

Government of India Earth System Science Organization Ministry of Earth Sciences India Meteorological Department

Press: Dated: 30th March, 2023

Subject: Current Weather Status and Extended Range Forecast for next two weeks (30th March-12th April 2023)

1. Salient Observed Features during 23rd-29th March, 2023

- Rainfall/thunderstorm activities with isolated hailstorm activities and gusty winds continued to be reported during the weekacross many parts of India (consecutively reported for 2nd week), though in terms of areasand frequencies of their occurrences, it was reduced compared to the week of 16-22 March. During this week, it was mainly occurred over northwest and adjoining central parts of India (the peak period was during 23-26 March), Gujarat and over eastern and east central India during 26-29 March.
- > No heat wave was observed over any parts of India during the week and this has been for the 2^{nd} consecutive week, when no heat wave was observed over any parts of India.
- Analysis finds movement of an active Western Disturbance as deep trough in westerly at middle and upper tropospheric westerlies across north and central India and induced cyclonic circulation at lower levels, across south Rajasthan, during 23-29 March, had caused light to moderate rainfall/thundershowers over northwest India, Gujarat State, Madhya Pradesh and Vidarbha during the period with peak during 23-26 March. Isolated heavy rainfall also observed at isolated places over Himachal Pradesh on 24 March.They had also caused fairly widespread thunderstorm activity with rainfall over West Uttar Pradesh on a single day and isolated to scattered rainfall/thunderstorm activity over Rajasthan and Saurashtra & Kutch on two to three days whereas isolated rainfall/thunderstorm activity had occurred over West Madhya Pradesh &

Gujarat Region on one or two days. Under their influence, isolated hailstorm activity also had occurred over Rajasthan, Haryana, Chandigarh & Delhi and Punjab on one or two days whereas isolated heavy rainfall activity had occurred over Punjab on a single day along with. Hailstorm with gusty winds of 30-40 kmph also observed at isolated places over Rajasthan, Madhya Pradesh, Gujarat State and interior parts of Maharashtra during the same period.

- Under the influence of a trough/wind discontinuity which lay extending from East India to South Peninsula across eastern parts of Central India and northern parts of Peninsular India throughout the week, isolated to scattered rainfall/thunderstorm activity had occurred over Coastal Andhra Pradesh & Yanam, Chhattisgarh, and Kerala & Mahe on most of the days of the week on four to five days whereas isolated rainfall/thunderstorm activity had occurred over Tamil Nadu, Puducherry & Karaikkal, Telengana and Rayalseema throughout the week and over South Interior Karnataka on one or two days; isolated hailstorm activity also had occurred over Telengana on one or two days whereas isolated heavy rainfall had occurred over Tamil Nadu, Puducherry & Karaikkal and Kerala &Mahe on two days each; isolated very heavy rainfall also had occurred over Tamil Nadu, Puducherry & Karaikkal on one day during the week.
- > Remnants of the Western Disturbances had caused fairly widespread to widespread rainfall/thunderstorm activity over Arunachal Pradesh on most of the days and over Assam & Meghalaya on three to four days along with scattered rainfall/thunderstorm activity over these areas on the remaining days of the week. The wind discontinuity in the lower tropospheric level (mentioned earlier) originating from East India and troughs/cyclonic circulations in the lower tropospheric levels over the areas had caused scattered to fairly widespread rainfall/thunderstorm activity over West Bengal & Sikkim on three to four days with isolated rainfall/thunderstorm activity over the same areas on the remaining days of the week whereas isolated to scattered rainfall/thunderstorm activity had occurred over Odisha throughout the week. Isolated heavy rainfall activity had occurred over Arunachal Pradesh and Odisha on one or two days during 25-27 March.
- Analysis of Weekly overall Rainfall distribution during the week ending on 29 March 2023 and Pre-monsoon Season's Rainfall Scenario (1 March-29 March, 2023): It shows forthe country as a whole, the weekly cumulative All India Rainfall in % departure from its long period average (LPA) till week ending on 29 March 2023 was+30%, over south Peninsula as

+43%, central India as +149% and northwest India had +34% while all India Seasonal cumulative rainfall % departure during this year's **Pre-monsoon Season's Rainfall** during **1 March-29 March 2023** is +26% and over northwest India, it is -18%. Details of the rainfall distribution over the four broad geographical regions of India are given in Table 1 and Meteorological sub-division-wise rainfall both for week and season are given in Annex I and II respectively.

Region	WEEK			SEASON		
	23.03.2023 TO 29.03.2023			01.03.2023 TO 29.03.2023		
	Actual	Normal	% Dep	Actual	Normal	% Dep
EAST & NORTH-EAST INDIA	18.2	17.1	+6%	62.3	52.8	+18%
NORTH-WEST INDIA	13.2	9.9	+34%	37.8	45.9	-18%
CENTRAL INDIA	3	1.2	+149%	22.1	7.3	+202%
SOUTH PENINSULA	5.7	4	+43%	30.9	14.5	+113%
Country as a whole	9.1	7	+30%	35.1	27.9	+26%

Table 1: Rainfall status (Week and season)

2. Large scale features

Currently, La Niña conditions are prevailing over the equatorial Pacific region. The La Niña is likely to weaken and turn to El Nino Southern Oscillation (ENSO) neutral conditions during the pre-monsoon season. In addition to ENSO conditions over the Pacific, other factors such as the Indian Ocean SST also influence the Indian week to week weather. At present, neutral IOD conditions are present over the Indian Ocean and the latest MMCFS forecast indicates that the neutral IOD conditions are likely to continue during the pre-monsoon season.

The Madden Julian Oscillation (MJO) The Madden Julian Oscillation (MJO) Index is currently in Phase 6 with amplitude less than1. It will continue in same phase till around 5th April with increasing amplitude >1. Thereafter, it will move across phases 7with amplitude >1 during week 2. Hence, MJO would not support enhancement of convective activity over the Bay of Bengal (BoB) mainly during 2nd half of week 1 and week 2.

3. Forecast for next two week

<u>Weather systems & associated Precipitation during Week 1 (30th March to 05th April, 2023)</u> and Week 2 (06th to 12th April, 2023)

Rainfall for week 1 (30th March to 05th April, 2023):

- ✤ A Western Disturbance as a trough lies over Afghanistan & adjoining Pakistan in midtropospheric levels.
- ✤ A cyclonic circulation lies over southwest Rajasthan in lower tropospheric levels.
- A trough/wind discontinuity from Chhattisgarh to Tamil Nadu in lower tropospheric levels.
- The other trough from Sub-Himalayan West Bengal to north Odisha in lower tropospheric levels.
- ***** Under the influence of above synoptic features, following weather is expected:

Northwest India: • Scattered to widespread **rainfall**/thunderstorm, lightning/gusty winds very likely over the region during 30th March-01st April.

• Isolated **hailstorm** over Himachal Pradesh, Uttarakhand, Punjab, Haryana, Chandigarh, Delhi and East Rajasthan on 30th & 31st March; over West Rajasthan on 30th March and over Uttar Pradesh on 31st March.

 Isolated heavy rainfall over Jammu & Kashmir, Ladakh, Gilgit-Baltistan & Muzaffarabad, Himachal Pradesh and Uttarakhand on 31st March.

East India: Scattered to widespread **rainfall**/thunderstorm, lightning/gusty winds very likely over the region during 31st March-02nd April.

• Isolated **hailstorm** likely over Bihar, Jharkhand, West Bengal & Sikkim and Odisha on 31st March.

Northeast India: • Scattered to widespread light/moderate rainfall/**thunderstorm, lightning, gusty winds** very likely to continue over Northeast India during 30th March-03rd April.

• **Isolated heavy rainfall** likely over Assam & Meghalaya during 31st March- 02nd April; over Arunachal Pradesh and Nagaland, Manipur, Mizoram & Tripura on 01st & 02nd April.

Central India: Isolated **rainfall/thunderstorm, lightning/gusty winds** very likely over the region on 30th & 31st March.

South India: Light isolated rainfall/thunderstorm over the region during next 5 days except over Northern parts of Karnataka.

West India: Light isolated rainfall over the region on 30th & 31st March.

✓ Fairly widespread to widespread rainfall likely over Northeast India; Scattered to fairly widespread rainfall over Western Himalayan Region and isolated to scattered rainfall over East & adjoining Central India and dry weather over rest parts of the country during 04th-05th April, 2023.

Rainfall for week 2 (06th to 12th April, 2023):

- > Under the influence of Western Disturbance, isolated to scattered rainfall with thunderstorm likely over Western Himalayan Region during many days of the week.
- > Due to trough/cyclonic circulation over north Peninsular India, isolated to scattered rainfall with thunderstorm likely over south Peninsular and central India during many days of the week.
- Overall, rainfall activity is likely to be above normal over south Peninsular & central India and below normal over rest parts of the country.

Maximum Temperatures and its forecast during Week 1 (30 March to 05 April, 2023) and Week 2 (06 to 12 April, 2023):

Maximum Temperature Forecast for week 1 (30th March to 05th April, 2023):

- **Maximum temperatures** are in the range of 35-38°C over most parts of central, east & south Peninsular India and these are less than 35°C over rest parts of the country.
- Maximum temperatures are below normal or near normal over most parts of the country.
- Due to likely rainfall/thunderstorm activity over most parts of the country during next 4-5 days, maximum temperatures are very likely to be near normal or below normal over most parts of the country during most days of the week.
- No significant heat wave conditions very likely over any part of the country during the week.

Maximum Temperature for week 2 (06th to 12th April, 2023):

- Maximum temperatures likely to rise gradually by 1-3° C over most parts of the country as compared to week 1. However, these are likely to below normal over most parts of the country by 1-3° C except parts of Western Himalayan Region and Odisha, where it is likely to be near normal to above normal.
- $\circ~$ No significantly heat wave conditions likely over any part of the country during the week.

Legends:Heavy Rain: 64.5 to 115.5 mm Very Heavy Rain: 115.6 to 204.4 mm, Extremely Heavy Rain> 204.4 mm





Annex: II









