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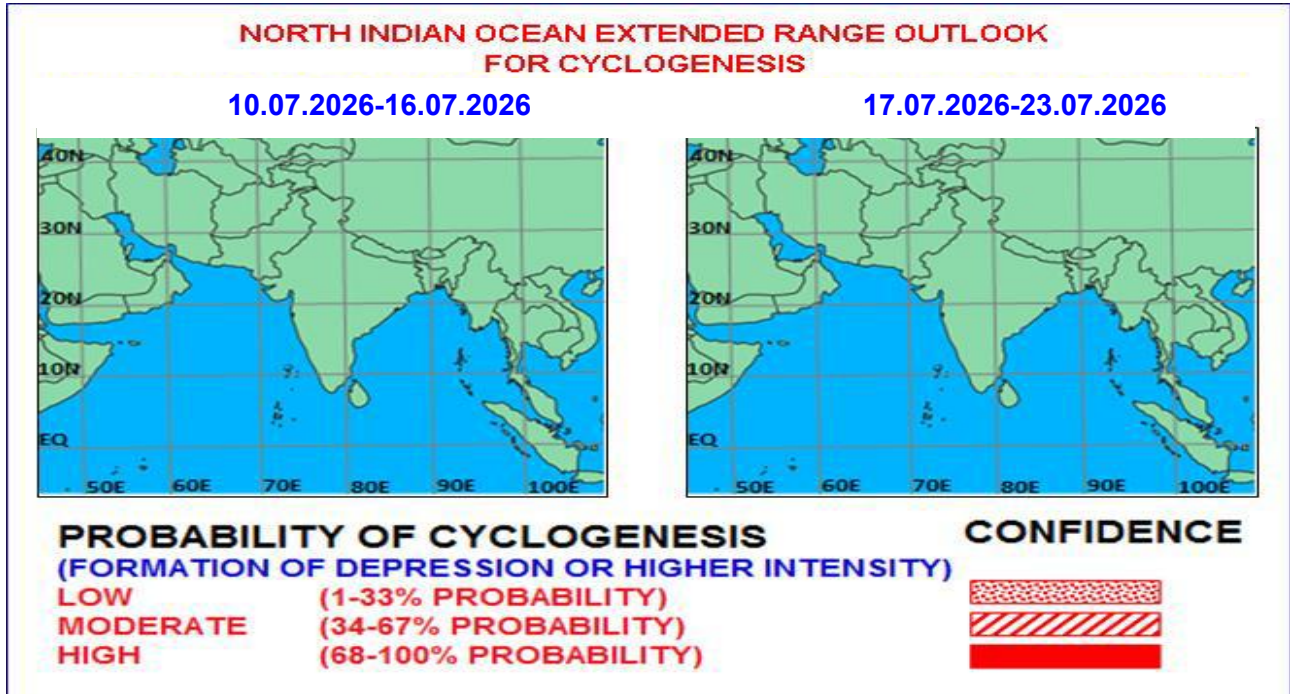


Fig. 1: Graphical Cyclogenesis over the north Indian Ocean during the next two weeks

I. Environmental features and Equatorial waves:

The guidance from various models (GEFSV12, BoMM, NCMRWF) indicates that the MJO is currently in Phase 8, with an amplitude exceeding 1. It is likely to remain in the same phase with looping/loop-back movements, with an increasing trend in amplitude, followed by a decreasing trend in the amplitude throughout the entire forecast period.

Equatorial Waves

The guidance from NCICS model indicates that the prevalence of westerly wind anomaly (5-7 mps) is likely over the north and central Arabian Sea (AS) and over the entire Bay of Bengal (BoB), along with westward-moving Equatorial Rossby Wave (ERW) & MJO over the northern and adjoining central parts of BoB during the first half of week 1. During the same period, an anomalous easterly wind (3-5 mps) is likely over northern Gangetic plains and northwest India, along with eastward-moving Kelvin waves over the same region. The model also shows that the westerly wind anomaly (5-7 mps) is likely to persist over north & central AS and over south & central BoB, along with an ERW over central AS & peninsular India during the second half of week 1. The easterly wind anomaly is also likely to prevail north of the westerly wind over the BoB till the end of week 1. But during the same time, a weak easterly anomaly (1-3 mps) is likely to develop over the south AS, which is likely to persist till the end of week 2. During week 2, the anomalous westerly is likely to weaken (1-3 mps) over AS, but replace the easterly wind anomaly over northwest India. However, the westerly wind anomaly (5-7 mps) is likely to be maintained during week 2.

Therefore, a favourable environment for the monsoon activity is likely to prevail over the north & central AS and the entire BoB during week 1, providing support towards upper-air cyclonic circulations/low pressure systems over the northern parts of BoB and the northern plains. On the other hand, there is a likely

weakening of the cross-equatorial flow over AS from the second half of week 1. During week 2, there is likely to be a shift of the western end of the monsoon trough towards the north, leaving the eastern end dipping towards north BoB.

II. Model Guidance:

(a) Guidance from Extended Range models:

During week 1, the 850 hPa mean wind field forecast of IMD Extended Range model (MME CFS-V2) indicates strong seasonal west-southwesterly winds over the entire AS and BoB, with a weak upper-air cyclonic circulation over Uttar Pradesh of northwest India embedded within the monsoon trough, which runs along the foothills of the Himalayas during week 1. The associated wind anomaly at 850 hPa pressure level indicates mainly westerly winds over north & central AS, as well as nearly over the entire BoB. An anomalous upper-air cyclonic circulation is seen over the same region of northwest India. The easterly wind anomaly is indicated over the south & adjoining central AS, Comorin area and adjoining southwest BoB with an east-west ridge line across the middle of south AS with an anticyclone over southeast AS during week 1. Therefore, a possible break situation in the monsoon is likely to develop at the end of week 1.

The model indicates that the strong westerly/southwesterly mean wind field is likely to persist over both AS and BoB sub-basins during week 2 as well. The seasonal monsoon trough is likely to remain along the foothills of Himalayas north of its normal position during week 2. Corresponding wind anomaly at 850 hPa indicates predominantly westerly wind anomaly is likely to prevail over north & central AS and over the entire BoB. Although the wind anomaly shows no upper-air cyclonic circulation during week 2. The anomaly is showing the east-west ridge line across South AS, shifting a little southward, is likely to persist during week 2.

The NCMRWF ERF model mean wind field indicates similar characteristics over week 1 & 2. The corresponding anomaly wind field portray an anomalous upper air anti-cyclonic circulation over central India representing weak monsoon condition over India. The mean wind scenario during week 2 indicates the shifting of western end of the seasonal trough towards the foothills of Himalayas and eastern end dipping towards the north BoB. The model also indicates anomalous easterly winds to prevail to the south of 15°N latitude across both the sub-basins with strong westerlies across central parts of India representing subdued monsoon activity during week 2.

The ECMWF ensemble forecast does not indicate any zone with significant probability of cyclogenesis over both the basins till 21st July.

The sub-seasonal forecast of ECMWF shows that there is a very low probability of cyclogenesis over the northwest BoB (5-10%) during the week of 13th to 20th July, 2026. However, the model does not indicate any zone with significant probability of cyclogenesis over the Indian region during the week from 20th to 27th July, 2026.

Climatologically, there is around 10% probability of cyclogenesis over the North Indian Ocean region during the forecast period. The cyclogenesis forecast probability by various extended range models over BoB is lower than the climatological probability.

(b) Guidance from Medium-Range NWP models:

Most of the deterministic models (ECMWF, NCEP GFS, IMD GFS, GEFS, BFS) are indicating existing well marked low-pressure area (LPA) over southwest Uttar Pradesh & neighbourhood to move slowly north-northeastwards and weaken gradually during next 24 hours. NCEP GFS, Mithuna and ECMWF models are also indicating development of an upper air cyclonic circulation over Bihar around 13th July and persist over the same region for next 2 days. Thereafter, most of the models are indicating development of another

upper air cyclonic circulation over northwest Bay of Bengal around 16th July. Under its influence, the models are also indicating development of a low pressure area over the same region during subsequent 3-4 days. However, AI models (Pangu Weather and GraphCast based on Mitnuna) are indicating existing well marked low pressure area to move slowly northeastwards with gradual weakening during next 2-3 days. The model is also indicating development of an upper air cyclonic circulation over north BoB around 11th July with further intensification into a low pressure area around 12th and depression around 13th July over the same region, before it shows usual west-northwestwards movement across Odisha, North Chhattisgarh and East Madhya Pradesh during subsequent 3-4 days. FourCastNet is showing existing well marked low pressure area over Uttar Pradesh to weaken gradually during next 24 hours while moving northeastwards. The model is also indicating a fresh upper air cyclonic circulation over Bihar around 13th July with nearly westwards movement and no significant intensification. ECAI is indicating existing well marked low pressure area over south Uttar Pradesh to gradually move nearly northeastwards and become less marked during next 24 hours. The model is also indicating development of a fresh upper air cyclonic circulation over Bihar and another over Head BoB around 13th with gradual west-northwestwards movement along the seasonal monsoon trough. AIGFS is indicating existing well marked low pressure area to move nearly east-northeastwards during next 3-4 days. Thereafter, the model is indicating a trough extending from northeast Uttar Pradesh to Northwest BoB with embedded cyclonic circulation over northwest BoB. It is further indicated to intensify further into a low pressure area around 14th July and a well marked low pressure area around 15th July with west-northwestwards movement along the seasonal trough.

III. 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 Well Marked Low Pressure area over southwest Uttar Pradesh & neighbourhood is very likely to move slowly northeastwards and weaken gradually during the next 24 hours.
- (b) an upper-air cyclonic circulation is likely to develop over Bihar & neighbourhood during second half of week 1.
- (c) there is a likelihood of development of a fresh upper-air cyclonic circulation over the northwest Bay of Bengal and adjoining areas of West Bengal & Odisha coasts towards the end of week 1. Under its influence, a low pressure area is likely to form over the same region during first half of week 2.

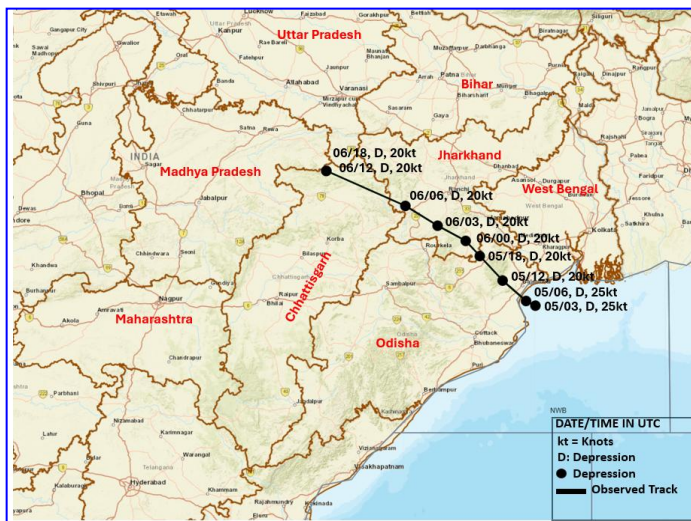
IV. Verification of forecast issued during the previous two weeks:

Forecast issued: The extended range outlook issued on 25th June for week 2 (03.07.2026-09.07.2026) indicated the formation of an upper air cyclonic circulation over the northwest Bay of Bengal towards the end of week 1 and under its influence a low pressure area over the North Bay of Bengal in the beginning of week 2. It was indicated to intensify further. However, no cyclogenesis was indicated during the week.

The extended range outlook issued on 02nd July for week 1 (03.07.2026-09.07.2026) indicated further intensification of low-pressure area over northwest BoB during first half of the week. However, no cyclogenesis was indicated during the week.

Realised: A low-pressure area formed over northwest BoB and adjoining north Odisha-West Bengal coasts in the morning (0300 UTC) of 2nd July, 2026. It became a Well-Marked low Pressure Area over Northwest BoB & neighbourhood in the early morning (0000 UTC) of the 4th July, 2026. It moved west northwestwards and concentrated into a Depression over northwest BoB and adjoining areas of North Odisha-West Bengal coasts in the morning (0300 UTC) of 5th July, 2026. Continuing to move further west-northwestwards, it weakened into a well marked Low Pressure area over east Madhya Pradesh and neighbourhood in the early morning (0000 UTC) of 7th July, 2026. Continuing to move further west-northwestwards, it lay over southwest Uttar Pradesh and neighbourhood on 9th July (0300 UTC). Thus, the

formation of cyclonic circulation, low pressure area and its further intensification was well predicted. The observed track of the system is given below



Observed track of depression over Northwest Bay of Bengal during 5th – 6th July, 2026
(depression to depression)

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: 16.07.2026