



**REGIONAL SPECIALISED METEOROLOGICAL CENTRE-TROPICAL CYCLONES, NEW DELHI
TROPICAL WEATHER OUTLOOK**

DEMS-RSMC TROPICAL CYCLONES NEW DELHI DATED 23.11.2024

TROPICAL WEATHER OUTLOOK FOR THE NORTH INDIAN OCEAN (THE BAY OF BENGAL AND THE ARABIAN SEA) VALID FOR THE NEXT 168 HOURS ISSUED AT 0700 UTC OF 23.11.2024 BASED ON 0300 UTC OF 23.11.2024.

BAY OF BENGAL:

Sub: Low pressure area over East Equatorial Indian Ocean and adjoining Southeast Bay of Bengal

Yesterday's upper air cyclonic circulation over east Equatorial Indian Ocean (EIO) and adjoining South Andaman Sea moved west-northwestwards and lay over East EIO and adjoining South Andaman Sea & Southeast Bay of Bengal at 0300 UTC of today, the 23rd November, 2024. Under its influence, a **low pressure area** formed over East EIO and adjoining Southeast Bay of Bengal at 0300 UTC of today, the 23rd November 2024. It is likely to move west-northwestwards and intensify into a **depression** over central parts of south Bay of Bengal around 25th November. Thereafter, it is likely to move northwestwards towards Tamil Nadu-Sri Lanka coasts during next 2 days.

Scattered to broken low and medium clouds with embedded intense to very intense convection lay over southeast Bay of Bengal & Andaman Sea (Minimum Cloud Top Temperature is minus 80-93 degrees Celsius). Scattered low and medium clouds with embedded moderate to intense convection lay over southwest Bay of Bengal and weak to moderate convection lay over central Bay of Bengal.

A buoy near 6.6N/88.4E reported Mean Sea Level Pressure of 1010.5 hPa and maximum sustained wind speed of 6.3KT/52°. Estimated Central Pressure in association with the system is 1010 hPa and associated maximum sustained wind speed is 5-10 kts gusting to 15 kts. Sea condition is likely to be moderate to rough over southeast BoB & adjoining east EIO and South Andaman Sea.

***PROBABILITY OF CYCLOGENESIS (FORMATION OF DEPRESSION) DURING NEXT 168 HRS:**

24 HOURS	24-48 HOURS	48-72 HOURS	72-96 HOURS	96-120 HOURS	120-144 HOURS	144-168 HOURS
NIL	LOW	MOD	HIGH	-	-	-

***NOTE: EVERY 24HR FORECAST IS VALID UPTO 0300 UTC (0830 IST) OF NEXT DAY**
- indicates genesis has already occurred

ARABIAN SEA:

Scattered low and medium clouds with embedded moderate to intense convection lay over south Arabian Sea, Maldives & Comorin area. Scattered low and medium clouds with

embedded isolated weak to moderate convection lay over central Arabian Sea and Lakshadweep Island area.

***PROBABILITY OF CYCLOGENESIS (FORMATION OF DEPRESSION) DURING NEXT 168 HRS:**

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

***NOTE: EVERY 24HR FORECAST IS VALID UPTO 0300 UTC (0830 IST) OF NEXT DAY**

Environmental features:

Sea surface temperature is more than 29-30°C over south Bay of Bengal (BoB). Tropical cyclone heat potential is more than 100 KJ/cm² over south BoB & adjoining EIO. It is less 40-60 KJ/cm² over southwest & adjoining eastcentral BoB and along & off Sri Lanka/Tamil Nadu/Andhra Pradesh coasts. Madden Julian Oscillation (MJO) is in phase 3 with amplitude more than 1 and would move across phases 3 & 4 during next 7 days with amplitude remaining more than 1. CFS-NCICS model forecast indicates presence of Equatorial Rossby Waves over South Andaman Sea and south BoB during 23rd-30th. Strong westerly wind anomaly over south BoB and easterly wind anomaly to its north over South & adjoining central BoB is indicated during 25th - 30th November. During this period other waves including MJO, low frequency background waves, ERW are also likely over south BoB. Low level positive cyclonic vorticity at 850 hpa level has increased during past 24 hours and is around 80-90x10⁻⁵ s⁻¹ over southeast BoB & adjoining northeast Equatorial Indian Ocean. The zone of the maximum vorticity became more organized with an elliptical shape. The low level convergence has organized around the system and is around 20 x10⁻⁵ s⁻¹ over northeast EIO & adjoining south Andaman Sea. Upper level divergence is around 10x10⁻⁵ s⁻¹ over south Andaman Sea & adjoining northeast EIO and also indicate establishment of an equatorward outflow. The wind shear is low to moderate (10-15 knots) over south BoB & adjoining EIO. Shear tendency is decreasing over Andaman Sea & adjoining BoB. Upper tropospheric ridge is near 12°N. The environmental features are likely to contribute positively to cyclogenesis over south BoB.

Discussion of major models:

IMD GFS: is indicating low pressure area (LPA) over east EIO & adjoining southeast BoB and south Andaman Sea on 23rd with nearly west-northwestwards movement and intensification into depression(D)/deep depression (DD) over southwest BoB & adjoining east EIO on 24/0000 UTC, moving in same direction and further intensifying into a severe cyclonic storm (SCS) over southwest BoB close to Sri Lanka coast on 25/0000. Continuing to move further in the same direction and lay over Sri Lanka as DD around 26/0000. Moving north-northwestwards and lay over southwest BoB close to the Tamil Nadu coast as DD on 27th. Moving northeastwards, it will cross Tamil Nadu coast as LPA around 28/0000.

IMD GEFS: is indicating low pressure area (LPA) over east EIO & adjoining southeast BoB on 23rd with nearly west-northwestwards movement and intensification into depression(D)/deep depression (DD) over southwest BoB & adjoining east EIO on 25/0000, moving northwestwards and lay over southwest BoB close to north Sri Lanka coast around 26/0000 as DD. Continuing to move further in the same direction towards Tamil Nadu coast and cross the coast as LPA/WML around 28/0000.

NCEP GFS: is indicating LPA over southeast BoB & adjoining east EIO at 23/0000 with west-northwestwards movement and intensification into WML over southeast & adjoining southwest BoB around 24/0000, depression over southwest BoB around 24/1200. Moving in

the same direction, it intensifies into CS over southwest BoB around 25/0000. It will then move northwestwards and intensify into SCS over southwest BoB around 26/0000. Moving in the same direction, it lay over southwest BoB as CS around 27/0000. Moving then northeastwards and lay over southwest & adjoining BoB around 28th as CS. Continuing to move in the same direction and lay over westcentral BoB around 29/0000 as SCS.

ECMWF: is indicating LPA over southeast BoB as of today. It is indicated to move west-northwestwards towards south Sri Lanka coast as an LPA till 28th. Thereafter, it will move north-northwestwards and cross coast around 29/0600.

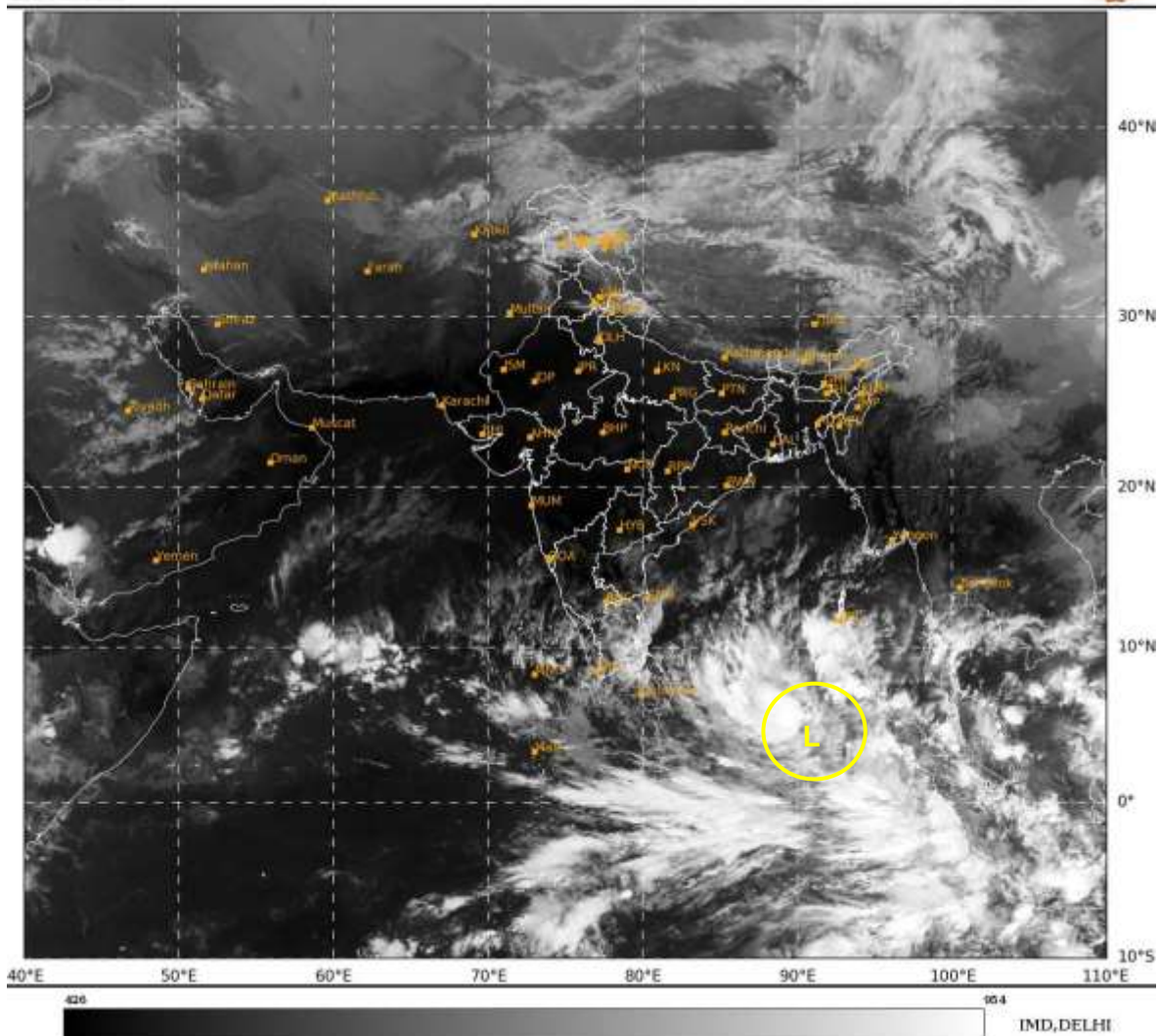
NCUM: is indicating an extended low over southwest BoB around 26/0000. Moving west-northwestwards and becoming LPA over southwest BoB on 27th. It will then move northwestwards and lay over southwest BoB close to Tamil Nadu coast as LPA on 28/0000.

Thus, guidance from various models indicate LPA over east EIO & adjoining southeast BoB and south Andaman Sea as on 23rd. However, there is large variation among various models with respect to intensification of the system. GFS group of models are indicating formation of D/DD around 24th over southwest BoB and indicates the intensification upto SCS. NCUM is indicating formation of LPA around 27th over southwest BoB and not showing further intensification and ECMWF is not indicating any significant intensification of this system (only upto LPA stage).

Hence it is inferred that **the low pressure area over East EIO and adjoining Southeast Bay of Bengal is likely to move west-northwestwards and intensify into a depression over central parts of south Bay of Bengal around 25th November. Thereafter, it is likely to move northwestwards towards Tamil Nadu-Sri Lanka coasts during next 2 days.**

Intense Observation Phase may be declared for East coast of Sri Lanka during 25th-27th, Tamil Nadu coast during 24th-28th November.

A continuous watch is being maintained for further intensification and movement of system towards Tamil Nadu - Sri Lanka coasts.



L: Low Pressure Area