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

Tropical Cyclone Forecast Programme
Report Dated 26th December 2024

Time of Issue: 1100 UTC

Synoptic features (based on 0300 UTC analysis):

Yesterday's well marked low pressure area over Southwest & adjoining Westcentral Bay of Bengal off South Andhra Pradesh-North Tamil Nadu coasts moved westwards and weakened into a low pressure area over the same region at 0000 UTC and became less marked at 0300 UTC of today, the 26th December, 2024. However, the associated cyclonic circulation persisted over the same region and extended upto 1.5 km above mean sea level.

Environmental Features based on 0300 UTC:

Parameter	Bay of Bengal (BoB)	Arabian Sea (AS)
Sea Surface Temperature (SST) ºC	➢ 26-28°C over north & adjoining central BoB. ➢ 28-30°C over rest of BoB.	➢ 28-30°C over southeast AS & adjoining southwest AS, most parts of eastcentral BoB, Lakshadweep Islands and Maldives. ➢ 25-26°C over northern parts of AS.
Tropical Cyclone Heat Potential (TCHP) kJ/cm^2	➢ 150-200 over northeast BoB and adjoining parts of northwest & eastcentral BoB and Andaman Sea ➢ 100-140 over southeast & east central BoB and adjoining southern parts of southwest Bay of Bengal. ➢ 20-30 over some parts of southwest BoB along & off north Sri Lanka coast. ➢ 60-80 over rest of BoB.	➢ 100-120 over southeast AS, Maldives Islands, Lakshadweep Islands and areas of eastcentral AS along Karnataka-Kerala coasts. ➢ 20-60 over rest AS.
Cyclonic Relative vorticity (X10^{-6}s^{-1})	➢ 30-40 over Southwest & adjoining Westcentral Bay of Bengal off South Andhra Pradesh-North Tamil Nadu coasts	➢ 20-30 over some parts of eastcentral AS and adjoining northeast AS off Gujarat coast.
Low-Level convergence (X10^{-5} s^{-1})	--	➢ 5-10 over eastcentral AS
Upper-Level divergence (X10^{-5} s^{-1})	➢ 5 over westcentral BoB along Andhra Pradesh coast.	➢ 5-10 over northeast AS off South Pakistan-North Gujarat coasts.

Vertical Wind Shear (VWS knots) **Low: 05-10 knots** **Moderate: 10-20 knots** **High: >20 knots**	➢ Moderate over eastcentral BoB along Andaman Sea ➢ High over rest of BoB	➢ Low-Moderate over parts of Lakshadweep Islands, Maldives & Comorin area and southeast AS & adjoining southern parts of southwest AS. ➢ High over rest of AS.
Wind Shear Tendency (knots)	➢ Increasing over most parts of BoB	➢ Increasing over north & east AS ➢ Decreasing over west and south AS & adjoining Equatorial Indian Ocean
Upper tropospheric Ridge	15^0N over BoB.	--

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 & adjoining southwest Bay of Bengal between latitude 12.0^0N to 17.0^0N and longitude 80.0^0E to 85.5^0E. Minimum cloud top temperature is minus 60^0C to minus 70^0C. Scattered low and medium clouds with embedded isolated weak to moderate convection lay over rest of Bay of Bengal and Andaman Sea.

b) Over the Arabian Sea:
Scattered low and medium clouds with embedded isolated weak to moderate convection lay over Arabian Sea & Comorin area.

c) Outside India:
Scattered low & medium clouds with embedded moderate to intense convection over Maldives, Nepal, Bhutan, Tibet, China, Yellow Sea, east China Sea, Taiwan, Myanmar, Thailand, Gulf of Thailand, Cambodia, Laos, Vietnam, Gulf of Tonkin, Hainan, Sumatra, Strait of Malacca, Malaysia, Borneo, South China Sea, Java Islands & Sea, Celebes Islands & Sea, Philippines, Sulu Sea, Madagascar, Mozambique Channel and over Indian Ocean between latitude 5.0N to 20.0S longitude 40.0E to 125.0E.

M.J.O. Index:

MJO is currently in phase 7 with amplitude greater than 1. It will be in same phase with amplitude greater than 1 till 1st January 2025.

NWP Guidance for FDP Cyclone:

MODEL GUIDANCE	Bay of Bengal (BoB)	Arabian Sea (AS)
IMD-GFS	Model is indicating cyclonic circulation over southwest BoB off Tamil Nadu coast as on today, 26th and less marked thereafter.	The model indicates no significant system over AS.
IMD-GEFS	The model indicates no significant system over BoB.	The model indicates no significant system over AS.

IMD-WRF	Model is indicating cyclonic circulation over southwest BoB off Tamil Nadu coast as on today, 26th and less marked thereafter.	The model indicates no significant system over AS.
NCMRWF-NCUM(G)	The model indicates cycir over EIO & adjoiing southwest BoB on 30th with west-southwestwards movement without further intensification.	The model indicates no significant system over AS.
NCMRWF-NCUM(R)	The model indicates no significant system over BoB for the next 3 days.	The model indicates no significant system over AS.
NCMRWF-NEPS	The model indicates cycir over EIO & adjoiing southwest BoB on 30th with west-southwestwards movement without further intensification.	The model indicates no significant system over AS.
ECMWF	Model is indicating cyclonic circulation over southwest BoB off Tamil Nadu coast as on today, 26th and less marked thereafter.	The model indicates no significant system over AS.
NCEP-GFS	Model is indicating cyclonic circulation over southwest BoB off Tamil Nadu coast as on today, 26th and less marked thereafter.	The model indicates no significant system over AS.

Summary:

(a) Bay of Bengal:
Most of the models are indicating a cycir over southwest Bay of Bengal off Tamil Nadu coast as on today, 26th December, 2024, less marked thereafter.
NCUM group of models are indicating a cycir on 30th December over east EIO and adjoining southwest BoB having west southwestwards movement without further intensification.

(b) Arabian Sea
Most of the models are indicating no significant system over Arabian Sea.

Inference:

Considering various environmental features and model guidance, it is inferred that the well marked low pressure area over Southwest & adjoining Westcentral Bay of Bengal off South Andhra Pradesh-North Tamil Nadu coasts moved westwards and weakened into a low pressure area over the same region at 0000 UTC and became less marked at 0300 UTC of today, the 26th December, 2024. However, the associated cyclonic circulation persisted over the same region and extended upto 1.5 km above mean sea level.

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

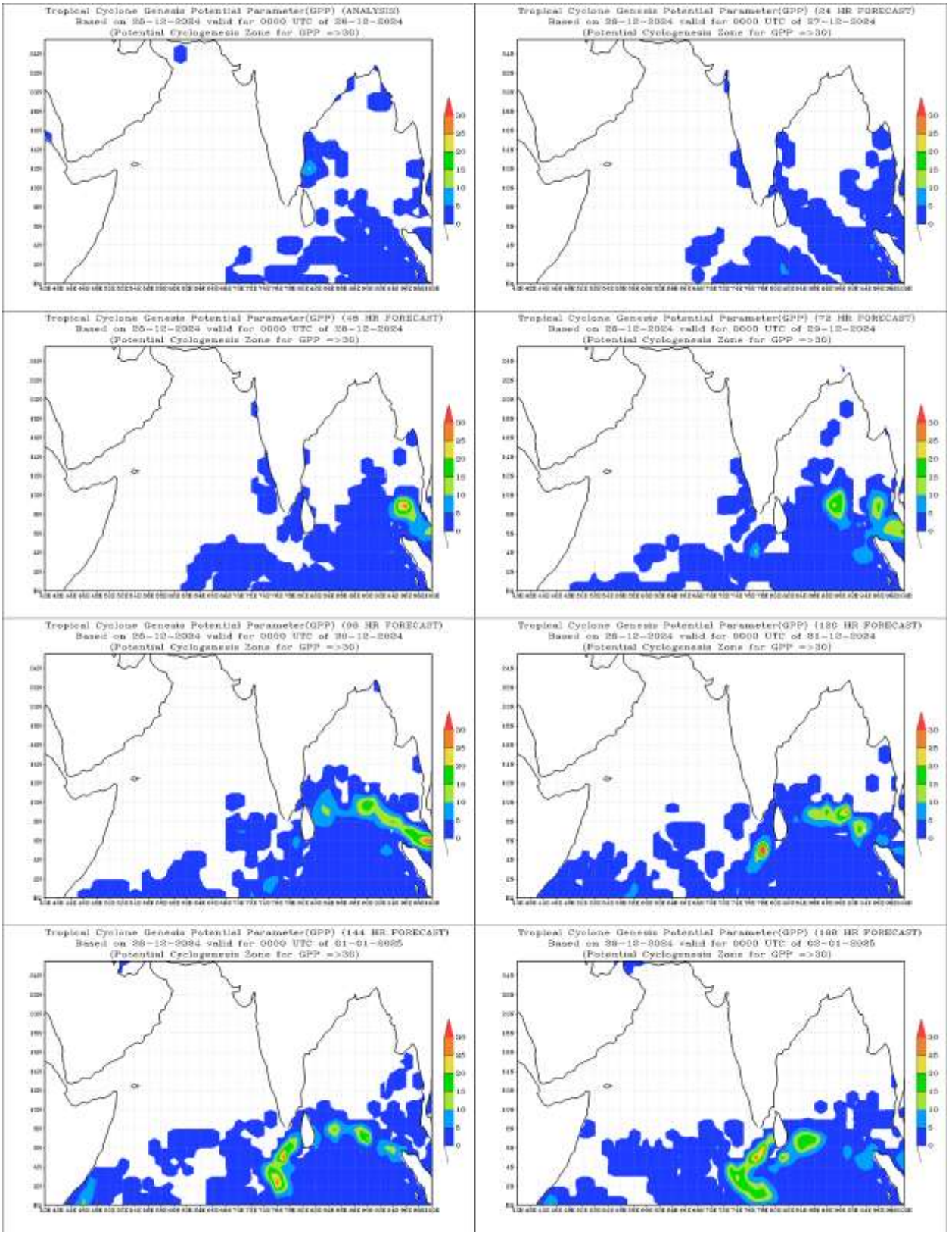
Probability of cyclogenesis (formation of depression and above intensity systems) over the Arabian Sea during next 168 hours:

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): North Tamil Nadu coast during 26th December, 2024.

ANNEXURE


Tropical Cyclone Genesis Potential Parameter(GPP) (ANALYSIS)
Based on 26-12-2024 valid for 0000 UTC of 26-12-2024
(Potential Cyclogenesis Zone for GPP =>30)
Tropical Cyclone Genesis Potential Parameter(GPP) (24 HR FORECAST)
Based on 26-12-2024 valid for 0000 UTC of 27-12-2024
(Potential Cyclogenesis Zone for GPP =>30)
Tropical Cyclone Genesis Potential Parameter(GPP) (48 HR FORECAST)
Based on 26-12-2024 valid for 0000 UTC of 28-12-2024
(Potential Cyclogenesis Zone for GPP =>30)
Tropical Cyclone Genesis Potential Parameter(GPP) (72 HR FORECAST)
Based on 26-12-2024 valid for 0000 UTC of 29-12-2024
(Potential Cyclogenesis Zone for GPP =>30)
Tropical Cyclone Genesis Potential Parameter(GPP) (96 HR FORECAST)
Based on 26-12-2024 valid for 0000 UTC of 30-12-2024
(Potential Cyclogenesis Zone for GPP =>30)
Tropical Cyclone Genesis Potential Parameter(GPP) (120 HR FORECAST)
Based on 26-12-2024 valid for 0000 UTC of 31-12-2024
(Potential Cyclogenesis Zone for GPP =>30)
Tropical Cyclone Genesis Potential Parameter(GPP) (144 HR FORECAST)
Based on 26-12-2024 valid for 0000 UTC of 01-01-2025
(Potential Cyclogenesis Zone for GPP =>30)
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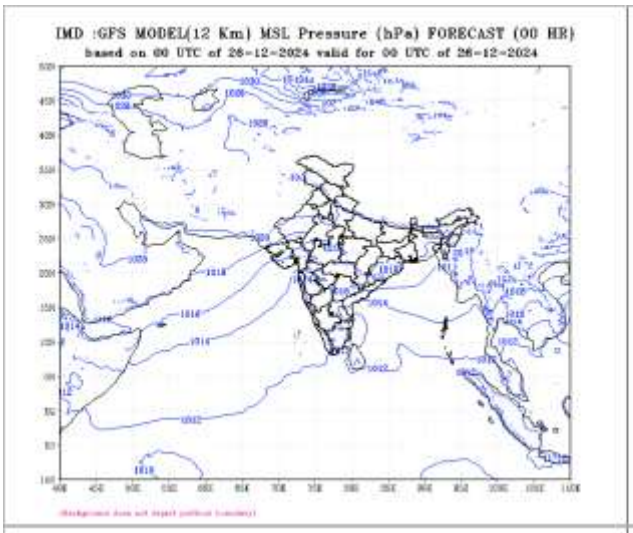
Based on 26-12-2024 valid for 0000 UTC of 02-01-2025
(Potential Cyclogenesis Zone for GPP =>30)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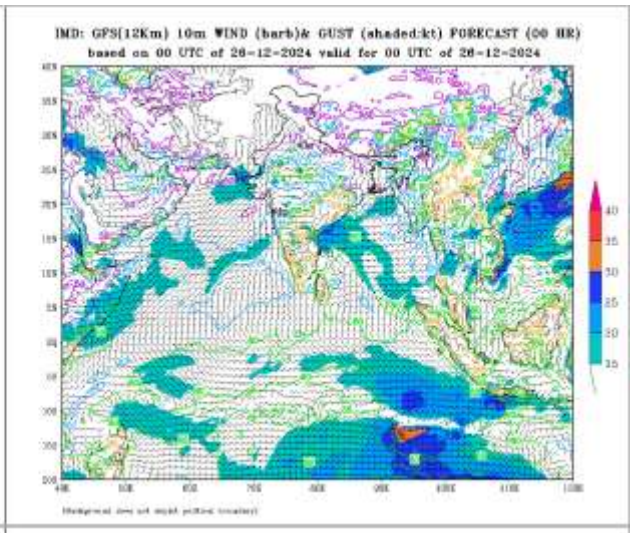
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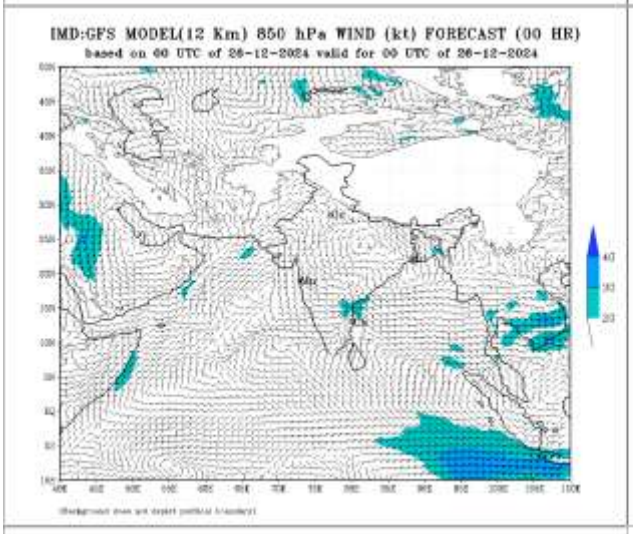
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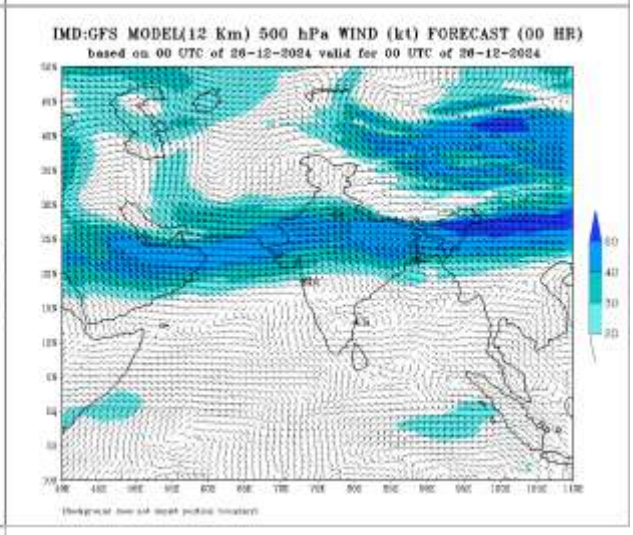
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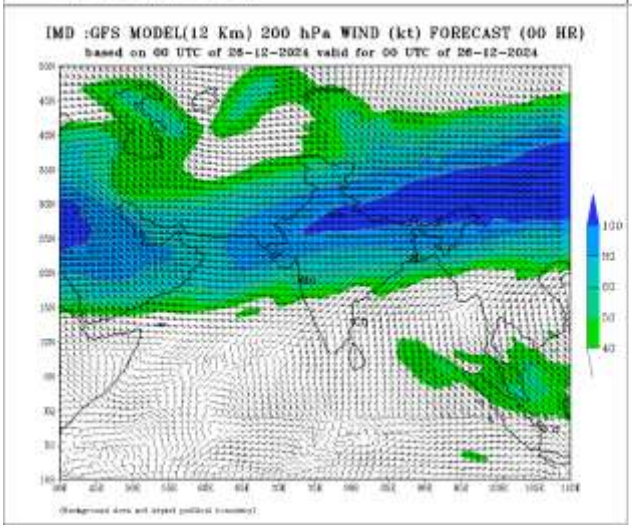
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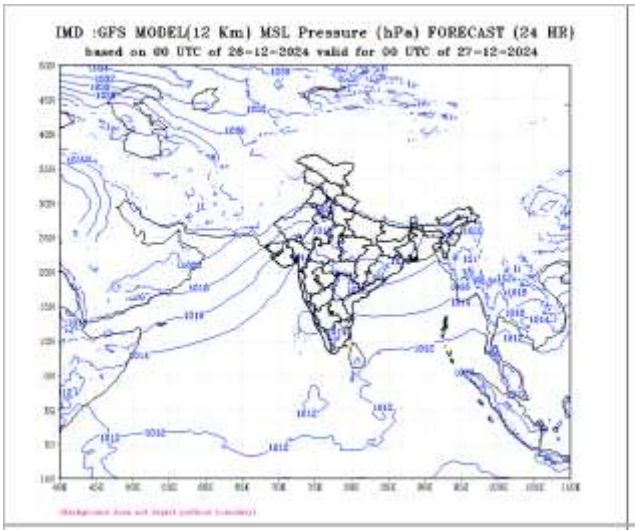
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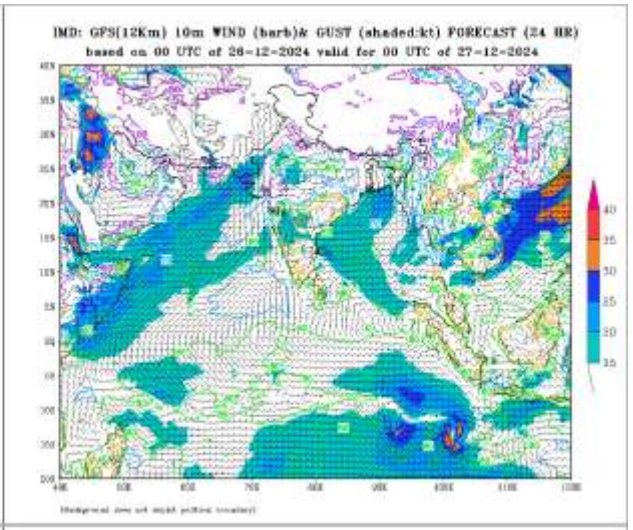
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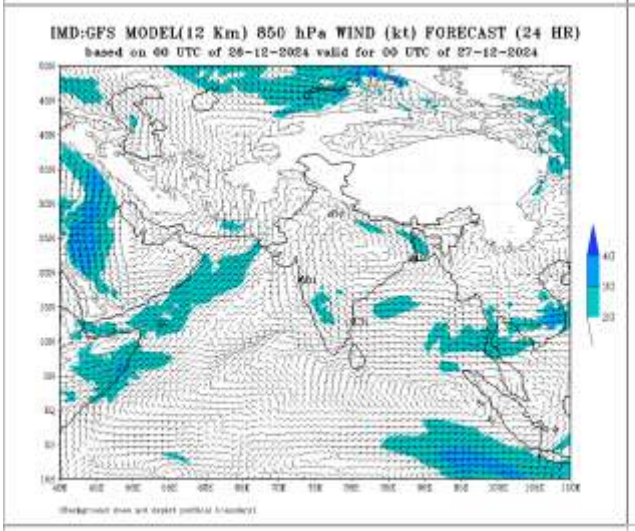
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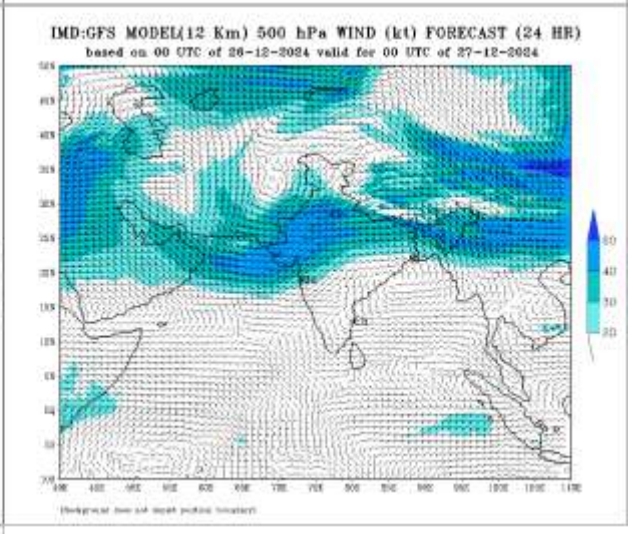
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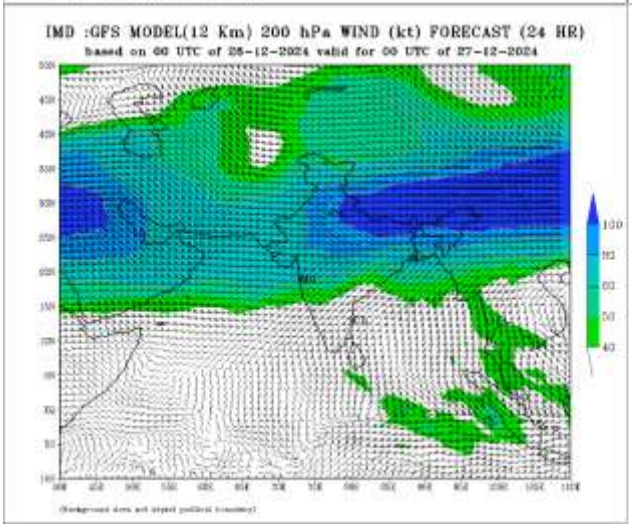
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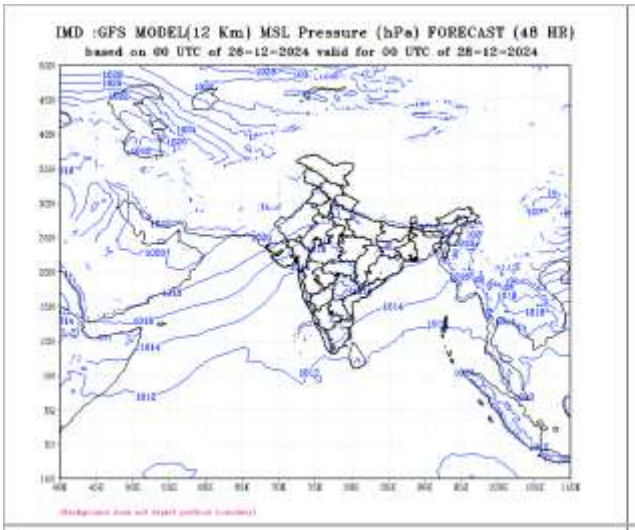
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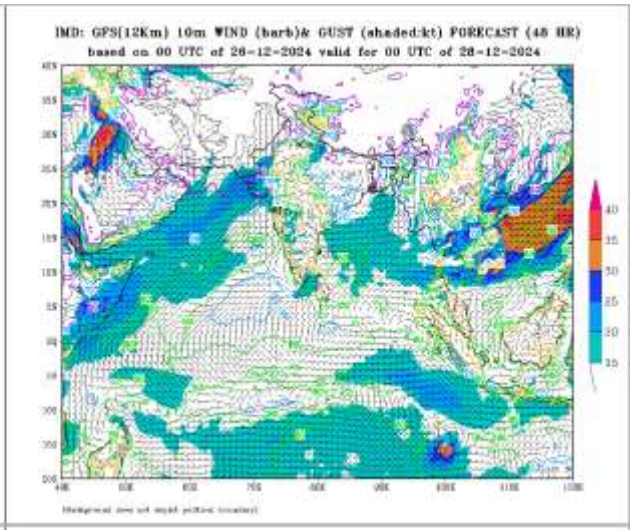
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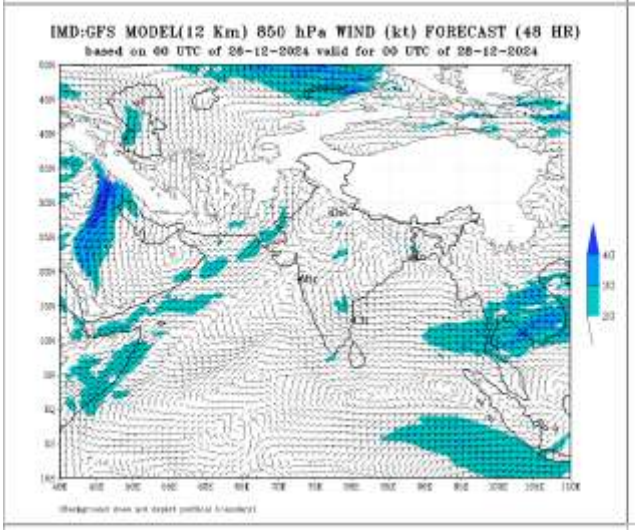
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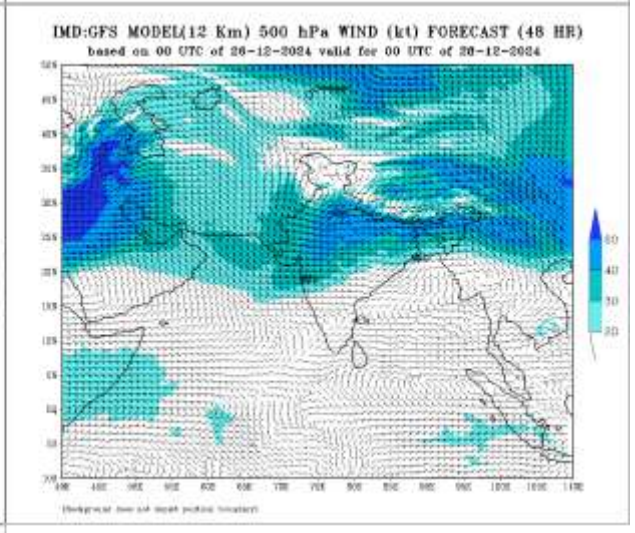
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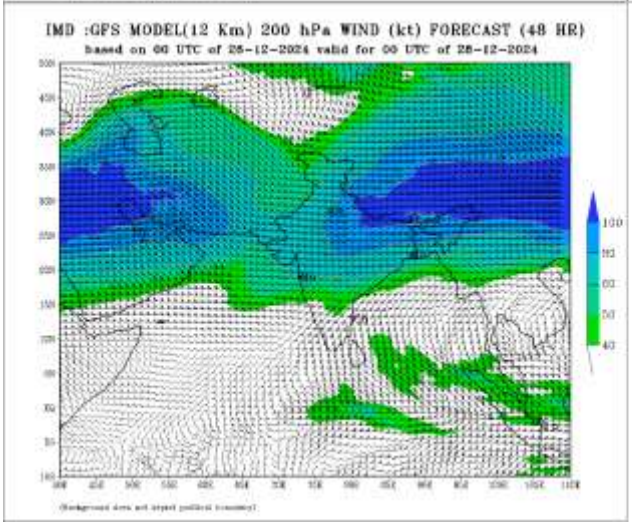
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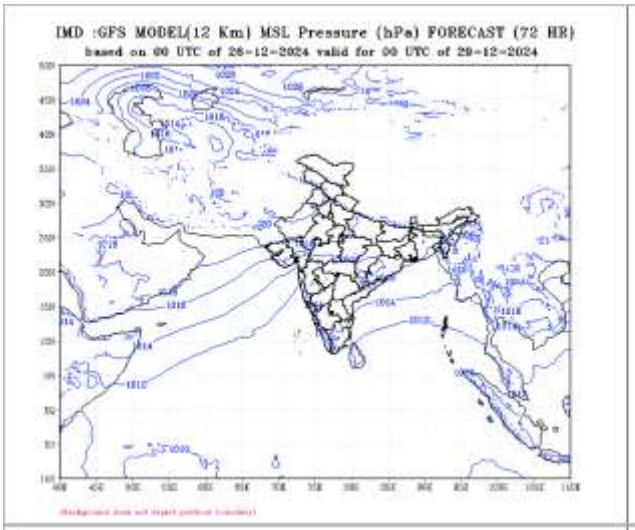
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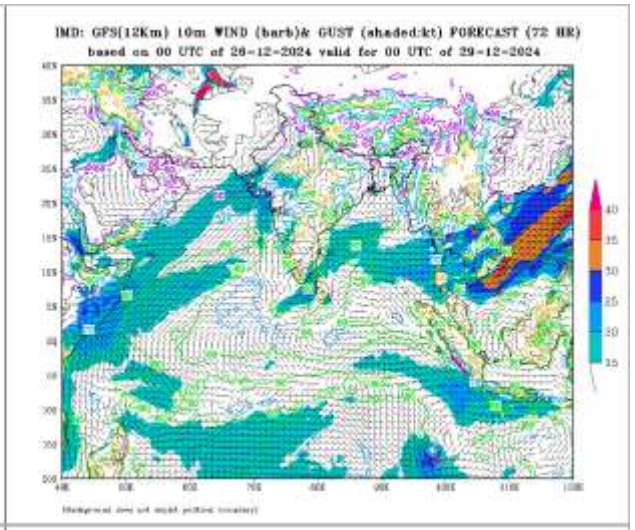
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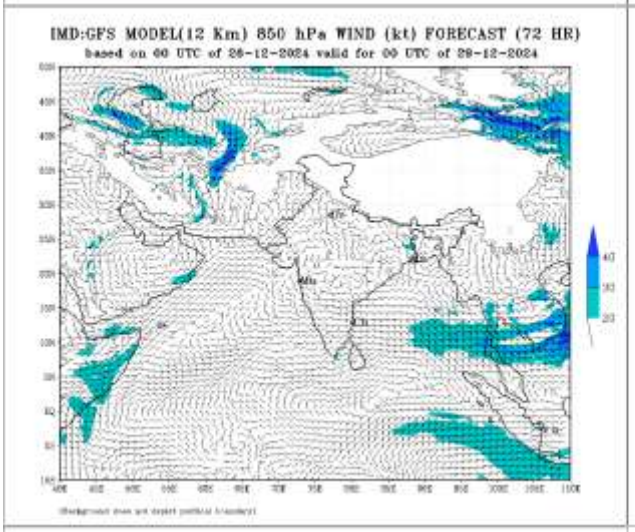
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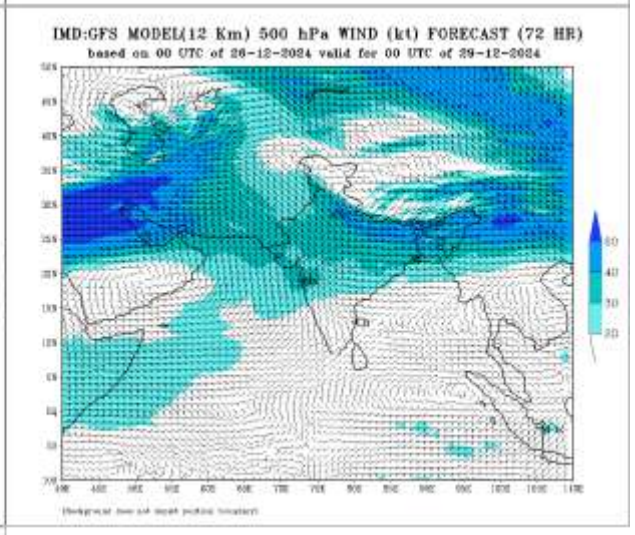
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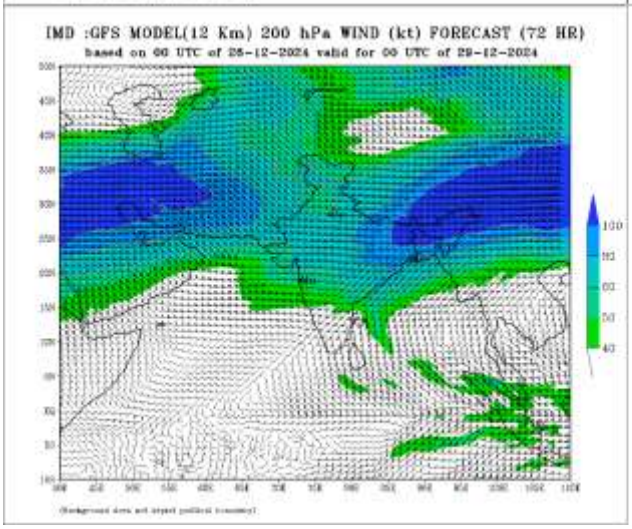
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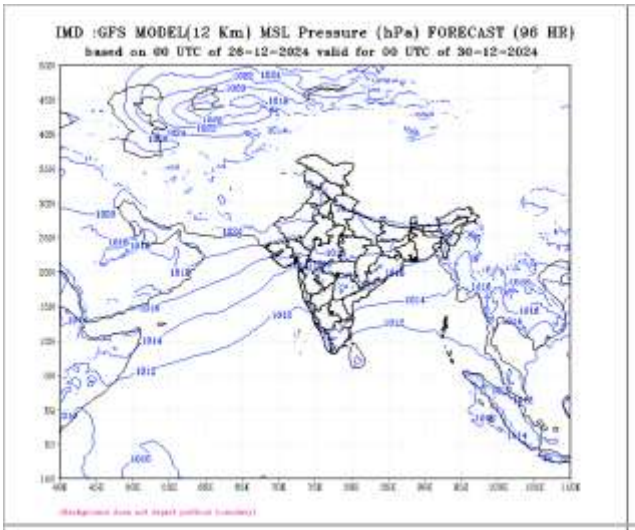
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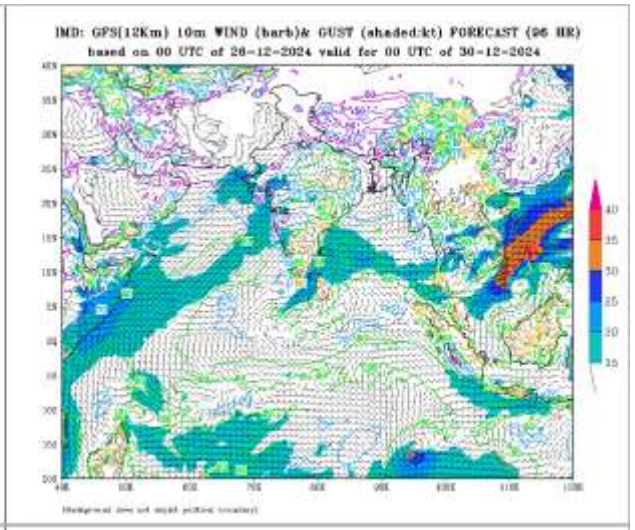
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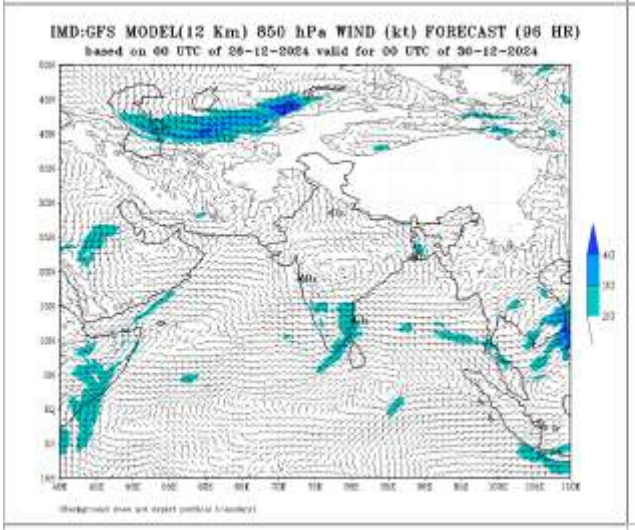
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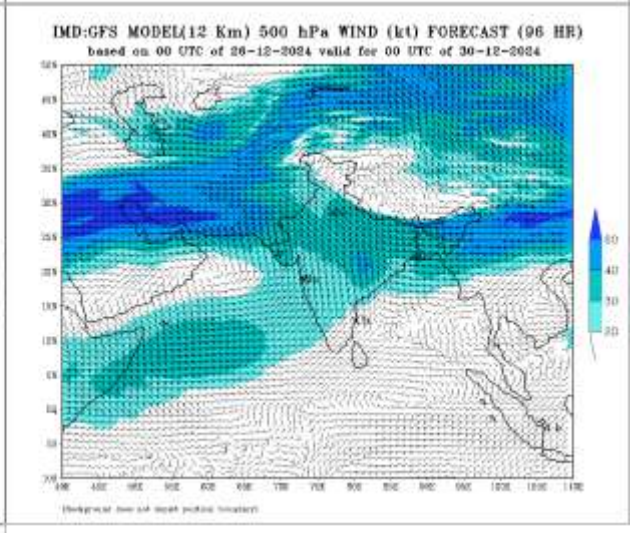
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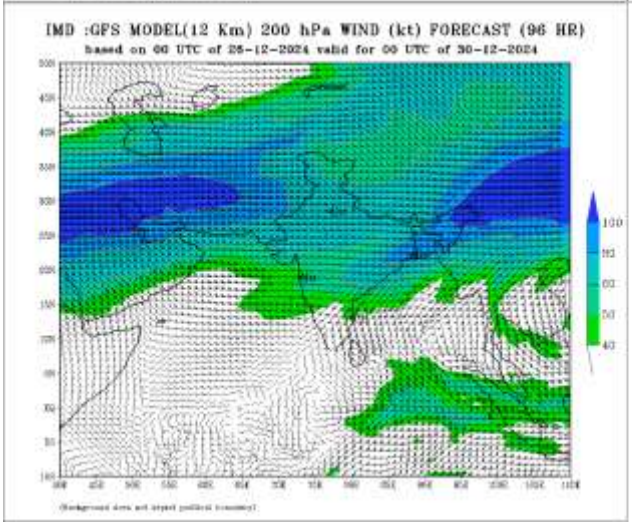
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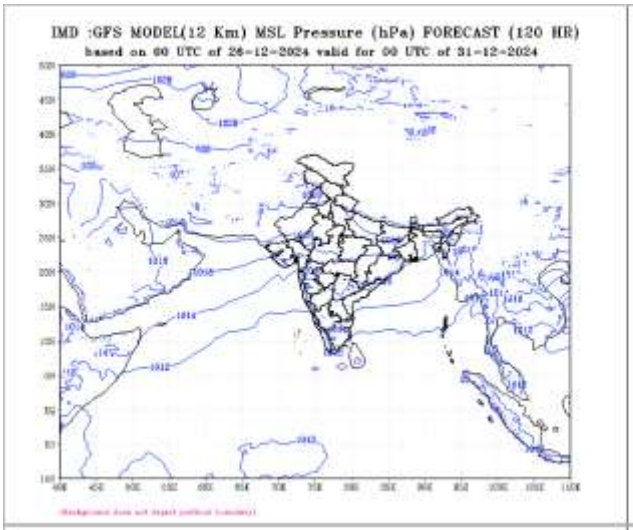
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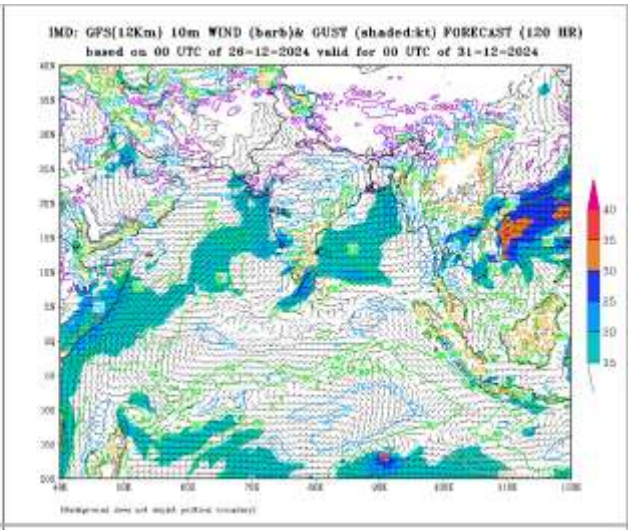
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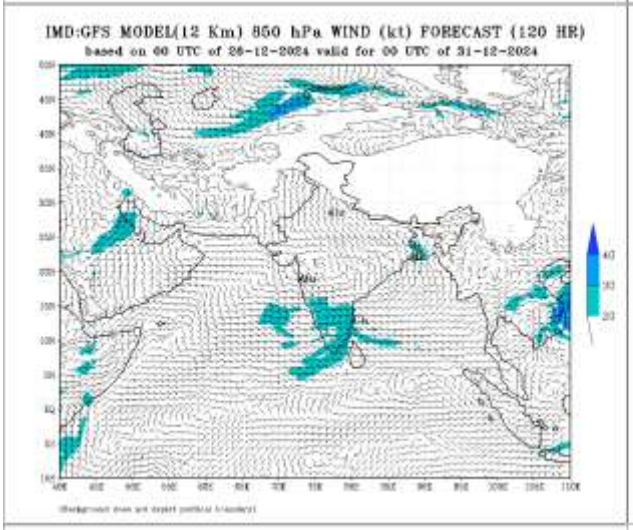
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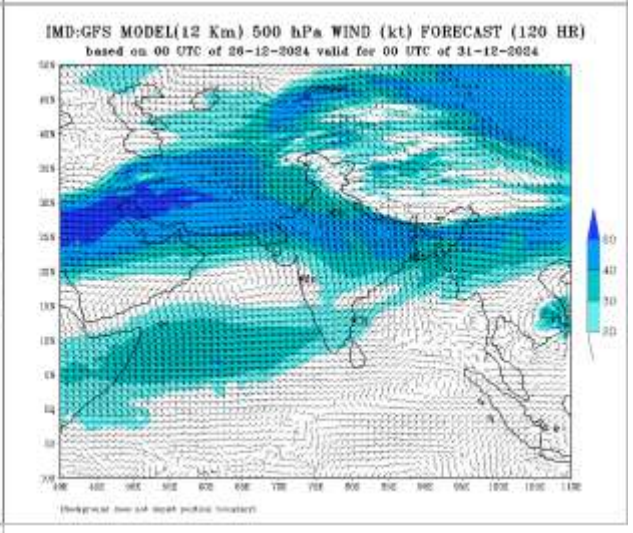
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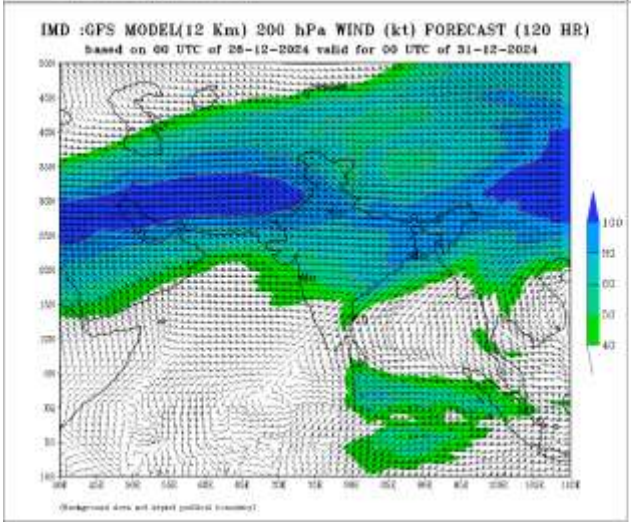
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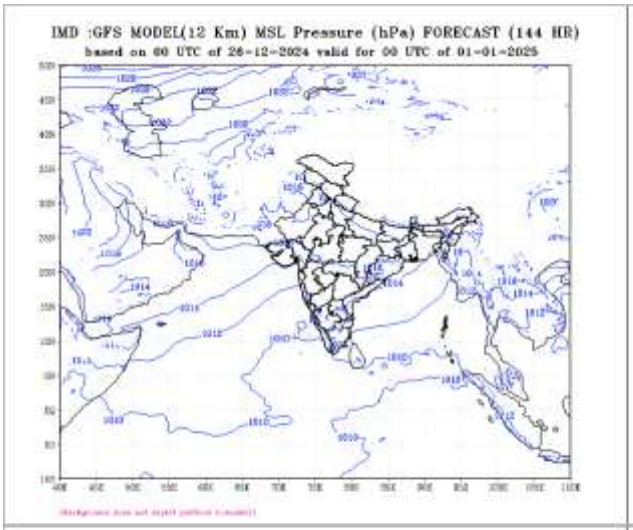
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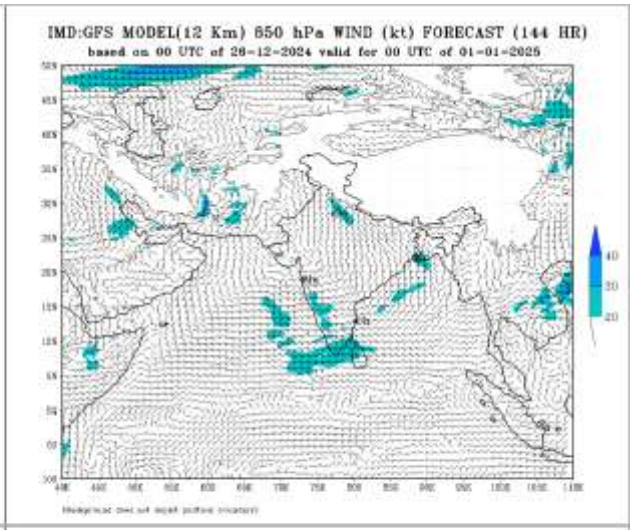
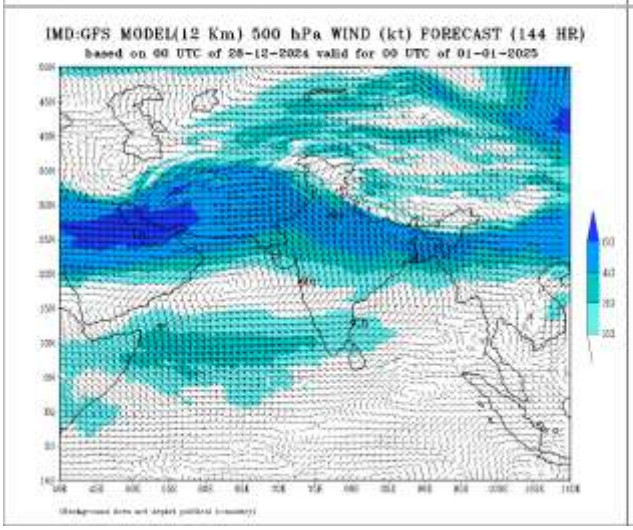
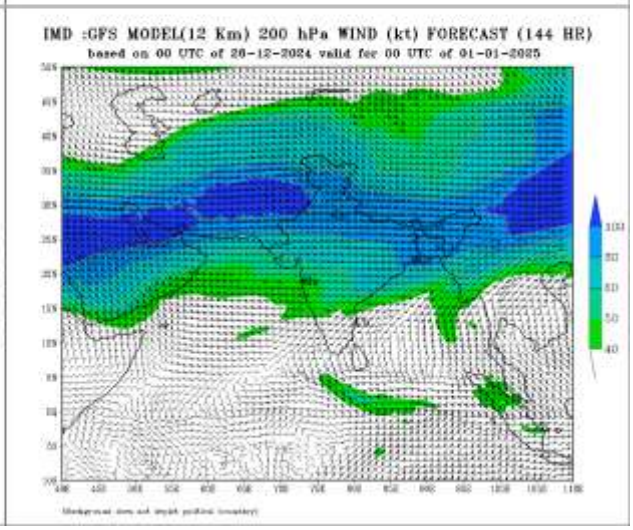
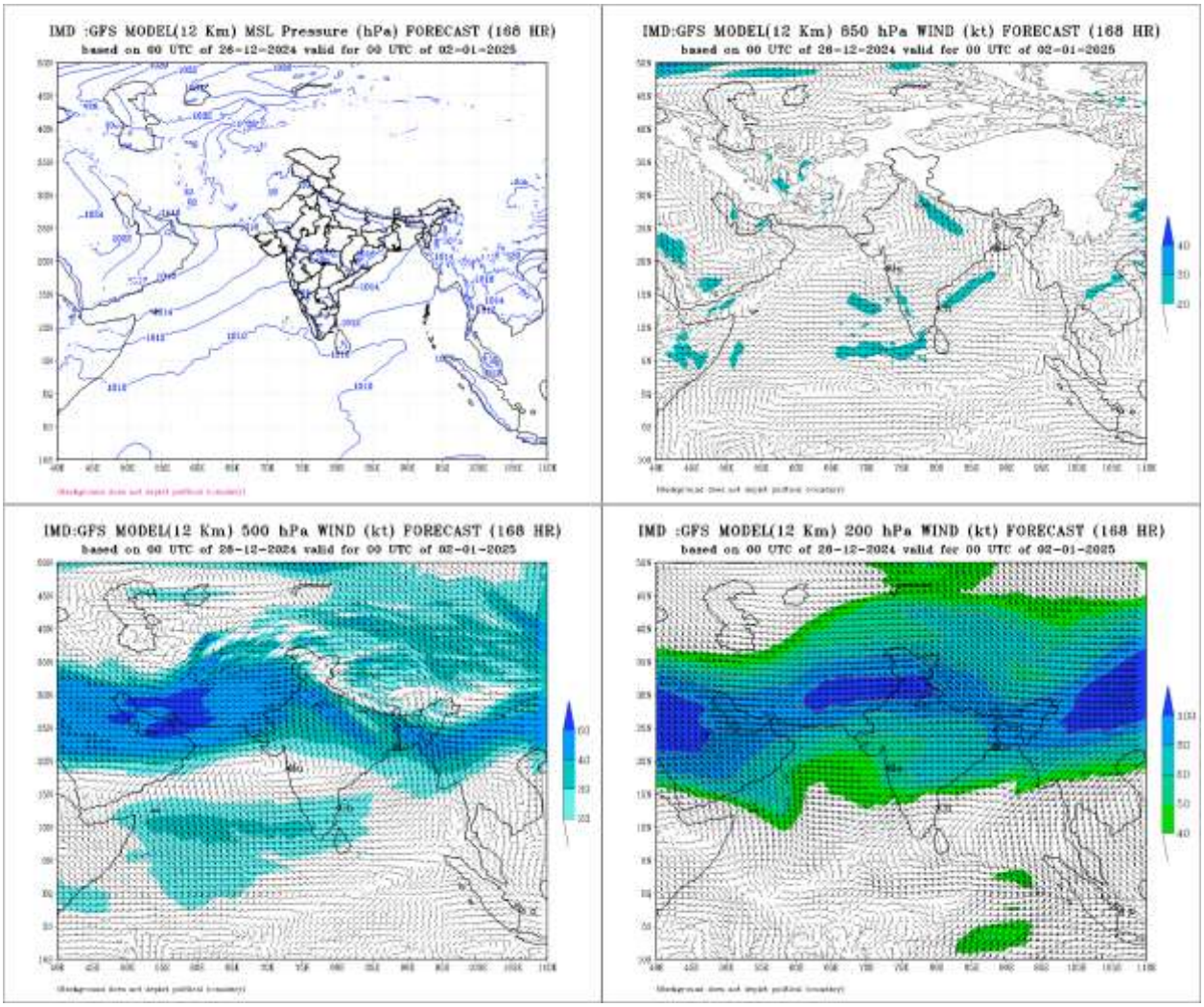
based on 00 UTC of 28-12-2024 valid for 00 UTC of 01-01-2025


IMD:GFS MODEL(12 Km) 850 hPa WIND (kt) FORECAST (144 HR)
based on 00 UTC of 28-12-2024 valid for 00 UTC of 01-01-2025


IMD:GFS MODEL(12 Km) 500 hPa WIND (kt) FORECAST (144 HR)
based on 00 UTC of 28-12-2024 valid for 00 UTC of 01-01-2025


IMD :GFS MODEL(12 Km) 200 hPa WIND (kt) FORECAST (144 HR)
based on 00 UTC of 28-12-2024 valid for 00 UTC of 01-01-2025


IMD :GFS MODEL(12 Km) MSL Pressure (hPa) FORECAST (168 HR)
based on 00 UTC of 26-12-2024 valid for 00 UTC of 02-01-2025
IMD:GFS MODEL(12 Km) 850 hPa WIND (kt) FORECAST (168 HR)
based on 00 UTC of 26-12-2024 valid for 00 UTC of 02-01-2025
IMD:GFS MODEL(12 Km) 500 hPa WIND (kt) FORECAST (168 HR)
based on 00 UTC of 26-12-2024 valid for 00 UTC of 02-01-2025
IMD :GFS MODEL(12 Km) 200 hPa WIND (kt) FORECAST (168 HR)
based on 00 UTC of 26-12-2024 valid for 00 UTC of 02-01-2025