

Thursday, 26th JUNE 2025

EXTENDED RANGE FORECAST FOR KERALA & MAHE AND LAKSHADWEEP

(Current weather status & outlook for the next two weeks (26th JUNE-09th JULY 2025))

Realized rainfall scenario:

(i) Weekly Rainfall Scenario (19th JUNE 2025 to 25th JUNE 2025)

Actual rainfall along with departure from normal rainfall for Kerala & Mahe and Lakshadweep during the recent past week is shown in the table below.

Subdivision	Actual Rainfall (in mm)	Normal Rainfall (in mm)	Departure (%)
Kerala & Mahe	128.4	162.5	-21
Lakshadweep (UT)	20.7	74.3	-72

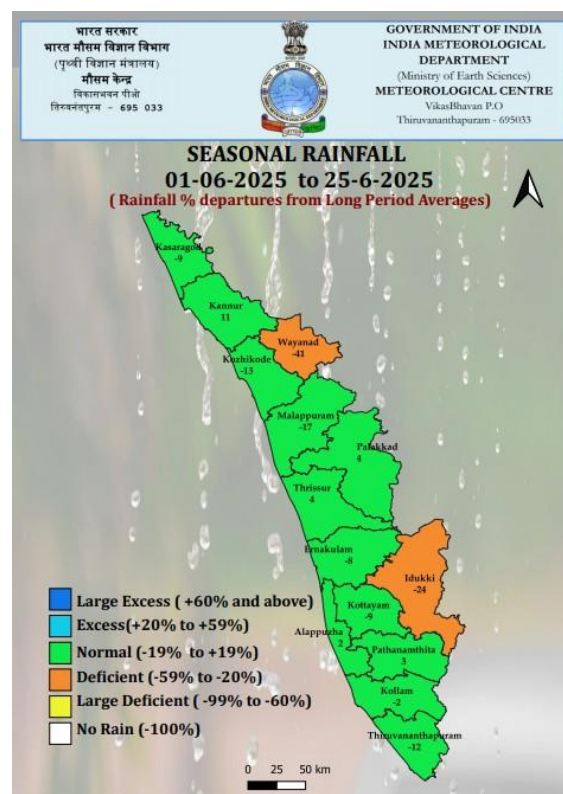
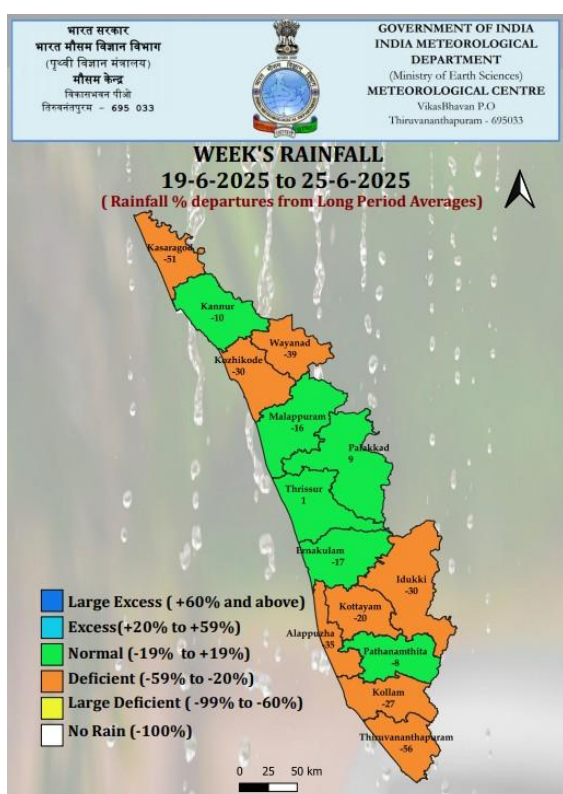
Out of the 14 districts in Kerala, **6** districts received **Normal Rainfall** and **8** districts received **Deficient Rainfall**. **Lakshadweep** received **Large Deficient Rainfall** and **Mahe** received **Normal Rainfall**.

(ii) Seasonal Rainfall Scenario (01st JUNE 2025 to 25th JUNE 2025): South West Monsoon

Cumulative rainfall for Kerala & Mahe and Lakshadweep during this season from 01st June 2025 to 25th June 2025 are shown in the table below.

Subdivision	Actual Rainfall (in mm)	Normal Rainfall (in mm)	Departure (%)
Kerala & Mahe	488.5	532.5	-8
Lakshadweep (UT)	185.2	292.4	-37

Out of the 14 districts in Kerala, **12 districts received Normal Rainfall** and **2 districts received Deficient Rainfall**. **Lakshadweep received Deficient Rainfall** and **Mahe received Normal Rainfall**.



Salient Observed Features for week ending 25th JUNE 2025

- Heavy rainfall was recorded at isolated places over Kerala & Mahe on 19th, 23rd and 25th June 2025.

Large scale features

- ❖ Currently, neutral El Nino-Southern Oscillation (ENSO) conditions are prevailing over the equatorial Pacific region. The latest MMCFS as well as other climate model forecasts indicate that the neutral ENSO conditions are likely to continue during the monsoon season.
- ❖ At present, neutral Indian Ocean Dipole (IOD) conditions are observed over the Indian Ocean. The latest MMCFS forecast indicates that weak negative IOD

conditions are likely to develop during the monsoon season.

- ❖ Madden-Julian Oscillation (MJO) is currently in phase 5 with amplitude close to 1. It is very likely to move very slowly eastward through phase 6 at the beginning of the first week. Thereafter, the MJO signal is likely to propagate across phases 7, 8 and 1 before entering into phase 2 along the diagonal of the phase diagram with very low amplitude during the later part of week 1. Subsequently, the MJO is likely to take a looping turn back along the diagonal across phases 3, 4 and 5 with very weak amplitude during week 2.

Weather systems & associated precipitation during Week 1 (26th June to 02nd July, 2025) and Week 2 (03rd July to 09th July, 2025)

Week 1(26th June to 02nd July, 2025)

WEATHER SYSTEMS

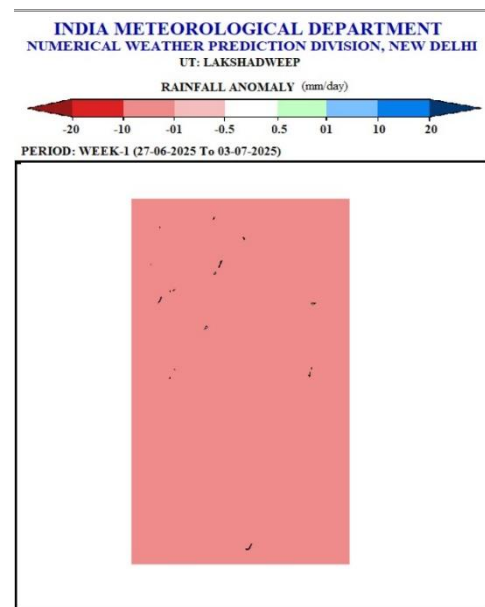
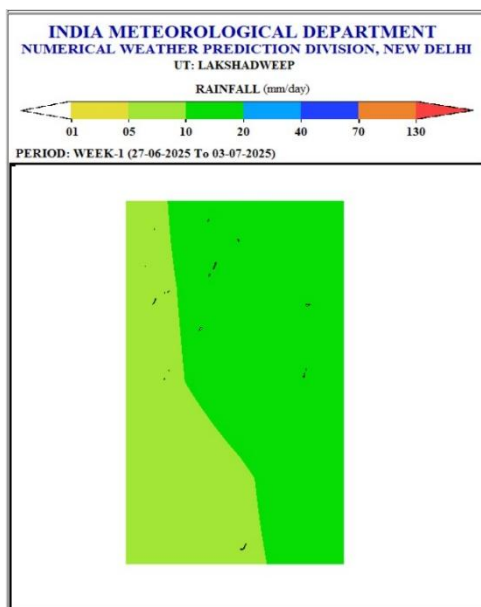
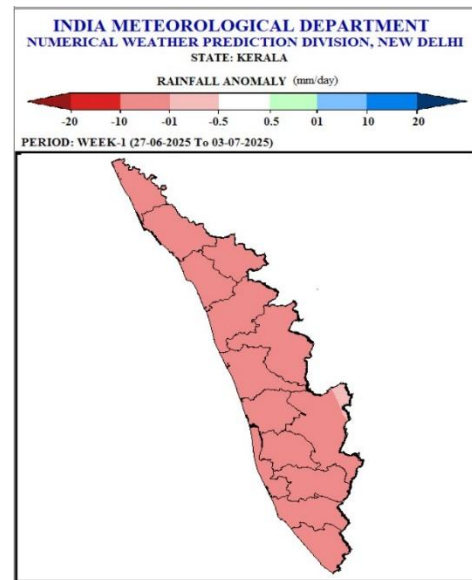
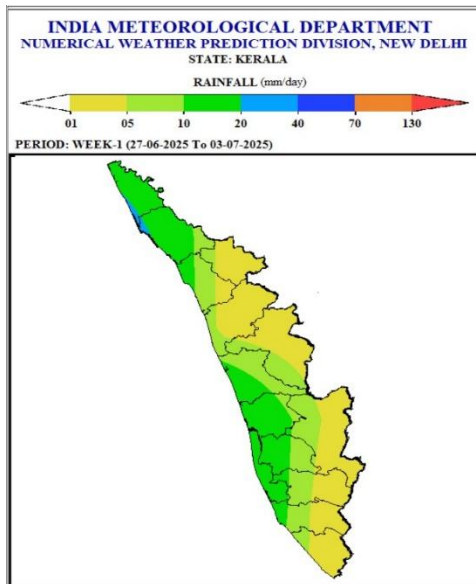
- A low pressure area lies over Northwest Bay of Bengal and adjoining coastal areas of Odisha and West Bengal with the associated cyclonic circulation extending upto 7.6 km above mean sea level tilting southward with height on today, the 26th June 2025. It is likely to move west-northwestwards across north Odisha and adjoining Gangetic West Bengal, Jharkhand and Chhattisgarh.
- A trough from northeast Arabian Sea to cyclonic circulation associated with the lowpressure area over northwest Bay of Bengal and adjoining coastal areas of Odisha and West Bengal across south Gujarat, Madhya Pradesh, Chhattisgarh extending between 1.5 & 7.6 km above mean sea level.

FORECAST AND WARNING

- **Widespread Moderate rainfall with scattered heavy to very heavy with isolated extremely heavy rainfall** is very likely over Kerala on **26/06/2025**, **Widespread Moderate rainfall with isolated heavy to very heavy rainfall** is very likely over Kerala on **27/06/2025**, **28/06/2025**, **Fairly Widespread Moderate rainfall with isolated heavy rainfall** is very likely over Kerala on **29/06/2025**. **Fairly Widespread Light to moderate rainfall** is very likely over Kerala during the period **30/06/2025 to 02/07/2025**.
- **Widespread moderate rainfall with isolated heavy rainfall** is very likely over Lakshadweep on **26/06/2025**, **Widespread moderate rainfall** is very likely over Lakshadweep on **27/06/2025** and **28/06/2025**, **Fairly Widespread light to Moderate rainfall** is very likely over Lakshadweep on **29/06/2025** and **30/06/2025**. **Scattered light rainfall** is very likely over Lakshadweep on **01/07/2025** and **02/07/2025**.
- **Strong surface winds (speed 50-60 Kmph)** very likely over Kerala, Mahe and Lakshadweep on **26/06/2025** and **27/06/2025**.
- **Strong surface winds (speed 40-50 Kmph)** very likely over Kerala, Mahe and

Lakshadweep on 28/06/2025.

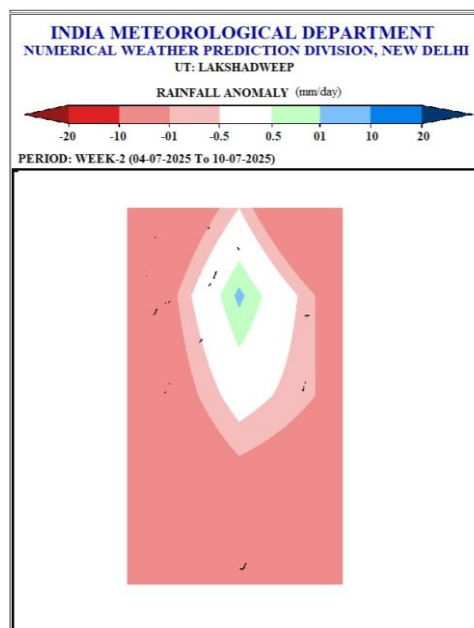
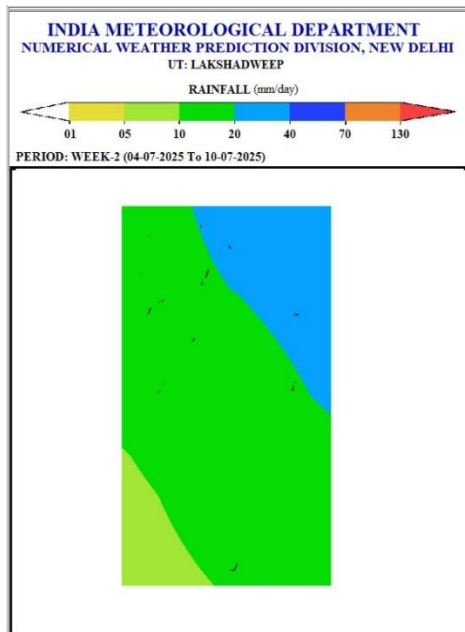
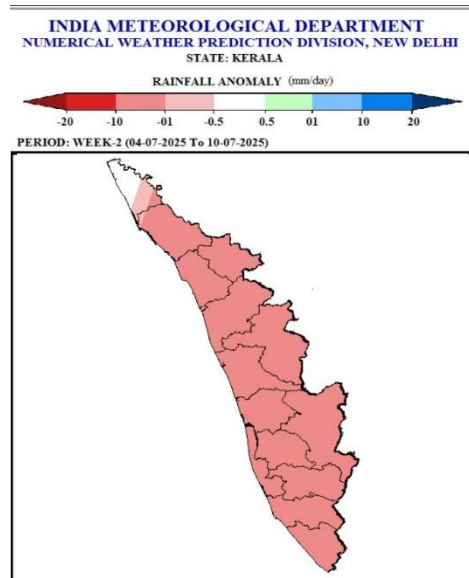
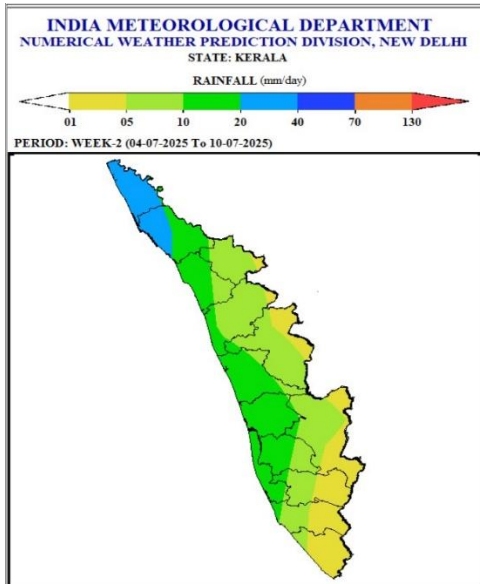
- Cumulatively **Below Normal Rainfall** is likely over **Kerala, Mahe and Lakshadweep** during **week 1**.



Week 2(03rd July to 09th July, 2025)

- ❖ Cumulatively **Below Normal rainfall** is likely over most parts of **Kerala and Mahe** during **week 2**.

- Cumulatively **Below Normal** rainfall is likely over **Lakshadweep** except some **isolated pockets** where it is likely to be **Normal**.



IMPACT EXPECTED AND ACTION SUGGESTED

Week 1(26th June to 02nd July, 2025)

Impact due to very heavy and extremely heavy rainfall over Kerala during the week.

Impact Expected

- ✓ Visibility may become poor due to intense spell of rainfall leading to traffic congestion.
- ✓ Temporary Disruption of traffic due to water logging in roads/ uprooting of trees/ breaking of tree branches leading to increased travel time.
- ✓ Uprooting of trees may cause damages to power sector
- ✓ Possibility of damages to vulnerable structures due to heavy to very heavy/ Extremely heavy rainfall
- ✓ Partial Damages to Kutcha Houses and Huts due to uprooting of trees.
- ✓ Possibilities of Flash floods due to intense spell of rainfall.
- ✓ Water logging / flooding in many parts of low-lying areas.
- ✓ Landslides/mud slide/land slip very likely.
- ✓ Heavy rainfall may damage the standing crops and vegetables in the maturity stage.
- ✓ Lightning may injure people and cattle at open place.
- ✓ Dispersion of soil from the field and hence seed displacement and poor germination of seeds.

Action Suggested

- ✓ Follow traffic advisories issued, if any.
- ✓ Avoid staying in vulnerable structure.
- ✓ Avoid going to the areas that face landslides/landslips/water logging problems/ river fronts.
- ✓ People in the vulnerable area are advised to move to safer places.
- ✓ Propping of the vegetable pandals recommended.
- ✓ Take shelter during thunderstorm/lightning activities.
- ✓ Provide mulch at the base of the crop to prevent soil and root damage.
- ✓ Avoid working in the fields during thunderstorm/lightning period and ensure proper mechanism to avoid runoff in case of rain.

- ✓ Postpone sowing of seeds; if already sown, avoid water stagnation in the field and cover the seeded area with natural mulching materials like straw, farm residues etc.
- ✓ Be Updated.

Agromet advisories for Very Heavy and Extremely Rainfall likely over Kerala-

- Heavy rainfall may damage the standing crops and vegetables in the maturity stage.
- Propping of the vegetable pandals recommended.

Cyclogenesis

Issued on 26.06.2025

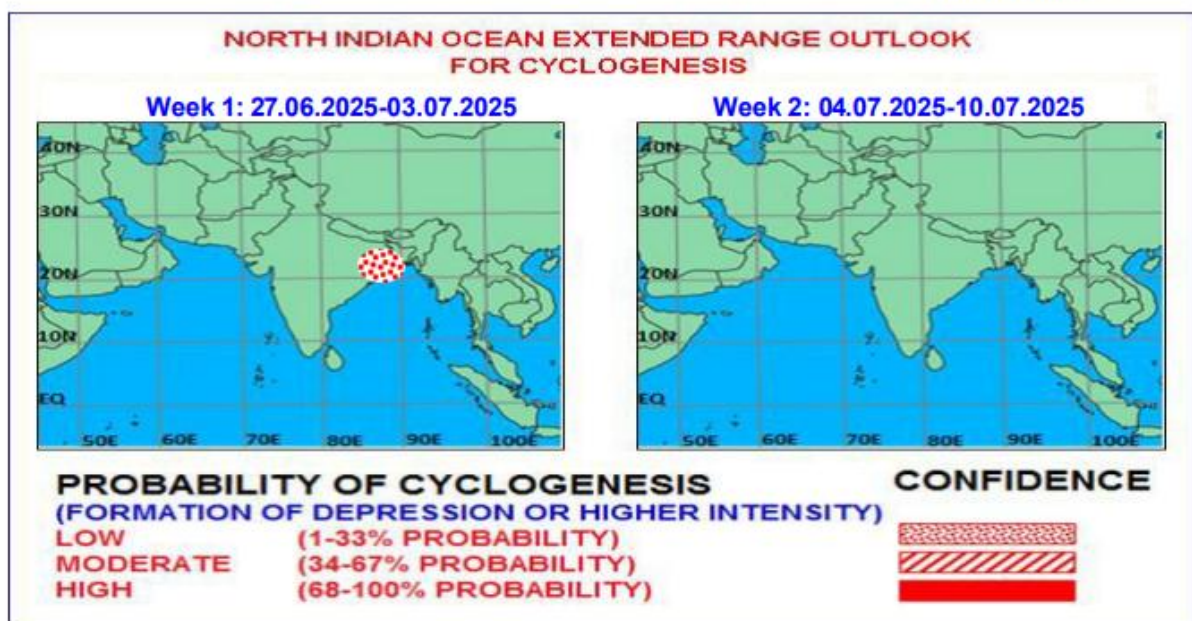


Fig. 1: Graphical Cyclogenesis over the north Indian Ocean during next two weeks

I. Environmental features:

The guidance from various models (ECMF, ECMM, NCEP, JMA, BOMA) indicates that Madden Julian Oscillation (MJO) is currently in phase 5 with amplitude close to 1. Most of the models except NCEP-CFSv2 model predict that the MJO is very likely to move very slowly eastward through phase 6 at the beginning of the first week. Thereafter, the MJO signal is likely to propagate across phases 7, 8 and 1 before entering into phase 2 along the diagonal of the phase diagram with very low amplitude during the later part of week 1. Subsequently, the MJO is likely to take a looping turn back along the diagonal across phases 3, 4 and 5 with very weak amplitude during week 2. Thus, MJO is likely to be supportive of the enhancement of

convective activity over the North Indian Ocean (NIO) region during the entire forecast period.

The guidance from the NCICS CFS model indicates the prevalence of westerly wind anomaly (3- 7mps) over a belt starting from north Arabian Sea (AS) to north Bay of Bengal (BoB) across central India during week 1. At the same time, a weak easterly wind anomaly (1-3 mps) appears over south AS and eastern parts of south BoB. The westerly wind anomaly over north AS and north BoB is likely to persist during week 2 with reducing strength. On the contrary, the easterly wind anomaly over south AS is likely to strengthen (3-5 mps) during the second week. The zonal wind anomalies indicate weak monsoon conditions over NIO region. No Equatorial Rossby wave (ERW) is likely over the region during either week. Thus, zonal winds and Equatorial waves are not likely to favour the development of low pressure system over NIO.

II. Model Guidance:

The guidance from various Numerical models, including IMD GFS, NCEP-GFS, NCUM and ECMWF is indicating that the existing low pressure area over northwest BoB and adjoining coastal Odisha and West Bengal is likely to move west-northwestwards across north Odisha & adjoining Gangetic West Bengal (GWB) and Jharkhand during the next two days. Another fresh low pressure area (LPA) is likely to form over the north BoB and adjoining coastal Bangladesh and West Bengal around 29th June. It is likely to move west-northwestwards across GWB and likely to become more marked by 30th June over GWB. The ECMWF and NCEP-GFS models indicate that the LPA is likely to continue to move further west-northwestwards, become more marked on 30th June, and intensify into a depression by 1st July over north Odisha and adjoining GWB. The IMD GFS model also supports the formation and movement of the system over the same region during the period, but intensification of the system into a depression is not predicted. The NCUM-G also indicates an upper-air cyclonic circulation over north BoB and adjoining Bangladesh & West Bengal around 29th June with subsequent west-northwestward movement during the next 3-4 days. But no significant intensification is not suggested by the model.

The 850 hPa mean wind field of IMD ERF Model indicates westerly winds over entire BoB and AS during next 2 weeks. The model is also indicating a cyclonic circulation over north Odisha and adjoining GWB during week 1 and week 2. The model forecasts indicate an established eastern end of the monsoon trough during week 1, whereas during week 2, the entire monsoon trough is noticed at its normal position. The anomaly wind field at 850 hPa is indicating an upper-air cyclonic circulation over northwest BoB and neighbourhood and another over Gujarat during week 1. However, an anticyclonic circulation is seen over southeast AS off Karnataka coast. The 850 hPa anomaly wind forecast for week 2 suggests a weak cyclonic circulation over northwest BoB and a east-west trough extending across central India. The anticyclonic circulation over southeast AS disappears; however, an east-west ridge line extends from southwest AS to southwest BoB. Overall, in the anomaly field, the seasonal monsoon trough, along with embedded cyclonic circulations, is seen to be placed south of the normal position during both weeks. Therefore, the wind circulation features suggest that the normal to above normal monsoon rainfall activity will continue over the core monsoon zone. But due to the presence of anticyclonic wind patterns over southeast AS, the below normal rainfall activity will be there over the southern peninsular region, including the west coast.

The model is indicating a probable cyclogenesis zone over central India and the northern plains of India during week 1 with 40-60 % probability. The low-moderate

probability (30-40%) of cyclogenesis is also seen over northwest India during week 2.

The ECMWF ensemble model is indicating 20% probability of cyclogenesis during week 1 (around 2nd July) over north Odisha & Gangetic West Bengal and adjoining northwest BoB. The ECMWF sub-seasonal range forecasts also suggest similar probabilities during week 1 over the same region. The model also indicates another zone of 20% probability of cyclogenesis over the Saurashtra and Kutch region during week 1. However, the model does not suggest any region with more than 10 % probability of cyclogenesis over NIO.

Therefore, the guidance from various numerical models indicates the existing low-pressure area over northwest BOB and neighbourhood is likely to move west-northwestwards and persist during the next 2 days. Another fresh low-pressure area is very likely to form over north BoB and adjoining Bangladesh and West Bengal around 29th June. The low-pressure area is likely to become more marked by 30th June. Moving west-northwestwards, there is a low to moderate probability for its intensification into a depression over north Odisha and adjoining Gangetic West Bengal on 1st July.

III. Inference:

Considering large-scale environmental features and model guidance, it is inferred that,

1. the existing low pressure area over northwest Bay of Bengal and adjoining coastal areas of north Odisha and West Bengal is likely to move west-northwestwards across north Odisha & adjoining Gangetic West Bengal during the next two days.
2. there is a likelihood of the formation of another low pressure area over North Bay of Bengal and adjoining West Bengal & Bangladesh around 29 th June. It is likely to move slowly westnorthwestwards and become more marked by 30th June. There is a low probability for further intensification into a depression over Gangetic West Bengal and neighbourhood during the subsequent 24 hours.
3. there is no probability of cyclogenesis over the North Indian Ocean region during week 2. However, an upper-air cyclonic circulation/low pressure area is likely to form over the north Bay of Bengal and move west-northwestwards during the week.

IV. Verification of forecast issued during the previous two weeks:

The forecast issued on 12th June for week 2 (20th June–26th June) indicated likelihood of the formation of a upper-air cyclonic circulation /low pressure area is also likely to form over the north and adjoining central Bay of Bengal during the first half of week 2.

The forecast issued on 19th June for week 1 (20th June–26th June) indicated that

1. Existing well marked low pressure area over northeast Jharkhand and adjoining Gangetic West Bengal is likely to move northwestwards and weaken gradually during next two days.
2. There was a likelihood of the formation of an upper-air cyclonic circulation over North Bay of Bengal and adjoining West Bengal & Bangladesh towards the end of week 1 (around 26th June). Under its influence, a low-pressure area was likely to form over the same region in the beginning of week 2 (around 27th June). However, it was not likely to intensify further into a depression.

Realized:

The well marked low pressure area over Northeast Jharkhand and adjoining

Gangetic West Bengal moved slowly northwestwards and weakened into a low pressure area over south Bihar & neighbourhood on 20th June 2025 and persisted over the same region on 21st June 2025. The LPA moved northwestwards and lay over central parts of south Uttar Pradesh on 22nd June 2025 and became less marked on 23rd June 2025.

An upper air cyclonic circulation formed over westcentral and adjoining northwest Bay of Bengal off north Coastal Andhra Pradesh & south Odisha coast between 5.8 & 7.6 km above mean sea level at 0300 UTC of 23rd June 2025. This existing upper air cyclonic circulation over westcentral and adjoining northwest Bay of Bengal off north coastal Andhra Pradesh & south Odisha coast moved inland on 25th June 2025.

Another fresh upper air cyclonic circulation formed over northwest Bay of Bengal and adjoining north Odisha-West Bengal coasts at 1200 UTC of 24th June 2025 and persisted on 25th June over same region. Under the influence of the upper-air cyclonic circulation over northwest Bay of Bengal and adjoining coastal areas of north Odisha and West Bengal, a low-pressure area formed over the same region at 0300 UTC of 26th June 2025.

Hence, likely formation of formation of an upper-air cyclonic circulation over North Bay of Bengal and adjoining West Bengal & Bangladesh was captured in week 1 forecast. The existing WML is likely to move northwestwards and weaken gradually during next two days was captured in week 1 forecast. The formation of an LPA thereafter was also predicted well 2 weeks in advance.

Legends: : MJO: Madden Julian Oscillation, ERW: Equatorial Rossby Waves, KW: Kelvin Waves, NCICS: North Carolina Institute for Climate Studies (for Equatorial waves Forecast), IMD GFS: India Meteorological Department Global Forecast System, NCUM: National Centre for MediumRange Weather Forecasting Centre (NCMRWF) Unified Model, ECMWF: European Centre for Medium-Range Weather Forecasting, EC-AIFS: ECMWF Artificial Intelligence Forecasting System, ECMM: ECMWF-Ensemble System Bias Corrected, GPP: Genesis Potential Parameter, NCEP GFS/GEFS/CFS: National Centre for Environment Prediction GFS/GEFSv12/CFSv2, CPC: Climate Prediction Center (for MJO update), IMD-GEFS: GFS ensemble forecast system of IMD, NEPS: NCUM ensemble prediction system, CNCUM: Coupled NCUM, CPC: Climate Prediction Centre, NWS: National Weather Service, INCOIS: Indian National Centre for Ocean Information Services.

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(Next bulletin will be issued on 03rd July 2025)

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