



भारत सरकार

Government of India

पृथ्वी विज्ञान मंत्रालय (एम. ओ. ई. एस.)

Ministry of Earth Sciences (MoES)

भारत मौसम विज्ञान विभाग

INDIA METEOROLOGICAL DEPARTMENT

Climate Research and Services (CRS)



Monthly Climate Summary for September 2025

1. Monthly Rainfall Scenario (01 to 30 September, 2025)

In September 2025, the country received 193.6 mm of rainfall, which is 15% above the Long Period Average (LPA) of 167.9 mm. Figure 1(a) shows daily rainfall variation across the country during September 2025, along with the normal based on 1971–2020 data. The all India rainfall percentage departure from normal for September during 1901–2025 is presented in Fig 1(b). Rainfall over All India (193.6 mm) was 7th highest since 2001 and 37th highest since 1901, as presented in Fig. 1(c). As shown in Fig 1(d), rainfall over Northwest India in September 2025 was 134.2 mm, 6th highest since 2001 and 35th highest since 1901. Over Central India, total rainfall was 255.3 mm, marking 5th highest since 2001 and 16th highest since 1901, as presented in Fig 1(e). In contrast, East & Northeast India received 195.9 mm of rainfall which is 2nd lowest since 2001 and 6th lowest since 1901, as shown in Fig 1(f).

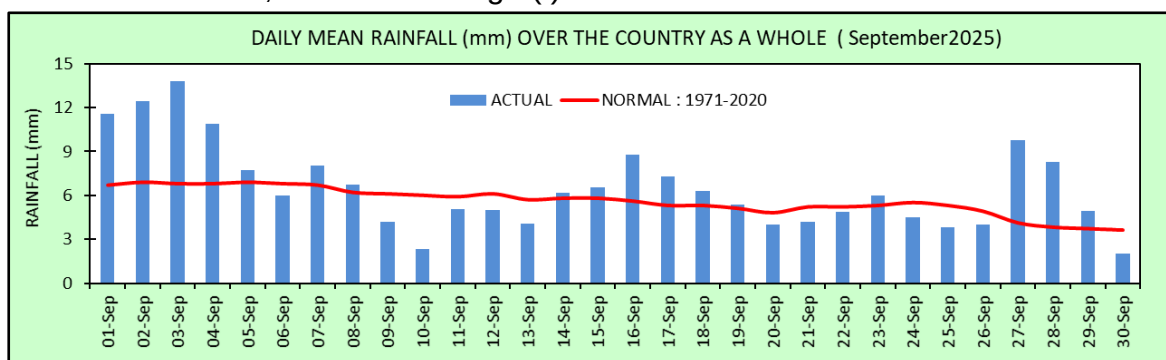


Fig. 1(a): Daily variation of rainfall over the country as a whole during September 2025

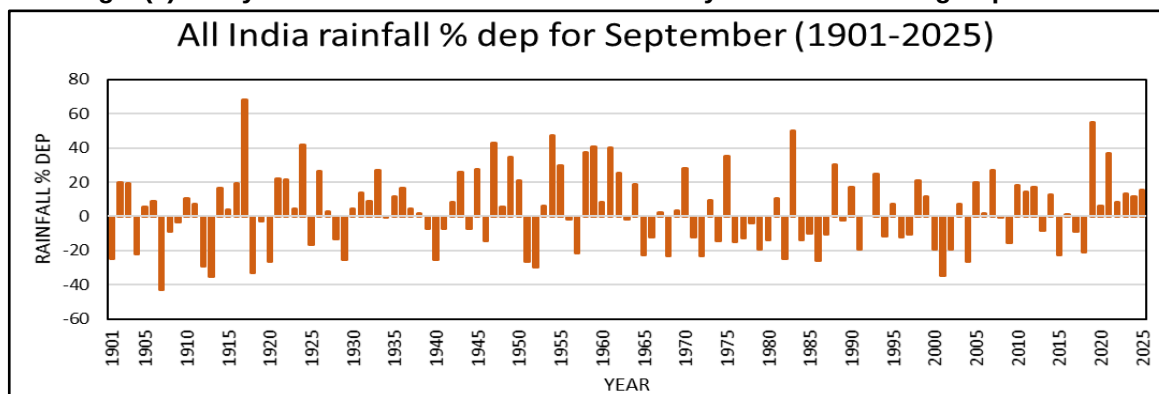


Fig. 1(b): All India monthly rainfall percentage departure from normal (1971-2020) for September from 1901-2025

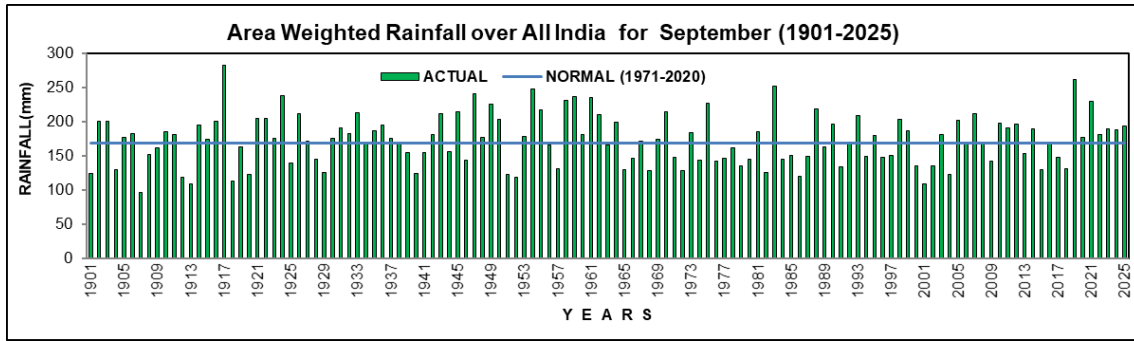


Fig. 1(c): Time series of area weighted rainfall over All India for September (1901 – 2025)

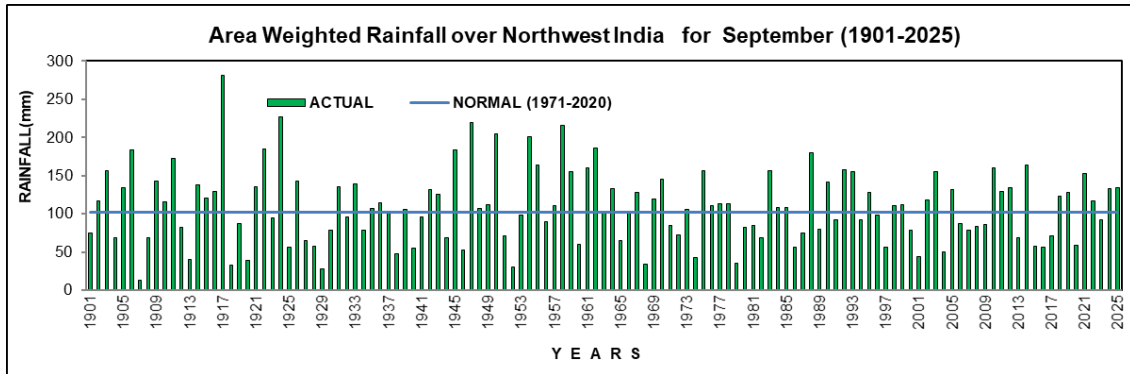


Fig. 1(d): Time series of area weighted rainfall over Northwest India for September (1901 – 2025)

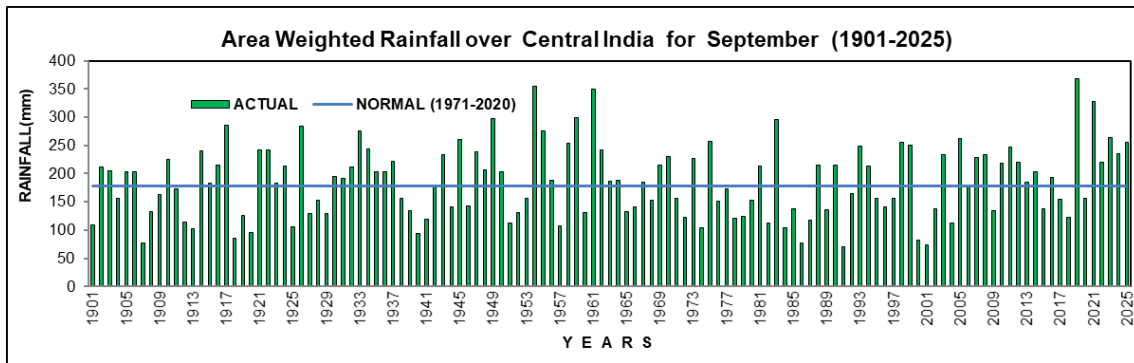


Fig. 1(e): Time series of area weighted rainfall over Central India for September (1901 – 2025)

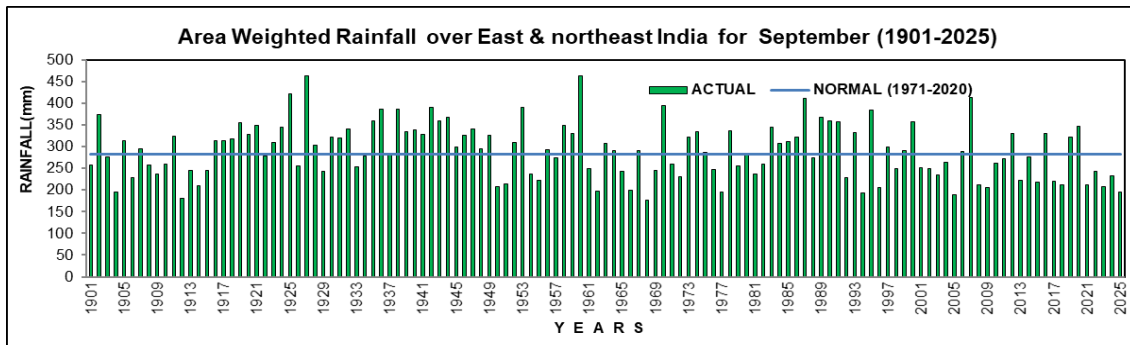
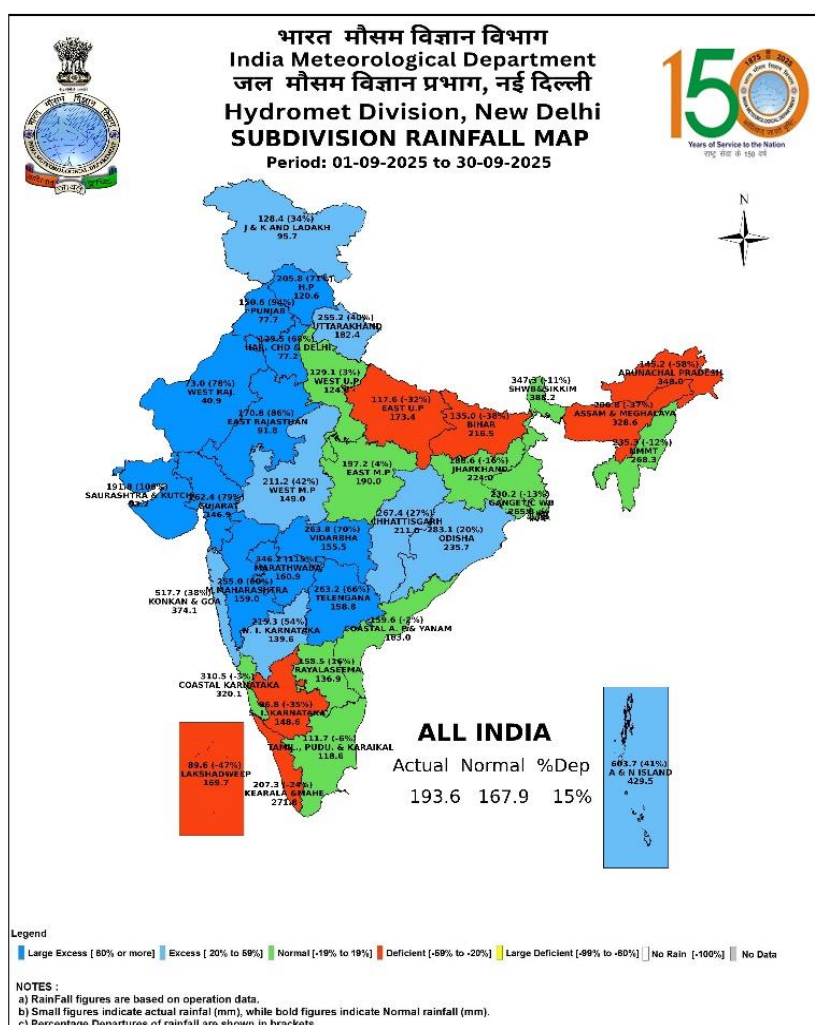


Fig. 1(f): Time series of area weighted rainfall over East & Northeast India for September (1901–2025)

The monthly rainfall for September 2025 is given in the table below:

Regions	Actual Rainfall (mm)	Normal Rainfall (mm)	% Departure from Long Period Average (LPA)
Country as a whole	193.6	167.9	15.3
Northwest India	134.2	102.7	30.7
Central India	255.3	177.6	43.7
South Peninsula	179.0	160.0	11.8
East & Northeast India	195.9	282.8	-30.7

During the month, 11 sub-divisions received large excess rainfall, 8 received excess rainfall, 10 experienced normal rainfall, and 7 recorded deficient rainfall, as shown in Fig. 2



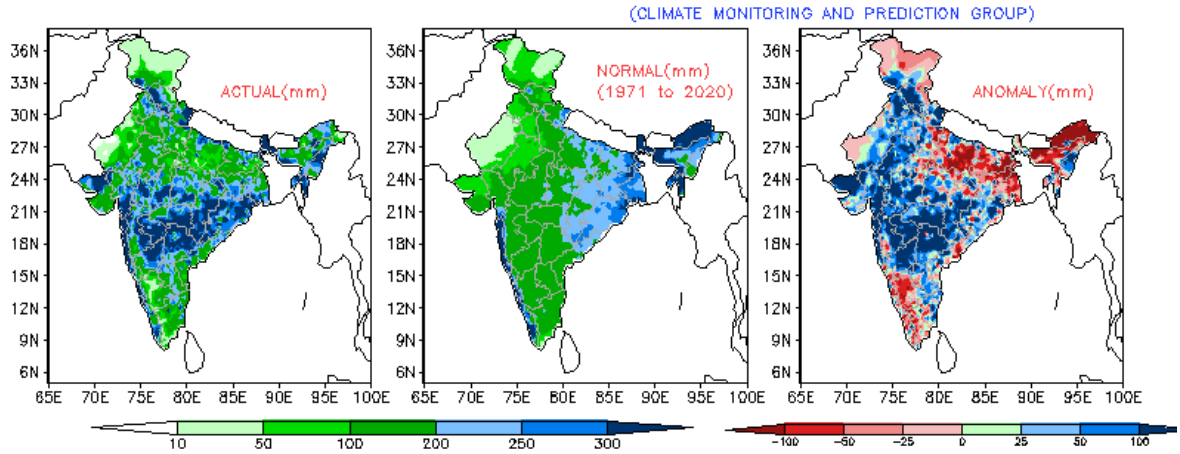


Fig. 3: Observed spatial Rainfall pattern for September 2025 over India and their departure from normal based on data of 1971 to 2020.

Departure from normal is Anomaly = Actual rainfall - Normal rainfall.

2. Withdrawal of Southwest Monsoon 2025.

With the reduction in the rainfall and formation of the anti-cyclonic circulation in lower troposphere, withdrawal of the southwest monsoon 2025 began from West Rajasthan and Kutch on 14th September against the normal date of 17th September. The withdrawal dates of the Southwest monsoon season 2025 as on 30th September are shown in Fig. 4.

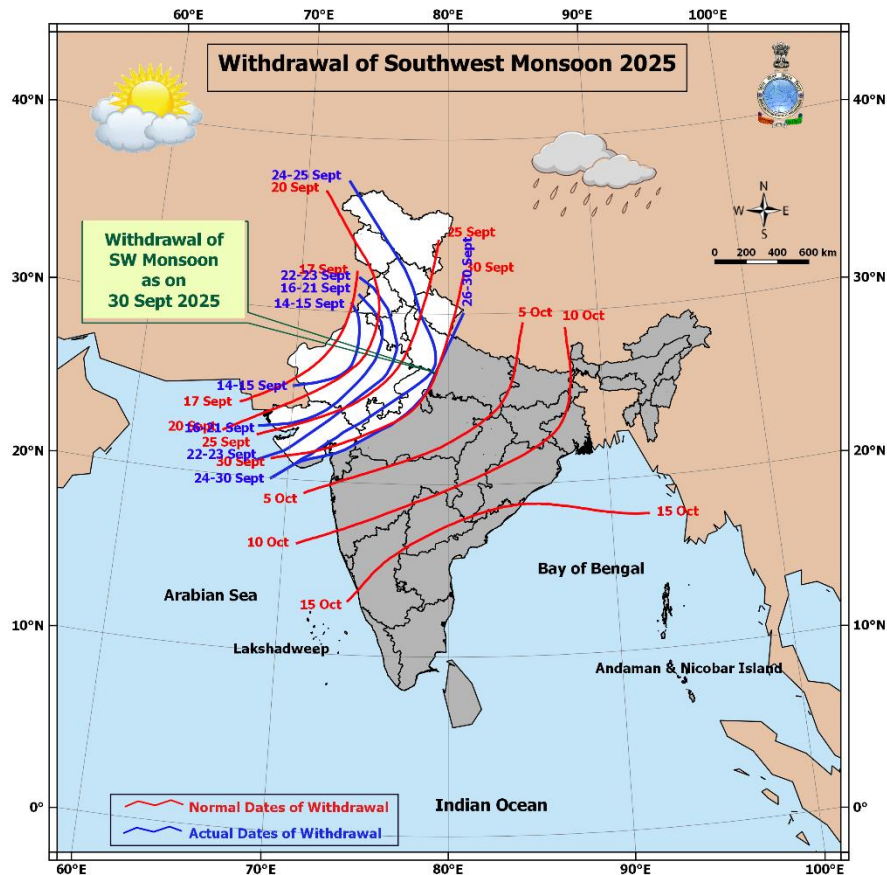


Fig. 4: Isochrones of withdrawal of Southwest Monsoon 2025 as on 30th September, 2025

3. Frequency of Heavy Rainfall events

In September 2025, extremely heavy rainfall events (exceeding 204.4 mm in 24 hours ending at 0830 IST of date) were recorded over Assam & Meghalaya, Bihar, Rajasthan, Gangetic West Bengal, Gujarat, Himachal Pradesh, Jammu & Kashmir & Ladakh, Konkan & Goa, Marathwada, Odisha, Punjab, Sub-Himalayan West Bengal & Sikkim, Telangana, Uttarakhand, West Madhya Pradesh, and West Uttar Pradesh. Very heavy rainfall (115.6–204.4 mm) occurred across the Andaman & Nicobar Islands, Arunachal Pradesh, Chhattisgarh, Coastal Andhra Pradesh, Coastal Karnataka, East Madhya Pradesh, East Uttar Pradesh, Haryana, Chandigarh & Delhi, Jharkhand, Kerala & Mahe, Madhya Maharashtra, Nagaland, Manipur, Mizoram & Tripura, North Interior Karnataka, Rayalaseema, and Tamil Nadu, Puducherry & Karaikal. Heavy rainfall events (64.5–115.5 mm) were observed over nearly all other subdivisions

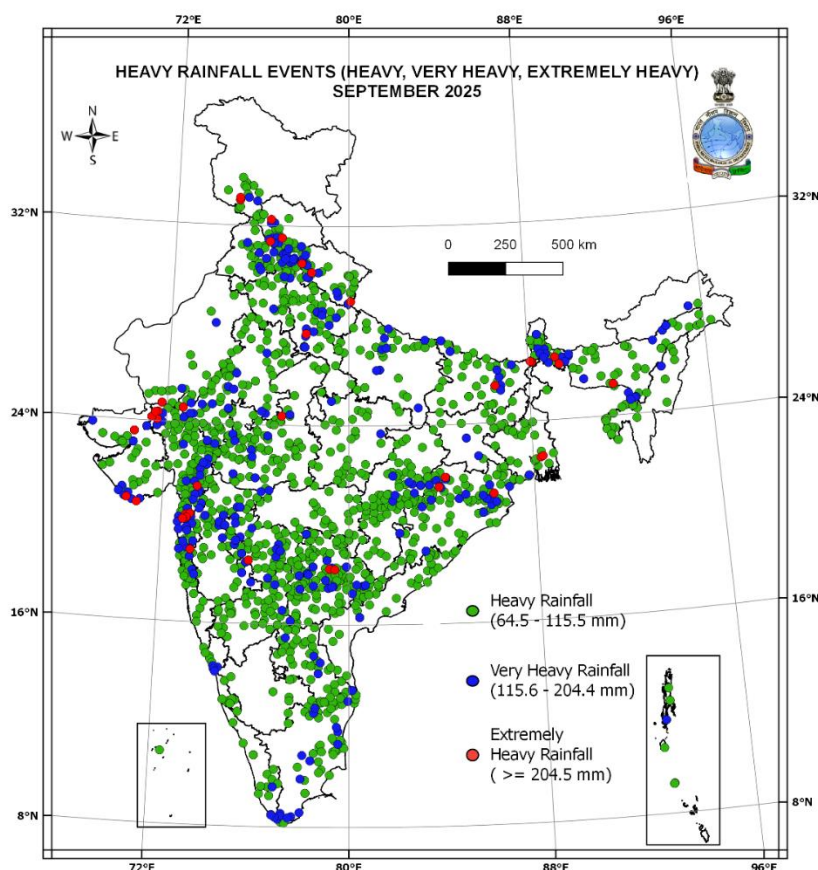
The location of occurrences of heavy, very heavy rainfall and extremely heavy events is shown in the Fig. 5. Some of the major extreme rainfall events are given below;

- Telangana experienced extremely heavy to very heavy rainfall during the period of 11 – 15 September, leading to significant precipitation accumulation over several areas. This prolonged spell of intense rainfall likely resulted from sustained moisture incursion and active monsoon conditions, contributing to localized flooding and waterlogging in many regions.
- A spell of heavy to extremely heavy rainfall affected Uttarakhand and Himachal Pradesh during 13–18 September 2025, leading to widespread flash floods and landslides. The intense precipitation, triggered by persistent monsoon activity and orographic lifting, caused riverine flooding, road blockages, and significant damage to infrastructure in several hilly districts. Numerous landslides disrupted transportation routes and posed risks to communities in vulnerable terrains. The event highlights the region's susceptibility to high-impact weather during the late monsoon season.
- During the night of 15–16 September 2025, torrential rainfall, including a cloudburst, triggered flash floods that wreaked havoc in the Sahastradhara (Tapkeshwar) area of Dehradun district, Uttarakhand. The event resulted in 13 fatalities and 16 persons reported missing.
- From 16 to 18 September, heavy to extremely heavy rainfall persisted over parts of Uttarakhand and Himachal Pradesh, causing widespread flash floods and landslides. The districts of Chamoli and Dehradun in Uttarakhand, along with Mandi in Himachal Pradesh, were particularly affected.
- On the night of 17–18 September, major landslides occurred in several locations within the Nandanagar region of Chamoli district, including Kuntari Lagaphali, Kuntari Lagasarpni, Sera, and Dhurma, resulting in severe damage to

infrastructure and disruption of connectivity

- In September 2025, Kolkata (Alipore) experienced an extremely heavy rainfall event totaling 251.4 mm over a 24-hour period ending at 08:30 IST on 23rd September, including a near-cloudburst intensity of 98 mm between 03:00 and 04:00 IST on the same day.

During this month, out of a total of 1,770 rainfall events, 40 were classified as extremely heavy (>204.4 mm), 453 as very heavy (115.6 to 204.4 mm), and 1,277 as heavy (64.5 to 115.5 mm).



(Only highest category of rainfall event considered for a station)

Fig 5: The location of occurrences of Heavy, Very Heavy and Extremely Heavy rainfall events in the month of September 2025.

A few stations received record rainfall (24 hours). The table below shows stations that received 24-hour record rainfall and their previous record.

24 Hours Record Rainfall				
STATION NAME	NEW	DATE	PREVIOUS	DATE
	RECORD(mm)#	(September 2025)	RECORD (mm)	
BILASPUR	104.6	04-09-2025	83.8	19-09-2008
MEDAK	196	12-09-2025	192.2	21-09-2005
SOLAN (NAUNI)	187	01-09-2025	140.8	20-09-2008
TIRUPATTUR	167.2	19-09-2025	140.8	26-09-1978

based on real-time available data

4. Chief Synoptic weather features observed during September 2025

Low-pressure systems: There were 4 low-pressure systems formed during September 2025, out of which one intensified into a Deep depression and one intensified into the depression category. In the month of September, one deep depression (during 6 – 11 September) with a unique track (like a sinusoidal wave) (Fig. 6a). Another depression formed during 26 – 27 September (Tracks of these systems are shown in Fig. 6 (b)). There were two low pressure areas formed during period 12 – 15 September, 22 – 24 September) formed over Bay of Bengal.

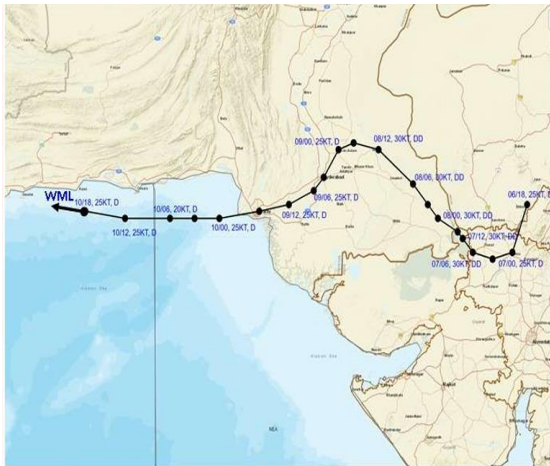


Fig. 6 (a): Tracks of Deep Depression formed during 6th – 10th Sep 2025

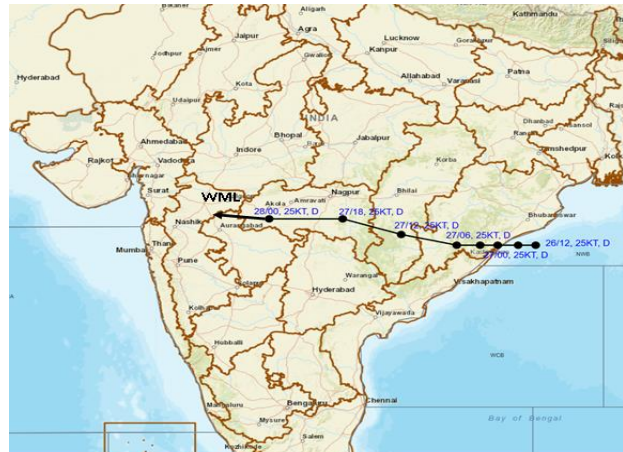


Fig. 6 (b): Tracks of Depression over Bay of Bengal during 26th – 28th Sep 2025

Western Disturbance: During September 2025, three western disturbances affected the country during 5 – 8 September, 11 – 13 September and 19 – 22 September.

4. Characteristics of Temperatures for the month of September 2025

The average maximum, average minimum and mean temperature for the country as a whole during September 2025 were 31.58°C, 23.44°C and 27.51°C respectively, against the normal of 31.43°C, 22.80°C and 27.12°C based on data of 1991-2020. Thus, the average minimum and mean temperature were above normal with departure from normal of 0.63°C, 0.39°C respectively except the average maximum temperature was normal by 0.15°C for the country as a whole. The daily variation of maximum and minimum temperature departure from normal over the country as a whole for September 2025 is shown in the Fig. 7(a) and (b) respectively.

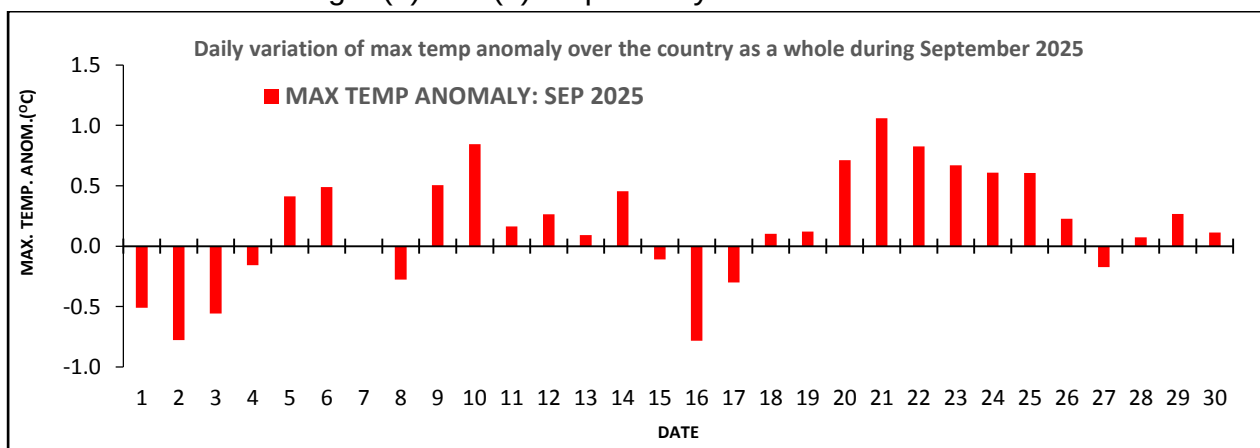


Fig. 7(a): Daily variation of maximum temperature anomaly (departure from normal) over the country as a whole for September 2025

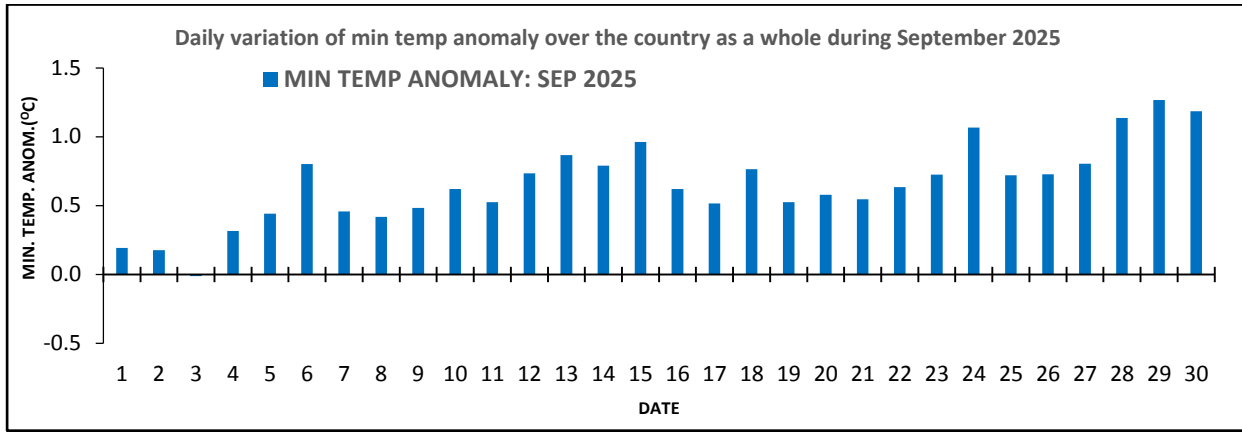


Fig. 7(b): Daily variation of minimum temperature anomaly (departure from normal) over the country as a whole for September 2025

Fig. 8 shows the time series of monthly average maximum, average minimum and mean temperature over the country as a whole for the month of September 1901-2025. Over the country during September, the average maximum temperature was the 23rd highest and average minimum temperature was the 5th highest since 1901. The mean temperature was the 7th highest since 1901.

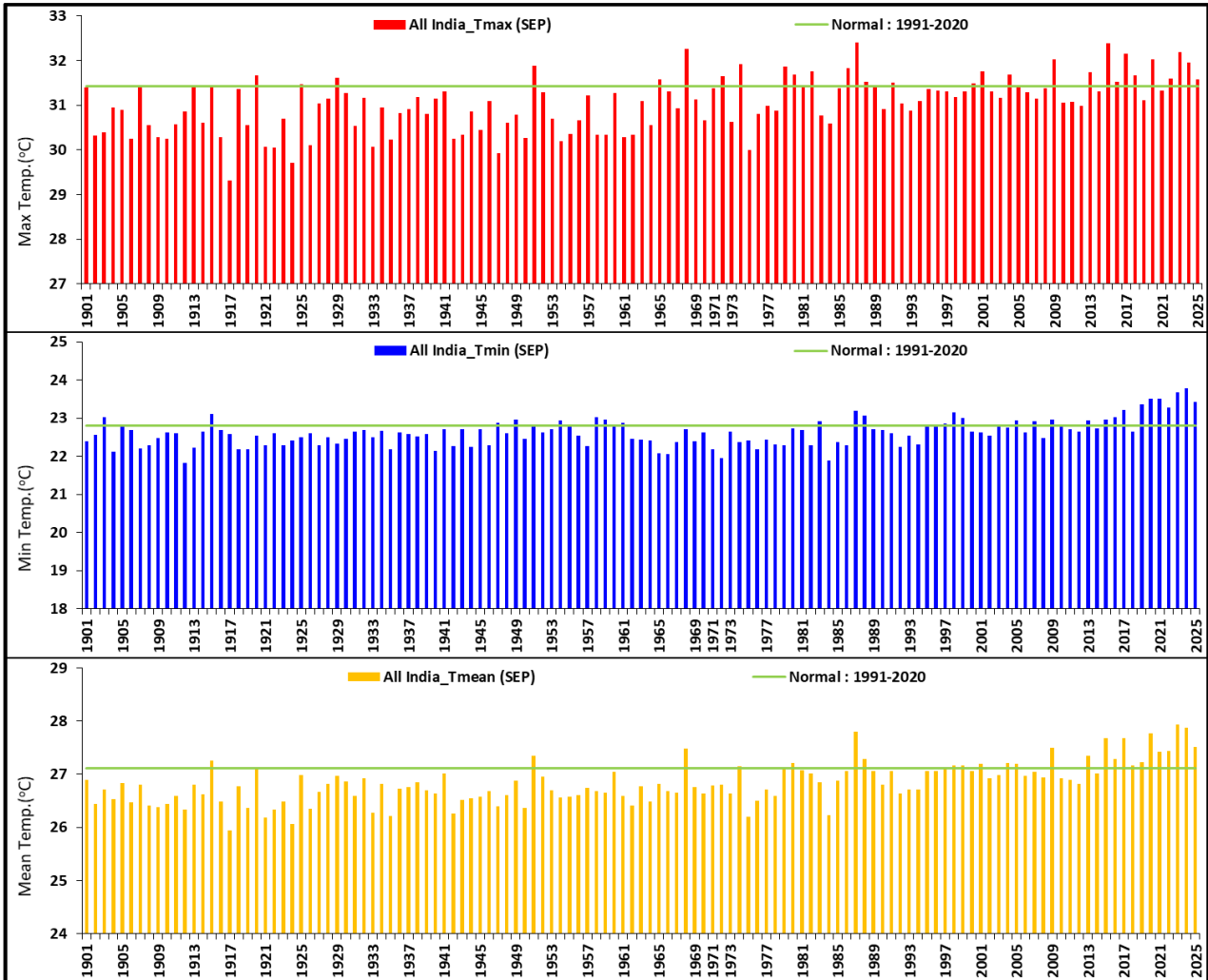


Fig. 8: Monthly average maximum, average minimum and mean temperature over the country as a whole for September 1901-2025

Fig. 9 shows the time series of average maximum, average minimum and mean temperature over East & Northeast India for the month of September 1901-2025. Over East & Northeast India during September, the average maximum temperature was the 3rd highest (32.31°C with departure from normal of 1.59°C) after the years 2024 (32.59°C), 2023 (32.47°C) and average minimum temperature was also the 3rd highest (24.52°C with departure from normal of 0.82°C) after the years 2024 (24.93°C), 2023 (24.72°C) since 1901. The mean temperature was the 3rd highest (28.42°C with departure from normal of 1.21°C) after the years 2024 (28.76°C), 2023 (28.60°C) since 1901.

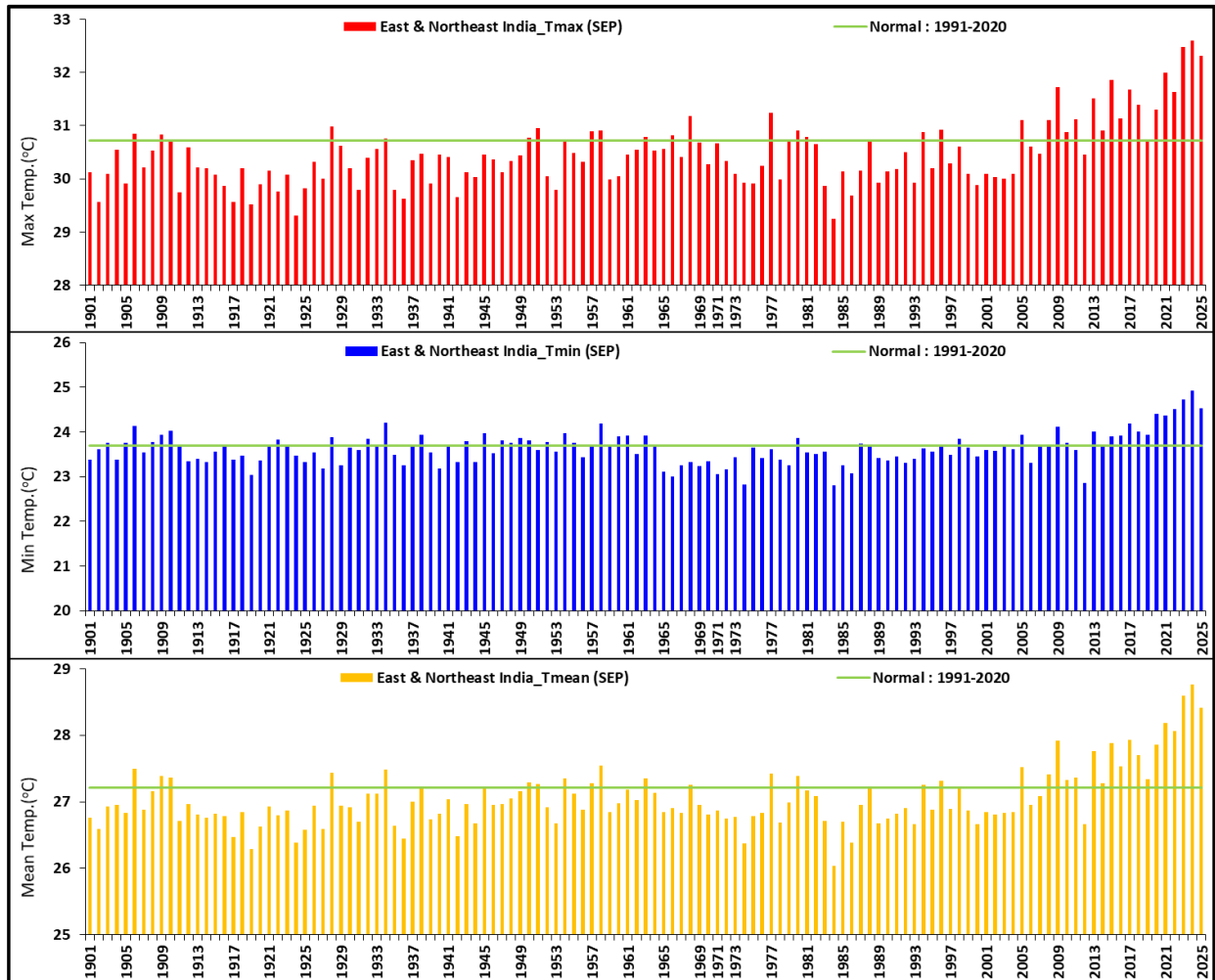


Fig. 9: Mmonthly average maximum, average minimum and mean temperature over East & Northeast India for September 1901-2025

The observed spatial temperature pattern of monthly average maximum, average minimum and mean temperature over India and their departures from normal based on data of 1991 to 2020 for the month of September 2025 is given in Fig. 10.

TEMPERATURE & ITS ANOMOLY FOR THE MONTH SEPTEMBER 2025

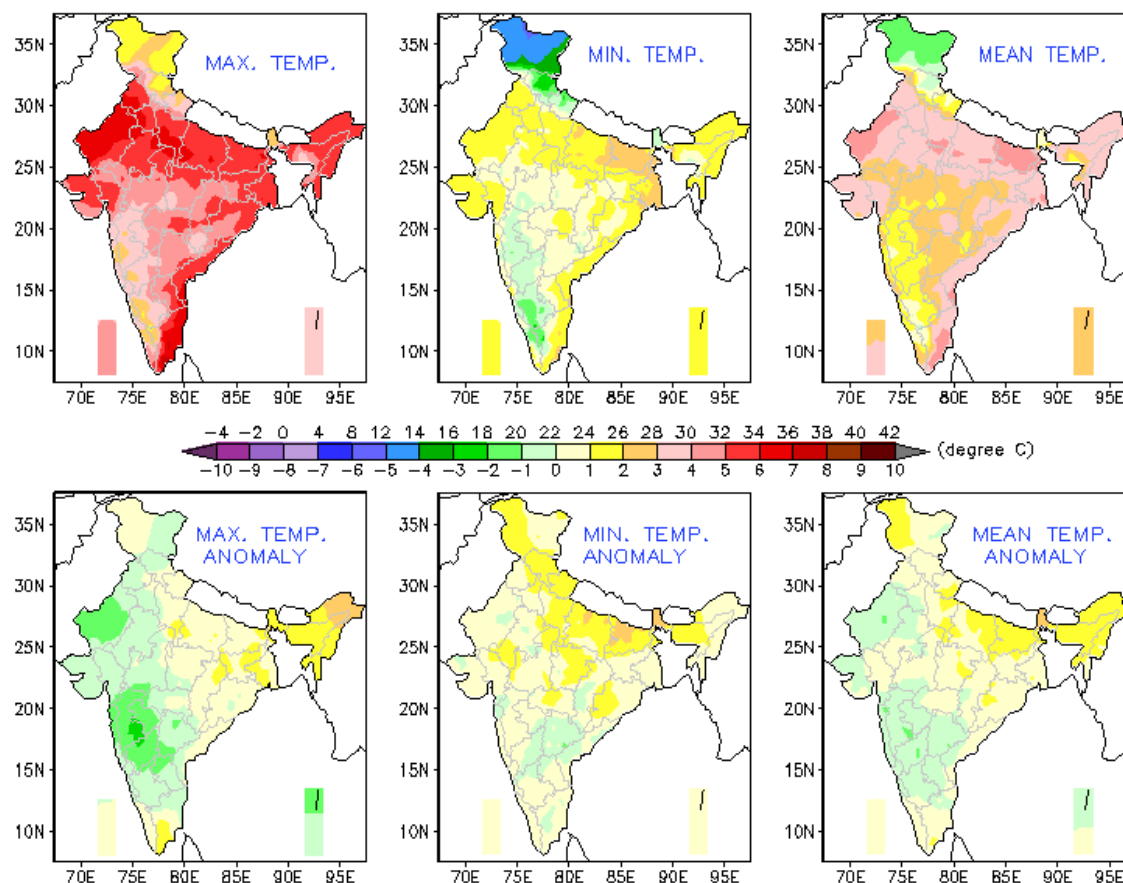


Fig. 10: Observed spatial temperature pattern of monthly average maximum, average minimum, and mean temperature over India (top three from left to right) and their departure from normal (1991 to 2020 period) for September 2025 (lower three from left to right)

The temperatures during September 2025 for all India and homogeneous regions with its top ranks since 1901 are given below:

SEPTEMBER 2025		Max Temp (°C)	Min Temp (°C)	Mean Temp (°C)
ALL INDIA	ACTUAL	31.58	23.44	27.51
	NORMAL	31.43	22.80	27.12
	ANOMALY	0.15	0.63	0.39
	Rank since 1901	23	5	7
NORTHWEST INDIA	ACTUAL	31.79	22.47	27.13
	NORMAL	31.72	21.55	26.63
	ANOMALY	0.07	0.92	0.50
	Rank since 1901	42	6	13
EAST & NORTHEAST INDIA	ACTUAL	32.31	24.52	28.42
	NORMAL	30.72	23.70	27.21
	ANOMALY	1.59	0.82	1.21
	Rank since 1901	3	3	3
CENTRAL INDIA	ACTUAL	31.20	23.72	27.46
	NORMAL	31.56	23.20	27.38
	ANOMALY	-0.36	0.52	0.08
	Rank since 1901	62	6	27
SOUTH PENINSULAR INDIA	ACTUAL	31.19	23.43	27.31
	NORMAL	31.45	23.21	27.33
	ANOMALY	-0.26	0.23	-0.01
	Rank since 1901	50	8	23

Note: Values are rounded off to the nearest two decimals.

The five highest temperature records with corresponding top ranks since 1901 along with year of occurrence for all India (TMin) and East & Northeast India (TMax, TMin, TMean) are given in the table below:

All India (September 2025)					East & Northeast India (September 2025)				
Year	TMin	Normal	Anomaly	Rank	Year	TMin	Normal	Anomaly	Rank
2024	23.79	22.80	0.99	1	2024	24.93	23.70	1.23	1
2023	23.68		0.88	2	2023	24.72		1.02	2
2021	23.52		0.71	3	2025	24.52		0.82	3
2020	23.51		0.70	4	2022	24.50		0.81	4
2025	23.44		0.63	5	2020	24.40		0.70	5

East & Northeast India (September 2025)					East & Northeast India (September 2025)				
Year	TMax	Normal	Anomaly	Rank	Year	TMean	Normal	Anomaly	Rank
2024	32.59	30.72	1.87	1	2024	28.76	27.21	1.55	1
2023	32.47		1.75	2	2023	28.60		1.38	2
2025	32.31		1.59	3	2025	28.42		1.21	3
2021	32.00		1.27	4	2021	28.19		0.98	4
2015	31.86		1.14	5	2022	28.07		0.85	5

The highest maximum and lowest minimum temperature recorded by different stations for September 2025 is given in table below with their previous record and date.

Highest Maximum				
STATION NAME	NEW	DATE	PREVIOUS	DATE
	RECORD (°C) #	(SEP 2025)	RECORD (°C)	
BAPATLA	38.8	06-09-2025	38.7	02-09-2004
CHAIBASA	36.8 @	07-09-2025	36.8	02-09-2023
DIGHA	37.3	11-09-2025	37.2	20-09-2024
KANYAKUMARI	36	12-09-2025	35.5	04-09-2010
KATRA	33.7	27-09-2025	33.6	24-09-2024
KORAPUT	37.4	08-09-2025	33.8	27-09-2009
RAJNANDGAON	36	11-09-2025	35.4	02-09-1992
SILCHAR	39.6	01-09-2025	39.4	05-09-2023
THIRUVANANTHAPURAM (A)	33.8	12-09-2025	33.7	22-09-1999
Lowest Minimum				
STATION NAME	NEW	DATE	PREVIOUS	DATE
	RECORD (°C)#	(SEP 2025)	RECORD (°C)	
BEED	14.7	30-09-2025	15.7	25-09-1972
DURG	18.6	21-09-2025	20	30-09-2011
KARUR PARAMATHI	19	11-09-2025	19.8	29-09-1996
T.B.I.A.	15.2	03-09-2025	19.8	06-09-2005

@ equals previous record

based on real-time available data

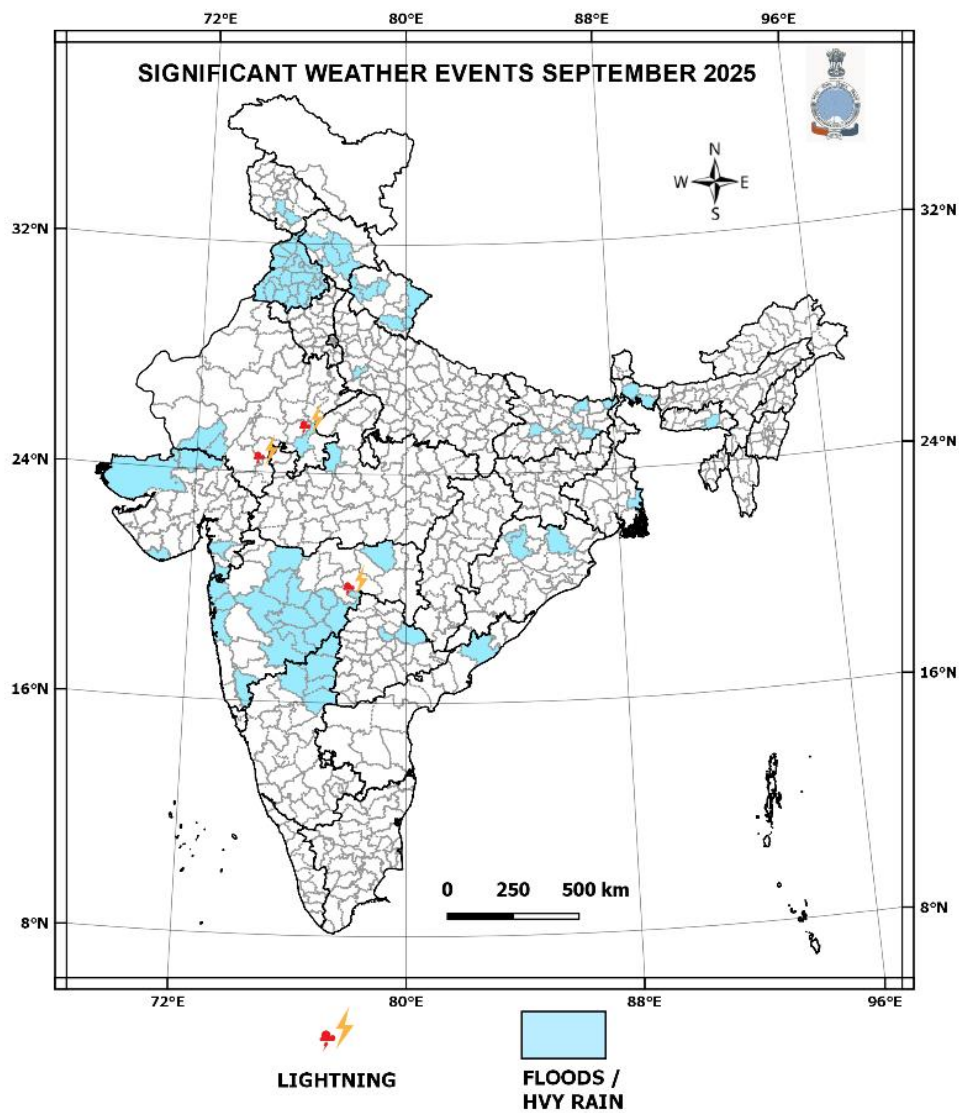
5. Significant Weather Events:

Fig. 11 shows loss and damages due to significant weather events during September 2025. During September, media reports and situation reports of the State Disaster Management Authority (SDMA)/National Disaster Management Authority (NDMA) indicated that over 170 people lost their lives, more than 45 were injured due to the aforementioned hazards. Additionally, more than hundreds of livestock perished and significant damage to agriculture, property and infrastructure was reported.

The details of event-wise casualties are given below. However, the actual data on casualties and damages may be available to concerned state governments.

Event	Number of human deaths
Lightning associated with Thunderstorm	3 (Maharashtra, Rajasthan)
Heavy Rains, Floods and Landslides	179 (Himachal Pradesh, Uttarakhand, Maharashtra, Punjab, West Bengal)

In addition to this casualties associated with extreme rainfall event were also reported in the following districts: East Khasi Hills (Meghalaya); Cooch Behar, Jalpaiguri, Kolkata, North 24 Parganas (West Bengal); Jharsuguda, Keonjhar, Sambalpur (Orissa); Khagaria, Kishanganj, Supaul, Bhagalpur, Patna (Bihar); Hathras (Uttar Pradesh); Champawat, Dehradun, Garhwal Tehri (Uttarakhand); Rupnagar (Punjab); Bilaspur, Kangra (Himachal Pradesh); Reasi Udhampur (Jammu & Kashmir); Jalore, Sirohi, Kota, (Rajasthan); Guna (Madhya Pradesh); Banaskantha, Surat, Valsad, Diu, Gir Somnath, Kutch (Gujarat); Raigad, Palghar, Dharashiv, Solapur (Maharashtra); Karimnagar, Mulugu (Telangana); Bidar, Raichur, Kalaburgi, Bijapur, Yadgir (Karnataka); Alluri Sitharama Raju (Andhra Pradesh).



**Fig. 11: Deaths and damages due to significant weather events during September 2025
(Based on real time media reports and other state government agencies)**