

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

#### I. Environmental features:

The guidance from ECMM model indicates that the Madden Julian Oscillation (MJO) index is currently in phase 6 with amplitude greater than 1. It is likely to continue in same phase during week 1 with amplitude greater than 1 and thereafter it is likely move across phases 7 and 8 with amplitude 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 and Andaman Sea during week 1. It indicates weakening of the northeast monsoon over the Bay of Bengal during the week 1. Over the AS, the model is indicating weak easterly wind anomaly (1-3mps) over south AS and westerly wind anomaly to its north over central & north AS which is indicating favorable condition for development of anticyclone during week 1. However, during week 2, the model is indicating weak westerly wind anomaly (1-3mps) over entire BoB and central & south Peninsular India. Westerly wind anomaly is indicated over central and adjoining north AS. These features indicates that Equatorial Waves (EW) may not support the convective activity over north Indian ocean during the entire forecast period.

#### II. Model Guidance:

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

The mean wind field at 850 hPa of IMD ERF (CFS V-2) model indicates a feeble cyclonic circulation over the south Andaman Sea and adjoining southeast BoB during week 1. However, the northeasterly/northerly winds are likely to prevail over most parts of the BoB. With an anticyclone over the south Gujarat region and adjoining Maharashtra & southeast AS, northeasterly winds are very likely over most parts of AS during week 1. There is a feeble east-west shear zone across the south BoB along 5°N latitude. The corresponding wind anomaly field for week 1, displays a cyclonic circulation over eastcentral BoB and a northeast-southwest-oriented trough from the centre of cyclonic circulation extending up to coast of north

Sri Lanka. Another feeble cyclonic circulation is likely over northeast AS off Gujarat coast, associated with a north-south trough from this cyclonic circulation extending upto central AS during week1.

During week 2, the seasonal anticyclone is seen over central India and northeasterly/easterly winds are likely to prevail over entire BoB and AS during week 2. However, the weak shear zone is likely to persist. Corresponding anomaly field is indicating, an upper air cyclonic circulation over Andhra Pradesh coast with associated north-south trough along the east coast. Whereas, it is also indicating anomalous easterly over Andaman Sea and south BoB during week 2. The 850 hPa anomaly field is indicating westerly winds over southeast & adjoining eastcentral AS during week 2.

NCMRWF extended range model is indicating, trough in easterly over south BoB and adjoining eastcentral BoB during week 1, due to which strengthening of northeasterly winds is seen over southwest & westcentral BoB. The seasonal anticyclone is seen over central India during week 1 and is likely to shift eastwards during week 2 due to which strong easterly over south BoB is indicated during week 2. No significant anomalous features are seen during both the weeks. However, precipitation fields and corresponding anomaly fields during both the weeks are indicating below normal rainfall activity over south BoB and Sri Lanka.

Both ECMWF medium range ensemble and ECMWF sub-seasonal model are indicating no potential zone for cyclogenesis during both the weeks.

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

IMD GFS, GEFS and ECMWF are indicating a North-South trough in easterlies is seen over southeast & adjoining eastcentral BoB on 15<sup>th</sup> January, moving slowly westwards and reaching central parts of BoB by 20<sup>th</sup> January. Associated cyclonic circulation is seen moving west-northwestwards reaching central parts of south BoB on 20<sup>th</sup> January. NCEP GFS is indicating a cyclonic circulation over southeast BoB on 22<sup>nd</sup> January, reaching south Sri Lanka coast by 26<sup>th</sup> January.

### **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,

- (a) A North-South trough in easterlies is likely over southeast Bay of Bengal with embedded cyclonic circulation over Malacca Strait and adjoining south Andaman Sea during beginning of week 1 (around 16<sup>th</sup> January). The trough in easterlies is likely to move slowly westwards and reach central parts of South BoB around 20<sup>th</sup> January.
- (b) Another cyclonic circulation is likely over southeast BoB on during end of week 1 and beginning of week 2.

### **Forecast issued:**

The extended range outlook issued on 01<sup>st</sup> January 2026 indicated possibility of formation of an upper-air cyclonic circulation / low pressure area over the southwest Bay of Bengal with the presence of the active Inter-tropical Convergence Zone with easterly wave activity over the south Bay of Bengal, in the later part of week 2 (09.01.2026-15.01.2026)

The extended range outlook issued on 08<sup>th</sup> January 2026 for week 1(09.01.2026-15.01.2026) indicated existing deep depression over southwest Bay of Bengal and adjoining East Equatorial Indian Ocean is likely to intensify further and move west-northwestwards across southwest Bay of Bengal during next 36 hours and cross Sri Lanka coast between Hambantota and Batticaloa around evening/night of tomorrow, the 9th January 2026.

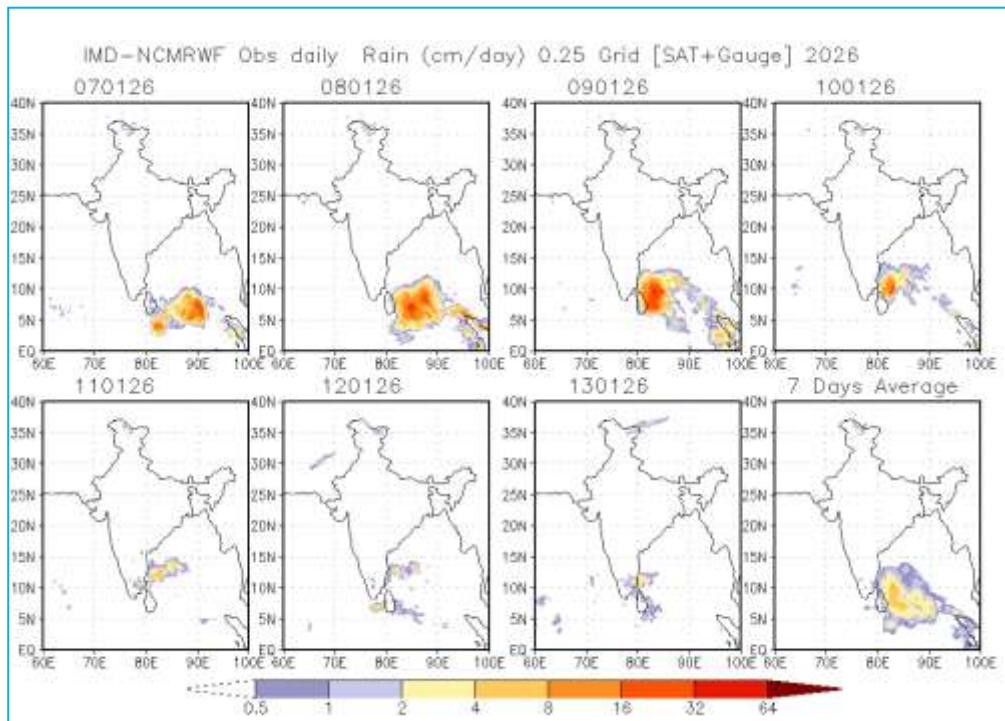
### **Realized weather:**

An upper air cyclonic circulation formed over southeast Bay of Bengal (BoB) & adjoining areas of southwest BoB and East Equatorial Indian Ocean (EIO) on 3rd January. Under its influence,

a low-pressure area formed over southeast BoB and adjoining East EIO on 5th January, 2026. It concentrated into a depression over southeast BoB and adjoining East EIO on 7th January. It moved west-northwestwards and intensified into a deep depression over southwest BoB & adjoining areas of southeast BoB & East EIO on 8th January 2026. It moved west-northwestwards, it weakened into a depression over southwest BoB off northeast Sri Lanka coast on 10th January. Further moving west-northwestwards, it crossed northeast Sri Lanka coast close to Mullaittivu in the afternoon/ evening (between 1530 & 1630 hrs IST/1000 & 1100 UTC) of 10th January as a depression. Thereafter, it moved nearly westwards and weakened into a WML over north Sri Lanka and adjoining Gulf of Mannar in the midnight (2330 hrs IST/ 1800 UTC) of 10th January 2026.

An upper air cyclonic circulation lay over Lakshadweep & adjoining Southeast Arabian Sea off Kerala coast at 0.9 km above mean sea level at 0300 UTC of today, the 15th January 2026.

NCMRWF-IMD satellite gauge merged data plots of 24-hour accumulated rainfall from 8th January- 14th January 2026 is presented in Fig. 2.



**Fig. 2:** NCMRWF-IMD satellite gauge merged data plots of 24-hour accumulated rainfall from 7<sup>th</sup> January-13<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, 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: 22.01.2026