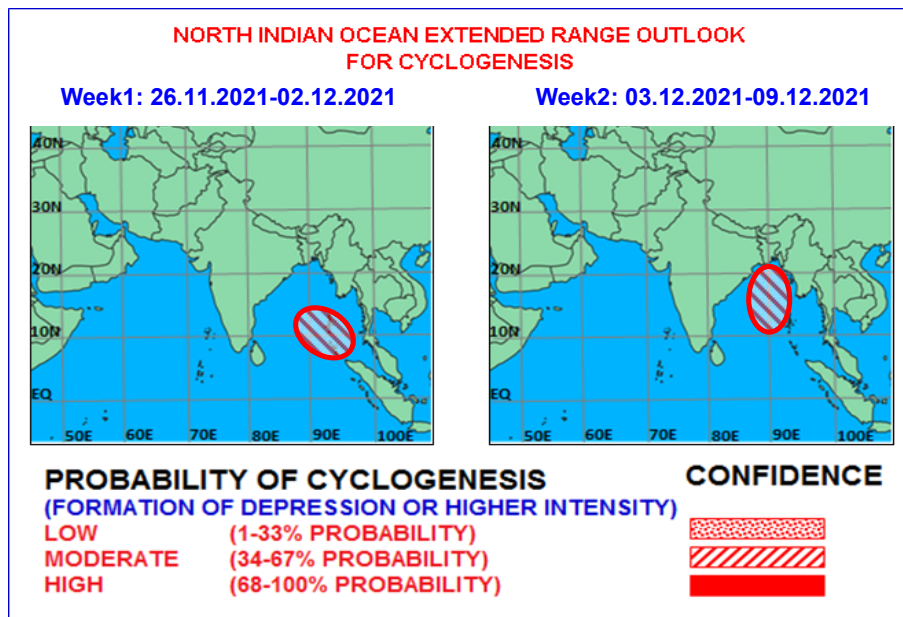




Issued on 25.11.2021



The Madden Julian Oscillation (MJO) index currently lies in Phase 4 with amplitude close to 1. It will continue in same phase during first half of week 1. Thereafter, it will move eastwards in phase 5 with amplitude close to 1 during rest of week 1. It will move to phase 6 with amplitude becoming more than 1 during week 2. Thus, MJO phase is conducive for enhancement of convective activity and hence cyclogenesis over the Bay of Bengal (BoB) during week 1.

Most of the numerical models including IMD GFS, GEFS, NCUM, NEPS, ECMWF and ECMWF ensemble are indicating that a fresh low pressure system would form over south Andaman Sea during 29th November – 1st December 2021 (variation among the models as GFS group indicates on 29th November and NCUM group on 1st December). All of them indicate west-northwestward movement for the initial 2 days, followed by northwestward and then northward & northeastward track upto 4th or 5th December. Intensity is predicted to be that of a Depression by majority of the models by 3rd December and further intensification to a severe category cyclone during subsequent 24-48 hours. The Genesis Potential Parameter (GPP) of IMD also indicate potential zone over Andaman Sea on 30th November & 1st December. Though all these models are in agreement with the potential genesis and intensification over the BoB, as on today, there is large un-certainty with respect to the likely movement.

Indications are that the northern hemispheric near equatorial convergence zone would continue to remain active, especially over the BoB region (as an extension from the northwest Pacific & south China Sea) during entire week 1 & major part of week 2. In this scenario, there could be advection of cyclonic vorticity & westward propagation of active easterly waves. Hence, going by the model guidance, a Low Pressure Area is likely to form over south Andaman Sea & neighbourhood during the later half of week 1 which could become more marked following an initial west-northwestward movement. The forecast location of the upper tropospheric ridge suggests a re-curving track of the system towards north BoB, during the first half of week-2.

In view of the above, it may be concluded that a Low Pressure area is likely to form over south Andaman Sea & neighbourhood during the later half of week -1. After moving west-northwestwards, it could concentrate into a Depression towards the end of week-1, further intensify and move northward/north-northeastwards towards central & adjoining north Bay of Bengal during the first half of week-2. Accordingly a 'moderate' probability is assigned for cyclogenesis (formation of a Depression) over southeast BoB towards the end of week 1 and over central parts of the BoB during the initial half of week 2.

Impact expected and Action Suggested:

1. Squally weather with maximum sustained wind speed reaching 40-50 gusting to 60 kmph is likely to prevail over the genesis area (Andaman Sea and neighbourhood) during 30th November to 2nd December. Fishermen are advised to be cautious and avoid venturing into genesis area during 30th November to 2nd December. Tourists, boats and small ships are also advised to be cautious while venturing into sea during the period.

2. Adverse weather is likely to prevail over central and north BoB as the system moves further. Fishermen are advised to be cautious and avoid venturing into central and north BoB during 2nd to 5th December.

Verification of forecast issued during last two weeks:

The forecast issued on 11th November for week 2 (19.11.2021-25.11.2021) indicated no cyclogenesis over the region. The forecast issued on 18th November for week 1 (19.11.2021-25.11.2021) indicated that (1) the existing depression over southwest BoB is likely to cross North Tamil Nadu & adjoining south Andhra Pradesh coast by 0000 UTC of 19th Nov., (2) the LPA over eastcentral AS would move west-southwestwards towards southwest AS with marginal intensification by middle of week 1.

Actually, the depression over southwest BoB crossed north coastal Tamil Nadu and neighbourhood during 0300 – 0400 hrs IST of 19th November and became well marked low (WML) over interior Tamil Nadu on 19th morning and gradually became less marked over same region on 20th November. The LPA over eastcentral Arabian Sea became WML over same region on 19th Nov. and maintained it's intensity for next 4 days. It weakened into an LPA and became less marked over southwest and adjoining west-central AS on 23rd November. Thus, the cyclogenesis over BoB could be predicted correctly 1 week in advance. Similarly, the movement & intensity of LPA over east-central Arabian Sea could be predicted correctly 1 week in advance.

Next update: 02.12.2021