



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

DEMS-RSMC TROPICAL CYCLONES NEW DELHI DATED 20.11.2024

TROPICAL WEATHER OUTLOOK FOR THE NORTH INDIAN OCEAN (THE BAY OF BENGAL AND THE ARABIAN SEA) VALID FOR THE NEXT 168 HOURS ISSUED AT 0600 UTC OF 20.11.2024 BASED ON 0300 UTC OF 20.11.2024.

BAY OF BENGAL:

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

An upper air cyclonic circulation is likely to form over South Andaman Sea and adjoining areas around 21st November. It is likely to move west-northwestwards and become a low pressure area over southeast Bay of Bengal around 23rd November. Thereafter, it is likely to continue move west-northwestwards and intensify into a depression over southwest Bay of Bengal during subsequent 2 days.

Scattered low and medium clouds with embedded intense to very intense convection lay over southwest Bay of Bengal, Palk Strait & Gulf of Mannar. Scattered low and medium clouds with embedded moderate to intense convection lay over southeast Bay of Bengal and isolated weak to moderate convection lay over eastcentral Bay of Bengal & 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	NIL	NIL	LOW	MOD	HIGH	-

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

ARABIAN SEA:

A cyclonic circulation lay over south east Arabian sea off Kerala coast at 0.9 km above mean sea level at 0300 UTC of today, the 20th November, 2024.

Scattered low and medium clouds with embedded intense to very intense convection lay over south Arabian sea, Lakshadweep islands area, Comorin & Maldives area. Scattered low and medium clouds with embedded moderate to intense convection lay over south parts of central Arabian 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	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 28°C over entire Bay of Bengal (BoB). Topical 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 likely emergence of Equatorial Rossby Waves over South Andaman Sea from 21st onwards. 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. Wind shear is also low-moderate (05-20 kt) over south BoB. These features indicate that sea conditions and other broadscale features are likely to contribute positively to cyclogenesis over south BoB.

Discussion of major models:

IMD GFS is indicating cyclonic circulation (Cycir) over South Andaman Sea & adjoining Equatorial Indian Ocean (EIO) around 21st, low pressure area (LPA) over southeast BoB around 23rd with nearly west-northwestwards movement and intensification into depression around 24/1200 UTC, severe cyclonic storm near South Sri Lanka on 26th. Thereafter, it is indicating the system to cross over southeast Sri Lanka and cross South Tamil Nadu near Tuticorin around 26/0000 UTC.

NCEP GFS is indicating Cycir over South Andaman Sea around 20th/1200 UTC, LPA over southeast BoB around 23rd with west-northwestwards movement and intensification into depression on 24th/ 0000 UTC. It is indicating west-northwestwards movement towards South Sri Lanka till 26th/ 0000 UTC with intensification into a severe cyclonic storm. Thereafter, the system is indicated to follow northwestwards path, weaken gradually and cross Andhra Pradesh-Tamil Nadu coasts between Nellore & Chennai around 29th/ 1200 UTC.

NCUM (R): is indicating strengthening of easterly waves till 24th, LPA over southwest BoB close to Southeast Sri Lanka on 25th, with west-northwestwards movement across Sri Lanka and South Tamil Nadu during 26th-27th November.

ECMWF: is indicating cycir over South Andaman Sea and adjoining EIO around 21st, LPA over southeast BoB around 23rd, nearly west-northwestwards movement & intensification into depression around 25th and reach close to South Sri Lanka around 25th/1200 UTC as a depression/ deep depression. Thereafter, it would follow north-northwestwards path and cross South Tamil Nadu near Thanjavur (North of Tuticorin) as a low pressure area around 27th/0600 UTC.

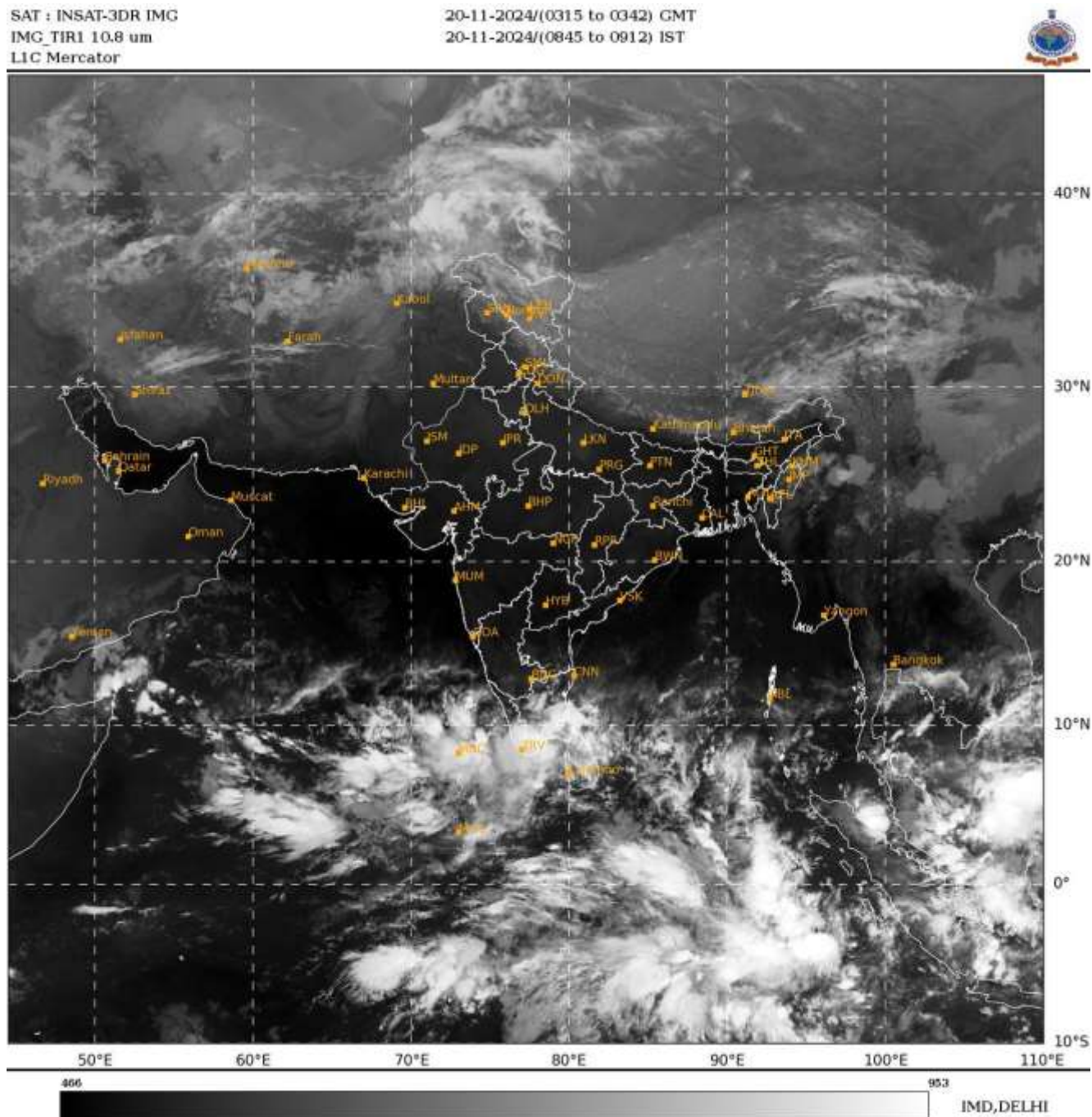
Thus, guidance from various models indicate formation of cyclonic circulation over South Andaman Sea around 21st, LPA over southeast BoB around 23rd, and depression over southwest BoB around 24th. There is large divergence among various models wrt peak intensification of system. GFS group of models are indicating higher intensification, ECMWF upto depression/deep depression stage and NCUM upto low pressure area stage. However, there is good consensus among various models that the system would weaken before crossing coast Tamil Nadu coast. Most of the models are indicating west-northwestwards to northwestwards movement towards Sri Lanka – South Tamil Nadu coasts. Only NCEP GFS is indicating initial west-northwestwards movement followed by north-northwestwards movement and crossing over Andhra Pradesh coast.

Hence it is inferred that **an upper air cyclonic circulation is likely to form over South Andaman Sea and adjoining areas around 21st November. It is likely to move west-**

northwestwards and become a low pressure area over southeast Bay of Bengal around 23rd November. Thereafter, it is likely to continue move west-northwestwards and intensify into a depression over southwest Bay of Bengal during subsequent 2 days.

Intense Observation Phase may be declared for Andaman Islands during 20th-23rd, East coast of Sri Lanka during 24th-26th, Tamil Nadu & Andhra Pradesh coasts during 24th-27th November.

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



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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