

भारत सरकार /Govt. Of India
पृथ्वी विज्ञान मंत्रालय /Ministry of Earth Sciences
भारत मौसम विज्ञान विभाग /India Meteorological Department
क्षेत्रीय मौसम विज्ञान केंद्र /Regional Meteorological Centre
गुवाहाटी – ७८१०१५/Guwahati – 781015

Monthly Weather Report of Assam

July 2025

Significant Weather Observations

- This month 17 heavy rainfall event with thunderstorm occurred in July over 40 stations in Assam.
- On 1st, 3rd, 15th, 20th, 27th to 28th July very heavy rainfall events has been observed over central, north eastern parts of Assam.
- On 20th and 27th July extremely heavy rainfall over Baksha and North Lakhimpur district.

Key Points for the Month

During this month the highest maximum temperature was recorded 38.6 °C at LAKHIMPUR on 14.07.2025 and the lowest minimum temperature was recorded 22.9 °C at TEZPUR on 16.07.2025 in Assam.

Significant Synoptic Conditions

- ❖ An upper air cyclonic circulation was seen lying over central Assam at 0.9 km above mean sea level on 1st July. The upper air cyclonic circulation over Central Assam & neighborhood was seen over northeast Assam & extended up to 1.5 km above mean sea level on 2nd July 25.
- ❖ On July 1st, the monsoon trough extends up to 0.9 km above mean sea level and passes through Sri Ganganagar, Rohtak, Kanpur, and Varanasi, the centre of the low pressure area over Jharkhand and its surroundings, and Digha. On July 2nd, it passes through Bikaner, Banasthali, Shivpuri, Siddhi, Chaibasa, and Digha before heading southeast to the east central Bay of Bengal.
- ❖ A trough was seen running from west Assam to Telangana across and the upper air cyclonic circulation associated with low pressure area over Gangetic West Bengal adjoining Jharkhand, interior Odisha, south Chhattisgarh at 3.1 km above mean sea level on 9th July 25.
- ❖ The monsoon trough at mean sea level was seen passing through Bikaner, centre of Depression over central parts of north Rajasthan, Hamirpur, center of well marked low Pressure area over north Jharkhand and adjoining south Bihar, Contai and thence East-northeastwards of northeast Bay of Bengal on 15th.
- ❖ On July 14, 2025, a low pressure area developed over the north bay of Bengal due to the influence of the upper air cyclonic circulation. It then intensified into a well-defined low pressure area with an associated upper air cyclonic circulation that extended up to 7.6 km above mean sea level and tilted southwestward with height over South East Gangetic West Bengal and neighboring Bangladesh.
- ❖ The monsoon trough at mean sea level was seen passing through center of Well Marked Low pressure area over west Rajasthan and adjoining Pakistan, Churu, Ayanagar (Delhi), Shahjahanpur, Lucknow, Patna, Bankura, Digha and thence eastwards to northeast Bay of Bengal on 20th. Cyclonic circulation was observed in central Assam and its surrounding area at 0.9 km above mean sea level on 17-19th July and extended to North-East Assam and its surrounding areas at 4.5 km above mean sea level. The circulation became less marked on the 20th, 21st, and 22nd.
- ❖ The upper air cyclonic circulation over northeast Assam & neighbourhood persisted and was seen between 1.5 & 3.1 km above mean sea level on 27th. The monsoon trough at mean sea level was seen passing through Bikaner, Kota, well marked low pressure area over northwest Madhya Pradesh and neighborhood, Daltonganj, Digha and thence southeastwards to the east central Bay of Bengal on 27th.
- ❖ A trough was seen running from northwest Madhya Pradesh to northeast Bay of Bengal across Jharkhand, Gangetic West Bengal, Bangladesh at 0.9 km above mean sea level on 30th.

1. Rainfall Summary of the Month

The mean rainfall of July month is less than 35mm observed over all parts of Assam except North Lakhimpur. The highest mean rainfall less than 40mm/day has been observed over North Lakhimpur district located in the eastern parts of Assam (Figure 1). The observed monthly distribution of rainfall over Assam is wide spread.

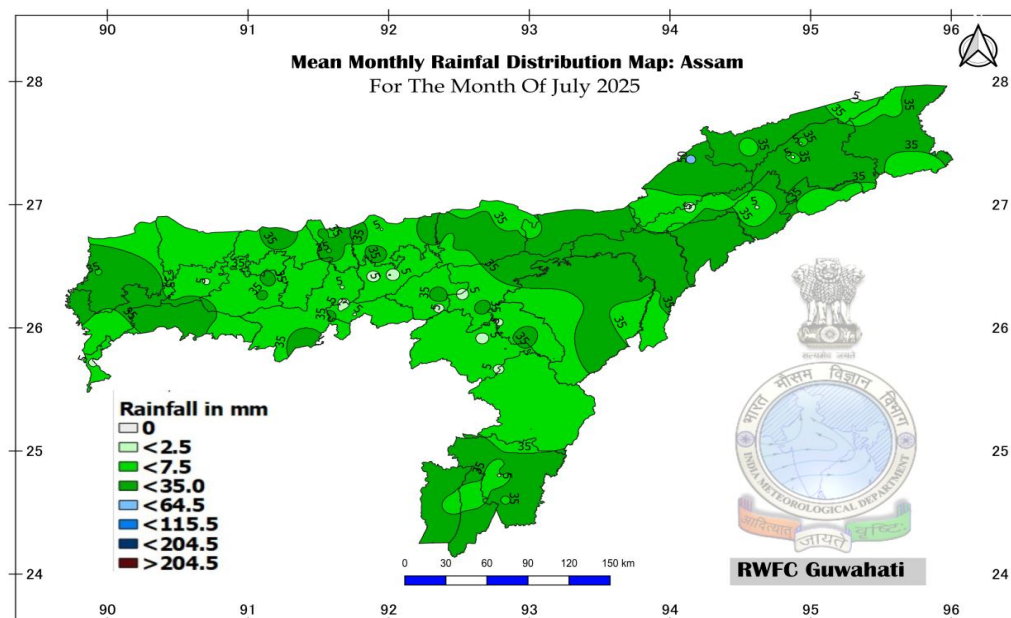


Figure 1 Spatial distribution of mean rainfall over Assam in the month of July 2025.

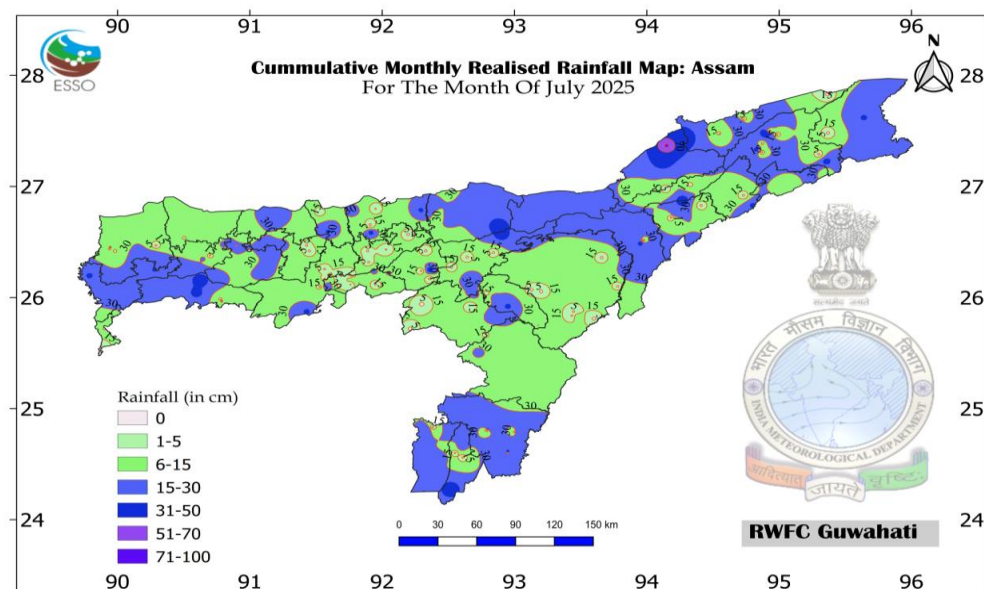


Figure 2 Spatial distribution of accumulated rainfall over Assam in the month of July 2025

The accumulated rainfall of 6cm to 70cm has been reported over Assam. The highest rainfall observed over eastern Assam and isolated places in other parts.

1.1 Heavy to Extremely Heavy Rainfall Activity

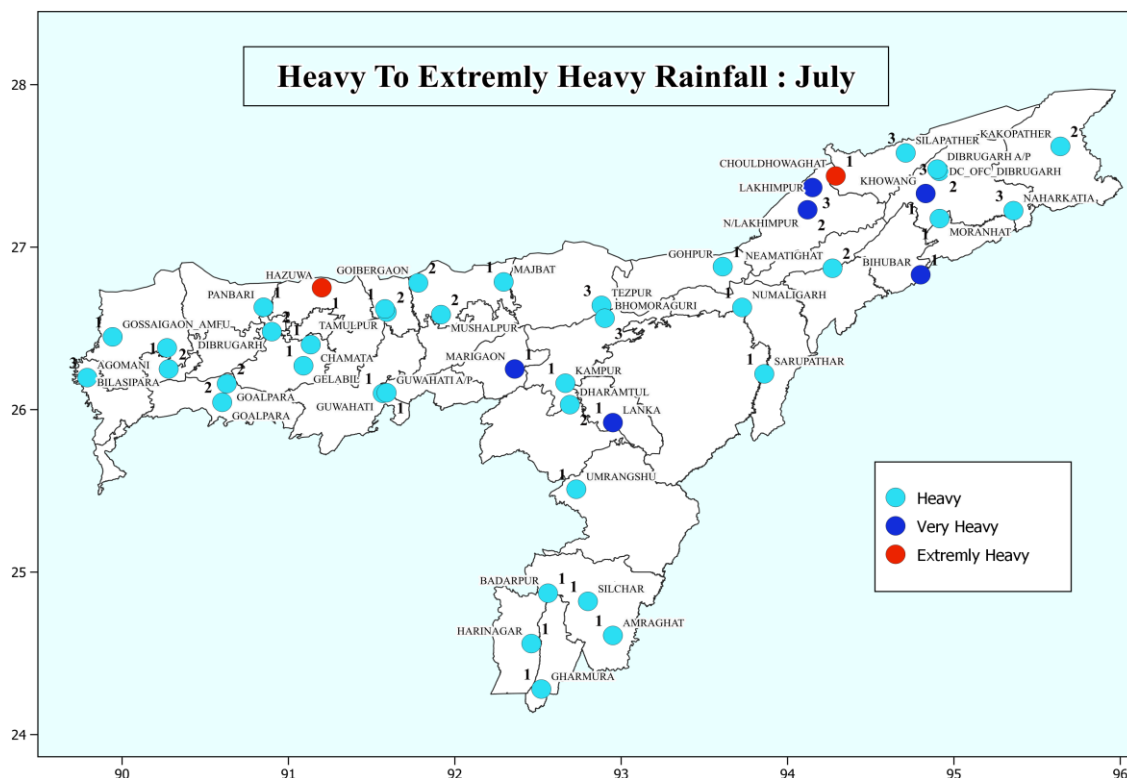


Figure 3 Spatial distribution of heavy to very heavy rainfall over Assam in the month of July. The labels on each station represent the number of event (days) and shaded circles shows the category of the rainfall (mm) during the event.

Over North Lakhimpur and Baksha district 2 extremely heavy rainfall events have been observed. Over central and north eastern region 6 very heavy rainfall events have been noted. Total 17 events over 40 stations across the whole Assam have been observed as shown in figure 3.

1.2 Rainy Days

As per IMD definition for rainy days when daily rainfall is more than 2.4 mm, it is declared as rainy day. The total number of rainy days has been shown in figure 4. The highest 20 rainy days and 5 lowest rainy days have been observed over station on each of the 4 zones of Assam.

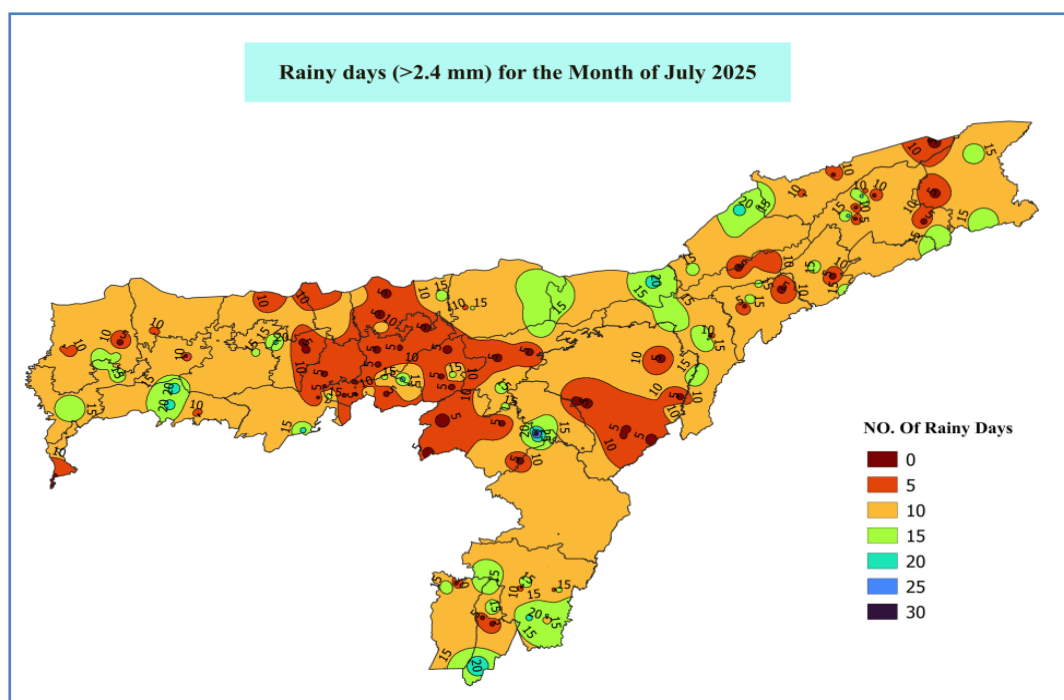


Figure 4 Spatial distributions of rainy days in the month of July 2025

The criteria of declaring a day as rainy has been given in the end of this report under legends section.

2. Temperature Summary of the month

2.1 Maximum Temperature

Table 1 Mean monthly maximum temperature and their departure from normal

Station	Mean Maximum Temperature (°C)	Departure From Normal	NO.OF DAYS WITH MAXIMUM TEMPERATURE (°C)						
			Normal	AN	BN	AAN	ABN	MAN	MBN
Guwahati	34.7	+2.9	6	10	1	11	0	3	0
North Lakhimpur	34.4	+3.3	4	8	1	12	0	6	0
Dhubri	33.0	+1.9	9	12	2	8	0	0	0
Silchar	34.1	+2.0	9	4	3	13	0	2	0
Tezpur	34.8	+3.0	6	7	0	13	0	5	0
Dibrugarh	33.6	+2.6	9	5	1	11	0	5	0

During this month the highest maximum temperature was recorded 38.6 °C at LAKHIMPUR on 14.07.2025 and the lowest minimum temperature was recorded 22.9 °C at TEZPUR on 16.07.2025 in Assam. The highest (lowest) anomalous maximum

temperature was observed over North Lakhimpur (Dhubri) stations as shown in Table 1. The highest (lowest) anomalous minimum temperature was observed over North Lakhimpur (Tezpur) stations in this month as shown in Table 2



Figure 3 Comparison of the observed maximum temperatures and the pentad normal temperatures for July 2025 across Assam. Each subplot shows the daily maximum temperature in blue bars, while the red line indicates the normal values for the respective periods.

2.2 Minimum Temperature

Table 2 Mean monthly minimum temperatures and their departures from normal

Station	Mean Minimum Temperature (°C)	Departure From Normal	NO. OF DAYS WITH MINIMUM TEMPERATURE (°C)						
			Normal	AN	BN	AAN	ABN	MAN	MBN
Guwahati	26.8	2.0	11	0	0	0	0	0	0
North Lakhimpur	19.0	-2.8	6	1	9	0	4	0	1
Dhubri	27.0	+1.9	11	18	0	2	0	0	0
Silchar	25.9	+1.0	20	10	0	1	0	0	0
Tezpur	25.8	+0.7	20	6	3	2	0	0	0
Dibrugarh	26.0	+1.4	19	7	0	5	0	0	0

Minimum Temperature along with Pentad Normal Temperature (July 2025)

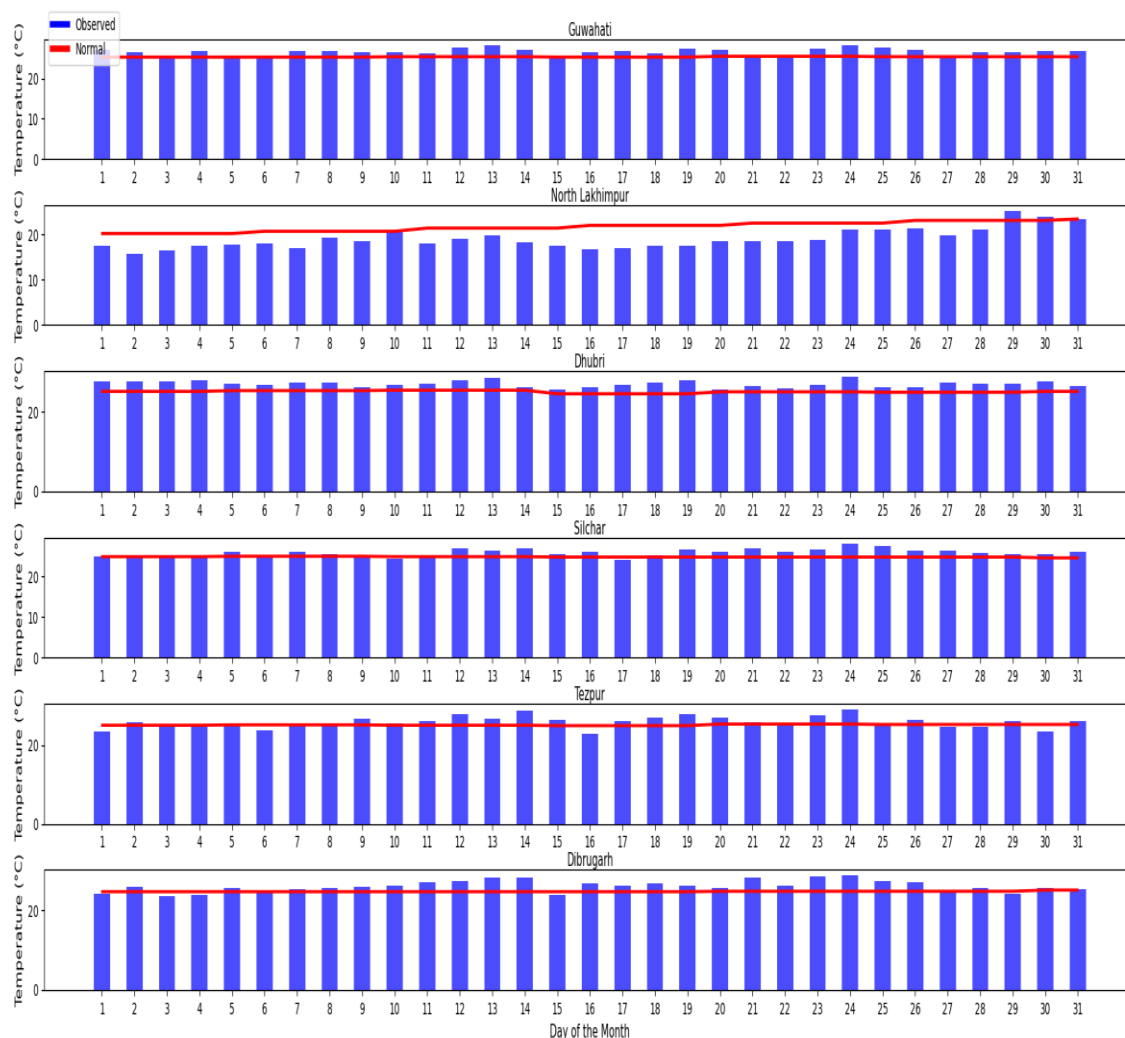


Figure 4 Comparison of the observed minimum temperatures and pentad normal temperatures for July 2025 across Assam. Each subplot shows the daily minimum temperature in blue bars, while the red line indicates the normal values for the respective periods.

3. Thunderstorm and lightening Summary of the month

Across the whole month the rainfall occurrences are mostly accompanied by thunderstorms affected several locations in Assam except 23-24th July.

4. Legends

Classification of Fog	
Fog type	Visibility Range (in meters)
Shallow	500-1000
Moderate	200-500
Dense	50-200
Very Dense	Less than 50 meters

Spatial rainfall distribution:

% Stations reporting Rainfall	Category
76-100	Widespread (WS/ most places)
51-75	Fairly Widespread (FWS/ many places)
26-50	Scattered (SCT/ few places)
1 -25	Isolated (ISOL/ one or two places)
No Rain	Dry

Rainfall intensity:

24-hr accumulated rainfall (cm/day)	Category
Upto 1	Light rain
2-6	Moderate rain
7-11	Heavy rain
12-20	Very heavy rain
≥ 21	Extremely heavy rain

Description of rainfall with respect to normal:

Rainfall percentage departure from normal	Category
≥ +60%	Large excess
+20% to +59%	Excess
-19% to +19%	Normal
-20% to -59%	Deficient
≤ -60%	Largely deficient