



Issued on 13.11.2025

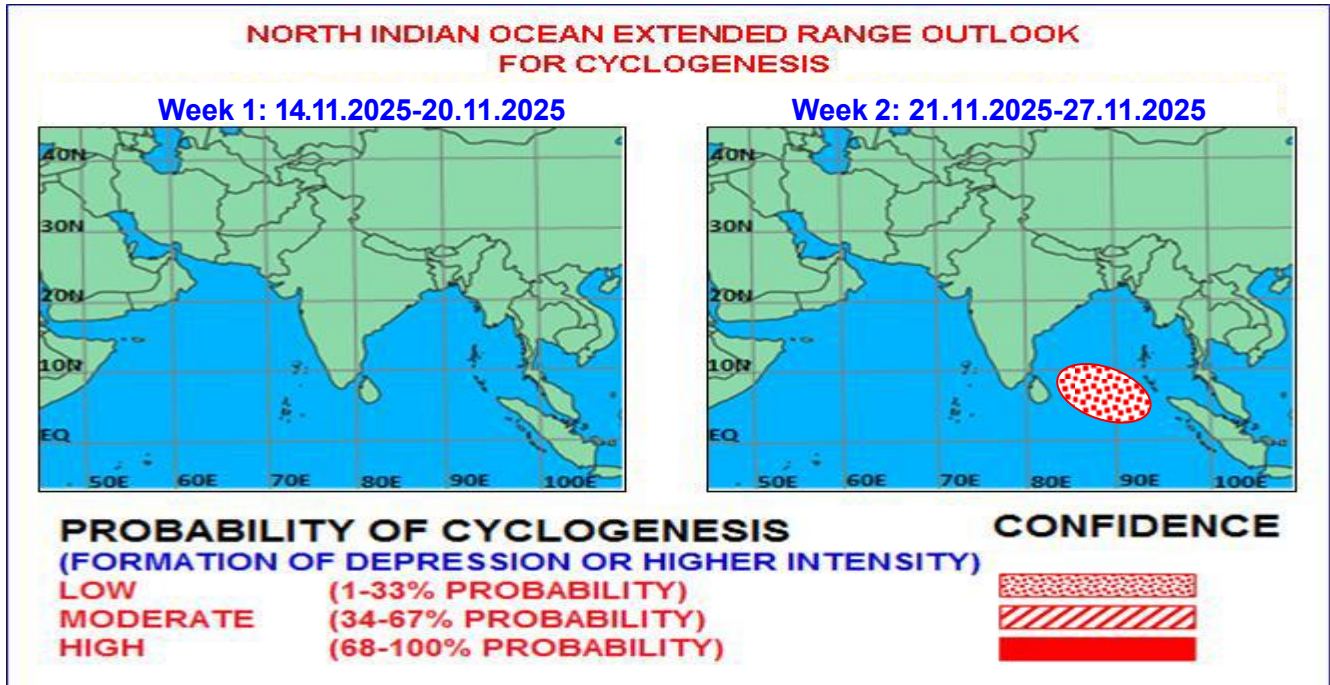


Fig. 1: Graphical Cyclogenesis over the north Indian Ocean during the next two weeks

I. Environmental features:

The guidance from the various models indicates that the Madden Julian Oscillation (MJO) index is presently in phase 6 with an amplitude close to 1.5 in the phase diagram. Most of the models suggest that the MJO is likely to remain in phase 6 with a slow eastward propagation and decreasing amplitude during the first week. Thereafter, the models' forecasts show a good agreement about the looping movement of MJO around its transition period from phase 6 to 7, with its amplitude close to 1 during week 2. Accordingly, the phases of MJO are not favourable for the convective activities over the North Indian Ocean (NIO) during the entire forecast period.

The tropical monitoring guidance from the NCICS indicates westerly wind anomaly (3-5 mps) over the southern parts of the North Indian Ocean (NIO), including the south Arabian Sea (AS) and south Bay of Bengal (BoB) adjacent to the North Equatorial Indian Ocean (NEIO) during the first week. A comparatively weaker westerly wind anomaly is likely to prevail over the central parts of AS, southern peninsular India and the central parts of BoB during the first half of week 1. The easterly wind anomaly (1-3 mps) is likely over the northern parts of AS and BoB during the entire week 1. The easterly wind anomaly is likely to appear gradually over central BoB and adjacent parts of south BoB, whereas the westerly wind anomaly strengthened (5-7 mps) over south & central AS and the southern part of BoB adjacent to NEIO during the second half of week 1. The Equatorial Rossby Wave (ERW) is likely to be moving westwards across peninsular India and then central AS during first half of week 1. In the second half of week 1, another spell of ERW is likely to propagate across the south BoB and adjoining NEIO. During week 2, the westerly wind anomaly (1-5 mps) is likely to prevail over the entire AS as well as over the south BoB & adjoining NEIO. There is a likely development of a dipole with strong easterly (5-7 mps) and westerly wind (7-9 mps) anomalies over central BoB and south BoB, respectively, starting at the end of week 1 and continuing till the middle

of week 2. During the same duration, the ERW is also likely to propagate across south BoB and southeast AS and adjoining NEIO. The low-frequency background wave is persisting over south BoB and southeast & eastcentral AS during the entire forecast period. Therefore, the zonal wind anomalies, along with the presence of the other equatorial waves, are creating a favourable environmental condition for the genesis of low pressure system over the south BoB and adjoining NEIO.

The latest weekly sea surface temperature SST departure over NINO 3.4 region is -0.84°C (9th November update), indicating a weak La Niña condition. Negative IOD conditions (IOD index with a weekly value of -1.57°C on 9th November) are likely to continue during November - December 2025. All these provide a favourable environment for convective activity over the NIO region.

II. Model guidance:

(a) Guidance for Extended Range models:

Mean wind field at 850 hPa of IMD ERF (CFS V-2) model is indicating prevalence of northerly/northeasterly winds nearly over the entire AS and BoB with a shear zone lying along 6°N latitude across north Equatorial Indian Ocean (EIO) during week 1. The respective anomaly wind field indicates northeasterly winds over the Andaman Sea and the south BoB. A feeble upper-air cyclonic circulation over central India is also visible in the anomaly wind field of week 1. Similar to the mean wind, the anomaly wind field also indicates a shear zone along 6°N latitude. An upper-air cyclonic circulation is indicated over South China Sea in the wind anomaly field of week 1. There is no anomalous trough associated with the ITCZ during week 1. The environmental condition is becoming favourable for the active phase of the northeast monsoon during week 1. The mean wind forecast for week 2 is furnishing stronger northeasterly winds over the entire AS and BoB compared to week 1. There is a well-established cyclonic circulation in the 850 hPa mean wind field over the southeast BoB and adjoining south Andaman Sea during week 2. However, respective wind anomaly furnishes westerly winds over the south & central AS and the south BoB. The anomaly wind field of week 2 forecast is also indicating a cyclonic circulation over the south BoB and adjoining south Andaman Sea. Another cyclonic circulation is also seen over the northeast and adjoining eastcentral AS during week 2. As both the mean and anomaly wind fields of week 2 forecast are showing a prominent cyclonic circulation over southeast BoB, which is extending up to 500 hPa pressure level, there is a high probability for the formation of an intense low pressure system over the same region. Accordingly, the model also indicates a potential belt over south BoB and adjoining NEIO with a low to moderate (30-40%) probability of cyclogenesis, with the largest value (60-70 %) over the Comorin area during week 1. During week 2, the probability of cyclogenesis increases, becoming 40-60% over the entire south BoB and adjoining Andaman Sea. The prominent zone of cyclogenesis also extends over westcentral BoB with low probability (20-30%) during week 2.

ECMWF ensemble forecast indicates a low probability (10-20%) over the southwest BoB off Sri Lanka-south Tamil Nadu coasts around 18th November. The region is likely to move west-northwestwards across southeast AS, reaching upto the central part of AS during the subsequent 4-5 days. Another zone over south BoB with prominent probability of cyclogenesis, with the largest value over the southeast BoB is indicated by the model around 23rd November. The sub-seasonal range forecast of ECMWF indicates 20-30% probability of cyclogenesis over the southwest BoB during 17th to 24th November.

(b) Guidance from Medium-Range NWP models:

Various deterministic medium-range global models (IMD GFS, GEFS, BFS, NCUM, NEPS, NCEP GFS, ECMWF, ECAI) indicate the prevalence of existing cyclonic circulation over southeast & adjoining southwest BoB during next 2-3 days with slow west-northwestwards movement. Further, the models are also indicating the emergence of a fresh cyclonic circulation into South Andaman Sea towards the end of week 1 (around 20th November). There is a good consensus among various models with respect to the formation of low pressure area and its further intensification into a depression. However, there is a large variation in area and timing of formation. Considering the consensus, there is likelihood of formation of low pressure area over the southeast Bay of Bengal towards the beginning of week 2 (around 21st November) and depression over the same region during the middle of week 2 (around 23rd November).

III. Inference:

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

- a. the existing upper air cyclonic circulation over southeast Bay of Bengal is likely to move nearly westwards across the southwest Bay of Bengal towards south Sri Lanka coast during the next 48 hours. Thereafter, it is likely to continue to move westwards across south Sri Lanka and Comorin area and reach over southeast Arabian Sea during the subsequent 2 days.
- b. another upper air cyclonic circulation is likely to emerge over the South Andaman Sea towards the end of week 1 (around 19th November). Under its influence, a low pressure area is likely to form over the southeast Bay of Bengal towards the beginning of week 2 (around 21st November) and, with a low probability, further intensify into a depression over the same region during the middle of week 2 (around 23rd November).

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

An extended range outlook issued on 30th October indicated no cyclogenesis over the region during the next two weeks.

Extended range outlook issued on 6th November indicated upper air cyclonic circulation over eastcentral and adjoining northeast Bay of Bengal (BoB) (remnant of the well-marked low pressure area over eastcentral BoB and adjoining Myanmar-Bangladesh coasts) to move southwestwards and reach southeast BoB around 12th November. Simultaneously, the remnant of typhoon Kalmaegi was indicated to move nearly westwards and emerge over the north Andaman Sea, as an upper air cyclonic circulation around 11th November. Both these cyclonic circulations were indicated to merge over southeast & adjoining eastcentral BoB around 12th November. Under its influence, a low-pressure area is likely to form over southwest BoB off Sri Lanka coast around 14th November.

Actually, the upper air cyclonic circulation over eastcentral and adjoining northeast BoB (remnant of the well-marked low pressure area over eastcentral BoB and adjoining Myanmar-Bangladesh coasts) moved south-southwestwards and lay over southwest and adjoining southeast BoB on 13th November. Remnant of typhoon Kalmaegi weakened over Thailand.

The NCMRWF-IMD satellite gauge merged data plot of 24-hour accumulated rainfall from 6th to 12th November 2025 is presented in **Fig.2**.

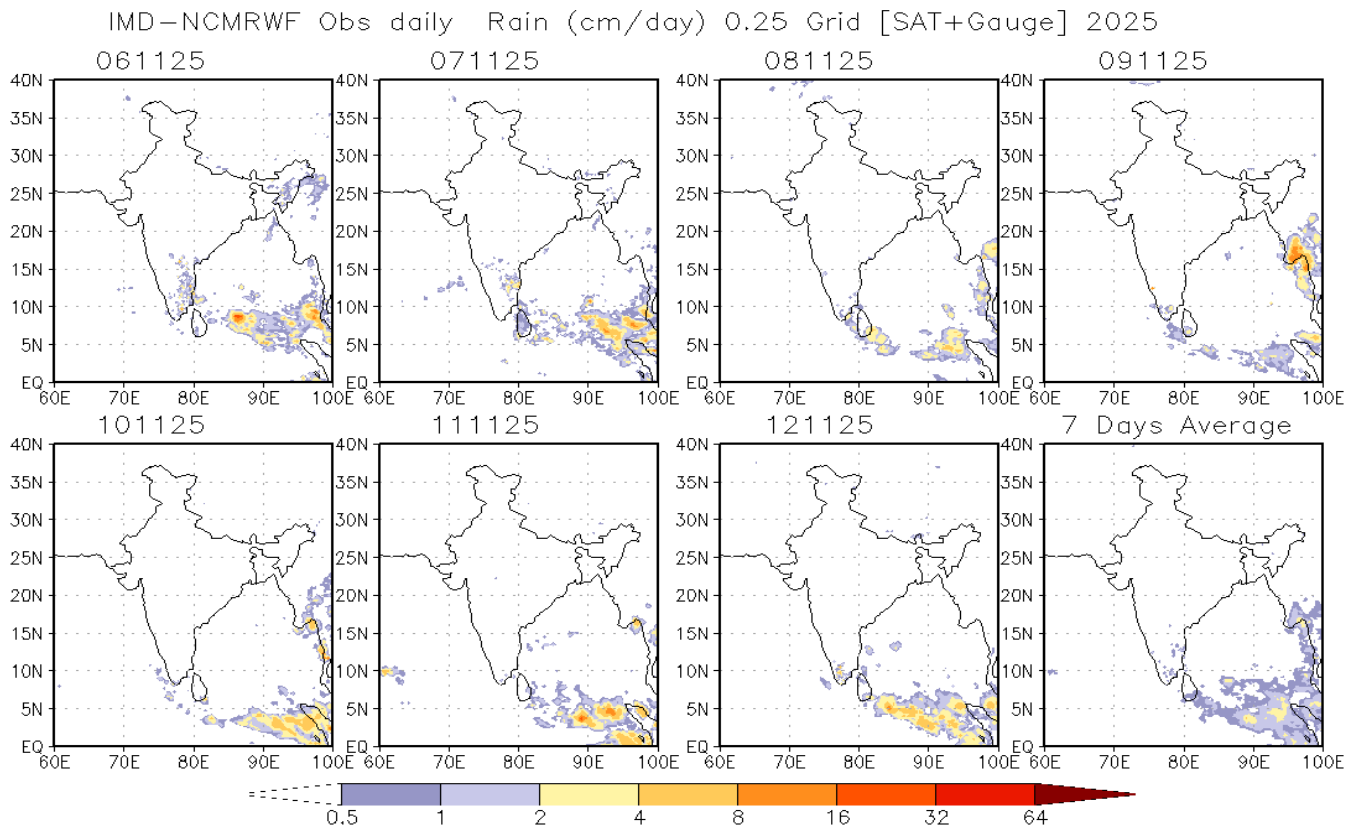


Fig. 2: NCMRWF-IMD satellite gauge merged data plots of 24-hour accumulated rainfall from 6th to 12th November 2025

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 Medium-Range 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, BFS: Bharat Forecast System, 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.

Next update: 20.11.2025