



The Madden Julian Oscillation (MJO) index currently lies in Phase 6 with amplitude more than 1. It is likely to continue in same phase during early part of week 1. Thereafter, it will enter into phase 7 with amplitude remaining more than 1 during rest of the forecast period. Thus, MJO phase is not conducive for enhancement of convective activity and hence cyclogenesis over the Bay of Bengal (BoB) and the Arabian Sea (AS) during entire forecast period. The CFS forecast indicates enhanced cross equatorial westerly wind flow at 850 hPa level, active ITCZ and equatorial Rossby waves in conjunction over Equatorial Indian Ocean (EIO) and adjoining south BoB during first half of week 1. It also indicates further strengthening of westerly flow at 850 hPa alongwith increase in easterlies over central Andaman Sea and ITCZ during later part of week 1 over the region. During week 2, it indicates weakening of these parameters over the region.

Most of the models including IMD GFS, NCEP GFS, GEFS, NCUM, NEPS, ECMWF and ECMWF ensemble are indicating development of a low pressure area over Equatorial Indian Ocean (EIO) and adjoining southwest BoB around 18th December with east-northeastwards movement towards south Andaman Sea. However, IMD GFS and ECMWF are indicating likely intensification of system around 21st December. Other models including NCEP GFS, GEFS and NCUM group are indicating no significant intensification of the system. IMD GPP is also indicating potential zone for cyclogenesis over EIO and adjoining southwest BoB on 17th with east-northeastwards movement towards south Andaman Sea. ECMWF ensemble is also indicating similar trend.

The current environmental conditions also indicate favourable environment (positive low level vorticity, positive low level convergence, strong equatorward outflow and moderate wind shear) over EIO and adjoining southwest BoB.

In view of the above, a low pressure area is likely to form over EIO and adjoining southwest BoB during next 48 hours with east-northeastwards movement subsequently. There is also low probability of its intensification into a depression during later part of week 1 (around 21st December).

Verification of forecast issued during last two weeks:

The forecast issued on 2nd December for week 2 (10.12.2021-16.12.2021) indicated likely emergence of a low pressure area into Andaman Sea during the later part of week with westwards movement towards south Tamil Nadu coast. The forecast issued on 9th December for week 1 (10.12.2021-16.12.2021) indicated no cyclogenesis over the NIO during this period. Actually, no cyclogenesis occurred during this period. Hence non occurrence of cyclogenesis was correctly captured two weeks in advance.