



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

DEMS-RSMC TROPICAL CYCLONES NEW DELHI DATED 22.11.2024

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 22.11.2024 BASED ON 0300 UTC OF 22.11.2024.

BAY OF BENGAL:

Sub: Likely formation of low pressure area over southeast Bay of Bengal around 23rd November

Yesterday's upper air cyclonic circulation moved west-northwestwards and lay over east Equatorial Indian Ocean and adjoining South Andaman Sea, extending upto mid-tropospheric level at 0300 UTC of today, the 22nd November, 2024.

Under its influence a low pressure area is likely to form over southeast Bay of Bengal around 23rd November. Thereafter, it is likely to continue to move west-northwestwards and intensify into a depression over central parts of south Bay of Bengal during subsequent 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 CTT minus 93 degrees Celsius). Scattered low and medium clouds with embedded moderate to intense convection lay over southwest Bay of Bengal and Isolated weak to moderate convection lay over central Bay of Bengal.

***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	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 intense to very intense convection lay over southeast Arabian Sea, Maldives & Comorin area. Scattered low and medium clouds with embedded isolated weak to moderate convection lay over eastcentral & southwest Arabian Sea, 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**

Cloud distribution: (a) Isolated: <25%, Scattered:25-50%, Broken: 51-75%, Solid:>75%, Convection Intensity: (a) Weak: Cloud Top Temperature (CTT) >-25°C, (b) Moderate: CTT: - 25°C to -40°C, (c) Intense: CTT: - 41°C to -70°C and (d) Very Intense: : Less than -70°C
PROBABILITY OF CYCLOGENESIS (FORMATION OF DEPRESSION):NIL: 0%, LOW: 1-33%, , MODERATE: 34-66% AND HIGH: 67-100%
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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 Andaman Sea upto northeast BoB and westwards over entire 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 10 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 22nd-27th. 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. A Zone of positive cyclonic vorticity at 850 hpa level is around 40-50x10⁻⁵ s⁻¹ over Equatorial Indian Ocean off Sumatra coast and adjoining South Andaman Sea. The low level convergence is around 20 x10⁻⁵ s⁻¹ over south Andaman Sea. Upper level divergence is around 20x10⁻⁵ s⁻¹ over south Andaman Sea. The wind shear is moderate over south Andaman Sea and low to moderate over southwest & adjoining southeast & eastcentral BoB. Shear tendency is increasing over south Andaman Sea. Upper tropospheric ridge is near 11°N. The environmental features are likely to contribute positively to cyclogenesis over south BoB.

Discussion of major models:

IMD GFS: is indicating cyclonic circulation (Cycir) over Equatorial Indian Ocean (EIO) & adjoining South Andaman Sea at 0000 UTC of 22nd, low pressure area (LPA) over southeast BoB on 23rd with nearly west-northwestwards movement and intensification into depression over southeast BoB on 24/0000 UTC, moving in same direction and further intensifying into a cyclonic storm over southwest BoB on 25/0000. It is moving northwestwards and lay over southwest BoB as a CS around 26/0000. It will then move towards Tamil Nadu coast while weakening and cross the coast as a LPA around 27/0000.

NCEP GFS: is indicating Cycir over EIO & adjoining South Andaman Sea at 0000 UTC of 22nd, LPA over southeast BoB at 23/0000 with west-northwestwards movement and intensification into depression over southeast BoB around 23/1200 UTC. Moving in the same direction, it intensifies into SCS over southwest BoB around 25th. It will then move towards north Tamil Nadu coast, weaken gradually and cross the coast as a DD/CS around 30/0600.

ECMWF: is indicating LPA over central parts of south BoB around 24/0000. 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 central parts of south BoB on 23rd with nearly westwards movement, LPA over southwest BoB off south Sri Lanka coast on 25th, D over Sri Lanka coast on 26th and crossing Tamil Nadu coast as a LPA on 28/1200.

Thus, guidance from various models indicate cycir over EIO & adjoining south Andaman Sea on 22nd with formation of LPA over southeast BoB 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 southeast BoB. NCUM is indicating formation of D around 26th off Sri Lanka coast and ECMWF is not indicating any significant intensification of this system (only upto LPA stage).

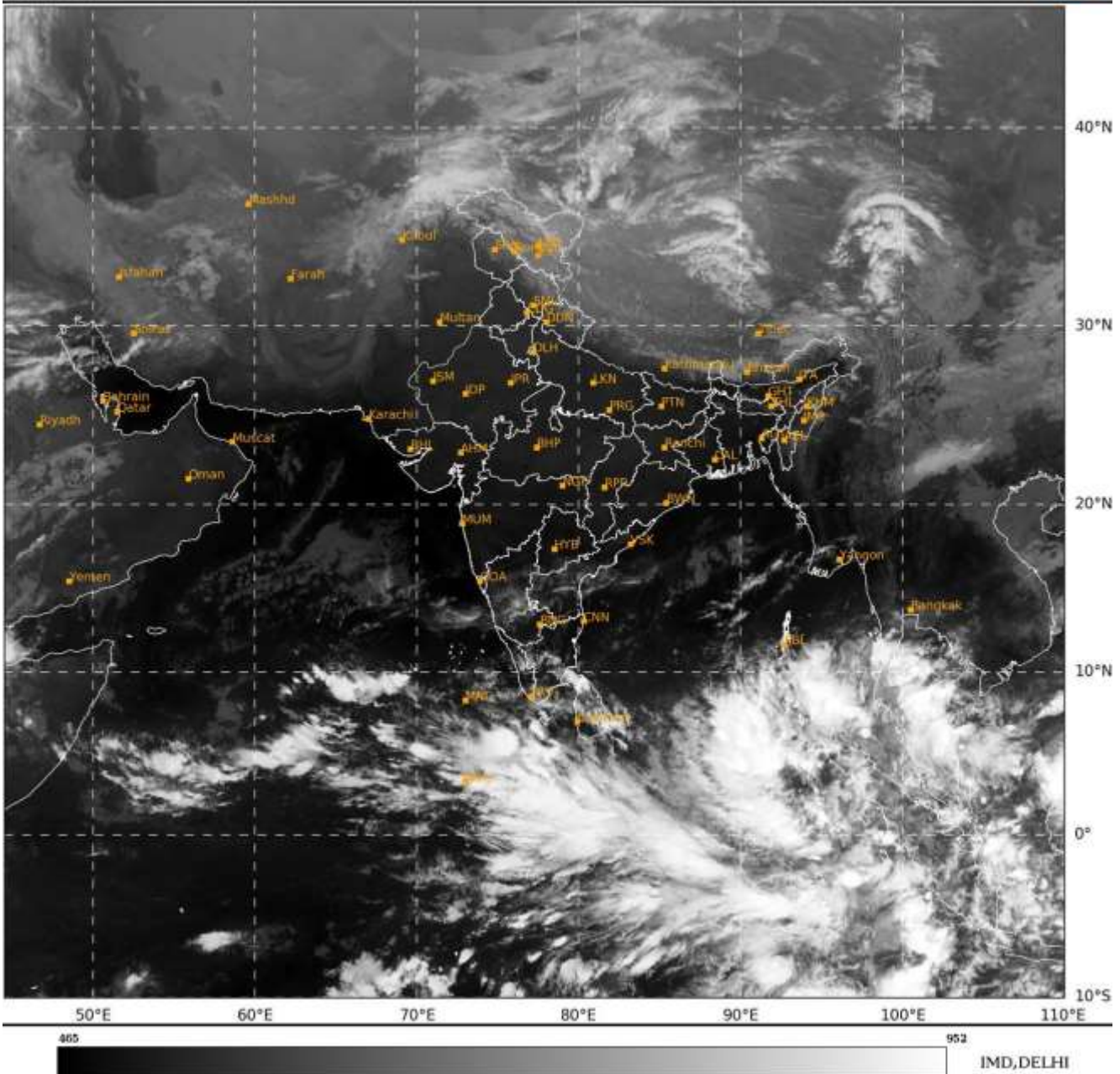
Hence it is inferred that **yesterday's upper air cyclonic circulation moved west-northwestwards and lay over east Equatorial Indian Ocean and adjoining South Andaman Sea, extending upto mid- tropospheric level at 0300 UTC of today, the 22nd November, 2024. Under its influence a low pressure area is likely to form over southeast Bay of Bengal around 23rd November. Thereafter, it is likely to continue to move west-northwestwards and intensify into a depression over central parts of south Bay of Bengal during subsequent 2 days.**

Intense Observation Phase may be declared for Andaman Islands during 22nd-23rd, East coast of Sri Lanka during 24th-26th, Tamil Nadu coast during 24th-27th November.

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

SAT : INSAT-3DR IMG
IMG_TIR1 10.8 um
LIC Mercator

22-11-2024/(0315 to 0342) GMT
22-11-2024/(0845 to 0912) IST



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