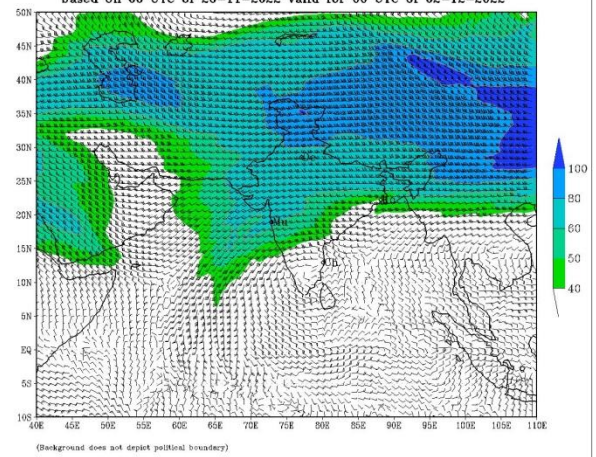
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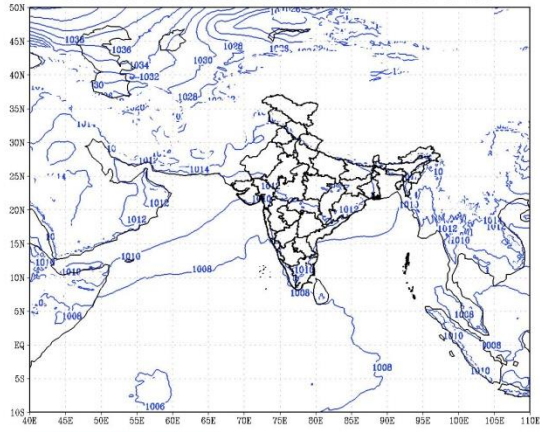
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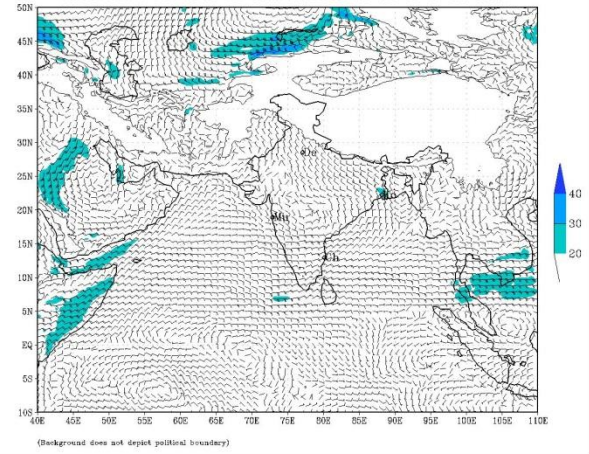
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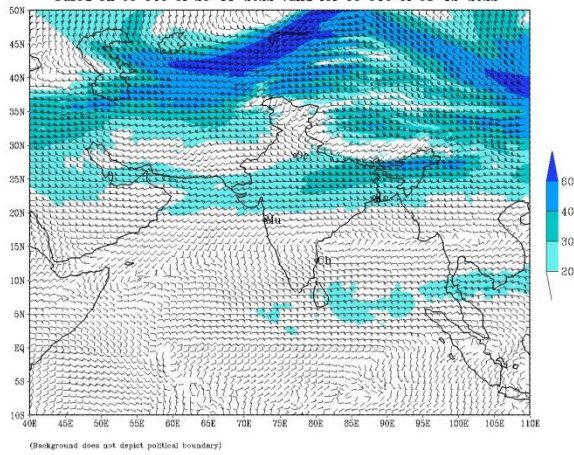
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based on 00 UTC of 26-11-2022 valid for 00 UTC of 03-12-2022



IMD:GFS MODEL(12 Km) 850 hPa WIND (kt) FORECAST (168 HR)
based on 00 UTC of 26-11-2022 valid for 00 UTC of 03-12-2022



IMD:GFS MODEL(12 Km) 500 hPa WIND (kt) FORECAST (168 HR)
based on 00 UTC of 26-11-2022 valid for 00 UTC of 03-12-2022



IMD:GFS MODEL(12 Km) 200 hPa WIND (kt) FORECAST (168 HR)
based on 00 UTC of 26-11-2022 valid for 00 UTC of 03-12-2022

