India Meteorological Department
Ministry of Earth Sciences
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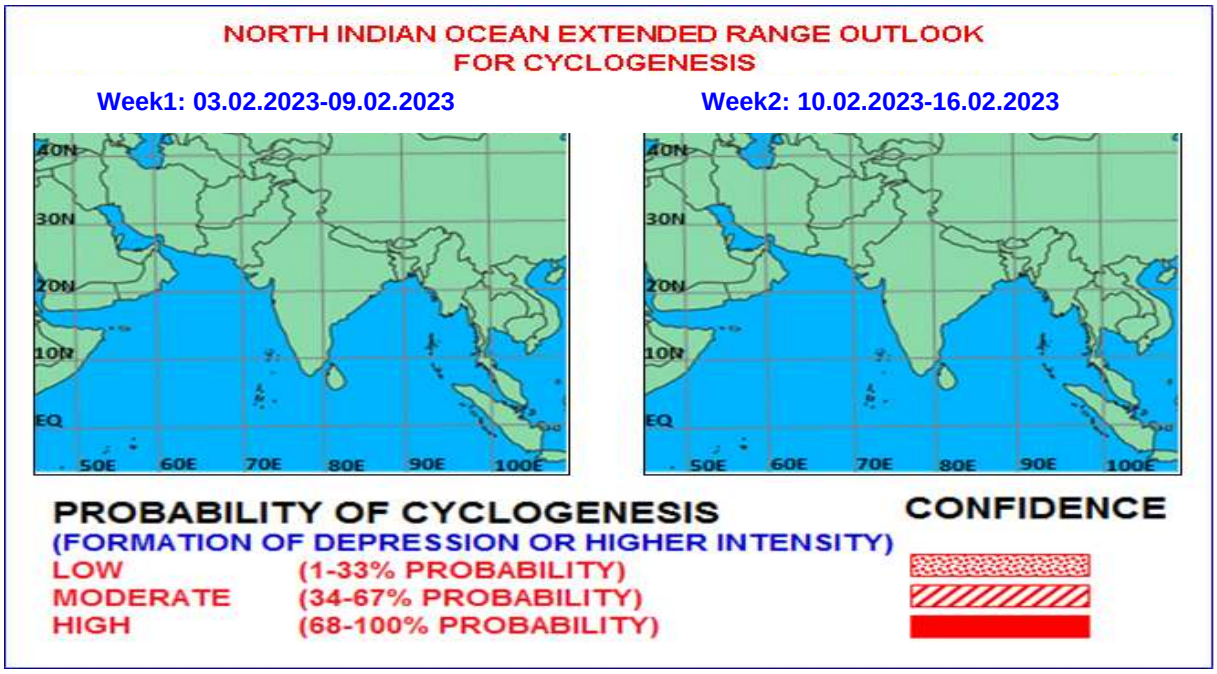

I. Environmental features:

The Madden Julian Oscillation (MJO) Index is currently in Phase 3 with amplitude more than 1. It will continue in the same phase during week 1 with amplitude remaining more than 1. Thereafter, it will move across phases 4 and 5 with amplitude becoming less than 1 during week 2. Thus, MJO will support enhancement of convective activity over the North Indian Ocean (NIO) during the entire forecast period. The CFS based forecast for Equatorial Waves indicate easterly winds (1-3 mps) over south & adjoining central Bay of Bengal (BoB) and Andaman Sea during entire forecast period.

II. Model Guidance:

Most of the numerical models are indicating that the existing depression over South Sri Lanka would weaken gradually into a well marked low pressure area and emerge into Comorin area by 1800 UTC of 2nd/0000 UTC of 3rd February and become less marked around 4th January.

Various deterministic and ensemble models are indicating no cyclogenesis over the region during next two weeks. However, models are also indicating emergence of fresh cyclonic circulation into Andaman Sea during first half of week 1 with westwards movement across south BoB and adjoining Equatorial Indian Ocean (EIO) during later part of week 1and no significant intensification. Extended range model coupled National Centre for Medium Range weather Forecasting(NCMRWF) unified model (CNCUM) is also indicating similar development with enhanced rainfall activity over south BoB and south Andaman Sea areas, while IMD ERF model does not shown any circulation during next two weeks. However, an east-west shear zone at lower levels is predicted over the south Bay of Bengal during week 1.

III. Inference:

Considering the model guidance and various environmental features, it is inferred that:

(i) Existing depression over South Bay of Bengal would move southwestwards across south Sri Lanka, weaken gradually and emerge into Comorin and adjoining Gulf of Mannar off west coast of Sri Lanka as a well marked low pressure area by midnight of today/early morning hours of tomorrow, the 03rd February 2023.

(ii) A fresh cyclonic circulation/ east-west shear zone is likely to develop over south Bay of Bengal during first half of week 1. Enhanced rainfall activity is likely over South Andaman Sea and South Bay of Bengal & adjoining Equatorial Indian Ocean region during week 1 under its influence.

(iii) No cyclogenesis is likely over the NIO region during next 2 weeks.

(i) Verification of forecast issued during last two weeks:

The forecast issued on 19th January, 2023 for week 2 (27.01.2023 – 02.02.2023) indicated formation of a cyclonic circulation/low pressure area over southeast BoB during the later part of week 1 and first half of week 2 with westwards movement towards southwest Bay of Bengal. The forecast issued on 26th January, 2023 for week 1 (27.01.2023– 02.02.2023) indicated likely formation of a low pressure over southeast BoB around 27th January with intensification into a depression over southwest Bay of Bengal around 31st January.

Actually, a Low Pressure area formed east Equatorial Indian Ocean and adjoining Southeast Bay of Bengal at 0000 UTC of 27th January, 2023. It concentrated into a well marked low pressure area over Southeast Bay of Bengal adjoining east Equatorial Indian Ocean at 0300 UTC of 29th January ,2023 and Depression over Southeast and adjoining Southwest Bay of Bengal at 0300 UTC of 30th January ,2023. It moved westwards and crossed Sri Lanka coast between Batticaloa and Trincomalee near latitude 7.8°N and longitude 81.6°E during 0330 to 0430 hours IST of today the 2nd February,2023.

Hence, formation of cyclonic circulation/low pressure area and depression was correctly predicted in extended range outlooks issued on 19th January and 26th January respectively.

The realized rainfall during 26th Jan, 2023 – 1st Feb, 2023 from satellite-gauge merged data is presented in Fig.1

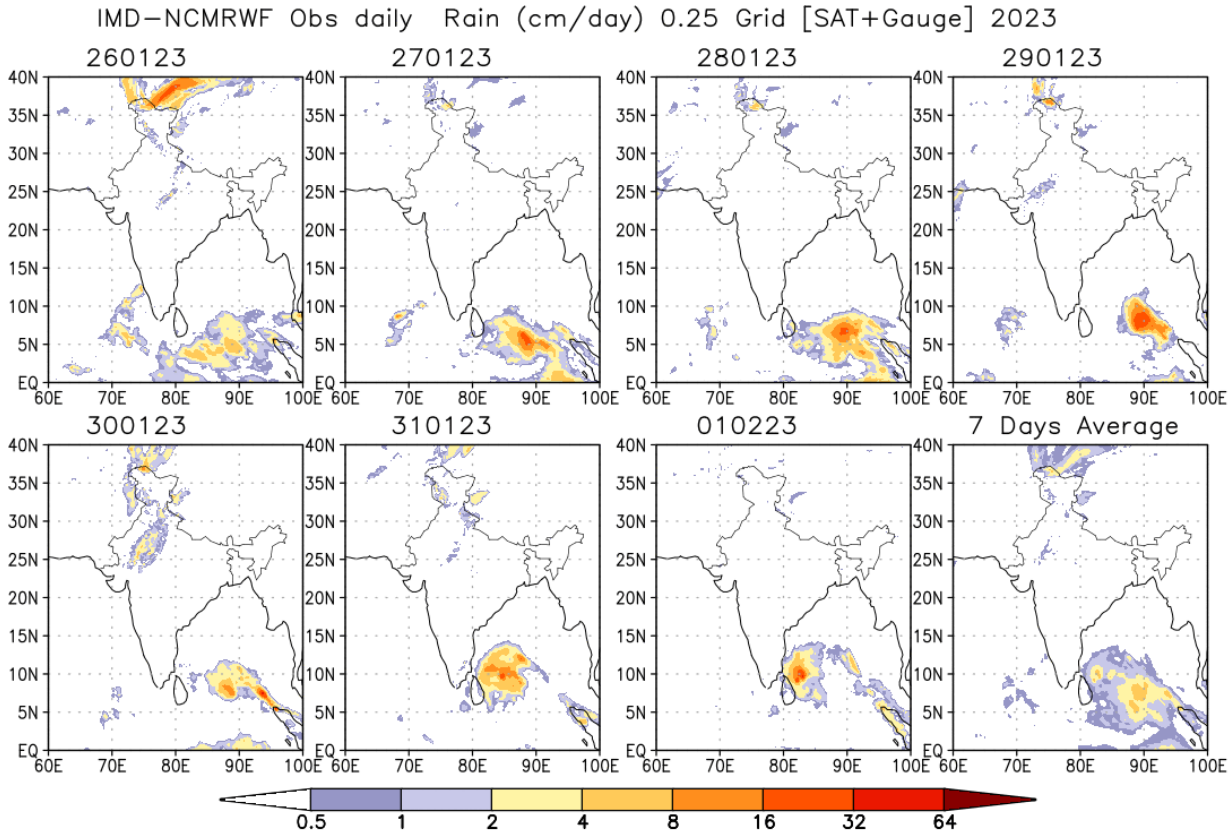

Fig.1: Rain gauge and satellite merged rainfall plots during 26th Jan, 2023 – 01st Feb, 2023

Next update: 09.02.2023