Climate Summary for the month of February 2022

1. Monthly Rainfall Scenario (01 to 28 February, 2022)

Rainfall over the country as a whole for the month of February 2022 shows that it has recorded 19.1 mm which is 19% less than its Long Period Average (LPA) of 23.5 mm. Rainfall over northeast India (48.6 mm) during the month of February was second highest since 2001 after the year 2007 (62.6 mm).

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

Regions	Actual Rainfall (mm)	Normal Rainfall (mm)	% Departure from LPA
Country as a whole	**19.1**	**23.5**	**-19**
Northwest India	**29.9**	**45.3**	**-34**
Central India	**3.8**	**7.7**	**-50**
South Peninsula	**4.4**	**8**	**-45**
East & northeast India	**48.6**	**33.8**	**44**

During this month, 7 sub-divisions received large excess, 1 excess, 8 normal, 5 deficient rainfall, 8 large deficient and 7 sub-divisions not received rainfall.

The observed spatial rainfall, normal rainfall (averaged over 1961 to 2010) and its departures from normal for the month of February 2022 is given in Figure 1.

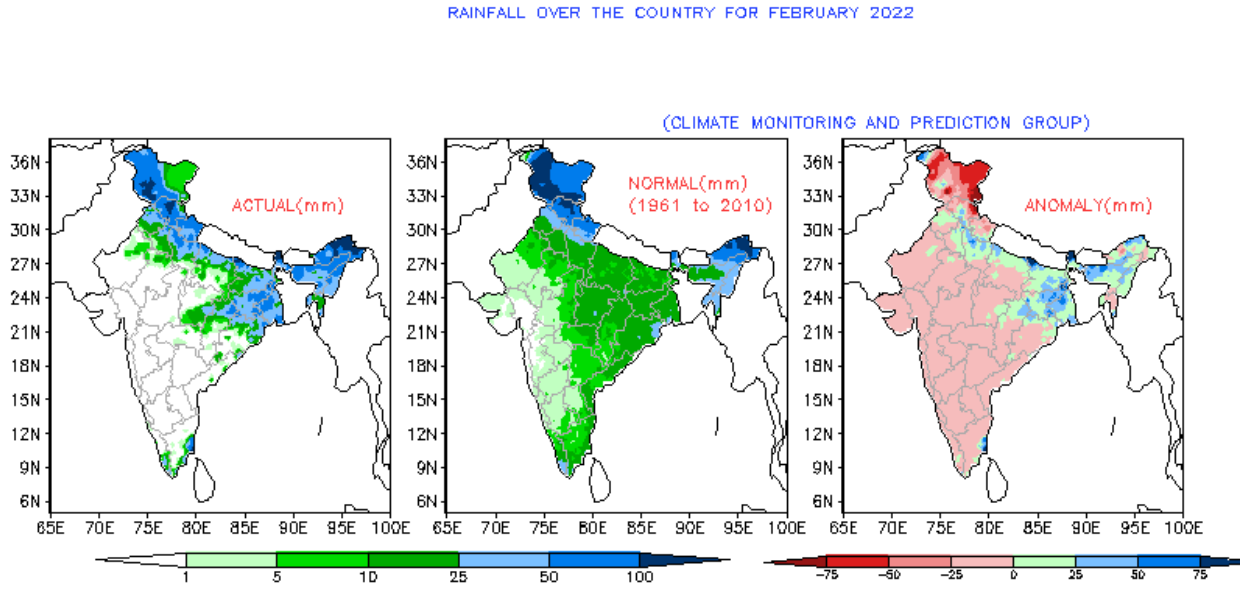


Fig 1: Observed spatial Rainfall pattern for the month of February 2022 over India and their departure from normal (1961 to 2010 period)

2. Frequency of Heavy Rainfall events

The February 2022 witnessed a few heavy rainfall events mainly over some stations of south peninsular India and north India.

The location of occurrences of heavy rainfall events is shown in the Figure 2. Total 17 stations reported heavy rainfall (64.5 to 115.5 mm of rainfall) during this month.

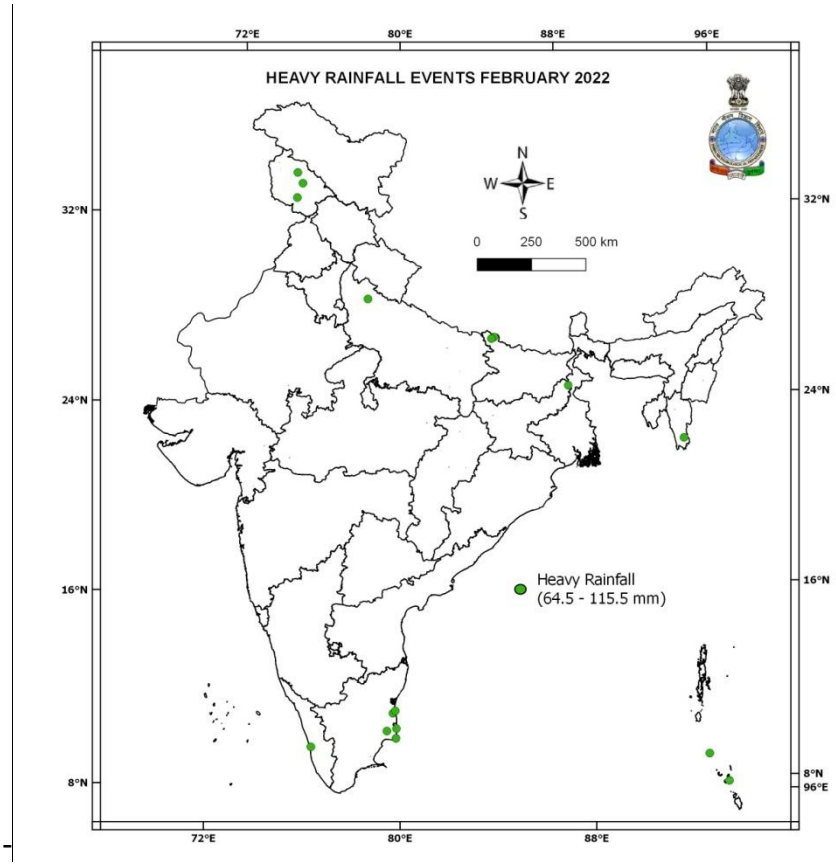


Fig 2: The location of occurrences of heavy rainfall events in the month of February 2022.

Some stations received record rainfall (24 hour).The table below shows stations received 24-hour record rainfall and its previous record.

STATION	24 HOUR RECORD RAINFALL IN FEBRUARY 2022(mm)*	DATE	PREVIOUS RAINFALL RECORD(mm)	DD-MM-YYYY
ITANAGAR	15.2	2	13.7	17-02-2011
ASANSOL	9.8	25	7.5	13-02-1959
MALDA	58.5	4	45	15-02-2014
CONTAI	40.0	5	36	26-02-1992
KALAIKUNDA	32.6	5	29	14-02-2007
GORAKHPUR	28.2	5	15.6	20-02-1984
PATHANKOT	26.0	26	10.6	14-02-2012

*Based on real time available data

Chief synoptic features during February 2022

During this month, one low-pressure area formed over West Rajasthan and neighborhood (3-4 February).

3. Characteristics of Temperatures for the month of February 2022

The observed average maximum, average minimum and mean temperature for the country as a whole during February 2022 are 27.49ºC, 15.48ºC and 21.48ºC respectively, against the normal of 27.80ºC, 15.49ºC and 21.65ºC based on period 1981-2010. Thus, for the country as a whole, the average maximum temperature is below normal with anomaly of -0.31ºC, average minimum temperature and mean temperature are normal with anomaly of -0.01ºC, -0.16ºC respectively. 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 February during 1901-2022.

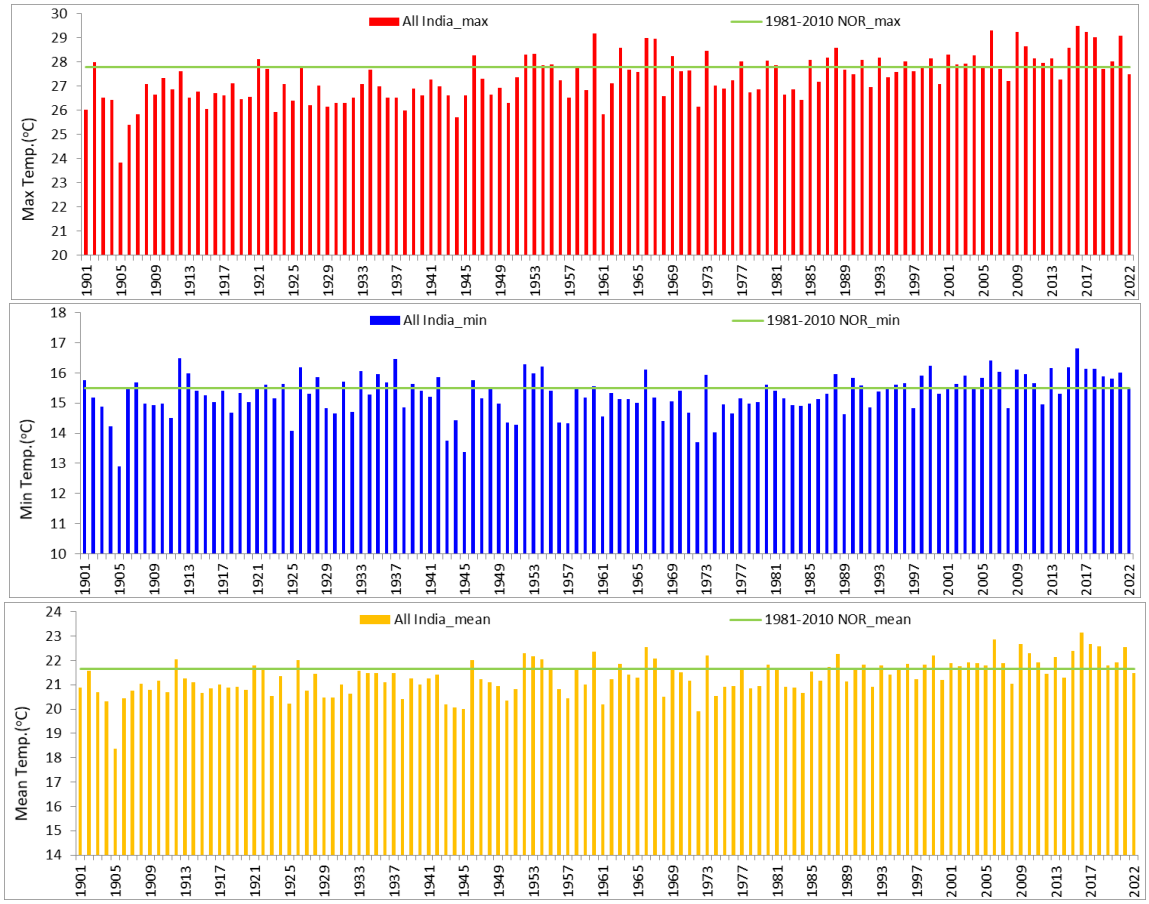


Fig 3: Time series of monthly average maximum, average minimum and mean temperature over all India for the month of February during 1901-2022.

Figure 4 shows time series of monthly average mean temperature over East & Northeast India for the month of February during 1901-2022. The average of mean temperature over East & Northeast India during February 2022 is ninth lowest (17.85ºC with anomaly of -1.32ºC) since 1901.

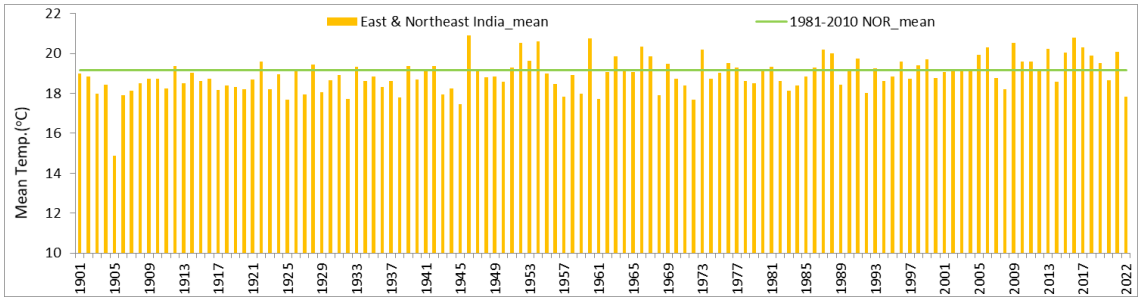


Fig 4: Time series of monthly average of mean temperature over East & Northeast India for the month of February during 1901-2022

The Temperatures during February 2022 for all India and homogeneous regions with its ranks since 1901 are given bellow;

FEB 2022		Max Temp (^{0}C)	Min Temp (^{0}C)	Mean Temp (^{0}C)
ALL INDIA	**ACTUAL**	**27.49**	**15.48**	**21.48**
	NORMAL	27.80	15.49	21.65
	ANOMALY	-0.31	-0.01	-0.16
	TOP RANK	**57**	**54**	**53**
	BOT RANK	**66**	**69**	**70**
NORTHWEST INDIA	**ACTUAL**	**21.46**	**8.12**	**14.79**
	NORMAL	21.46	8.17	14.82
	ANOMALY	0.00	-0.06	-0.03
	TOP RANK	**45**	**47**	**46**
	BOT RANK	**78**	**76**	**77**
EAST & NORTHEAST INDIA	**ACTUAL**	**24.27**	**11.42**	**17.85**
	NORMAL	26.00	12.32	19.16
	ANOMALY	-1.73	-0.90	-1.32
	TOP RANK	**112**	**100**	**114**
	BOT RANK	**11**	**23**	**9**
CENTRAL INDIA	**ACTUAL**	**29.70**	**15.59**	**22.65**
	NORMAL	29.88	15.64	22.76
	ANOMALY	-0.18	-0.05	-0.12
	TOP RANK	**54**	**59**	**54**
	BOT RANK	**68**	**64**	**69**
SOUTH PENNINSULAR INDIA	**ACTUAL**	**31.36**	**21.90**	**26.63**
	NORMAL	31.35	21.50	26.43
	ANOMALY	0.01	0.40	0.20
	TOP RANK	**35**	**28**	**21**
	BOT RANK	**88**	**95**	**102**

The nine lowest mean temperature records with corresponding ranks since 1901 for East & Northeast India (TMean) are given in the table below;

Northeast India (Feb 2022)				
Year	**TMean**	**Normal**	**Anomaly**	**Bottom Rank**
1905	14.8794	19.16277	**-4.28**	1
1945	17.4671	19.16277	**-1.70**	2
1972	17.6752	19.16277	**-1.49**	3
1925	17.6839	19.16277	**-1.48**	4
1932	17.7083	19.16277	**-1.45**	5
1961	17.7172	19.16277	**-1.45**	6
1938	17.8079	19.16277	**-1.35**	7
1957	17.8358	19.16277	**-1.33**	8
2022	**17.8455**	19.16277	**-1.32**	9

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 February 2022 is given in Figure 5.

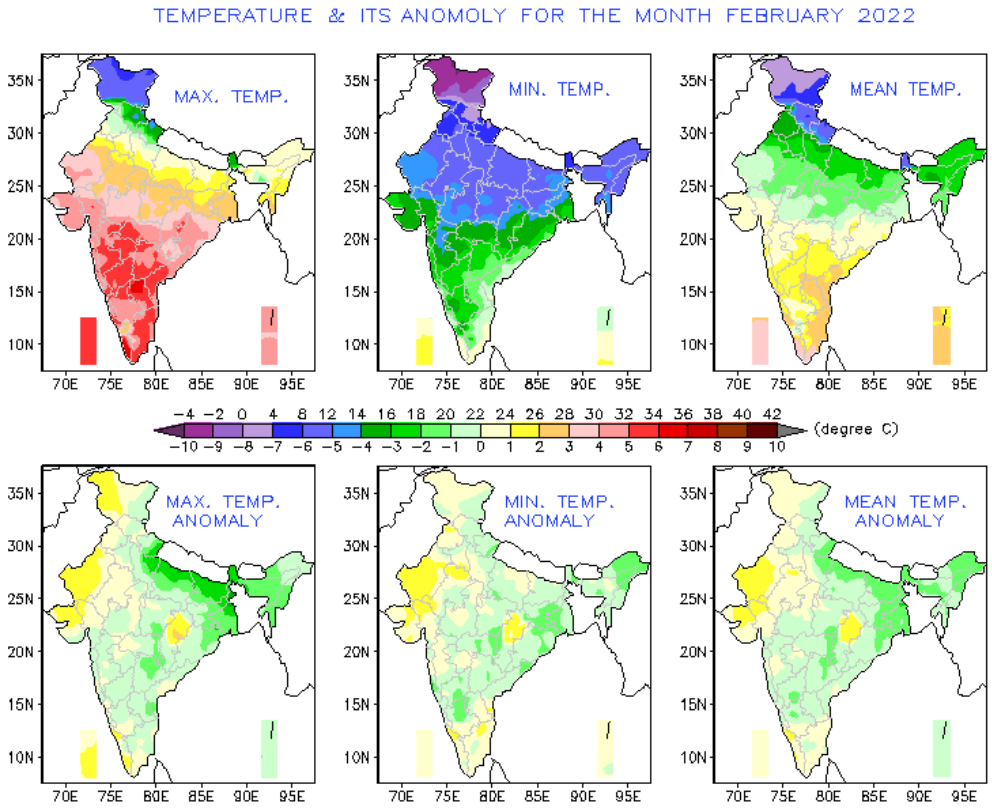


Fig 5: Observed spatial temperature pattern of monthly average maximum, average minimum, and mean temperature over India (top three from left to right) and their departure from normal (1981 to 2010 period) for February 2022 (lower three from left to right).

4. Significant Weather Events for the month of February 2022:

During February, total 7 persons reportedly claimed dead due to snowfall in West Kameng district of Arunachal Pradesh on 6th February. The details of causalities are based on real time media reports.

Figure No.6 shows deaths due to significant weather events during the month. (Based on real time media reports).

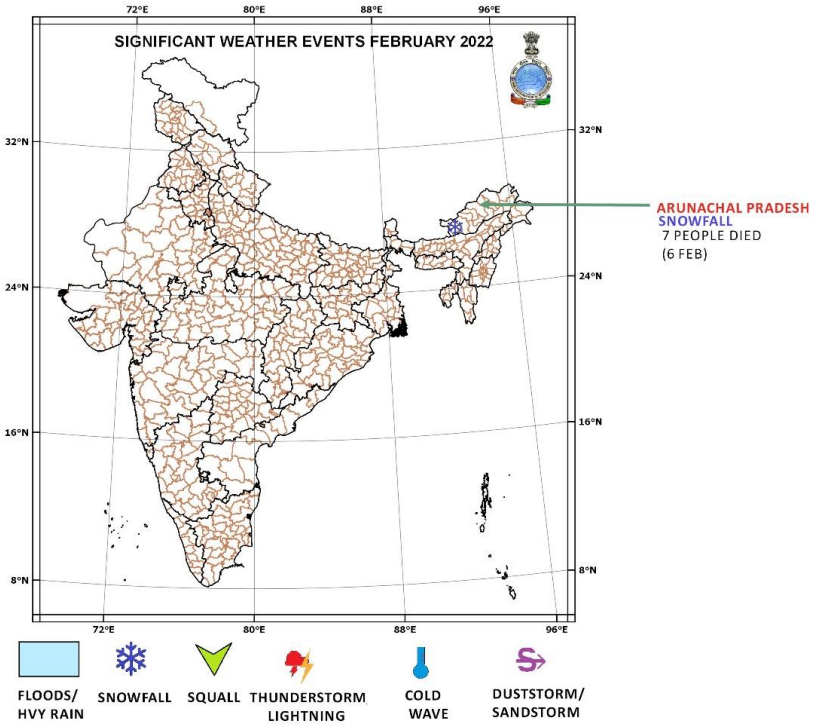


Fig 6: Significant weather events during February 2022 (Based on real-time media report)