

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

### Tropical Cyclone Forecast Programme Report Dated 29<sup>th</sup> November 2025

Time of Issue: 1500 UTC

#### Synoptic features (based on 0900 UTC analysis):

The Cyclonic Storm Ditwah [Pronunciation: Ditwah] over southwest Bay of Bengal and adjoining north Sri Lanka moved nearly northwards with the speed of 10 kmph during past 6 hours and lay centered at 0900 UTC of today, the 29th November 2025 over the same region, near latitude 10.1°N and longitude 80.6°E, about 80 km northeast of Jaffna (Sri Lanka), 90 km east-southeast of Vedaranniyam (India), 120 km southeast of Karaikal (India), 220 km south-southeast of Puducherry (India) and 330 km south of Chennai (India).

It is very likely to move north-northwestwards and reach over southwest Bay of Bengal near North Tamil Nadu, Puducherry and adjoining south Andhra Pradesh coasts by 0000 UTC of 30th November.

While moving north-northwestwards the cyclonic storm will be centered over southwest Bay of Bengal within a minimum distance of 60 km, 50 km and 25km from the Tamil Nādu-Puducherry coastline by midnight of today, the 29th November, early morning and evening of tomorrow, the 30th November respectively.

#### **Environmental Features based on 0900 UTC:**

| Parameter  | Bay of Bengal (BoB)  | Arabian Sea (AS)   |  |  |
|--|--|--|--|--|
| Sea Surface<br>Temperature<br>(SST) °C                                   | Around 28°C over southwest Bay of<br>Bengal and along & off Sri Lanka,<br>Tamil Nadu & South Andhra Pradesh<br>coast along the forecast track.   | Around 28-29°C over southeast Arabian Sea and Lakshadweep area.  Around 27°C over rest of Arabian Sea.                       |  |  |
| Tropical Cyclone Heat Potential (TCHP) kJ/cm <sup>2</sup>                | <ul> <li>125-150 over eastern parts of southeast BoB, Andaman Sea, Malacca Strait.</li> <li>About 125 over many parts of south, eastcentral and northeast BoB.</li> <li>About 50 over westcentral, northwest BoB, Comorin area, Gulf of Mannar, Westcoast of Sri Lanka.</li> </ul> | 120-130 over southeast<br>Arabian Sea,<br>Lakshadweep area and<br>Maldives area.   |  |  |
| Cyclonic<br>Relative -<br>vorticity (X10 <sup>-6</sup> s <sup>-1</sup> ) | ➤ 140-150 over coastal Sri Lanka adjoining southwest BoB to the southwest of system centre and extending upto 200 hPa.   | 40-50 southeast AS and adjoining EIO and extending upto 500 hPa.   |  |  |
| Low-Level<br>convergence<br>(X10-6 s-1)                                  | <ul> <li>60 to the southwest of system centre</li> <li>20-30 over the southwest Bay, south Tamil Nadu coast, over Gulf of Mannar.</li> </ul>   | <ul> <li>5 over southwest         Arabian Sea.     </li> <li>10 over southern         parts of southeast AS.     </li> </ul> |  |  |

| Upper-Level<br>divergence<br>(X10-6 s-1)  | > 40 to the southwest of system centre.  | > 10 over southern parts of southeast AS   |  |
|---|--|--|--|
| Vertical Wind<br>Shear<br>(VWS knots)<br>Low: 05-10<br>knots<br>Moderate: 10-<br>20 knots<br>High: >20<br>knots | <ul> <li>Deep layer vertical wind shear is moderate &amp; anti-cyclonic over coastal Sri Lanka and adjoining southwest Bay of Bengal however as it move north it may encounter higher wind shear along and off Tamil Nadu coasts, adjoining southwest Bay.</li> <li>Mid layer vertical wind shear is low &amp; cyclonic over the system while magnitude of mid-layer shear is favorable but along the direction of forecasted path is not favorable</li> </ul> | Deep layer vertical<br>wind shear is low to<br>moderate over south<br>Arabian Sea.           |  |
| Wind Shear<br>Tendency<br>(knots)   | Increasing over Sri Lanka and adjoining<br>southwest Bay, along and off south<br>Tamil Nadu coast and adjoining<br>southwest Bay, over Gulf of Mannar.   | <ul> <li>Increasing over<br/>southeast AS and<br/>Lakshadweep,<br/>Maldives area.</li> </ul> |  |
| Upper<br>tropospheric<br>Ridge  | Ridge is running along 12°N across<br>BoB.   | ➤ A ridge is running along 13°N at 75°E.   |  |

### Summary of dynamic and thermodynamic features:

Cyclonic Storm Ditwah over southwest Bay of Bengal and adjoining areas of Southeast Sri **Lanka:** The Low level relative vorticity at 850 hPa is about 150 × 10<sup>-6</sup> s<sup>-1</sup> over Sri Lanka and adjoining southwest Bay of Bengal to the south of system centre. Vertically the positive vorticity zone is extending up to 200 hPa and tilting slightly southwestwards with height. Upper-level divergence is around 20×10-6 s-1 to the west of system centre and is southwestnortheast oriented. Low-level convergence is around 30×10-6 s-1 around the system centre. Mid layer shear is around (10-15 kts) and anti-cyclonic over the system area. The deep layer wind shear of horizontal wind is moderate (15-20 kt) and anti-cyclonic over the system area and hence favourable to maintain intensity. However, as it moves northwards, it may encounter higher wind shear over southwest Bay of Bengal and along & off North Tamil Nadu coast. As the system has emerged into sea, the intensity of the system has increased. Warm air advection is continuously taking place from south and southeast sector towards the core of the system. However cold and dry air from the southern peninsular is touching the northwest sector. As a result, with the northwards movement of the system there could be more incursion of dry and cold air. However, favourable outflow, warm moist air incursion, support from equatorial waves and favourable thermodynamic features led to intensification of system. It is likely to maintain its intensity till 30<sup>th</sup> November/0300 UTC. Thereafter, weakening is likely due to high wind shear, low ocean thermal energy, and cold dry air incursion from northwest sector.

#### M.J.O. Index:

The guidance from various models indicates that the Madden Julian Oscillation (MJO) index is presently in phase 7 with amplitude more than 1 and is likely to continue in same phase during next 5 days.

#### Equatorial waves guidance:

The guidance from NCICS model indicates westerly wind anomaly (7-9 mps) along with prevalence of Equatorial Rossby Wave (ERW), Kelvin wave (KW) and low frequency background wave (LW) over the southern parts of the Bay of Bengal (BoB) and adjoining southeast Arabian Sea (AS) and easterly wind anomaly (3-5 mps) to its north over southwest

BoB off Tamil Nadu coast-Andhra Pradesh coasts on 29th & 30th November. Thereafter, slight weakening of these features is indicated.

#### Satellite based cloud observation

## Cyclonic Storm "Ditwah" over southwest Bay of Bengal and adjoining north Sri Lanka & neighbourbood:

Intensity T2.5. Associated scattered to broken low and medium clouds with embedded intense to very intense convection over southwest Bay of Bengal, Palk Strait, Gulf of Mannar and Tamil Nadu (minimum cloud top temperature is minus 70-90 deg C). Moderate to intense convection lay over Kerala, Rayalaseema, south Coastal Andhra Pradesh, Sri Lanka and Comorin Area (minimum CTT minus 50-70 degree Celsius).

The estimated central pressure is about 1001 hPa. The associated maximum sustained wind speed is about 40 knots gusting upto 50 knots.

#### Over Bay of Bengal & Andaman Sea:

As per INSAT 3DS at 0900 UTC, scattered to broken low and medium clouds with embedded intense to very intense convection lay over southwest Bay of Bengal. 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 central Bay of Bengal and Andaman Sea

#### Over the Arabian Sea:

As per INSAT 3DS at 0900 UTC, scattered low & medium clouds with embedded moderate to intense convection over south Arabian Sea, Comorin & Maldives area. Scattered low & medium clouds with embedded weak to moderate convection over central Arabian Sea.

#### **Outside India:**

As per INSAT 3DS at 0900 UTC, vortex (KOTO) over south China Sea & neighborhood (area F05) centered near 13.4°N/ 112.1°E. Intensity T3.0/3.0. Maximum sustained winds 34-47 kts. Associated scattered to broken low & medium clouds with embedded intense to very intense convection over area between latitude 8.0°N to 18.0°N & longitude 109.0°E to 115.0°E & Vietnam.

## **NWP Guidance for FDP Cyclone:**

| MODEL<br>GUIDANCE | Bay of Bengal (BoB)   | Arabian Sea (AS)                                       |  |  |
|-------------------|---|--|--|--|
| IMD-GFS           | Deep depression (DD) over southwest BoB and adjoining north Sri Lanka coast as on 0000 UTC of today, to move in north-northwestward (NNW) and reaching close to north Tamil Nadu coast as a well marked low (WML) on 01 December/0000 UTC. It will become lessmarked thereafter.  | No significant system is indicated during next 7 days. |  |  |
| IMD-GEFS          | Not available   | Not available  |  |  |
| IMD-WRF           | Not available   | Not available  |  |  |
| BFS               | DD over southwest BoB and adjoining north Sri<br>Lanka coast as on 0000 UTC of today, to move<br>in NNW and reaching close to north Tamil Nadu<br>– south Andhra Pradesh coasts as a low<br>pressure area (LPA) on 01 December/0000<br>UTC. It will become lessmarked thereafter. | No significant system is indicated during next 7 days. |  |  |

| NCMRWF-<br>NCUM(G) | Cyclonic storm (CS) over southwest BoB and adjoining north Sri Lanka coast as on 0000 UTC of today, to move in NNW and reaching close to north Tamil Nadu – south Andhra Pradesh coasts as a DD on 01 December/00 UTC. It will lay over the same location while weakening and less marked by 02 December/0600 UTC. | No significant system is indicated during next 7 days. |
|--------------------|--|--|
| NCMRWF-<br>NCUM(R) | CS over southwest BoB and adjoining north Sri Lanka coast as on 0000 UTC of today, to move in NNW and reaching close to north Tamil Nadu – south Andhra Pradesh coasts as a DD on 01 December/0000 UTC. It will become lessmarked thereafter.  | No significant system is indicated during next 3 days. |
| NEPS               | CS over southwest BoB and adjoining north Sri Lanka coast as on 0000 UTC of today, to move in NNW and reaching close to north Tamil Nadu – south Andhra Pradesh coasts as a DD on 01 December/00 UTC. It will lay over the same location while weakening and less marked by 03 December/0600 UTC.                  | No significant system is indicated during next 7 days. |
| ECMWF              | CS over southwest BoB and adjoining north Sri<br>Lanka coast as on 0000 UTC of today, to move<br>in NNW and reaching close to north Tamil Nadu<br>– south Andhra Pradesh coasts as a DD/CS on<br>01 December/00 UTC. It will weaken gradually<br>thereafter and less marked by 03/0000 UTC.                        | No significant system is indicated during next 7 days. |
| NCEP-GFS           | CS over southwest BoB and adjoining north Sri<br>Lanka coast as on 0000 UTC of today, to move<br>in NNW and reaching close to north Tamil Nadu<br>– south Andhra Pradesh coasts as a DD/CS on<br>01 December/0000 UTC. It will weaken gradually<br>thereafter and less marked by 03/1200 UTC.                      | No significant system is indicated during next 7 days. |
| EC-AIFS            | CS over southwest BoB and adjoining north Sri Lanka coast as on 0000 UTC of today, to move in NNW and lay over southwest Bay off north Tamil Nadu – south Andhra Pradesh coasts as a DD/CS on 01 December/0000 UTC. It will weaken gradually thereafter over the same region and less marked by 03/1800 UTC.       | No significant system is indicated during next 7 days. |

### **Summary of models guidance:**

#### Bay of Bengal:

All the models are indicating that the system is lay over southwest Bay of Bengal and adjoining north Sri Lanka coast as of today 0000 UTC. There is good consensus among various models w.r.t its north-northwestwards (NNW) movement towards north Tamil Nadu coast during next 48 hours while weakening and reaching close to the coast as a depression/Well marked low pressure area.

#### Arabian Sea:

Models are indicating no significant system over Arabian Sea during next seven days.

#### Inference:

Considering various large-scale environmental features, climatology and model guidance, it

is inferred that:

The Cyclonic Storm Ditwah [Pronunciation: Ditwah] over southwest Bay of Bengal and adjoining north Sri Lanka is very likely to move north-northwestwards and reach over southwest Bay of Bengal near North Tamil Nadu, Puducherry and adjoining south Andhra Pradesh coasts by early morning of 30th November.

- (i) Confidence level in estimation of current location: High
- (ii) Confidence level in estimation of current intensity: High
- (iii) Confidence level in forecast of intensification: High
- (iv) Confidence level in forecast of track: High

## <u>Probability of cyclogenesis (formation of depression and above intensity systems) over the Bay of Bengal during next 168 hours:</u>

| 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     |

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

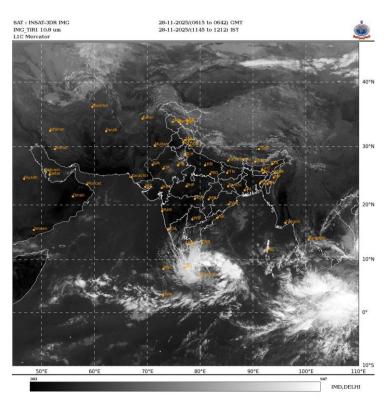
| NIL   | NIL   | NIL   | NIL   | NIL    | NIL     | NIL     |
|-------|-------|-------|-------|--------|---------|---------|
| HOURS | HOURS | HOURS | HOURS | HOURS  | HOURS   | HOURS   |
| 24    | 24-48 | 48-72 | 72-96 | 96-120 | 120-144 | 144-168 |

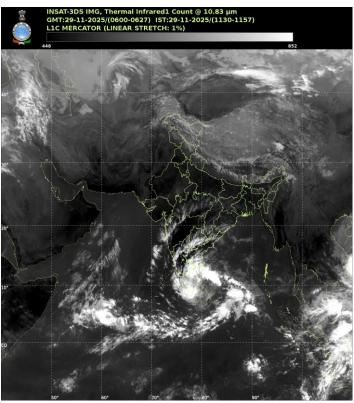
<sup>&</sup>quot;- "indicates genesis has already occurred.

Probability is indicated as NIL for 0%, LOW for 1-33%, MOD for 34-67% and High for 68-100%. Every 24 hrs forecast ends at the 0300 UTC of date.

**Intense Observation Period (IOP):** Sri Lanka, Tamil Nadu, Puducherry during 29<sup>th</sup> November to 01st December; Kerala during 29<sup>th</sup> – 30<sup>th</sup>; Andhra Pradesh during 28<sup>th</sup> November to 01<sup>st</sup> December.

## INSAT 3DS imageries at 0600 UTC of 28<sup>th</sup> & 29<sup>th</sup> November





## Annexure

