

Monthly Weather Review for the month of Dec, 2020 and Weather Outlook for the month of Jan 2021

Below normal minimum temperatures are likely over West Rajasthan, East Rajasthan, Himachal Pradesh, Jammu & Kashmir, Haryana Chandigarh & Delhi (HCD), Sub Himalayan West Bengal & Sikkim (SHWB), Jharkhand, Chhattisgarh, Odisha, Marathawada and Vidharbha.

The probability forecast for mean temperature indicates that most of subdivisions of India likely to experience below normal mean temperatures.

Western Himalayan Region very likely to experience light isolated rain/snow and isolated rain over Punjab, Haryana, Northeast Rajasthan and West Uttar Pradesh on 08th January, 2021

Fairly widespread to widespread rainfall with isolated heavy falls and moderate thunderstorm, & lightning very likely over southern peninsular India during next 2-3 days.

Isolated to scattered rainfall with moderate thunderstorm & lightning at isolated places very likely

over Maharashtra during next 2 days.

Fairly widespread to widespread rainfall with isolated heavy falls very likely over Tamilnadu, Puducherry & Karaikal and Kerala & Mahe on 10th & 11th January, 2021.

Posted On: 08 JAN 2021 9:43AM by PIB Delhi

According to the National Weather Forecasting Centre of the India Meteorological Department (IMD):

Weather Outlook for Jan 2021

Temperature outlook Fig 10a, 10b and 10c shows predicted sub-divisional probability and the subdivision averaged minimum, maximum and mean temperature anomalies (departures from the long term normal) respectively for the month of January 2021.

The probability forecast for minimum temperature (Fig.10a) indicates that **below normal minimum temperatures** are likely over West Rajasthan, East Rajasthan, Himachal Pradesh, Jammu & Kashmir, Haryana Chandigarh & Delhi (HCD), Sub Himalayan West Bengal & Sikkim (SHWB), Jharkhand, Chhattisgarh, Odisha, Marathwada and Vidharbha. Subdivisions of Punjab, East and West Madhya Pradesh, Bihar, Gangetic West Bengal (GWB), Telangana and North Interior Karnataka (NIK) are likely to experience climatological probability for minimum temperature.

Remaining subdivisions of the country is likely to experience above normal minimum temperatures.

The probability forecast for **maximum temperature** (Fig.10b) indicates that all the subdivisions of southern peninsular India and most of the subdivisions of central India (West and East Madhya

Pradesh, Vidharbha, Marathwada and Madhya Maharashtra) and few subdivisions of western

India (Gujarat region and Sourashtra & Kutch) are likely to experience below normal Maximum temperature. Remaining subdivisions of the country are likely to experience above normal maximum temperatures.

The probability forecast for mean temperature (Fig.10c) indicates that most of subdivisions of India likely to experience below normal mean temperatures. However, above normal mean temperatures are likely to experience over Konkan and Goa, Coastal Karnataka, Coastal Andhra Pradesh, most of the subdivisions along the foothills of Himalayas and Northeast India. Normal mean temperatures are likely to experience over Kerala and Tamilnadu.

Rainfall Forecast

Rainfall for week 1: (07 to 13 January, 2021)

- Under the influence of a Western Disturbance as a cyclonic circulation over western parts of Afghanistan & neighbourhood in middle & upper tropospheric levels, Western Himalayan Region very likely to experience light isolated rain/snow and isolated rain over Punjab, Haryana, Northeast Rajasthan and West Uttar Pradesh on 08th January, 2021 and no weather is expected over northwest India during subsequent 5-6 days.
- Under the influence of cyclonic circulation over Southeast Arabian Sea and another cyclonic circulation over south Tamilnadu coast & neighbourhood in lower tropospheric levels, fairly widespread to widespread rainfall with isolated heavy falls and moderate thunderstorm, & lightning very likely over

southern peninsular India during next 2-3 days.

- Under the influence of a trough in low level easterlies from Karnataka coast to Maharashtra coast in lower tropospheric levels; isolated to scattered rainfall with moderate thunderstorm & lightning at isolated places very likely over Maharashtra during next 2 days.
- Thereafter, under the influence of fresh spell of easterly wave, fairly widespread to widespread rainfall with isolated heavy falls very likely over Tamilnadu, Puducherry & Karaikal and Kerala & Mahe on 10th & 11th January, 2021.
- No significant rainfall likely over remaining parts of the country during the week.
- Cumulatively, above normal rainfall very likely over south peninsula & central India and below normal rain/snow likely over Western Himalayan Region during week 1 (Figs. 11 and 12).

Rainfall for week 2: (14 to 20 January, 2021)

- Due to the absence of any active Western Disturbance, below normal rain/snow also likely over Western Himalayan Region. Fresh easterly wave may cause normal to above normal rainfall over south India ((Figs. 11 and 12)..

Rainfall for week 3: (22 to 28 Jan 2021)

- Rainfall is very likely to be above normal over extreme southeast Peninsular India and below normal rainfall over western Himalayan region. Dry weather over rest parts of the country (Figs. 11 and 12).

Status of northeast monsoon rainfall over southeast Peninsular India during 1 Oct to 31 Dec 2020

The five meteorological subdivisions Viz. Tamil Nadu, Coastal Andhra Pradesh, Rayalaseema, Kerala and south interior Karnataka of south Peninsula together receive about 30% of its annual rainfall during the Northeast (NE) monsoon season (October to December). Tamil Nadu in particular receives about 48% of its annual rainfall during this season. Fig 1 shows cumulative Northeast monsoon Rainfall (NEMR) over these five subdivisions as a whole during 1901-2020. It shows NEMR during Oct-Dec 2020 is excess with actual rainfall being 10.3% above the long period average of 33.76 cm. It is highest during last 5-years(2016-2020).

In the year 2020, the progress of NEMR over Tamil Nadu has been highly variable as it was subdued till 11 Nov with season's cumulative rainfall departure from normal during 1 Oct to 11 Nov as -46%. However, rainfall over Tamil Nadu and Puducherry and adjoining southeast Peninsula significantly enhanced during the 2nd fortnight of Nov 2020 and 1st week of Dec 2020 due to formation and movement two back by back Cyclones towards Tamil Nadu coasts during this period. The Very Severe Cyclonic Storm 'NIVAR' in Bay of Bengal (21st to 27th November) moved across north Tamil Nadu. The Cyclonic Storm 'Burevi' (1st -3rd December 2020) crossed Sri Lanka coast as a cyclonic storm on 2nd December 2020 emerged into Gulf of Mannar, then crossed south Tamil Nadu coast near Pamban on 03rd Dec. evening and then weakened into a Deep Depression and lay over Gulf of Mannar, close to the coast of Ramanathapuram District, in the same evening. Thereafter, it weakened into a depression over the same area and remained practically stationary for 36-hours till 5 Dec 2020. As a result, during the period of 1 Oct to 9 Dec 2020, the cumulative rainfall in terms of % departure from normal over Tamilnadu improved from - 16% by 2 Dec to +9% by 9 Dec 2020. However, thereafter for remaining days of Dec 2020 i.e. 10- 31 Dec, no major rainfall spell occurred over the peninsular region due to absence of any major weather system. The cumulative NEMR 2020 over Tamilnadu, since 1 Oct till 31 Dec was reduced to +6% (refer Fig 2).

2. Monthly Rainfall Scenario over the country (01 to 31 Dec, 2020)

Rainfall over the country as a whole for the month of Dec 2020 shows that it has recorded 17 mm which is 2% lower than its Long Period Average (LPA) of 17.4mm with south Peninsula having +53% above LPA. Details are given below:

Rainfall over India during Dec 2020

| Regions | Actual Rainfall (mm) | Normal Rainfall (mm) | % Departure from LPA |
|------------------------|----------------------|----------------------|----------------------|
| Country as a whole | 17 | 17.4 | -2% |
| Northwest India | 16 | 21 | -24% |
| Central India | 4.4 | 6.7 | -34% |
| South Peninsula | 51.2 | 33.4 | 53% |
| East & northeast India | 3.2 | 13 | -75% |

During this month, 6 sub-divisions received large excess, 3 excess, 5 normal while remaining are deficient or large deficient rainfall (refer Fig 3). The rainfall has been mainly confined to southern parts of Peninsular India, Jammu & Kashmir, Ladakh, Gilgit-Baltistan & Muzaffarabad and parts of western India. The northern plains, central, eastern parts and northeast India received subdued rainfall during the month (Refer Fig 2).

3. Frequency of Heavy Rainfall events

The occurrences of heavy rainfall events are shown in Fig. 4.

- Heavy to very heavy rainfall with extremely heavy falls at isolated places occurred over Tamil Nadu, Puducherry & Karaikkal on one day during the month.
- Heavy to very heavy rainfall at isolated places occurred over Tamil Nadu, Puducherry & Karaikkal on five days during the month.
- Heavy rainfall at isolated places occurred over Tamil Nadu, Puducherry & Karaikkal and Rayalaseema on three days each; over Coastal Andhra Pradesh & Yanam and Lakshadweep on two days each; over Kerala & Mahe and Andaman & Nicobar islands on one day each during the month.

For details, please [CLICK HERE](#).

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