



The Madden Julian Oscillation (MJO) index currently lies in Phase 4 with amplitude more than 1. It will continue in same phase on day 1 of week 1. Thereafter, it will move eastwards and enter into phase 5. It will continue in same phase during the entire forecast period. Hence it will support convective activity over the Bay of Bengal during weeks 1 & 2.

Most of the numerical models including IMD GFS, NCEP-GFS, GEFS, NCUM, NEPS, ECMWF and MME (CFSV₂) are indicating that the depression over northeast Arabian Sea would move west-northwestwards and intensify into a cyclonic storm. However, there is large variation among various models w.r.t. peak intensity of the system and crossing point. GFS group of models are indicating that the system would skirt Pakistan-Makran coasts and weaken over Gulf of Oman while moving west-northwestwards around 5th October. However, ECMWF is indicating that the system would cross Pakistan-Iran coasts while moving west-northwestwards and thereafter, remerge into northwest Arabian Sea close to Gulf of Oman and weaken there. NCUM and NEPS are also indicating similar trend. Considering the current environmental conditions, favourable sea conditions, low vertical wind shear and sufficient warm moist air around the system area will support further intensification of the system over northeast Arabian Sea during next 24 hours.

Models are also indicating development of a fresh low pressure area (LPA) during first half of week 2 over westcentral & adjoining southwest Bay of Bengal and another LPA over eastcentral Bay of Bengal & adjoining north Andaman Sea during later part of week 2. Both the systems are expected to move slightly northwestwards without any significant intensification.

Considering all the above, there is high probability of further intensification of existing depression into a cyclonic storm over northeast Arabian Sea during next 24 hours. The system is likely to move west-northwestwards towards Pakistan-Makran coasts during next 2 days. There is also likelihood of formation of two consecutive LPAs over Bay of Bengal one each over westcentral and another over eastcentral Bay of Bengal with northwestwards movement during week 2 and no further intensification.

Verification of forecast issued during last two weeks:

The forecast issued on 16th September for week 2 (24.09.2021-30.09.2021) indicated formation of a low pressure area over eastcentral Bay of Bengal during beginning of week 2 with west-northwestwards movement and no significant intensification. The forecast issued on 23rd September for week 1 (24.09.2021-30.09.2021) indicated formation of an LPA over eastcentral BoB on 24th with no significant intensification. Actually, an LPA formed over eastcentral BoB on 24th, intensified into a depression in the same evening (1200 UTC) and further into the cyclonic storm "Gulab" on 25th evening (1200 UTC). It crossed North Andhra Pradesh and adjoining south Odisha coasts close to Kalingapatnam on 26th late evening (around 1430 UTC) and weakened into a well marked low pressure area on 28th. Thus, the likely formation of LPA over eastcentral BoB around 24th was well captured two weeks (8 days) in advance. However, it's intensification into cyclonic storm "Gulab" was missed. On 23rd September, formation of another low pressure area during later part of week 1 with northwestwards movement towards West Bengal Odisha coasts. Actually, LPA formed over northwest BoB and adjoining West Bengal on 28th and moved northwestwards without any significant intensification. Thus, formation of LPA over northwest BoB around 28th was also well captured 4 days in advance.