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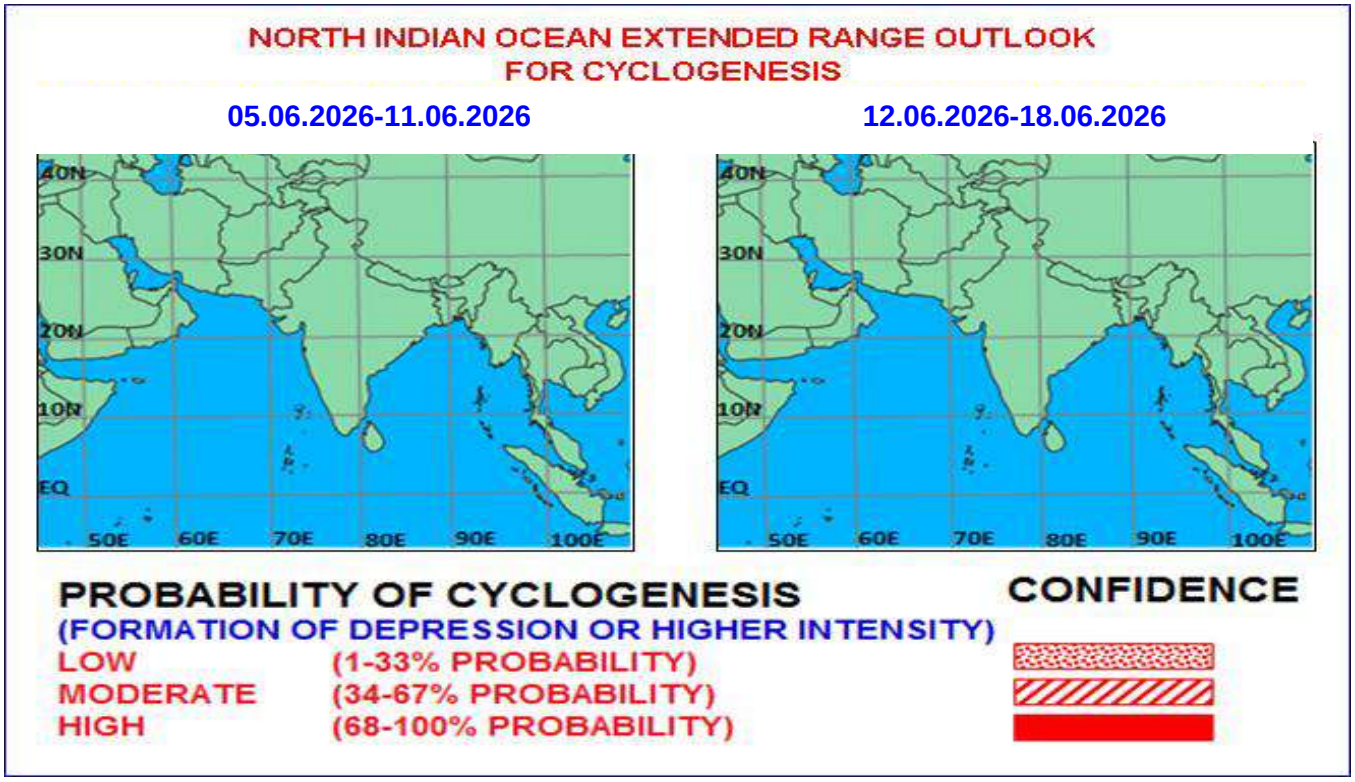

Fig. 1: Graphical Cyclogenesis over the north Indian Ocean during the next two weeks

I. Environmental features and Equatorial waves:

The guidance from ECMM model indicates that the Madden-Julian Oscillation (MJO) index is currently in phase 8 with amplitude more than 1. It is likely to move across phases 8 and 1 during the forecast period with gradually decreasing amplitude, becoming less than 1 from later half of week 1. Thus, as per ECMM, MJO is not likely to contribute to enhancement of convective activity over the North Indian Ocean including the Bay of Bengal (BoB) and the Arabian Sea (AS) during next 2 weeks. However, MJO presence in phase 1 may lead to strengthening of westerlies over the AS.

The guidance from the NCICS model indicates the prevalence of westerly wind anomaly (5-7 mps) alongwith an approaching Equatorial Rossby wave (ERW) over South Andaman Sea, south BoB, & southeast AS and easterly wind anomaly (5-7 mps) over northeast & adjoining eastcentral BoB & north Andaman Sea and (1-3 mps) over eastcentral AS. These features indicate a favourable environment for maintenance of intensity of the upper air cyclonic circulation over North Andaman Sea and Eastcentral AS during first half of week 1.

During later half of week 1, the model is indicating weak westerly wind anomaly (1-3 mps) alongwith Low frequency background wave (LW) & another ERW over south Andaman Sea & adjoining areas of southeast BoB & Equatorial Indian Ocean (EIO) and weak easterly wind anomaly (1-3 mps) over north BoB. Over the AS, westerly wind anomaly (1-3 mps) is extending upto central AS & the west coast of India upto Karnataka alongwith ERW over central AS and

easterly wind anomaly to its north over northeast & adjoining northwest AS during the same period. These features indicate favourable environment for development of some cyclonic circulation over the eastcentral AS during later half of week 1.

During week 2, eastablishment of westerly wind anomaly is indicated over most parts of south & adjoining central AS, south peninsular India, south & central BoB with arrival of fresh ERW over North Andaman Sea. However, easterly wind anomaly is indicated over southwest AS, indicating weak cross equatorial flow towards NIO region.

Model Guidance:

(a) Guidance for Extended Range models:

During week 1, the 850 hPa mean wind field forecast of IMD Extended Range model (MME CFS-V2) indicates the prevalence of (1) predominantly west-southwesterly winds covering south & most parts of central AS & entire BoB. Corresponding anomaly field is indicating, a cyclonic wind anomaly over North Andaman Sea.

During week 2, the 850 hPa mean wind field is indicating strengthening of west-southwesterly winds over south & central AS, south peninsular India and predominantly westerly/southwesterly winds over entire BoB & Andaman Sea. Corresponding anomaly field is indicating an east-west trough over central BoB.

The 850 hPa mean wind field of NCMRWF extended range model (CNCUM) is indicating southwesterlies covering south & adjoining eastcentral AS, parts of south Peninsular India, south & most parts of central BoB and Andaman Sea during week 1. During week 2 strengthening of cross-equatorial flow is indicated with southwesterlies covering south & entire central AS and entire BoB & Andaman Sea.

Above normal precipitation anomaly is indicated over eastcentral AS, Kerala & adjoining south interior Karnataka, Andaman Sea and southeast BoB is indicated by both IMD CFSV2 and NCUM.

With respect to cyclogenesis, IMD MME-CFSV2 model is indicating a zone with moderate (40-50%) probability of cyclogenesis over the eastcentral AS and moderate to high (60-70%) over eastcentral BoB off Myanmar coast during week 1. During week 2, low (30-40%) probability of cyclogenesis is indicated over northeast & adjoining eastcentral BoB off Myanmar-south Bangladesh coasts.

The sub-seasonal ECMWF model is indicating low (10-20%) probability of cyclogenesis over northeast & adjoining eastcentral BoB off Myanmar-south Bangladesh coasts during week 1 and (05-10%) over northwest BoB during week 2. Over the AS, the model is indicating low (10-20%) probability of cyclogenesis over eastcentral & adjoining northeast AS off maharashtra-south Gujarat coasts during week 1 and no probable zone during week 2.

The higher cyclogenesis probability indicated by IMD CFSV2 is against the 8-10% climatological probability of cyclogenesis over the North Indian Ocean region during the forecast period.

(b) Guidance from Medium-Range NWP models:

Most of the deterministic models are indicating existing upper air cyclonic circulation over Goa and adjoining eastcentral AS to slowly move north-northwestwards towards South Gujarat coast during next 4-5 days with no further intensification. Similarly, the existing upper air cyclonic circulation over North Andaman Sea is indicated to move north-northwestwards along the coast with no further intensifiication during next 3-4 days.

ECMWF and NCEP GFS are also indicating development of a fresh upper air cyclonic circulation over North BoB towards the end of week 2 (around 17th June). Ensemble mean alongwith spread of mean sea level pressure by ECMWF model is also indicating likelihood of development of a low-pressure area over Head Bay towards the end of week 2.

Operational extended forecast for next two weeks:

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

(a) existing upper air cyclonic circulation at 700 hPa over Goa & adjoining eastcentral Arabian Sea to move north-northwestwards during next 4-5 days towards northeast AS off South Gujarat-North Konkan coasts with no further intensification.

(b) existing upper air cyclonic circulation over North Andaman Sea to move north-northwestwards along Myanmar-South Bangladesh coasts during next 3 days with no further intensification.

(c) development of a fresh upper air cyclonic circulation / low pressure area over North BoB towards end of week 2.

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

Forecast issued:

The extended range outlook issued on 21st May for week 2(29.05.2026-04.06.2026) indicated development of:

(i) fresh upper air cyclonic circulation over southeast Arabian Sea around 30th May.
(ii) another upper air cyclonic circulation/ low pressure area over eastcentral BoB during end of week 1 or beginning of week 2 (around 28th -29th May) with gradual west-northwestward movement.

The extended range outlook issued on 28th May for week 1(29.05.2026-04.06.2026) indicated:

i) existing upper air cyclonic circulation over southeast Arabian Sea to move northwestwards during next two days with no significant intensification.
ii) existing upper air cyclonic circulation over eastcentral & adjoining southeast BoB to move north-northwestwards during next 4-5 days.

Realized weather:

1) Actually, an upper air cyclonic circulation formed over eastcentral & adjoining southeast Bay of Bengal on 26th May 2026 and became less marked over northeast and adjoining eastcentral Bay of Bengal on 03rd June 2026.
2) Another upper air cyclonic circulation formed over Southwest Bay of Bengal and adjoining Tamil Nadu coast on 29th May 2026 and merged with the trough over Eastcentral Bay of Bengal to Lakhsadweep area across westcentral & southeast Bay of Bengal, and Comorin area on 30th May 2026.
3) Fresh upper air cyclonic circulation formed over northwest Bay of Bengal off south Odisha coast on 31st May. It merged with the trough running from the cyclonic circulation over Vidarbha to the cyclonic circulation over eastcentral Bay of Bengal across south Chhattisgarh, south Odisha, north Coastal Andhra Pradesh & westcentral adjoining northwest Bay of Bengal on 31st May 2026.
4) Another upper air cyclonic circulation formed over the Southeast Arabian Sea & neighborhood on 26th May 2026. It lay over Goa & adjoining eastcentral Arabian Sea on 4th June 2026.

5) Fresh upper air cyclonic circulation formed over Southwest Arabian Sea & neighbourhood on 30th May and became less marked on 02nd June over the same region.
6) Another fresh upper air cyclonic circulation formed over north Andaman Sea & neighborhood on 03rd June and persisted over the same region on 04th June 2026.

Thus, cyclonic circulation over AS and BoB were well predicted two weeks 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 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: 11.06.2026