India Meteorological Department
Ministry of Earth Sciences
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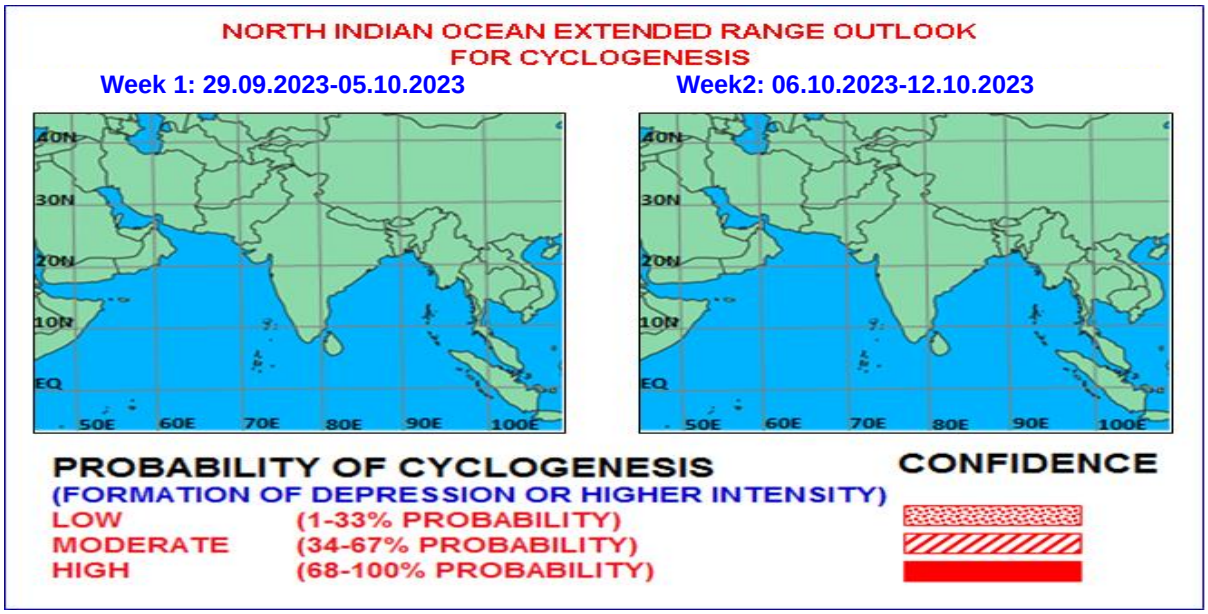

Fig. 1: Graphical Cyclogenesis over north Indian Ocean during next two weeks

I. Environmental features:

Most of the models are indicating that currently, MJO is in phase 5 with amplitude less than 1. It would continue in same phase during first half of week 1 and thereafter it would move across phases 6 and 7 during remaining part of the forecast period. Thus, during first half of week 1, MJO would support enhancement of convective activity over north Bay of Bengal (BoB).

NCICS based forecast for equatorial waves over the region indicates presence of strong westerly winds (5-7 mps) over the South BoB alongwith easterly winds (1-3 mps) over north BoB during week 1. The presence of Equatorial Rossby Waves (ERW) along with MJO is also indicated during week 1. During first half of week 2, similar features are likely to continue over the BoB. All these features suggest that equatorial waves are likely to support enhancement of convective activity over the north & adjoining central BoB during week 1 and first half of week 2.

For the Arabian Sea (AS), westerly winds (5-7 mps) over the southeast Arabian Sea (AS) alongwith ERW and weak easterly winds (1-3mps) over North AS are likely during week 1 indicating a favourable environment over eastcentral AS. The AS region shows weak westerly winds (1-3 mps) during first half of week 2. Thus, indicating weakening of monsoonal flow over AS during week 2.

Model Guidance:

The deterministic models including IMD GFS, NCEP GFS and ECMWF are indicating that the cyclonic circulation over Myanmar and adjoining eastcentral BoB would move northwestwards during next 2-3 days towards North Odisha and adjoining West Bengal coasts with marginal intensification. The NCUM model is showing an extended low pressure area over coastal Myanmar and adjoining eastcentral BoB, which is likely to move initially

north-northwestwards towards North BoB and adjoining coastal Bangladesh by 30th September. Thereafter, it is indicated to move northwestwards towards north Odisha coast and intensify into a well-marked low pressure area. Except for NCUM, no other model is indicating any intensification of the system.

The anomaly of wind forecasts by extended range model IMD CFS (V2) is indicating a cyclonic circulation over central and adjoining peninsular India during week 1. The mean wind forecast of week 1 is showing a cyclonic circulation over Odisha and a north-south trough along east coast of India across Gangetic West Bengal and Odisha. CNCUM is indicating overall cyclonic circulation over Indo-Gangetic Plain and western coast of peninsula which may result in active monsoon conditions over these areas during week 1. In week 2, the model is not indicating westerly anomaly winds over the BoB and AS. During week 1, CFS model is displaying 20-30 % probability of cyclogenesis over eastcentral & adjoining north BoB and coastal areas of Odisha and West Bengal. It is also showing more than 70 % probability of cyclogenesis over eastcentral AS off Konkan-Goa coast during week 1.

Legends: 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, European Centre for Medium Range Weather Forecasting, GPP: Genesis Potential Parameter, National Centre for Environment Prediction GFS, ECMM: ECMWF multi model, GEFS: GFS ensemble, NEPS: NCUM ensemble prediction system, CNCUM: Coupled NCUM, CPC: Climate Prediction Center, NWS: National Weather Service).

II. Inference:

Considering all the above it is inferred that there is no probability of cyclogenesis over the region during the entire forecast period.

However, under the influence of the cyclonic circulation over Myanmar and adjoining eastcentral Bay of Bengal, a low pressure area is likely to form over eastcentral and adjoining northeast Bay of Bengal during next 24 hours. It is likely to become well marked low pressure area and move northwestwards towards North Odisha and adjoining West Bengal coasts during subsequent 2 days.

III. Verification of forecast issued during last two weeks:

The forecast issued on 14th September for week 2 (22.09.2023-28.09.2023) didn't indicate any cyclonic disturbance during week 2. The forecast issued on 21st September for week 1 (22.09.2023-28.09.2023) no probability of cyclogenesis over the region. However, it was indicated that a cyclonic circulation may emerge into North Andaman Sea and adjoining Eastcentral BoB around 28th September which may become a low pressure area around 29th September. Actually, a cyclonic circulation lay over Myanmar and adjoining Eastcentral BoB in the morning (0300 UTC) of today, the 28th Sep.

Hence the likelihood of emergence of a cyclonic circulation over BoB was correctly captured with some spatial variations.

IMD-NCMRWF satellite-gauge merged data plots during 21st -27th September, 2023 are presented in Fig.2

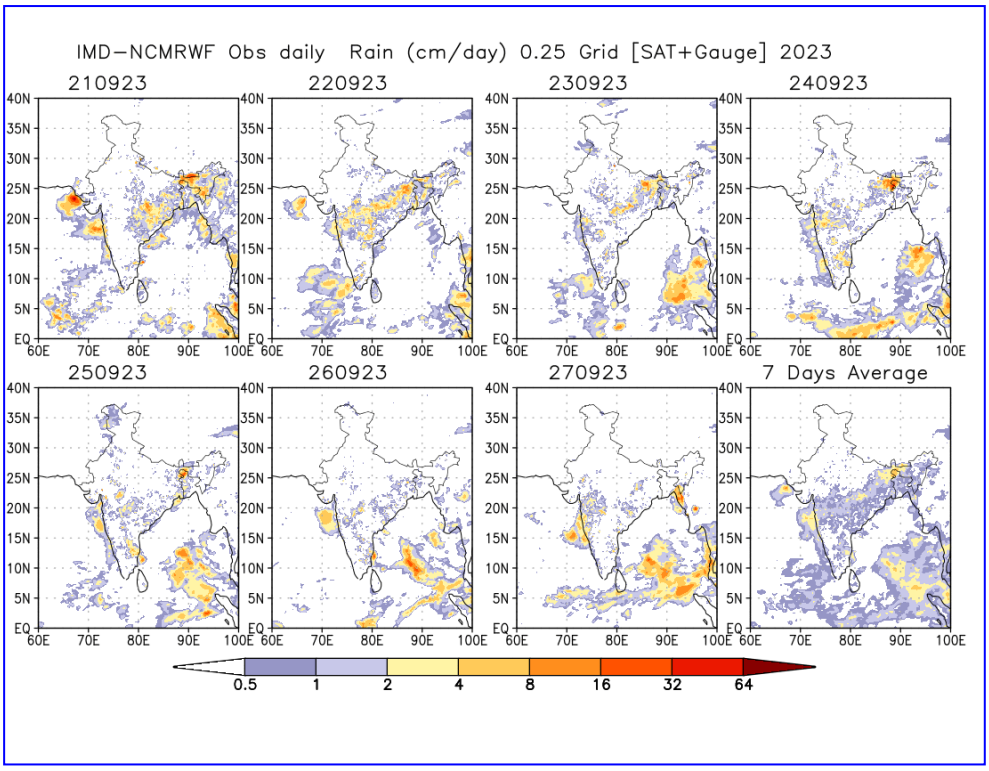

Fig.2: IMD-NCMRWF satellite-gauge merged data plots during 21st -27th September, 2023

Next update: 05.10.2023