



Monday, October 09, 2023
Time of Issue: 0800 hours IST
(MORNING)

ALL INDIA WEATHER SUMMARY AND FORECAST BULLETIN

Significant Weather Features

Withdrawal of Southwest Monsoon:

- ✓ Conditions are becoming favourable for further withdrawal of Southwest Monsoon from remaining parts of East Uttar Pradesh, East Madhya Pradesh; some parts of Bihar, Jharkhand, Gangetic West Bengal, Odisha, Chhattisgarh, Telangana; and some more parts of Maharashtra and Central Arabian Sea during next 2 days.

Significant Weather features:

- ✓ A north-south trough runs from Sikkim to coastal areas of West Bengal in lower tropospheric levels.
- ✓ Another trough runs from central parts of Chhattisgarh to south Tamil Nadu across Telangana and interior Karnataka in lower tropospheric levels.

Northeast India: Light to moderate rainfall at many places with isolated **heavy rainfall** accompanied with thunderstorm & lightning very likely over Arunachal Pradesh and Assam & Meghalaya on 09th October and reduction thereafter.

East India: Light to moderate rainfall at many places accompanied with thunderstorm & lightning very likely over Sub-Himalayan West Bengal & Sikkim during next 05 days.

South India: Light to moderate rainfall at some places with isolated **heavy rainfall** accompanied with thunderstorm & lightning very likely over Tamil Nadu during 09th-11th; South Interior Karnataka during 09th-11th and Kerala during 09th-13th October.

Northwest India: Light rainfall at some places accompanied with thunderstorm & lightning at isolated places very likely over Himachal Pradesh and Uttarakhand on 09th October.

No significant weather over the region rest parts of the country.



Main Weather Observations:

- ❖ **Rainfall distribution** (from 0830 hours IST to 1730 hours IST of yesterday): **at many places over** Arunachal Pradesh; **at a few places over** Sub-Himalayan West Bengal, Assam & Meghalaya, Kerala & Mahe and Andaman & Nicobar Islands and **at isolated places over** Bihar, East Uttar Pradesh, Gangetic West Bengal, Nagaland, Manipur, Mizoram & Tripura, Odisha, South Interior Karnataka and Tamil Nadu, Puducherry & Karaikal.
- ❖ **Significant rainfall recorded** (from 0830 hours IST to 1730 hours IST of yesterday) (in cm): **Meghalaya:** Cherrapunji-9, Khleriat-3, North Lakhimpur-2; **Arunachal Pradesh:** Pasighat-4, East Siang-3, Basar-2; **Sub-Himalayan West Bengal & Sikkim:** North Sikkim-4; **South Interior Karnataka:** Mandya-4, Kodagu-2; **Kerala:** Ernakulam-3, Kozhikode & Idukki-2 each; **Tamil Nadu:** Yercaud-3; **East Uttar Pradesh:** Varanasi-2; **Nagaland:** Sakshi-2.
- ❖ **Heavy Rainfall observed** (from 0830 hours IST to 1730 hours IST of yesterday): **Heavy to rainfall** at isolated places over Meghalaya.
- ❖ **Minimum Temperature Departures (as on 08-10-2023):** Minimum temperatures were **appreciably above normal (3.1°C to 5.0°C)** at a few places over Jammu-Kashmir-Ladakh-Gilgit-Baltistan-Muzaffarabad and Punjab; at isolated places over West Rajasthan, Himachal Pradesh, Uttarakhand, Jharkhand, Odisha and Sub-Himalaya West Bengal & Sikkim; **above normal (1.6°C to 3.0°C)** at many places over Haryana-Chandigarh-Delhi, Bihar and Assam & Meghalaya; at a few places over East Rajasthan, Arunachal Pradesh, Nagaland, Manipur, Mizoram & Tripura and Coastal Andhra Pradesh & Yanam; at isolated places over Uttar Pradesh, Gangetic West Bengal, Madhya Pradesh, Kerala & Mahe and Tamil Nadu, Puducherry & Karaikal. They were **below normal (-1.6°C to -3.0°C)** at isolated places over Marathwada, Chhattisgarh and Telangana and **near normal** over rest parts of the country. Yesterday, **the lowest minimum temperature of 17.8°C** was reported at **Udaipur (East Rajasthan)** over the plains of the country.
- ❖ **Maximum Temperature Departures (as on 08-10-2023):** Maximum temperatures were **appreciably above normal (3.1°C to 5.0°C)** at a few places over Jammu-Kashmir-Ladakh-Gilgit-Baltistan-Muzaffarabad; **above normal (1.6°C to 3.0°C)** at most places over Himachal Pradesh, Uttarakhand, Punjab, Haryana-Chandigarh-Delhi, Rajasthan, West Uttar Pradesh, West Madhya Pradesh, Gujarat state, Maharashtra and Karnataka; at many places over East Madhya Pradesh, Telangana and Kerala & Mahe; at a few places over East Uttar Pradesh, Chhattisgarh, Coastal Andhra Pradesh & Yanam and Tamil Nadu, Puducherry & Karaikal. They were **below normal (-1.6°C to -3.0°C)** at isolated places over Bihar and **near normal** over rest parts of the country. Yesterday, **the highest maximum temperature of 38.6°C** was reported at **Hissar & Narnaul (Haryana)**.

Meteorological Analysis (Based on 0530 hours IST)

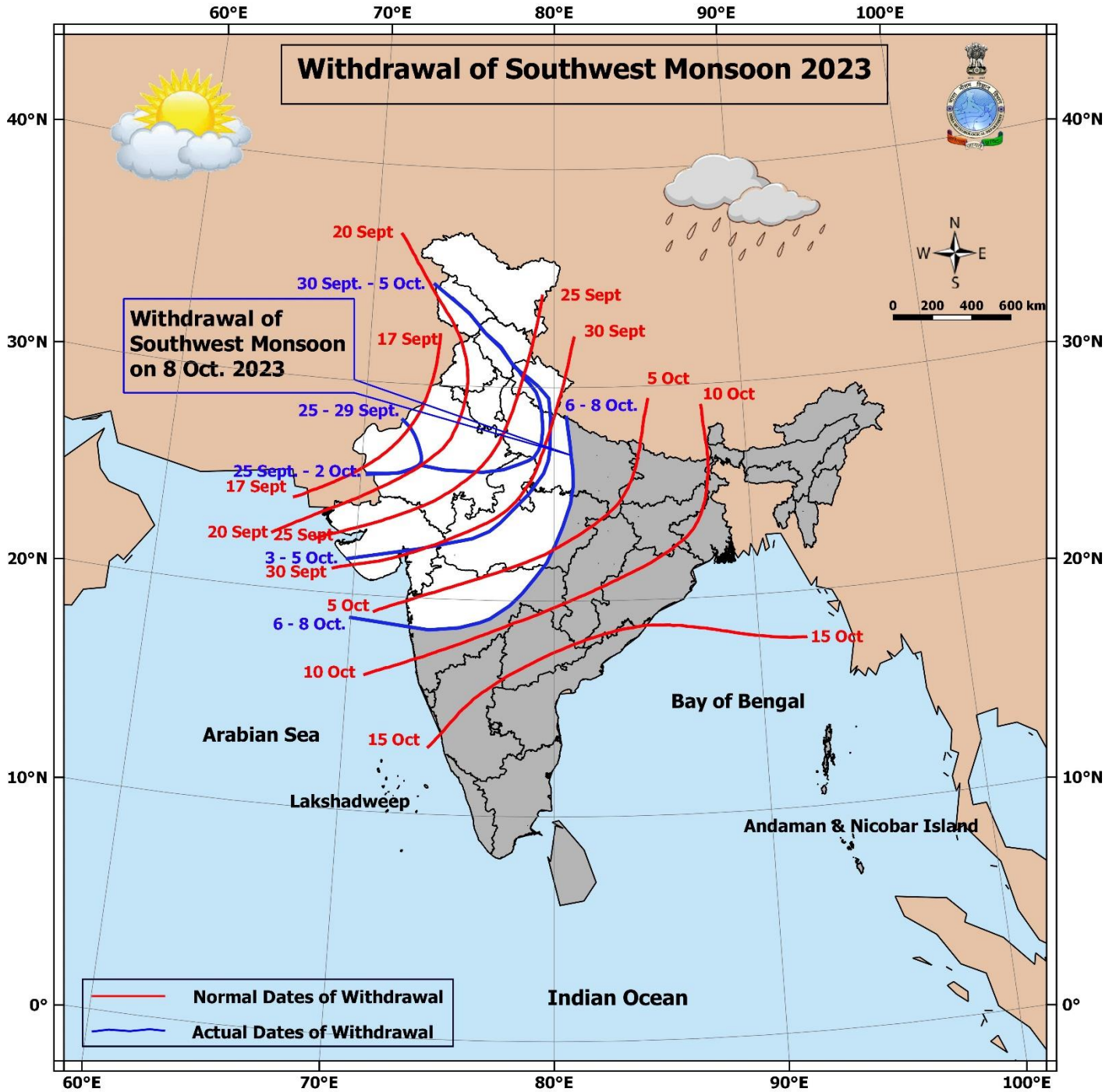
- ❖ The line of withdrawal of Southwest Monsoon continues to pass through 28.6°N/80.6°E, Lucknow, Satna, Nagpur, Parbhani, Pune, Alibag and 18.9°N/70.0°E.
- ❖ Conditions are favourable for further withdrawal of Southwest Monsoon from remaining parts of East Uttar Pradesh, East Madhya Pradesh; some parts of Bihar, Jharkhand, Gangetic West Bengal, Odisha, Chhattisgarh, Telangana; and some more parts of Maharashtra and Central Arabian Sea during next 2 days.
- ❖ The cyclonic circulation over north Coastal Andhra Pradesh & neighbourhood persists and now seen at 3.1 km above mean sea level.
- ❖ The cyclonic circulation over Lakshadweep & neighbourhood at 1.5 km above mean sea level persists.
- ❖ The north-south trough from Sikkim to north coastal Odisha now runs from Sikkim to coastal areas of West Bengal and extends upto 1.5 km above mean sea level.
- ❖ The trough from central parts of Chhattisgarh to south Tamil Nadu across Telangana and interior Karnataka at 0.9 km above mean sea level persists.
- ❖ The Western Disturbance as a trough in westerlies with its axis at 4.5 km above mean sea level roughly along Long. 70°E to the north of Lat. 32°N persists.
- ❖ The cyclonic circulation over Tamil Nadu & neighbourhood at 4.5 km above mean sea level has become less marked.

Weather Forecast for next 5 days (Upto 0830 hours IST of 14th October, 2023)

- ❖ Meteorological sub-division wise detailed 5 days rainfall forecast is given in Table-1.
- ❖ No significant change in maximum temperatures likely over most parts of country during next 5 days.

Weather Outlook for subsequent 2 days

- ❖ Scattered to fairly widespread light/moderate rainfall likely over parts of South peninsular India; Northeast India and Islands.
- ❖ Isolated to scattered rainfall likely over parts of East India. Dry weather likely to prevail over rest parts of the country.



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Table-1

7 Days Rainfall Forecast								
S. No.	Subdivision	09-Oct	10-Oct	11-Oct	12-Oct	13-Oct	14-Oct	15-Oct
		Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7
1	ANDAMAN & NICOBAR ISLANDS	WS	FWS	FWS	FWS	FWS	FWS	SCT
2	ARUNACHAL PRADESH	FWS	SCT	SCT	ISOL	ISOL	ISOL	ISOL
3	ASSAM & MEGHALAYA	FWS	SCT	SCT	ISOL	ISOL	ISOL	SCT
4	NAGALAND, MANIPUR, MIZORAM & TRIPURA	SCT	SCT	SCT	FWS	FWS	FWS	SCT
5	SUB-HIMALAYAN WEST BENGAL & SIKKIM	FWS	FWS	SCT	SCT	ISOL	ISOL	SCT
6	GANGETIC WEST BENGAL	DRY	DRY	DRY	DRY	ISOL	ISOL	ISOL
7	ODISHA	DRY	DRY	DRY	ISOL	ISOL	DRY	DRY
8	JHARKHAND	DRY	DRY	DRY	DRY	DRY	DRY	DRY
9	BIHAR	ISOL	ISOL	ISOL	DRY	DRY	DRY	ISOL
10	EAST UTTAR PRADESH	DRY	ISOL	DRY	DRY	DRY	DRY	DRY
11	WEST UTTAR PRADESH	DRY	DRY	DRY	DRY	DRY	DRY	DRY
12	UTTARAKHAND	ISOL	ISOL	DRY	DRY	DRY	DRY	ISOL
13	HARYANA CHANDIGARH & DELHI	ISOL	DRY	DRY	DRY	DRY	DRY	DRY
14	PUNJAB	ISOL	DRY	DRY	DRY	DRY	DRY	ISOL
15	HIMACHAL PRADESH	SCT	ISOL	DRY	DRY	DRY	DRY	ISOL
16	JAMMU & KASHMIR AND LADAKH	SCT	ISOL	DRY	DRY	DRY	DRY	ISOL
17	WEST RAJASTHAN	DRY	DRY	DRY	DRY	DRY	DRY	DRY
18	EAST RAJASTHAN	DRY	DRY	DRY	DRY	DRY	DRY	DRY
19	WEST MADHYA PRADESH	DRY	DRY	DRY	DRY	DRY	DRY	DRY
20	EAST MADHYA PRADESH	DRY	DRY	DRY	DRY	DRY	DRY	DRY
21	GUJARAT REGION	DRY	DRY	DRY	DRY	DRY	DRY	DRY
22	SAURASHTRA & KUTCH	DRY	DRY	DRY	DRY	DRY	DRY	DRY
23	KONKAN & GOA	DRY	ISOL	ISOL	ISOL	ISOL	ISOL	ISOL
24	MADHYA MAHARASHTRA	DRY	DRY	DRY	DRY	DRY	DRY	DRY
25	MARATHAWADA	DRY	DRY	DRY	DRY	DRY	DRY	DRY
26	VIDARBHA	DRY	DRY	DRY	DRY	DRY	DRY	DRY
27	CHHATTISGARH	DRY	DRY	DRY	DRY	DRY	DRY	DRY
28	COASTAL ANDHRA PRADESH & YANAM	ISOL	ISOL	ISOL	ISOL	ISOL	ISOL	ISOL
29	TELANGANA	DRY	DRY	DRY	ISOL	ISOL	ISOL	ISOL
30	RAYALASEEMA	ISOL	SCT	SCT	ISOL	ISOL	ISOL	ISOL
31	TAMILNADU PUDUCHERRY & KARAIKAL	SCT	SCT	SCT	ISOL	ISOL	ISOL	ISOL
32	COASTAL KARNATAKA	SCT	FWS	FWS	FWS	FWS	FWS	FWS
33	NORTH INTERIOR KARNATAKA	ISOL	ISOL	ISOL	ISOL	ISOL	ISOL	ISOL
34	SOUTH INTERIOR KARNATAKA	SCT	SCT	SCT	SCT	ISOL	ISOL	ISOL
35	KERALA & MAHE	SCT	FWS	FWS	FWS	FWS	FWS	FWS
36	LAKSHADWEEP	DRY	SCT	SCT	SCT	SCT	SCT	SCT

Legend	Category	% Stations
WS	Widespread/Most Places	76-100
FWS	Fairly Widespread/Many Places	51-75
SCT	Scattered/ A Few Places	26-50
ISOL	Isolated Places	1-25
DRY	No Rain	0

Fig. 1: Maximum Temperatures Dated 08.10.2023

Fig. 2: Departure of Maximum Temp. Dated 08.10.2023

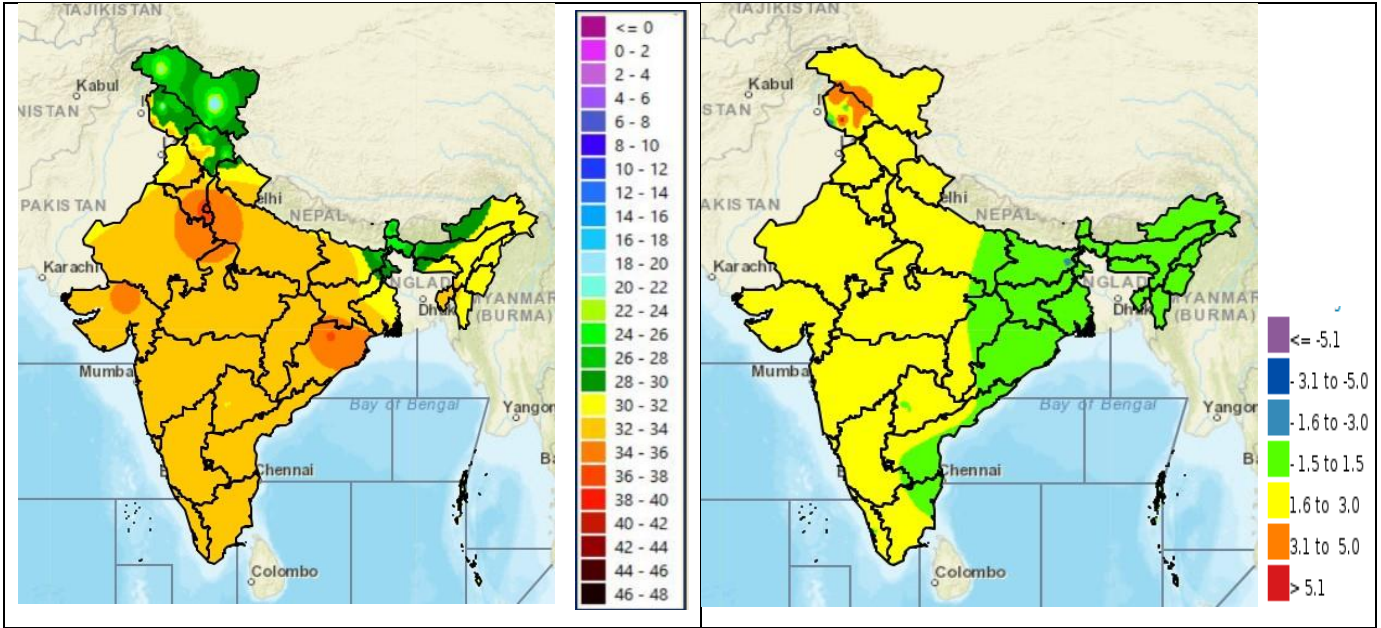


Fig. 3: Minimum Temperatures Dated 08.10.2023

Fig. 4: Departure of Minimum Temp. Dated 08.10.2023

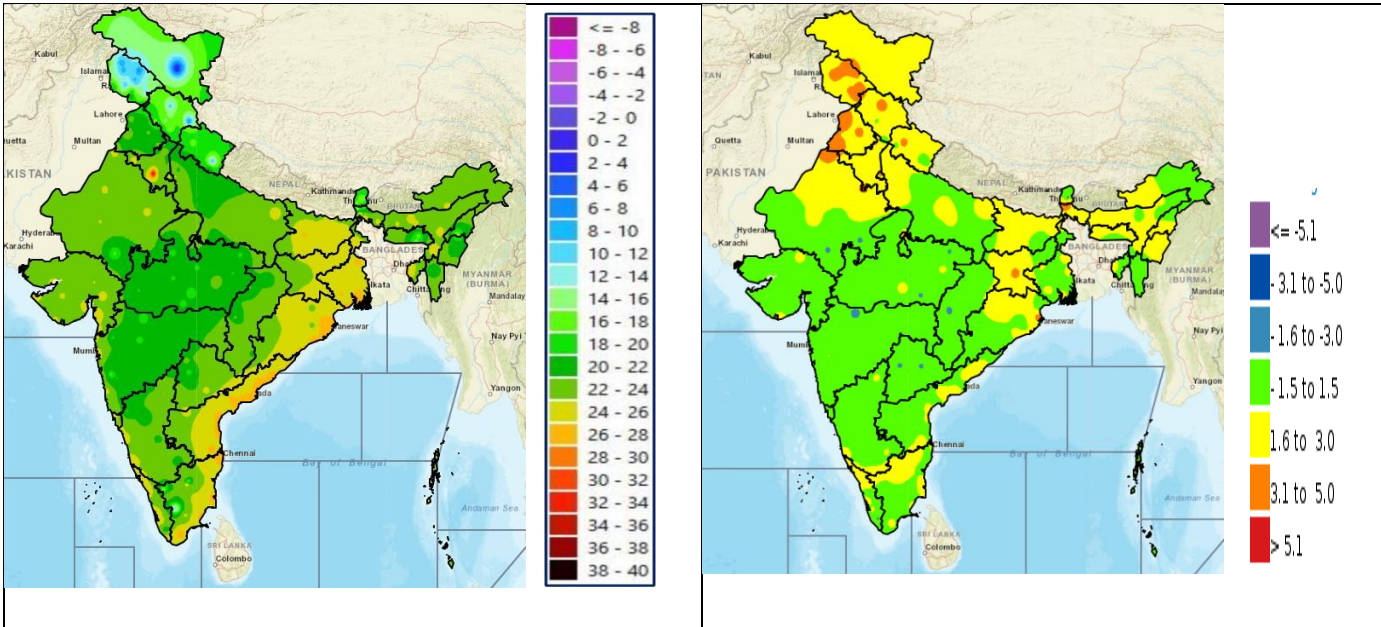
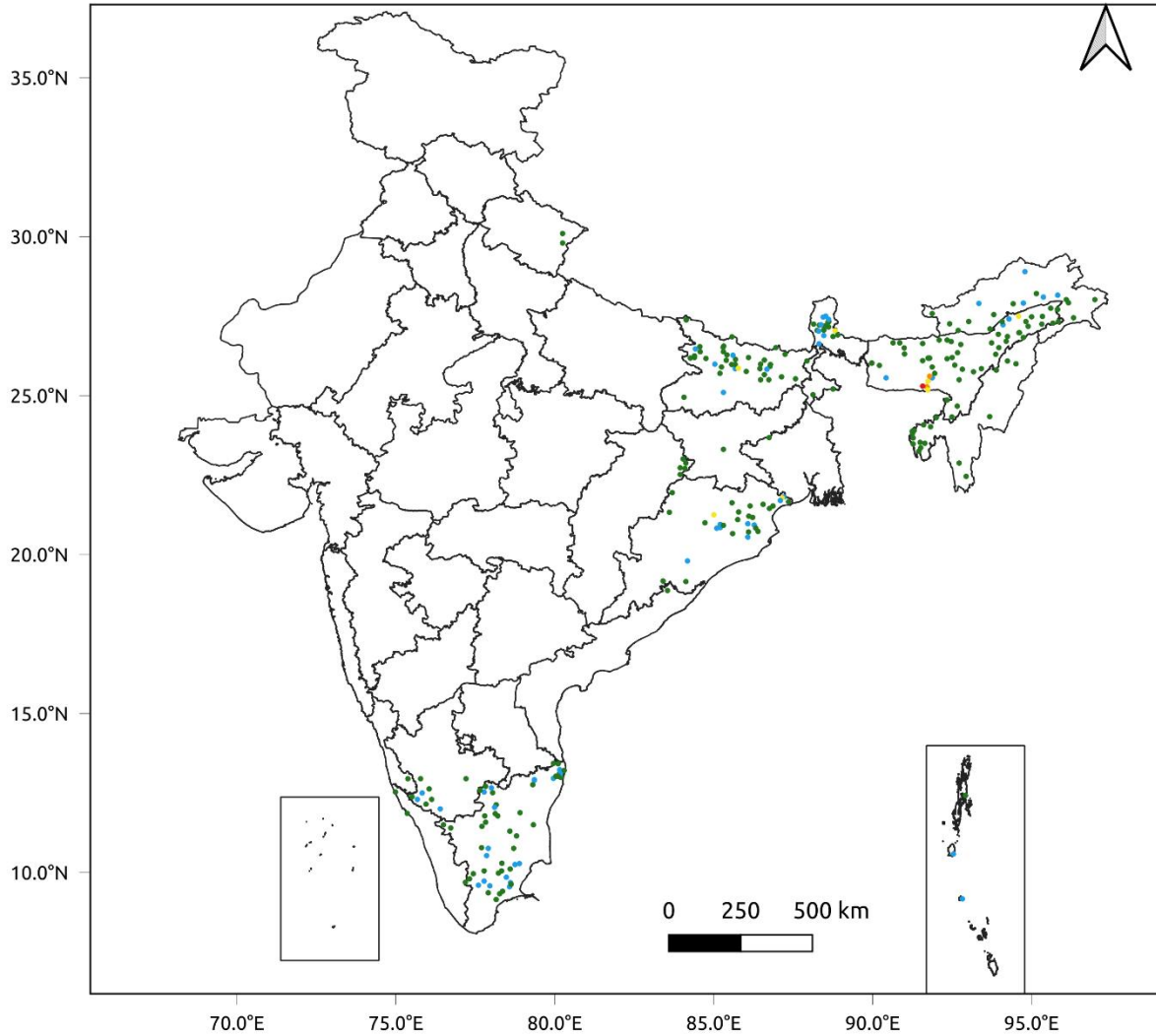


Fig. 5: Accumulated Rainfall (mm) during past 24 hours

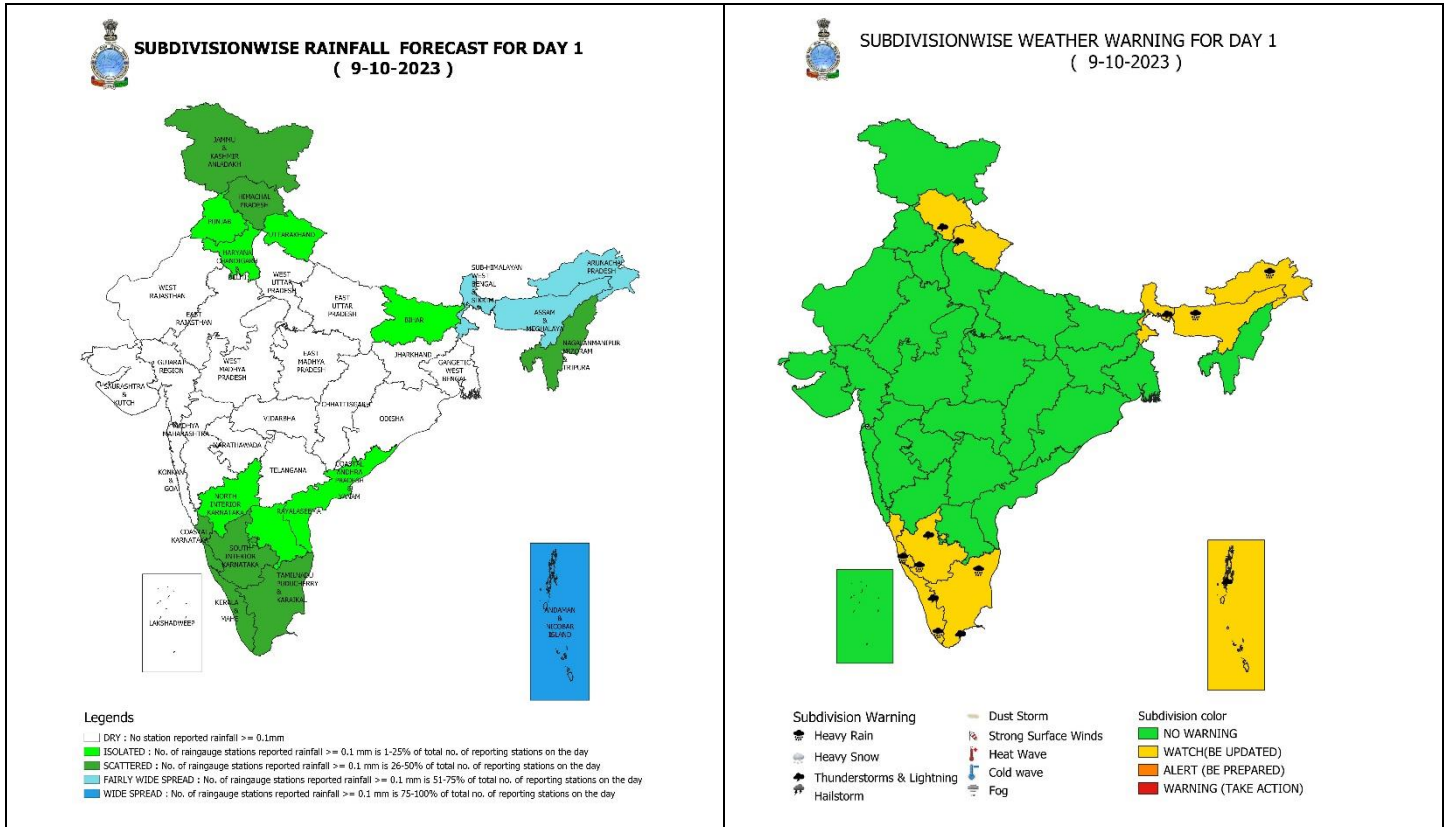


24 Hr cumulative rainfall recorded over different stations during 0830 IST of 7-10-2023 to 0830 IST of 8-10-2023



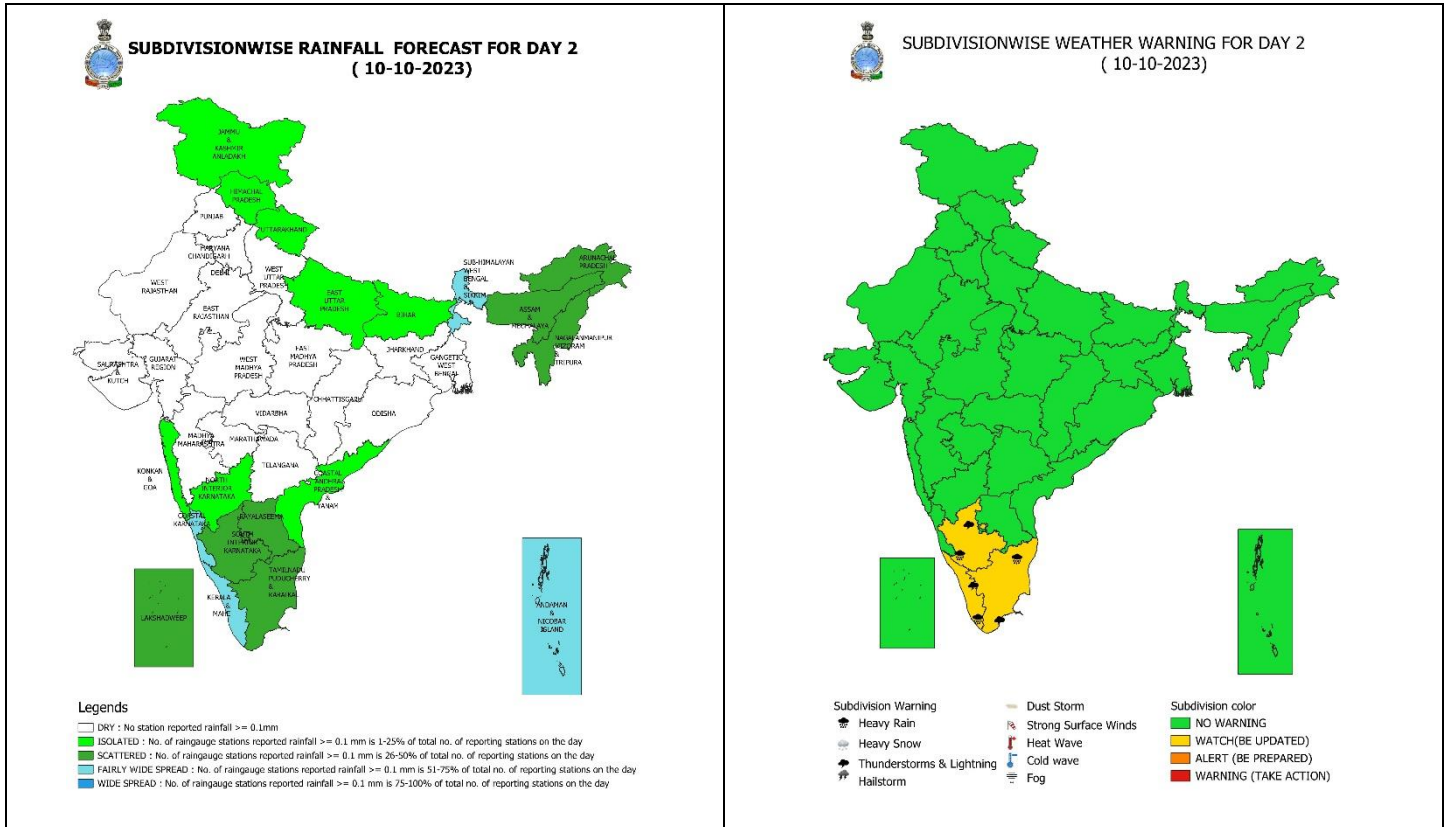
Legends

- Very Light to Light Rainfall (0.1 - 15.5 mm)
- Moderate Rainfall (15.6 - 64.4 mm)
- Heavy Rainfall (64.5 - 115.5 mm)
- Very Heavy Rainfall (115.6 - 204.4 mm)
- Extremely Heavy Rainfall (≥ 204.5 mm)



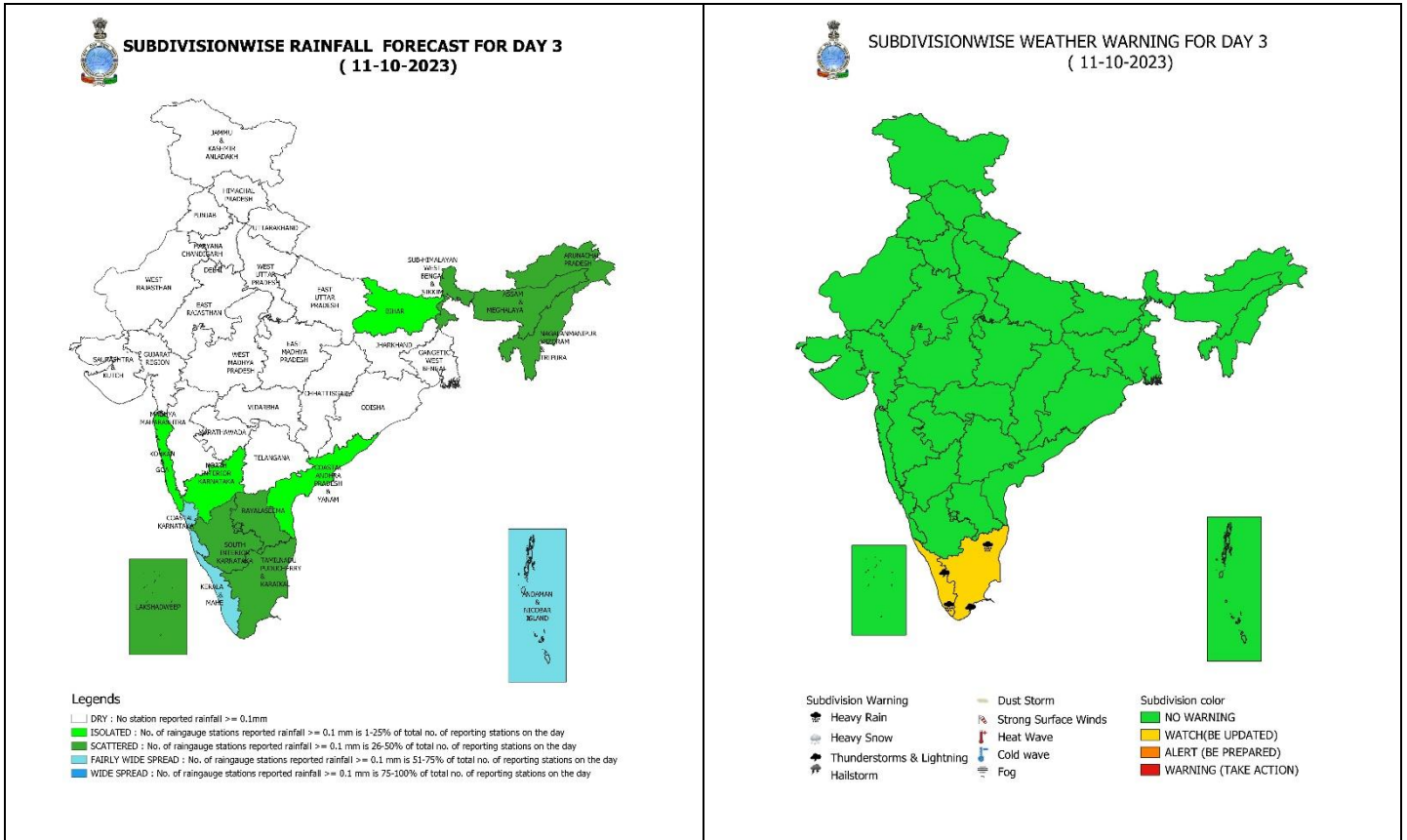
09 October (Day 1):

- ❖ **Heavy rainfall** very likely at isolated places over Arunachal Pradesh, Assam & Meghalaya, Coastal & South Interior Karnataka, Kerala & Mahe and Tamil Nadu, Puducherry & Karaikal.
- ❖ **Thunderstorm with lightning** very likely at isolated places over Jammu-Kashmir-Ladakh-Gilgit-Baltistan-Muzaffarabad, Uttarakhand, Himachal Pradesh, Andaman & Nicobar Islands, Sub-Himalayan West Bengal & Sikkim, South Interior Karnataka, Kerala & Mahe and Tamil Nadu, Puducherry & Karaikal.



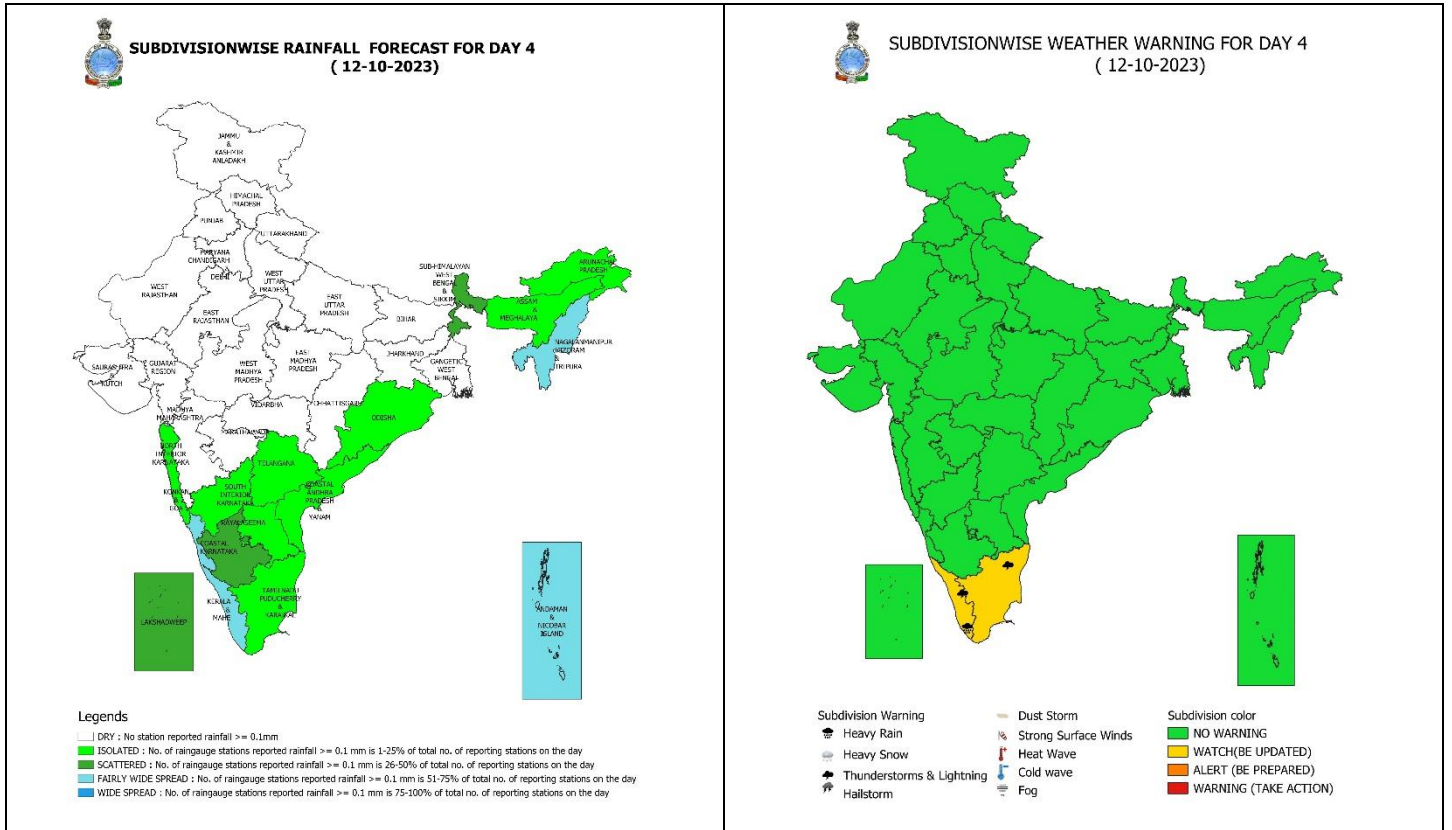
10 October (Day 2):

- ❖ **Heavy rainfall** very likely at isolated places over South Interior Karnataka, Tamil Nadu, Puducherry & Karaikal and Kerala & Mahe.
- ❖ **Thunderstorm with lightning** very likely at isolated places over South Interior Karnataka, Tamil Nadu, Puducherry & Karaikal and Kerala & Mahe.



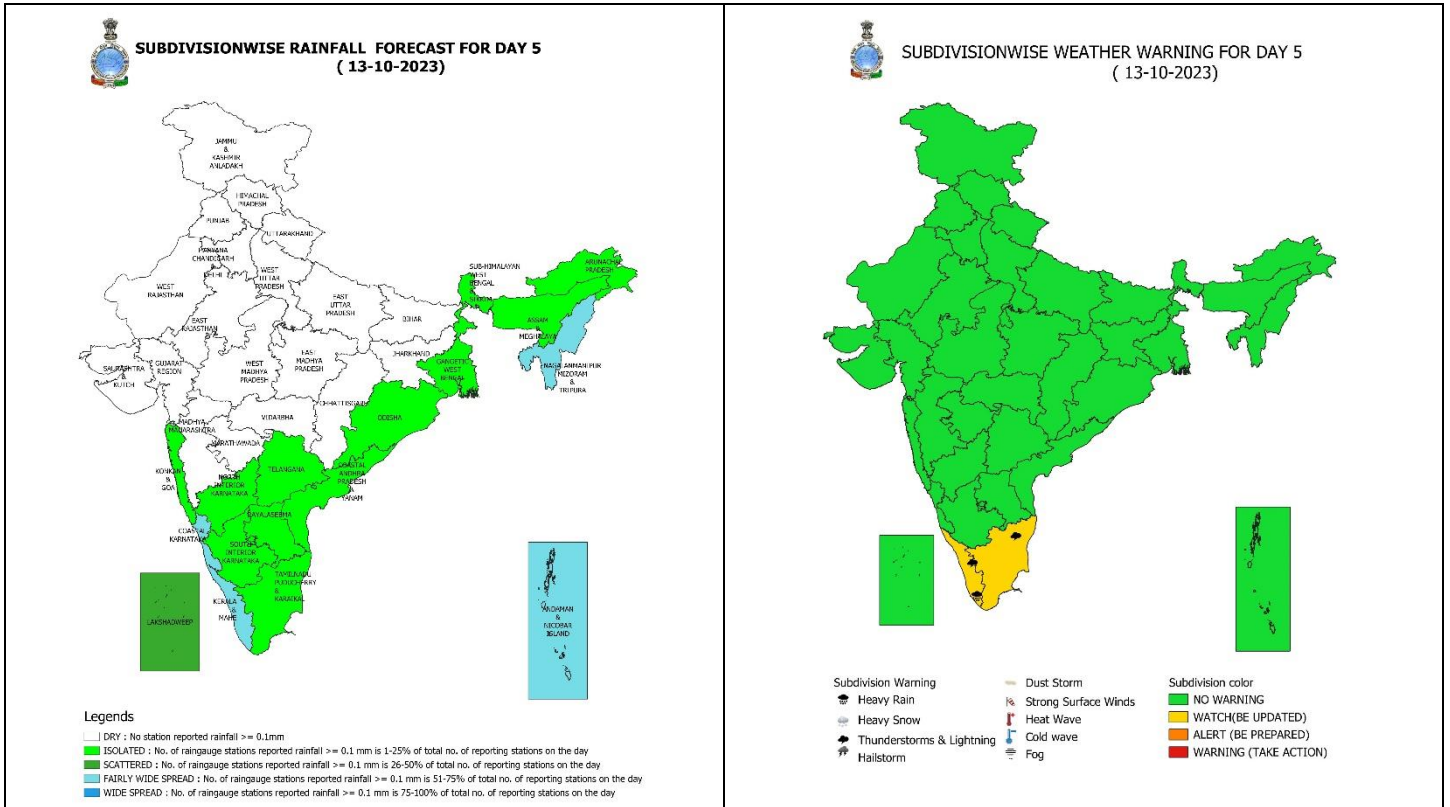
11 October (Day 3):

- ❖ **Heavy rainfall** likely at isolated places over Tamil Nadu, Puducherry & Karaikal and Kerala & Mahe.
- ❖ **Thunderstorm with lightning** likely at isolated places over Tamil Nadu, Puducherry & Karaikal and Kerala & Mahe.



12 October (Day 4):

- ❖ **Heavy rainfall** likely at isolated places over Kerala & Mahe.
- ❖ **Thunderstorm with lightning** likely at isolated places over Tamil Nadu, Puducherry & Karaikal and Kerala & Mahe.

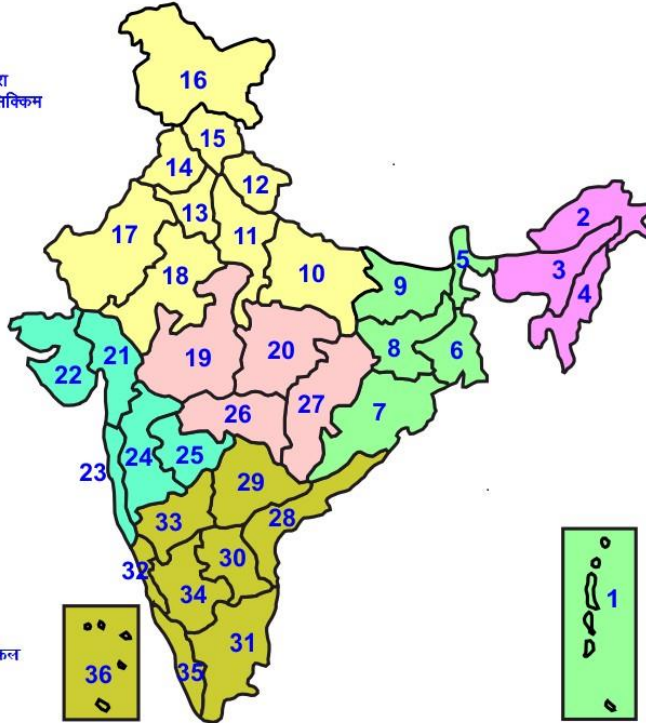


13 October (Day 5):

- ❖ **Heavy rainfall** likely at isolated places over Kerala & Mahe.
- ❖ **Thunderstorm with lightning** likely at isolated places over Tamil Nadu, Puducherry & Karaikal and Kerala & Mahe.

LEGENDS

- 1 अंडमान और निकोबार द्वीप समुह
- 2 अरुणाचल प्रदेश
- 3 असम और मेघालय
- 4 नागालैंड मनीपुर मीजोरम और त्रिपुरा
- 5 उप हिमालय पश्चिम बंगाल एवं सिक्किम
- 6 पश्चिम गंगेय बंगाल
- 7 ओडिसा
- 8 झारखंड
- 9 बिहार
- 10 पूर्वी उत्तर प्रदेश
- 11 पश्चिम उत्तर प्रदेश
- 12 उत्तराखंड
- 13 हरियाणा चंडिगढ़ एवं दिल्ली
- 14 पंजाब
- 15 हिमाचल प्रदेश
- 16 जम्मू एवं कश्मीर एवं लद्दाख
- 17 पश्चिम राजस्थान
- 18 पूर्वी राजस्थान
- 19 पश्चिम मध्य प्रदेश
- 20 पूर्वी मध्य प्रदेश
- 21 गुजरात क्षेत्र
- 22 सौराष्ट्र एवं कच्छ
- 23 कोंकण एवं गोवा
- 24 मध्य महाराष्ट्र
- 25 मराठावाडा
- 26 विदर्भ
- 27 छत्तीसगढ़
- 28 तटीय आंध्र प्रदेश एवं यनम
- 29 तेलंगाना
- 30 रायलसीमा
- 31 तमिलनाडु, पुदुचेरी एवं कराईकल
- 32 तटिय कर्नाटक
- 33 आंतरिक उत्तरी कर्नाटक
- 34 आंतरिक दक्षिणी कर्नाटक
- 35 केरल एवं माहे
- 36 लक्षद्वीप



1. Andaman & Nicobar Islands
2. Arunachal Pradesh
3. Assam & Meghalaya
4. Nagaland, Manipur, Mizoram & Tripura
5. Sub-Himalayan West Bengal & Sikkim
6. Gangetic West Bengal
7. Orissa
8. Jharkhand
9. Bihar
10. East Uttar Pradesh
11. West Uttar Pradesh
12. Uttarakhand
13. Haryana, Chd & Delhi
14. Punjab
15. Himachal Pradesh
16. Jammu & Kashmir and Ladakh
17. West Rajasthan
18. East Rajasthan
19. West Madhya Pradesh
20. East Madhya Pradesh
21. Gujarat
22. Saurashtra
23. Konkan & Goa
24. Madhya Maharashtra
25. Marathwada
26. Vidharbha
27. Chhattisgarh
28. Coastal Andhra Pradesh & Yanam
29. Telangana
30. Rayalaseema
31. Tamilnadu, Puducherry & Karaikal
32. Coastal Karnataka
33. North Interior Karnataka
34. South Interior Karnataka
35. Kerala & Mahe
36. Lakshadweep

SPATIAL DISTRIBUTION (% of Stations reporting)

% Stations	Category	% Stations	Category
76-100	Widespread (WS/ Most Places)	26-50	Scattered (SCT/ A Few Places)
51-75	Fairly Widespread (FWS/ Many Places)	1-25	Isolated (ISOL)

WARNING

WARNING (TAKE ACTION)
ALERT (BE PREPARED)
WATCH (BE UPDATED)
NO WARNING (NO ACTION)

Probabilistic Forecast

Terms	Probability of Occurrence (%)
Unlikely	< 25
Likely	25 - 50
Very Likely	50 - 75
Most Likely	> 75



Heavy Rain



Heavy Snow



Thunderstorm



Dust Storm



Strong Winds



Visibility



Cyclone



Squall/ Hail



Frost



Cold Wave



Heat Wave



Sea State

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LEGENDS

WARNING

WARNING (TAKE ACTION)
ALERT (BE PREPARED)
WATCH (BE UPDATED)
NO WARNING (NO ACTION)

Probabilistic Forecast

Terms	Probability of Occurrence (%)
Unlikely	< 25
Likely	25 - 50
Very Likely	50 - 75
Most Likely	> 75



Rain/ Snow *

Heavy: 64.5 to 115.5 mm/cm *
Very Heavy: 115.6 to 204.4 mm/cm*
Extremely Heavy: > 204.4 mm/cm *



Heat Wave

When maximum temperature of a station reaches $\geq 40^\circ\text{C}$ for plains and $\geq 30^\circ\text{C}$ for hilly regions
(a) Based on Departure from normal

Heat Wave: Maximum Temperature Departure from normal 4.5°C to 6.4°C .

Severe Heat Wave: Maximum Temperature Departure from normal $\geq 6.5^\circ\text{C}$

(b). Based on Actual maximum temperature

Heat Wave: When actual maximum temperature $\geq 45^\circ\text{C}$.

Severe Heat Wave: When actual maximum temperature $\geq 47^\circ\text{C}$

(c). Criteria for heat wave for coastal stations

When maximum temperature departure is $> 4.5^\circ\text{C}$ from normal. Heat Wave may be described provided maximum temperature $\geq 37^\circ\text{C}$



Warm Night

When maximum temperature remains 40°C

Warm Night: When minimum temperature departure 4.5°C to 6.4°C .

Severe Warm Night: When minimum temperature departure $> 6.4^\circ\text{C}$.



Cold Wave

When minimum temperature of a station $\leq 10^\circ\text{C}$ for plains and $\leq 0^\circ\text{C}$ for hilly regions.

(a). Based on departure

Cold Wave: Minimum Temperature Departure from normal -4.5°C to -6.4°C .

Severe Cold Wave: Minimum Temperature Departure from normal $\leq -6.5^\circ\text{C}$

(b) Based on actual Minimum Temperature (for Plains only)

Cold Wave : When Minimum Temperature is $\leq 4.0^\circ\text{C}$

Severe Cold Wave: When Minimum Temperature is $\leq 2.0^\circ\text{C}$

(c) For Coastal Stations

When Minimum Temperature departure is $\leq -4.5^\circ\text{C}$ & actual Minimum Temperature is $\leq 15^\circ\text{C}$



Cold Day

When minimum temperature of a station $\leq 10^\circ\text{C}$ for plains and $\leq 0^\circ\text{C}$ for hilly regions

Based on departure

Cold Day: Maximum Temperature Departure from normal -4.5°C to -6.4°C .

Severe Cold Day: Maximum Temperature Departure from normal $\leq -6.5^\circ\text{C}$



Fog

Phenomenon of small droplets suspended in air and the horizontal visibility $< 1\text{km}$

Moderate Fog: When the visibility between 500-200 metres

Dense Fog: when the visibility between 50- 200 metres

Very Dense Fog: when the visibility < 50 metres



Thunderstorm

Sudden electrical discharges manifested by a flash of light (Lightning) and a sharp rumbling sound (thunder)



Dust/Sand Storm

An ensemble of particles of dust or sand energetically lifted to great heights by a strong and turbulent wind.



Frost

Ice deposits on ground

Air temperature $\leq 4^\circ\text{C}$ (over Plains)



Squall

A strong wind that rises suddenly, lasts for atleast 1 minute.

Moderate: Wind speed 52-61 kmph

Severe: Wind speed 62-87 kmph

Very Severe: Wind speed > 87 kmph



Sea State

Effect of various waves in the sea over specific area

Rough to very rough: Wind speed 41-62 kmph (22-33 knots) & Wave height 2.5-6 metre

High to very high: Wind speed 63-117 kmph (34-63 knots) & Wave height 6-14 metre

Phenomenal: Wind speed > 117 kmph (> 63 knots) & Wave height > 14 metre



Cyclone

Cyclonic Storm: Wind speed 62-87 kmph (34-47 knots)

Severe Cyclonic Storm: Wind speed 88-117 kmph (48-63 knots)

Very Severe Cyclonic Storm: Wind speed 118-165 kmph (64 - 89 knots)

Extremely Severe Cyclonic Storm: Wind speed 166-220 kmph (90 -119 knots)

Super Cyclone Storm: Wind speed > 220 kmph (> 119 knots)

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