



Thursday, October 12, 2023  
Time of Issue: 0800 hours IST  
(MORNING)

## ALL INDIA WEATHER SUMMARY AND FORECAST BULLETIN

### Significant Weather Features

#### **Withdrawal of Southwest Monsoon:**

- ❖ Conditions are favourable for further withdrawal of Southwest Monsoon from some more parts of Bihar, Jharkhand, Chhattisgarh; some parts of Gangetic West Bengal & Odisha; some more parts of Karnataka and remaining parts of Telangana, Maharashtra and Central Arabia Sea during next 2 days.

#### **Significant Weather features:**

- ❖ A cyclonic circulation lies over Rayalaseema & adjoining South Interior Karnataka and a trough runs from this cyclonic circulation to Comorin area in lower tropospheric levels.
- ❖ A fresh Western Disturbance likely to affect Western Himalayan Region from 13<sup>th</sup> night and plains of northwest India from 14<sup>th</sup> October, 2023.

#### **Weather warnings for next 5 days:**

**South India:** Light to moderate rainfall at some places with isolated **heavy rainfall** accompanied with thunderstorm & lightning very likely over Kerala on 12<sup>th</sup> & 13<sup>th</sup> October; over Tamil Nadu on 12<sup>th</sup> October and reduction thereafter.

**Northwest India:** Light to moderate rainfall at some to many places very likely over Jammu-Kashmir-Gilgit-Baltistan-Muzaffarabad during from 13<sup>th</sup>-17<sup>th</sup> October and over Himachal Pradesh and Punjab during 14<sup>th</sup>-17<sup>th</sup> October. Light rainfall at isolated places over Uttarakhand, Haryana, Uttar Pradesh and Rajasthan during 15<sup>th</sup>-17<sup>th</sup> October.

**Northeast India:** Light to moderate rainfall at some places accompanied with thunderstorm & lightning very likely over Nagaland, Manipur, Mizoram & Tripura on 12<sup>th</sup> October and reduction thereafter.

**East India:** Light to moderate rainfall at some to many places very likely over Andaman & Nicobar Islands during next 5 days.

**No significant weather over rest parts of the country during next 5 days.**



## Main Weather Observations:

- ❖ **Rainfall distribution** (from 0830 hours IST to 1730 hours IST of yesterday): **at many places** over Kerala & Mahe; **at a few places** over Coastal Karnataka, South Interior Karnataka, Sub-Himalayan West Bengal & Sikkim, Arunachal Pradesh, Assam & Meghalaya, Nagaland, Manipur, Mizoram & Tripura and Lakshadweep and **at isolated places** over Konkan & Goa, Coastal Andhra Pradesh & Yanam, Bihar, North Interior Karnataka and Tamil Nadu, Puducherry & Karaikal.
- ❖ **Significant rainfall recorded** (from 0830 hours IST to 1730 hours IST of yesterday): (in cm): **Kerala:** Laha-6, Pattambi-5, Neeleswaram-3, Vellarikkundu, Kundala Dam, Ranni & Venkurinji-2 each, Peringome, Chemberi, Punalur & Ponmudi-1 each; **Karnataka:** Mandya-2, Ramanagara, Madikeri & Bangalore-1 each; **Tamil Nadu:** Chennai, Papparapatty & Kattapakkam-1 each; **Coastal Andhra Pradesh:** Srikakulam-1; **Nagaland:** Sakshi-2; **Mizoram:** Chawnhu-2, Saiha-1; **Assam:** Kamrup-1; **Arunachal Pradesh:** Nacho & Yupia-1 each; **Sikkim:** Mangan-2; **Lakshadweep:** Minicoy-2.
- ❖ **Minimum Temperature Departures (as on 11-10-2023):** Minimum temperatures were **above normal (1.6°C to 3.0°C)** at a few places over West Bengal & Sikkim and at isolated places over Odisha, Jharkhand, East Uttar Pradesh, Coastal Andhra Pradesh & Yanam, Rayalaseema, North Interior Karnataka, Tamil Nadu, Puducherry & Karaikal, Kerala & Mahe, Rayalaseema and Assam & Meghalaya. They were **below normal (-1.6°C to -3.0°C)** at isolated places over Jammu, Kashmir, Ladakh, Gilgit, Baltistan, Muzaffarabad and **near normal** over rest parts of the country. Yesterday, **the lowest minimum temperature of 17.8°C** was reported at **Jalgaon (Marathwada)** over the plains of the country.
- ❖ **Maximum Temperature Departures (as on 11-10-2023):** Maximum temperatures were **appreciably above normal (3.1°C to 5.0°C)** at isolated places over Gangetic West Bengal, Odisha, Chhattisgarh, Coastal Andhra Pradesh & Yanam, Rayalaseema and Karnataka; **above normal (1.6°C to 3.0°C)** at most places over Maharashtra, Jharkhand and Telangana; at many places over Uttar Pradesh, Madhya Pradesh, Bihar and Gangetic West Bengal; at a few places over Arunachal Pradesh, Nagaland, Manipur, Mizoram & Tripura and Tamil Nadu, Puducherry & Karaikal and at isolated places over Himachal Pradesh, Uttarakhand, East Rajasthan, Assam & Meghalaya and Kerala & Mahe and **near normal** over rest parts of the country. Yesterday, **the highest maximum temperature of 38.5°C** was reported at **Agra (West Uttar Pradesh)**.

\* Red color warning does not mean "Red Alert" Red color warning means "Take Action".

Forecast and Warning for any day is valid from 0830 hours IST of day till 0830 hours IST of next day For more details kindly visit <https://mausam.imd.gov.in> or contact : 011-2434-4599

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## Meteorological Analysis (Based on 0530 hours IST)

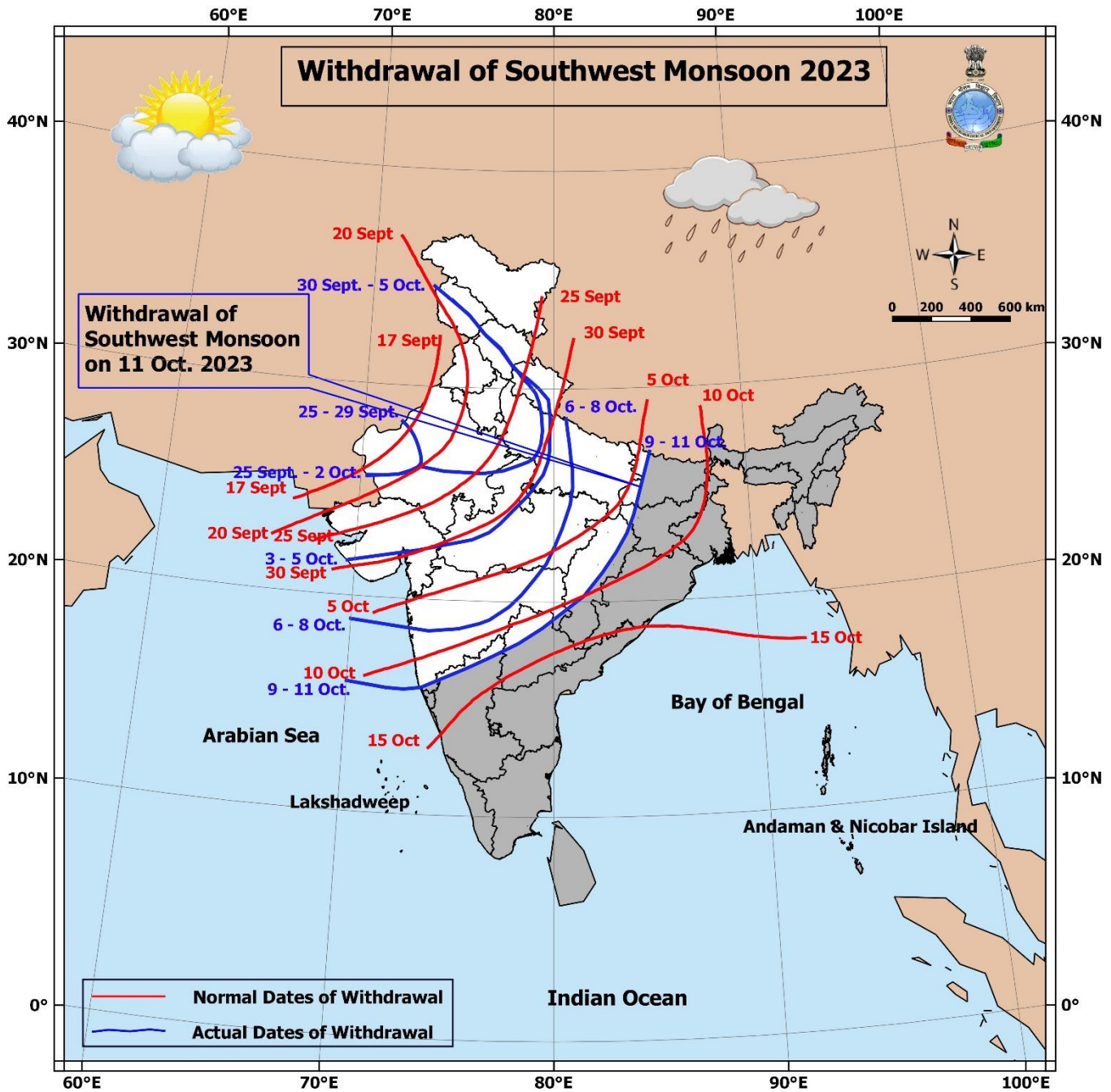
- ❖ The line of withdrawal of Southwest Monsoon continues to pass through 27.0°N/85.0°E, Raxaul, Daltonganj, Kanker, Ramagundam, Bijapur, Vengurla and 16.0°N/70.0°E.
- ❖ Conditions are favourable for further withdrawal of Southwest Monsoon from some more parts of Bihar, Jharkhand, Chhattisgarh; some parts of Gangetic West Bengal & Odisha; some more parts of Karnataka and remaining parts of Telangana, Maharashtra and Central Arabia Sea during next 2 days.
- ❖ The Western Disturbance as a trough with its axis at 5.8 Km above mean sea level now runs roughly along Long. 80°E to the north of Lat. 32°N and is moving away east-northeastwards.
- ❖ The cyclonic circulation over Sub-Himalayan West Bengal & adjoining Bangladesh extending upto 1.5 km above mean sea level persists.
- ❖ The cyclonic circulation over Rayalaseema & adjoining South Interior Karnataka at 0.9 km above mean sea level persists.
- ❖ The trough from South Interior Karnataka to Comorin area across Tamil Nadu at 0.9 km above mean sea level persists.
- ❖ The cyclonic circulation over East central Bay of Bengal extending upto 5.8 km above mean sea level persists.
- ❖ A fresh Western Disturbance likely to affect Western Himalayan Region from 13<sup>th</sup> October, 2023 night and plain of northwest India from 14<sup>th</sup> October, 2023.

## Weather Forecast for next 5 days (Upto 0830 hours IST of 17<sup>th</sup> 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 northwest, south peninsular India and Islands.
- ❖ Isolated to scattered rainfall likely over parts of Northeast 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	12-Oct	13-Oct	14-Oct	15-Oct	16-Oct	17-Oct	18-Oct
		Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7
1	ANDAMAN & NICOBAR ISLANDS	SCT	SCT	FWS	FWS	FWS	FWS	FWS
2	ARUNACHAL PRADESH	SCT	ISOL	ISOL	ISOL	ISOL	ISOL	ISOL
3	ASSAM & MEGHALAYA	ISOL	ISOL	ISOL	ISOL	ISOL	ISOL	ISOL
4	NAGALAND, MANIPUR, MIZORAM & TRIPURA	SCT	SCT	ISOL	ISOL	ISOL	ISOL	ISOL
5	SUB-HIMALAYAN WEST BENGAL & SIKKIM	ISOL	ISOL	ISOL	ISOL	ISOL	ISOL	ISOL
6	GANGETIC WEST BENGAL	DRY	DRY	DRY	DRY	DRY	DRY	DRY
7	ODISHA	DRY	DRY	DRY	DRY	DRY	DRY	DRY
8	JHARKHAND	DRY	DRY	DRY	DRY	DRY	DRY	DRY
9	BIHAR	DRY	DRY	DRY	DRY	DRY	DRY	DRY
10	EAST UTTAR PRADESH	DRY	DRY	DRY	DRY	ISOL	ISOL	ISOL
11	WEST UTTAR PRADESH	DRY	DRY	DRY	ISOL	ISOL	ISOL	ISOL
12	UTTARAKHAND	DRY	DRY	DRY	ISOL	SCT	ISOL	ISOL
13	HARYANA CHANDIGARH & DELHI	DRY	DRY	DRY	ISOL	SCT	ISOL	ISOL
14	PUNJAB	DRY	DRY	ISOL	FWS	FWS	ISOL	ISOL
15	HIMACHAL PRADESH	DRY	DRY	ISOL	FWS	FWS	ISOL	ISOL
16	JAMMU & KASHMIR AND LADAKH	DRY	ISOL	SCT	FWS	FWS	SCT	SCT
17	WEST RAJASTHAN	DRY	DRY	DRY	ISOL	SCT	ISOL	ISOL
18	EAST RAJASTHAN	DRY	DRY	DRY	ISOL	ISOL	ISOL	ISOL
19	WEST MADHYA PRADESH	DRY	DRY	DRY	ISOL	ISOL	DRY	DRY
20	EAST MADHYA PRADESH	DRY	DRY	DRY	DRY	DRY	DRY	DRY
21	GUJARAT REGION	DRY	DRY	DRY	ISOL	ISOL	DRY	DRY
22	SAURASHTRA & KUTCH	DRY	DRY	DRY	ISOL	ISOL	DRY	DRY
23	KONKAN & GOA	ISOL	ISOL	ISOL	ISOL	ISOL	DRY	DRY
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	ISOL	ISOL	DRY	DRY	DRY	DRY
30	RAYALASEEMA	ISOL	ISOL	ISOL	ISOL	ISOL	ISOL	ISOL
31	TAMILNADU PUDUCHERRY & KARAIKAL	ISOL	ISOL	ISOL	ISOL	ISOL	ISOL	ISOL
32	COASTAL KARNATAKA	FWS	SCT	SCT	SCT	FWS	FWS	FWS
33	NORTH INTERIOR KARNATAKA	ISOL	ISOL	ISOL	ISOL	ISOL	ISOL	ISOL
34	SOUTH INTERIOR KARNATAKA	SCT	ISOL	ISOL	SCT	SCT	SCT	SCT
35	KERALA & MAHE	FWS	FWS	FWS	FWS	FWS	FWS	FWS
36	LAKSHADWEEP	FWS	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 11.10.2023

Fig. 2: Departure of Maximum Temp. Dated 11.10.2023

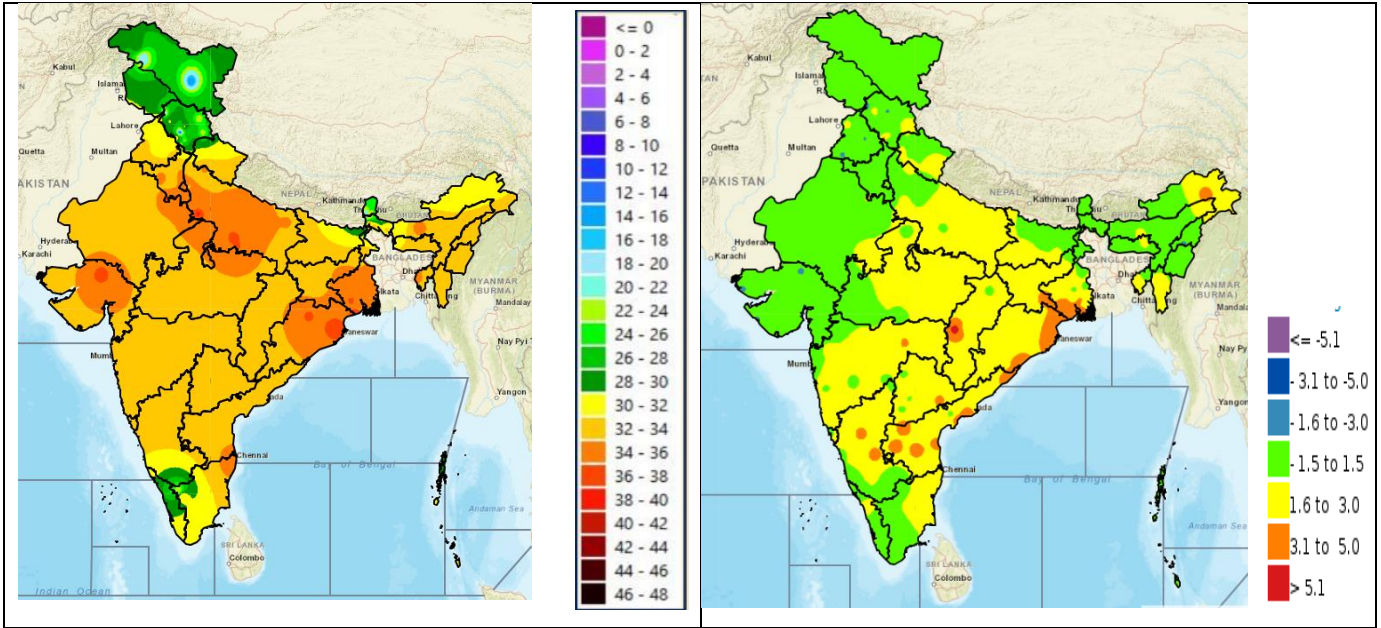


Fig. 3: Minimum Temperatures Dated 11.10.2023

Fig. 4: Departure of Minimum Temp. Dated 11.10.2023

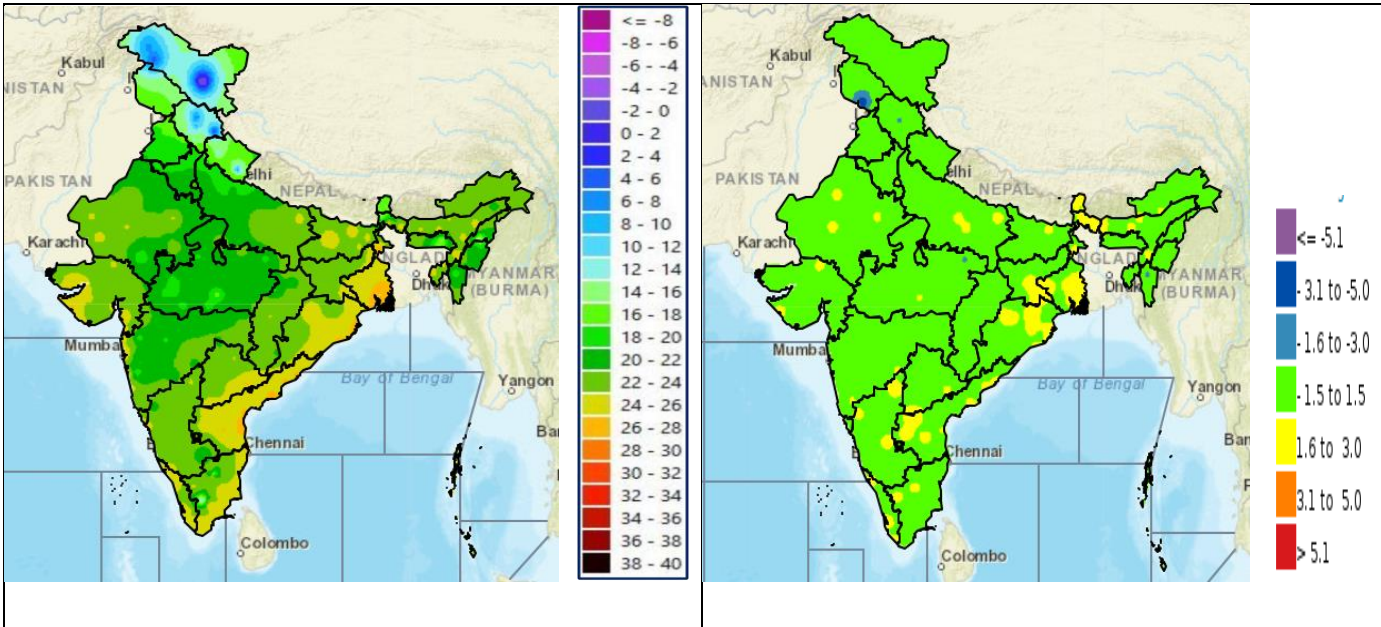
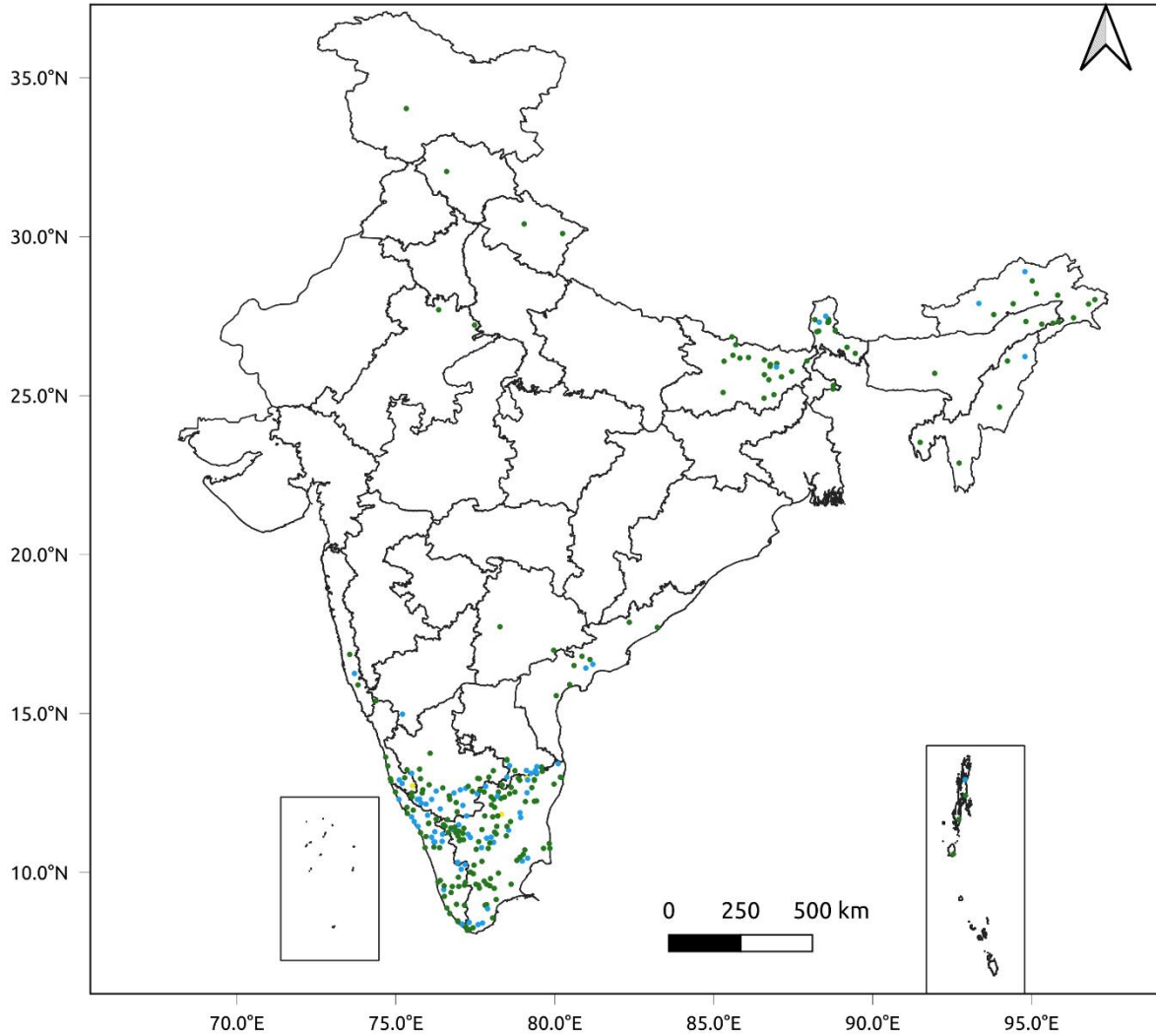


Fig. 5: Accumulated Rainfall (mm) during past 24 hours

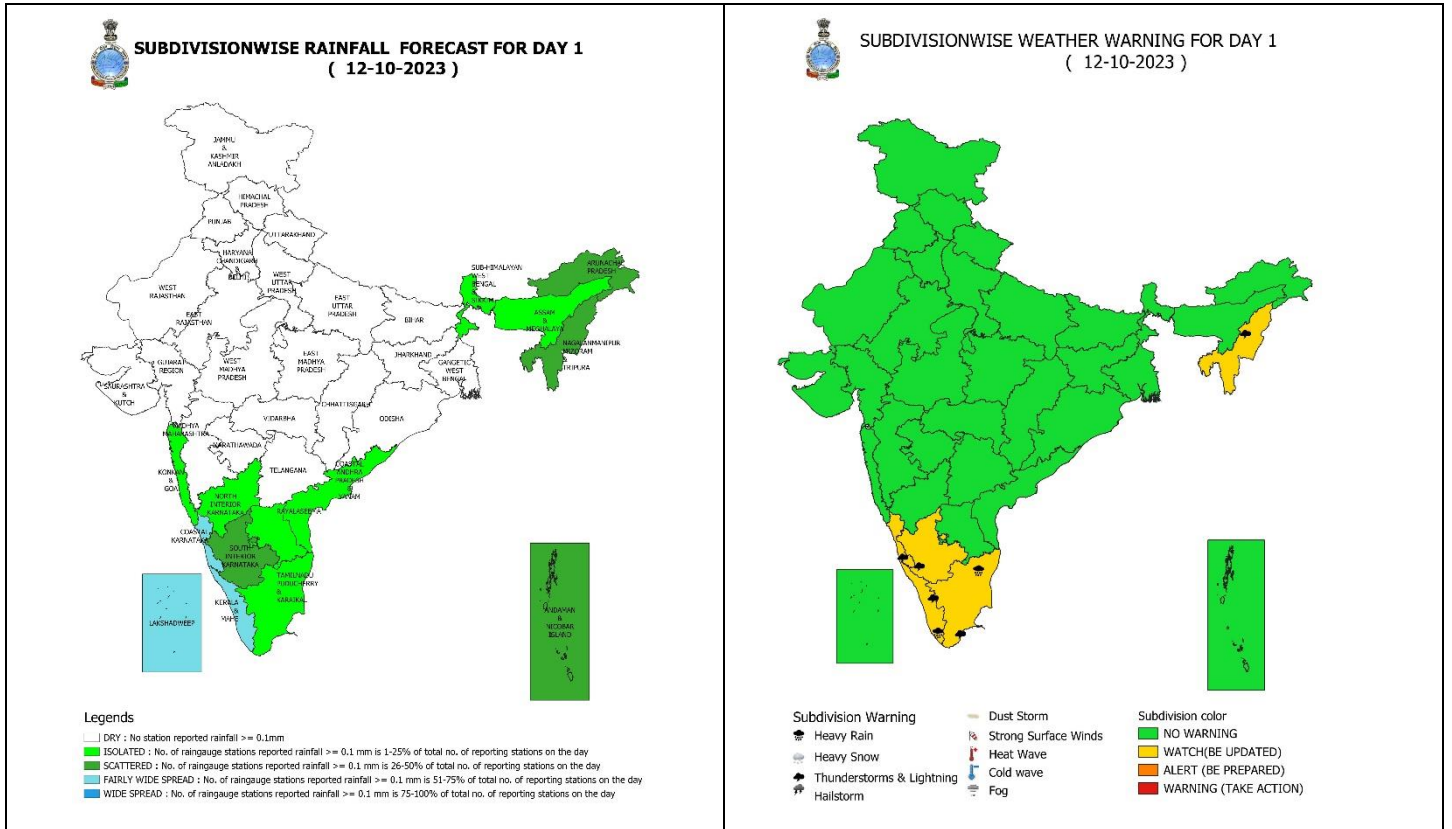


24 Hr cumulative rainfall recorded over different stations during 0830 IST of 10-10-2023 to 0830 IST of 11-10-2023



## Legends

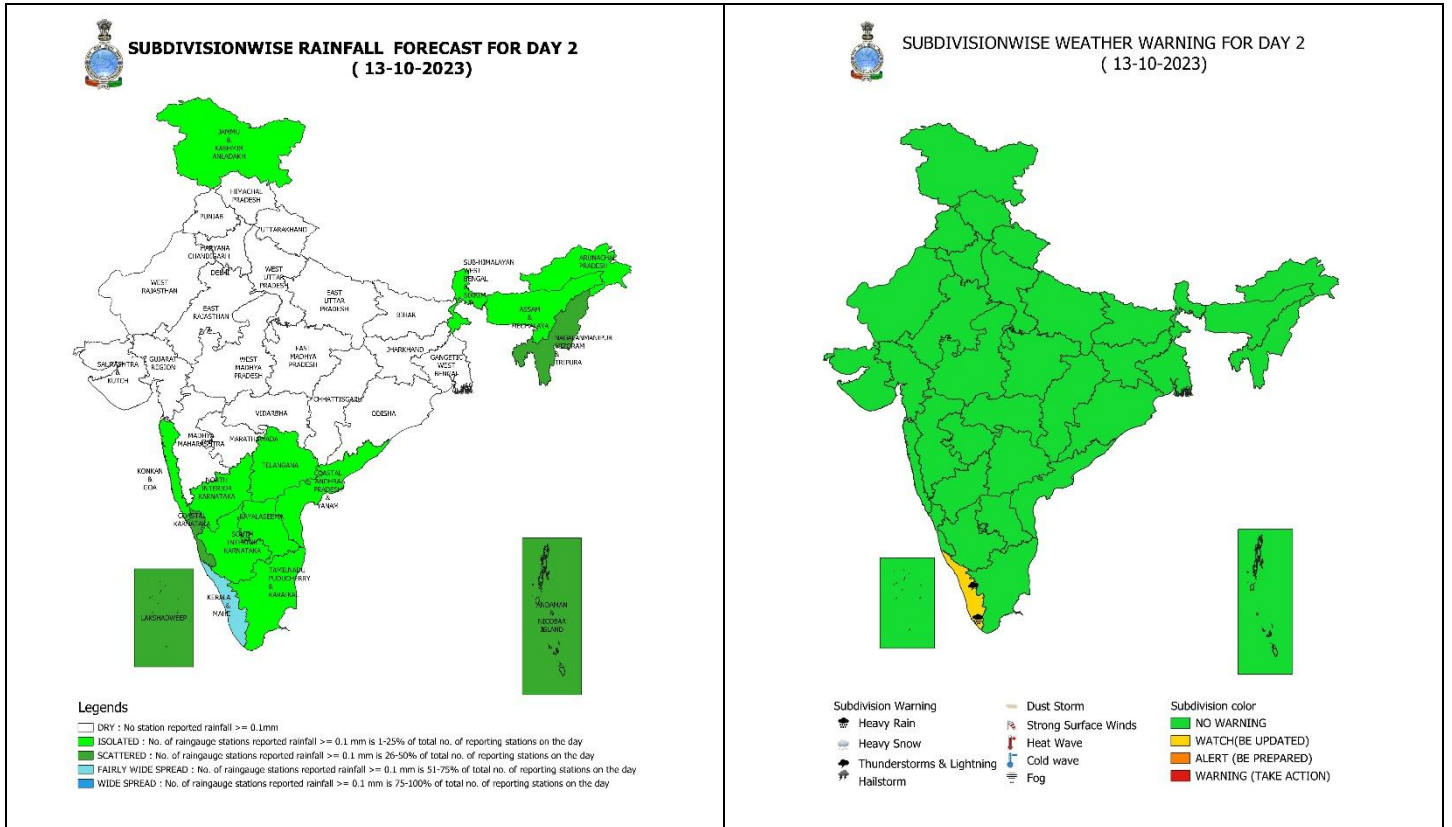
- Very Light to Light Rainfall (0.1 - 15.5 mm)
- Moderate Rainfall (15.6 - 64.4 mm)
- Heavy Rainfall (64.5 - 115.5 mm)
- Very Heavy Rainfall (115.6 - 204.4 mm)
- Extremely Heavy Rainfall ( $\geq 204.5$  mm)



## 12 October (Day 1):

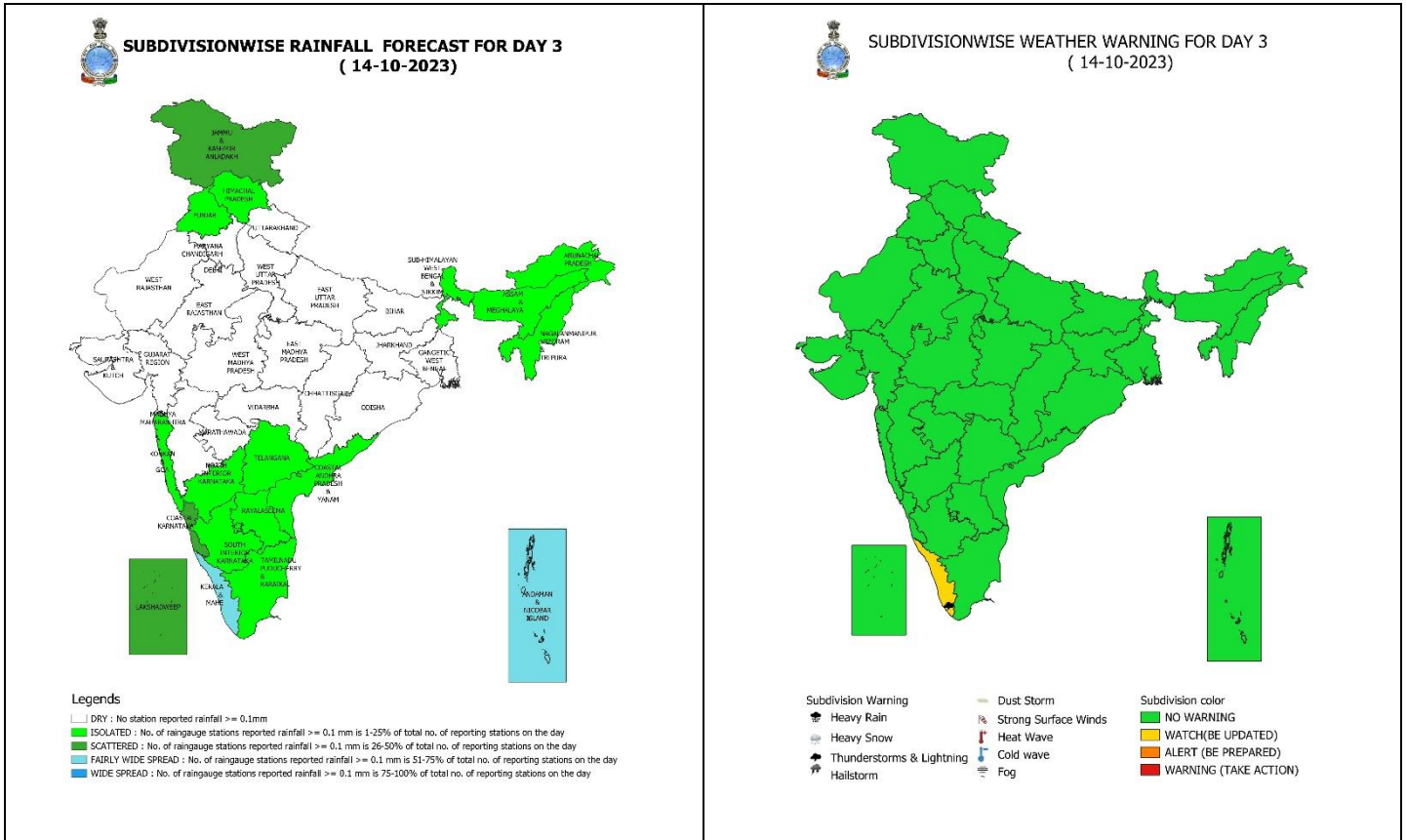
- ❖ **Heavy rainfall** very likely at isolated places over Tamil Nadu, Puducherry & Karaikal and Kerala & Mahe.
- ❖ **Thunderstorm with lightning accompanied with gusty winds speed reaching 30-40 kmph** very likely at isolated places over Kerala & Mahe; **Thunderstorm with lightning** at isolated places over Nagaland, Manipur, Mizoram & Tripura, Coastal & South Interior Karnataka and Tamil Nadu, Puducherry & Karaikal.





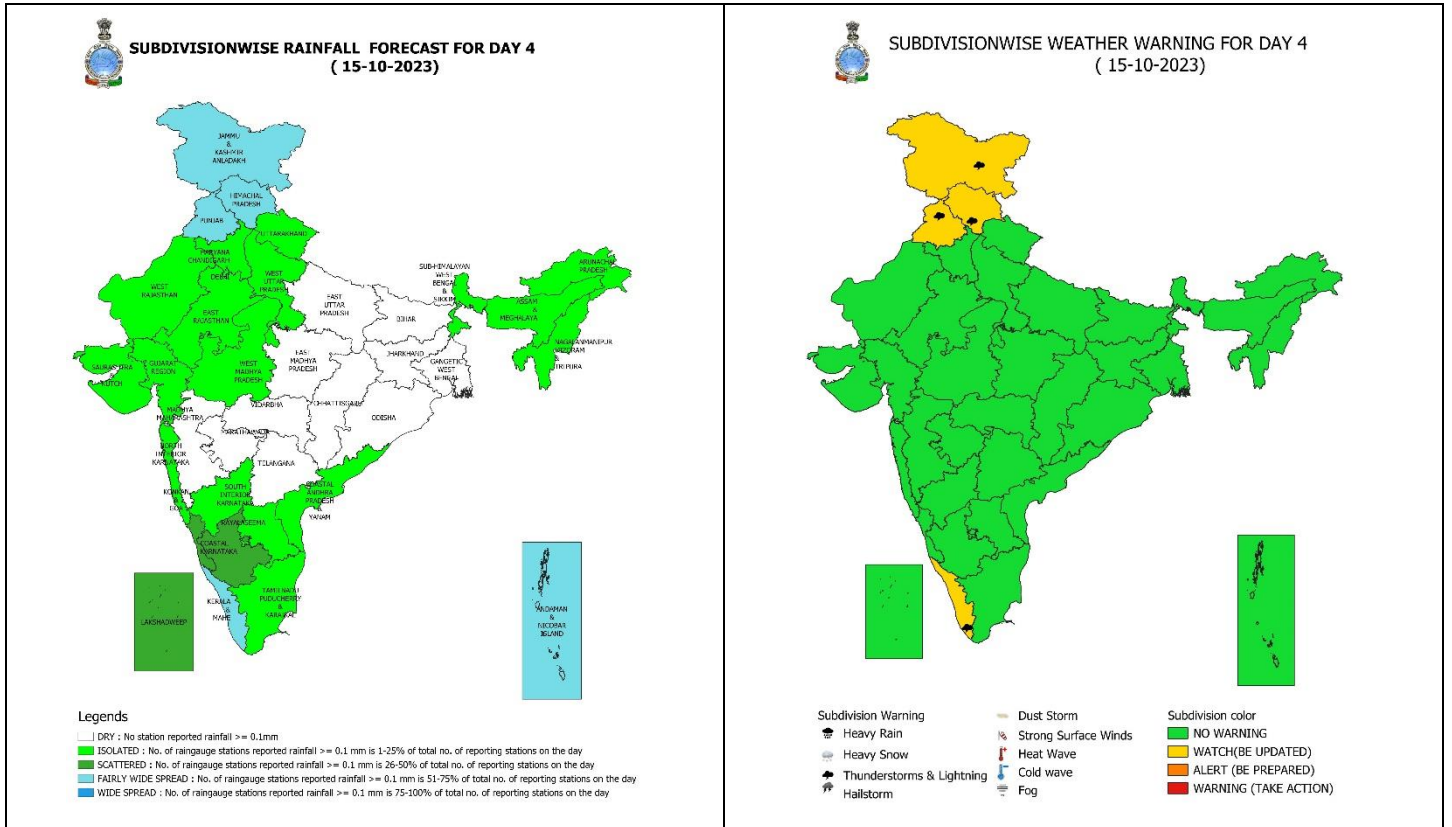
### 13 October (Day 2):

- ❖ **Heavy rainfall** very likely at isolated places over Kerala & Mahe.
- ❖ **Thunderstorm with lightning accompanied with gusty winds speed reaching 30-40 kmph** very likely at isolated places over Kerala & Mahe



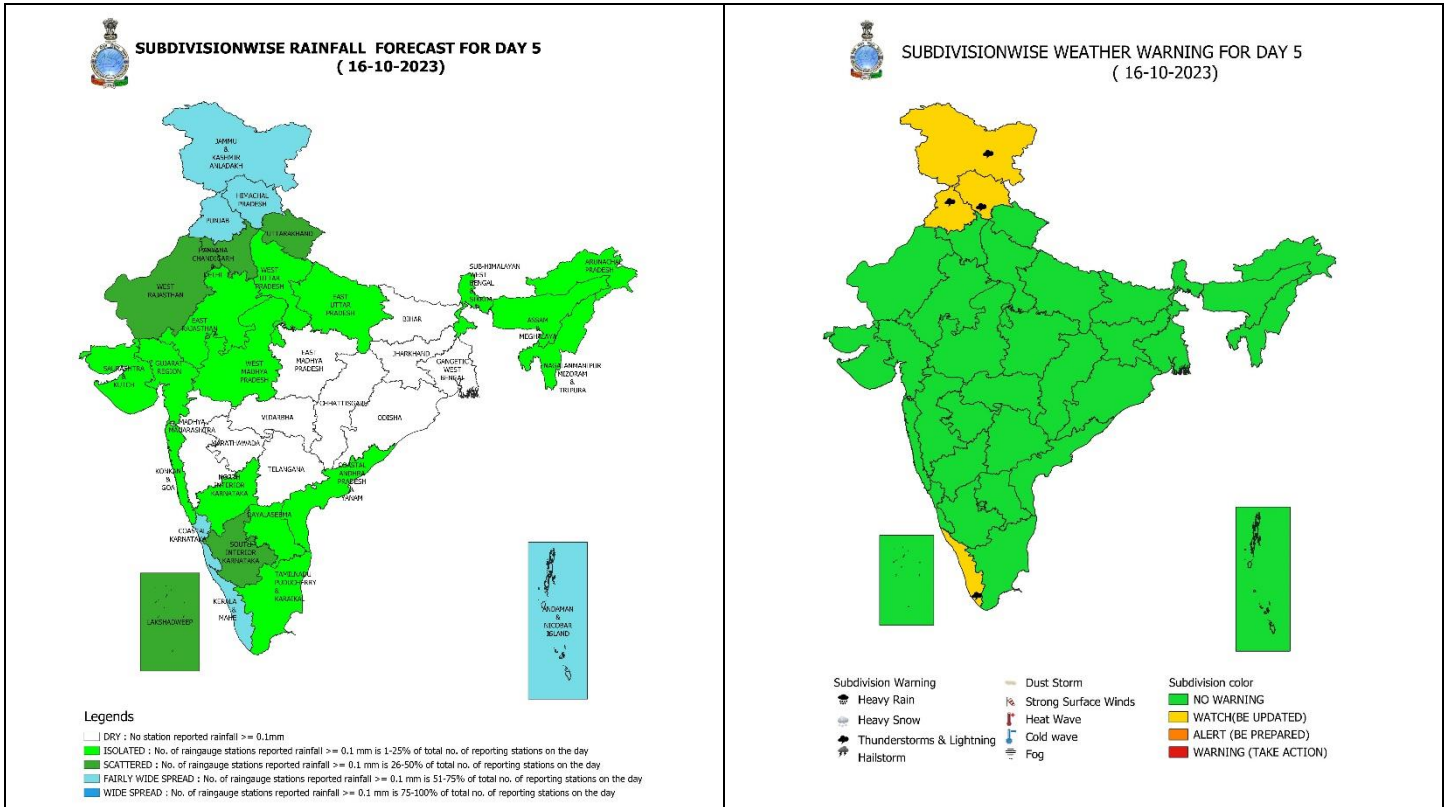
## 14 October (Day 3):

❖ **Thunderstorm with lightning accompanied with gusty winds speed reaching 30-40 kmph likely at isolated places over Kerala & Mahe.**



## 15 October (Day 4):

❖ **Thunderstorm with lightning accompanied with gusty winds speed reaching 30-40 kmph** likely at isolated places over Kerala & Mahe; **Thunderstorm with lightning** at isolated places over Jammu-Kashmir-Ladakh-Gilgit-Baltistan-Muzaffarabad, Himachal Pradesh and Punjab.

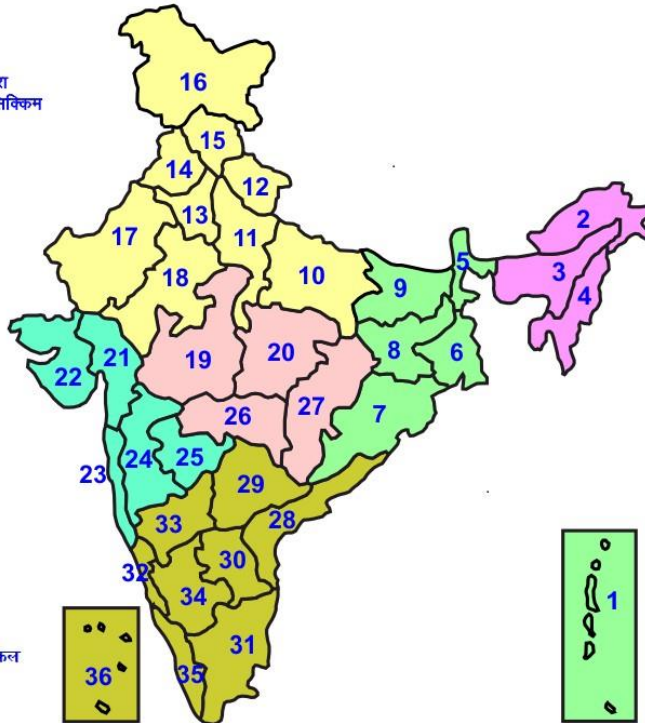


**16 October (Day 5):**

❖ **Thunderstorm with lightning accompanied with gusty winds speed reaching 30-40 kmph likely at isolated places over Kerala & Mahe; Thunderstorm with lightning at isolated places over Jammu-Kashmir-Ladakh-Gilgit-Baltistan-Muzaffarabad, Himachal Pradesh and Punjab.**

## 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

<b>WARNING (TAKE ACTION)</b>
<b>ALERT ( BE PREPARED)</b>
<b>WATCH (BE UPDATED)</b>
<b>NO WARNING ( NO ACTION)</b>

## 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  $4.5^{\circ}\text{C}$  to  $6.4^{\circ}\text{C}$ .

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  $40^{\circ}\text{C}$

Warm Night: When minimum temperature departure  $4.5^{\circ}\text{C}$  to  $6.4^{\circ}\text{C}$ .

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  $-4.5^{\circ}\text{C}$  to  $-6.4^{\circ}\text{C}$ .

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  $-4.5^{\circ}\text{C}$  to  $-6.4^{\circ}\text{C}$ .

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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