Climate Summary for the month of January 2022

1. Monthly Rainfall Scenario (01 to 31 January,2022)

Rainfall over the country as a whole for the month of January 2022 shows that it has recorded 39.6 mm which is 129% more than its Long Period Average (LPA) of 17.3 mm. Rainfall over all India (39.6 mm) during the month of January was third highest since 1951 after the years 2005 (40.6 mm) and 1957 (39.7 mm). However, the rainfall over all India seventh heights since 1901.

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

Regions	Actual Rainfall (mm)	Normal Rainfall (mm)	% Departure from LPA
Country as a whole	**39.6**	**17.3**	**129**
Northwest India	**78.4**	**33.6**	**133**
Central India	**22.7**	**7.5**	**203.1**
South Peninsula	**19.8**	**8.2**	**142**
East & northeast India	**24.8**	**18.3**	**36**

During this month, 23 sub-divisions received large excess, 2 excess, 4 normal,1 deficient rainfall and 6 large deficient.

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

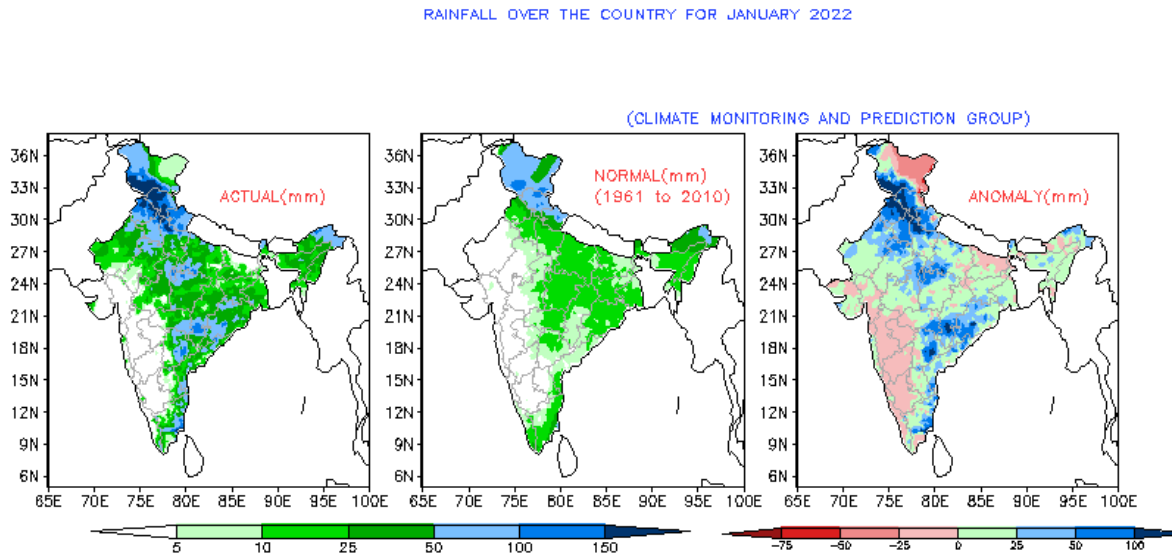


Fig 1: Observed spatial Rainfall pattern for the month of January 2022 over India and their departure from normal (1961 to 2010 period)

2. Frequency of Heavy Rainfall events

The January 2022 witnessed heavy and very heavy rainfall events over south peninsular India, east central India and north India.

The location of occurrences of rainfall extremely heavy, very heavy and heavy rainfall events is shown in the Figure 2. There were 9 stations reporting very heavy rainfall (115.6 to 204.4 mm), 89 stations reporting heavy rainfall (64.5 to 115.5 mm of rainfall).

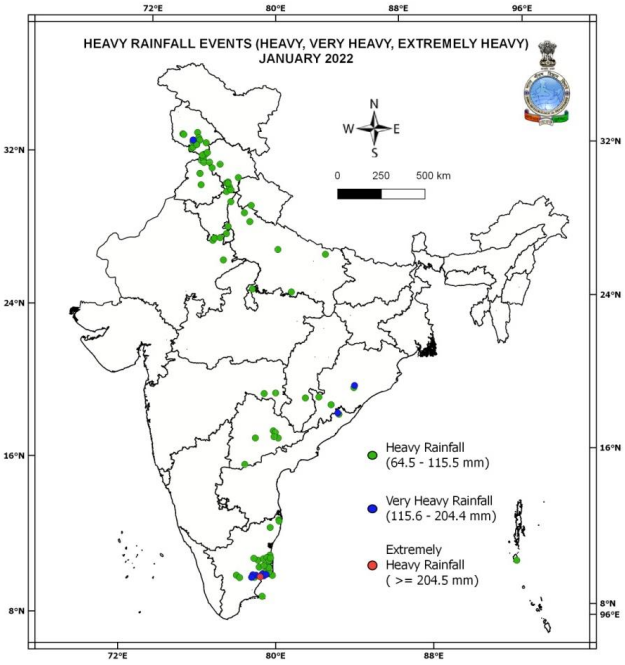


Fig 2: The location of occurrences of extremely heavy, very heavy events and heavy rainfall events in the month of January 2022.

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 JANUARY 2022(mm)*	DAY of the month	PREVIOUS RAINFALL RECORD(mm)	Date (DD-MM-YYYY)
BARAPANI	26.4	20	19.4	08-01-1976
TUENSANG	20.4	27	14.6	16-01-1974
BOLANGIR	48	12	45.6	09-01-1995
MALKANGIRI	34.2	13	26.4	13-01-1908
RAMPUR	24	10	23.6	23-01-2015
GURGAON	46.8	8	28.8	29-01-1986
KAPURTHALA	92.5	6	40.6	28-01-1983
SANGRUR	21.6	6	17	24-01-1981
DELHI RIDGE	48	8	36.8	16-01-2002
ALWAR OBS	38.8	8	34	29-01-1983
ANUPGARH	34	6	19	06-01-1999
JAIPUR TEHSIL SR	19	8	17	10-01-1981
VIDISHA-AWS	27	7	17	06-01-2004
PORBANDAR	33.8	8	15.6	30-01-1992
ARVI	8.7	9	0.3	23-01-1987
MASULIPATNAM CDR	38.1	14	34.7	01-01-1991
ADIRAMPATNAM	159.6	2	141.5	13-01-1923
THANJAVUR	84.7	2	41	15-01-1986
PERIYAKULAM	31	27	0.6	15-01-2010
TIRUKATTUPALLI	40.2	2	24.2	22-01-2017
ARIYALUR	71.6	2	60	15-01-1986

*Based on real time available data

3. Characteristics of Temperatures for the month of January 2022

The observed average maximum, average minimum and mean temperature for the country as a whole during January 2022 are 24.94ºC, 14.53ºC and 19.74ºC respectively, against the normal of 25.60ºC, 13.69ºC and 19.64ºC based on period 1981-2010. Thus, the average maximum temperature is below normal by -0.66ºC, average minimum temperature is above normal by 0.84ºC and mean temperature is normal by 0.09ºC 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 January during 1901-2022. The average minimum temperature over all India during January 2022 is eighth highest (14.53ºC with anomaly +0.84ºC) since 1901.

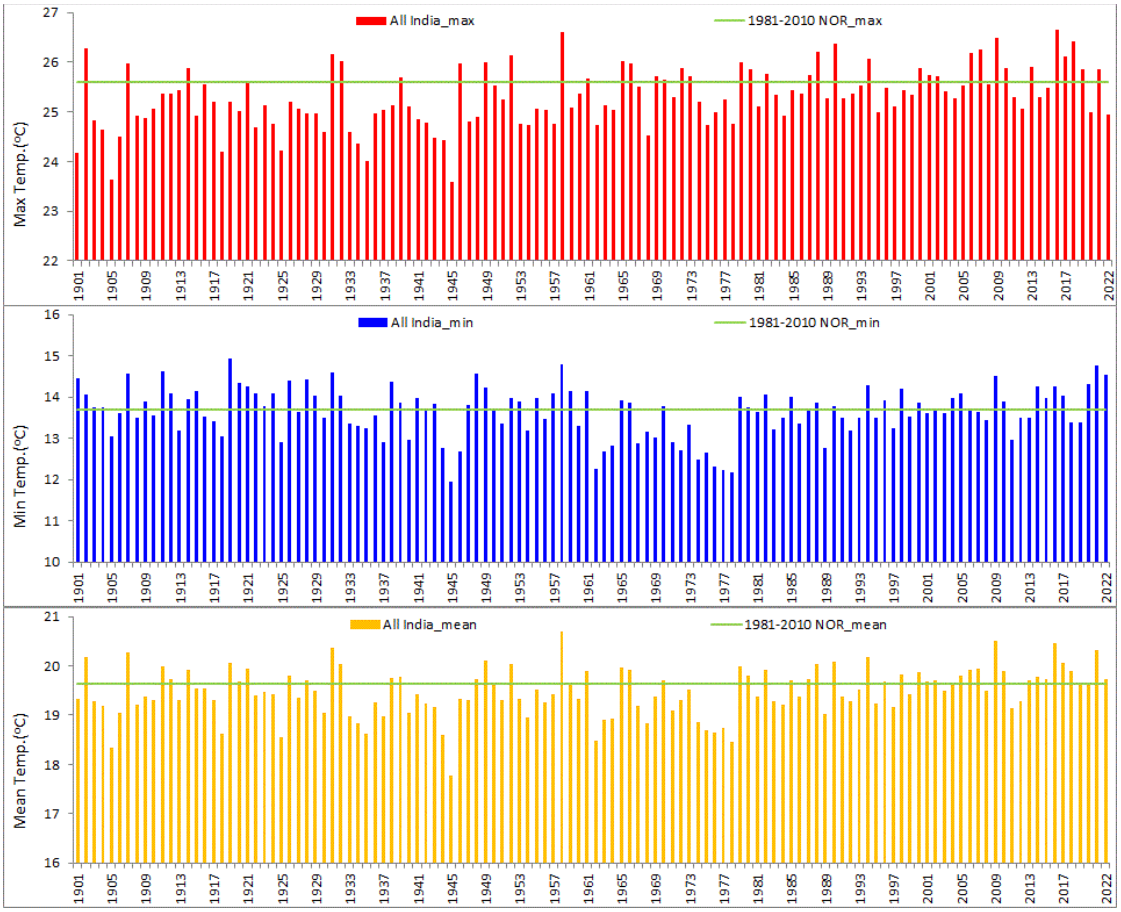


Fig 3: Time series of monthly average maximum, average minimum and mean temperature over all India for the month of January during 1901-2022.

Figure 4 shows time series of monthly average minimum and mean temperature over South Peninsular India for the month of January during 1901-2022. The average minimum temperature over South Peninsular India during January 2022 is fifth highest (21.80ºC with anomaly 1.21ºC) and mean temperature is also fifth highest (26.11ºC with anomaly 0.81ºC) since 1901.

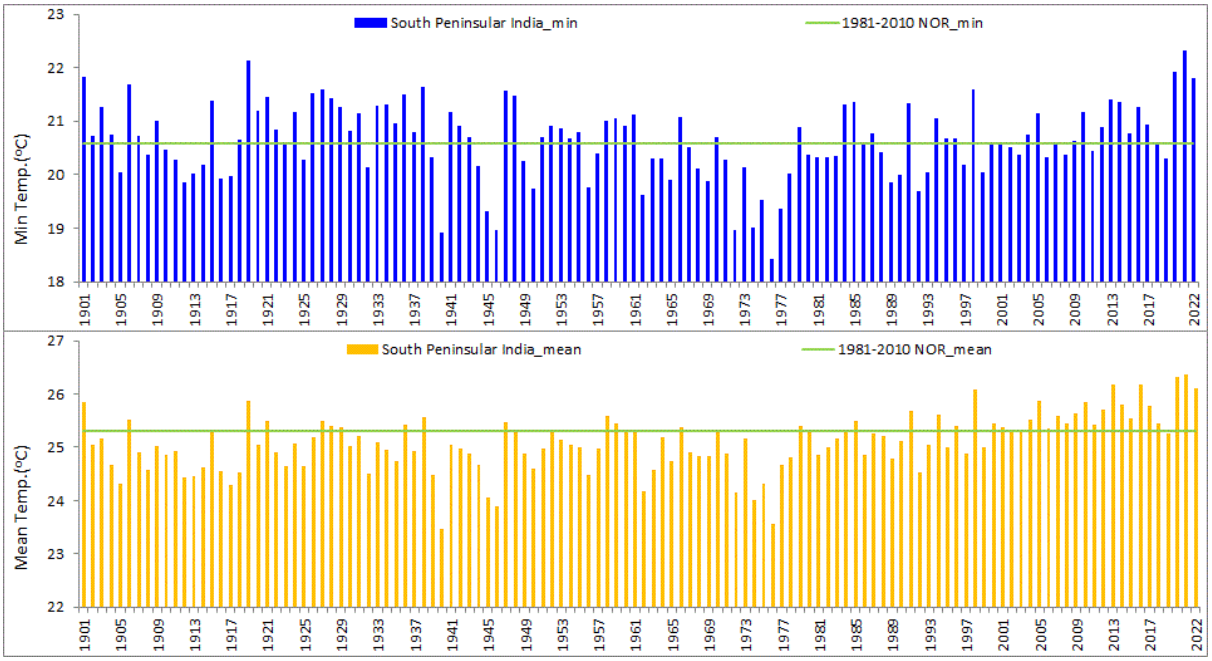


Fig 4: Time series of monthly average minimum and mean temperature over South Peninsular India for the month of January during 1901-2022.

Figure 5. shows time series of monthly average maximum temperature over Central India for the month of January during 1901-2022. The average maximum temperature over Central India during January 2022 is sixth lowest (26.23ºC) since 1901.

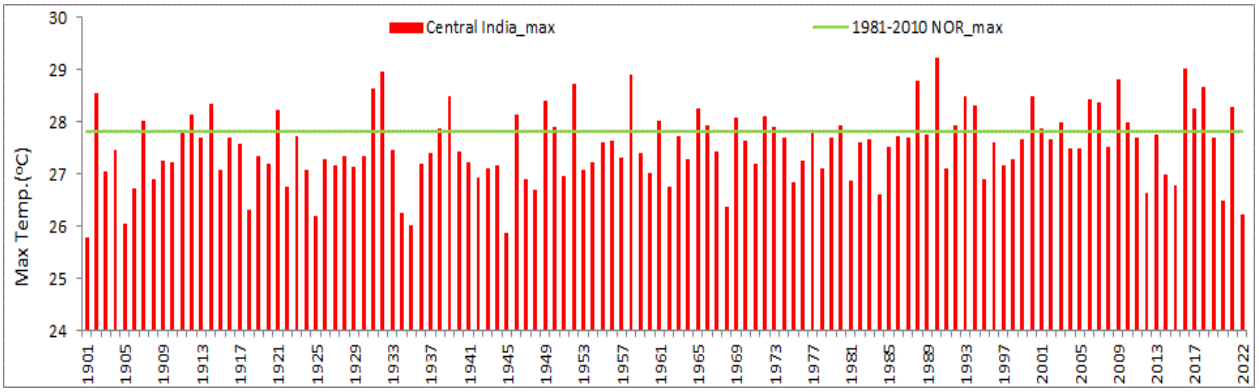


Fig 5: Time series of monthly average maximum temperature over Central India for the month of January during 1901-2022.

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

JAN 2022		Max Temp (^{0}C)	Min Temp (^{0}C)	Mean Temp (^{0}C)
ALL INDIA	**ACTUAL**	**24.94**	**14.53**	**19.74**
	NORMAL	25.60	13.69	19.64
	ANOMALY	-0.66	0.84	0.09
	TOP RANK	**91**	**8**	**36**
	BOT RANK	**32**	**115**	**87**
NORTHWEST INDIA	**ACTUAL**	**16.48**	**6.72**	**11.60**
	NORMAL	18.33	5.61	11.97
	ANOMALY	-1.85	1.11	-0.37
	TOP RANK	**104**	**8**	**63**
	BOT RANK	**19**	**115**	**60**
EAST & NORTHEAST INDIA	**ACTUAL**	**22.87**	**10.47**	**16.67**
	NORMAL	23.04	9.96	16.50
	ANOMALY	-0.17	0.51	0.17
	TOP RANK	**81**	**23**	**50**
	BOT RANK	**42**	**100**	**73**
CENTRAL INDIA	**ACTUAL**	**26.23**	**13.71**	**19.97**
	NORMAL	27.80	13.56	20.68
	ANOMALY	-1.57	0.15	-0.71
	TOP RANK	**117**	**49**	**104**
	BOT RANK	**6**	**73**	**19**
SOUTH PENNINSULAR INDIA	**ACTUAL**	**30.42**	**21.80**	**26.11**
	NORMAL	30.00	20.59	25.30
	ANOMALY	0.42	1.21	0.81
	TOP RANK	**13**	**5**	**5**
	BOT RANK	**110**	**118**	**118**

The five highest temperature records with corresponding ranks since 1901 for South Peninsular India (TMin, TMean) and six lowest temperature records with corresponding ranks since 1901 for Central India (TMax) are given in the table below;

South Peninsular India (Jan 2022)				
Year	TMin	Normal	Anomaly	Top Rank
2021	22.33	20.59	1.74	1
1919	22.14	20.59	1.55	2
2020	21.93	20.59	1.34	3
1901	21.82	20.59	1.23	4
2022	21.80	20.59	1.21	5

South Peninsular India (Jan 2022)				
Year	TMean	Normal	Anomaly	Top Rank
2021	26.36	25.30	1.07	1
2020	26.32	25.30	1.03	2
2016	26.18	25.30	0.89	3
2013	26.17	25.30	0.88	4
2022	26.11	25.30	0.81	5

Central India (Jan 2022)				
Year	TMax	Normal	Anomaly	Bottom Rank
1901	25.77	27.80	-2.03	1
1945	25.88	27.80	-1.92	2
1935	26.01	27.80	-1.79	3
1905	26.04	27.80	-1.76	4
1925	26.21	27.80	-1.59	5
2022	26.23	27.80	-1.57	6

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 January 2022 is given in Figure 6.

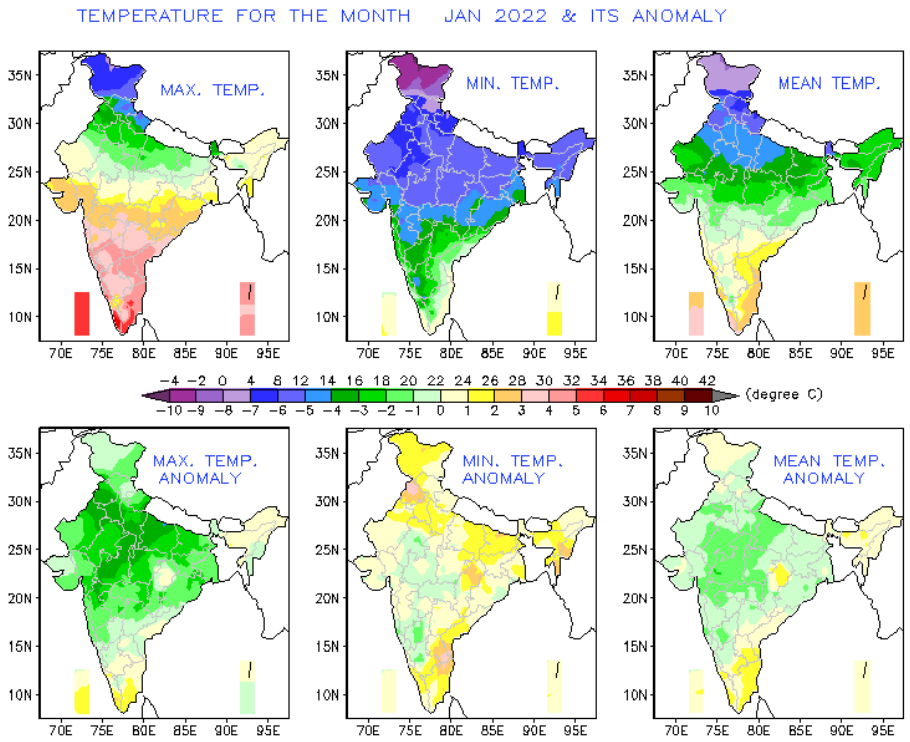


Fig 6: Observed spatial temperature pattern of monthly average maximum, average minimum, and mean temperature over India (top three from left to right) and their departure from normal (1981 to 2010 period) for January 2022 (lower three from left to right).

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

Figure No.7 shows deaths due to significant weather events during the month. (Based on real time media reports.).

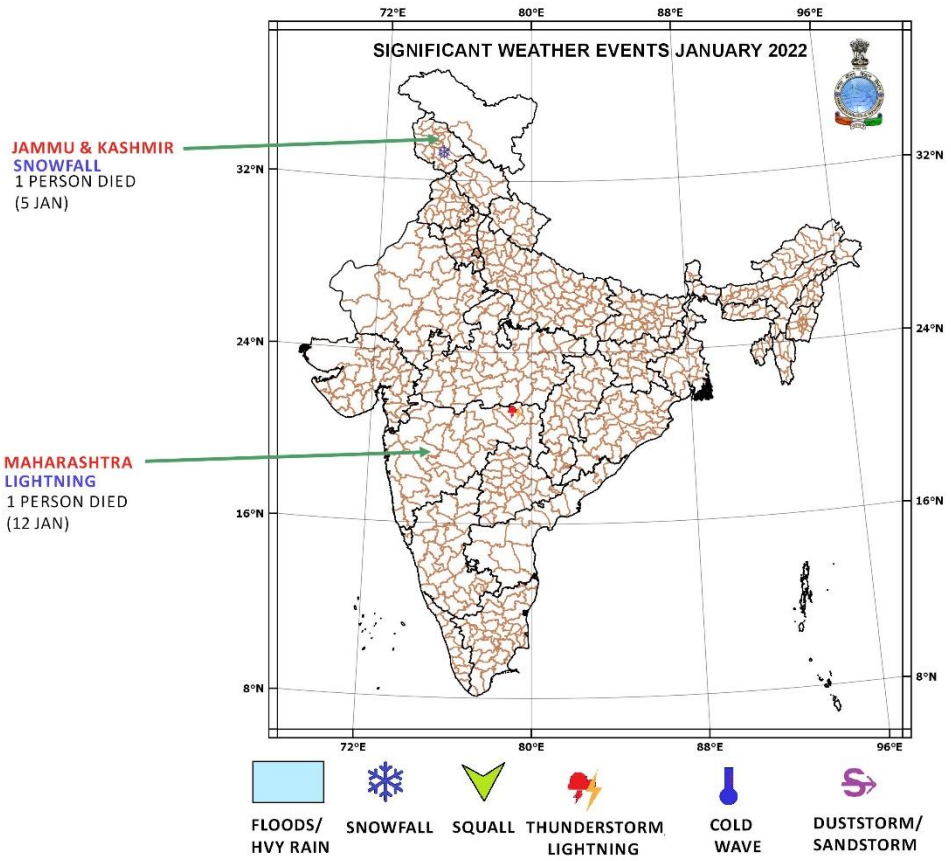


Fig 7: Significant weather events during January 2022 (Based on real-time media report)

During the month, total 2 persons reportedly claimed dead, 1 person injured. The details of causalities given below, which are based on real time media reports.

Lightning: One person reportedly claimed dead, due to Lightning. The details of the area affected by the events are summarized and given in the table below;

DATE	DEATH	INJURED	MISSING	LIVESTOCK	DISTRICT (STATE) AFFECTED
12 Jan.	1				Nagpur (Maharashtra)

Snowfall: One person reportedly claimed dead & 1 injured due to Snowfall. The details of the area affected by the events are summarized and given in the table below;

DATE	DEATH	INJURED	MISSING	LIVESTOCK	DISTRICT (STATE) AFFECTED
5 Jan.	1	1			Ramban (Union Territory-Jammu & Kashmir)