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Ministry of Earth Sciences
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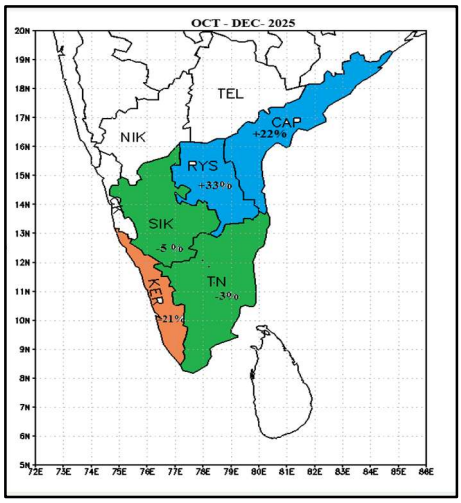
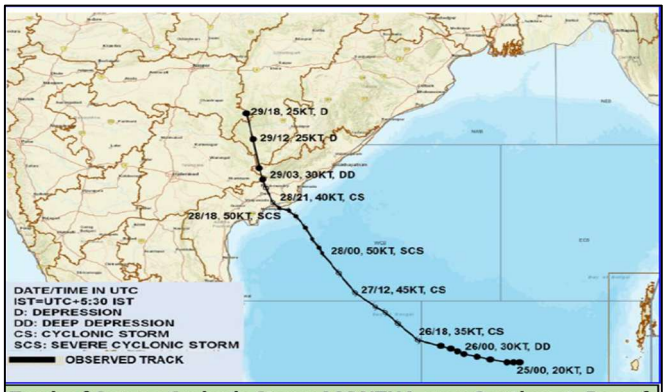
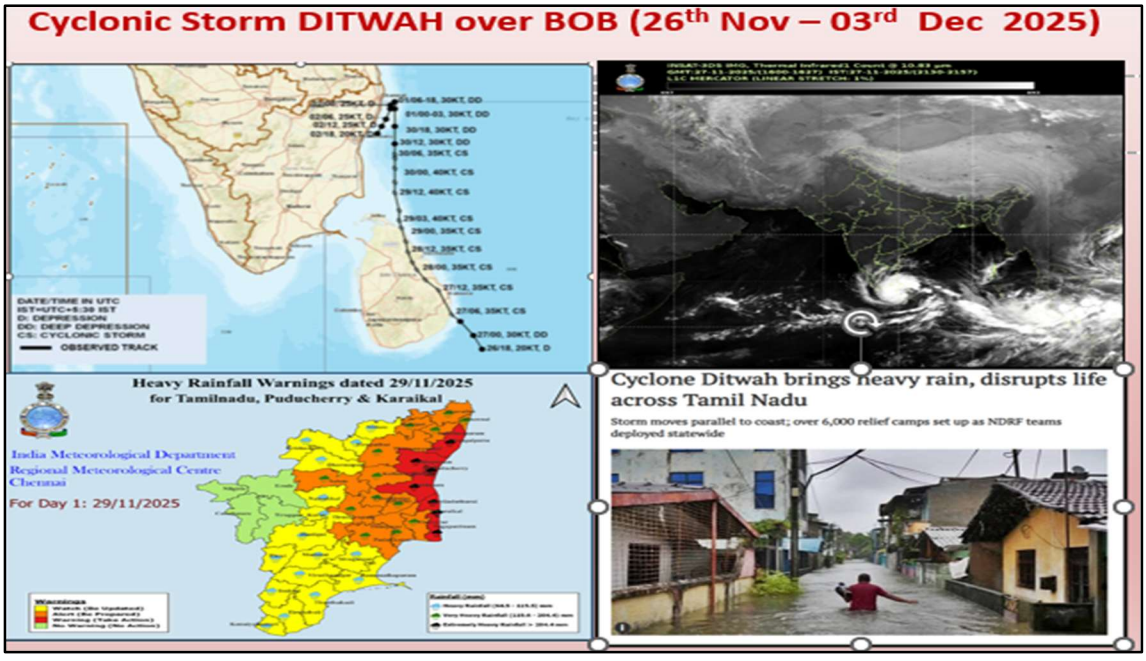
IMD Chennai Scientific Report No. IMDC-SR/20

REPORT ON NORTHEAST MONSOON – 2025





Track of Severe Cyclonic Storm MONTHA over Southeast Bay of Bengal during 25 – 30 October 2025; crossed Andhra Pradesh and Yanam between Machilipatnam and Kalingapatnam to the south of Kakinada close to Narsapur.



Regional Meteorological Centre, Chennai

April 2026

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Abstract

During the year 2025, the southwest monsoon withdrew from the Indian region and the Northeast monsoon (NEM) of 2025 commenced simultaneously over the southeastern parts of peninsular India on **16th October 2025** against the normal date of 20th October.

Of the five meteorological sub divisions Coastal Andhra Pradesh & Yanam (CAP), Rayalaseema (RYS) received Excess rainfall & Tamilnadu, Puducherry & Karaikal (TN) & South Interior Karnataka (SIK) received Normal rainfall, Kerala received deficient rainfall during the NEM season (October – December) 2025.

Active to *vigorous* monsoon conditions prevailed over TN on **24** days, over CAP & RYS on **11** days each and over KER on **9** days during the season. There were **45** days of *isolated heavy* rainfall activity with **29** days of *isolated very heavy* rain including **07** days of *isolated extremely heavy rainfall* activity over TN. **Four** *Tropical Cyclones* **– *Severe Cyclonic Storm (SCS)* SHAKTHI** over the Arabian Sea and **Severe Cyclonic Storm (SCS)** MONTHA, two ***Cyclonic Storms (CS)* SENYAR** and **DITWA** over the Bay of Bengal (BOB) and **One** Deep *Depression* (D***D***) over Bay of Bengal and **One** Depression (D) over Arabian Sea affected the Indian seas during the season.

The ***SCS* SHAKTHI** during 01st – 07th Oct 2025 tracked and weakened into a Low-Pressure Area over West Central Arabian Sea. **The SCS MONTHA** during 25th – 30th Oct 2025 crossed Andhra Pradesh and Yanam between Machilipatnam and Kalingapatnam to the south of Kakinada close to Narsapur on 28th Oct 2025. The **CS SENYAR** over Strait of Malacca during 25-27th Nov; it crossed Northeast Indonesia on 26th Nov 2025. The ***CS* DITWAH** over Bay of Bengal during 26th Nov – 03rd Dec 2025; it crossed over Sri Lanka coast on 27th Nov; weakened in to a Well-Marked Low-Pressure Area over North Tamilnadu-Puducherry coasts on 03rd Dec 2025 and caused torrential rains and extensive damages over North Tamilnadu & Puducherry during 02nd Dec 2025.

All 4 cyclones (Shakthi, Montha, Senyar and Ditwah) had recurving tracks. Landfall of cyclones: Out of 4 cyclones, 3 crossed the coast as cyclones against normal of 3.2 per year. Shakthi dissipated over sea, Montha crossed Andhra Pradesh coast (India) as a severe cyclonic storm, Senyar crossed Indonesia coast as a cyclonic storm and Ditwah moved across Sri Lanka as a cyclonic storm. However, only 1 cyclone (Montha) crossed India coast against the normal of 2 per year.

1. Background

The Indian southwest monsoon (SWM) season of June to September is the chief rainy season for India and about 75% of the country's annual rainfall is realised during this season. Subsequent to the withdrawal of SWM, the northeast monsoon (NEM), a small-scale monsoon confined to parts of southern peninsular India comprising of the meteorological sub-divisions of Tamil Nadu, Puducherry & Karaikal (TN), Kerala & Mahe (KER), Coastal Andhra Pradesh & Yanam (CAP), Rayalaseema (RYS) and South Interior Karnataka (SIK) occurs.

For the subdivision of TN, the normal SWM seasonal rainfall realised is only about 47% (428.9 mm) of its annual rainfall (921.4 mm) as this subdivision comes under the rain-shadow region during the SWM. The northeast monsoon (NEM) season of October to December (OND) is the chief rainy season for this subdivision with 48% (442.8 mm) of its annual rainfall realised during this season and hence its performance is a key factor for this regional agricultural activity.

Further, the NEM season is also the primary cyclone season for the North Indian Ocean (NIO) basin comprising of the Bay of Bengal (BOB) and the Arabian Sea (AS) and cyclonic disturbances (CDs; low pressure systems (LPS) with maximum sustained surface wind speed (MSW) of 17 knots or more) forming over BOB and moving west/northwest-wards affect the coastal areas of southeastern peninsular India and also contribute significantly to NEM rainfall. As such, the NEM season assumes importance from the agricultural as well as cyclone disaster management perspectives.

Prior to the commencement of NEM rains, after the withdrawal of SWM up to 15°N, reversal of low-level winds from southwesterly to northeasterly occurs. The normal date of setting in of easterlies over the southeastern peninsular India is 14th October. The normal date of onset of NEM over Coastal TN (CTN) and south CAP is 20th October. The normal rainfall received over the five NEM sub-divisions during OND is TN-448.9 mm, KER-388.3 mm, CAP-394.7 mm, RYS-314.7 mm and SIK-188.5 mm. The NEM seasonal rainfall over these subdivisions exhibits a high degree of variability, with the coefficient of variation ranging from about 20% to 35%, indicating considerable inter-annual fluctuations in rainfall distribution.

The NEM rainfall is influenced by global climate parameters such as ENSO (El Nino/La Nina & Southern Oscillation Index), Indian Ocean Dipole (IOD) and Madden-Julian Oscillation (MJO). El Nino, positive IOD and MJO in phase 2-4 with amplitude greater than one are generally associated with good NEM rainfall.

2. Onset phase

During October 2025, as per the data of various global climate monitoring centres, ENSO (El Nino & Southern Oscillation) transited from neutral phase to La Nina thresholds and IOD (Indian Ocean Dipole) continued in negative phase. The MJO (Madden Julian Oscillation) index was insignificant on many days during the first half of the month and in Phase 2-4 on most days during the second half of the month.

Simultaneously, under the influence of an upper air cyclonic circulation Low Pressure Area over West central Bay of Bengal concentrated into a Well-Marked Low Pressure Area over the same region at 0530 hrs IST with the associated Cyclonic Circulation extending up to 9.6 km above mean sea level tilting southwestwards with height; concentrated into a Depression over West central Bay of Bengal at 1130 hrs IST on 01st ; concentrated into a Deep Depression over West central and adjoining Northwest Bay of Bengal at 2330 hrs IST of 01st; crossed Odisha coast close to Gopalpur around 1700 hrs IST as a Deep Depression; lay over South Coastal Odisha at 1730 hrs IST of 02nd; weakened into a Depression over Interior Odisha at 0530 hrs IST; moved nearly northwards and weakened into a Well-marked low pressure area over north Chhattisgarh and adjoining areas of north interior Odisha & Jharkhand at 1730 hrs IST of 03rd; lay over west Bihar and neighbourhood at 1730 hrs IST with the associated cyclonic circulation extending upto 5.8 km above mean sea level on 04th; weakened into a Low pressure area at 0530 hrs IST of 05th and further moved away north-westwards.

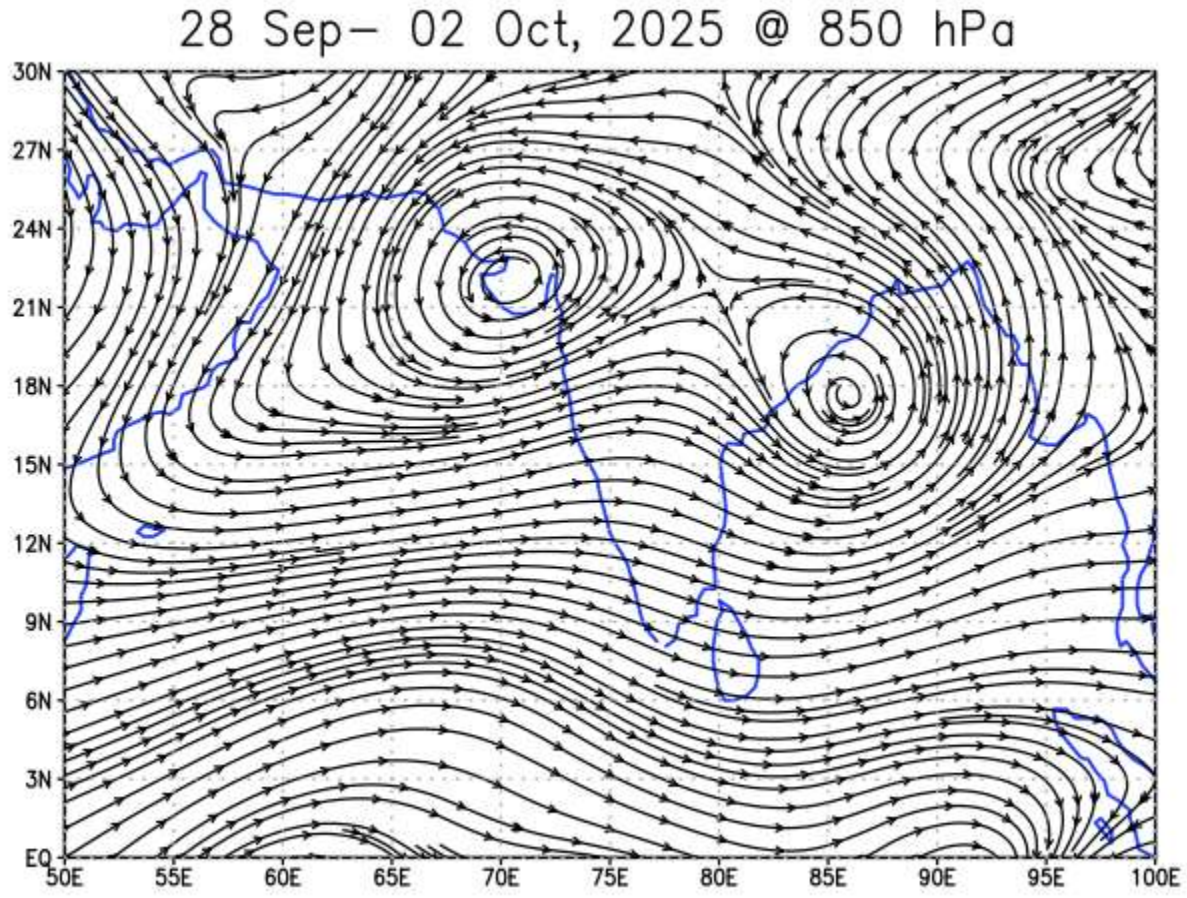

Fig.1: NCEP reanalysis 850 hPa streamline pattern indicating reversal wind from westerly to easterly over peninsular India during the second week of October 2025

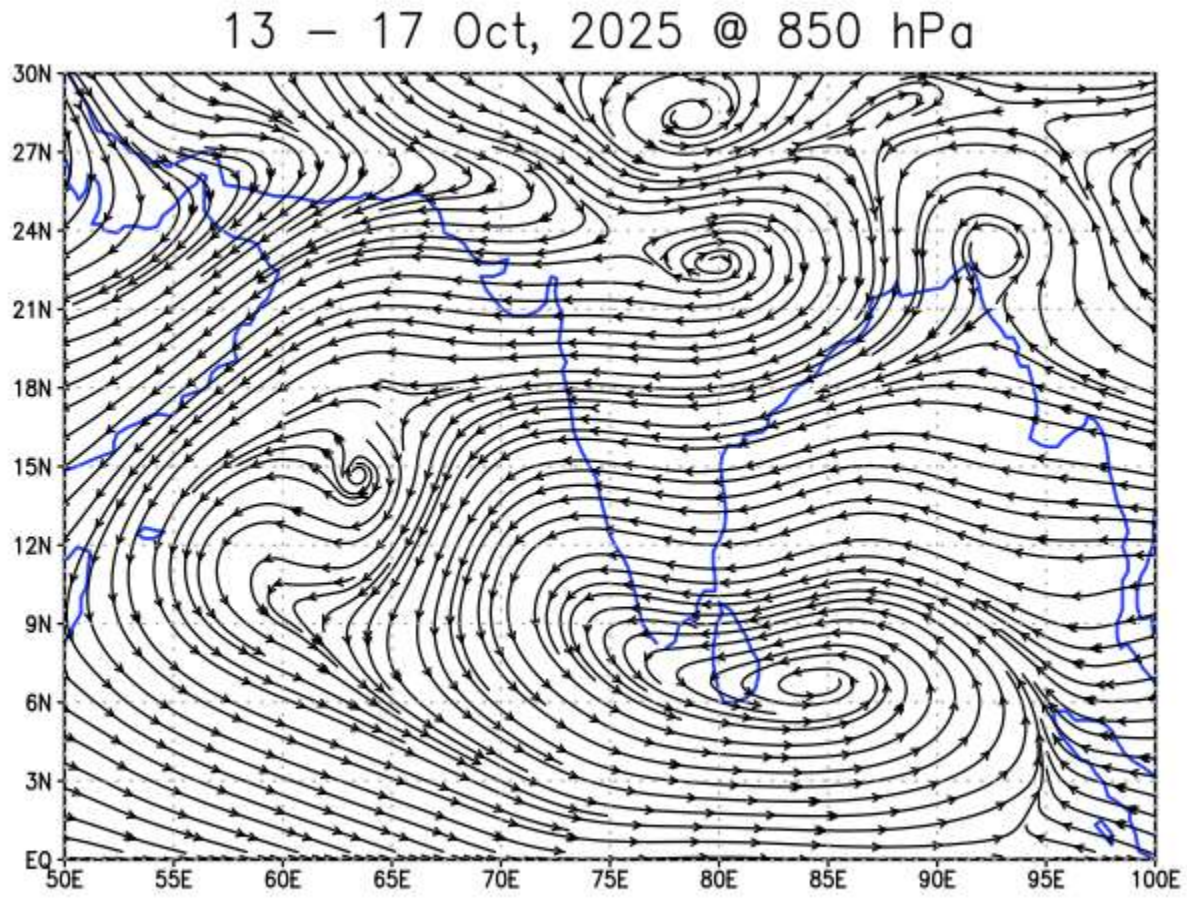

Fig.1: cont.

3a. Major synoptic scale systems during the NEM 2025 season

During the period October-December 2025, 2- **Severe Cyclonic Storm (SCS)**, 2-**Cyclonic Storm (CS)** and 1-**Deep Depression (DD)** formed over the **Bay of Bengal** (BOB) and 1- Depression formed over the **Arabian Sea** (AS) as follows: (i) SCS 'SHAKTHI' over Arabian Sea during 01st – 07th October; (ii) Deep Depression over Bay of Bengal during 01st - 03rd October; (iii) Depression over Arabian Sea 22nd October- 01st November; (iv) Severe Cyclonic Storm 'MONTHA' over Bay of Bengal during 25th – 30th October; (v) Cyclonic Storm 'SENYAR' over Bay of Bengal during 25th – 27th November; and (vi)) Cyclonic Storm 'DITWA' over Bay of Bengal during 26th November – 03rd December. The synoptic situations and weather associated with these systems are discussed below:

(i) Severe Cyclonic Storm 'SHAKTHI' over Arabian Sea during 01st – 07th October 2025

Shakthi developed from the remnant low pressure area which emerged from land into sea. The severe cyclonic storm "Shakthi" originated from the remnant of a depression that formed over

northwest & adjoining west central Bay of Bengal on 26th September which moved across Odisha, Chhattisgarh and Vidarbha and weakened into a well-marked low-pressure area over west Vidarbha and adjoining north Madhya Maharashtra on 28th Sep. It moved across central India and emerged into Gulf of Cambay on 29th Sep. It then moved across Gujarat and emerged into northeast Arabian Sea in the morning at 0830 Hrs IST of 1st October as a **Well-Marked Low-Pressure Area**. Its moved westwards, concentrated into a **Depression** over Northeast Arabian Sea at 1730 hrs IST of 01st; moved nearly westwards, intensified into a **Deep Depression** over the same region at 2330 hrs IST of 02nd; moved north-westwards, intensified into a **cyclonic storm "Shakthi" [Pronunciation: Shakthi]** over the same region at 1130 hrs IST of 03rd; intensified into **Severe Cyclonic Storm** over the same region at 0530 hrs IST of 04th; moved west-south-westwards lay over northwest & adjoining west central Arabian Sea at 1730 hrs IST on 05th; moved southwards and weakened into a **Cyclonic Storm** over West central and adjoining Northwest Arabian Sea at 0530 hrs IST of 06th; moved east-south-eastwards weakened into **Deep Depression** over the same region at 2330 hrs IST of 06th; moved east-south-eastwards and weakened into a **Well-Marked Low Pressure Area** over West central Arabian Sea at 1730 hrs IST of 07th; persisted over the same region at 0830 hrs IST with the associated **cyclonic circulation** up to 5.8 km above mean sea level **on** 08th ; weakened into a **Low Pressure Area** over the same region on 09th Oct 2025.

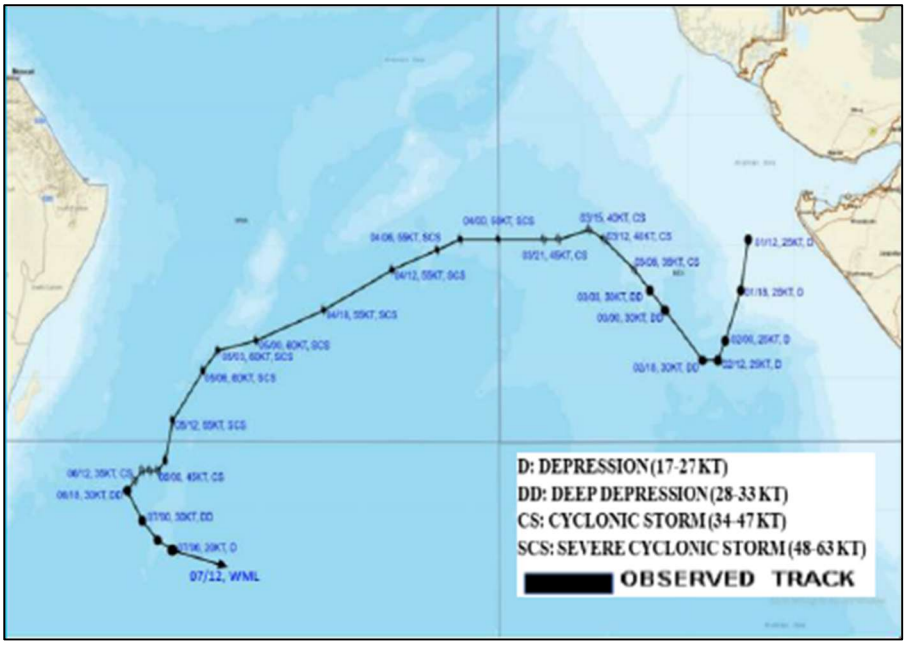

Fig.2(i)a: Observed track of SCS Shakthi over Northeast Arabian Sea during 01st – 07th October 2025

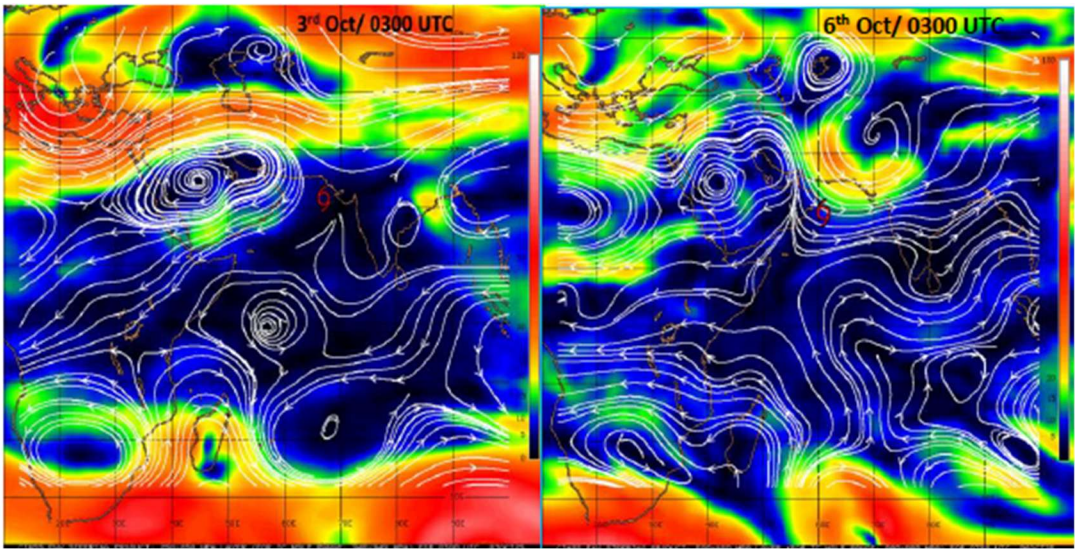

Fig. 2(i)b: Deep (200-850 hPa) layer mean steering winds at 0830 Hrs IST of 03rd Oct and (b) mid (500-850 hPa) layer mean steering winds at 0830 Hrs IST of 6th Oct 2025

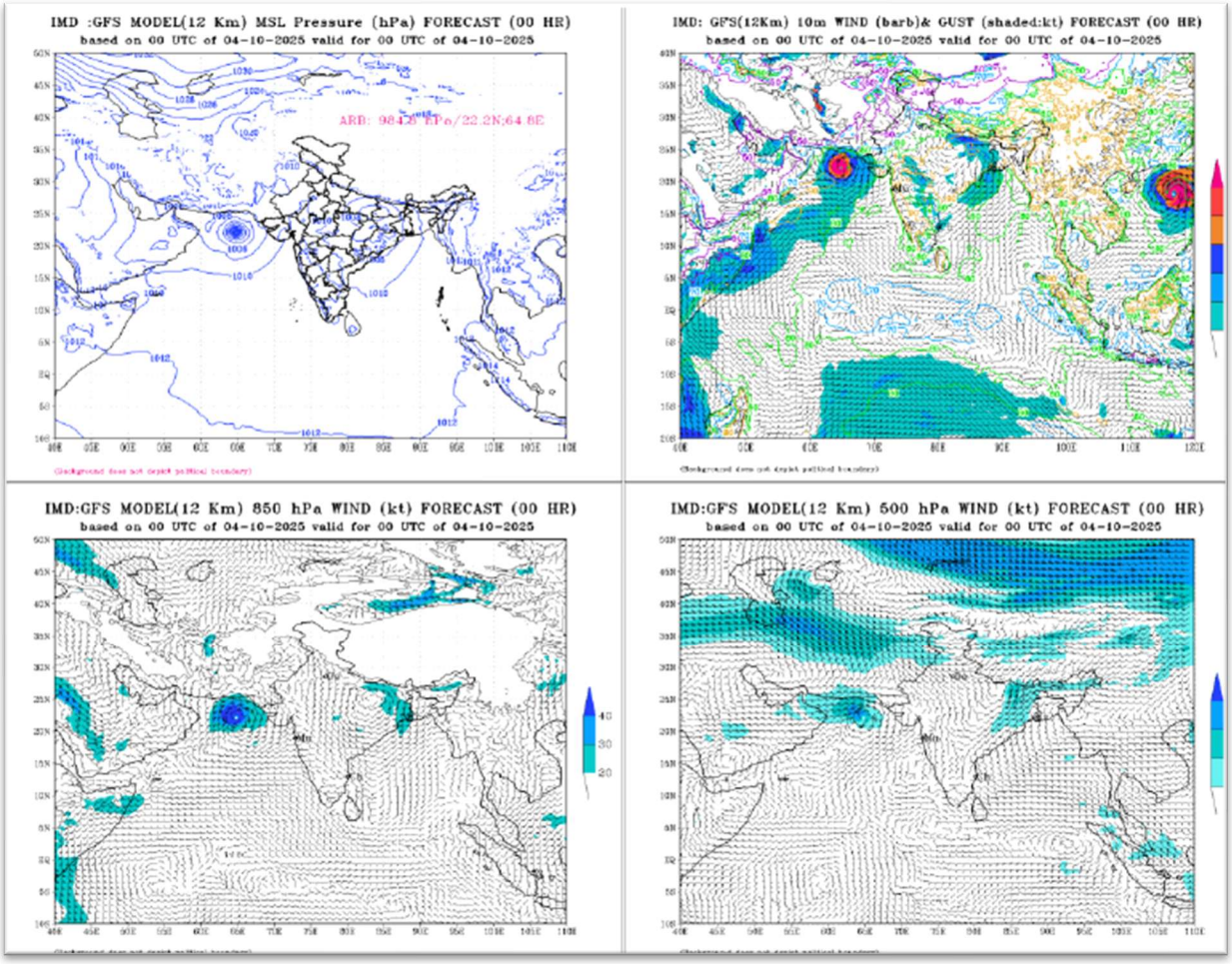

Fig. 2(i)c: Isobaric patterns in MSLP analysis / IMD GFS (T1534) mean sea level pressure (MSLP), winds at 10 m, 850, 500 hPa levels based on 0530 Hrs IST of 04th Oct 2025

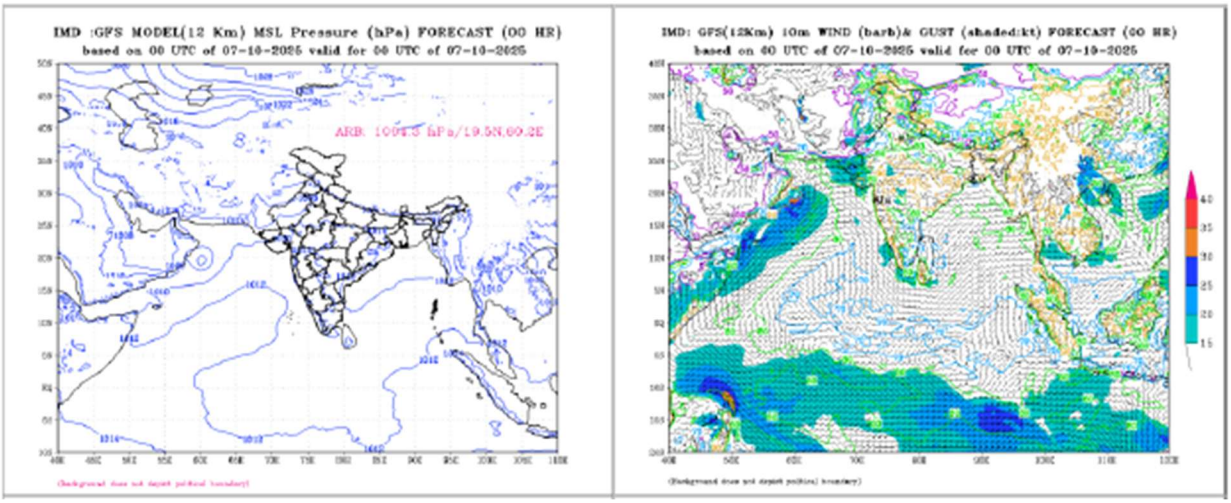

Fig. 2(i)d: Isobaric patterns in MSLP analysis / IMD GFS (T1534) mean sea level pressure (MSLP), winds at 10m, 850, 500 hPa levels based on 0530 Hrs IST of 07th Oct 2025

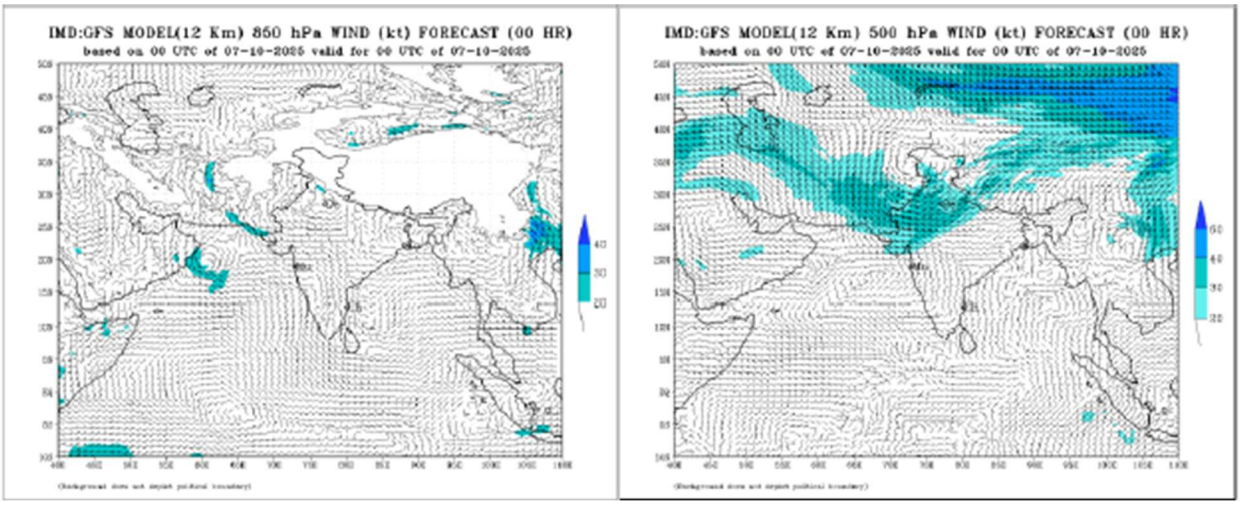

Fig. 2(i)d: cont.

(ii) Deep Depression over West Central Bay during 01st - 03rd October 2025

Under the influence of upper air cyclonic circulation formed over east central Bay in the afternoon of 30th Sep, a **Low Pressure Area** formed over West central Bay of Bengal in the evening 30th Sep, and concentrated into a **Well-Marked Low Pressure** Area over the same region at 0530 hrs IST with the associated Cyclonic Circulation extending upto 9.6 km above mean sea level tilting southwestwards with height; concentrated into a **Depression** over West central Bay of Bengal at 1130 hrs IST on 01st; intensified into a **Deep Depression** over West central and adjoining Northwest Bay of Bengal at 2330 hrs IST of 01st; crossed Odisha coast close to Gopalpur around 1700 hrs IST as a Deep Depression; lay over South Coastal Odisha at 1730 hrs IST of 02nd ;

weakened into a Depression over Interior Odisha at 0530 hrs IST; moved nearly northwards and weakened into a Well-marked low pressure area over north Chhattisgarh and adjoining areas of north interior Odisha & Jharkhand at 1730 hrs IST of 03rd ; lay over west Bihar and neighbourhood at 1730 hrs IST with the associated cyclonic circulation extending upto 5.8 km above mean sea level on 04th; weakened into a Low Pressure Area at 0530 hrs IST of 05th and further moved away north-westwards.

Fig. 2(ii)a: Observed track of Deep Depression over west central Bay of Bengal during 01st Oct-03rd Oct 2025.

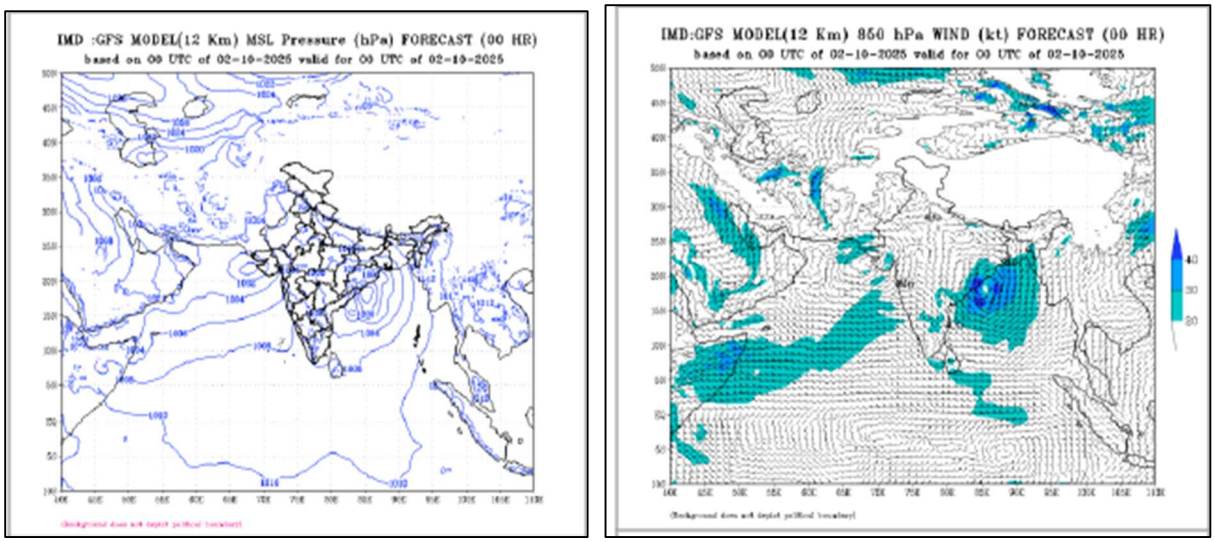

Fig. 2(ii)b: IMD GFS (T1534) mean sea level pressure (MSLP), winds at 10m, 850 hPa levels on 02nd Oct 2025.

(iii) Depression over Arabian Sea during 22nd Oct – 01st Nov 2025

An upper air cyclonic circulation lay over Southeast Arabian Sea & adjoining Lakshadweep in the morning 0830 Hrs IST on 15th Oct. It persisted over the same region till 0530 Hrs IST of 18th Oct. Under its influence, a Low Pressure **Area** formed over Southeast Arabian Sea & Lakshadweep area off Kerala-Karnataka coasts at 0530 Hrs IST and became **Well Marked Low Pressure Area** at 0830 Hrs IST and the associated cyclonic circulation extended upto 5.8 km above mean sea level on 18th; moved nearly westwards and lay centered over the Southeast Arabian Sea and adjoining Lakshadweep area at 1730 Hrs IST on 19th; moved nearly westwards and lay over Southeast Arabian Sea at 0830 Hrs IST on 20th; persisted on 21st; concentrated into a **Depression** at 0530 Hrs IST over the same region, near latitude 8.9°N,67.4°E, about 630 km west-southwest of Aminidivi (Lakshadweep) and 1010 km southwest of Panjim (Goa) on 22nd; moved northeastwards and lay centered on **23rd** / 0830 Hrs IST near latitude 9.8°N & longitude 67.8°E, about 560 km west-southwest of Aminidivi (Lakshadweep) and 910 km southwest of Panjim (Goa) and moved further north-northeastwards and lay centered on **24th** /0830 Hrs IST over the Eastcentral Arabian Sea, near latitude 14.0°N & longitude 70.6°E, about 380 km west-southwest of Panjim (Goa), 400 km northwest of Aminidivi (Lakshadweep), and 480 km west-northwest of Mangalore (Karnataka); lay over the same region near latitude 16.5°N & longitude 70.4°E, about 380 km west-northwest of Panjim (Goa), 400 km southwest of Mumbai (Maharashtra), 620 km northwest of Mangalore (Karnataka) and 640 km north-northwest of Aminidivi (Lakshadweep) on **25th** / 0830 Hrs IST; moved nearly southwestwards over the same region, near latitude 16.0°N & longitude 66.5°E, about 760 km west-southwest of Mumbai (Maharashtra), about 790 km west of Panjim (Goa), 870 km northwest of Aminidivi (Lakshadweep) and about 970 km west-northwest of Mangalore (Karnataka)on **26th** /0830 Hrs IST**;** moved north-northeastwards and lay centered **27th** / 0830 Hrs IST over the same region, near latitude 16.4°N & longitude 66.9°E, about 700 km West-Southwest of Mumbai (Maharashtra), 750 km west of Panjim (Goa), 860 km northwest of Aminidivi (Lakshadweep) and about 940 km west-northwest of Mangalore (Karnataka)**;**moved northeastwards and lay centered on **28th** / 0830 Hrs IST near latitude 17.1°N & longitude 67.8°E, about 500 km south-southwest of Veraval (Gujarat), 580 km west-southwest of Mumbai (Maharashtra), 670 km west-northwest of Panjim (Goa), 850 km northwest of Aminidivi (Lakshadweep) and about 890 km west-northwest of Mangalore (Karnataka); lay centered on **29th /** at 0830 hrs IST over the same region, near latitude 17.9°N & longitude 69.2°E, about 410 km west-southwest of Mumbai (Maharashtra), 430 km southwest of Veraval (Gujarat), 560 km west-northwest of Panjim (Goa), 820 km northwest of Mangalore (Karnataka), 850 km north-northwest of Aminidivi (Lakshadweep) on 29th; remained practically stationary and lay centered **30th** / 0830 Hrs IST over the same region, near latitude 17.9°N & longitude 68.2°E, about 400 km southwest of Veraval (Gujarat), 510 km west-southwest of Mumbai (Maharashtra) and 660 km west-northwest of Panjim (Goa); moved north-northeastwards and lay centered over the same region, near latitude 18.9°N & longitude 68.5°E, about 300 km southwest of Veraval (Gujarat),320 km southwest of Diu, 460 km west of Mumbai (Maharashtra)and 680 km west-northwest of Panjim (Goa) at 0830 Hrs IST on **31st Oct** 2025. It moved east-northeastwards weakened into a **Well-Marked Low Pressure Area** over Eastcentral& Adjoining Northeast Arabian Sea with the

associated Cyclonic Circulation extending upto 5.8 km above mean sea level on **01st Nov**; moved north-northeastwards and weakened into a **Low Pressure Area** over Northeast & adjoining Eastcentral Arabian Sea with the associated cyclonic circulation extended upto 5.8 km above mean sea level on **02nd**; and became **less marked** at 0530 Hrs IST on **03rd** Nov 2025.

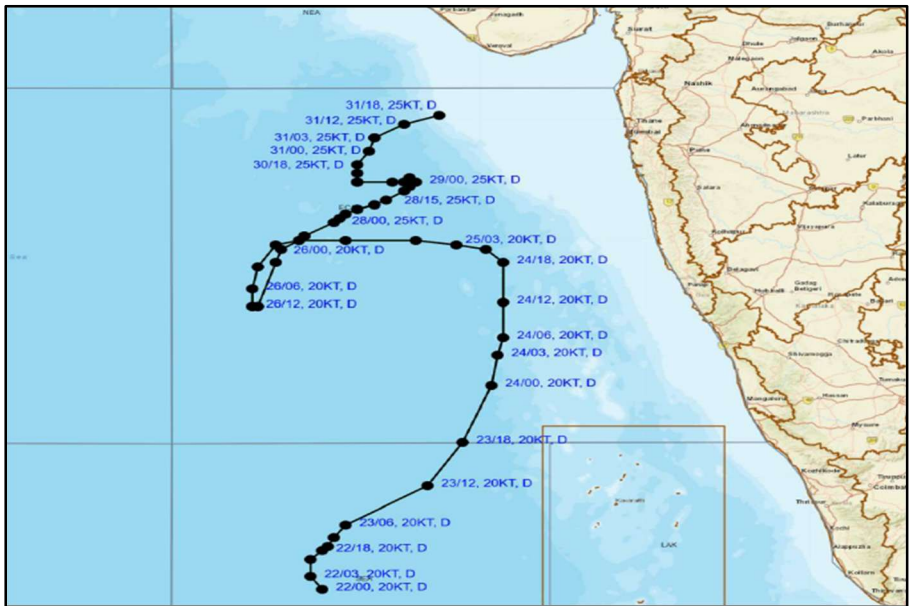

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Fig. 2(iii)a. Observed track of Depression over Southeast Arabian Sea during 22nd – 31st Oct 2025

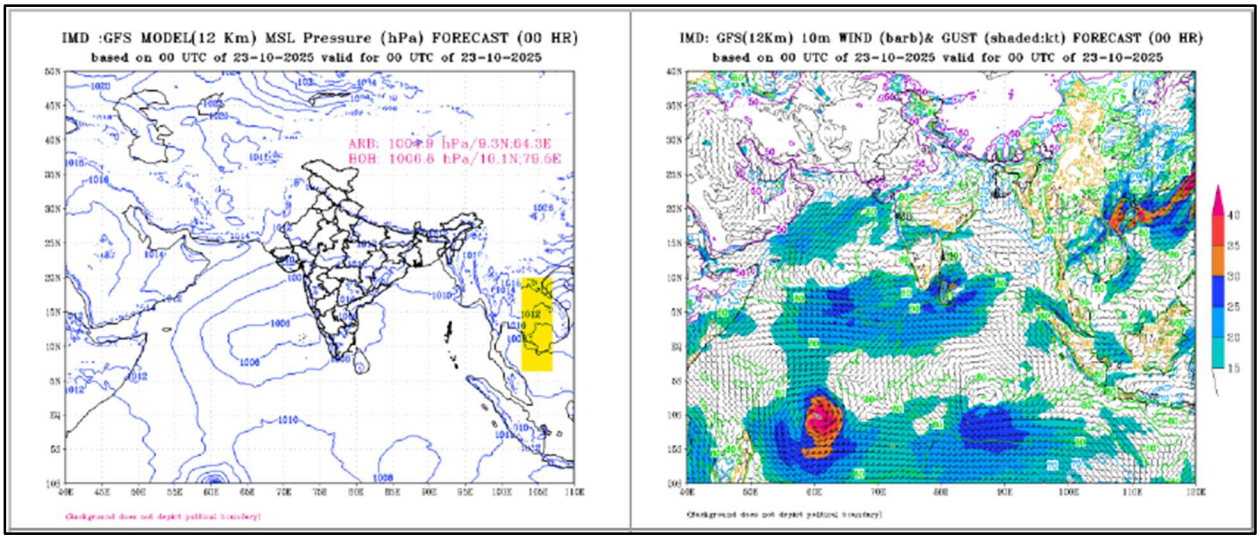


Fig. 2(iii)b. IMD GFS analysis field at 0530 Hrs IST of 23rd Oct indicated a WML over southeast AS near 10.2 0N/ 70 0E.

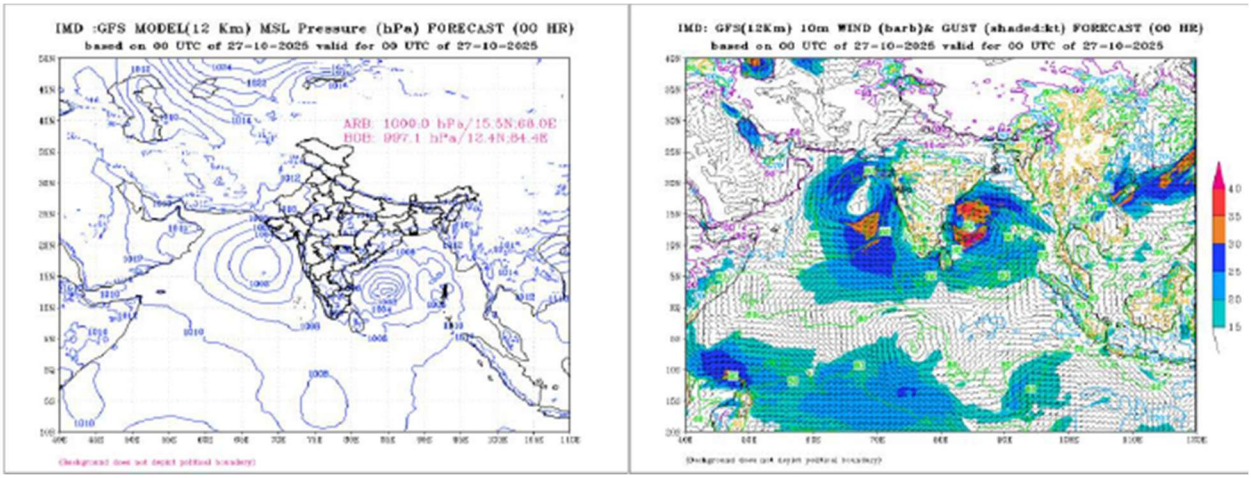


Fig. 2(iii)c. IMD GFS (T1534) mean sea level pressure (MSLP), winds at 10m and 850 levels based on 0530 IST of 27th Oct 2025

Light to moderate rainfall at most places with heavy to very heavy rainfall at isolated places over southeast & adjoining southwest Arabian Sea, Lakshadweep, Comorin and Maldives area and coastal Kerala & Karnataka on 23rd Oct. On 24th and 25th Oct. the rainfall was mainly confined to the east central & adjoining southeast Arabian Sea, South Kerala & Comorin area. On 26th & 27th Oct, heavy to very heavy rainfall over East central Arabian Sea was observed both to the east & west of system area.

Table-1: List of very heavy and heavy rainfall reports during 23rd-27th Oct 2025

Subdivision	**Station-wise very heavy, heavy rainfall amounts (cm) during the 24 hrs ending 08:30 Hrs IST**
Kerala	**23rd Oct**: Quilandi (Kozhikode) **14,** Irinjalakuda (Thrissur) **9,** Vellanikkara (Thrissur), Ernakulam South, Thrithala (Palakkad) & Angadipuram (Malappuram) **7** each. **24th Oct**: Ponmudi (Thriuvananthapuram) **9,** Chavara (Kollam) , Konni (Pathanamthitta), Paripalli (Kollam) & Thiruvananthapuram (Thiruvananthapuram) **7** each. **27th Oct**: Tellichery (Cannur) **7.**
SIK	**23rd Oct**: Kottigehara (Chikkamagaluru) **12,** Somwarpet (Kodagu), Kushalnagar (Kodagu) **9** each, N R Pura (Chikkamagaluru), Koppa (Chikkamagaluru) & Konanur (Hassan) **7** each. **24th Oct**: Siruguppa (Ballari) **8.**

(iv) Severe Cyclonic Storm 'MONTHA" over Bay of Bengal during 25th-30th Nov 2025

An upper air cyclonic circulation lay over South Andaman Sea & neighbourhood on 23rd; under its influence, a **Low Pressure Area** formed over Southeast Bay of Bengal at 0530 Hrs IST and became a **Well-Marked Low Pressure Area** over the same region on **24th** / 1730 Hrs IST; moved nearly westwards, concentrated into a **Depression** and lay centered on **25th** / 0530 Hrs ISTover the same region, near latitude 10.8°N & longitude 88.8°E, about 440 km west-southwest of Port Blair (Andaman & Nicobar Islands), 970 km southeast of Visakhapatnam (Andhra Pradesh), 970 km east-southeast of Chennai (Tamilnadu), 990 km southeast of Kakinada (Andhra Pradesh) and 1040 km south-southeast of Gopalpur (Odisha). It moved nearly west-northwestwards intensified into a **Deep Depression** and lay centredon **26th** / 0530 Hrs IST and further moved west-northwestwards and lay centred over the same region, near latitude 11.2°N & longitude 87.1°E, about 620 km west of Port Blair (Andaman & Nicobar Islands), 780 km east-southeast of Chennai (Tamilnadu), 830 km south-southeast of Visakhapatnam (Andhra Pradesh), 830 km southeast of Kakinada (Andhra Pradesh) and 930 km south-southeast of Gopalpur (Odisha)at 0830 Hrs IST and moved west-northwestwards and intensified into **Cyclonic Storm "Montha" [Pronunced as Mon-Tha]"** and lay centered over Southwest & adjoining Southeast Bay of Bengal at **26th** / 2330 Hrs IST; It then moved northwestwards and lay centered on **27th** / 0530 Hrs IST over Southwest & adjoining areas of Westcentral and Southeast Bay of Bengal. And moved north-northwestwards and lay centered over Southwest & adjoining Westcentral Bay of Bengal, near latitude 12.6°N & longitude 85.0°E, about 520 km East-Southeast of Chennai (Tamilnadu), 570 km South-Southeast of Kakinada (Andhra Pradesh), 600 km South-Southeast of Visakhapatnam (Andhra Pradesh), 750 km South of Gopalpur (Odisha) and 850 km West of Port Blair (Andaman & Nicobar Islands) at 0830 Hrs IST of 27th. Thereafter, it moved north-northwestwards and further intensified into a **Severe Cyclonic Storm** at 0530 Hrs IST over Westcentral Bay of Bengal and lay centered on **28th** / 0830 Hrs IST over the same region, near latitude 14.9°N & longitude 82.9°E, about 160 km south-southeast of Machilipatnam (Andhra Pradesh), 240 km south-southeast of Kakinada (Andhra Pradesh), 320 km south-southwest of Visakhapatnam (Andhra Pradesh) and 530 km south-southwest of Gopalpur (Odisha). Moving northwestwards / west-northwestwards **crossed the Andhra Pradesh & Yanam coasts between Machilipatnam and Kalingapatnam, to the south of Kakinada, close to Narsapur near latitude 16.35°N and longitude 81.70°E during midnight (2330 hrs IST of 28th and 0030 hrs IST of 29th October 2025).** It weakened into a **Cyclonic Storm** at 0230 hrs IST over Coastal Andhra Pradesh and weakened further into a **Deep Depression** and lay over Coastal Andhra Pradesh & adjoining Telangana on 29th; moved north-northwestwards, weakened in to a **Depression** and lay centered on **29th** / 1730 Hrs IST over South Chhattisgarh & neighbourhood, near latitude 18.7°N & longitude 80.9°E,about 110 km west-northwest of Malkangiri (Odisha), 120 km north of Bhadrachalam (Telangana), 130 km west-southwest of Jagdalpur (Chhattisgarh), and 180 km northnortheast of Khammam (Telangana); lay over South Chhattisgarh &neighbourhood moved north-northwestwards and weakened into a **Well-Marked Low Pressure Area** over East Vidarbha and adjoining South Chhattisgarh with the associated cyclonic circulation extended upto 7.6 km above mean sea level; and **moved inland** at 0530 Hrs IST on **30th** Oct 2025.

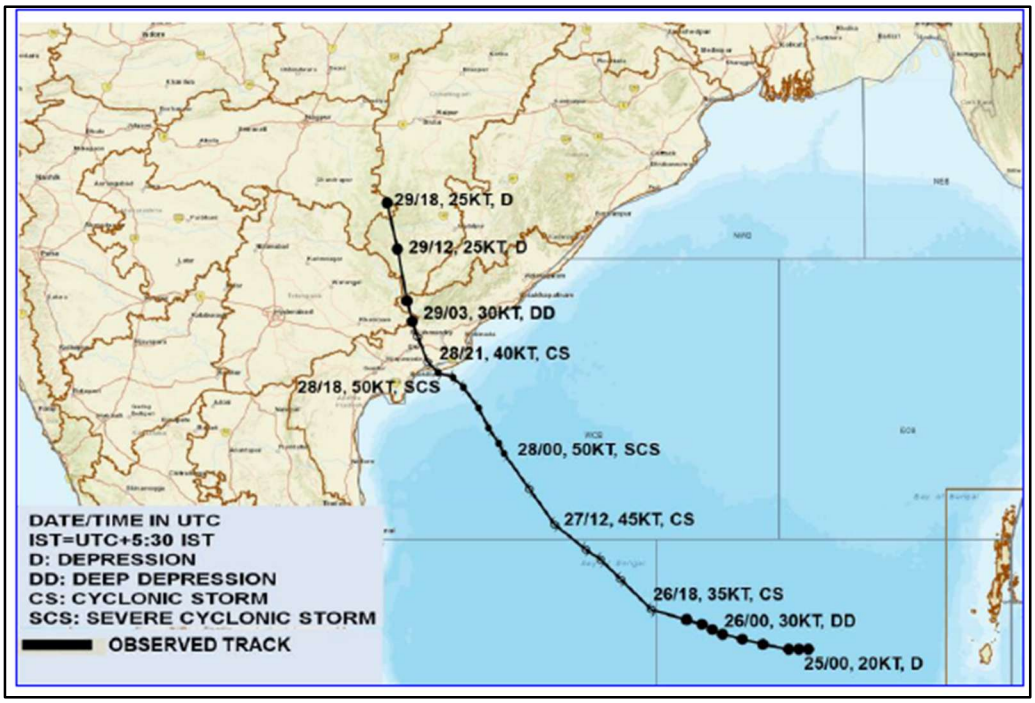


Fig. 2(iv)a: Observed Track of Severe Cyclonic Storm 'MONTHA' over Bay of Bengal during 25th -30th Oct 2025

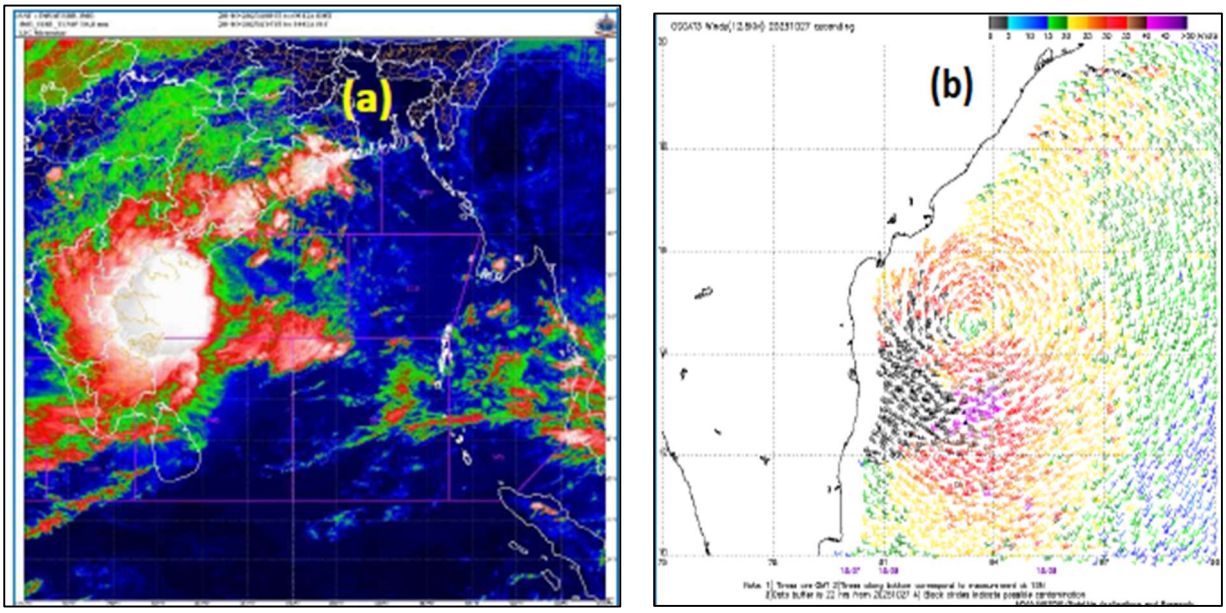


Fig. 2(iv) b: Satellite imagery as on 28th October; OSCAT imagery on 27th Oct / 2237 IST, during SCS MONTHA.

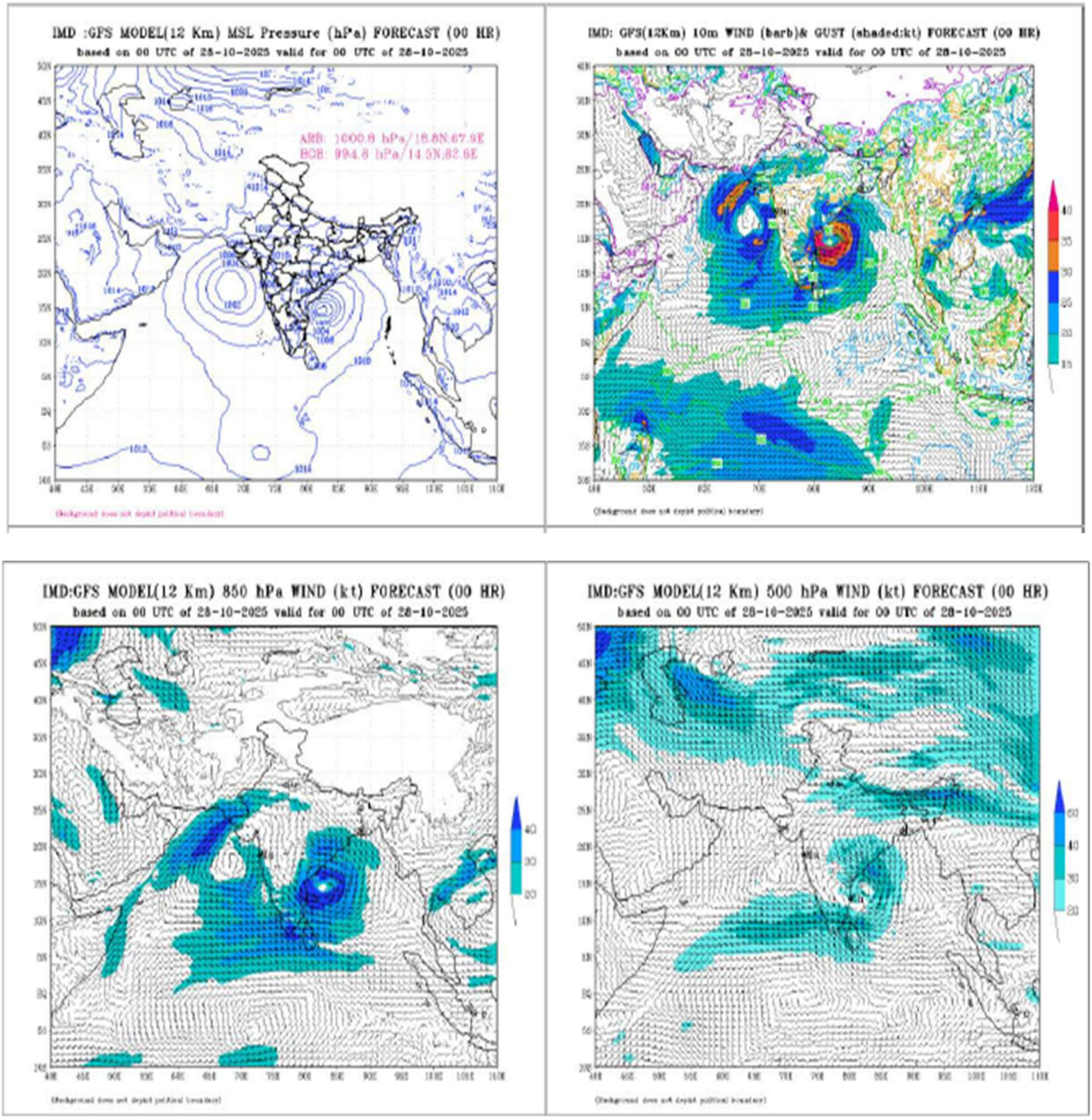


Fig. 2(iv) c: IMD GFS (T1534) mean sea level pressure (MSLP), winds at 10m, 850, 500 and 500 hPa levels based on 0530 Hrs IST of 28th Oct 2025

The system caused isolated heavy to very heavy rainfall over Tamilnadu during 24th-26th Oct; extremely heavy rainfall over Coastal Andhra Pradesh & Yanam on 28th & 29th October, heavy to very heavy rainfall over south & coastal Odisha and Rayalaseema on 28th October, heavy rainfall over Gangetic West Bengal on 29th October and exceptionally heavy rainfall over Telangana on 30th October 2025.

Table-2: List of extremely heavy, very heavy and heavy rainfall reports during 24th -30th Oct 2025

Subdivision	Station-wise ***extremely heavy,*** **very heavy, heavy rainfall amounts (cm) during the 24 hrs ending 08:30 Hrs IST**
TN	**24th Oct**: Pallipattu (Tiruvallur) **15**, Nalumukku (Tirunelveli) 12, Oothu (Tirunelveli) **11,** Arakonam (Ranipet)10, Balamore (Kanyakumari), Pechiparai AWS (Kanyakumari), Zone 14 Medavakkam (Chennai) **9** each, Kakkachi (Tirunelveli) **8,** Thiruvalangadu (Tiruvallur), Chittar-I (Kanyakumari), Pechiparai (Kanyakumari), Perunchani Dam (Kanyakumari), Puthan Dam **7** each. **25th Oct** : Oothu (Tirunelveli) 14, Nalumukku (Tirunelveli) 13, Kakkachi (Tirunelveli) **11**, Balamore (Kanyakumari), Manjolai (Tirunelveli) **9** each, Thirparappu (Kanyakumari) **8**, Idayapatti (Madurai), Madurai city (Madurai), Tallakulam (Madurai), Suralacode (Kanyakumari) **7** each; **26th Oct:** Nalumukku (Tirunelveli) **13**, Oothu (Tirunelveli) **12,** Kakkachi (Tirunelveli) **10**, Uthukottai (Tiruvallur) **9**, Manjolai (Tirunelveli) **8;**
SIK	Siruguppa (Ballari) 8.
CAP & Yanam	**24th Oct**: Kandukur (SPSR Nellore) **17**, Narsapuram (West Godavari) **11,** Amalapuram (B R Ambedkar Konaseema) **10,** Tanuku (West Godavari) & Udayagiri (SPSR Nellore) **9** each, Vinjamur (SPSR Nellore), Kavali (SPSR Nellore), Kalingapatnam (Srikakulam) & Ongole (Prakasam) **8** each, Palakoderu (West Godavari) & Bheemavaram (West Godavari) **7** each. **25th Oct:** Repalle (Bapatla) **7;** **26th Oct**: Cumbum (Prakasam) **7**; **27th Oct**: Prathipadu (Kakinada) **8**; **28th Oct:** Visakhapatnam (Visakhapatnam) **19**, Bheemunipatnam (Visakhapatnam), Visakhapatnam (Visakhapatnam) **14** each, Mandasa (Srikakulam) **12**, Kalingapatnam (Srikakulam), Ichchapuram (Srikakulam), Palasa (Srikakulam) **10** each, Chodavaram (Anakapalli), Anakapalle (Anakapalli) **9** each, Yelamanchili (Anakapalli) **8,** Pathapatnam (Srikakulam), Nellore (SPSR Nellore), Vizianagaram (Vizianagaram), Pusapatirega (Vizianagaram), Sompeta (Srikakulam) **7** each. **29th Oct :** Ongole (Prakasam) **25;** Chimakurthi (Prakasam) **24**; Kavali (SPSR Nellore), Kandukur (SPSR Nellore) **22** each; Darsi (Prakasam) **19**; Addanki (Bapatla) **18**; Podili (Prakasam) **17;** Konakanamitla (Prakasam) **16**; Markapur (Prakasam) **15**; Cumbum (Prakasam) **14**; Marripudi (Prakasam), Racherla

	(Prakasam), Yerragondapalem (Prakasam), Mundlamuru (Prakasam) **13** each; Srungavarapukota (Vizianagaram), Karamchedu (Bapatla), Bestavaripeta (Prakasam), Udayagiri (SPSR Nellore), Bapatla (Bapatla), Vinjamur (SPSR Nellore) **12** each; Veligandla (Prakasam) **11;** Anakapalle AP (Anakapalli), Ardhaveedu (Prakasam), Araku Valley (Alluri Sitharamaraju), Nellore (SPSR Nellore), Piduguralla (Palnadu), Seetharamapuram (SPSR Nellore) **10** each; Nandigama (Krishna), Atmakur (SPSR Nellore) **9** each; Santhamaguluru (Bapatla), Palasa (Srikakulam), Repalle (Bapatla), Sompeta (Srikakulam), Paderu (Alluri Sitharamaraju), Bondapalle (Vizianagaram), Mentada (Vizianagaram), Jangamaheswarapuram (Palnadu), Tiruvuru (Krishna) **8** each; Chodavaram (Anakapalli), Mandasa (Srikakulam), Macherla (Palnadu), Gantyada (Vizianagaram), Merakamudidam (Vizianagaram), Guntur (Guntur) **7** each; **30th Oct :** Polavaram (Eluru) **9**;
RYS	**24th Oct :** Proddutur (YSR) **13,** Raptadu (Anantapuramu) & Alur (Kurnool) **9** each, Atlur (YSR) **8,** Porumamilla (YSR), Tirupati Aero (Tirupati), Penagaluru (Annamayya), Nagari (Chittoor), Anantpur (Anantapuramu) & Sullurpeta (Tirupati) **7** each. **25th Oct :** Koilkuntla (Nandyal) **8**, Dornipadu (Nandyal) **7**; **28th Oct :**Uravakonda (Anantapuramu) **8,** Sullurpeta (Tirupati), Tada (Tirupati**) 7** each. **29th Oct:** Srisailam (Nandyal) **20**; Atmakur (Nandyal) **14;** Porumamilla (YSR District) **13;** Jupadu Bungalow (Nandyal) **12**; Nandyal (Nandyal), Rudravaram (Nandyal) **11** each; Allagadda (Nandyal), Nandikotkur (Nandyal) **10** each; Pagidyala (Nandyal) **9;** Badvel (YSR), Dornipadu (Nandyal) **8** each; Gudur (Tirupati), Koilkuntla (Nandyal), Atlur (YSR District), Duvvur (YSR) **7** each;

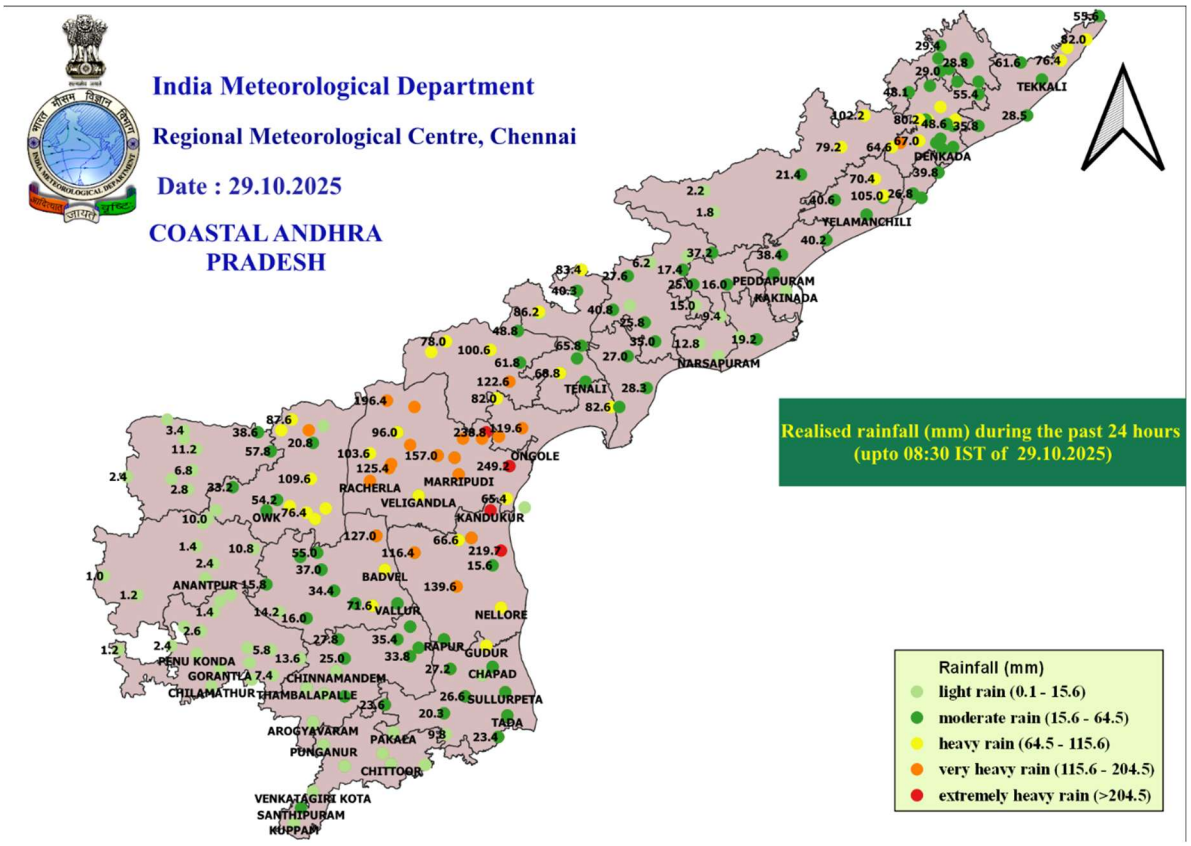


Fig. 2(iv) d: Spatial rainfall distribution and rainfall intensity over Coastal Andhra Pradesh as on 24-hr ending 0830 IST of 29th Oct 2025.

Damage report in association with cyclone MONTHA

The disaster caused at least 8 deaths, including 2 in Andhra Pradesh, 6 in Telangana. In Andhra Pradesh, over 1.8 million people were affected, with 1.37 lakh evacuated to 1,464 relief camps. Additionally, 3,045 houses were damaged across 23 districts.

Agriculture suffered the highest losses, with 1.38–1.61 lakh acres of crops damaged in Andhra Pradesh and 1.81 lakh hectares in Telangana. Power infrastructure was hit, damaging 13,000 poles and 3,000 transformers. Transport networks suffered damage to 4,794 km of roads and 311 bridges.

Fig. 2(iv) e: The images are sourced from the Press Trust of India (PTI), The Hindu, ANI/Reuters, The Times of India.

(v) Cyclonic Storm 'SENYAR" over Strait of Malacca during 25th-27th Nov 2025

It was a unique system, as cyclogenesis in lower latitudes is very rare and development of a cyclonic storm in Malacca strait is also quite rare. It was the first cyclone in that region as per IMD's recorded history since 1891.

An **upper air cyclonic circulation** lay over Central parts of Strait of Malacca and extended upto 5.8 km above mean sea level on 20th; persisted on 21st; Under its influence a **Low Pressure Area** formed over Strait of Malacca and adjoining South Andaman Sea at 0830 Hrs IST on 22nd; became a **Well Marked Low Pressure** area at 0530 Hrs IST and lay over the same region with the associated cyclonic circulation extended upto 7.6 km above mean sea level on 23rd; lay over Malaysia and adjoining Strait of Malacca and the cyclonic circulation extended upto 7.6 km above mean sea level on 24th; concentrated into a **Depression** and lay over Strait of Malacca, near latitude 5.4°N and longitude 99.7°E, about 70 km west of George Town (Malaysia), 290 km east of Kuta Makmur (Indonesia), 740 km east-southeast of Nancowry (Nicobar Islands) and 870 km east-southeast of Car Nicobar (Nicobar Islands) at 0830 Hrs IST; intensified into a **Deep**

Depression over the same region on 25th / 2330 Hrs IST; and further intensified into a **Cyclonic Storm "Senyar" [Pronunciation: 'Sen-yar']** at **0530 Hrs IST** over Strait of Malacca and adjoining Northeast Indonesia. It then moved west-southwestwards and **crossed Indonesia coast near** 4.9°N between **0730 - 0830 Hrs IST** on **26th Nov 2025**.

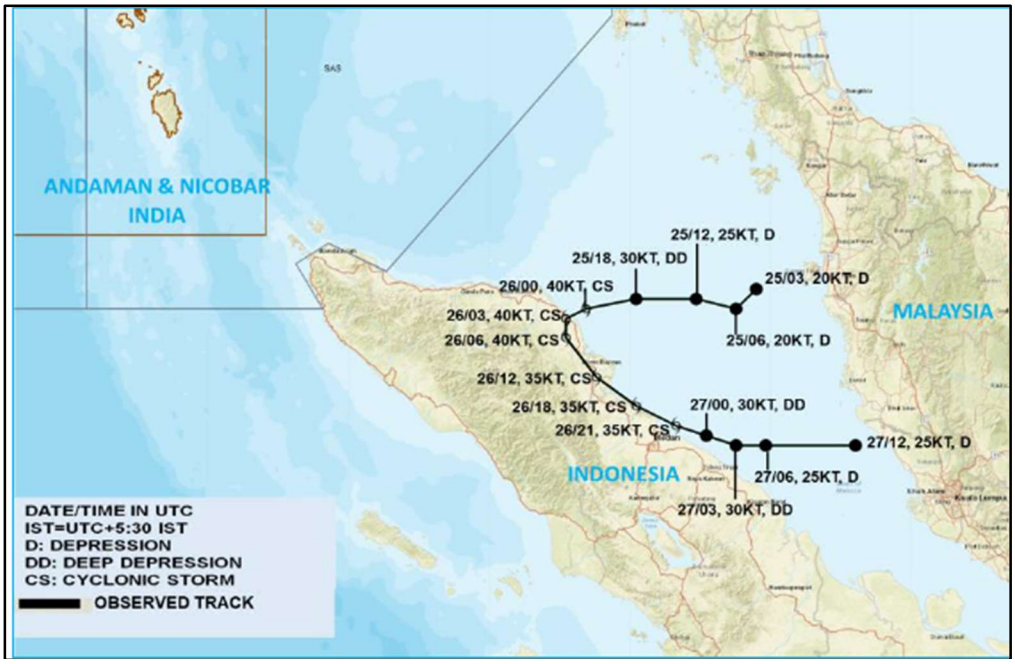


Fig 2(v) : Observed track of CS 'Senyar' over Strait of Malacca during 25th -27th Nov 2025

(vi) Cyclonic *Storm 'DITWA" over Bay of Bengal during 26th Nov-03rd Dec 2025*

An **upper air cyclonic circulation** lay over Comorin area and adjoining Indian Equatorial Ocean & extended upto 1.5 km above mean sea level on 22nd; lay over Comorin area and neighborhood and extended upto 5.8 km above mean sea level on 23rd; persisted on 24th; Under its influence, a **Low Pressure Area** formed over Comorin and adjoining areas of Southwest Bay of Bengal & Sri Lanka and lay over Southwest Bay of Bengal and adjoining areas of South Sri Lanka & Equatorial Indian Ocean at 0530 Hrs IST on 25th; became a **Well-Marked Low Pressure Area** over Southwest Bay of Bengal and adjoining areas of Southeast Sri Lanka & Equatorial Indian Ocean on 26th / 0530 Hrs IST; concentrated into a **Depression** on 26th / 2330 Hrs IST and lay over Southwest Bay of Bengal and adjoining Sri Lanka coast, moved north-northwestwards intensified into **Deep Depression** on **27th / 0530 Hrs IST** , near latitude 6.7°N and longitude 82.1°E, about 120 km south-southeast of Batticaloa (Sri Lanka), 130 km east-northeast of Hambantota (Sri Lanka), and, 640 km south-southeast of Puducherry (India) and 730 km south-southeast of Chennai; intensified into Cyclonic storm **Ditwah [Pronunciation: Ditwah]** on 27th / 1130 hrs IST and lay over the same region, moved north-northwestwards and lay centered over Coastal Sri Lanka and adjoining Southwest Bay of Bengal on 28th / 0830 Hrs IST near latitude 8.3°N and longitude 81.0°E, about 40 km southwest of Trincomalee (Sri Lanka), 100 km northwest of Batticaloa (Sri Lanka), 320 km south-southeast of Karaikal (India), 430 km south-southeast of

Puducherry (India) and 530 km south of Chennai (India); moved north-northwestwards and lay centered on **29th / 0830 Hrs IST** over Southwest Bay of Bengal and adjoining North Sri Lanka coast, near latitude 9.6°N and longitude 80.7°E, about 80 km east of Jaffna (Sri Lanka), 140 km southeast of Vedaranniyam, 170 km south-southeast of Karaikal 280 km south-southeast of Puducherry and 380 km south of Chennai; moved nearly northwards and lay centered on 30th / 0830 Hrs IST over Southwest Bay of Bengal and adjoining north Tamil Nadu-Puducherry coasts, near latitude 11.4°N and longitude 80.6°E, about 100 km east-southeast of Cuddalore, 100 km east-northeast of Karaikal, 110 km southeast of Puducherry (India), 140 km northeast of Vedaranniyam and 180 km south-southeast of Chennai. The minimum distance of the centre of the cyclone from north Tamil Nadu-Puducherry coasts is about 70km; oved northwards and **weakened** into a **Deep Depression** over the same region, near latitude 11.8°N and longitude 80.6°E, about 90 km east of Cuddalore (India), 130 km northeast of Karaikal (India), 90 km east-southeast of Puducherry (India),180 km north-northeast of Vedaranniyam (India) and 140 km south-southeast of Chennai (India). The minimum distance of the centre of the Deep Depression from north Tamilnadu-Puducherry coasts is about 80 km at 1730 Hrs IST on 30th Nov 2025. moved slowly northwards and lay centered on 01 Dec / 0830 Hrs IST over Southwest Bay of Bengal and adjoining areas of West central Bay of Bengal, North Tamilnadu-Puducherry & South Andhra Pradesh coasts, near latitude 12.8°N and longitude 80.6°E, about 50 km east-southeast of Chennai, 130 km northeast of Puducherry, 150 km northeast of Cuddalore, 200 km south-southeast of Nellore. The minimum distance of the centre of the Deep Depression from north Tamil Nadu-Puducherry coasts is about 40 km; **weakened** into a **Depression** on 02 Dec / 0530 Hrs IST over Southwest Bay of Bengal and adjoining areas of West central Bay of Bengal and now lay centered near latitude 12.8°N and longitude 80.5°E, about 40 km east-southeast of Chennai, 120 km northeast of Puducherry, 140 km northeast of Cuddalore and 190 km south-southeast of Nellore; moved slowly southwestwards and **weakened** into a **Well-Marked Low Pressure Area** on 03rd Dec / 0530 Hrs IST over North Tamil Nadu-Puducherry coasts and neighbourhood; lay as a **Low Pressure Area** over North Tamilnadu and the associated cyclonic circulation extended up to 4.5 km above mean sea level at 1730 Hrs IST on 03rd; and became less marked on 04th Dec 2025.

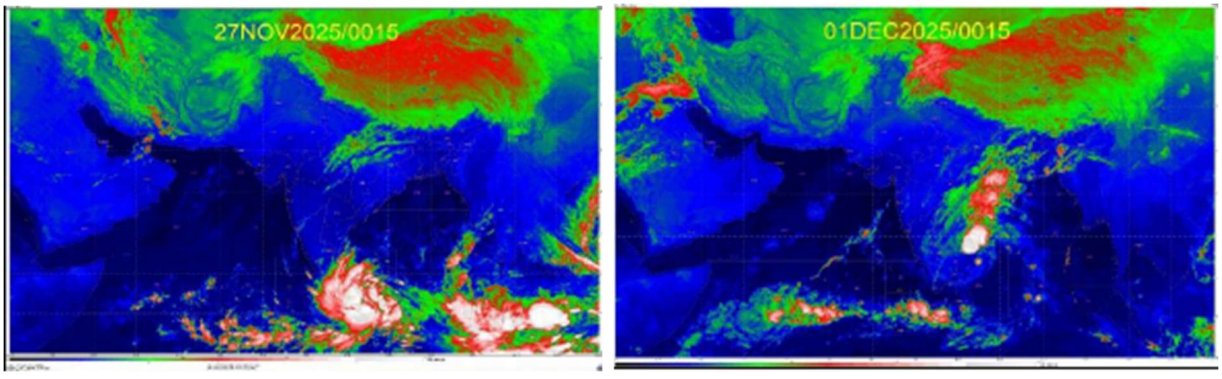


Fig 2(vi) a: INSAT-3D enhanced coloured imageries during life cycle of CS DITWAH (27 Nov & 01 December)

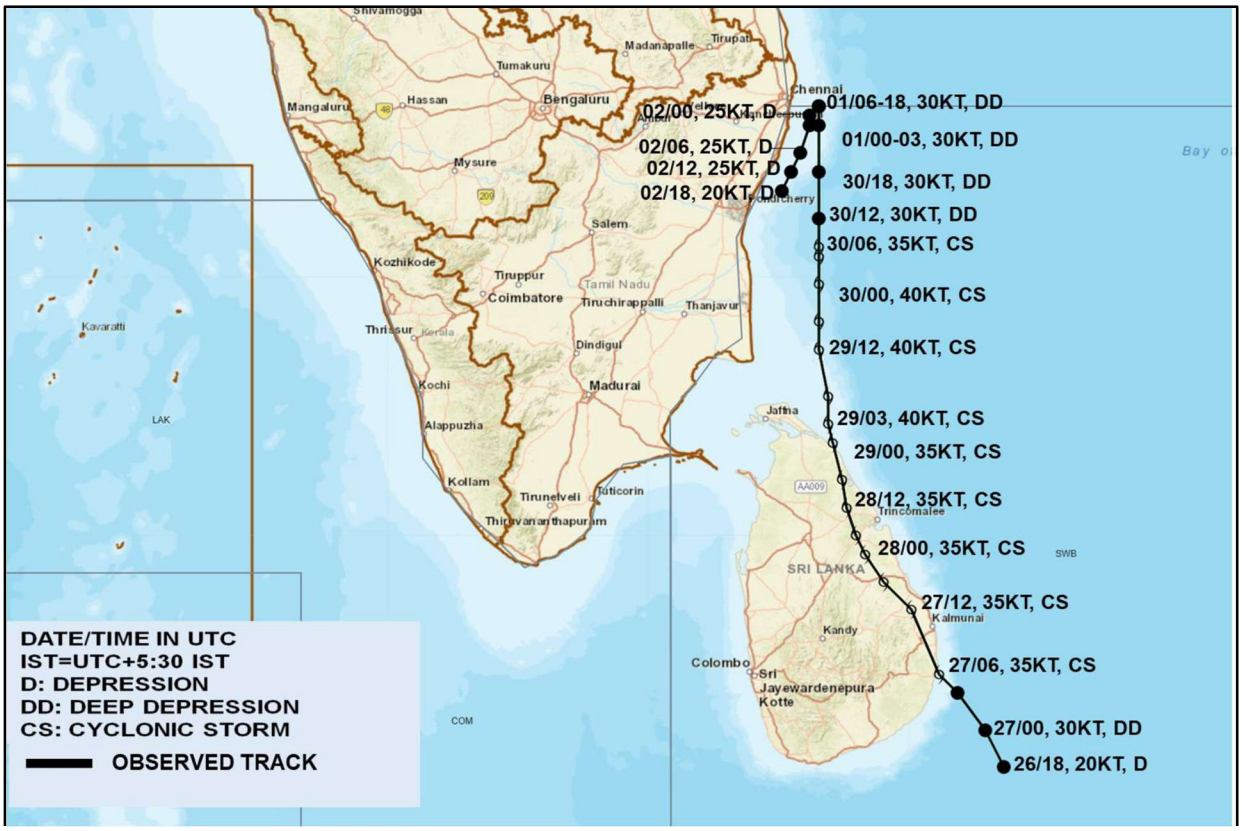


Fig 2(vi) b:Observed track of CS 'Senyar' over Strait of Malacca during 25th -27th Nov 2025

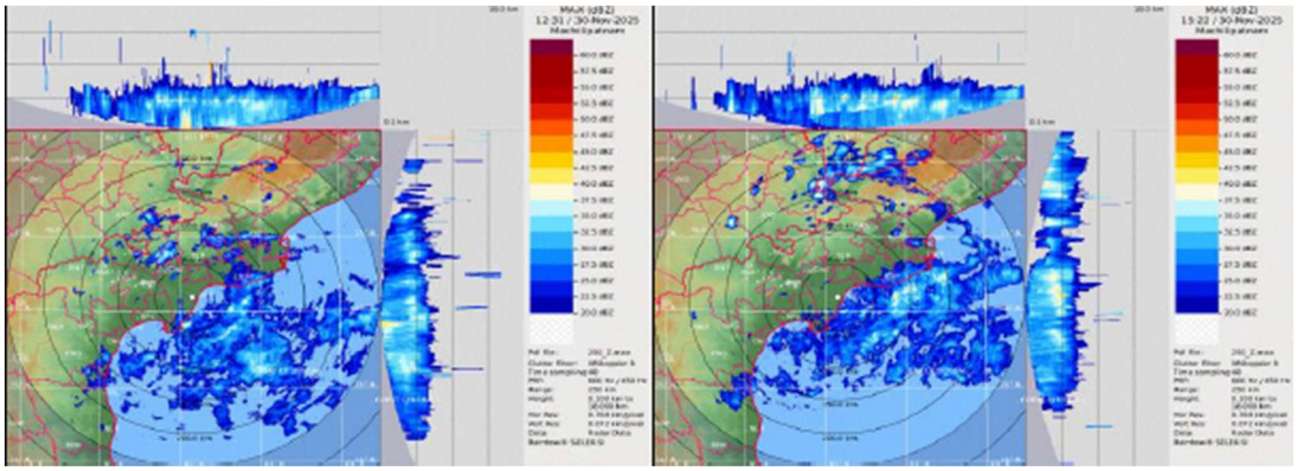


Fig 2(vi) c: Typical Radar imagery from DWR Machilipatnam during life cycle of CS DITWAH (30th Nov 2025)

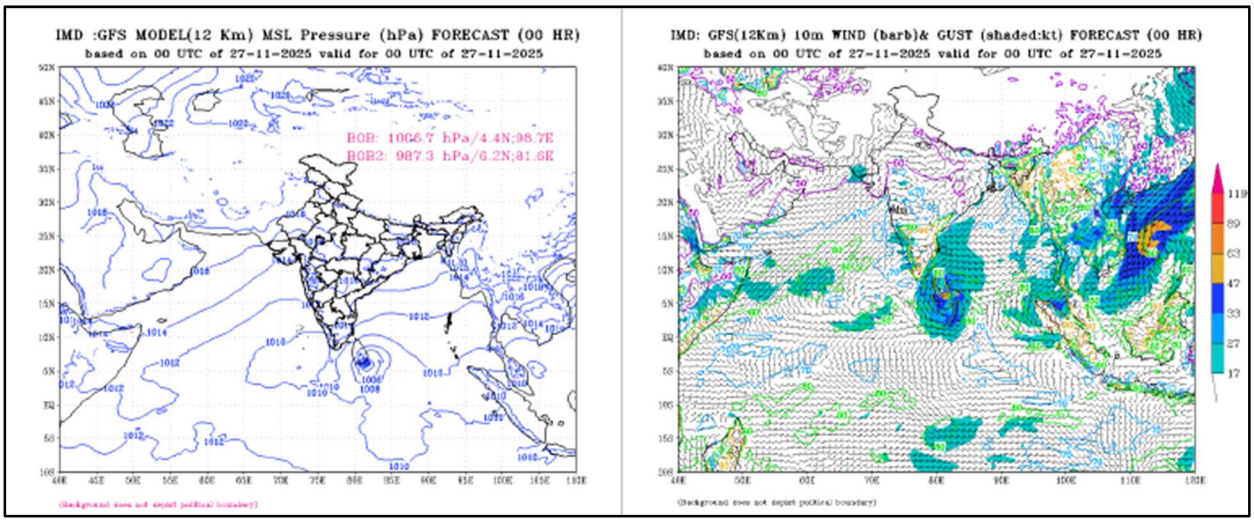


Fig 2(vi) d: IMD GFS (T574) mean sea level pressure (MSLP), winds at 10m and 850 hPa levels based on 0530 IST of 27th Nov 2025

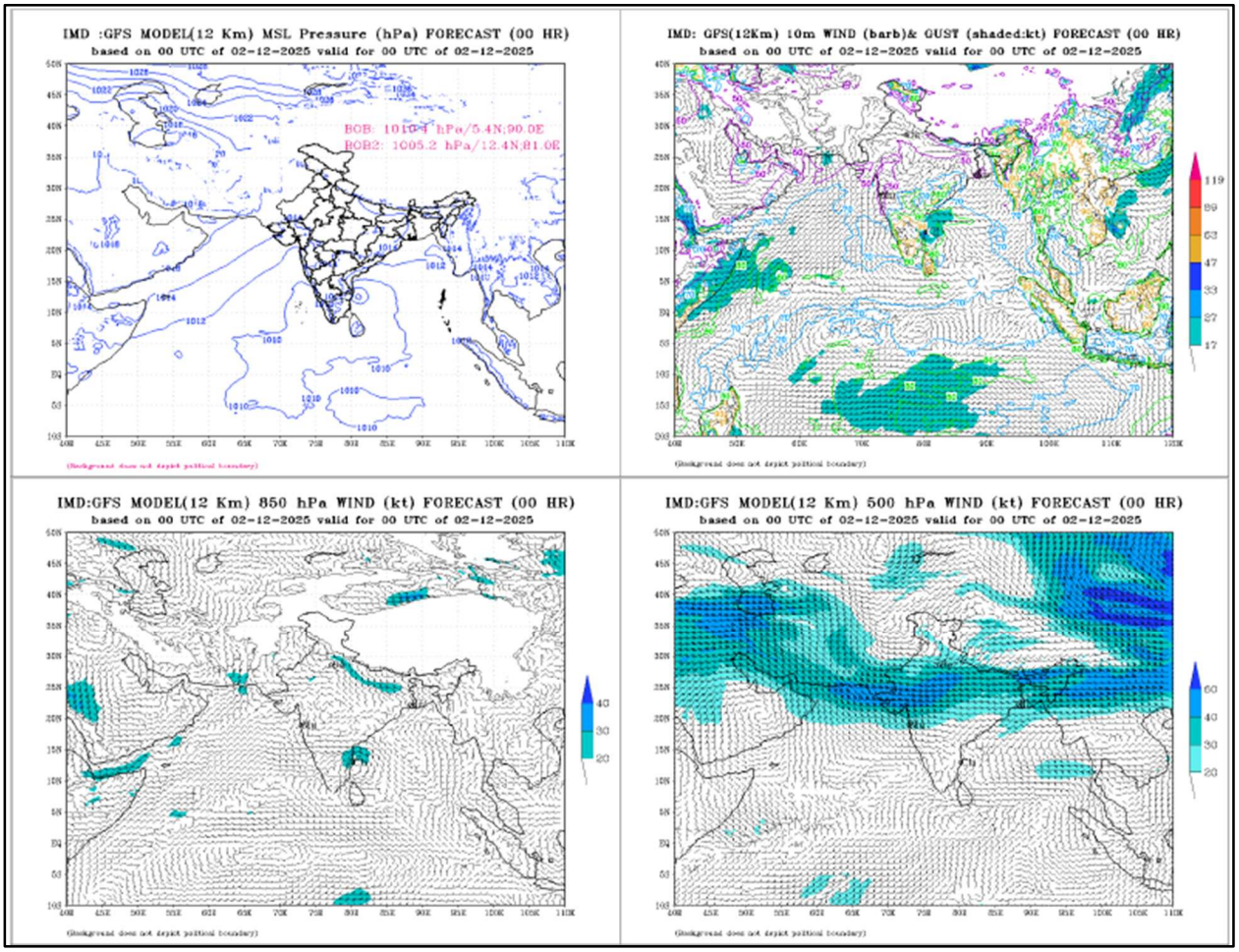


Fig 2(vi) e: IMD GFS (T574) mean sea level pressure (MSLP), winds at 10m, 850 and 500 hPa levels based on 0530 IST of 2nd Dec 2025

The system caused extremely heavy rains and landslides in Sri Lanka during 26th to 28th Nov. Over Tamil Nadu, heavy to very rainfall at some places and extremely heavy rainfall (≥ 20 cm) at isolated places was observed on 28th, 29th November & 1st December and heavy to very heavy rainfall at isolated places on 2nd December. Heavy to very heavy rainfall at some places with isolated extremely heavy rainfall occurred over Coastal Andhra Pradesh & Rayalaseema on 2nd December.

24 hours cumulative realised rainfall (≥ 7 cm) ending at 0830 hrs IST (0300 UTC) of date as recorded by various observatories in India is presented below:

Tamilnadu, Puducherry & Karaikal

Table-3: List of extremely heavy, very heavy and heavy rainfall reports during 29th Nov – 03rd Dec 2025

District	Station-wise *extremely heavy,* very heavy, heavy rainfall amounts (cm) during the 24 hrs ending 08:30 IST of 29th- 30th Nov, 02nd-03rd Dec 2025.
	29th Nov: Kodiayakarai 25; Vedaranyam) 18; Velankanni 13; Nagapattinam, Tirupoondi 12 Each; Thalaignayer 11; Karaikal, Pamban 10 Each; Rameswaram Illayangudi Mandapam Kayalpattinam, Thirukuvalai, Thangachimadam 7 each. **30th Nov**: Karaikal 19; Sembanarkoil 17; Mayiladuthurai, Nagapattinam 15 each; Mayiladuthurai, Sirkali, Tiruvarur 14 Each; Tondi, Tirupoondi, Thangachimadam 13 Each; Sethiathope, Vedaranyam, Nannilam, Velankanni, Kodiayakarai, Kurungulam 12 each; Srimushnam, Thiruthuraipoondi, Tiruvarur AWS, Thalaignayer, Thirukuvalai, Neivasal Thenpathi, Echanviduthi 11 each; Cuddalore, Parangipettai, Kollidam, Tiruvadanai, Orthanad, Mannargudi, Mimisal, Collectorate, Theerthandathanam 10 each; Chidambaram, Rameswaram, Pattukottai, Peravurani, Thiruvidaimaruthur, Needamangalam, Valangaiman, Manalmedu, Avudayarkoil, Vattanam, Ayyampettai, Budalur, Vadakuthu, Ayinkudi, Nagudi, Vettikadu 9 Each; Arantangi, Pamban, Madukkur, Thanjavur, Tiruvaiyaru, Sivakasi, Aduthurai AWS, Thanjavur, Bhuvanagiri, Mandapam, Manjalaru, Annamalai Nagar, Lalpet, Nandhiyar Head 8 each; K.M.Koil, Mahabalipuram, Tarangambadi, Puducherry, Alangudi, Pudukottai, Devakottai, Adirampatnam, Vallam, Muthupet, Pandavaiyar Head, Kodavasal, Kothavacherry, Lower Anaicut 7 each. **02nd Dec**: Ennore Zone1 26, Parrys 25, Ice House 22, Ponneri 21; Manali New Town 21, EnnorE, Perambur, Chennai Collectorate BU 20 each; DGP Office,

	Chennai (n), Red Hills **18** each; Gummidipoondi, Ayanavaram Taluk Office, CD Hospital Tondaipet **17** each; Puzhal **16**; Cholavaram, MGR Nagar **14** Each; Anna University **13**; Anna Uty, Sholinganallur **11** each; Chennai AP, Sivakasi, Hindusthan University, Alandur, Avadi **9** each; Taramani **8;** Kolapakkam, Ambathur **7** each. **03rd Dec:** Hindusthan University **15**; Chetpet **13;** Tirumayam, Thamaraipakkam **12** each; Tiruvarur, Satyabama Uty, Thirukalukundram, Kudimiyanmalai **11** each; Kelambakkam, Mahabalipuram, Illuppur, Red Hills, Ulundurpet, Vadakuthu **10** Each; Pollachi, Tondi, Cholavaram, Ponneri, Tiruvarur, Gummidipoondi, Ambathur, Perambur, Neivasal Thenpathi **9** Each; Needamangalam, Uthukottai, RSCL Vallam 8 each; Virudachalam, Karaikal, Mannargudi, Sholinganallur, DSCL Eraiyur, Avadi, Ranipet **7** each;

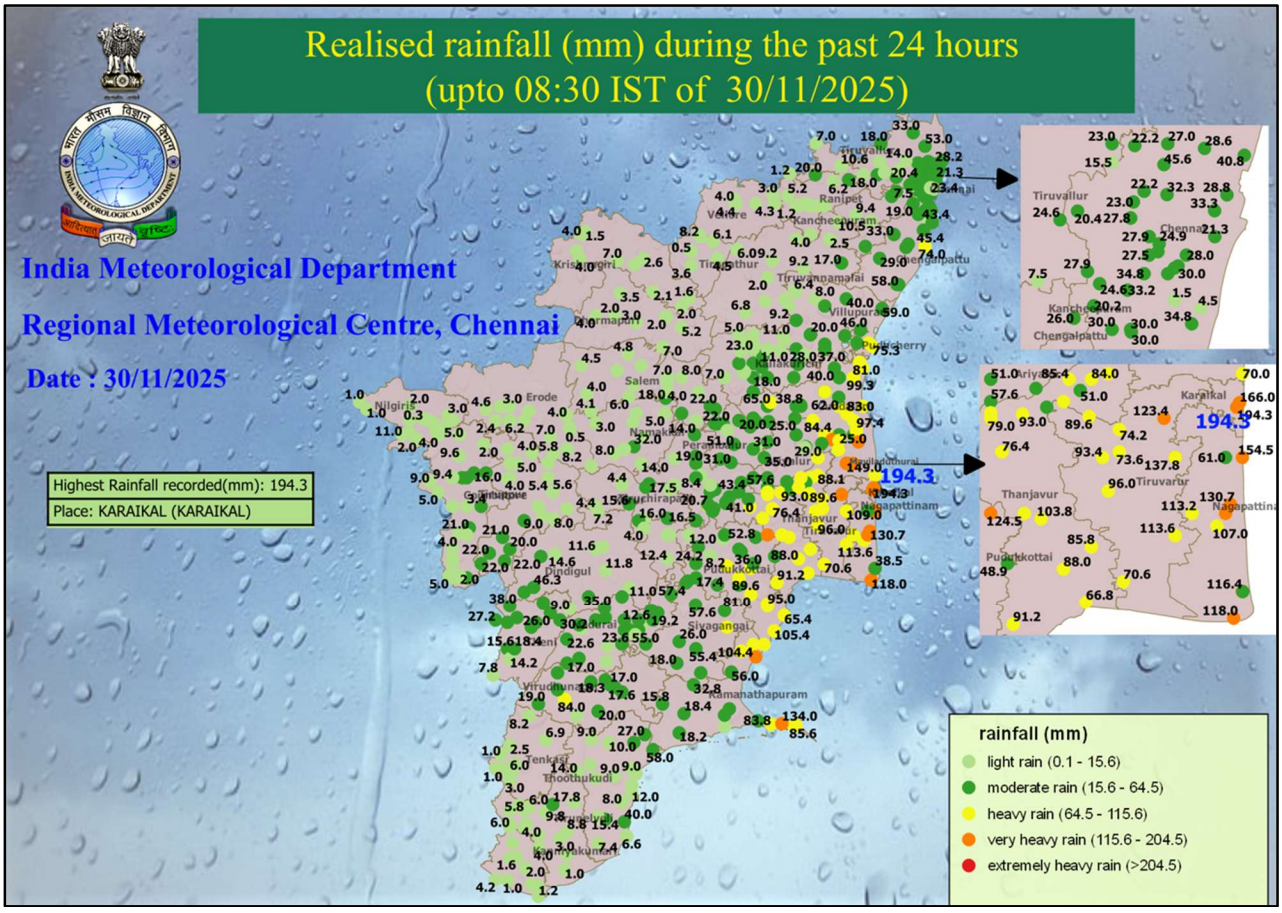
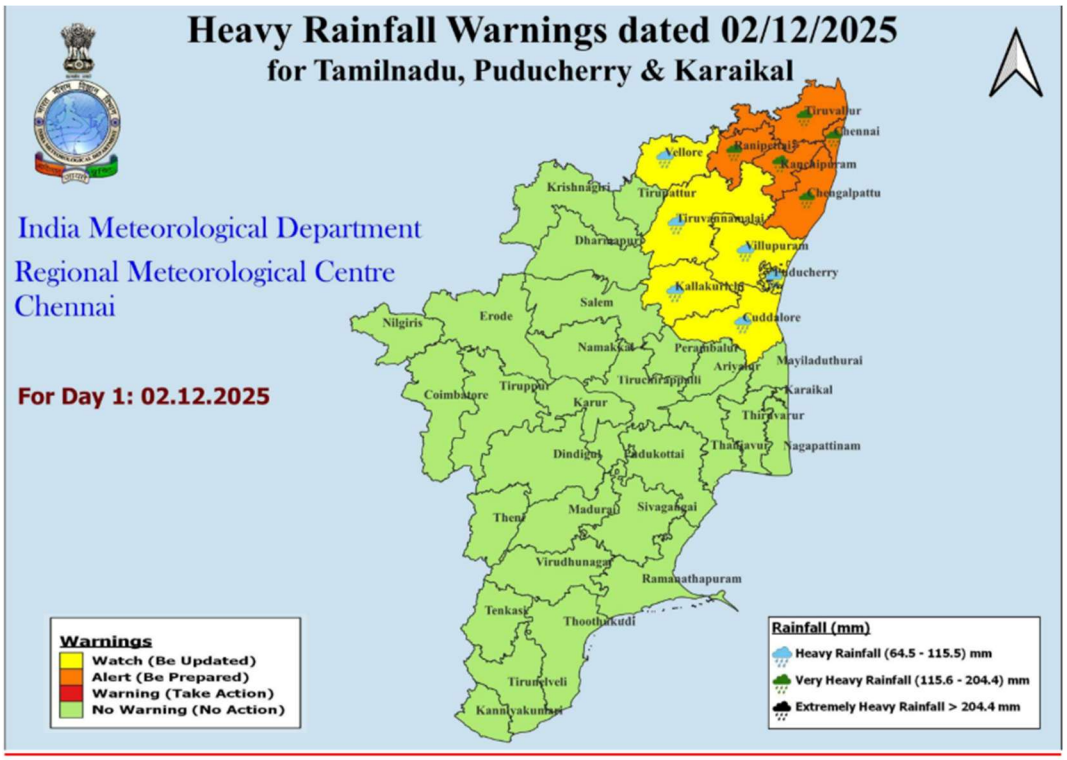


Fig 2(vi) f: Spatial rainfall distribution and rainfall intensity over TN as on 24-hr ending 0830 IST of 30th Nov and 03rd Dec 2025



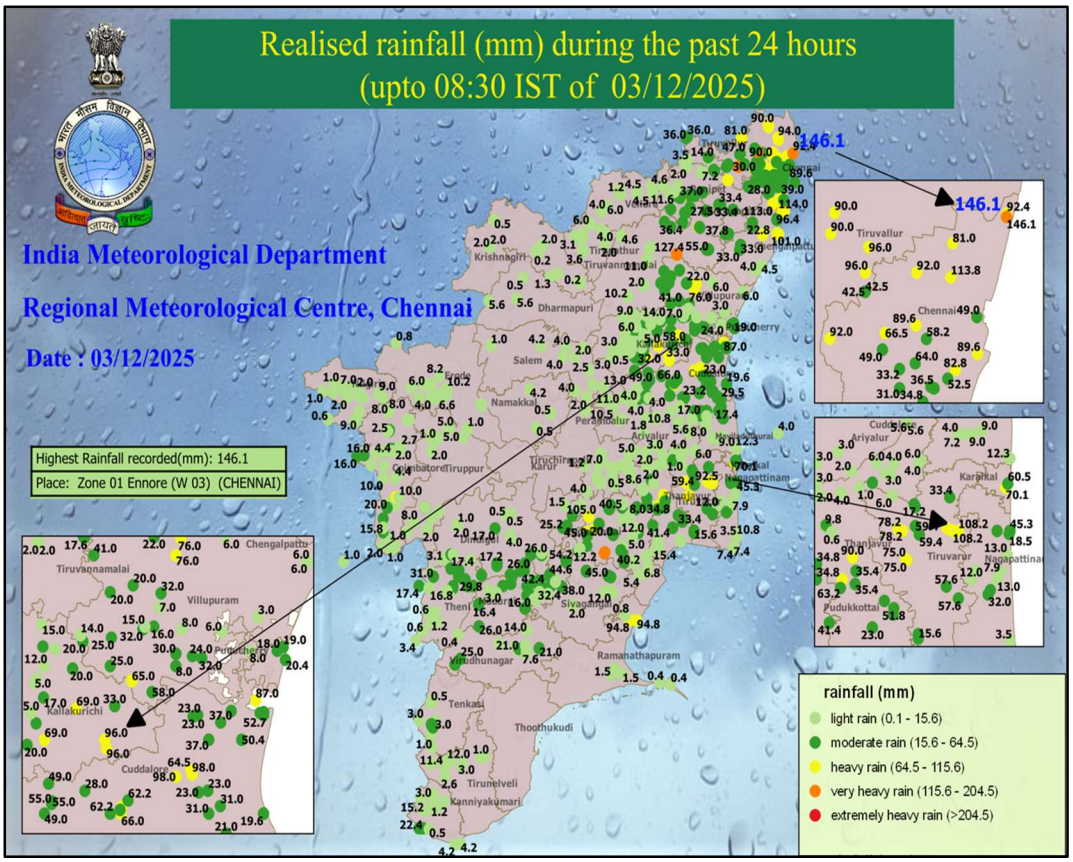


Fig 2(vi) f: cont.

Damage Report:

Sri Lanka:
Heavy rains and landslides in Sri Lanka caused at least 643 deaths, 183 people missing, and 18 injuries, making it the deadliest disaster since the 2004 tsunami. Over 6,200 homes were destroyed, and nearly 100,000 others were damaged. The storm caused flooding in several regions, with train services suspended and evacuations near reservoirs. Power outages affected 30% of the country, and around 1.46 million people were impacted. A helicopter crash during relief efforts killed one and injured four. Economic losses ranged from $1.6 billion to $7 billion. The country faced widespread damage and displacement.

Tamil Nadu:
Cyclone Ditwah killed three people and 149 cattle. Two deaths occurred due to wall collapse, and one person died from electrocution. The heavy rains damaged around 57,000 hectares of farmland and 234 huts.

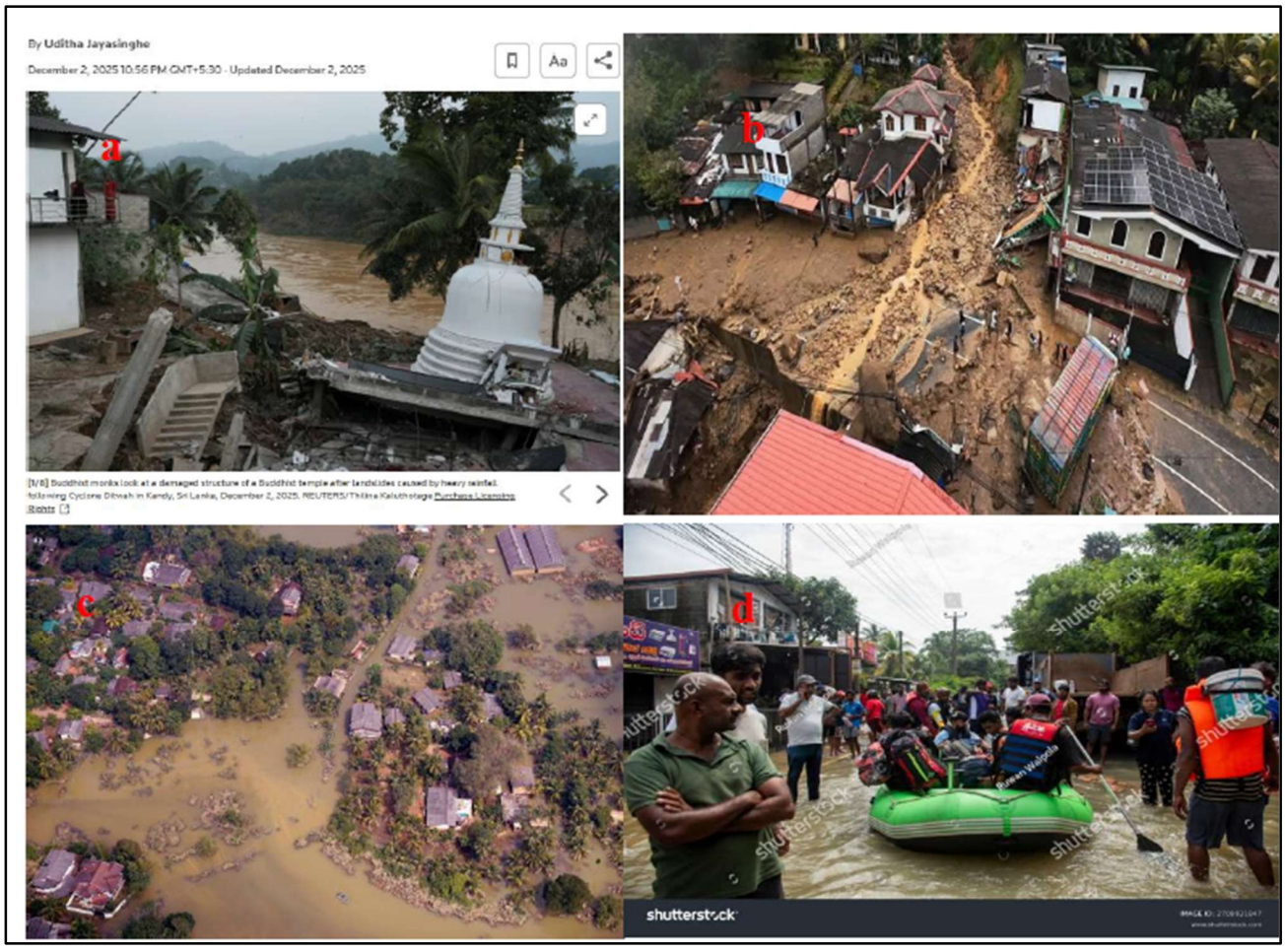


Fig 2(vi) g: Damage in Sri Lanka due to cyclone Ditwah. Image Sources: (a) Reuters, (b) News.un.org, (c): Reuters, and (d) shutterstock.com.

4. Sub divisional rainfall performance during NEM 2025

4.1 Seasonal rainfall

During October-December 2025, the northeast monsoon seasonal rainfall was *normal* (-19% to +19%) to *excess* (+20% to +59%) over all the four meteorological subdivisions benefitted by the NEM except Kerala which is in *deficient* (-20% to -59%) category viz., TN (-3%, *normal*), RYS (+33%, *excess*), CAP (+22%, *excess*), SIK (-5%, *normal*) and KER (-21%, *deficient*), Fig.3a and Table-4 present the season ending (01st Oct-31st December 2025) rainfall figures over these subdivisions.

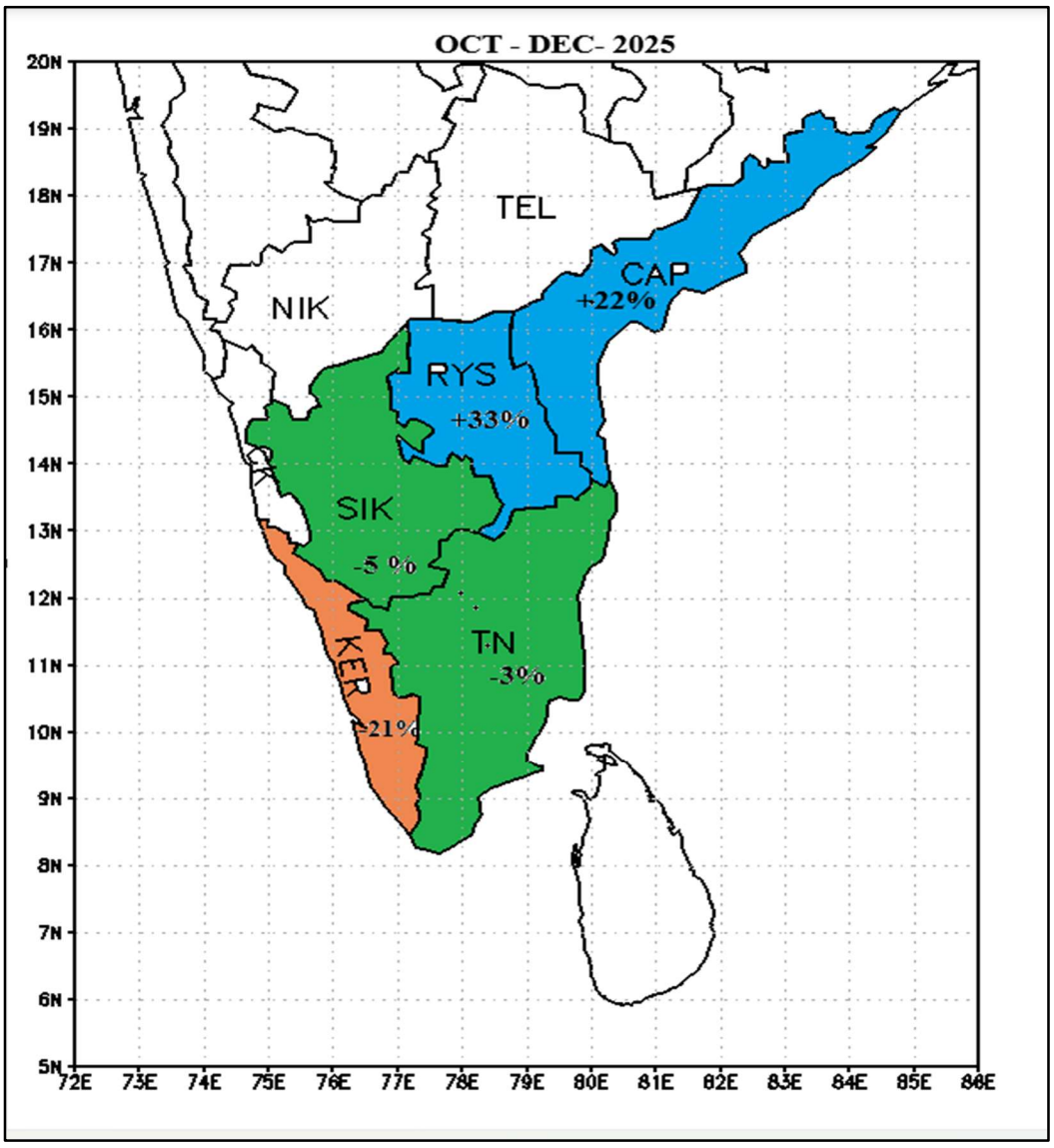


Fig.3a: Seasonal rainfall performance of NEM 2025 over the five meteorological subdivisions benefitted by the NEM

Table-4: Subdivisional seasonal rainfall during October-December 2025

Subdivision	01st October – 31st December 2025		
	Actual (mm)	Normal (mm)	PDN (%)
Coastal Andhra Pradesh & Yanam (CAP)	394.7	322.9	**+22**
Rayalaseema (RYS)	314.7	236.4	**+33**
Tamilnadu, Puducherry & Karaikal (TN)	428.9	442.8	**-3**
South Interior Karnataka (SIK)	188.5	199.0	**-5**
Kerala & Mahe (KER)	388.3	491.9	**-21**

PDN: Percentage Departure from Normal

Legend:

Largely Deficient	*Deficient*	*Normal*	*Excess*	*Large Excess*
≤ -60%	**-20% to -59%**	**-19% to +19%**	**+20% to +59%**	**≥+60%**

4.2 Monthly, Weekly & Daily rainfall scenario

The intra-seasonal rainfall distribution over various sub-divisions during Oct-Dec 2025 is presented in monthly and daily scales. Month-wise rainfall statistics are presented in Table-5 and Fig.3b. Tables-6a&b present the weekly rainfall over the various subdivisions and Tables-6c & d present the daily rainfall scenario in terms of spatial rainfall distribution (*Widespread*: WS, *Fairly widespread*: FWS, *Scattered*: SCT, *Isolated*: ISOL and DRY).

Table-5: Subdivisional monthly rainfall during NEM 2025

2025	**OCT**			**NOV**			**DEC**		
SUB-DIVISION	Actual rainfall (mm)	Normal rainfall (mm)	PDN (%)	Actual rainfall (mm)	Normal rainfall (mm)	PDN (%)	Actual rainfall (mm)	Normal rainfall (mm)	PDN (%)
CAP	351.9	182.2	**+93**	18.4	113.1	**-84**	25.6	27.6	**-7**
RYS	227.1	132.1	**+72**	49.0	78.4	**-38**	38.6	25.9	**+49**
TN	233.9	171.9	**+36**	149.2	181.7	**-18**	45.8	89.2	**-49**
SIK	175.4	137.2	**+28**	11.4	51.2	**-78**	1.7	10.6	**-84**
KER	275.6	306.4	**-10**	89.1	153.1	**-42**	23.5	32.4	**-27**

Largely Deficient	*Deficient*	*Normal*	*Excess*	*Large Excess*
≤ -60%	**-20% to -59%**	**-19% to +19%**	**+20% to +59%**	**≥+60%**

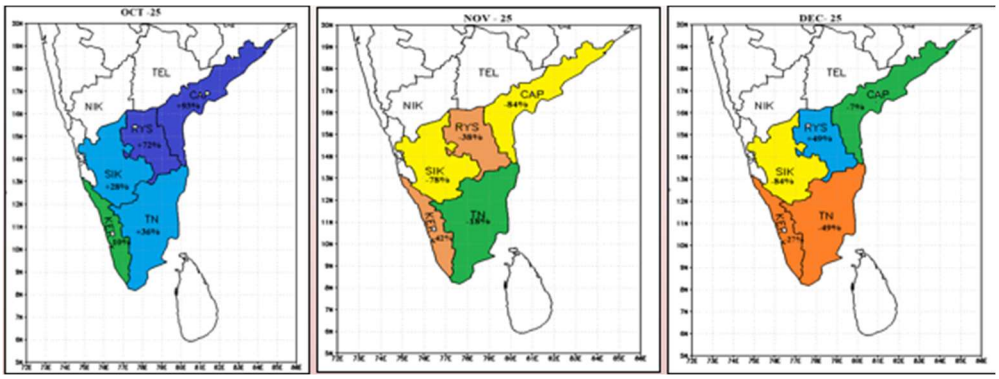


Fig.3b: Subdivisional monthly rainfall performance during October-December 2025

In the weekly scale (Table-6a), during the week ending 22nd October, all the five subdivisions recorded ***excess* to *large excess*** rainfall (+31% to +164%); during the week ending 15th October, excepting KER that received ***deficient*** (-27%) rainfall, all the other four subdivisions recorded ***excess* to *large excess*** rainfall (+26% to +85%); during the week ending 29th October During the weeks ending 18th December and 01st Jan, three subdivisions received ***large excess*** rainfall (+260% to +470%) and (+69% to +297%) respectively. During the weeks ending 30th Oct, 13th Nov & 27th Nov, all the five subdivisions became ***deficient- largely deficient***.

Considering the week-by-week rainfall performance (PDN %) over the sub-divisions (Table 5b), it may be noted that **TN** experienced **normal to excess/large excess rainfall** during several weeks, particularly from mid-October to late November, with intermittent deficient phases during the later part of the season. **CAP** recorded ***excess to large excess rainfall*** during late October, followed by a prolonged ***deficient to large deficient phase*** from early November through the end of December, except for a brief improvement in early December.

RYS showed a similar pattern, with **excess rainfall during October and early December**, but remained under **deficient to large deficient conditions** during most weeks of November and towards the end of December. **SIK** experienced **significant excess rainfall during mid to late October**, followed by predominantly ***deficient* conditions** during November and December, with only short spells of improvement.

KER remained mostly under ***deficient* conditions** throughout the season, with occasional **normal to excess weeks** during late October and November. Towards the end of December, all sub-divisions experienced **deficient to large deficient rainfall**, indicating a weakening of monsoon activity.

Overall, the season was characterized by **strong excess rainfall episodes during October**, followed by **predominantly deficient conditions during November and December**, with brief intermittent recovery phases across the sub-divisions.

Table 6a: Weekly rainfall performance over various subdivisions during Oct-Dec 2025

SUB-DIVISION	WEEK-BY-WEEK: PDN (%)													
	1-Oct	8-Oct	15-Oct	22-Oct	29-Oct	5-Nov	12-Nov	19-Nov	26-Nov	3-Dec	10-Dec	17-Dec	24-Dec	31-Dec
CAP	-42	-8	+26	+57	+399	-70	-88	-96	-65	+70	-19	-100	-100	-100
RYS	-27	-26	+36	+123	+290	-69	-57	-57	+43	+96	+112	-100	-100	-100
TN & PDC	-54	+20	+66	+162	-30	-96	-67	-22	+78	+75	-36	-74	-86	-99
SIK	-56	-63	+85	+164	+48	-87	-78	-94	-37	-78	-62	-7	-100	-100
KER	-89	-80	-27	+31	+77	-92	-73	+25	+34	-8	+20	-91	-92	-100

Table 6b: Cumulative week ending scenario during Oct-Dec 2025

SUB-DIVISION	CUMULATIVE WEEK ENDING : PDN (%)													
	1-Oct	8-Oct	15-Oct	22-Oct	29-Oct	5-Nov	12-Nov	19-Nov	26-Nov	3-Dec	10-Dec	17-Dec	24-Dec	31-Dec
CAP	-2	-17	0	+18	+103	+63	+49	+34	+28	+29	+27	+24	+23	+22
RYS	14	-38	-10	+29	+85	+56	+43	+32	+33	+36	+40	+37	+35	+33
TN & PDC	-1	+3	+34	+82	+47	+12	-3	-6	4	10	7	2	-1	-3
SIK	-89	-67	-3	+37	+34	+16	+8	+1	0	-1	-2	-4	-4	-5
KER	-89	-80	-54	-28	-6	-20	-27	-23	-20	-19	-19	-20	-20	-21

In the daily scale (Table-6c&d), ***fairly widespread to widespread*** rainfall occurred over KER on about 24% of the days during the season; over TN, CAP & SIK on 12%, 23% & 11% of the days respectively and over RYS on 18% of the days. TN recorded isolated to scattered rainfall activity on about 43% of the days during the season, while CAP, RYS, SIK & KER experienced such activity on 59%, 39%, 33% & 44% of the days respectively.

On about 35–48% of the days during the season, RYS, TN & SIK remained dry, whereas KER remained dry on about 24% of the days and CAP on about 10% of the days.

Table-6c: Spatial rainfall distribution during 01st October -31st December 2025

Date as on 08:30 IST	TN	CAP	RYS	SIK	KER
01/10/2025	ISOL	SCT	ISOL	SCT	SCT
02/10/2025	ISOL	FWS	ISOL	SCT	SCT
03/10/2025	ISOL	SCT	ISOL	SCT	SCT
04/10/2025	FWS	ISOL	ISOL	ISOL	ISOL
05/10/2025	SCT	SCT	ISOL	ISOL	SCT
06/10/2025	FWS	FWS	SCT	SCT	SCT
07/10/2025	SCT	SCT	ISOL	DRY	ISOL
08/10/2025	ISOL	SCT	ISOL	ISOL	DRY
09/10/2025	SCT	FWS	SCT	FWS	SCT
10/10/2025	SCT	FWS	WS	WS	SCT
11/10/2025	ISOL	SCT	SCT	FWS	FWS

12/10/2025	FWS	ISOL	ISOL	SCT	ISOL
13/10/2025	SCT	FWS	ISOL	ISOL	FWS
14/10/2025	FWS	FWS	ISOL	ISOL	FWS
15/10/2025	WS	ISOL	SCT	SCT	WS
16/10/2025	FWS	ISOL	SCT	SCT	FWS
17/10/2025	WS	ISOL	FWS	FWS	WS
18/10/2025	WS	ISOL	SCT	SCT	WS
19/10/2025	FWS	WS	SCT	WS	WS
20/10/2025	FWS	FWS	SCT	WS	WS
21/10/2025	WS	FWS	SCT	FWS	WS
22/10/2025	WS	FWS	WS	WS	WS
23/10/2025	WS	WS	WS	WS	WS
24/10/2025	SCT	WS	WS	FWS	WS
25/10/2025	SCT	FWS	FWS	SCT	WS
26/10/2025	SCT	SCT	ISOL	ISOL	SCT
27/10/2025	ISOL	SCT	ISOL	SCT	FWS
28/10/2025	SCT	WS	WS	SCT	WS
29/10/2025	SCT	WS	WS	ISOL	WS
30/10/2025	ISOL	WS	ISOL	ISOL	FWS
31/10/2025	ISOL	FWS	ISOL	ISOL	ISOL
01/11/2025	ISOL	DRY	DRY	DRY	DRY
02/11/2025	ISOL	ISOL	ISOL	DRY	ISOL
03/11/2025	ISOL	SCT	ISOL	DRY	DRY
04/11/2025	ISOL	SCT	SCT	DRY	ISOL
05/11/2025	ISOL	ISOL	SCT	ISOL	ISOL
06/11/2025	SCT	ISOL	SCT	DRY	ISOL
07/11/2025	SCT	ISOL	SCT	ISOL	DRY
08/11/2025	ISOL	ISOL	SCT	DRY	ISOL
09/11/2025	ISOL	ISOL	DRY	ISOL	SCT
10/11/2025	ISOL	DRY	ISOL	DRY	DRY
11/11/2025	ISOL	ISOL	DRY	DRY	ISOL
12/11/2025	ISOL	ISOL	DRY	DRY	SCT
13/11/2025	ISOL	ISOL	DRY	DRY	SCT
14/11/2025	SCT	ISOL	ISOL	DRY	ISOL
15/11/2025	ISOL	DRY	DRY	DRY	SCT
16/11/2025	ISOL	DRY	DRY	DRY	ISOL
17/11/2025	ISOL	DRY	DRY	DRY	ISOL
18/11/2025	FWS	ISOL	ISOL	DRY	SCT
19/11/2025	WS	ISOL	ISOL	ISOL	FWS
20/11/2025	ISOL	DRY	DRY	DRY	SCT
21/11/2025	ISOL	ISOL	ISOL	DRY	ISOL

22/11/2025	WS	ISOL	FWS	SCT	FWS
23/11/2025	WS	ISOL	FWS	FWS	FWS
24/11/2025	WS	ISOL	SCT	ISOL	WS
25/11/2025	FWS	ISOL	ISOL	DRY	SCT
26/11/2025	ISOL	DRY	DRY	DRY	ISOL
27/11/2025	ISOL	DRY	DRY	DRY	ISOL
28/11/2025	ISOL	DRY	DRY	DRY	DRY
29/11/2025	FWS	DRY	DRY	DRY	ISOL
30/11/2025	WS	ISOL	SCT	ISOL	ISOL
01/12/2025	SCT	FWS	FWS	ISOL	ISOL
02/12/2025	SCT	SCT	SCT	DRY	SCT
03/12/2025	SCT	SCT	SCT	ISOL	SCT
04/12/2025	FWS	ISOL	FWS	ISOL	FWS
05/12/2025	SCT	SCT	SCT	ISOL	FWS
06/12/2025	SCT	ISOL	ISOL	ISOL	SCT
07/12/2025	ISOL	DRY	ISOL	DRY	ISOL
08/12/2025	ISOL	DRY	DRY	DRY	ISOL
09/12/2025	ISOL	DRY	DRY	DRY	ISOL
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13/12/2025	ISOL	DRY	DRY	DRY	DRY
14/12/2025	DRY	DRY	DRY	DRY	DRY
15/12/2025	DRY	DRY	DRY	DRY	DRY
16/12/2025	ISOL	DRY	DRY	DRY	DRY
17/12/2025	FWS	DRY	DRY	DRY	ISOL
18/12/2025	ISOL	DRY	DRY	ISOL	ISOL
19/12/2025	DRY	DRY	DRY	DRY	ISOL
20/12/2025	DRY	DRY	DRY	DRY	DRY
21/12/2025	DRY	DRY	DRY	DRY	DRY
22/12/2025	DRY	DRY	DRY	DRY	DRY
23/12/2025	ISOL	DRY	DRY	DRY	DRY
24/12/2025	DRY	DRY	DRY	DRY	DRY
25/12/2025	ISOL	DRY	DRY	DRY	DRY
26/12/2025	ISOL	DRY	DRY	DRY	DRY
27/12/2025	ISOL	DRY	DRY	DRY	DRY
28/12/2025	DRY	DRY	DRY	DRY	DRY
29/12/2025	DRY	DRY	DRY	DRY	DRY
30/12/2025	DRY	DRY	DRY	DRY	DRY
31/12/2025	ISOL	DRY	DRY	DRY	DRY

Table-6d: Percentage frequency of various categories of daily spatial rainfall distribution

Category	OCT - DEC 2025				
	CAP	RYS	TN	SIK	KER
WS	11	6	6	5	13
FWS	12	12	6	6	11
SCT	18	13	19	12	18
ISOL	41	26	24	21	26
DRY	10	35	37	48	24

WD: ***Widespread***
(76-100% of stations reporting rainfall)

FWD : Fairly widespread
(51-75% of stations reporting rainfall)

SCT: Scattered
(26-50% of stations reporting rainfall)

ISOL: Isolated
(≤25% of stations reporting rainfall)

DRY: No rain

4.3 Monsoon activity & Heavy rainfall events

Table-7a&b presents the frequency of ***active*** and ***vigorous*** monsoon days and frequency of ***heavy*** rainfall days (***Heavy*** rainfall ≥ 7cm/day***; Very Heavy*** rainfall ≥ 12cm/day; ***Extremely Heavy*** rainfall ≥ 21 cm/day) during the season.

During Oct–Dec 2025, ***active to vigorous*** monsoon conditions prevailed over TN on about **26%** of the days (24 out of 92 days); on about **12%** over CAP; **12%** over RYS; **10%** over KER; while SIK did not record any such activity.

In October, there were 16 days of ***active to vigorous*** monsoon conditions over TN; 10 days each over CAP & RYS; 7 days over KER; and 3 days over SIK. In November, 4 days over TN and 2 days each over RYS & KER experienced such conditions, while CAP & SIK had no activity. In December, 4 days over TN; 1 day each over CAP & RYS recorded active to vigorous monsoon activity, while SIK & KER did not record any such days.

Table-7a: Frequencies of active and vigorous monsoon days during Oct-Dec 2025

Subdivision	No. of days of active and vigorous monsoon conditions							
	OCT		NOV		DEC		OCT-DEC	
	ACT	VIG	ACT	VIG	ACT	VIG	ACT	VIG
CAP	6	4	0	0	1	0	7	4
RYS	4	4	0	1	1	1	5	6
TN	14	2	3	1	4	0	21	3
SIK	3	0	0	0	0	0	0	0
KER	7	0	1	1	0	0	8	1

Active: Fairly widespread to widespread sub-divisional rainfall with rainfall more than 1½ to 4 times the normal with at least two stations reporting more than or equal to 3 cm in coastal Tamil Nadu, south coastal Andhra Pradesh and 2 cm elsewhere in the NEM region.

Vigorous: Fairly widespread to widespread sub-divisional rainfall with rainfall more than 4 times the normal with at least two stations reporting more than or equal to 5 cm in coastal Tamil Nadu, south coastal Andhra Pradesh and 3 cm elsewhere in the NEM region.

Table-7b: Frequency of heavy rainfall days during Oct-Dec 2025

2025	Oct			Nov			Dec			Oct-Dec 2025		
Sub div	>=21 cm/day	12-20 cm/day	7-11 cm/day	>=21 cm/day	12-20 cm/day	7-11 cm/day	>=21 cm/day	12-20 cm/day	7-11 cm/day	≥21 cm (cm/day)	(12-20 cm/day)	(7-11 cm/day)
CAP	1	8	18	0	0	0	0	0	4	1	8	22
RYS	0	4	17	0	0	2	1	0	3	1	4	22
TN	1	14	21	4	11	17	2	4	7	7	29	45
SIK	0	3	7	0	0	0	0	0	0	0	3	7
KER	0	5	7	0	1	5	0	0	2	0	6	14

Heavy: rainfall ≥ 7cm/day; ***Very Heavy:*** rainfall ≥ 12cm/day; ***Extremely Heavy:*** rainfall ≥21 cm/day

Regarding heavy rainfall occurrences (≥ 7 cm/day), TN experienced **81 days (88%)** of isolated heavy rainfall during the season, including **29 days (32%)** of very heavy rain and **7 days (8%)** of extremely heavy rainfall. Over CAP, isolated heavy rain occurred on **31 days (34%)**, including **8 days (9%)** of very heavy rain and **1 day (1%)** of extremely heavy rainfall. Over RYS, isolated heavy rain occurred on **27 days (29%)**, including **4 days (4%)** of very heavy rain and **1 day (1%)** of extremely heavy rainfall. KER recorded **20 days (22%)** of heavy rainfall, including **6 days (7%)** of very heavy rain, with no extremely heavy rainfall events. SIK experienced **10 days (11%)** of heavy rainfall, including **3 days (3%)** of very heavy rain, and no extremely heavy rainfall during the season.

4.4 District rainfall scenario

Fig.3c presents the district wise seasonal rainfall during October to December 2025. As seen, in KER, most of the districts received d*eficient* rainfall. However, **Thiruvananthapuram, Pathanamthitta, Alappuzha, Kottayam and Ernakulam districts received normal rainfall (-19 % -4%).**

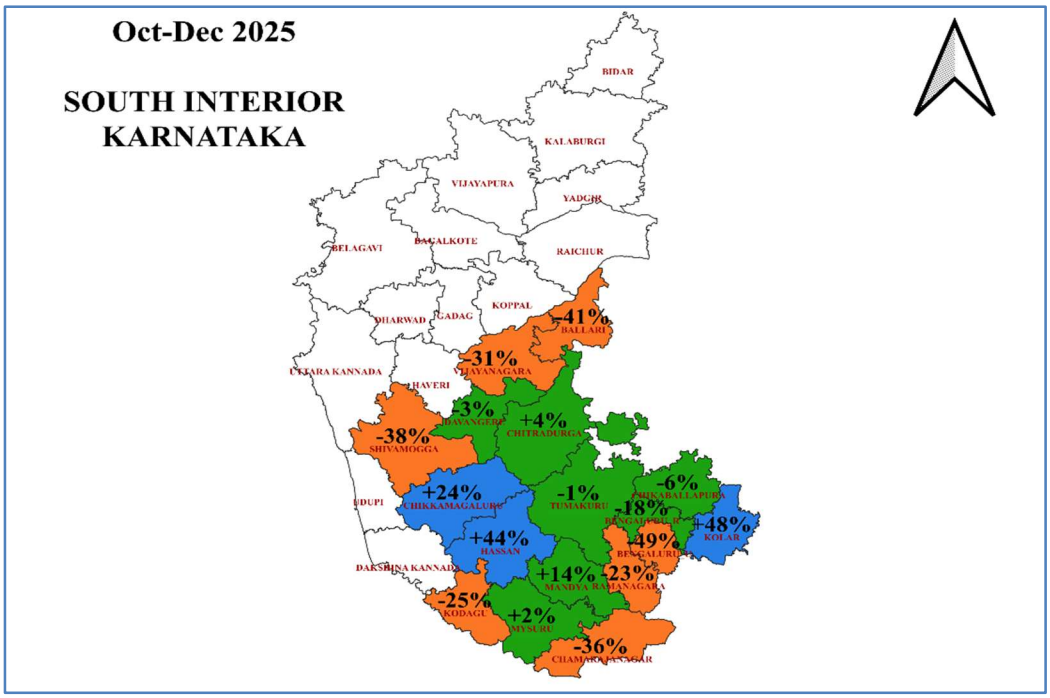
In TN, most districts received **normal to excess rainfall**, with few districts comes under deficient catogory. Notably, **Tenkasi Virudhunagar and Ranipettai districts** recorded **excess rainfall** and **Tirunelveli district comes under Large excess rainfall** during the season.

Overall, the season shows predominantly normal rainfall distribution with isolated large excess over southern parts and deficiency over interior districts.

In SIK, several districts recorded **normal to excess rainfall**, particularly **Hassan, Kolar, Chikkamagaluru, Mandya, Mysuru, Chitradurga, Tumakuru, Bengaluru Rural, Chikaballapura** and **Davangere districts.**

In RYS, all the districts received *normal to excess* rainfall with **Nandhyal** district receiving *large excess* rainfall of +**67%**.

In CAP, many districts received normal to excess rainfall with **East Godavari** district reporting *largely deficient* rainfall of **-70%**.



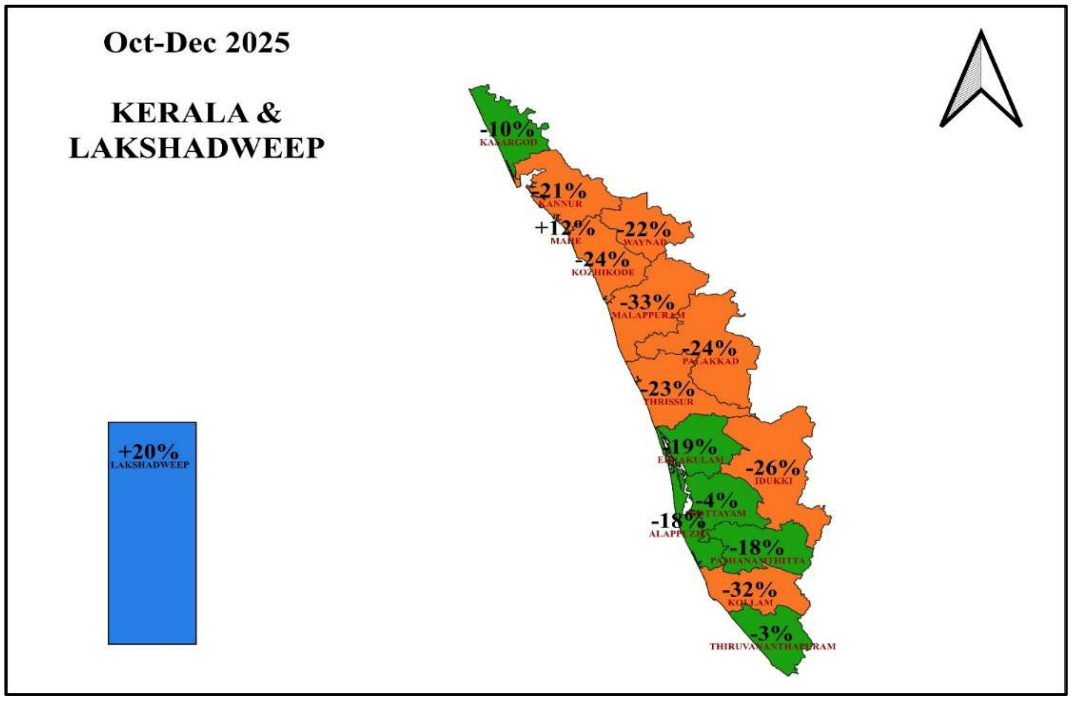
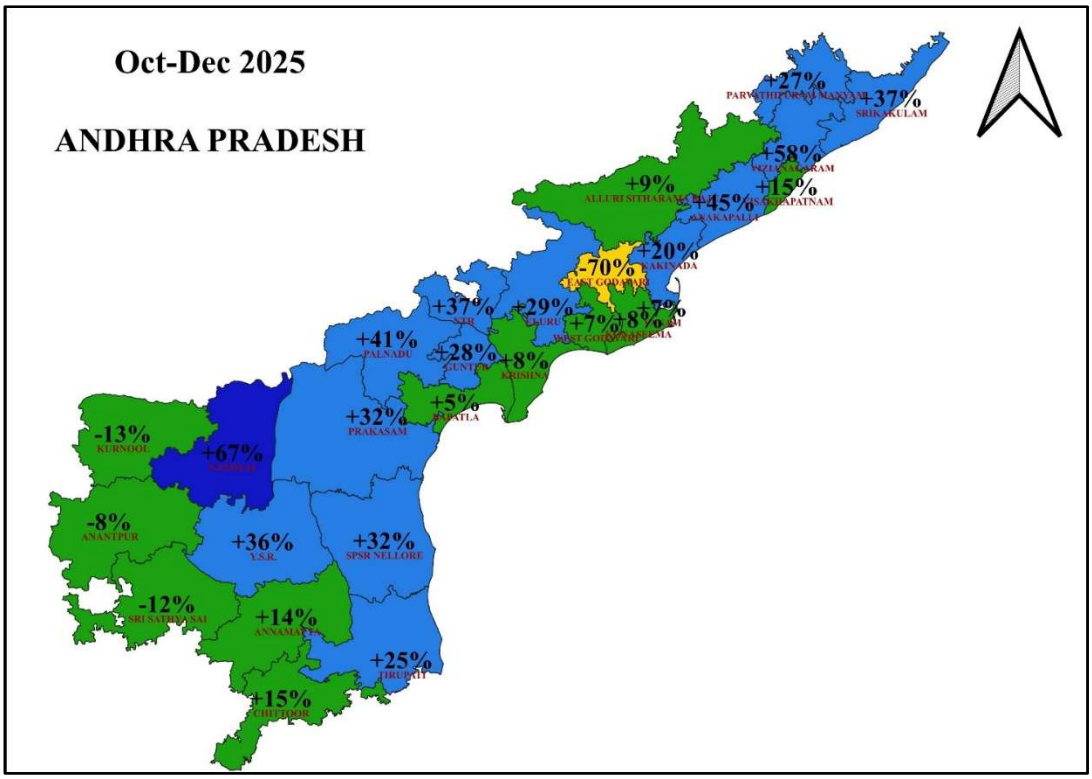


Fig.3c : District-wise rainfall performance in various subdivisions during Oct-Dec 2025


Oct-Dec 2025
ANDHRA PRADESH
+27%
+37%
+58%
+9%
+15%
+45%
+20%
-70%
+37%
+29%
+7%
+8%
+41%
+28%
+8%
+5%
+32%
-13%
+67%
-8%
+36%
+32%
-12%
+14%
+25%
+15%

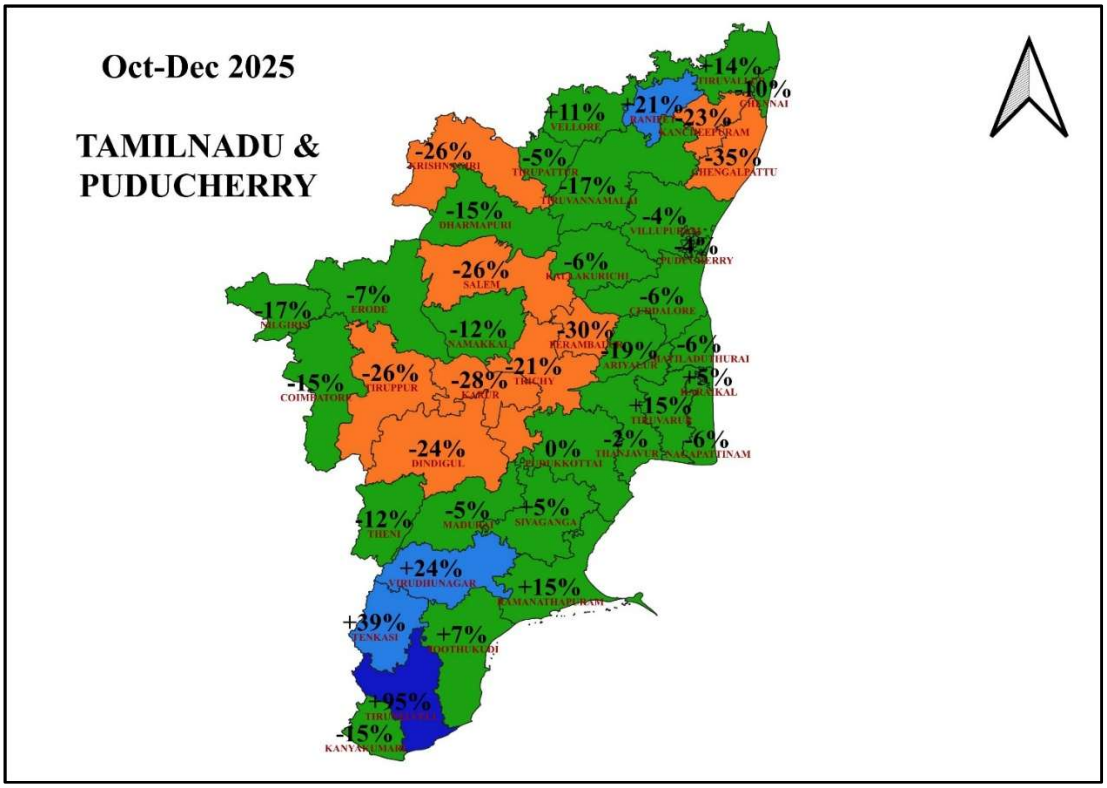

Oct-Dec 2025
TAMILNADU &
PUDUCHERRY
+14%
+10%
+11%
+21%
-23%
-26%
-5%
-35%
-17%
-15%
-4%
-26%
-6%
-7%
-17%
-6%
-12%
-30%
-19%
-6%
-15%
-26%
-28%
-21%
+5%
+15%
-24%
0%
-2%
-6%
-12%
-5%
+5%
+24%
+15%
+39%
+7%
+95%
-15%

Fig.3c: contd.

5. Rainfall distribution over Tamilnadu and Puducherry

Spatial and temporal distribution of rainfall over the Tamil Nadu (TN) subdivision during the Northeast Monsoon season (October to December 2025) is depicted through district-wise rainfall departure from normal. The overall seasonal rainfall over TN (including Puducherry & Karaikal) was 428.9 mm against the normal of 442.8 mm, thus falling under the normal (-3%), category.

Fig.4a presents the daily rainfall distribution over the TN subdivision (including Puducherry and Karaikal) during Oct–Dec 2025. The daily TN subdivisional rainfall was **below** normal during most days of early and mid-November and December particularly during 24th Oct–17th Nov & 07th Dec – 31st December (except 17th Dec)

State / UT & District-wise seasonal rainfall during Oct–Dec 2025 are presented in Tables-8a & b and Fig.3c and district-wise monthly rainfall performance is depicted in Fig.4b. As seen, **26 districts** (including Puducherry & Karaikal) Tiruvallur, Vellore, Tirupathur, Tiruvannamalai, Villupuram, Kallakurichi, Cuddalore, Mayiladuthurai, Nagapattinam, Tiruvarur, Thanjavur, Pudukkottai, Sivagangai, Ramanathapuram, Madurai, Theni, Nilgiris, Erode, Coimbatore, Namakkal, Ariyalur, Thoothukudi, Kanniyakumari and Dharmapuri received **normal** rainfall.

However, **12 districts** recorded **deficient** rainfall, Krishnagiri, Salem, Tiruppur, Karur, Dindigul, Tiruchirappalli, Perambalur, Ariyalur, Namakkal, Chengalpattu, Kancheepuram and Tiruvannamalai, indicating subdued monsoon activity over interior regions.

On the other hand, **4 districts** experienced **excess to large excess** rainfall, with **Tenkasi, Virudhunagar and Ranipet recording excess rainfall and Tirunelveli** recording large excess rainfall, indicating intense localized rainfall over southern parts.

As such, all the 40 districts (including Puducherry & Karaikal) received rainfall ranging from deficient to large excess category during the Oct–Dec 2025 season, with majority of districts falling under normal category.

In the monthly scale, during October 2025, all 40 districts (including Puducherry and Karaikal) recorded **normal to large excess** rainfall. None of the districts fell into the deficient or largely deficient categories. During this period, **7 districts** including **Tirunelveli**, **Ranipet**, **Vellore, Villupuram, Tiruvallur, Tenkasi and Virudhunagar** recorded **large excess** rainfall. Meanwhile, **19 districts** including **Kancheepuram, Tiruvarur, Erode, Nilgiris, Tirupattur, Thanjavur, Ramanathapuram, Cuddalore, Puducherry, Chennai, Dharmapuri, Trichy, Pudukkottai, Namakkal, Thoothukudi, Coimbatore, Kanyakumari, Sivaganga,** and **Theni** recorded **excess** rainfall. The remaining **12 districts—Mayiladuthurai, Karaikal, Madurai, Krishnagiri, Perambalur, Ariyalur, Karur, Nagapattinam, Chengalpattu, Salem, Tiruppur,** and **Dindigul** recorded **normal** rainfall.

Table-8a: State /UT wise rainfall figures of Tamilnadu, Puducherry & Karaikal during Oct-Dec 2025

Subdivision / State / UT	Actual rainfall (mm)	Normal rainfall (mm)	Percentage departure from normal (%)
TN subdivision	428.9	442.8	-3
Puducherry& Karaikal (UT)	892.9	896.1	0
Tamil Nadu State	427.2	441.2	-3

Table-8b: District wise rainfall figures of Tamilnadu, Puducherry & Karaikal during Oct-Dec 2025

District	Oct-Dec 2025		
	Actual (mm)	*Normal (mm)*	*PDN (%)*
ARIYALUR	405.3	501.9	-19
CHENGALPATTU	457.5	707.7	-35
CHENNAI	724.8	809.6	-10
COIMBATORE	28 6	337.6	-15
CUDDALORE	662.4	701.5	-6
DHARMAPURI	265.5	314.2	-15
DINDIGUL	350.3	460.0	-24
ERODE	285.5	307.1	-7
KALLAKURICHI	430.2	455.5	-6
KANCHEEPURAM	456.5	591.7	-23
KANYAKUMARI	452.2	532.6	-15
KARAIKAL	1064.7	1014.2	+5
KARUR	224.1	313.2	-28
KRISHNAGIRI	205.6	278.7	-26
MADURAI	352.9	370.0	-5
MAYILADUTHURAI	835.1	888.1	-6
NAGAPATTINAM	882.8	935.3	-6
NAMAKKAL	237.8	270.4	-12
NILGIRIS	418.3	501.3	-17
PERAMBALUR	304.5	432.0	-30
PUDUCHERRY	799.1	831.6	-4
PUDUKKOTTAI	387.4	385.6	0
RAMANATHAPURAM	613.4	531.4	+15
RANIPET	490.8	406.0	+21
SALEM	244.6	331.7	-26
SIVAGANGA	445.3	422.7	+5
TENKASI	649.0	465.7	+39
THANJAVUR	569.2	579.4	-2
THENI	322.1	364.3	-12
TIRUNELVELI	1005.0	514.9	+95
TIRUPATTUR	253.1	266.3	-5
TIRUPPUR	226.1	305.7	-26
TIRUVALLUR	712.8	623.9	+14
TIRUVANNAMALAI	374.8	450.4	-17
TIRUVARUR	834.0	725.4	+15
TOOTHUKUDI	474.1	441.9	+7
TRICHY	300.9	379.4	-21
VELLORE	418.3	375.8	+11
VILLUPURAM	511.4	531.3	-4
VIRUDHUNAGAR	495.7	398.5	+24

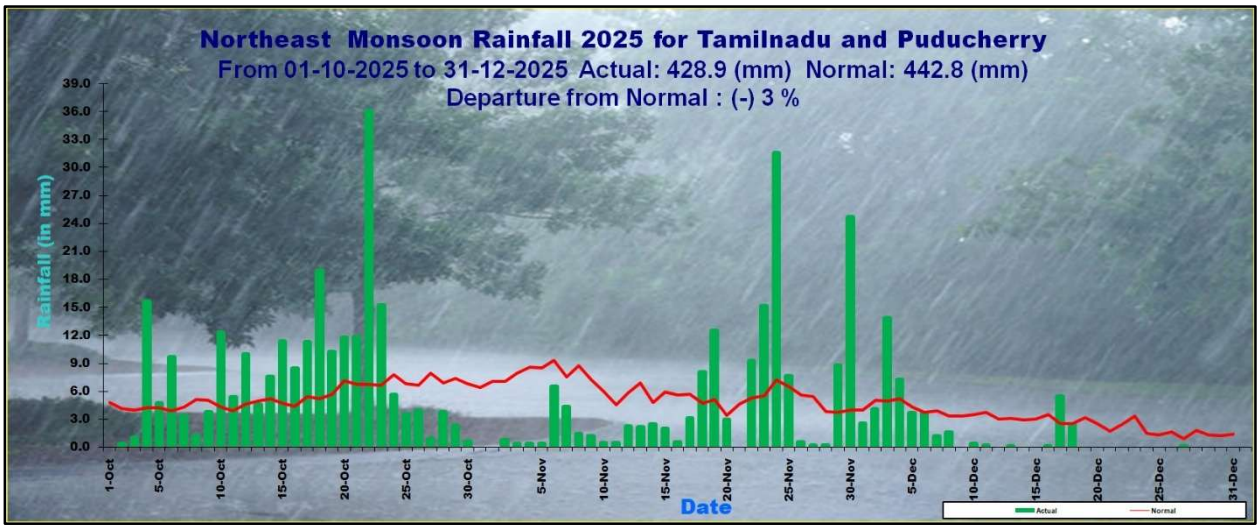


Fig.4a: Area averaged daily rainfall over TN subdivision during Oct-Dec 2025

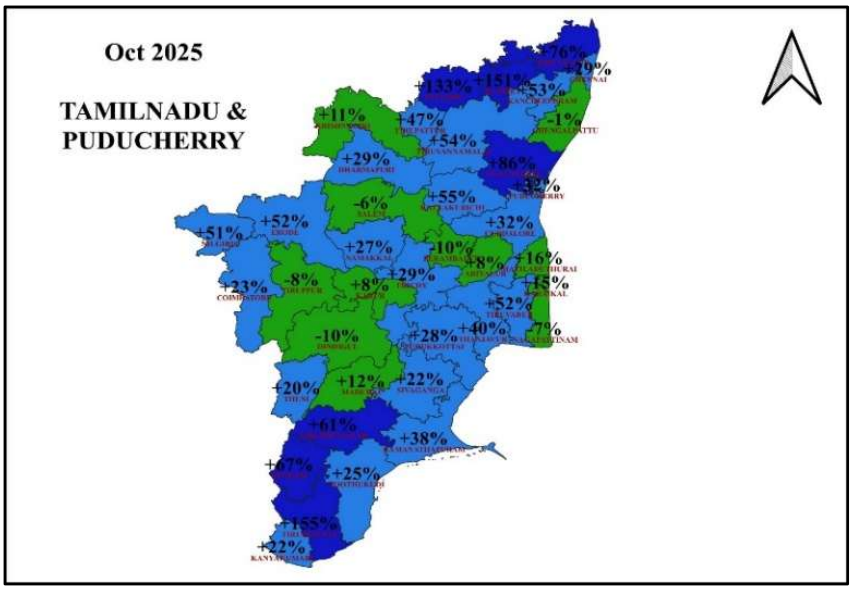
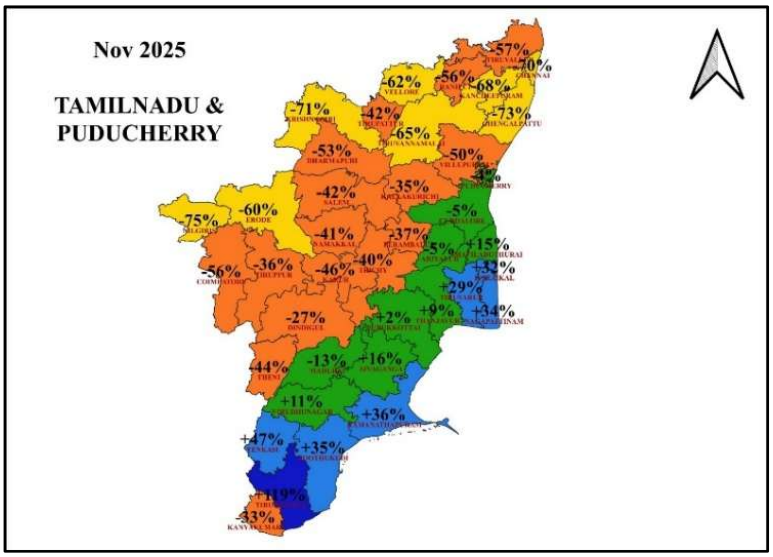


Fig.4b: District-wise rainfall distribution over the TN subdivision during Oct, Nov & Dec 2025



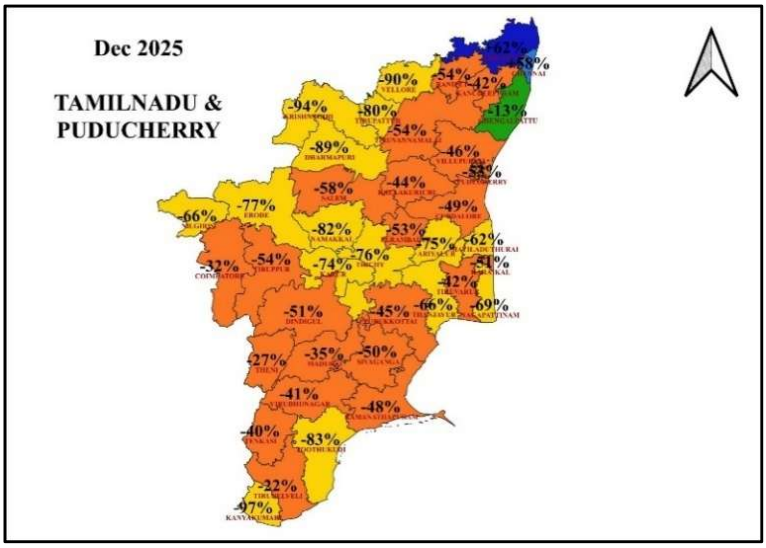


Fig.4b: cont.

During **November 2025**, 24 out of 40 districts ended up **deficient to largely deficient**. **Nilgiris, Chengalpattu, Krishnagiri, Chennai, Kancheepuram, Tiruvannamalai, and Vellore** reported large deficiency. Conversely, **Tirunelveli** recorded **large excess** rainfall, while **6 districts**—**Tenkasi, Ramanathapuram, Thoothukudi, Nagapattinam, Karaikal, and Tiruvarur**—recorded **excess** rainfall. The remaining **9 districts**, including **Sivaganga, Mayiladuthurai, Virudhunagar, Thanjavur, Ariyalur, Pudukkottai, Cuddalore, Puducherry, and Madurai**, recorded **normal** rainfall, while all other districts became deficient.

During **December 2025**, 38 out of 40 districts ended up **deficient to largely deficient**. **Kanyakumari, Krishnagiri, Vellore, Dharmapuri, Toothukudi, Namakkal, Tirupattur, Erode, Trichy, Ariyalur, and Karur** reported large deficiency. Conversely, **Tiruvallur** recorded **large excess** rainfall, while **Chennai** recorded **excess** rainfall. **Chengalpattu** recorded **normal** rainfall, while all the other 37 districts became deficient.

6. Standardized Precipitation Index

The Standardized Precipitation Index (SPI) is an index used for monitoring drought and is based on precipitation. This index is negative for dry and positive for wet conditions. As the dry or wet conditions become more severe, the index becomes more negative or positive. For October to December 2025, SPI indicated generally wet conditions over TN and parts of Karnataka (KAR) and mixed mildly wet and dry conditions over CAP, RYS and KER. In **TN**, extremely wet conditions prevailed over Tenkasi and Tirunelveli districts and severely wet conditions over Tiruvarur district. Mildly wet conditions prevailed over **Ariyalur, Chennai, Coimbatore, Cuddalore, Kallakurichi, Mayiladuthurai, Nagapattinam, Nilgiris, Puducherry, Pudukkottai, Ramanathapuram, Ranipet, Sivagangai, Thanjavur, Tiruppur, Tiruvallur, Tiruvannamalai, Thoothukudi, Vellore, Villupuram and Virudhunagar districts and Karaikal area.** Mildly dry conditions prevailed over Chengalpattu, Dindigul, Erode, Kancheepuram, Kanniyakumari, Karur, Krishnagiri, Madurai, Namakkal, Perambalur, Salem, Theni, Tirupathur and Tiruchirapalli districts, while no data was available for Dharmapuri district. In **AP**, **2 districts** (Bapatla and Palnadu) came under severely wet category and **5 districts** (Alluri Sitharama Raju, East Godavari, Eluru, NTR and Vizianagaram) under moderately wet category. No districts fell under extremely wet category. **19 districts including Yanam area** came under mildly wet category, while **1 district (Kakinada)** came under mildly dry category.In **KER**, **2 districts (Kannur) and Mahe area** came under severely wet category and **1 district (Kasaragod)** under moderately wet category. No districts fell under extremely wet category. **4 districts** came under mildly wet category, while **8 districts** came under mildly dry category. In **KAR**, **4 districts** (Bidar, Vijayapura, Chikkamagaluru and Vijayanagara) came under extremely wet category and **5 districts** (Uttara Kannada, Kalaburagi, Koppal, Yadgir and Kolar) under severely wet category. **3 districts** (Bagalkote, Raichur and Ballari) came under moderately wet category. **14 districts** came under mildly wet category, while **3 districts** came under mildly dry category. **2 districts** came under moderately dry category and **1 district** (Shivamogga) came under extremely dry category (Fig. 5)

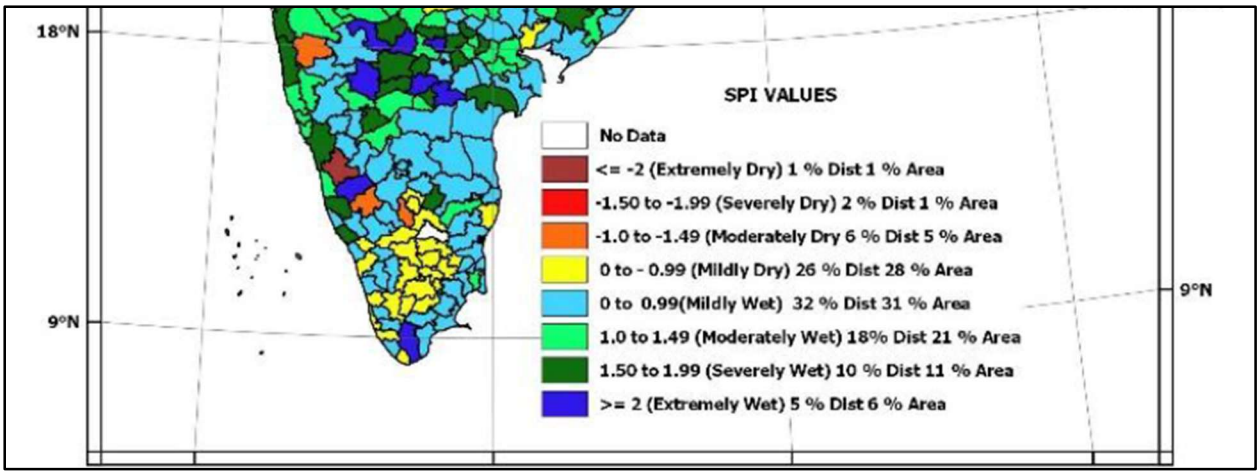


Fig.5: Standardised Precipitation Index for October-December 2025 over the southern peninsular India.

7. Large & Regional scale circulation features

(a) ***Flow pattern:*** The mean and anomalous wind pattern over the Indian region at 850 hPa, 500 hPa and 250 hPa levels during October –December 2025 are presented in Fig.6a(i)-(iii). The 250 hPa velocity potential & 850 hPa stream function over the Indian region during October-December 2025 are presented in Fig.6b & Fig.6c respectively.

In October 2025, anomalous cyclonic circulation was observed in the lower tropospheric levels (850 hPa) over the South and Central Arabian Sea and adjoining southern peninsular region [Fig.7a(i) & Fig.7c] and anomalous anticyclonic circulation was observed over the northwestern parts of India and neighbourhood in the middle and upper tropospheric levels. [Fig.7a(i)]. There was anomalous upper level divergence over the southern peninsular region, adjoining Comorin – Maldives area & equatorial Indian Ocean [Fig.7b].

In November 2025, at 850 hPa level, anticyclonic circulation was present over most parts of India excepting over the extreme southern parts of peninsular region wherein cyclonic circulation prevailed [Fig.7c]. Anomalous anticyclone was present over the Northwestern parts India and neighbourhood led to continental northerlies over the southern peninsular India in the mid levels [Fig.7a(ii)]. Anomalous upper level divergence was present over the equatorial Indian Ocean and Bay of Bengal region and only weak divergence was present over the Indian region at 250 hPa level [Fig.7b].

In December 2025, at 850 hPa level, there was anomalous cyclonic circulation over the Eastcentral Arabian sea and adjoining peninsular India [Fig.7a(iii) &Fig7c]. At 500 hPa level, there were anomalous cyclonic circulations over Northwest India and neighbourhood and over the South Bay of Bengal and adjoining southern peninsular India and anomalous anti cyclonic circulations over the western parts of Arabian Sea and over the northern parts of Bay of Bengal and neighbourhood. The anomalous cyclonic circulation over the Northwest India and neighbourhood extended up to the upper tropospheric levels. There was anomalous upper level divergence over the Southeast

Asian region which extended into the Bay of Bengal and adjoining southeastern & eastern Indian region also.

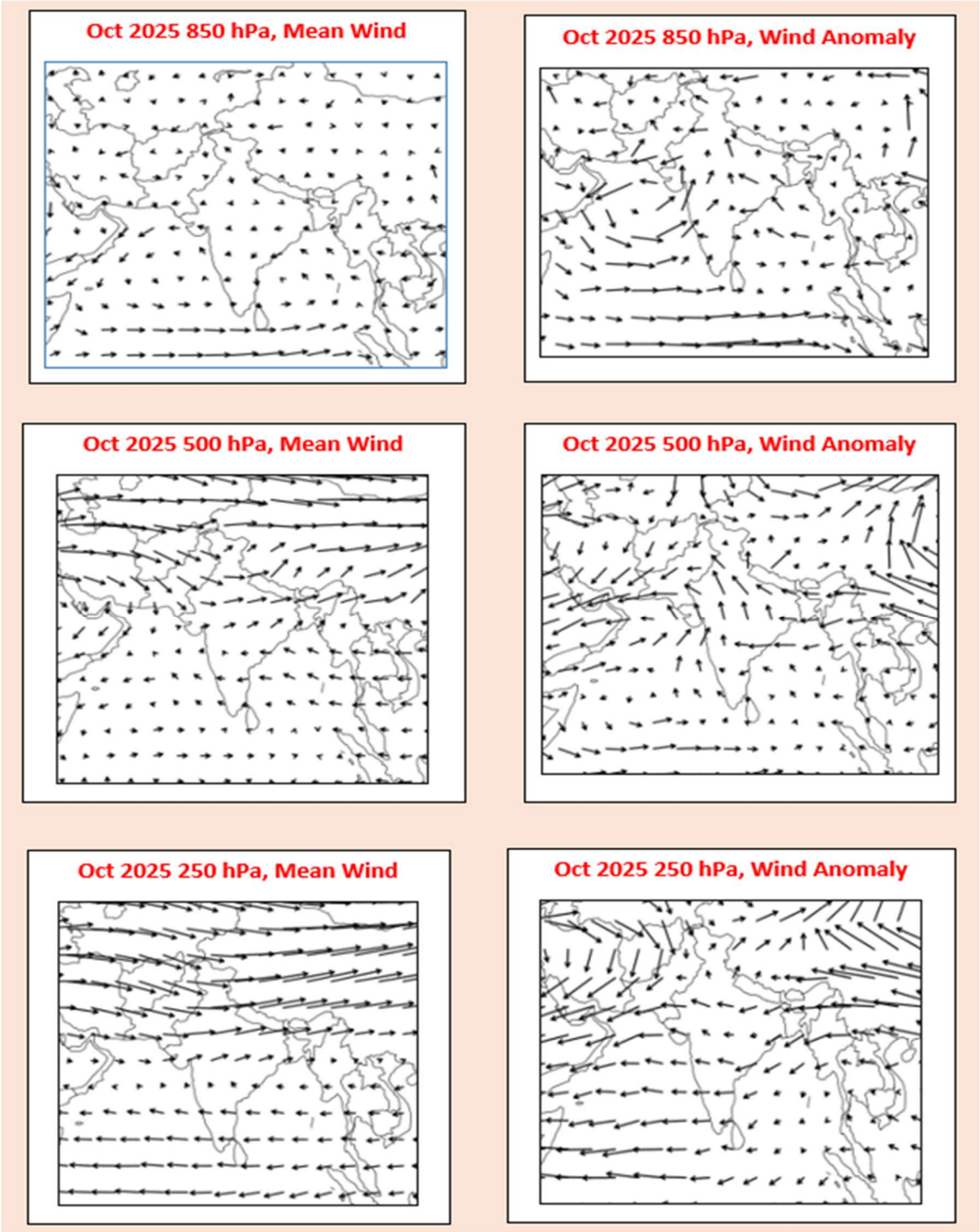


Fig.6a(i): Mean and anomalous wind pattern over the Indian region at 850 hPa, 500 hPa and 250 hPa levels during October 2025 (Source: Climate Diagnostic Bulletin of India, IMD Pune)

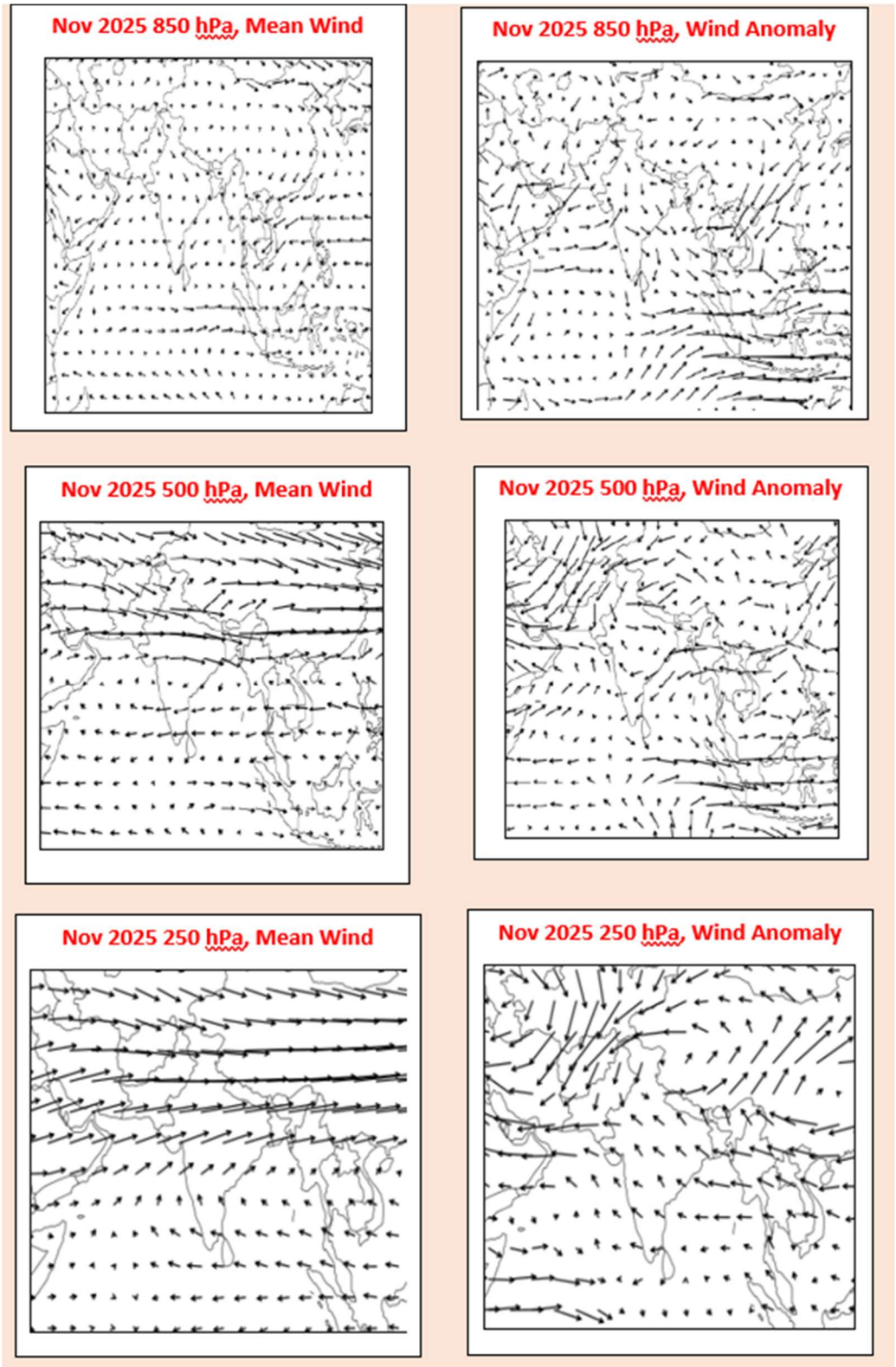


Fig.6a(ii): Mean and anomalous wind pattern over the Indian region at 850 hPa, 500 hPa and 250 hPa levels during Nov 2025 (Source: Climate Diagnostic Bulletin of India, IMD Pune)

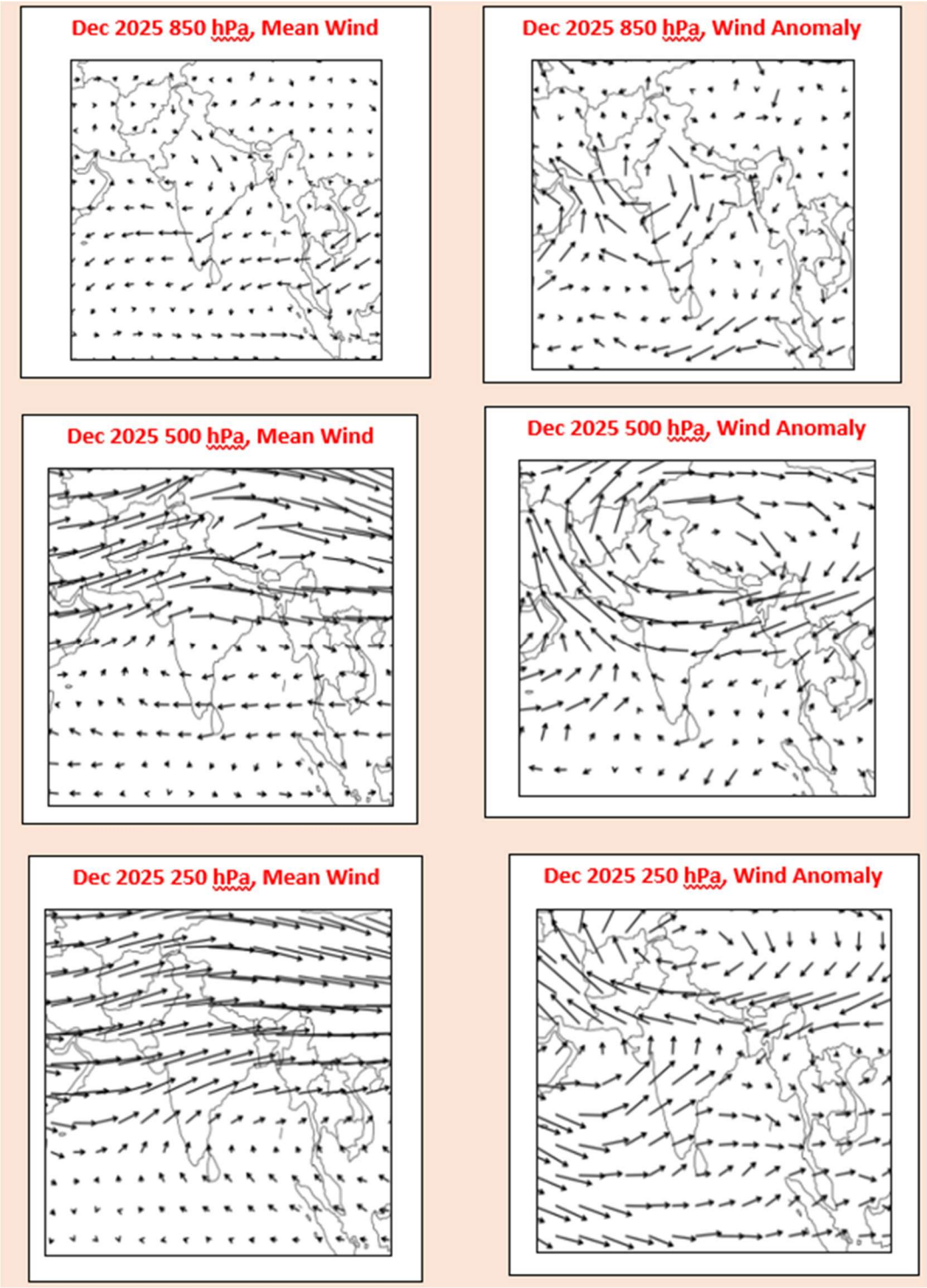


Fig.6a(iii): Mean and anomalous wind pattern over the Indian region at 850 hPa, 500 hPa and 250 hPa levels during December 2025 (Source: Climate Diagnostic Bulletin of India, IMD Pune)

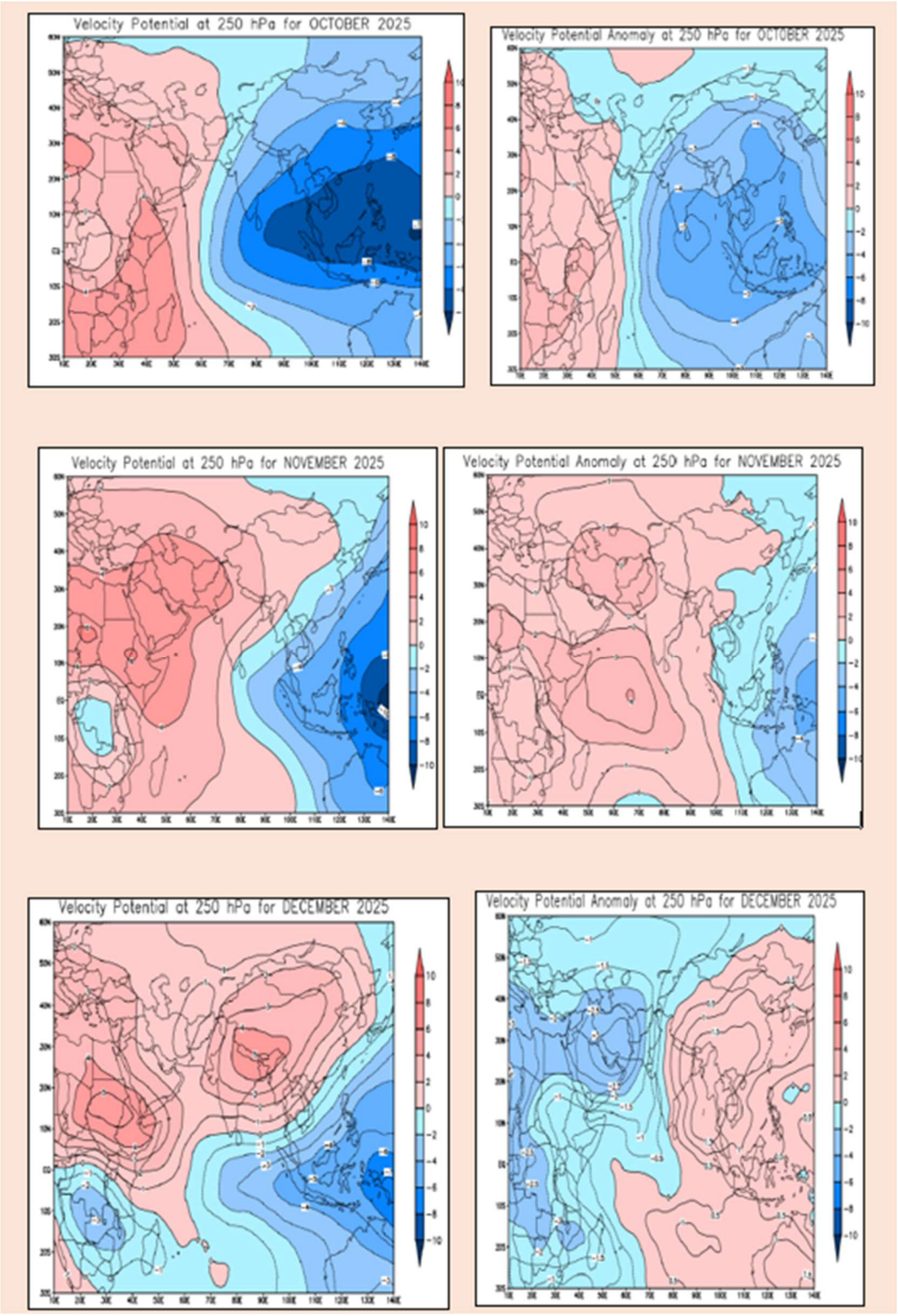


Fig.6b: 250 hPa velocity potential (x 10^6 m^2/s) over the Indian region during Oct, Nov & Dec 2025 (Source: Climate Diagnostic Bulletin of India, IMD Pune)

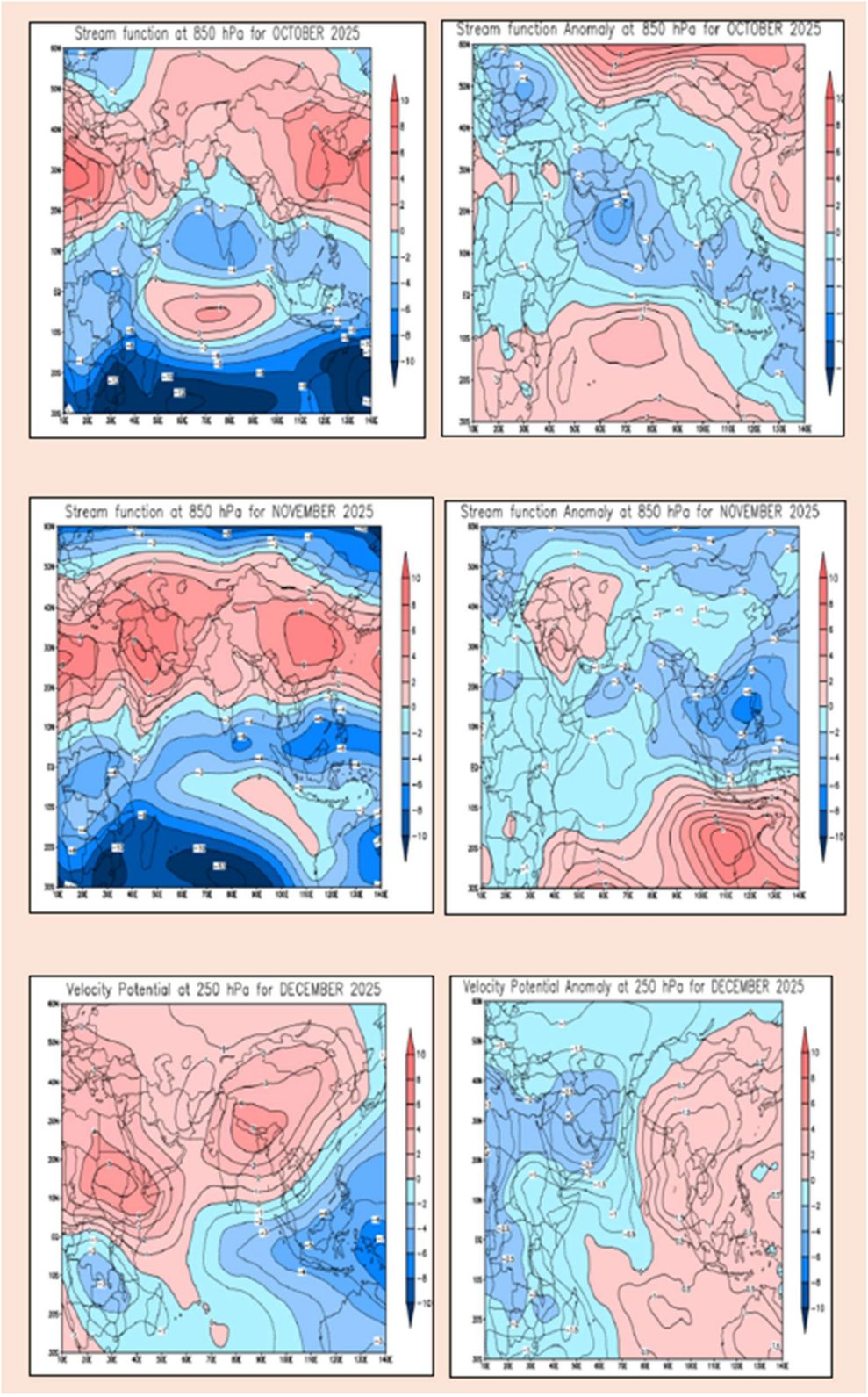


Fig.6c: 850 hPa stream function (x 10^6 m^2/s) over the Indian region during Oct, Nov & Dec 2025 (Source: Climate Diagnostic Bulletin of India, IMD Pune)

(b) Monthly OLR patterns: Monthly OLR anomalies over the Indian region are shown in Fig.6d.

In October 2025, negative OLR anomalies were observed over the southern peninsular region.

In November and December 2025, positive OLR anomalies were observed over most parts of the NEM region excepting the coastal and adjoining areas of TN.

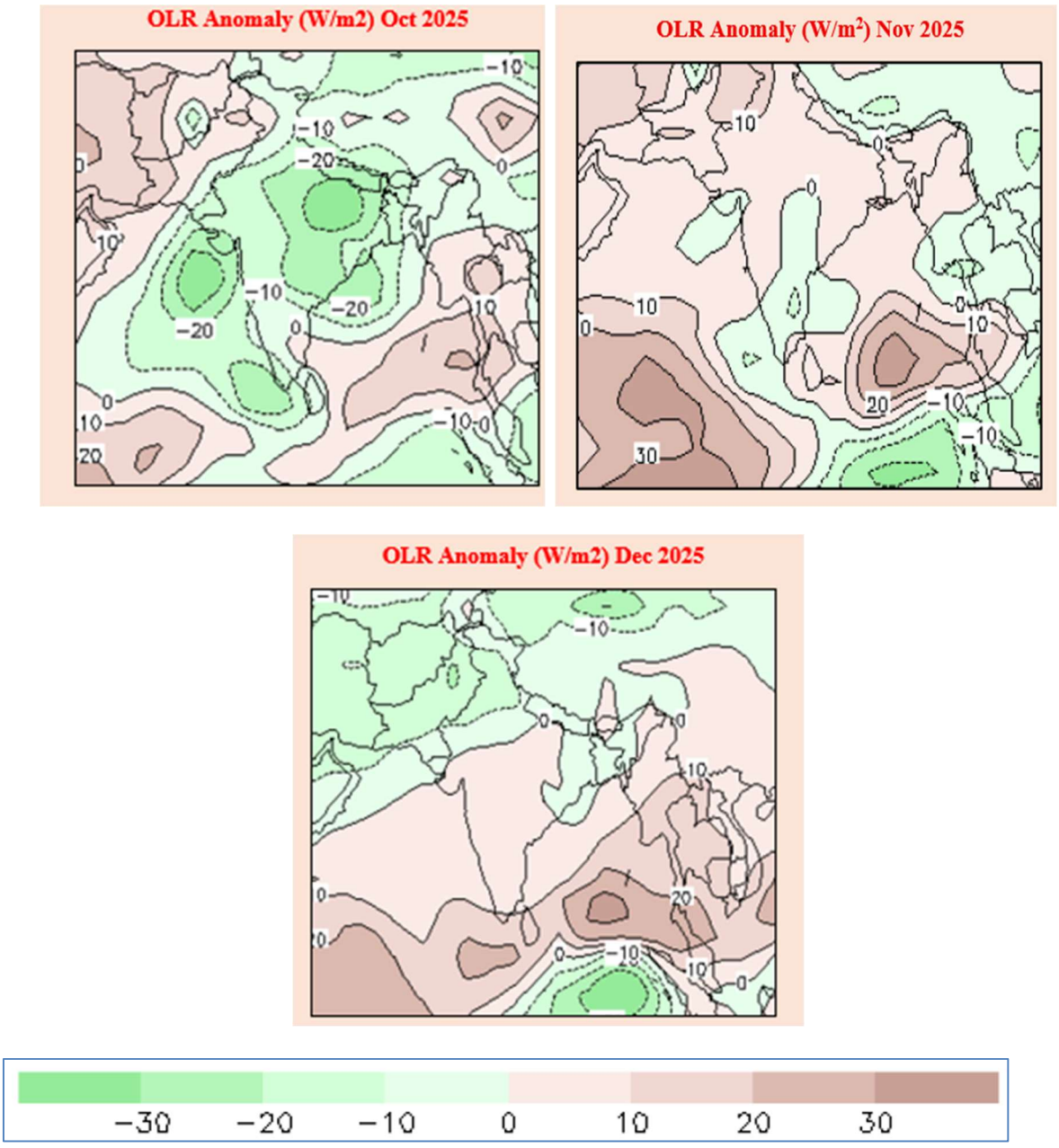


Fig.6d: OLR anomalies over the Indian region during Oct, Nov & Dec 2025 (Source: Climate Diagnostic Bulletin of India, IMD Pune)

c) ***Large scale features****:* Based on analysis and reports of various global climate monitoring centres, the large-scale climate parameters during October-December 2025 were as follows:

(i) Neutral ENSO conditions prevailed over the equatorial Pacific region during the season, with Niño 3.4 index remaining mostly within neutral limits, though showing weak negative tendencies at times.

(ii) Indian Ocean Dipole (IOD) was negative during October and November, with stronger negative anomalies observed particularly during November. It gradually weakened and became neutral during December 2025.

(iii) Madden-Julian Oscillation (MJO) was in Phase 2–4 (Indian Ocean to Maritime Continent) during most parts of October, indicating some support during limited periods. In November, MJO propagated through Phase 4–6 (Maritime Continent to Western Pacific) and remained moderately active. During December, it was mostly over the Western Pacific (Phase 5–6) and remained away from the Indian region for a considerable period (Fig.6e (i)-(iii)).

Whereas ENSO remained largely neutral and hence neither favourable nor unfavourable for the northeast monsoon, IOD was unfavourable during the first two months and became neutral in the third month. MJO influence was mixed during October, somewhat favourable during parts of November, and largely unfavourable during December as it stayed away from the Indian region.

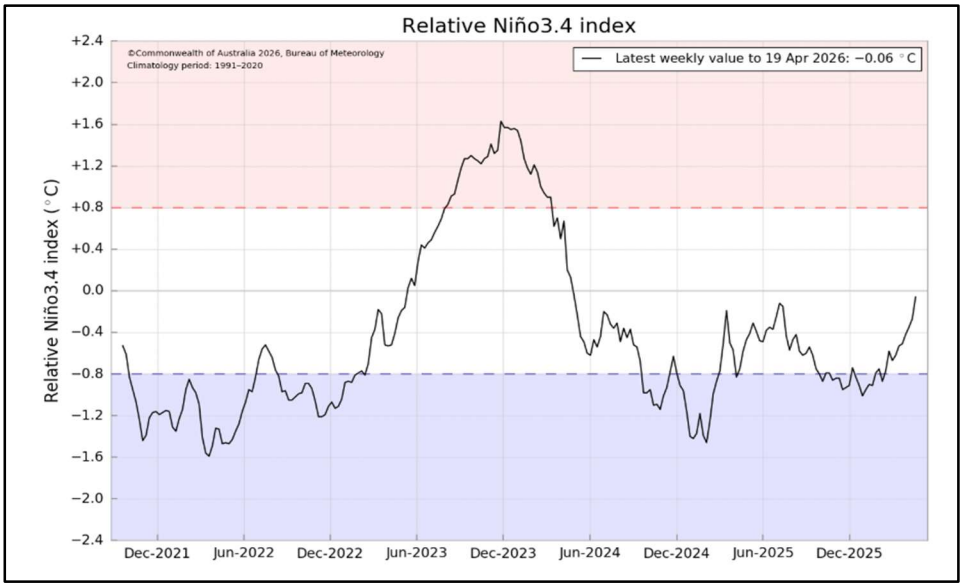


Fig.6e(i): Sea surface temperature over the equatorial Pacific Ocean (Source: Bureau of Meteorology, Australia)

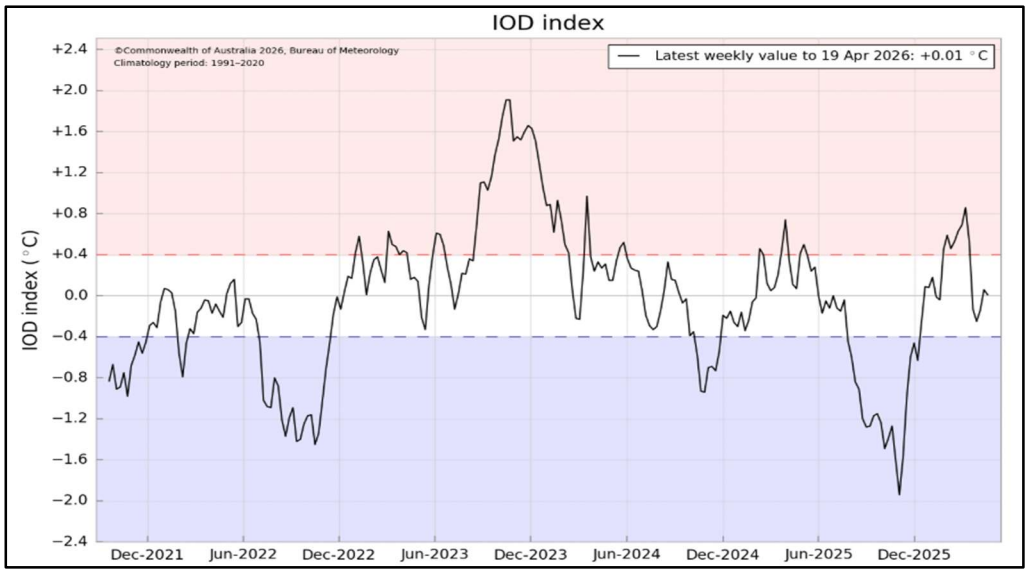


Fig.6e(ii): Indian Ocean Dipole mode index (Source: Bureau of Meteorology, Australia)

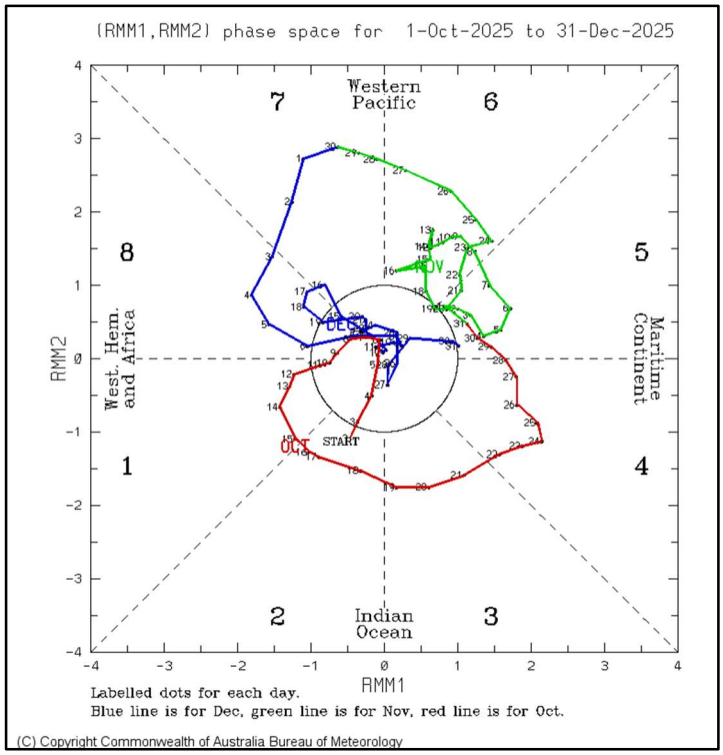


Fig.6e(iii): MJO during Oct-Dec 2025 (Source: Bureau of Meteorology, Australia)

8. Cessation of NEM rains over peninsular India

Heavy to very heavy rainfall with ***isolated extremely heavy*** rain occurred over Nilgiris and Tenkasi districts on 02nd Jan 2026.

Isolated heavy to very heavy rainfall occurred over *Nagapattinam district on 13th Jan 2026.*

Subsequently, with the gradual reduction in rainfall activity and the lower levels, dry winds from northern India prevailed over the region., **thus Northeast Monsoon rains ceased over Tamilnadu, Puducherry & Karaikal, Rayalaseema, Coastal Andhra Pradesh & Yanam, Kerala & Mahe and South Interior Karnataka from 19th Jan 2026.**

9. Summary

During the year 2025, the southwest monsoon withdrew from the Indian region and the Northeast monsoon (NEM) of 2025 commenced simultaneously over the southeastern parts of peninsular India on **16th October 2025** against the normal date of 20th October.

Of the five meteorological sub divisions Coastal Andhra Pradesh & Yanam (CAP), Rayalaseema (RYS) received Excess rainfall & Tamilnadu, Puducherry & Karaikal (TN) & South Interior Karnataka (SIK) received Normal rainfall, Kerala received deficient rainfall during the NEM season (October – December) 2025.

Active to *vigorous* monsoon conditions prevailed over TN on **24** days, over CAP & RYS on **11** days each and over KER on **9** days during the season. There were **45** days of *isolated heavy* rainfall activity with **29** days of *isolated very heavy* rain including **07** days of *isolated extremely heavy rainfall* activity over TN. **Four** *Tropical Cyclones* **– *Severe Cyclonic Storm (SCS)* SHAKTHI** over the Arabian Sea and **Severe Cyclonic Storm (SCS) MONTHA**, two ***Cyclonic Storms (CS)*** **SENYAR** and **DITWA** over the Bay of Bengal (BOB) and **One** Deep *Depression* (D***D***) over Bay of Bengal and **One** Depression (D) over Arabian Sea affected the Indian seas during the season.

During the Northeast Monsoon season (October–December 2025), rainfall distribution across the five NEM subdivisions showed strong temporal variability. October was the wettest month, with Coastal Andhra Pradesh (CAP) (+93%) and Rayalaseema (RYS) (+72%) receiving excess rainfall, while Tamil Nadu (TN) (+36%) and South Interior Karnataka (SIK) (+28%) also recorded above-normal rainfall. Kerala (KER) received near-normal rainfall in October (-10%).
In contrast, November and December were comparatively weaker, with most subdivisions experiencing deficient to largely deficient rainfall. November rainfall was highly deficient over CAP (-84%) and SIK (-78%), while December rainfall was deficient over TN (-49%), SIK (-84%) and KER (-27%). RYS was the only subdivision to record above-normal rainfall in December (+49%).
At the weekly scale, mid-to-late October witnessed widespread excess rainfall across most subdivisions, particularly during the weeks ending 15th and 22nd October. However, several weeks in November and late December turned deficient to largely deficient, indicating a weakening monsoon phase.

At the daily scale, Tamil Nadu recorded the highest rainfall activity, with rainfall occurring on nearly 89% of the season days, and only about 11% dry days. Kerala also had frequent rainfall activity. In contrast, CAP, RYS and SIK experienced more dry days (38–52%).
Overall, the season was marked by strong rainfall activity during October, followed by weaker and more erratic rainfall during November and December, with only brief recovery periods.

Acknowledgements

This report is a compilation of real-time observational data and analytical products generated by various IMD offices including IMD New Delhi, Pune, Thiruvananthapuram, Hyderabad, Bangalore & Amaravati as well as rain gauge networks of state government departments. Contribution from all officials involved in generation of data and analytical products used for preparation of this report is duly acknowledged. Use of US-NCEP reanalysis data, analytical product of Bureau of Meteorology (BoM), Australia and local media reports are also duly acknowledged.

APPENDIX-(i): Terminologies for Spatial rainfall distribution

WS - Widespread (Most places): 75 % or more number of stations of a region (sub-division) reporting at least 2.5 mm rainfall.

FWS- Fairly widespread (Many places): 51% to 74 % number of stations of a region (sub-division) reporting at least 2.5 mm rainfall.

SCT- Scattered (at a few places): 26 % to 50% number of stations of a region (sub-division) reporting at least 2.5 mm rainfall.

ISOL- Isolated (At isolated places): 25% or less number of stations of a region (sub-division) reporting at least 2.5 mm rainfall.

DRY: No station of a region reported rainfall

APPENDIX-(ii): Terminologies for description of intensity of rainfall

S No.	Terminology	Rainfall range In mm	Rainfall range In cm	Percentile
1	Very light rainfall	Trace -2.4		
2	Light rainfall	2.5-15.5	Upto 1	Upto 65
3	Moderate rainfall	15.6-64.4	02-06	65-95
4	Heavy Rainfall	64.5- 115.5	07-11	95-99
5	Very Heavy Rainfall	115.6-204.4	12-20	99.0-99.9
6	Extremely heavy rainfall	Greater or equal to 204.5 mm	21 cm or more	>99.9
7	Exceptionally Heavy Rainfall	When the amount is a value near about the highest recorded rainfall at or near the station for the month or season. However, this term will be used only when the actual rainfall amount exceeds 12 cm.		

APPENDIX-(iii): Description of NEM rainfall activity

Active: Fairly widespread to widespread sub-divisional rainfall with rainfall more than 1½ to 4 times the normal with at least two stations reporting more than or equal to 3 cm in coastal Tamil Nadu, south coastal Andhra Pradesh and 2 cm elsewhere in the NEM region.

Vigorous: Fairly widespread to widespread sub-divisional rainfall with rainfall more than 4 times the normal with at least two stations reporting more than or equal to 5 cm in coastal Tamil Nadu, south coastal Andhra Pradesh and 3 cm elsewhere in the NEM region.