



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

Tropical Cyclone Forecast Programme Report Dated 25th November, 2022

Time of Issue: 1200 UTC

Synoptic features (based on 0600 UTC analysis):

- Yesterday's cyclonic circulation over North Tamil Nadu and neighbourhood lay over southeast Arabian sea and neighbourhood at 0830 hours IST of today, the 25th November, 2022.
- A fresh cyclonic circulation lay over North & adjoining South Andaman Sea at 0530 hours IST of today, the 25th November, 2022.

Dynamical and thermo-dynamical features

Parameter	Bay of Bengal (BoB)	Arabian Sea (AS)		
Sea Surface	About 28-29°C over the system	About 29-30°C over the		
Temperature (SST) °C	and major parts of BoB, 29-30°C southeast AS and adjo			
	over eastcentral & adjoining	southwest, eastcentral AS, off		
	southeast BoB and along south	south Gujarat and Maharashtra		
	Sri Lanka coast.	coasts, 26-28°C over eastcentral and adjoining north AS,		
	and adjoining north			
		adjoining southwest AS, less		
		than 24°C over southwest AS off Oman and Yemen coasts and		
Tropical Cyclone Heat	>110 over south Andaman sea &	adjoining sea areas. 70-90 over southeast and		
Potential (TCHP)	eastcentral BoB, 70-80 over	adjoining eastcentral and		
kJ/cm ²	north Andaman Sea, north parts	adjoining southwest AS,		
KJ/CM	of southwest BoB and adjoining	Maldives & adjoining EIO,		
	westcentral BoB, off Sri Lanka,	Comorin area and less than 40		
	north BoB, and less than 40 over over remaining AS and a			
	westcentral BoB, along and off	west coast of India, Comorin		
	east coast of India, west coast of	area.		
	SriLanka, Gulf of Mannar, some			
	parts of southwest BoB.			
Cyclonic Relative	40-50 over south Andaman sea &	40-50 over Lakshadweep and		
vorticity (X10 ⁻⁶ s ⁻¹)	adjoining southeast BoB,			
	southwest BoB along & off east			
	Sri Lanka coast.	adjoining eastcentral AS.		
	20-30 over southeast & adjoining eastcentral BoB.			
Low Level	5-10 over small part of	Small zone of 5 over		
convergence (X10 ⁻⁵ s ⁻¹)	westcentral BoB.	Lakshadweep area.		
	Small zone of 5 over southwest			
	BoB.			
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Upper Level divergence (X10 ⁻⁵ s ⁻¹)	5-10 over Andaman Sea. 05-10 over southea Lakshadweep area.			
Vertical Wind Shear (VWS knots)	10-15 over Andaman Sea and central BoB.	15 over southeast AS. 5-10 over EIO.		
Wind Shear Tendency (knots)	Decreasing over Andaman Sea and central BoB.	Decreasing over southeast AS Lakshadweep and Comorir area		
Upper tropospheric Ridge	Along 17.0°N over the BoB.	Along 15.0°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 north Andaman sea, eastcentral Bay of Bengal and adjoining southeast Bay of Bengal. Scattered low and medium clouds with embedded moderate to intense convection lay over westcentral Bay of Bengal off north Andhra Pradesh coast, rest of south Bay of Bengal and south Andaman sea.

b) Over the Arabian Sea:-

Scattered low and medium clouds with embedded moderate to intense convection lay over northwest & eastcentral Arabian sea . Scattered low and medium clouds with embedded isolated weak to moderate convection lay over westcentral & south 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 South & adjoining North Andaman Sea on 25 th , to move west-northwestwards till 28 th & less marked thereafter.			
	Cycir over Gulf of Thailand on 5 th December.			
IMD-GEFS	A cyclonic circulation (cycir) over South & adjoining North Andaman Sea on 25 th , to move west-northwestwards till 28 th & less marked thereafter. LPA over South China Sea on 3 rd Dec.			
GEFS	No significant system	Not available		
Probablistic	No significant system			

guidance		
IMD WRF	A cyclonic circulation (cycir) over South & adjoining North Andaman Sea on 25 th , to move west-northwestwards till 28 th & less marked thereafter.	Cycir over Southeast AS on 25 th , to move west-southwestwards and become less marked on 28 th Nov.
	Cycir over Gulf of Thailand on 5 th December.	
NCMRWF- NCUM	Cycir over central Andaman Sea on 25 th , to move north-northwestwards till 28 th towards eastcentral BoB, becoming less marked thereafter. A fresh cycir to emerge into South Andaman	Cycir over south Tamil Nadu on 25 th , southeast Arabian Sea on 26 th to move nearly west- southwestwards towards Somalia coast till 1 st Dec. as a cycir. No
	Sea on 5 th Dec	further intensification is predicted.
NCMRWF- NEPS	Cycir over central Andaman Sea on 25 th , to move north-northwestwards till 28 th towards eastcentral BoB, becoming less marked thereafter. A fresh cycir to emerge into South Andaman	Cycir over south Tamil Nadu on 25 th , southeast Arabian Sea on 26 th to move nearly west- southwestwards towards Somalia coast till 1 st Dec. as a cycir. No further intensification is predicted.
	Sea on 5 th Dec	
NCMRWF- UM (Regional)	Cycir over central Andaman Sea on 25 th , to move north-northwestwards till 28 th towards eastcentral BoB.	Cycir over south Tamil Nadu on 25 th , over southeast Arabian Sea on 26 th to move nearly west-southwestwards till 28 th Nov. as a cycir.
ECMWF	Cycir over central parts of Andaman Sea on 25 th , to move initially westwards and then northwards without any intensification, till 29 th and become less marked thereafter.	Cycir over southeast AS on 25 th . To move nearly westwards till 28 th Nov. No significant intensification of system.
	Fresh low pressure area (remnant from South China Sea) is likely to emerge into South Andaman Sea on 5 th Dec.	
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% Enesmle members indicate likely northwestwards movement towards Andhra Pradesh coast.	No significant system
NCEP-GFS	Cycir over North Andaman Sea on 25 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-	No potential zone over Bay of Bengal during	No potential zone over Arabian Sea
Genesis	next 7 days	during next 7 days
Potential		
Parameter		

Summary and conclusion:

- Most of the models are indicating that the cyclonic circulation over North interior Tamil Nadu on today, the 24th November would move southwestwards and emerge into southeast Arabian Sea. Thereafter, it would move westwards with no significant intensification for subsequent 2-3 days.
- Most of the models are indicating emergence of a fresh cyclonic circulation (remnant from South China Sea) into North Andaman Sea around 25th with initial northwestwards movement followed by northwards movement towards North 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.

In view of all the above, it is inferred that

1. For the Bay of Bengal:

The cyclonic circulation over North and adjoining South Andaman Sea is likely to move westnorthwestwards initially followed by nearly northwards movement 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:

No significant system.

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

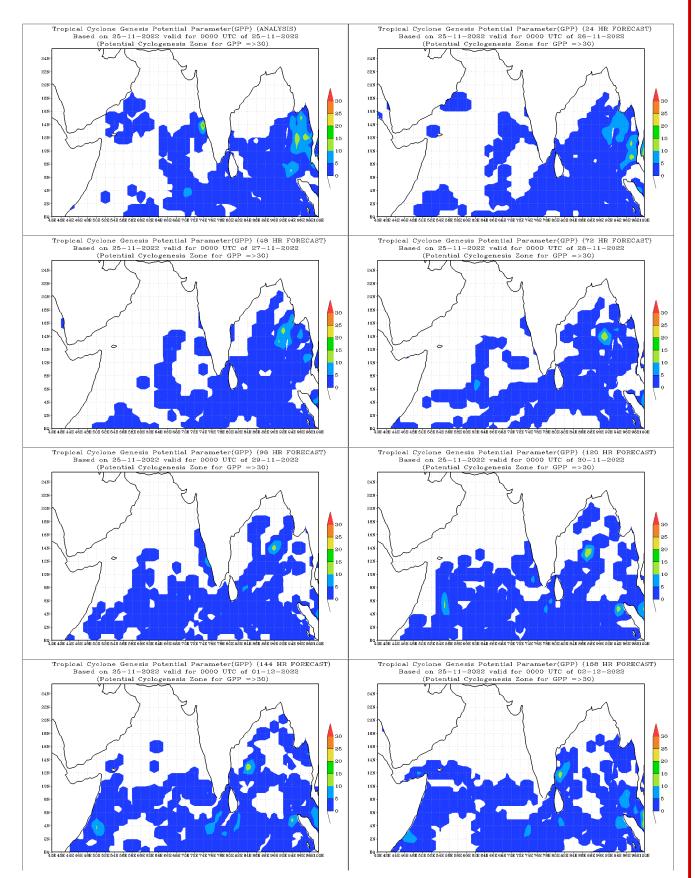
24	24-48	48-72	72-96	96-120	120-144	144-168
HOURS	HOURS	HOURS	HOURS	HOURS	HOURS	HOURS
NIL	NIL	NIL	NIL	NIL	NIL	NIL

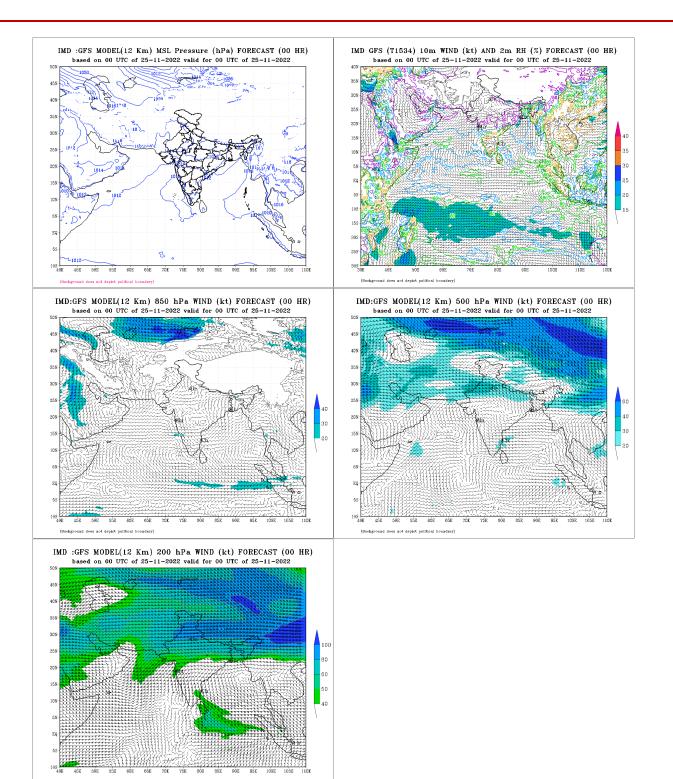
Advisory:

The movement and intensification of the cyclonic circulation circulation over North & adjoining South Andaman Sea need to be monitored.

IOP: NIL

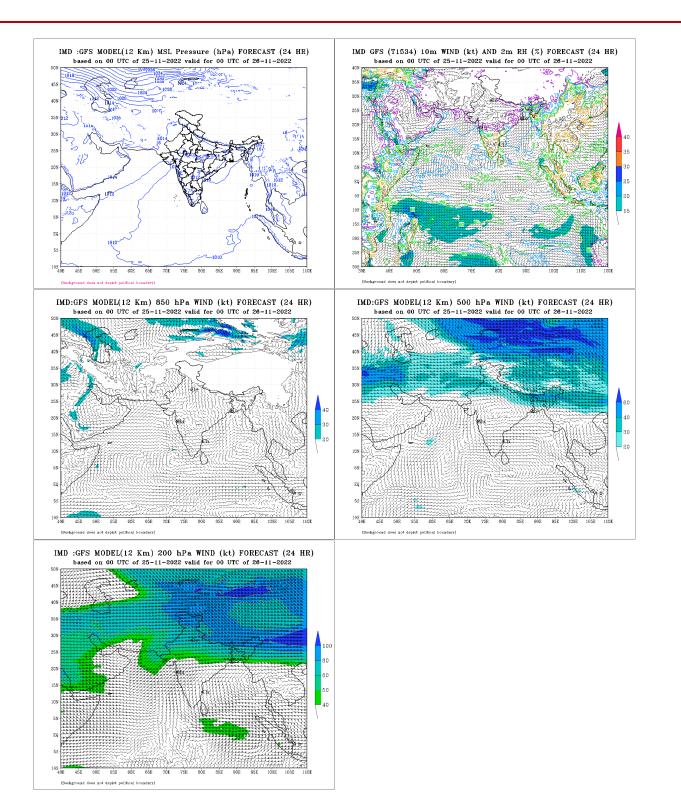
Annexure

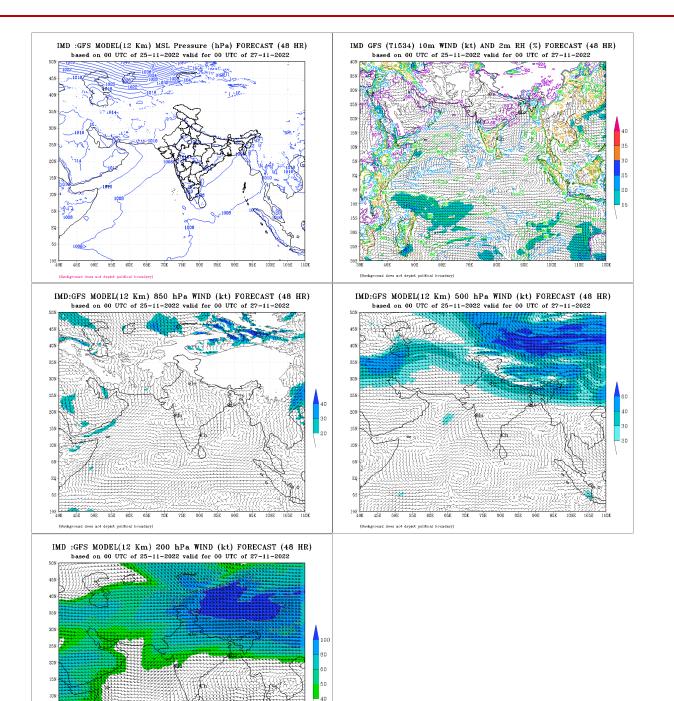




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