



The Madden Julian Oscillation (MJO) index currently lies in Phase 6 with amplitude more than 1 and will continue in same phase for another day with amplitude becoming less than 1. It will move to phase 3 for a very brief period moving across phases 4 & 5 during remaining part of week 1 with much subdued amplitude. It will emerge into phase 1 across phase 2 with amplitude remaining less than 1 during week 2. Thus MJO is not expected to contribute significantly towards enhancement of convective activity over the north Indian Ocean (NIO) region.

Most of the numerical models including IMD GFS, NCEP-GFS, GEFS, NCUM, NEPS, ECMWF are indicating presence of a low pressure area over central parts of the Bay of Bengal (BoB) and also over east-central Arabian Sea (AS). The system over BoB is predicted to move west-northwestwards and weaken. The system over east-central AS is predicted to move east-southeastwards and weaken gradually. The Genesis Potential Parameter based on IMD GFS is indicating potential zone for cyclogenesis over eastcentral BoB and east-central AS on 14<sup>th</sup> becoming insignificant during next two days. It is also indicating another potential area over Gulf of Martaban on 17<sup>th</sup> followed by a rapid shift in the zone towards northwest BoB in the subsequent 2 days. Further, MME CFSV<sub>2</sub> ensemble is indicating 70-80 % of cyclogenesis over southeast AS and eastcentral BoB during first half of week 1. During week 2, it is indicating 40-50% probability of cyclogenesis over south BoB and adjoining Equatorial Indian Ocean. NCEP GFS is also indicating cyclogenesis over the southeast BOB and adjoining equatorial Indian Ocean during later half of week 2 with intensification and west-northwestwards movement towards westcentral BoB.

Currently, there is a low pressure area over northern parts of central BoB and another over east-central and adjoining southeast AS off Lakshadweep area. Apart from these, the trough zone is extending further eastwards to south China Sea, across the remnant of Tropical Storm 'Kompasu' currently located over Thailand. High vertical wind shear and un-favourable convective phase of MJO are inhibiting the chances of further intensification of these two Low Pressure areas over the NIO.

In view of all the above the existing low pressure areas over the central parts of BoB and east-central AS are likely to move cyclonically with respect to each other in west-northwestward and east-southeastward directions respectively with no further intensification. In addition, there is also likelihood of formation of another low pressure area over south BoB and adjoining equatorial Indian Ocean during later part of week 2. However, there is NIL probability of cyclogenesis over the NIO region during the forecast period.

**Verification of forecast issued during last two weeks:**

The forecast issued on 30<sup>th</sup> September for week 2 (08.10.2021-14.10.2021) indicated formations of two consecutive low pressure areas over the BoB one each over westcentral and another over east-central Bay of Bengal with northwestwards movement during week 2 and no further intensification. The forecast issued on 07<sup>th</sup> October for week 1 (08.10.2021-14.10.2021) indicated the formation of a Low Pressure Area over north Andaman Sea during middle of week 1 (around 10<sup>th</sup> October) with moderate to high probability of its intensification into a depression during second half of week1. Another Low / well marked Low pressure area was also predicted over eastcentral Arabian Sea during 11<sup>th</sup> – 17<sup>th</sup> October.

A low pressure area formed over east-central BoB and another over east-central and adjoining southeast AS on 14<sup>th</sup> morning (0000 UTC). Thus, likelihood of formation of low pressure area over BoB was captured well about two weeks in advance and another over AS one week in advance. However, there was a delay in the formation of the Low Pressure area by about 4 days and it did not intensify into a depression. The delay was mainly due to the fact that the cyclonic circulation over north Andaman Sea stagnated over the same region for 3-4 days.