



The Index of Madden Julian Oscillation (MJO) currently lies in Phase 3 with amplitude slightly more than than 1. It is likely to move eastwards with enhanced amplitude and enter into Phase 4 during the first half of Week 2. Then it is likely to further propagate eastwards within Phase 4 with gradual reduction in amplitude during the remaining period of week 2. Hence the phase of MJO would favor the convective activity and hence the formation of low pressure systems over North Indian Ocean (NIO) during weeks 1 & 2. The conjunction of favourable MJO, quasi-biweekly oscillation and other synoptic scale features will support enhancement of convective activity over the BoB and central parts of India during the forecast period.

Most of the numerical models including IMD GFS, NCUM, NEPS, NCEP-GFS, ECMWF and MME (CFSV₂) are indicating likely cyclogenesis over North Bay of Bengal (BoB) around the middle or latter half of Week 1. All these models, including GEFS are indicating the likely formation of a low pressure area from a remnant vortex emerging into the BoB from Myanmar coast around 11th September and its concentration into a Depression over northwest & adjoining west-central BoB around 13th September. The cyclogenesis evolution probability based on CFSV₂ shows about 70-80% probability over north BoB during 13th – 15th September. However, there is some variation in the timings as well as area of formation. Hence there is some divergence among the models regarding the part of Odisha coast viz., north or south as well as the date on which the likely system would move inland. NCUM & NEPS alone are showing the likelihood of formation of another Depression of short duration during the later part of week 1 over northeast Arabian Sea from the remnant cyclonic circulation of the past week's Low pressure area. Further, NCEP-GFS is indicating the formation of another Low pressure area of lesser intensity over east-central & adjoining north Andaman Sea from the remnant cyclonic vorticity propagating westwards from South China Sea during the initial part of week 2 and its west-northwestward movement across northern parts of peninsular India during the remaining part of Week 2.

Considering all the above, it may be concluded that there is a high probability of the formation of a low pressure area over North & adjoining Central BoB around 11th September. There is also moderate probability of cyclogenesis (formation of depression) during middle part of week 1 (around 13th September). Another low pressure is also likely to form over central parts of the BoB during beginning of week 2.

Verification of forecast issued during last two weeks:

The forecast issued on 26th August for week 2 (03.09.2021- 09.09.2021) and the forecast issued on 02nd September for week 1(03.09.2021- 09.09.2021) indicated no cyclogenesis over the north Indian Ocean. Also in both the forecasts, a Low Pressure Area formation was predicted over northwest & adjoining westcentral BoB during Week 1. A low pressure area formed over northwest & adjoining westcentral BoB off south Odisha-north Andhra Pradesh coasts at 0300 UTC of 6th September, 2021. Hence no cyclogenesis could be predicted correctly two weeks in advance as well as the likely formation of the Low pressure area could be predicted correctly one week ahead.