



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

FDP (Cyclone) NOC Report Dated 18th October, 2021

Time of Issue: 1200 UTC

Synoptic features (based on 0900 UTC analysis):

- ❖ Yesterday's low pressure area over north Telangana lay over southwest Madhya Pradesh and neighbourhood at 0300 UTC of today, the 18th October and persisted over the same region at 0900 UTC. The associated cyclonic circulation extended upto 4.5 km above mean sea level.
- ❖ A Low Pressure area formed inland over Gangetic West Bengal & neighbourhood at 0300 UTC of today, the 18th October and persisted over the same region at 0900 UTC. The associated cyclonic circulation extended upto 5.8 km above mean sea level.
- ❖ All other weather systems depicted in yesterday's report have become less marked during the past 24 hours. Also no significant low pressure system prevails over the Sea areas as on today.

Dynamical and thermodynamical features

Parameter	Bay of Bengal (BoB)	Arabian Sea (AS)
Sea Surface Temperature (SST) °C	29-30°C over major parts of BoB	28-29°C over the AS outside southwest & adjoining west-central AS where it is 26-27°C and 24-26°C along & off south Oman & Somalia coasts
Tropical Cyclone Heat Potential (TCHP) kJ/cm²	70-80 over most parts and 110-120 over some parts of northwest BoB as well as over the eastern equatorial Indian Ocean.	60-70 over southeast & east-central AS. Less than 50 over north, west-central & southwest AS and along & off Oman – Yemen coasts.
Relative vorticity (X10⁻⁶s⁻¹)	20-30 over northwest, west-central and southwest BoB. (it extends upto 500 hPa over northwest and upto 700 hPa over the remaining region)	40-50 over a small pocket in central AS. (it extends upto 500 hPa)
Low Level convergence (X10⁻⁵ s⁻¹)	a) 05-10 over northwest & adjoining central BoB. b) 05 over southwest BoB off north Sri Lanka coast.	05 – 10 over southeast AS and adjoining equatorial IO.

Upper Level divergence ($\times 10^{-5} \text{ s}^{-1}$)	20 over north & west-central BoB	5-10 over southeast AS and adjoining equatorial Indian Ocean
Vertical Wind Shear (VWS Knots)	High (20-30) over entire BoB	Low (05-15) over central and adjoining north AS and High elsewhere.
Wind Shear Tendency (knots)	Neutral	Neutral
Upper tropospheric Ridge	Around 25°N to the north of the BoB	Roughly along 19°N.

Satellite observations based on INSAT imagery (0900 UTC):

Bay of Bengal & Andaman Sea:-

At 0900 UTC, scattered to broken low to medium clouds with embedded intense to very intense convection lay over north, central & southeast BoB. Scattered low and medium clouds with embedded moderate to intense convection also lay over southwest BoB and Andaman Sea.

Arabian Sea:-

At 0900 UTC, scattered low and medium clouds with embedded moderate to intense convection lay over southeast AS off Karnataka – Kerala coasts. Scattered low and medium clouds with embedded weak to moderate convection lay over rest parts of south AS and Comorin area.

M.J.O. Index:

MJO index is in Phase 2 with amplitude less than 1. It is likely to remain in the same Phase (Phase 2) during next 5 days and then propagate westwards to Phase 1, with gradual increase in amplitude during the subsequent 2 days. Thus, the Phase of MJO would support convective activity over the AS during next 5 days.

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

No Storm or Depression prevails over South China Sea & South Indian Ocean as on today.

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

Model	BoB	AS
IMD-GFS	No fresh genesis predicted. Indicates a trough of low over south & adjoining central BoB on 24 th .	No fresh genesis predicted. Indicates a trough of low over Lakshadweep area & adjoining southeast and east-central AS off Goa coast on 24 th .
IMD-GEFS	-Do-	-Do-
IMD-WRF	No fresh genesis predicted upto 21 st Oct.	No fresh genesis predicted upto 21 st Oct..
NCMRWF-NCUM	No fresh genesis predicted. Indicates a trough of low over south & adjoining central BoB on 24 th .	No fresh genesis predicted. Indicates a trough of low over Lakshadweep area & adjoining southeast and east-central AS off Goa

		coast on 24 th .
NCMRWF-NEPS	No fresh genesis predicted.	No fresh genesis predicted.
NCMRWF-UM (Regional)	No fresh genesis predicted upto 21 st Oct.	No fresh genesis predicted upto 21 st Oct.
ECMWF	No fresh genesis predicted.	No fresh genesis predicted.
ECMWF-EPS	Shows 20-30% strike probability for north Andaman Sea on 24 th , 30-40% over Andaman Islands on 25 th .	Shows NIL probability
NCEP-GFS	No fresh genesis predicted.	No fresh genesis predicted. Indicates a trough of low from Lakshadweep area to east-central AS off south Maharashtra coast on 24 th .
IMD-GPP	Potential zone over north BoB and adjoining West Bengal – Bangladesh coasts on 18 th & Nil on the remaining days	A tiny elliptical zone over Lakshadweep area on 25 th .

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

Summary and Conclusion:

All the numerical models analysed above are indicating that there may not be any significant Low pressure system development taking place over the north Indian Ocean during the next 7 days.

It may thus be concluded that,

Fresh cyclogenesis (formation of depression & above intensity systems) over the north Indian Ocean is un-likely during the forecast period.

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

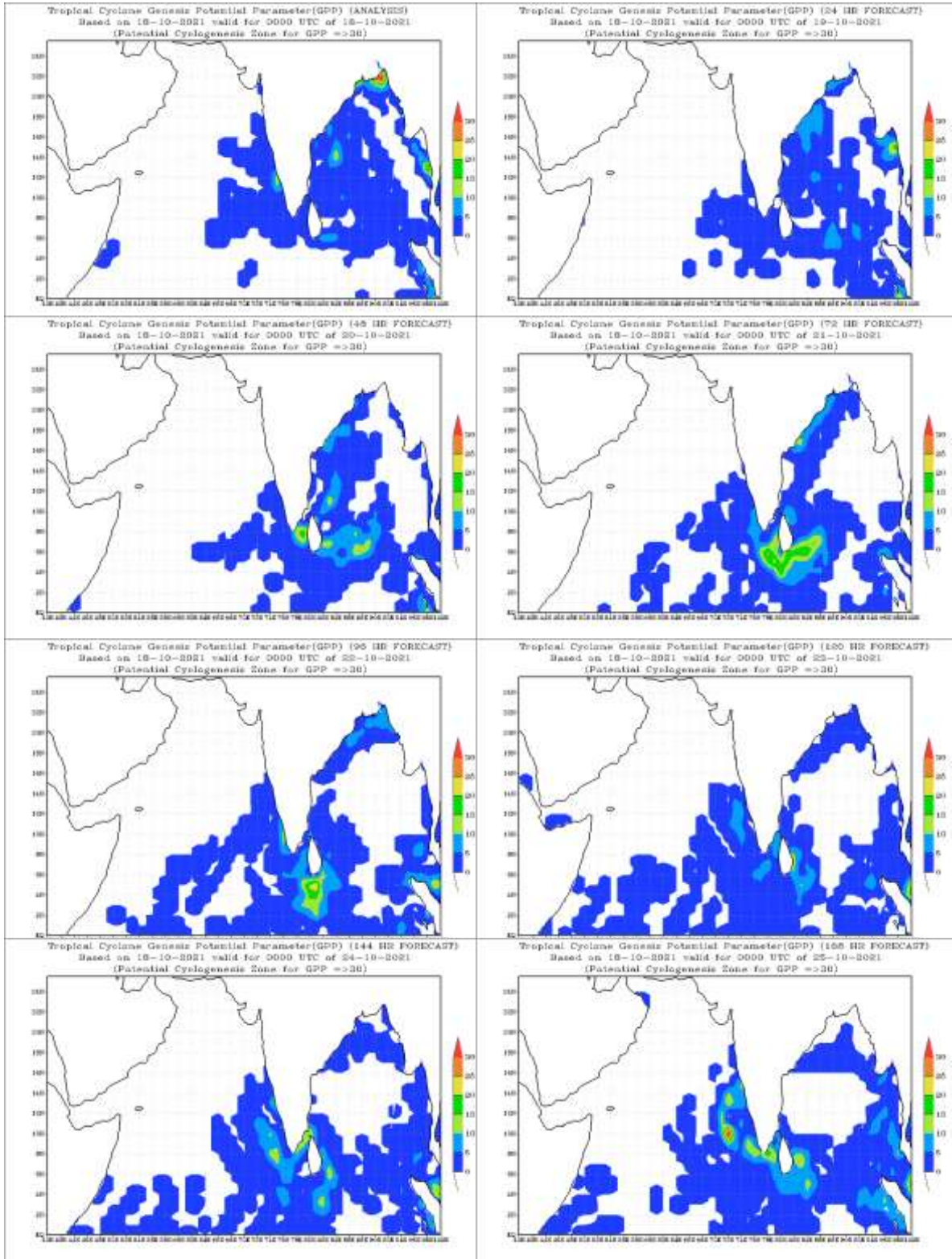
Probability of cyclogenesis (formation of depression and above intensity systems) over the Arabian Sea during next 168 hours:

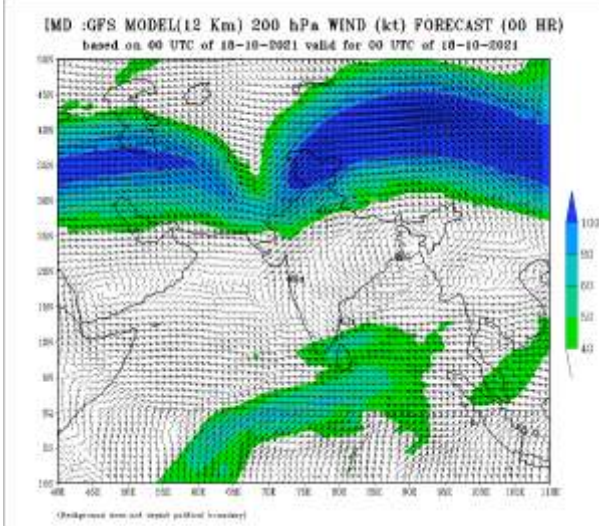
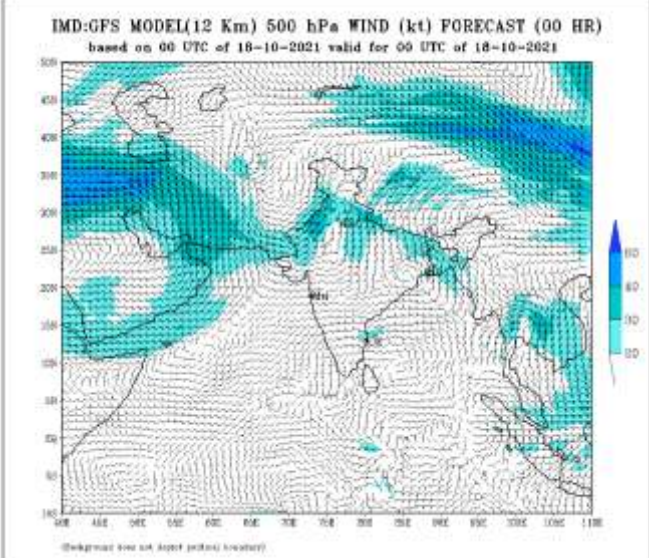
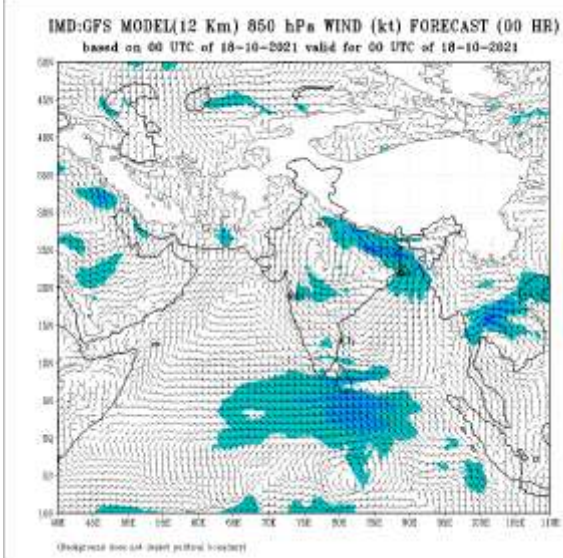
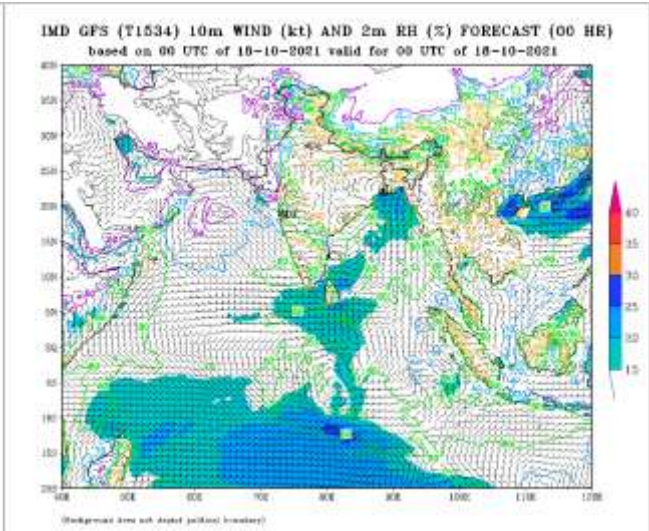
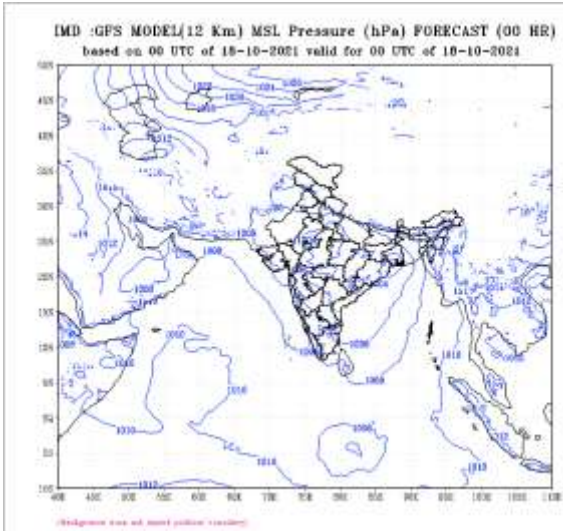
24 HOURS	24-48 HOURS	48-72 HOURS	72-96 HOURS	96-120 HOURS	120-144 HOURS	144-168 HOURS
NIL	NIL	NIL	NIL	NIL	NIL	NIL

Advisory:

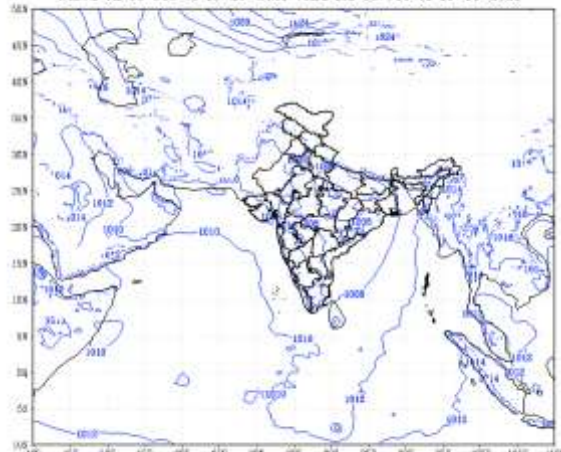
NIL.

No IOP is suggested.



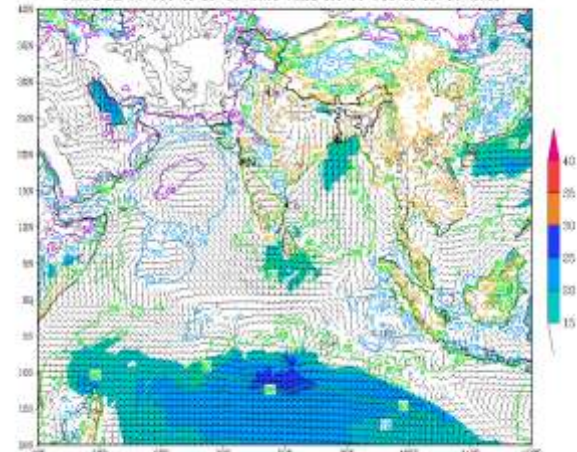


IMD :GFS MODEL(12 Km) MSL Pressure (hPa) FORECAST (24 HR)
based on 00 UTC of 18-10-2021 valid for 00 UTC of 19-10-2021



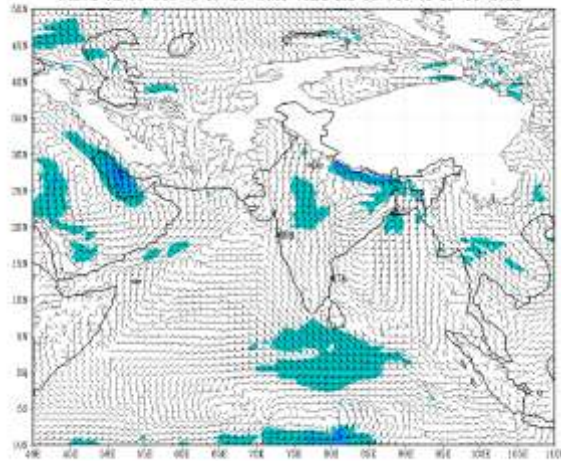
(Background map not to scale political boundary)

IMD GFS (T1534) 10m WIND (kt) AND 2m RH (%) FORECAST (24 HR)
based on 00 UTC of 18-10-2021 valid for 00 UTC of 19-10-2021



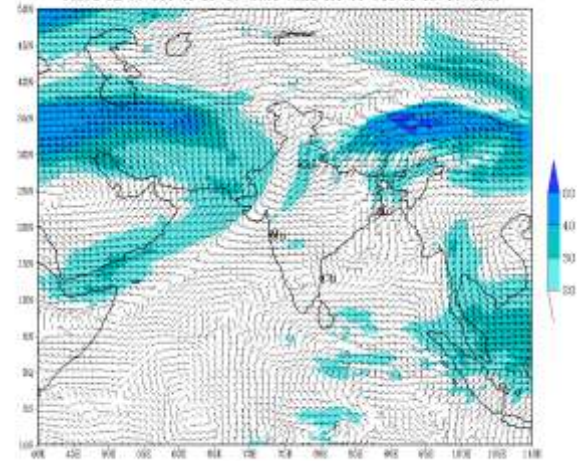
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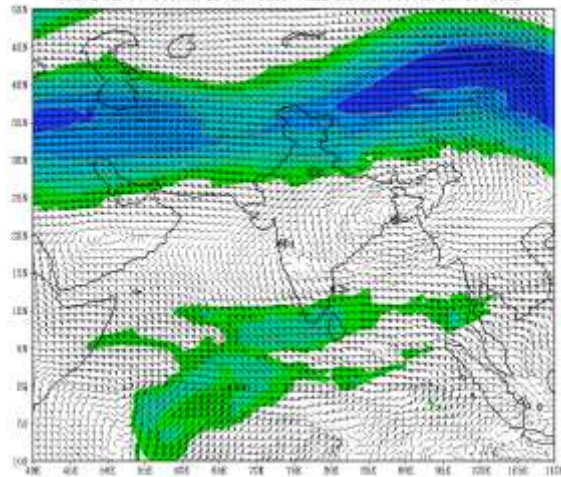
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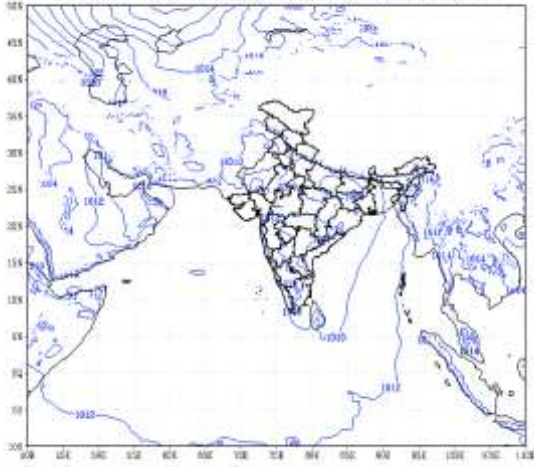
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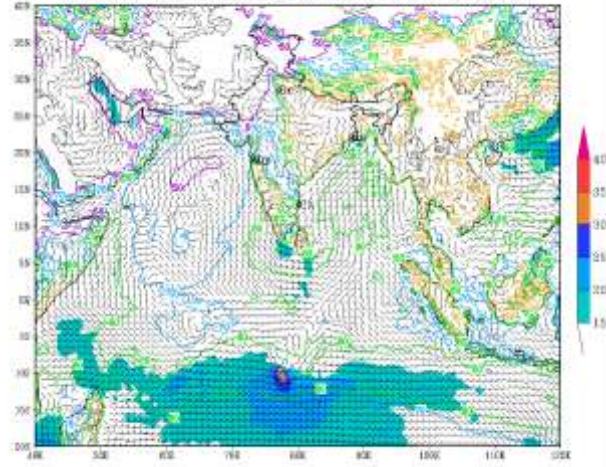
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IMD :GFS MODEL(12 Km) MSL Pressure (hPa) FORECAST (48 HR)
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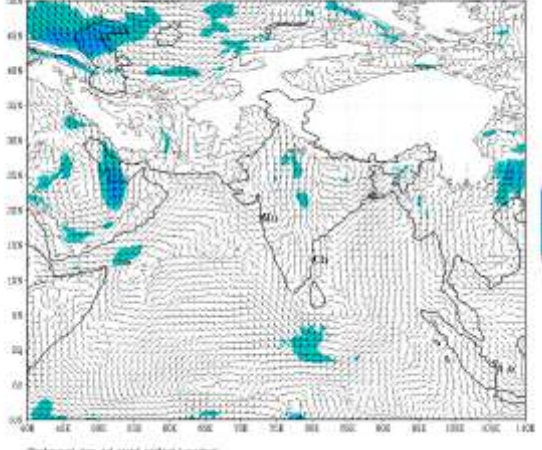
(Background over sea level plotted boundary)

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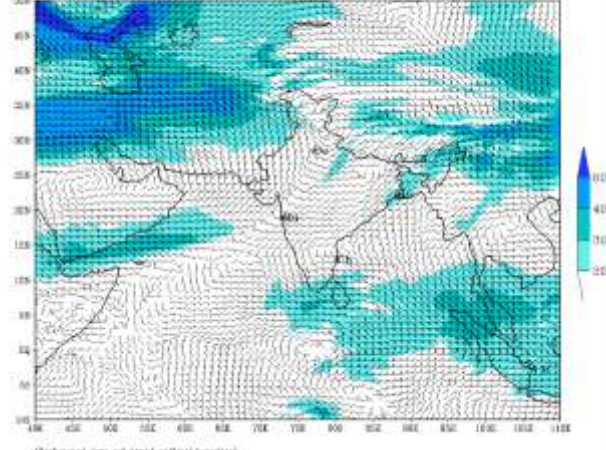
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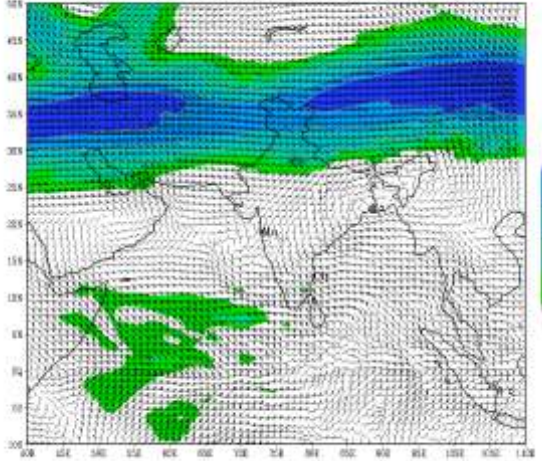
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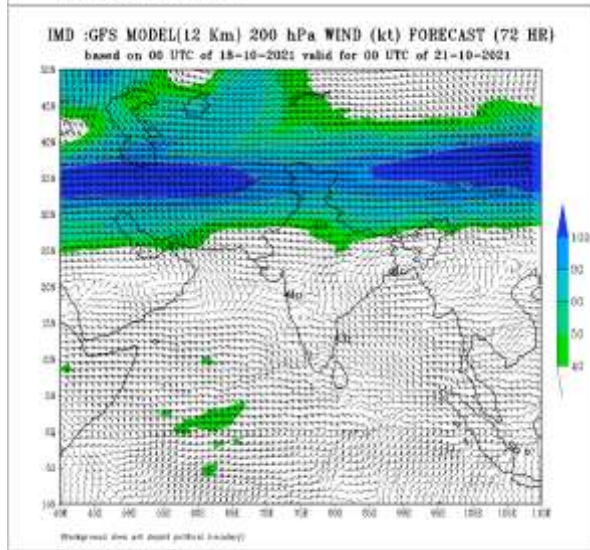
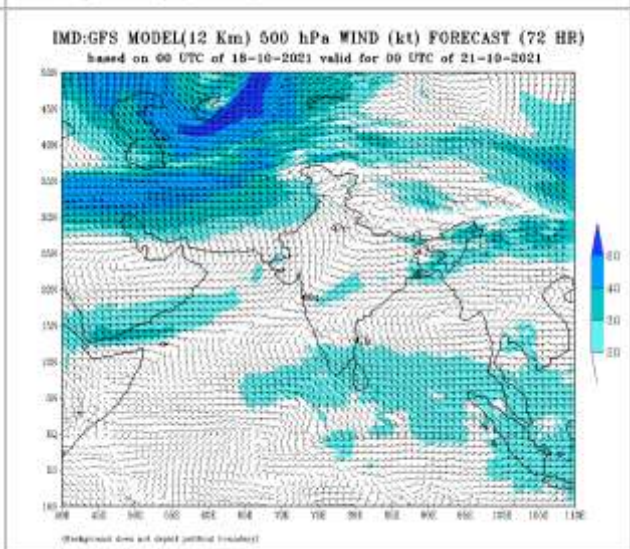
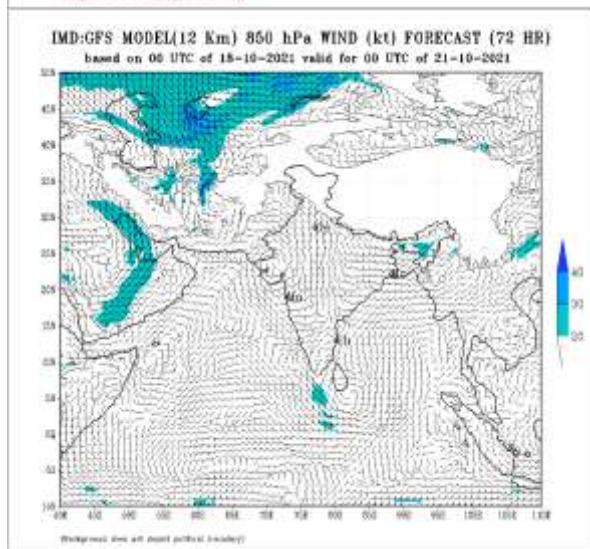
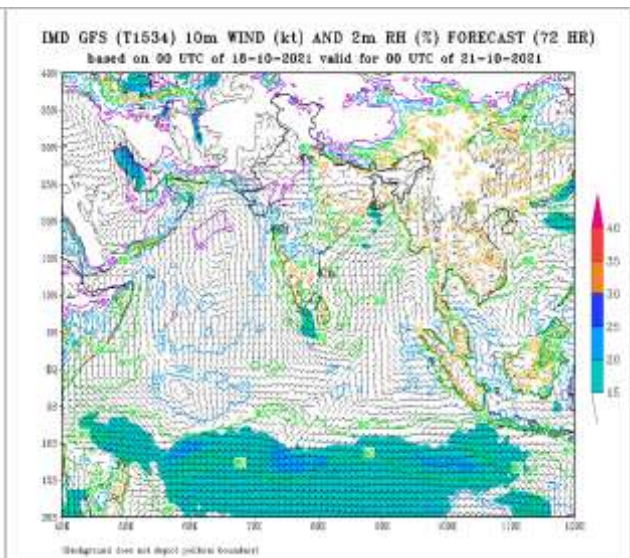
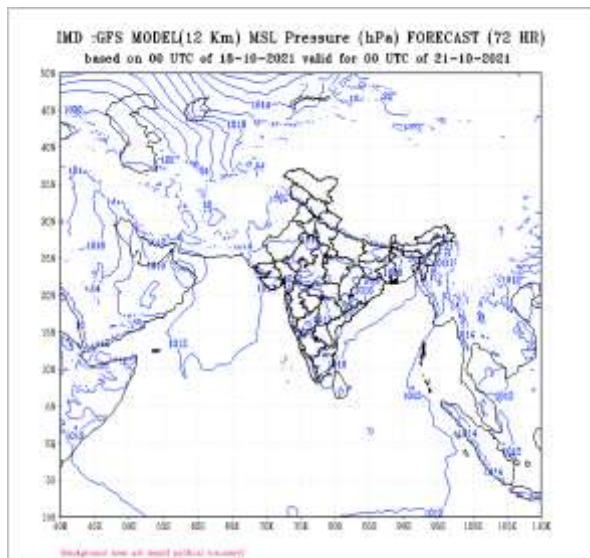


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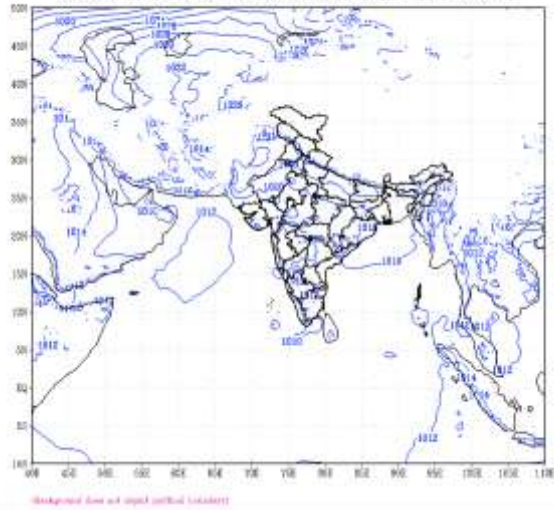
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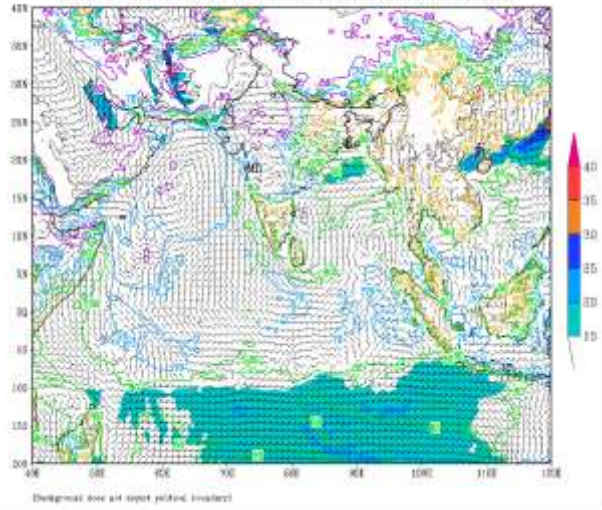
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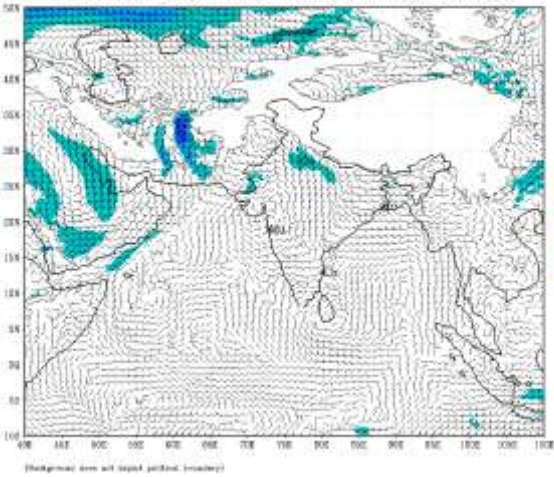
IMD :GFS MODEL(12 Km) MSL Pressure (hPa) FORECAST (96 HR)
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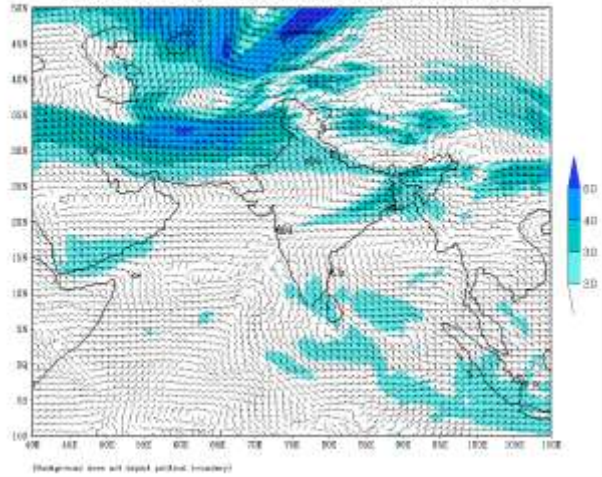
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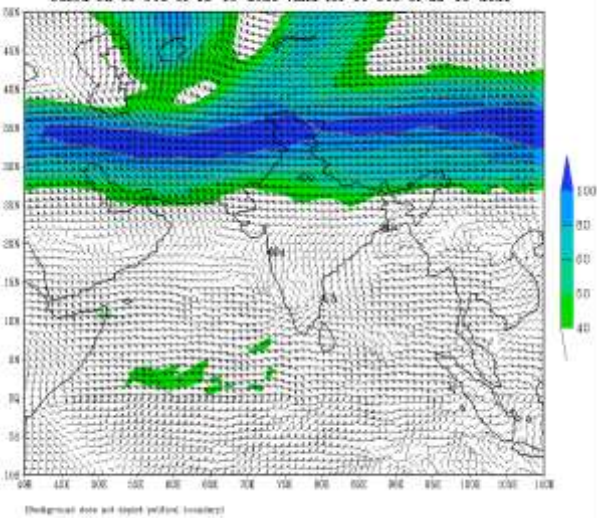
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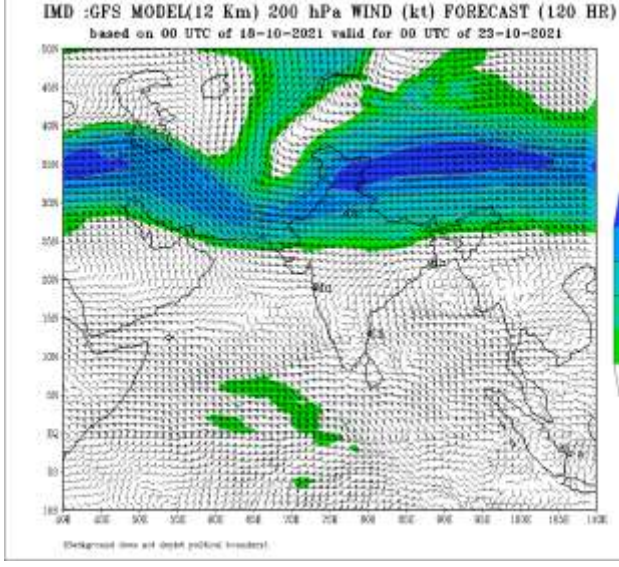
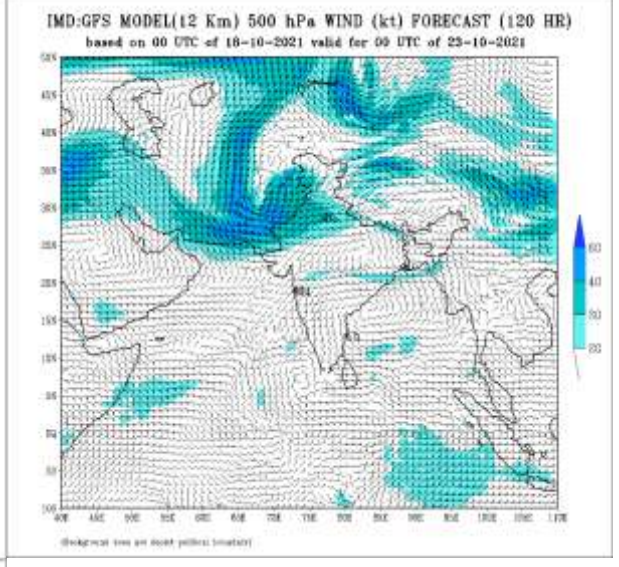
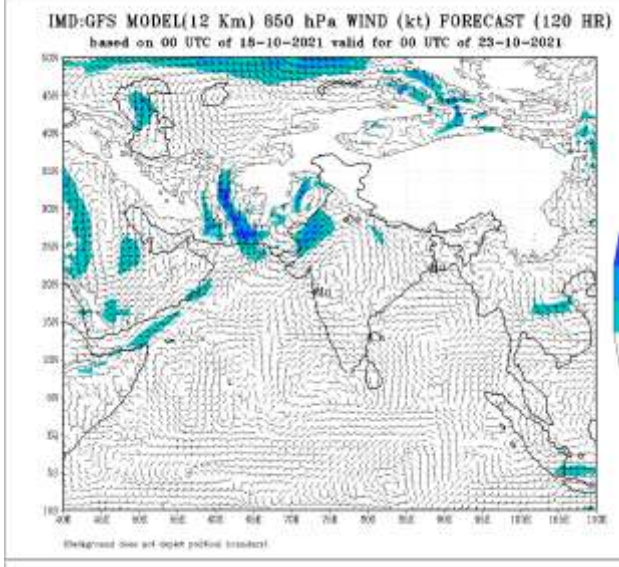
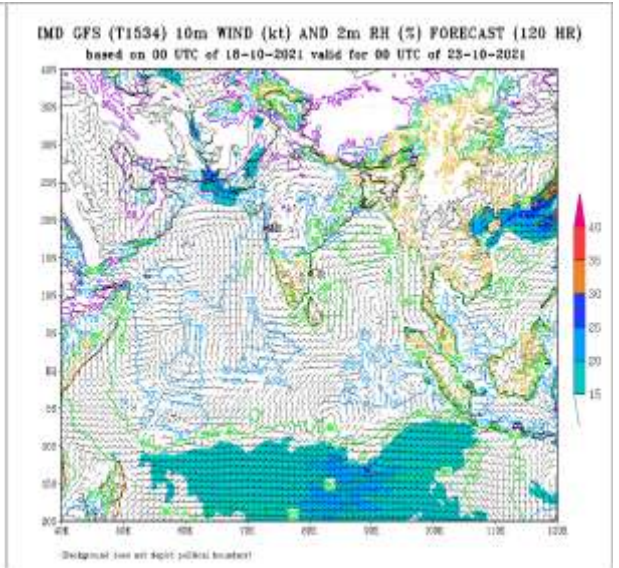
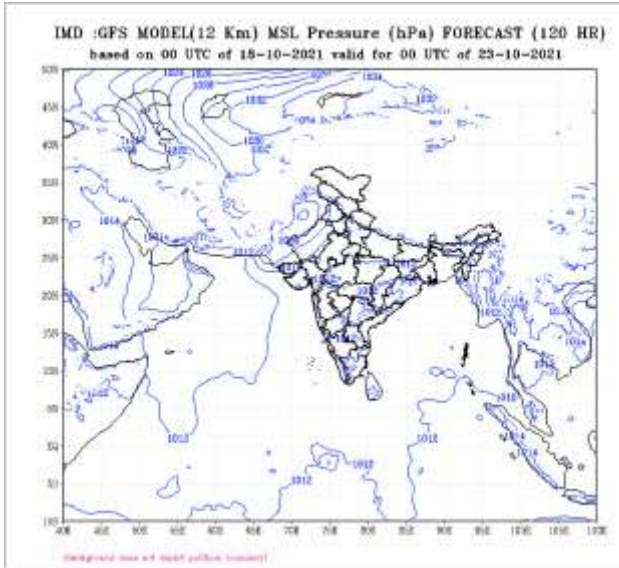


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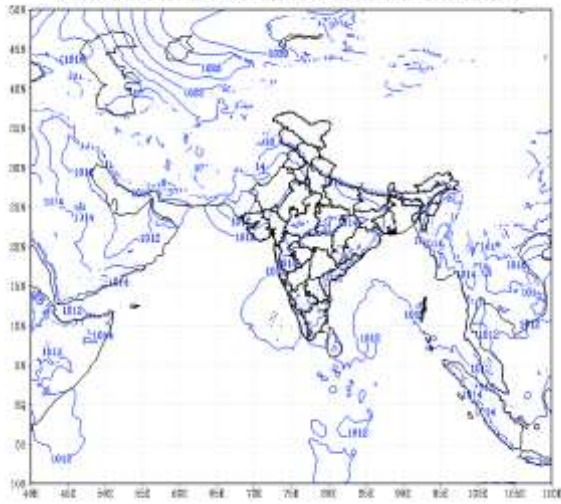


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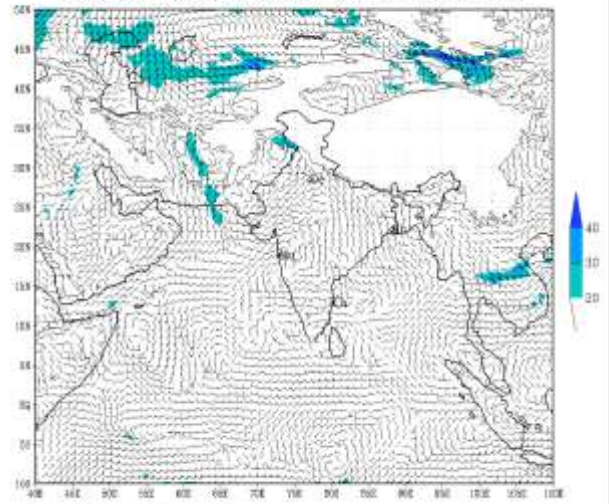


IMD :GFS MODEL(12 Km) MSL Pressure (hPa) FORECAST (144 HR)
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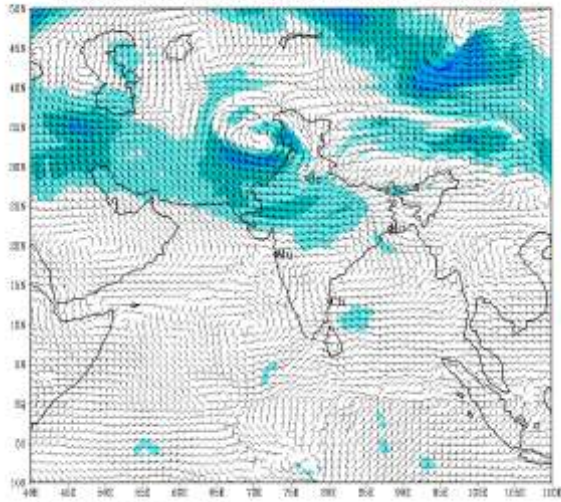
(Background time and depth profile boundary)

IMD:GFS MODEL(12 Km) 850 hPa WIND (kt) FORECAST (144 HR)
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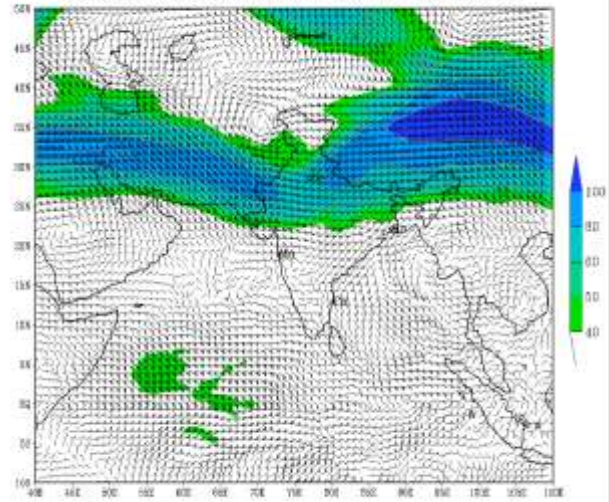
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(Background time and depth profile boundary)

IMD :GFS MODEL(12 Km) 200 hPa WIND (kt) FORECAST (144 HR)
 based on 00 UTC of 18-10-2021 valid for 00 UTC of 24-10-2021



(Background time and depth profile boundary)

