



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

Press Release

Dated: 02nd May 2022

Subject: Monthly Weather and Climate Summary for April 2022

1. Salient weather features of month of April 2022

- Absence of active WDs in the month over north India caused highly sub-dued rainfall and very less thunderstorm activities over northwest and central parts of India. It led to frequent and also prolonged spell of heat wave to severe heat wave days and higher than normal temperature over these areas in most days. The West Rajasthan, Himachal Pradesh, south Haryana-Delhi, west Madhya Pradesh and **western parts of Uttar Pradesh** experienced higher number of heat wave days and East Uttar Pradesh, eastcentral India reported lower number of heat wave days.
- A total of 6 number of Western Disturbances (WD) during dates 1-4, 7-9, 13-15, 20-22, 23-25 and 28-29 affected north India. However most of them were feeble & dry and moved across higher ridges of Himalayas. Only last three systems caused gusty winds and Dust rising winds and dry thunderstorm in some places of northwest India.
- In contrast to the month of the March 2022, northeast India and southern Peninsular especially Kerala and Tamil Nadu received scattered to fairly widespread rainfall and thunderstorm on many days. It is mainly due to the fact that two cyclonic circulations moved from southwest Bay of Bengal to Southeast Arabian Sea across south India during 2nd and 3rd week and north-south troughs/wind discontinuities prevailed from Central India to South Peninsula in the lower tropospheric levels on many days.
- Under the influence of cyclonic circulations/troughs in lower tropospheric levels supported by moisture incursion into the area there was fairly widespread to widespread rainfall/thunderstorm activity over Sub Himalayan West Bengal & Sikkim on most of the days and over Northeast India during the 1st half of the month.

2. Frequency of Heavy Rainfall events over India

The April 2022 witnessed extremely heavy rainfall, very heavy rainfall and heavy rainfall events. Heavy rainfall events occurred mainly over some stations of south peninsular India and northeast India.

The location of occurrence of extremely heavy rainfall, very heavy rainfall and heavy rainfall events is shown in the Figure 1. The frequency of heavy rainfall events was higher in 2022 compared to those in 2018-2021.

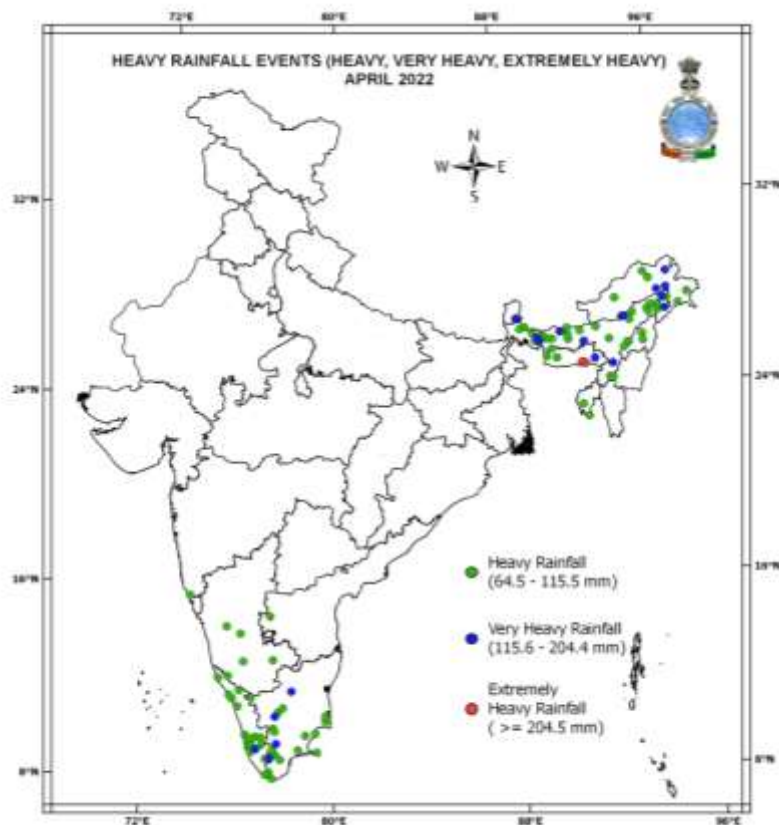


Fig 1: The location of occurrence of heavy rainfall events in April 2022.

Some stations received record rainfall (24 hour) during this month as mentioned below.

STATION	NEW RECORD RAINFALL (mm)*	DATE (APRIL 2022)	PREVIOUS RAINFALL RECORD(mm)	DD-MM-YYYY
ITANAGAR	166.6	24	77.8	21-04-2016
MAWSYNRAM	401.8	4	361.8	28-04-1977

*Based on real time available data

3. Monthly Rainfall Scenario (01 to 30 April, 2022):

Rainfall over the country as a whole for the month of April 2022 shows that it has recorded 38.4 mm, which is 2% less than its Long Period Average (LPA) of 39.3 mm.

Rainfall over Northwest India (5.6 mm) was 3rd lowest since 1901 after the years 1947 (1.8 mm) and 1954 (4.4 mm). Rainfall over Sub-Himalayan West Bengal & Sikkim (236.8 mm) was third highest since 1901 after the year 1949 (259.9 mm) and 1925 (243.4 mm).

The monthly rainfall for April 2022 is given in the table below:

Regions	Actual Rainfall (mm)	Normal Rainfall (mm)	% Departure from LPA
Country as a whole	38.4	39.3	-2
Northwest India	5.6	31.9	-82
Central India	4.0	9.0	-55
South Peninsula	45.6	33.4	37
East & northeast India	165	124.8	32

During this month, 9 sub-divisions received large excess, 1 excess, 1 normal, 5 deficient rainfall, 18 large deficient rainfall and 2 sub-divisions did not receive rainfall.

The observed spatial distribution of normal rainfall (Averaged over 1961 to 2010) and its departures from normal for the month of April 2022 is given in Figure 2.

RAINFALL OVER THE COUNTRY FOR APRIL 2022

(CLIMATE MONITORING AND PREDICTION GROUP)

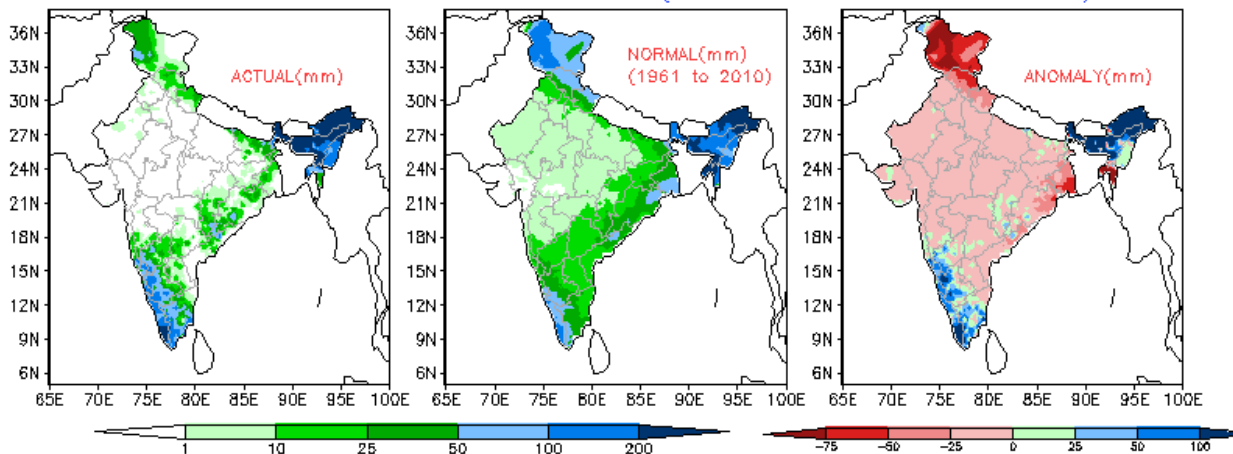


Fig 2: Observed spatial Rainfall pattern for the month of April 2022 over India and their departure from normal (1961 to 2010 periods)

4. Characteristics of Temperatures for the month of April 2022

The observed average maximum, average minimum and mean temperatures for the country as a whole during April 2022 were 35.30°C, 23.51°C and 29.41°C respectively, against the normal of 33.94°C, 22.15°C and 28.04°C based on period 1981-2010. Thus, the average maximum, average minimum temperature and mean temperature are above normal by 1.36°C, 1.36°C, 1.37°C respectively for the country as a whole. The climatological data based on the period of 1981 to 2010 are used to calculate the normal and hence the anomaly (Actual average temperature in 2022 - normal temperature based on data of 1981-2010). Figure 3 shows time series of monthly average maximum, average minimum and mean temperature over all India for the month of April during 1901-2022. Over the country as a whole during April, the average maximum temperature is third highest with 35.30 °C after the years 2010(35.42 °C), 2016(35.32 °C) since 1901 and mean temperature is second highest with 29.41 °C after the year 2010(29.48 °C) since 1901. The average minimum temperature is also second highest 23.51°C after the year 2010(23.54 °C) since 1901. The temperatures during April 2022 for all India and homogeneous regions with its ranks since 1901 is given in table 1 and the five extremes for temperature along with year of occurrence is given in table 2.

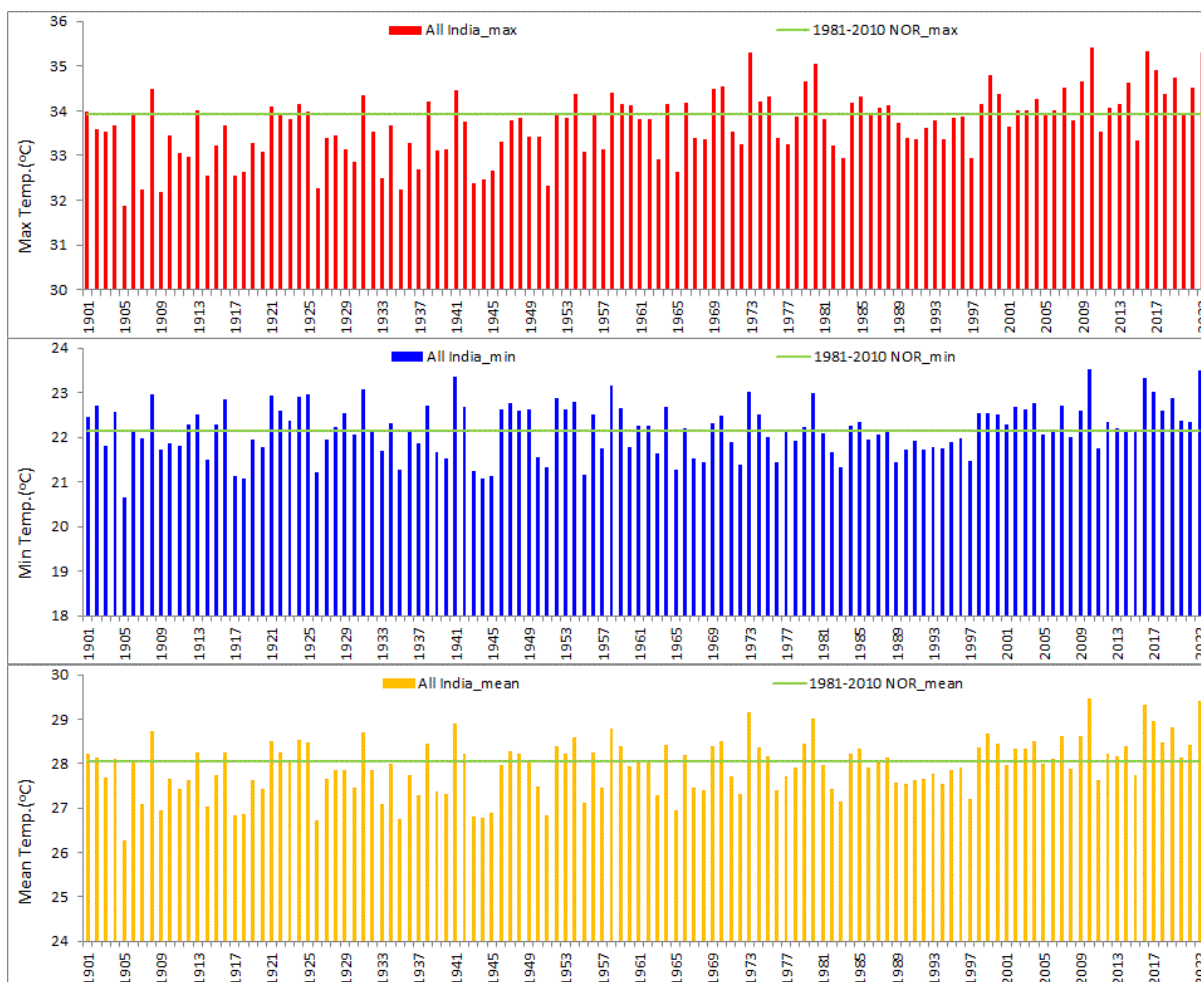


Fig 3: Time series of monthly average maximum, average minimum and mean temperatures over all India for the month of April during 1901-2022.

Figure 4 shows time series of monthly average maximum, average minimum and mean temperature over Northwest India for the month of April during 1901-2022. Over Northwest India during April, the average maximum temperature was ever highest with 36.32 °C in last 122 years against the earlier record of 35.4°C in 2010. The average mean temperature was ever highest in 2022 with 28.18 °C against the earlier record of 27.79 °C in 2010. The minimum temperature was second highest with 20.04°C after the year 2010 (20.18 °C).

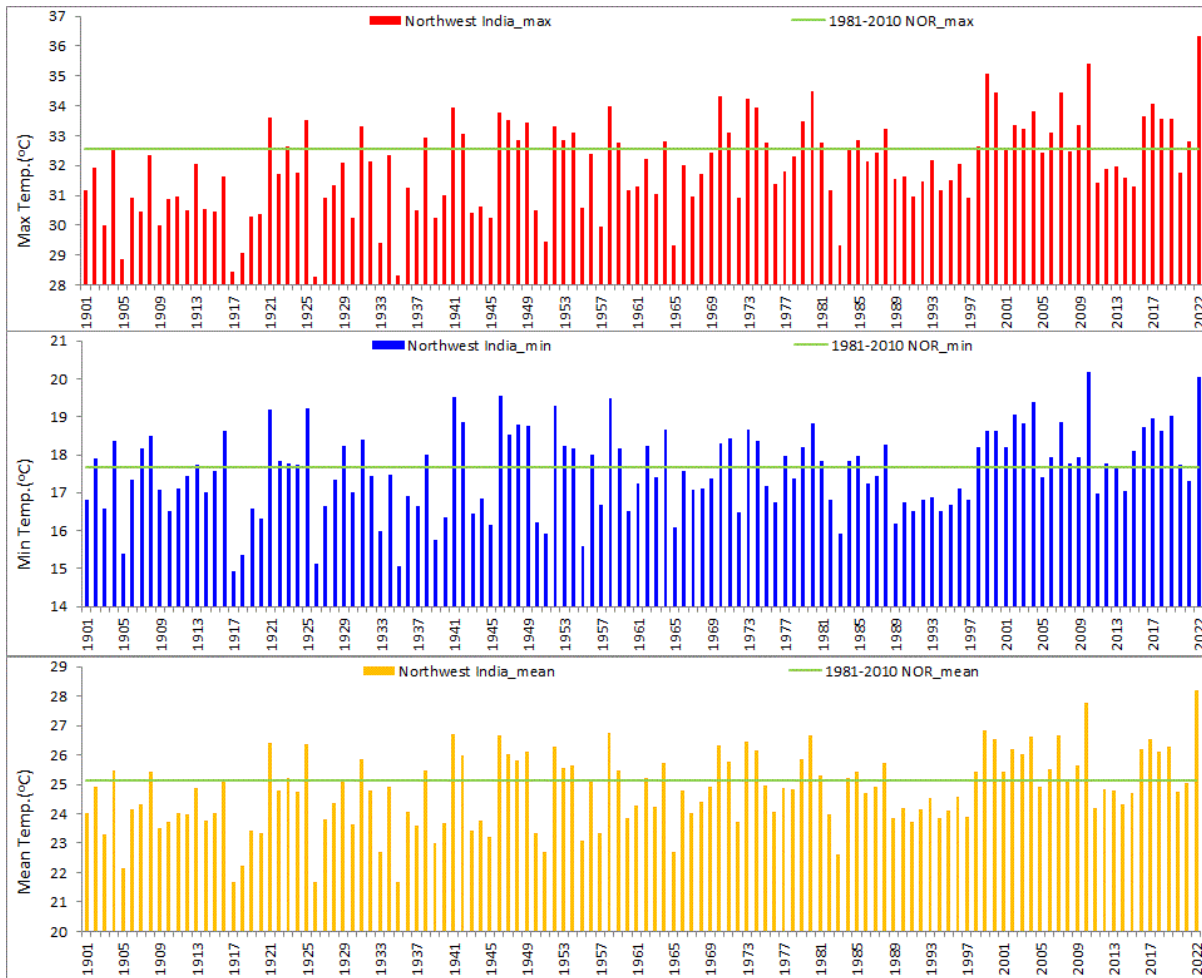


Fig 4: Time series of monthly average maximum, average minimum and mean temperature over Northwest India for the month of April during 1901-2022.

Figure 5 shows time series of monthly average maximum, average minimum and mean temperature over Central India for the month of April during 1901-2022. Over Central India during April, the average maximum temperature was highest with 38.04°C in last 122 years for the period 1901-2022 against the earliest record of 37.75 °C in 1973. The average mean temperature was in April 2022 highest with 31.35 °C for the period 1901-2022 and it broke the earlier highest record of 31.10 °C in 2010. The average minimum temperature was highest in April 2022 with 24.66 °C and it broke the earlier record of 24.52 °C in 2010.

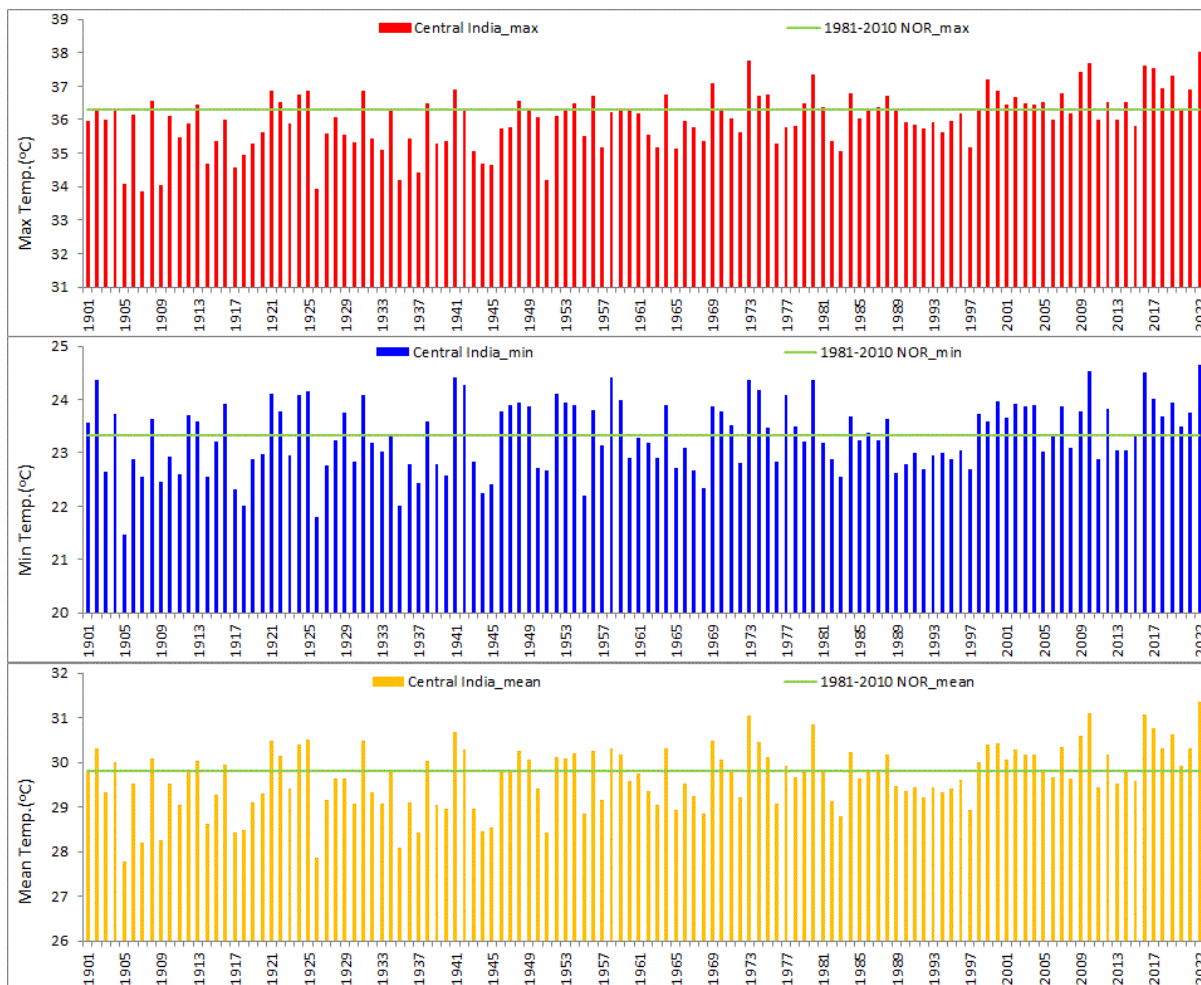


Fig 5: Time series of monthly average maximum, average minimum and mean temperature over Central India for the month of April during 1901-2022.

Figure 6 shows time series of monthly average minimum temperature over East & Northeast India for the month of April during 1901-2022. Over East & Northeast India during April, the average minimum temperature was third highest with 21.94 °C since 1901(for 1st highest to 2nd highest pls refer table 2).

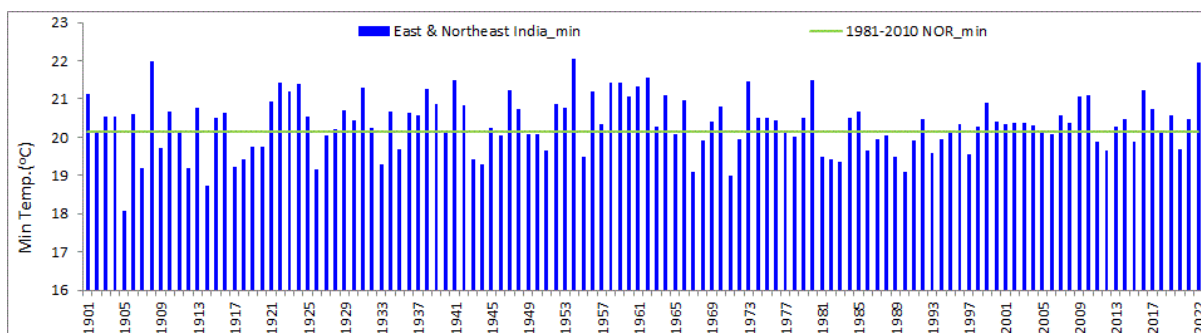


Fig 6: Time series of monthly average minimum temperature over East & Northeast India for the month of April during 1901-2022.

APR 2022		Max Temp (°C)	Min Temp (°C)	Mean Temp (°C)
ALL INDIA	ACTUAL	35.30	23.51	29.41
	NORMAL	33.94	22.15	28.04
	ANOMALY	1.36	1.36	1.36
	TOP RANK	3	2	2
NORTHWEST INDIA	ACTUAL	36.32	20.04	28.18
	NORMAL	32.54	17.69	25.11
	ANOMALY	3.78	2.36	3.07
	TOP RANK	1	2	1
EAST & NORTHEAST INDIA	ACTUAL	31.93	21.94	26.94
	NORMAL	31.99	20.13	26.06
	ANOMALY	-0.06	1.81	0.87
	TOP RANK	79	3	32
CENTRAL INDIA	ACTUAL	38.04	24.66	31.35
	NORMAL	36.29	23.32	29.81
	ANOMALY	1.75	1.34	1.54
	TOP RANK	1	1	1
SOUTH PENNINSULAR INDIA	ACTUAL	34.42	25.68	30.05
	NORMAL	34.26	25.18	29.72
	ANOMALY	0.17	0.50	0.33
	TOP RANK	22	15	17

Table 1: The Temperatures during April 2022 for all India and homogeneous regions with its ranks since 1901 are given bellow;

All India (April 2022)					Northwest India (April 2022)					Central India (April 2022)				
Year	TMax	Normal	Anomaly	Rank	Year	TMax	Normal	Anomaly	Rank	Year	TMax	Normal	Anomaly	Rank
2010	35.42	33.94	1.483	1	2022	36.32	32.54	3.78	1	2022	38.04	36.29	1.75	1
2016	35.32		1.384	2	2010	35.40		2.85	2	1973	37.75		1.45	2
2022	35.30		1.365	3	1999	35.06		2.52	3	2010	37.67		1.38	3
1973	35.30		1.361	4	1980	34.50		1.96	4	2016	37.62		1.32	4
1980	35.04		1.103	5	2007	34.46		1.91	5	2017	37.53		1.23	5

All India (April 2022)					Northwest India (April 2022)					Central India (April 2022)				
Year	TMin	Normal	Anomaly	Rank	Year	TMin	Normal	Anomaly	Rank	Year	TMin	Normal	Anomaly	Rank
2010	23.54	22.15	1.39	1	2010	20.18	17.69	2.50	1	2022	24.66	23.32	1.34	1
2022	23.51		1.36	2	2022	20.04		2.36	2	2010	24.52		1.20	2
1941	23.34		1.20	3	1946	19.54		1.85	3	2016	24.51		1.19	3
2016	23.33		1.18	4	1941	19.52		1.83	4	1941	24.42		1.10	4
1958	23.15		1.00	5	1958	19.50		1.81	5	1958	24.41		1.089	5

All India (April 2022)					Northwest India (April 2022)					Central India (April 2022)				
Year	TMean	Normal	Anomaly	Rank	Year	TMean	Normal	Anomaly	Rank	Year	TMean	Normal	Anomaly	Rank
2010	29.48	28.04	1.44	1	2022	28.18	25.11	3.07	1	2022	31.35	29.81	1.54	1
2022	29.41		1.36	2	2010	27.79		2.68	2	2010	31.10		1.29	2
2016	29.32		1.28	3	1999	26.85		1.73	3	2016	31.06		1.25	3
1973	29.16		1.12	4	1958	26.75		1.63	4	1973	31.05		1.24	4
1980	29.02		0.97	5	1941	26.72		1.61	5	1980	30.85		1.05	5

East & Northeast India (April 2022)				
Year	TMin	Normal	Anomaly	Rank
1954	22.05	20.13	1.92	1
1908	21.99		1.86	2
2022	21.94		1.81	3
1962	21.57		1.43	4
1980	21.51		1.37	5

Table 2: The five highest temperature records with corresponding ranks since 1901 along with year occurrence for all India, Northwest India, Central India (Tmean, Tmax, Tmin) and for East & Northeast India (Tmin) are given in the table below;

The observed spatial temperature pattern of monthly average maximum, average minimum and mean temperature over India and their departures from normal (1981 to 2010 period) for the month of April 2022 is given in Figure 7.

TEMPERATURE & ITS ANOMOLY FOR THE MONTH APRIL 2022

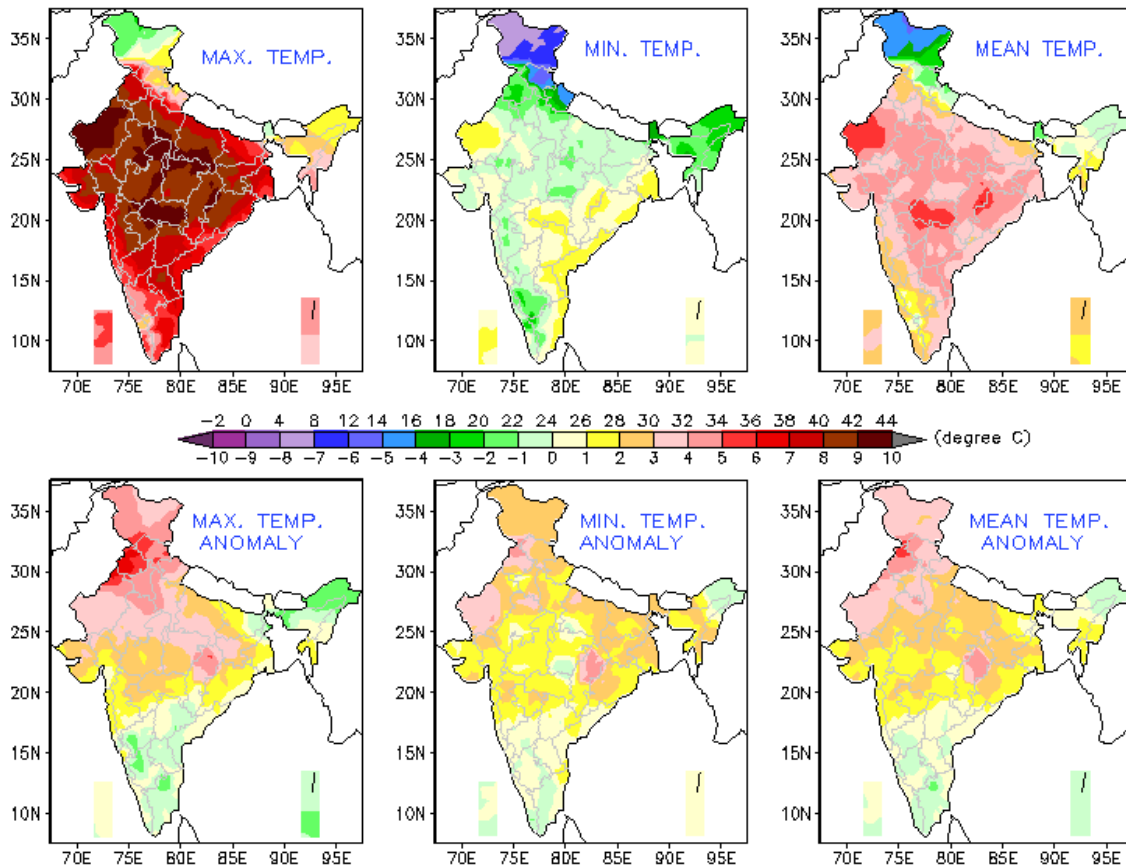


Fig 7: Observed spatial temperature pattern of monthly average maximum, average minimum, and mean temperature over India (top three from left to right) and their departure from normal (1981 to 2010 period) for April 2022 (lower three from left to right).

Some stations reported record (highest) temperature during this month. The table below shows stations that reported highest temperature along with their previous record.

STATION NAME	NEW RECORD (°C)*	DATE (APR 2022)	PREVIOUS RECORD (°C)	DD/MM/YYYY
Gopalpur	37.8 @	22	37.8	12-04-1994
Daltonganj	46	30	45.6	30-04-2009
Motihari	41.5	6	41.4	16-04-1973
Allahabad AP	46.8	29	46.6	30-04-1999
Jhansi	46.2 @	29	46.2	17-04-2010
Lucknow AP	45.1	29	45	30-04-1999
Ferozepur	43.7	28	43.4	27-04-1970
Dharamsala	36.2	30	35.6	18-04-2010

Alwar	45.8	8	45.1	28-04-1979
Jaisalmer	45.9	30	45.8	29-04-2009
Pachmarhi	39.8	21	38.9	27-04-1970
Ratlam	45.0	28	44.9	29-04-2009
Madikeri	34.8	20	34.2	07-04-1998
Minicoy	35 @	28	35	21-04-1993

* Based on real time available data

@ Equals previous record