India Meteorological Department
Ministry of Earth Sciences
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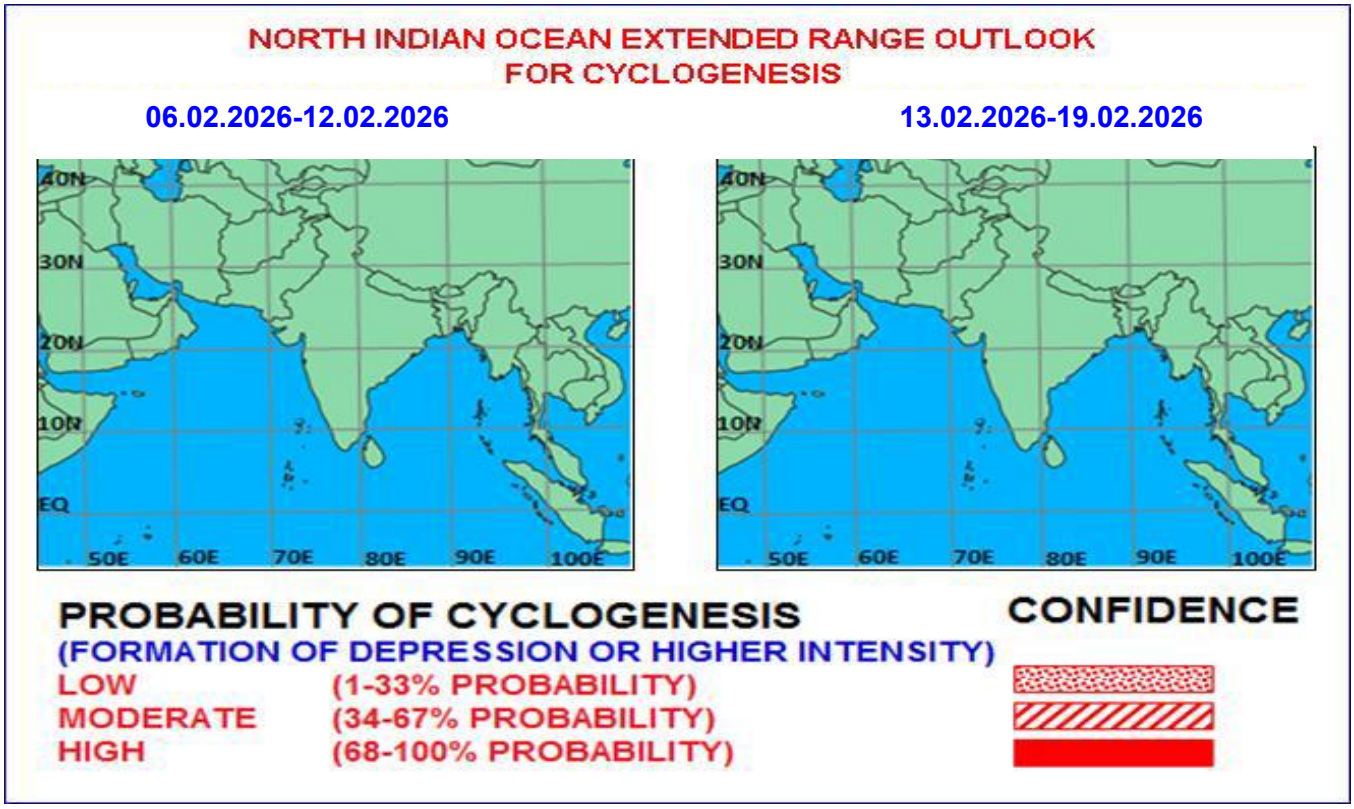

Fig. 1: Graphical Cyclogenesis over the north Indian Ocean during the next two weeks

I. Environmental features:

The guidance from various models indicates that the Madden-Julian Oscillation (MJO) index is currently entering phase 2 with an amplitude slightly lesser than 1. There is a lack of consensus between the models regarding the eastward propagation during the next two weeks. However, the MJO signal amplitude is likely to remain close to or less than 1 during week 1. It is likely move across phases 2 and 3 very slowly during the entire forecast period, as the members of the ensemble show a clustering either in phase 2 or 3. Hence, the MJO signal shows an ambiguous looping/stagnation within phase 2 by a number of models during both weeks. Whereas others indicate that the MJO is likely to loop within phase 3 after it moves across phase 2 during the first half of week 1. Accordingly, the MJO is very likely to support the enhancement of convective activity over the Arabian Sea (AS) as well as over the Bay of Bengal (BoB) during both week 1 and week 2.

The guidance from the NCICS model indicates that a weak easterly wind anomaly (1-3 mps) is likely to prevail over the entire BoB and AS during the entire forecast period. The only exception is likely with a weak westerly wind anomaly (1-3 mps) over the Andaman Sea and adjoining southeast BoB and western parts of southwest AS during the first half and over southeast and adjoining eastcentral AS during the second half of week 1. Kelvin wave (KW) is likely to be seen propagating eastwards across the south BoB during the first half, and Equatorial Rossby waves (ERW) activity is likely over the southwest BoB during the second half of week 1. These features indicate that the zonal wind characteristics with equatorial waves would support convective activity associated with the easterly waves over the southwest BoB and adjoining Sri Lanka and Tamil Nadu. The extension of easterly wind anomaly during the second week over northern India is likely provide support for induced convective activity due to the western disturbance over northwest India during week 2.

II. Model Guidance:

(a) Guidance for Extended Range models:

The 850 hPa mean wind field of IMD Extended Range model (MME-CFSV2) indicates an anticyclone over Gujarat with a ridgeline extending westwards along 21°N latitude and the northeasterly/easterly the entire AS and BoB during week 1. Associated wind anomaly shows an anticyclone over Gujarat and a feeble cyclonic circulation over northeast BoB with a north-south trough extending up to southwest BoB. During the second week, the mean wind at 850 hPa indicates nearly similar northeasterly/easterly wind over AS and BoB, but with a cyclonic circulation over the southeast BoB embedded within an east-west trough from south China Sea to the southwest BoB. The corresponding wind anomaly field for week 2 indicates one cyclonic circulation over the southeast BoB and another weak cyclonic circulation over eastcentral BoB. Accordingly, associated with the easterlies over the south BoB and adjoining south Sri Lanka, the positive rainfall activity is likely in the region during week 1. The rainfall forecasts of week 2 by the model show that due to the cyclonic circulation, the enhanced rainfall activity is likely over the southeast and adjoining eastcentral BoB & Andaman Sea, as well as over Andaman & Nicobar Islands.

The 850 hPa wind field of NCMRWF extended range model indicates the seasonal anticyclone over Odisha & neighbourhood and confluence of easterlies & northeasterlies over the southwest BoB & Comorin area during week 1 and week 2. Unlike IMD ERF, the NCMRWF ERF indicates anomalous westerly wind over the south BoB and the Andaman Sea during week 1. However, during week 2 the easterly anomaly is likely over the entire BoB and AS. Precipitation anomaly charts are indicating below average rainfall over the southwest BoB and adjoining Sri Lanka during week 1 and above-normal rainfall over the south BoB adjacent to the Equatorial Indian Ocean (EIO) during week 2.

ECMWF sub-seasonal range forecast is indicating no probable zone for cyclogenesis over the NIO during next 2 weeks.

IMD ERF indicates low-moderate (40-50 %) probability of cyclogenesis over a small area in southwest BoB and Comorin area off south Sri Lanka coast during week 1 and over South Andaman Sea and southeast BoB and adjoining areas of eastcentral BoB & Indonesia during week 2.

(b) Guidance from Medium-Range NWP models:

Various deterministic models, including IMD GFS, GEFS, NCUM, NEPS, ECMWF, ECAI and NCEP GFS do not indicate any cyclogenesis over the NIO region during the next 10 days. However, various deterministic models indicate enhanced easterlies over the southwest BoB and Comorin area during many days of week 1. The IMD GFS and Bharat Forecast System indicate the formation of an upper-air cyclonic circulation over the southeast BoB near to the equator in the beginning of the second week, but ECMWF and NCEP GFS predict the upper-air cyclonic circulations over south BoB in middle of the 2nd week and over the southeast BoB close to Indonesia around 16th February, 2026.

III. Inference:

Considering various large-scale environmental features, climatology and model guidance, it is inferred that no cyclogenesis is likely over the North Indian Ocean during the entire forecast period. However, there is a likelihood of strengthening of easterlies over the southwest Bay of Bengal, the Gulf of Mannar & Comorin Area during many days of week 1. There is a low-moderate probability of the formation of an upper-air cyclonic circulation/low pressure area over the southeast Bay of Bengal during week 2.

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

Forecast issued:

The extended range outlook issued on 22nd January 2026 for week 2 (30.01.2026-05.02.2026) indicated no cyclogenesis over the NIO region. The extended range outlook issued on 29th January 2026 for week 1 (30.01.2026-05.02.2026) indicated no cyclogenesis over the NIO region. However, it indicated likelihood of strengthening of easterlies over south Andaman Sea & southeast Bay of Bengal initially and then over southwest Bay of Bengal, Gulf of Mannar and Comorin Area during later part of week 1.

Realised Weather:

Actually, an upper air cyclonic circulation lay over southeast Arabian sea and adjoining south Kerala coast on 30th January and became less marked on 2nd February 2026 over the same region. Another upper air cyclonic circulation lay over the Comorin area & neighborhood on 30th January and became less marked on 2nd February 2026 over the same region. Thus, no cyclogenesis was correctly captured 2 weeks ahead. Enhancement of easterlies leading to formation of embedded cyclonic circulations was also indicated correctly.

SNCMRWF-IMD satellite gauge merged data plots of 24-hour accumulated rainfall from 29th January- 4th February, 2026 is presented in **Fig. 2**.

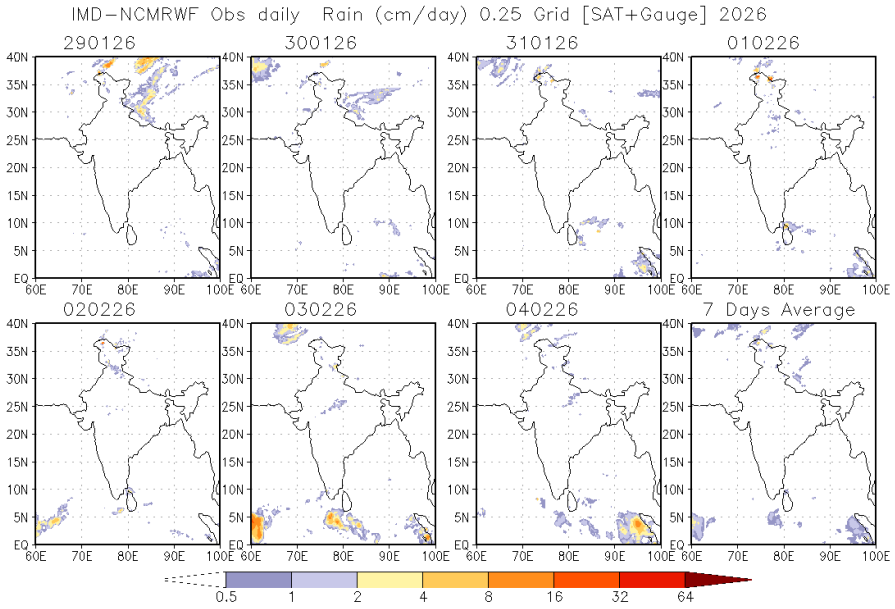

Fig. 2: NCMRWF-IMD satellite gauge merged data plots of 24-hour accumulated rainfall from 29th January- 4th February, 2026

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: 12.02.2026