India Meteorological Department
Ministry of Earth Sciences
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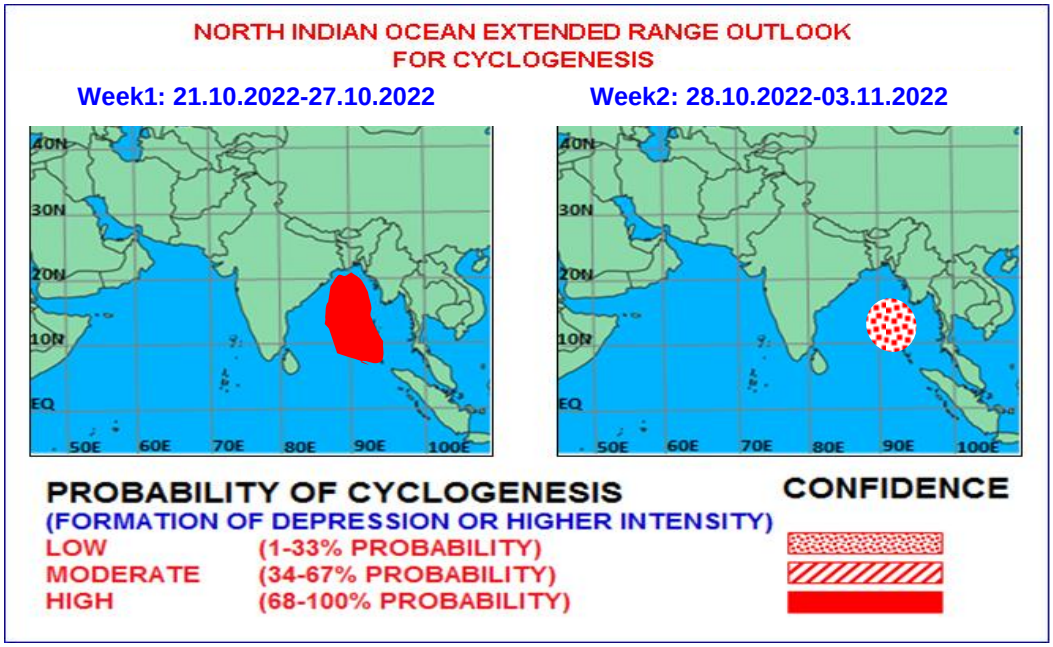

The Madden Julian Oscillation Index (MJO) currently lies in phase 6 with amplitude more than 1 and would continue in same phase during the entire forecast period. MJO is not likely to support enhancement of convective activity over the Bay of Bengal (BoB) and Arabian Sea (AS).

Based on CFS forecast for equatorial waves, during week 1, westerlies (1-3 mps) are likely over central & north BoB alongwith Equatorial Rossby Waves (ERW) during week 1. Stronger westerlies (3-5 mps) alongwith ERW are likely over the same region during week 2. .

The guidance from various numerical models indicate that the depression would form over southeast & adjoining eastcentral BoB around 22nd (ECMWF predicting depression close to central parts of Andaman Sea on 22nd , IMD GFS indicating depression over southeast & adjoining eastcentral BoB on 23rd, NCUM indicating depression over eastcentral BoB on 22nd, NCEP GFS indicating depression over adjoining eastcentral BoB on 24th). Further most of the models are indicating further intensification of the system into a cyclonic storm on by 24th over westcentral BoB (ECMWF & IMD GFS, GEFS over westcentral BoB, NCUM & NEPS over westcentral & northwest BoB). Models are also indicating gradual north-northeastwrads recurvature of the system towards West Bengal-Bangladesh coast. Landfall is indicated over West Bengal – Bangladesh coast (ECMWF over West Bengal- Bangladesh border around 26th/0600 UTC, GFS over West Bengal coast around 26th/ 0300-0600 UTC, NCUM over West Bengal- Bangladesh border around 24th/2100 UTC, NCEP GFS over Bangladesh coast around 25th/0000 UTC). Various extended range models are also indicating likely formation of another cyclonic circulation over eastcentral BoB during week 2 with low probability of it's intensification into a depression.

Hence, considering the model guidance and various environmental features, it is inferred that

(1) the low pressure area over north Andaman Sea and neighbourhood is very likely to move west-northwestwards and concentrate into a Depression over eastcentral & adjoining southeast Bay of Bengal around 22nd October and into a Deep Depression on 23rd October. Subsequently, it is very likely to recurve northwards and intensify into a cyclonic storm over westcentral and adjoining eastcentral Bay of Bengal by 24th October. Thereafter, it is likely to move gradually north-northeastwards and reach near West Bengal - Bangladesh coasts on 25th October, skirting Odisha coast.

(2) another cyclonic circulation is likely to develop over eastcentral Bay of Bengal during week 2 with low probability of it's intensification into a depression.

Verification of forecast issued during last two weeks:

The forecast issued on 06th October for week 2 (14.10.2022 – 20.10.2022) indicated formation of a cyclonic circulation over eastcentral BoB and adjoining North Andaman Sea during week 2 with low probability of it's further intensification and west-northwestwards movement. The forecast issued on 13th October for week 1 (14.10.2022 – 20.10.2022) indicated likelihood of formation of a cyclonic circulation over north Andaman Sea and neighbourhood around 17th/18th with west-northwestwards movement and

further intensification into a low pressure area by 20th October over southeast and adjoining central parts of Bay of Bengal. Actually a cyclonic circulation formed over south Andaman Sea on 17th and it lay as a low Pressure Area over north Andaman Sea and neighbourhood in the morning of 20th October, 2022.
Hence, development of a cyclonic circulation over North Andaman Sea and it's subsequent development into a low pressure area over north Andaman Sea on 20th October, 2022 could be captured two weeks in advance.

The realized rainfall during 13th to 19th October, 2022 from satellite-gauge merged data is presented in Fig.1

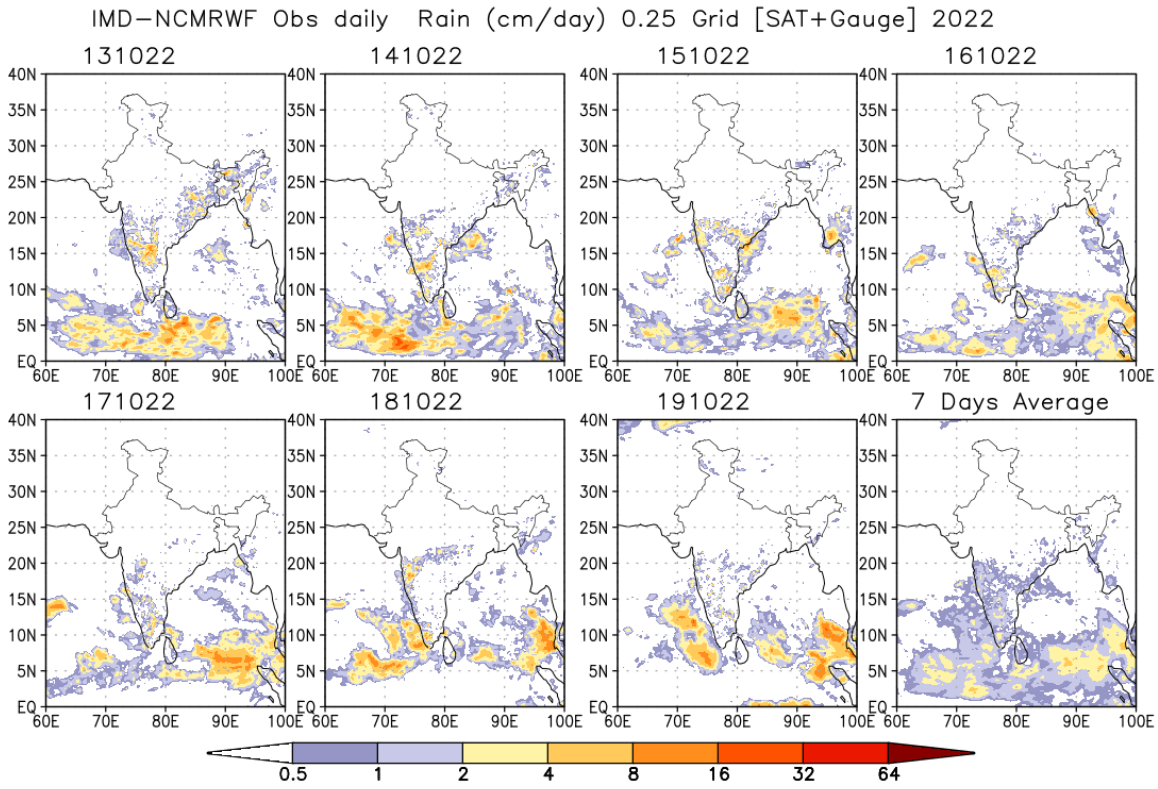

Fig.1: Rain gauge and satellite merged rainfall plots during 13th to 19th October, 2022

Next update: 27.10.2022