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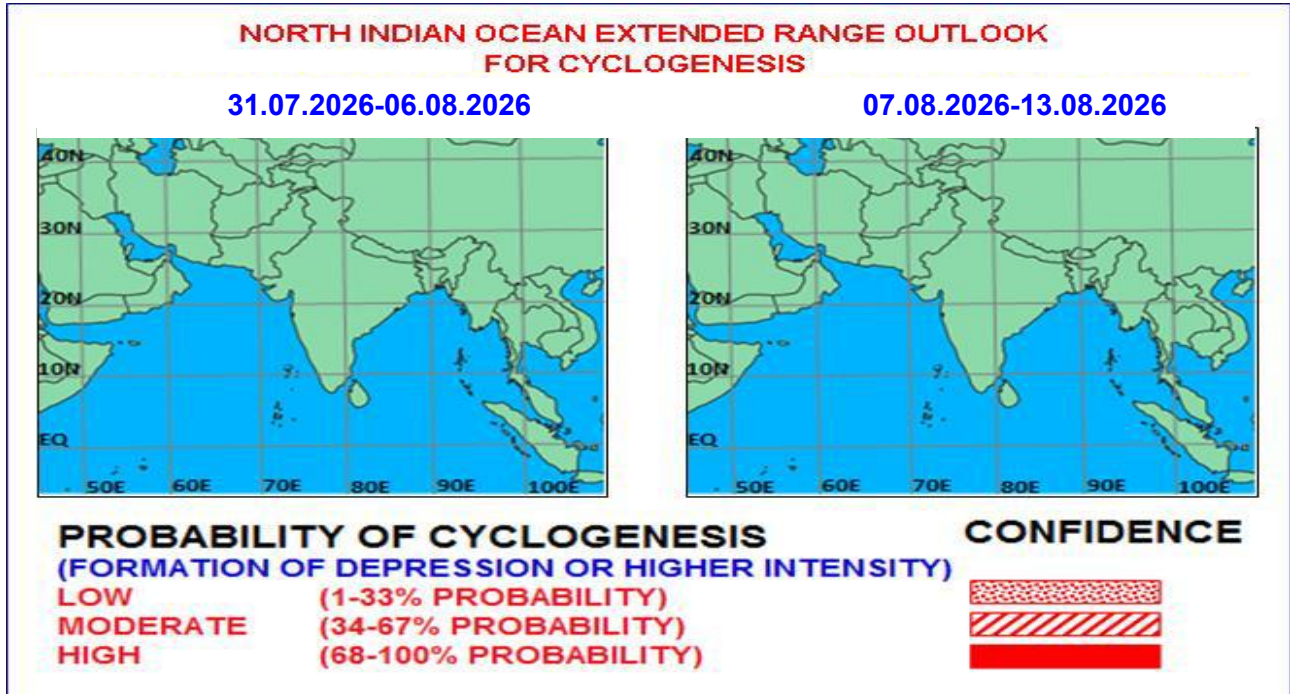


Fig. 1: Graphical Cyclogenesis over the north Indian Ocean during the next two weeks

I. Environmental features:

The guidance from various models (ECMM, GEFSV12, BoMM, NCMRWF) indicates that the MJO is currently in Phase 4, with an amplitude less than 1. It is likely to move rapidly across phases 4 & 5 with amplitude remaining less than 1 during 1st half of week 1. Thereafter, it is likely to move across phase 6 with increasing trend in amplitude during remaining part of the forecast period. Thus, MJO will support enhancement of convective activity and development of cyclonic circulation / low pressure area over Bay of Bengal (BoB) and central parts of India during 1st half of week 1.

The guidance from NCICS model indicates prevalence of weak westerly wind anomaly (3-5 mps) over southern parts of Arabian Sea (AS), south Peninsular India, south BoB alongwith Equatorial Rossby wave (ERW) and easterly wind anomaly to its north over north AS, northwest & adjoining central parts of India and north Andaman Sea during 1st half of week 1. These features indicate a favourable environment for maintenance of the intensity of existing Deep Depression over westcentral Chhattisgarh while moving westwards. During 2nd half of week1, enhanced westerly wind anomaly (7-9 mps) is indicated over south AS alongwith prevalence of ERW & MJO and easterly wind anomaly is indicated over south peninsular India. During the same period, the model indicates westerly wind anomaly (5-7 mps) over some parts of southwest BoB & adjoining equatorial Indian Ocean alongwith Kelvin Wave (KW) and easterly wind anomaly is indicated over north BoB. Over the Indian region, westerly wind anomaly is indicated over north & adjoining central parts of India and easterly wind anomaly (3-5 mps) is indicated to its south over central & adjoining south Indian during later part of week 1. These features indicate weakening of seasonal monsoonal trough and favourable environment for development of cyclonic circulation over southeast AS & adjoining Comorin Area during later part of week 1.

During week 2, the model is indicating extension of westerly wind anomaly (3-5 mps) from south AS upto south Andaman Sea across entire south BoB alongwith MJO wave and weak easterly wind anomaly (1-3 mps) is indicated over north AS and northern parts of India. These features indicate a weaker phase of southwest monsoon over the region.

El Niño conditions prevail over the equatorial Pacific Ocean, with sea surface temperature (SST) anomalies remaining above normal across the central and eastern equatorial Pacific. These conditions are expected to strengthen further during the Southwest Monsoon season. Forecasts from the Monsoon Mission Coupled Forecast System (MMCFS) also indicate a continued strengthening of El Niño conditions throughout the Southwest Monsoon season.

Neutral Indian Ocean Dipole (IOD) conditions prevail over the Indian Ocean. Forecasts from the Monsoon Mission Coupled Forecast System (MMCFS) indicate that these neutral IOD conditions are likely to persist throughout the Southwest Monsoon season

Model Guidance:

(a) Guidance from Extended Range models:

The forecast of the mean wind field at 850 hPa pressure level from IMD Extended Range model (MME CFS-V2) indicates strong westerly/southwesterly winds over the south & central AS and entire BoB, with a cyclonic circulation over central parts of India (Madhya Pradesh) during week 1. Corresponding anomaly field is indicating anomalous cyclonic circulation over eastcentral AS during week 1. During week 2, the model is indicating southwesterly/west-southwesterly winds extending over south & central AS, central & south India and entire BoB. The seasonal monsoon trough is indicated to shift northwards towards foothill of Himalayas. Corresponding anomaly field is indicating anomalous east-west shear zone over central parts of India, indicating weakening of monsoon conditions over Indian region during week 2. The model is also indicating anomalous cyclonic circulation over south peninsular India during week 2.

The NCMRWF ERF model mean wind forecast indicates monsoonal westerlies/southwesterlies over the entire AS & BoB during week 1 and week 2. The mean wind field does not show any upper-air cyclonic circulation during week 1 whereas a prominent upper-air circulation is indicated over Gangetic west Bengal and neighbourhood during week 2. The anomaly wind field indicates an anomalous upper-air cyclonic circulation over the Southeast Rajasthan and neighbourhood during week 1. Another cyclonic circulation over eastcentral and adjoining southeast Bay of Bengal is indicated during week 1. Model is also indicating another anomalous upper air cyclonic circulation over Gangetic West Bengal and adjoining North Odisha during week 2. However, westerly/ southwesterly flow of monsoon over the Arabian Sea is weaker during week 2 compared to week 1.

The model predicts a significant circular zone with a moderate-to-high (70-80%) probability of cyclogenesis over central parts of India during week 1 and low probability (30-40%) over southwest BoB during week 2.

The sub-seasonal forecast of ECMWF shows low (20-30%) probability of cyclogenesis over the northwest India till 3rd August, 2026.

Climatologically, there is around 15-20% probability of cyclogenesis over the North Indian Ocean region during the forecast period. The cyclogenesis forecast probability by ECMWF over BoB is higher than the climatological probability. ECMWF sub-seasonal forecast from 3rd to 17th August does not show any probable cyclogenesis over the North Indian Ocean.

(b) Guidance from Medium-Range NWP models:

Most of the models are indicating existing deep depression over westcentral Chhattisgarh and adjoining areas of Vidarbha & southeast Madhya Pradesh is likely to move nearly westwards during next 6-12 hours and weaken into a depression. Thereafter, although the models have consensus about the movement but they have varied forecasts for the intensity of the low pressure system. The ECMWF and IMD-GFS indicate the deep depression is likely to weaken over the Vidarbha during next 12 hours. Thereafter, it is likely to maintain its intensity of depression while moving nearly westwards towards Gujarat region during subsequent 24 hours. The NCEP GFS shows weakening of the system over Madhya Maharashtra and neighborhood on 31st August. The Mithuna model predicts very quick northwestward movement reaching West Rajasthan & adjoining Gujarat during next 2 days. Both IMD-GFS and BharatFS models indicate formation of a low pressure area over South Andaman Sea and adjoining southeast BoB on 5th August which is likely to intensify into a cyclonic storm abruptly on 6th August over Andaman Sea and adjoining east central BoB. However, no other model indicate such a cyclogenesis over BoB and Andaman Sea.

EC-AIFS model forecasting is similar to the forecast of the ECMWF deterministic model. AIGFS model is indicating that the Deep Depression to likely weaken into a depression over Madhya Maharashtra on 31st July. It is likely to maintain its intensity while moving nearly westwards toward north Gujarat region & neighborhood during subsequent 24 hours. The three different AI models of NCMRWF based on Mithuna indicate varying forecasts about the present deep depression over westcentral Chhattisgarh and neighborhood. The Pangu model is nearly similar to control Mithuna model. It also indicates a fresh formation of a low pressure area over north BoB around 8th August which is likely to intensify further to become a depression over the same region on 9th August. Whereas the FourCastNet model indicates quick dissipation of the system over central India during next 2 days. The GraphCast model indicates nearly westwards movement towards north Konkan and South Gujarat coasts during next 2 days. The model also indicates a fresh formation of low pressure area over westcentral BoB around 7th August, which likely to become more marked while move northwards over northwest BoB.

Operational extended forecast for the next two weeks:

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

- (a) the existing deep depression is likely to move nearly westwards across Chhattisgarh and weaken into a depression during next 12 hours. Thereafter, it is likely to move nearly west-northwestwards across Maharashtra and adjoining south Madhya Pradesh as a depression during subsequent 2 days.
- (b) a fresh upper air cyclonic circulation is likely to form over northwest Bay of Bengal and adjoining North Odisha-West Bengal at the end of week 1 & the beginning of week 2. Under its influence, a low pressure area is likely to form over the same region in the middle of week 2.

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

- i. The extended range outlook issued on 16th July for week 2 (24.07.2026-30.07.2026) indicated likelihood of development of a fresh upper-air cyclonic circulation over the northwest Bay of Bengal during later half of week 2 (around 27th July).
- ii. The extended range outlook issued on 23rd July for week 1 (24.07.2026-30.07.2026) indicated a fresh upper air cyclonic circulation is likely to form over northwest Bay of Bengal and adjoining North Odisha-West Bengal around 25th July. Under its influence, a low pressure area is likely to form over the same region around 26th July. It is likely to move nearly

northwestwards across North Odisha & adjoining Gangetic West Bengal, Jharkhand, North Chhattisgarh and adjoining East Madhya Pradesh & southeast Uttar Pradesh during subsequent 3-4 days.

Realised weather:

- i. A fresh upper air cyclonic circulation formed over northwest Bay of Bengal & neighbourhood between 5.8 & 9.4 km above mean sea level at 1200 UTC of 23rd July 2026.
- ii. Under the influence of yesterday's upper air cyclonic circulation a low pressure area formed over northwest Bay of Bengal and adjoining Gangetic West Bengal-North Odisha coasts at 0000 UTC of 25th July, 2026. Associated upper air cyclonic extended upto 9.4 km above mean sea level. It's likely to meander over the same region and become more marked during next 2-3 days.
- iii. The Low Pressure Area over west Bengal coast & adjoining northwest Bay of Bengal lay as a Well-marked Pressure Area over northwest Bay of Bengal & adjoining Odisha-West Bengal coasts at 0000 UTC of 26th July 2026 and concentrated into a Depression and lay centred at 0300 UTC of 26th July 2026, over the same region.
- iv. The Depression over northwest Bay of Bengal and adjoining areas of North Odisha-West Bengal coasts moved very slowly northwards with the speed of 3 kmph during past 6 hours, intensified into a deep depression and lay centred at 0000 UTC of 27th July 2026, over northwest Bay of Bengal and adjoining areas of West Bengal-North Odisha.
- v. The Deep Depression crossed West Bengal-north Odisha coasts close to between 1900-2000 UTC of 27th July.

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, Mithuna: National Centre for Medium-Range Weather Forecasting Centre (NCMRWF) Unified Model, ECMWF: European Centre for Medium-Range Weather Forecasting, BOMM: Bureau of Meteorology, Australia, 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: 06.08.2026