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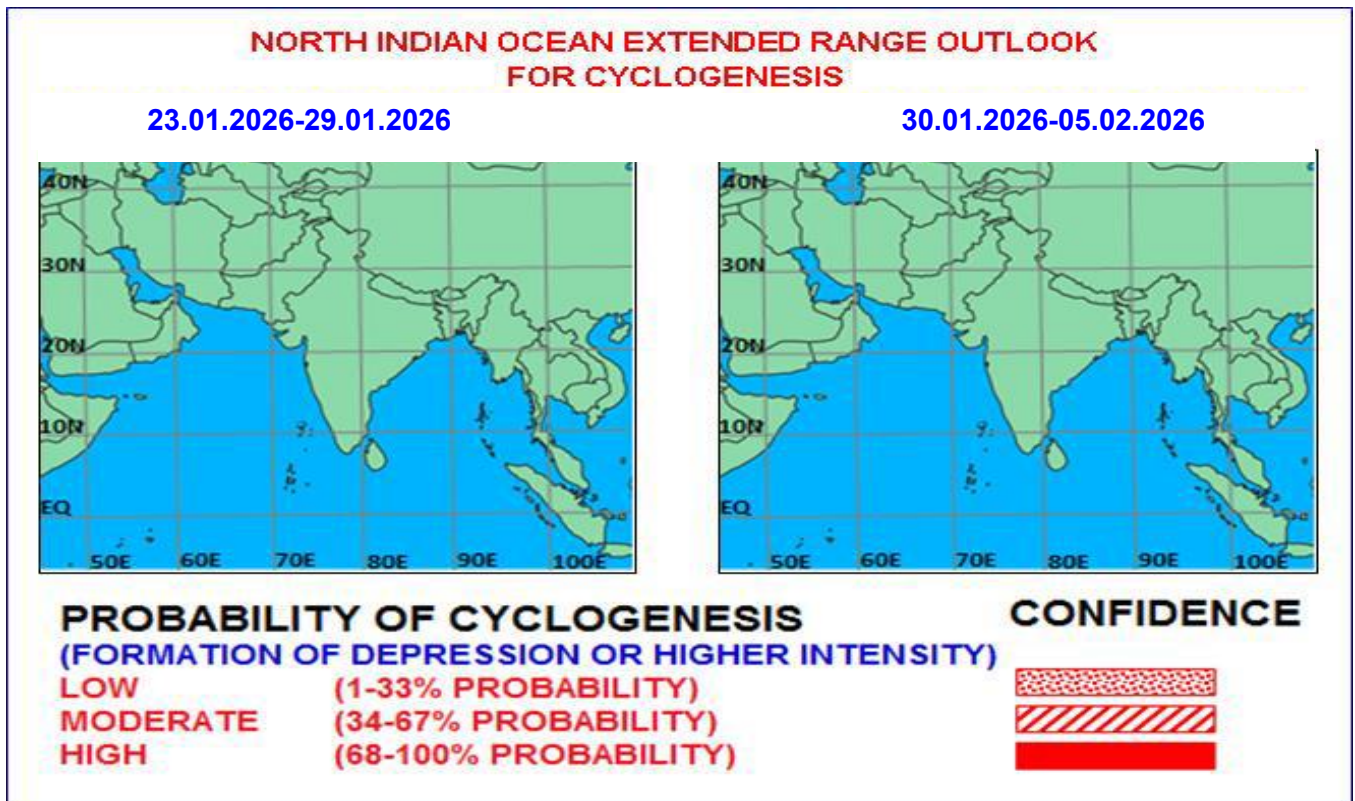


Fig. 1: Graphical Cyclogenesis over the north Indian Ocean during the next two weeks

**I. Environmental features:**

The guidance from BOMM model indicates that the Madden Julian Oscillation (MJO) index is currently in phase 7 with amplitude greater than 1. It is likely to continue in same phase during week 1 with amplitude remaining greater than 1. Thereafter, it is likely move across phases 8 and 1 with amplitude remaining greater than 1 during week 2. Thus, the MJO is not likely to contribute to enhancement of convective activity over the North Indian Ocean (NIO), including the Bay of Bengal (BoB) and the Arabian Sea (AS) during the entire forecast period.

The guidance from the NCICS model indicates westerly wind anomaly (5-7 mps) over south BoB, southeast Arabian Sea and adjoining Equatorial Indian Ocean along with prevalence of equatorial Rossby wave (ERW), Low frequency background wave (LW), MJO and Kelvin Wave (KW) over the region during beginning of week 1. The model is also indicating easterly wind anomaly (3-5mps) to its north over south and adjoining central BoB, Central India and eastcentral AS during beginning of week 1. Thereafter, weakening of above feature is indicated and various equatorial wave are also indicated to move away from each other during middle of week 1. During first half of week 2, the model is indicating the prevalence of easterly wind anomaly over entire BoB region. The model is also indicating weak westerly wind anomaly(1-3mps) over south Andaman Sea with easterly wind anomaly to its north over north Andaman Sea. Similarly, it is indicating westerly wind anomaly (1-3mps) over northeast and adjoining central AS and easterly wind anomaly(1-3mps) to its north, over north AS and adjoining Pakistan-North Gujarat during beginning of week 2. Thus, Equatorial waves are likely to support convective activity associated with existing cyclonic circulation over southeast AS and Lakshadweep, convective activity associated with western disturbance over north parts of Pakistan and India during beginning of week 1. Equatorial waves are also likely to support the convective activity over Andaman Sea during beginning of week 2.

## **II. Model Guidance:**

### **(a) Guidance for Extended Range models:**

Currently a west disturbance as a trough in middle & upper tropospheric westerlies with its axis at 5.8 km above mean sea level is seen roughly along long. 60°E to the north of lat. 25°N.

The mean wind field at 850 hPa of IMD ERF (CFS V-2) model indicates the west disturbance as a cyclonic circulation over northeast Pakistan, anticyclone over central India, easterly winds over central & south BoB and confluence of easterlies and northeasterly winds from anticyclone over Indian region over northwest & adjoining westcentral BoB during week 1. During week 2, model is indicating feeble trough over northeast AS, anticyclone over central India, easterly winds over central & south BoB and confluence of easterlies and northeasterly winds from anticyclone over northwest & adjoining westcentral BoB. Corresponding wind anomaly field for week 1, displays a cyclonic circulation over south Pakistan, east-west shear zone over south AS and confluence of easterly & north-northeasterly winds along the east coast of India. During week 2, the model is indicating a feeble trough over central AS and another over western parts of BoB extending from north to southwest BoB. Corresponding precipitation field is indicating above average rainfall activity over northern parts of India and over North Sri Lanka and adjoining Comorin area during week 1. During week 2 also, the model is indicating above normal rainfall activity over Sri Lanka.

NCMRWF extended range model is indicating, a western disturbance as a low-pressure area over North Pakistan & adjoining Northwest India, anticyclone over Eastern parts of India and confluence of easterlies & northeasterlies off Odisha coast during week 1. However, during week 2, a weaker anticyclone over East India and weaker easterlies over BoB are indicated. Corresponding precipitation field is indicating above average rainfall activity over Northwest India during week 1.

Both the extended range models are suggesting the western disturbance to move eastwards with maximum precipitation activity on 23<sup>rd</sup> January, followed by 22<sup>nd</sup> & 24<sup>th</sup> over northwest India and decrease thereafter.

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

IMD ERF is indicating moderate probability (50-60%) of cyclogenesis over Comorin area during week1 and low probability (30-40%) probability of cyclogenesis over south Andaman Sea and adjoining Indonesia during week 2.

### **(b) Guidance from Medium-Range NWP models:**

Various deterministic models including IMD GFS, GEFS, NCUM, NEPS, ECMWF, ECAI, NCEP GFS are not indicating any potential zone for cyclogenesis over the NIO region during next 2 weeks. However, as per the deterministic models, a shear zone along 5°N is likely to persist during week 1 and week 2. The easterlies are likely to be stronger over south Andaman Sea & southeast BoB during beginning of week 1 and over southwest BoB, Gulf of Mannar & Comorin Area during middle of week 1, leading to rainfall activity over south Andaman Sea & southeast Bay of Bengal initially and then over southwest Bay of Bengal, Gulf of Mannar & Comorin Area during first half of week 1. Models are also indicating widespread rainfall activity over South Peninsular India during 25<sup>th</sup> & 26<sup>th</sup>, over Sri Lanka during week1. Most of the deterministic models are indicating rainfall activity over North India during beginning of week 1 (23<sup>rd</sup> and 24<sup>th</sup>) in association with the western disturbance.

## **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 entire forecast period. However, there is 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 first half of week 1, leading to rainfall activity over south peninsular India and Sri Lanka during first half of week 1.

### **Forecast issued:**

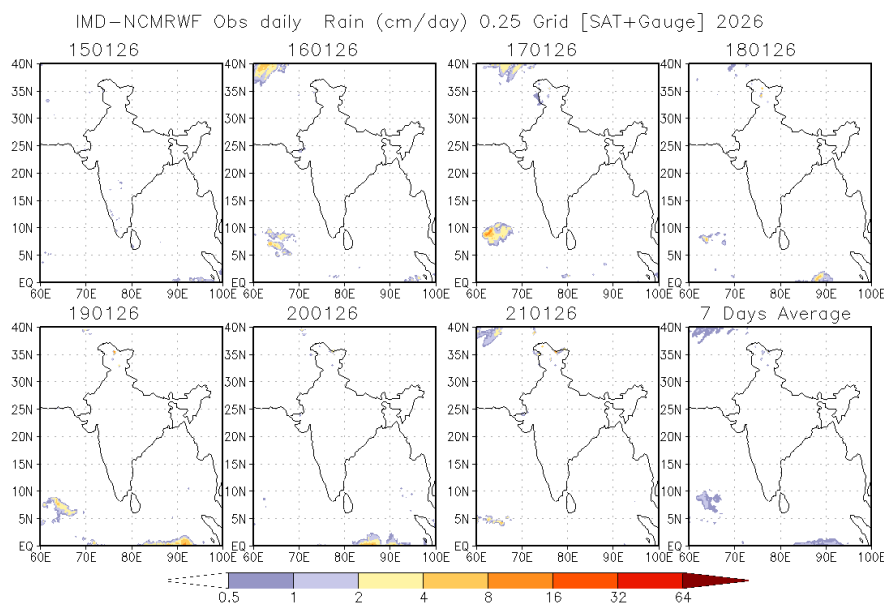
The extended range outlook issued on 08th January 2026 indicated no formation of upper-air cyclonic circulation / low pressure area over North Indian Ocean. The extended range outlook issued on 15th January 2026 for week 1 (16.01.2026-22.01.2026) indicated movement of North-South trough in

easterlies likely over southeast Bay of Bengal with embedded cyclonic circulation over Malacca Strait and adjoining south Andaman Sea around 16th January. The trough in easterlies is likely to move slowly westwards and reach central parts of South BoB around 20th January.

### Realized weather:

An upper air cyclonic circulation formed over Lakshadweep adjoining Southeast Arabian Sea off Kerala coast lay over Southeast Arabian Sea adjoining Lakshadweep and Kerala coast at 0.9 km above mean sea level on 15th January 2026 and became less marked on 19th January over Comorin area. Another upper air cyclonic circulation formed over southeast Bay of Bengal & neighbourhood at 3.1 km above mean sea level on 20th January 2026 and became less marked on 21st January. Another upper air cyclonic circulation formed over southeast Arabian Sea and adjoining Lakshadweep at 0.9 km above mean sea level on 21st January 2026 and persists on 22nd January over the same region.

NCMRWF-IMD satellite gauge merged data plots of 24-hour accumulated rainfall from 15<sup>th</sup> January- 21<sup>st</sup> January, 2026 is presented in Fig. 2.



**Fig. 2:** NCMRWF-IMD satellite gauge merged data plots of 24-hour accumulated rainfall from 14<sup>th</sup> January-20<sup>th</sup> January 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: 29.01.2026**

