India Meteorological Department
Ministry of Earth Sciences
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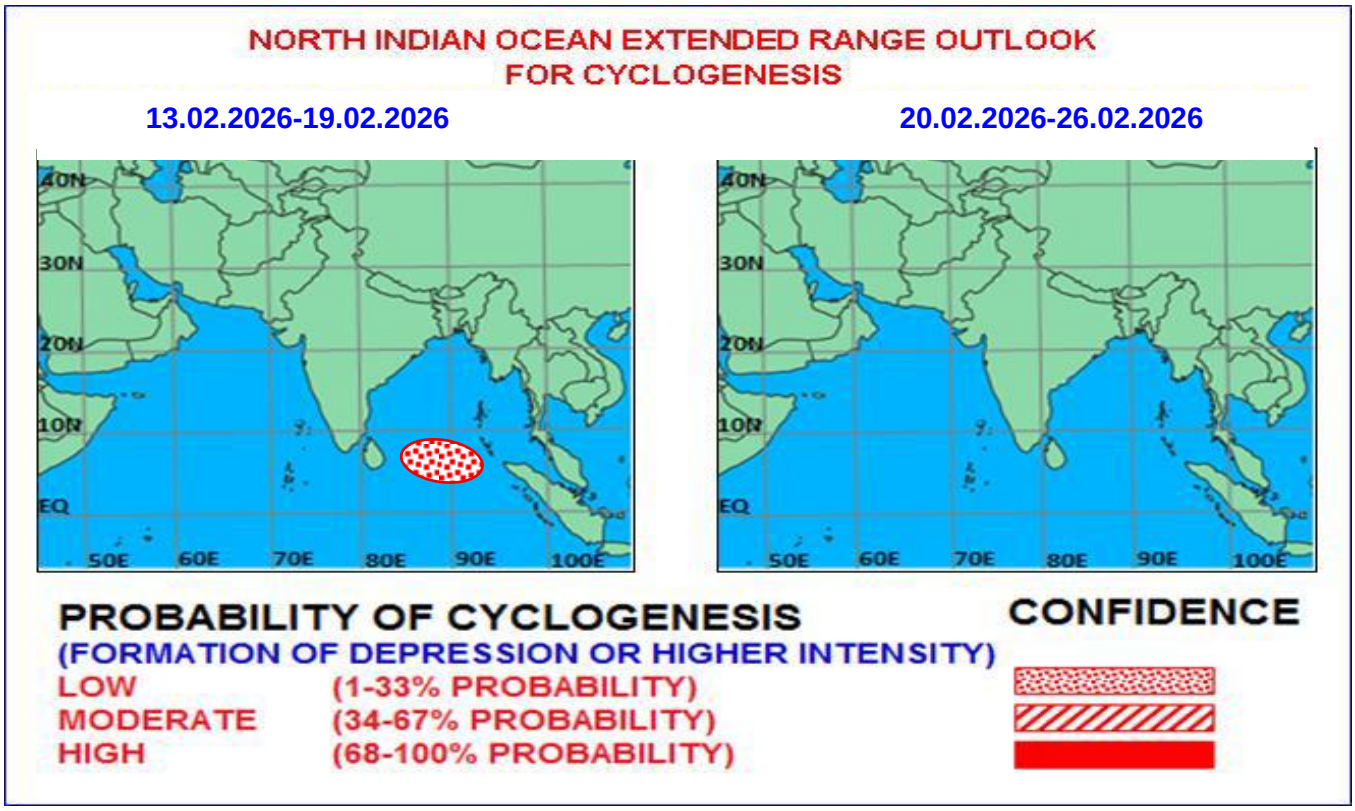

Fig. 1: Graphical Cyclogenesis over the north Indian Ocean during the next two weeks

I. Environmental features:

The guidance from various models indicates that the Madden-Julian Oscillation (MJO) index is currently entering phase 3 with an amplitude close to 2. According to the consensus of all model, MJO is likely to propagate eastwards within phase 3 with a gradual decrease in the amplitude during week 1. Thereafter, MJO is likely to move further eastwards and enter into phase 4 with amplitude reaching close to 1 during first half of the week 2. Therefore, the MJO is likely to support convective activity over Bay of Bengal during the entire forecast period.

The guidance from the NCICS model indicates that a westerly wind anomaly (5-7 mps) is likely to prevail over north equatorial Indian Ocean and adjoining south BoB during first half, which is likely to strengthen during second half of the week 1. The easterly wind anomaly (3-5mps) is likely to prevail over central and northern parts of BoB during entire forecast period. A weak easterly anomaly (1-3 mps) is also likely over entire Arabian Sea (AS) during both week 1 & 2 except over the western parts of central & south AS.

Equatorial Rossby waves (ERW) activity is likely over the south BoB and adjoining Indian equatorial ocean from the second half of week 1 which is likely to persist during week 2 as well with its westwards propagation over southeast AS. Kelvin waves (KW) are not likely over the region during first half of week 1. Low frequency Waves (LW) are persisting over south BoB & adjoining southeast AS and adjoining Equatorial Indian Ocean during the entire forecast period.

The zonal wind characteristics with equatorial waves suggest that the environmental condition will be supportive of convective activity over south BoB and adjoining southeast AS.

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 northwest India with northeasterly/easterly wind over the entire AS and BoB along with east-west shear line over the equatorial Indian Ocean and adjoining south Bay of Bengal during week 1. Associated wind anomaly shows cyclonic circulation over equatorial Indian Ocean and adjoining south Bay of Bengal. During the second week, the mean wind at 850 hPa indicates cyclonic circulation over west and central parts of south BoB and adjoining Westcentral BoB. The corresponding wind anomaly field for week 2 indicates one cyclonic circulation over west and central parts of south BoB and adjoining Westcentral BoB and another weak cyclonic circulation over central parts of south Arabian Sea. Accordingly, associated with the cyclonic circulation 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 rainfall activity is likely over the west and central parts of south BoB and adjoining Sri Lanka and Tamil Nadu.

The 850 hPa wind field of NCMRWF extended range model indicates the seasonal anticyclone over northwest India and easterlies & northeasterlies over the southwest BoB & Comorin area during week 1 and week 2. The anomaly wind at 850 hPa indicates almost similar patterns like IMD ERF during week 2. However, the wind anomaly for week 1 forecast indicates feeble cyclonic over equatorial Indian Ocean and adjoining south Bay of Bengal compared to IMD ERF wind anomaly. Precipitation anomaly charts are indicating above normal rainfall over the southwest BoB and adjoining Sri Lanka during week 1 and over the central parts of south BoB in week 2.

ECMWF sub-seasonal range forecast is indicating low probability (10-20%) for cyclogenesis over the west and central parts of south BoB and adjoining west central BoB during the period.

IMD ERF indicates moderate (40-60 %) probability of cyclogenesis over south Bay of Bengal BoB and Comorin area off south Sri Lanka coast during week 1. During week 2 it shows low probability of cyclogenesis over South Andaman Sea and southeast and adjoining central BoB during week 2.

(b) Guidance from Medium-Range NWP models:

Various deterministic models, including IMD GFS, GEFS, NCUM, NEPS, ECMWF, ECAI and NCEP GFS are indicating large variations about the cyclogenesis over the NIO region during the next 10 days. However, various deterministic models indicate enhanced easterlies associated with cyclonic circulation over the south Bay of Bengal during many days of week 1. The IMD GFS and Bharat Forecast System indicate the formation of a low pressure area over the southeast BoB and and subsequent intensification into cyclonic storm over southeast BoB during first half of week 1. It also shows further intensification into a severe cyclonic storm over the southwest BoB during 2nd half of week 1, but ECMWF model predict the low pressure area over southeast BoB and adjoining EIO towards end of week 1 with NCEP GFS predicting a low pressure area over the southeast BoB towards middle of week 1.

III. Inference:

- Considering various large-scale environmental features, climatology and model guidance, it is inferred that there is low probability of cyclogenesis over the central parts of south Bay of Bengal and adjoining East Equatorial Indian Ocean during 2nd half of week 1.
- Further, there is no probability of the cyclogenesis over the entire region of North Indian Ocean during week 2, however, there is likely formation of an upper-air cyclonic circulation over the southern parts of BoB during week 2.

(IV) Impact expected and Action suggested

Squally weather with wind speed reaching 40-50 gusting to 60 Kmph likely over south BoB and adjoining East Equatorial Indian Ocean during 2nd half of week 1.

Advisory:

Fishermen are advised not to venture into south BoB and adjoining East Equatorial Indian Ocean during 2nd half of week 1.

(V) 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 & neighbourhood 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 5th- 11th February, 2026 is presented in **Fig. 2**.

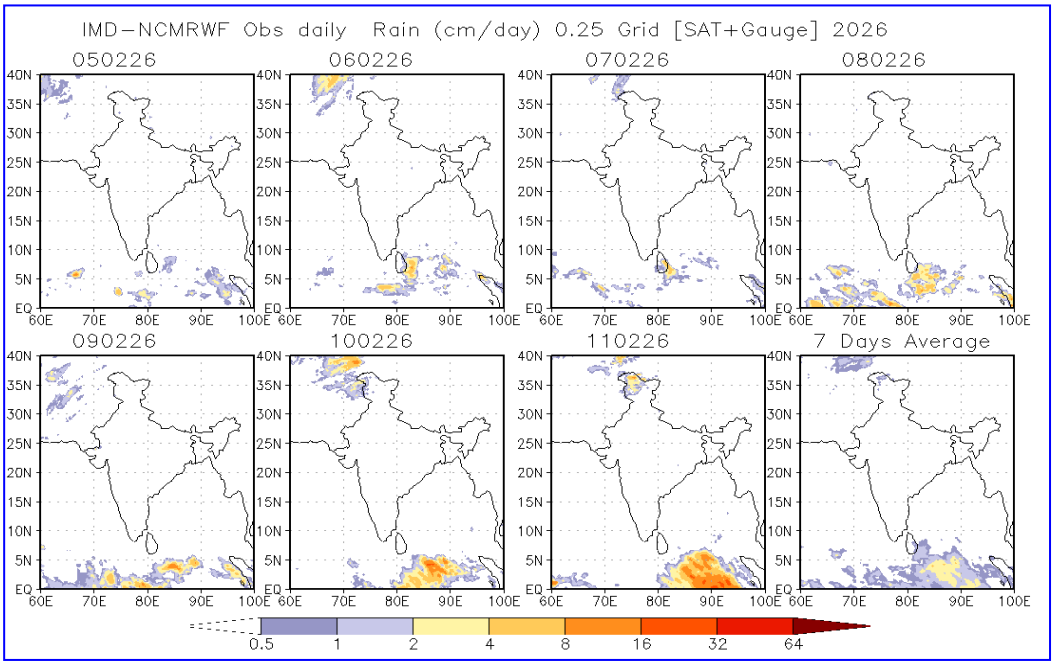

Fig. 2: NCMRWF-IMD satellite gauge merged data plots of 24-hour accumulated rainfall from 5th - 11th February, 2026

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: 19.02.2026