



Wednesday, November 22, 2023  
Time of Issue: 2000 hours IST  
(NIGHT)

## ALL INDIA WEATHER SUMMARY AND FORECAST BULLETIN

### Significant Weather Features

#### Weather Systems and Forecast & Warnings during next 5 days:

- ❖ An upper air **Cyclonic Circulation** lies over interior Tamil Nadu & adjoining Kerala in lower tropospheric levels. It is very likely to cause:
  - Light to moderate rainfall at most places with **isolated heavy rainfall** over Tamil Nadu and Kerala & Mahe during 22<sup>nd</sup>-24<sup>th</sup> and over South Interior Karnataka on 23<sup>rd</sup> & 24<sup>th</sup> November, 2023.
  - **Isolated very heavy rainfall also likely over Tamil Nadu, Puducherry & Karaikal and Isolated extremely heavy rainfall over Kerala on 22<sup>nd</sup> November, 2023.**
- ❖ A fresh Western Disturbance is likely to affect Northwest and West India from 25<sup>th</sup> November. Under the influence of its interaction with lower level easterlies:
  - 1) Light to moderate rainfall at many places accompanied with isolated thunderstorm & lightning is likely over north Madhya Maharashtra, north Konkan, Gujarat, Southwest Madhya Pradesh and south Rajasthan during 24<sup>th</sup>-27<sup>th</sup> November with maximum activity on 26<sup>th</sup> November, 2023.
  - 2) Light rainfall at isolated places also likely over Western Himalayan Region and plains of Northwest India during 27<sup>th</sup>-28<sup>th</sup> November.
- ❖ A Cyclonic Circulation is likely to emerge over South Andaman Sea & neighbourhood around 25<sup>th</sup> November. Under its influence, a Low Pressure Area is likely to form over South Andaman Sea & neighbourhood around 26<sup>th</sup> November. It is likely to move west-northwestwards and intensify into a Depression over Southeast Bay of Bengal & adjoining Andaman Sea around 27<sup>th</sup> November.
- ❖ **No significant weather likely over rest parts of the country.**



## Main Weather Observations:

- ❖ **Rainfall distribution** (from 0830 hours IST to 1730 hours IST of today): **At many places** over Tamil Nadu, Puducherry & Karaikal and Kerala & Mahe; **at a few places** over Coastal Andhra Pradesh & Yanam; **at isolated places** over Rayalaseema and South Interior Karnataka.
- ❖ **Heavy rainfall observed** (from 0830 hours IST to 1730 hours IST of today): **Heavy to very heavy rainfall** at isolated places over Tamil Nadu, Puducherry & Karaikal and Kerala & Mahe.
- ❖ **Significant rainfall recorded** (from 0830 hours IST to 1730 hours IST of today) (in cm): **Kerala & Mahe:** Kunnamthanam (Pathanamthitta) 12, Palode (Thiruvananthapuram)-7, Neyyattinkara (Thiruvananthapuram)-7, Idukki (Peermade)-5, Seethathode (Pathanamthitta)-4, Idukki (Pampadumpara)-4, Poonjar (Kottayam)-4, Kumarakom (Kottayam)-3, Thiruvananthapuram-3, Kottayam-2, Alappuzha (Noorand)-2, Vadavathoor (Kottayam)-2, Mankara (Palakkad)-2; **Tamil Nadu, Puducherry & Karaikal:** Vamban (Pudukkottai)-12, Ramnadu (Ramnathpuram)-5, Parangipetai-4, Valprai (Coimbatore)-3, Chidambaram (Cuddalore)-3, Kattapakkam (Kanchipuram)-3, Sathyabama University (Kanchipuram)-3, Puducherry-2; **Rayalaseema:** Arogravaram-2.
- ❖ **Minimum Temperature Departures (as on 22-11-2023):** Minimum temperatures are **appreciably above normal (3.1°C to 5.0°C)** at many places over Nagaland, Manipur, Mizoram & Tripura; at isolated places over Telangana and Rayalaseema; **above normal (1.6°C to 3.0°C)** at most places over Gujarat state, Arunachal Pradesh, Karnataka, Gangetic West Bengal, East Uttar Pradesh and Jharkhand, at many places over Chhattisgarh, Madhya Pradesh, Assam & Meghalaya, Punjab, Maharashtra; at a few places over Sub-Himalayan West Bengal & Sikkim, Kerala & Mahe and at isolated places over Jammu-Kashmir and Himachal Pradesh. They are **below normal (-1.6°C to -3.0°C)** at isolated places over Haryana-Chandigarh-Delhi, East Rajasthan, West Uttar Pradesh and **near normal** over rest parts of the country. Today, **the lowest minimum temperature** of 8.9°C is reported at **Hissar (Haryana)** over the plains of the country.
- ❖ **Maximum Temperature Departures (as on 22-11-2023):** Maximum temperatures are **above normal (1.6°C to 3.0°C)** at many places over Himachal Pradesh, Jammu-Kashmir-Ladakh-Gilgit-Baltistan-Muzaffarabad; at a few places over Arunachal Pradesh, Vidarbha, Saurashtra & Kutch; at isolated places over Uttarakhand, Assam & Meghalaya, Jharkhand, Odisha, Chhattisgarh, Interior Karnataka, Konkan & Goa, Madhya Maharashtra, Marathwada, Telangana, East Madhya Pradesh. They are **below normal (-1.6°C to -3.0°C)** at a few places over West Rajasthan and Coastal Andhra Pradesh & Yanam; at isolated places over Haryana-Chandigarh-Delhi, East Rajasthan, Coastal Andhra Pradesh & Yanam, Tamil Nadu, Puducherry & Karaikal and **near normal** over rest parts of the country. Today, the highest **maximum temperature** of 36.1°C is reported at **Honavar & Karwar (Kerala & Mahe)**.



### Meteorological Analysis (Based on 1730 hours IST)

- ❖ The **Western Disturbance** as a trough in mid-tropospheric levels roughly along Long. 55°E to the north of Lat. 30°N at 5.8 km above mean sea level persists.
- ❖ The upper air **Cyclonic Circulation** over interior Tamil Nadu & adjoining Kerala extending upto 3.1 km above mean sea level persists.
- ❖ A **Cyclonic Circulation** is likely to emerge over South Andaman Sea & neighbourhood around 25<sup>th</sup> November. Under its influence, a Low Pressure Area is likely to form over South Andaman Sea & neighbourhood around 26<sup>th</sup> November. It is likely to move west-northwestwards and intensify into a Depression over Southeast Bay of Bengal & adjoining Andaman Sea around 27<sup>th</sup> November.
- ❖ A fresh **Western Disturbance** is likely to affect Northwest & West India from 25<sup>th</sup> November.

### Weather Forecast for next 7 days (Upto 0830 hours IST of 29<sup>th</sup> November, 2023)

- ❖ Meteorological sub-division wise detailed 7 days rainfall forecast is given in Table-1.
- ❖ No significant change in minimum temperature over most parts of Northwest India.

### Weather Outlook for subsequent 2 days

- ❖ Scattered to fairly widespread light to moderate rainfall likely over parts of south peninsular India, along the west coast, Maharashtra and Islands.
- ❖ Mainly dry weather likely to prevail over rest parts of the country.



Table-1

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

\* 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  
(Service to the Nation since 1875)



Fig. 1: Maximum Temperatures

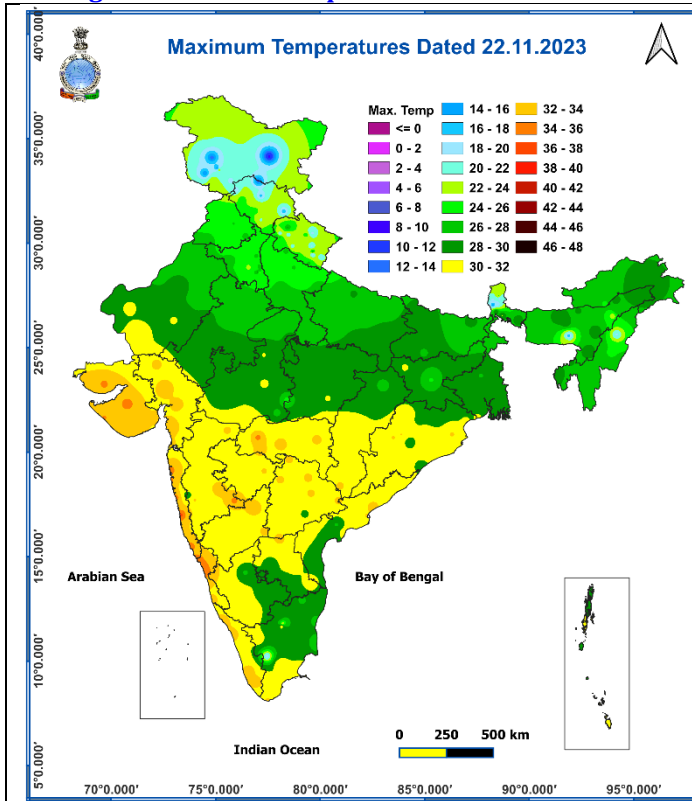


Fig. 2: Departure of Maximum Temperatures

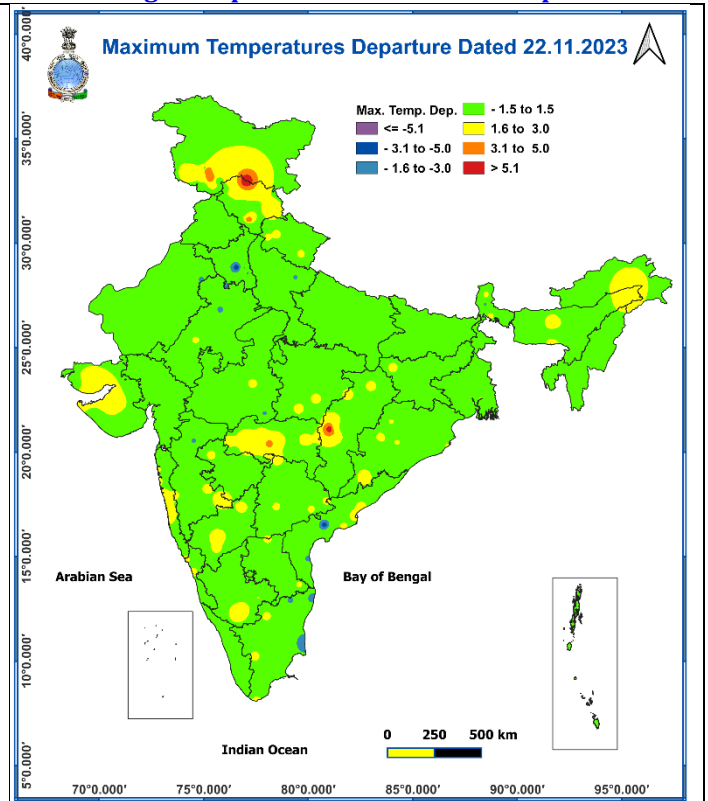


Fig. 3: Minimum Temperatures

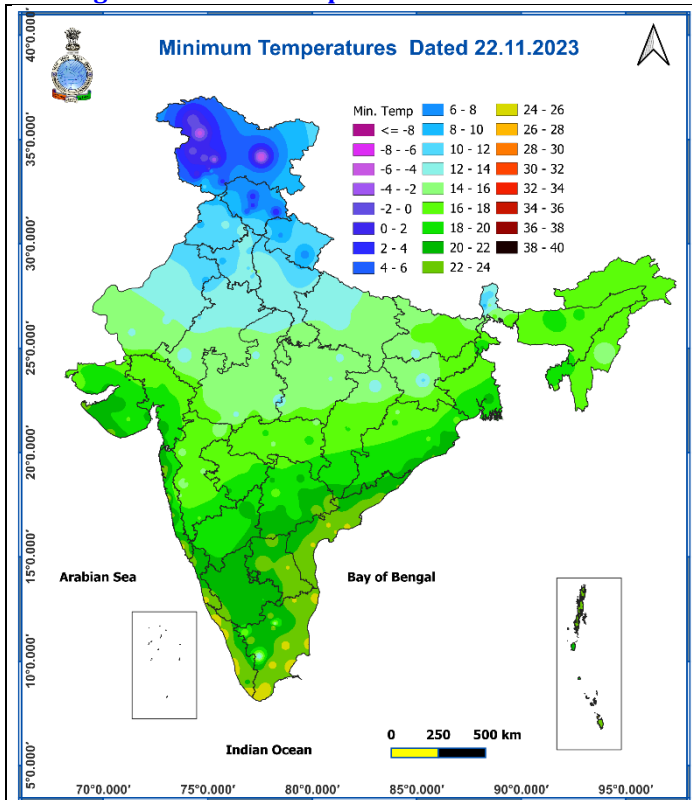
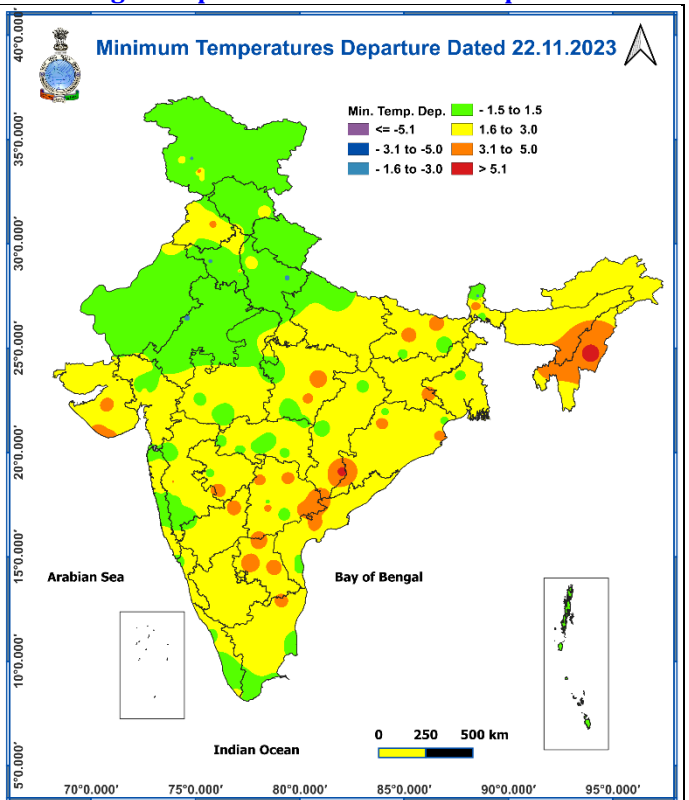


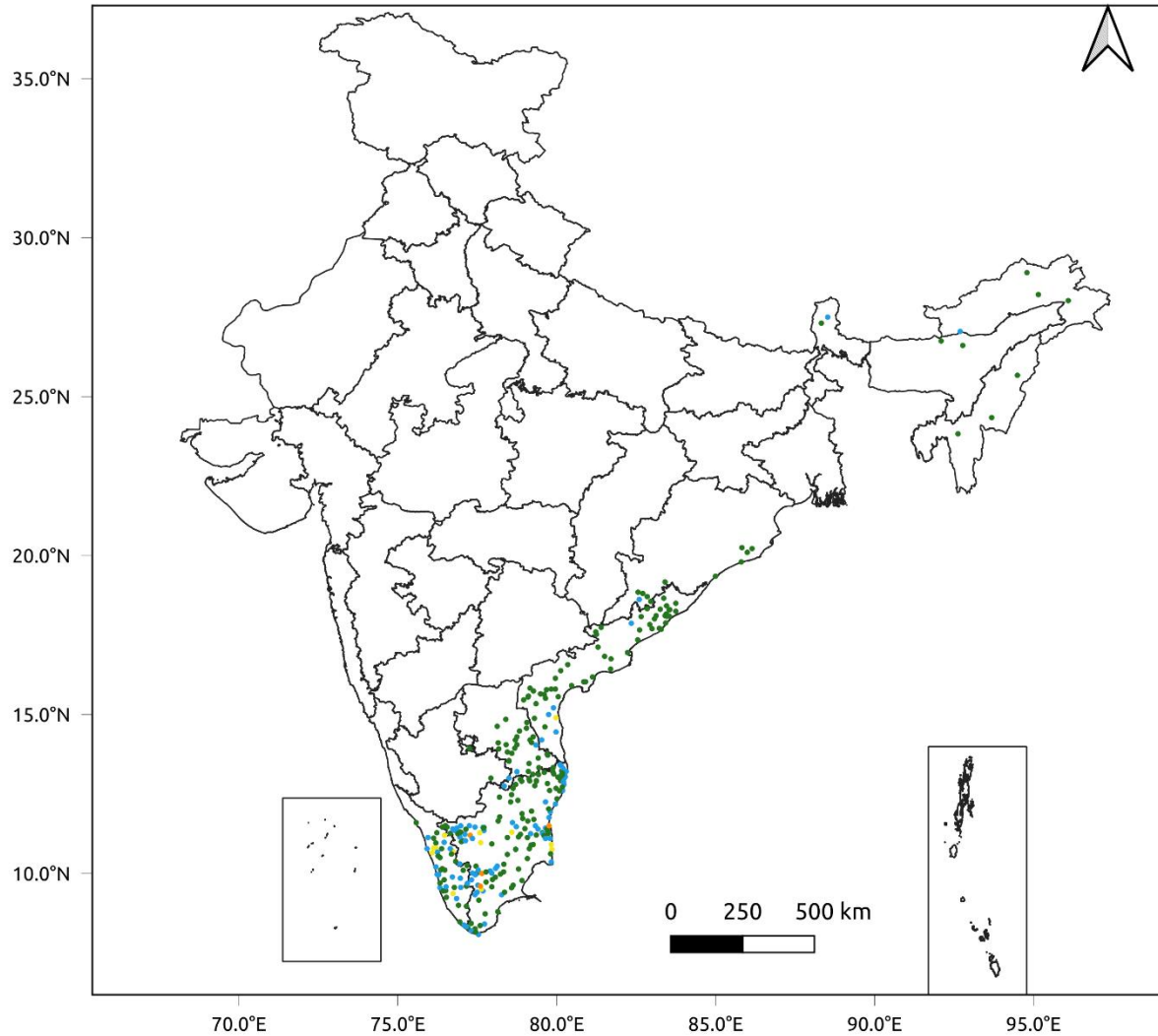
Fig. 4: Departure of Minimum Temperatures



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

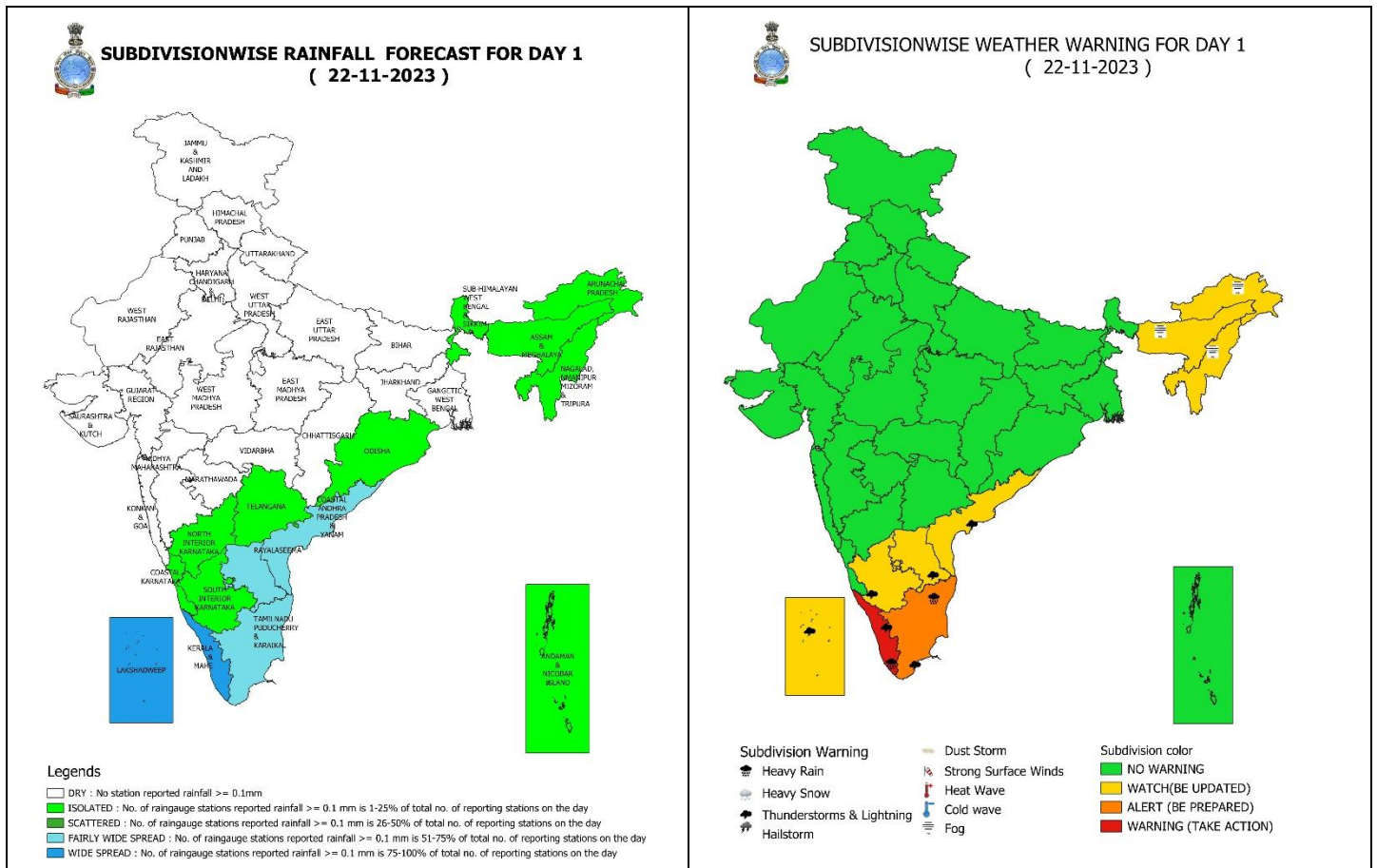


24 Hr cumulative rainfall recorded over different stations during 0830 IST of 21-11-2023 to 0830 IST of 22-11-2023



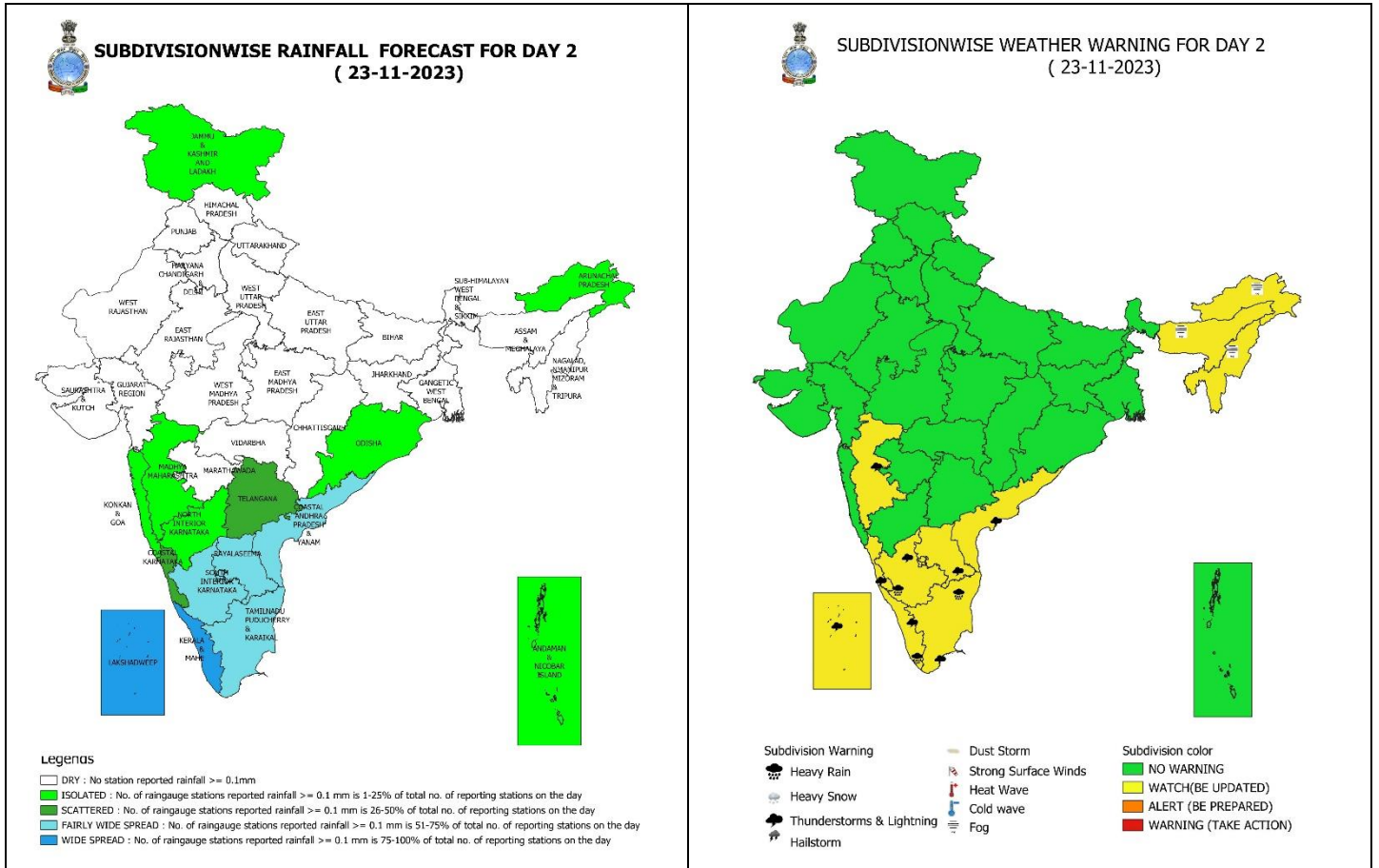
## Legends

- 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)



## 22 November (Day 1):

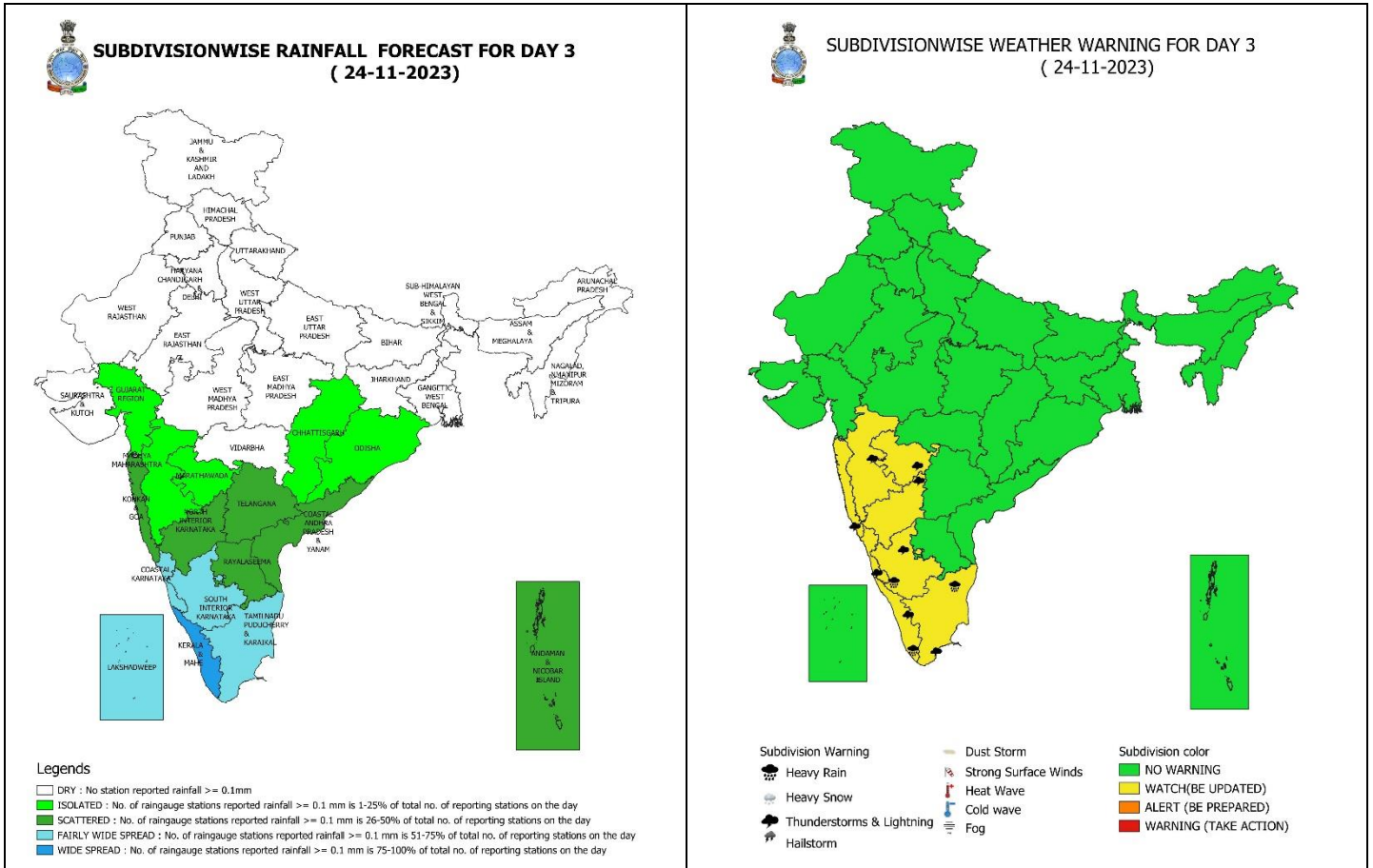
- ❖ **Heavy to very heavy rainfall with extremely heavy falls** very likely at isolated places over Kerala & Mahe; **Heavy to very heavy rainfall** at isolated places over Tamil Nadu, Puducherry & Karaikal.
- ❖ **Thunderstorm accompanied with lightning & gusty winds (speed 30-40 kmph)** very likely at isolated places over Kerala & Mahe and **with lightning** at isolated places over South Interior Karnataka, Coastal Andhra Pradesh & Yanam, Rayalaseema, Tamil Nadu, Puducherry & Karaikal and Lakshadweep.
- ❖ **Dense Fog** very likely in isolated pockets over Arunachal Pradesh, Assam & Meghalaya and Nagaland, Manipur, Mizoram & Tripura.
- ❖ **Squally weather (wind speed reaching 40-45 kmph gusting to 55 kmph)** very likely to prevailing over Southwest Bay of Bengal along and off Tamil Nadu, along and off Sri Lanka coast, Gulf of Mannar and Comorin area. Fishermen are advised not to venture into these areas.



## 23 November (Day 2):

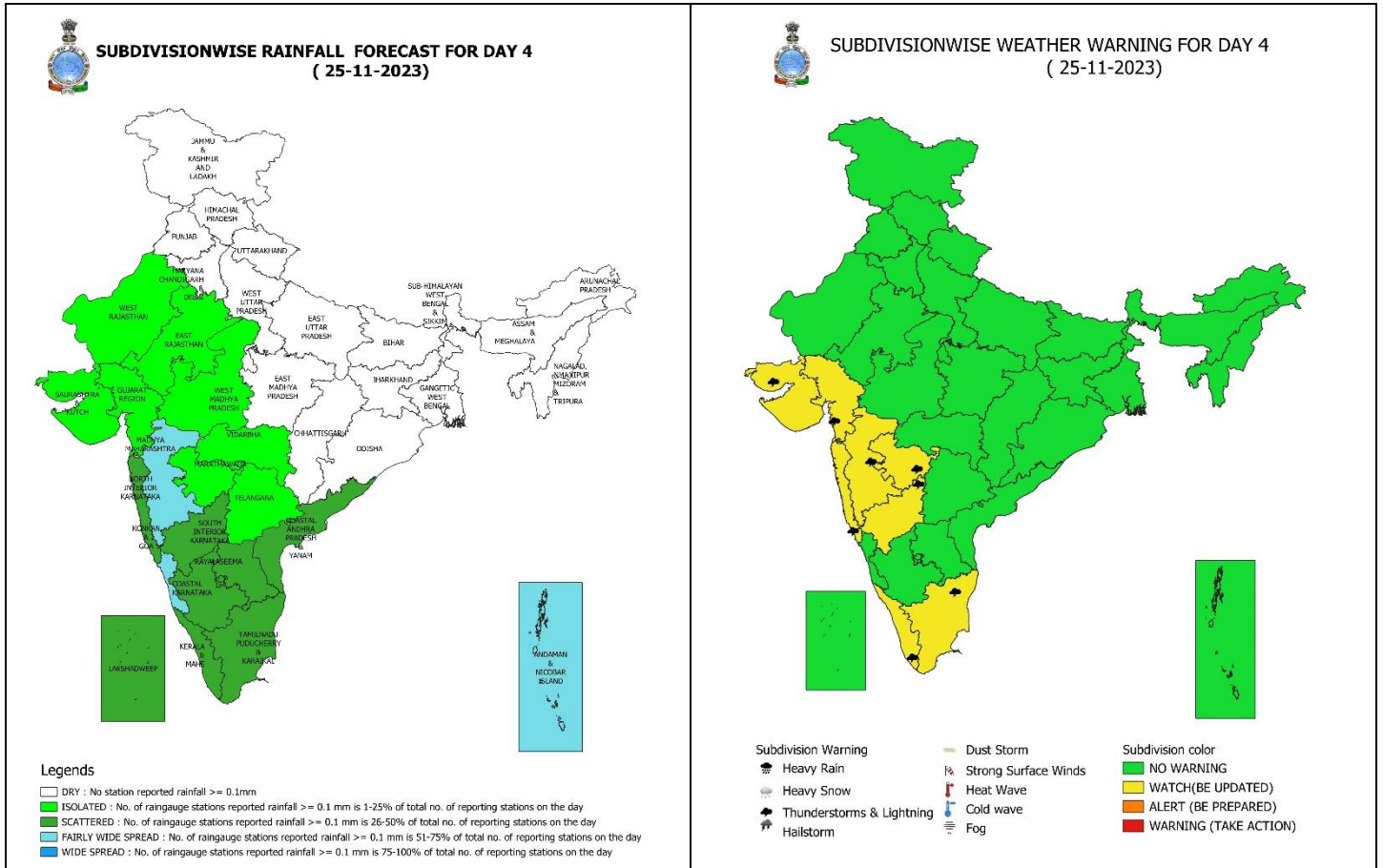
- ❖ **Heavy rainfall** very likely at isolated places over South Interior Karnataka, Tamil Nadu, Puducherry & Karaikal and Kerala & Mahe.
- ❖ **Thunderstorm accompanied with lightning & gusty winds (speed 30-40 kmph)** very likely at isolated places over Kerala & Mahe and **with lightning** at isolated places over Madhya Maharashtra, Coastal Andhra Pradesh & Yanam, Rayalaseema, Coastal & South Interior Karnataka, Tamil Nadu, Puducherry & Karaikal and Lakshadweep.
- ❖ **Dense Fog** very likely in isolated pockets over Arunachal Pradesh, Assam & Meghalaya and Nagaland, Manipur, Mizoram & Tripura.





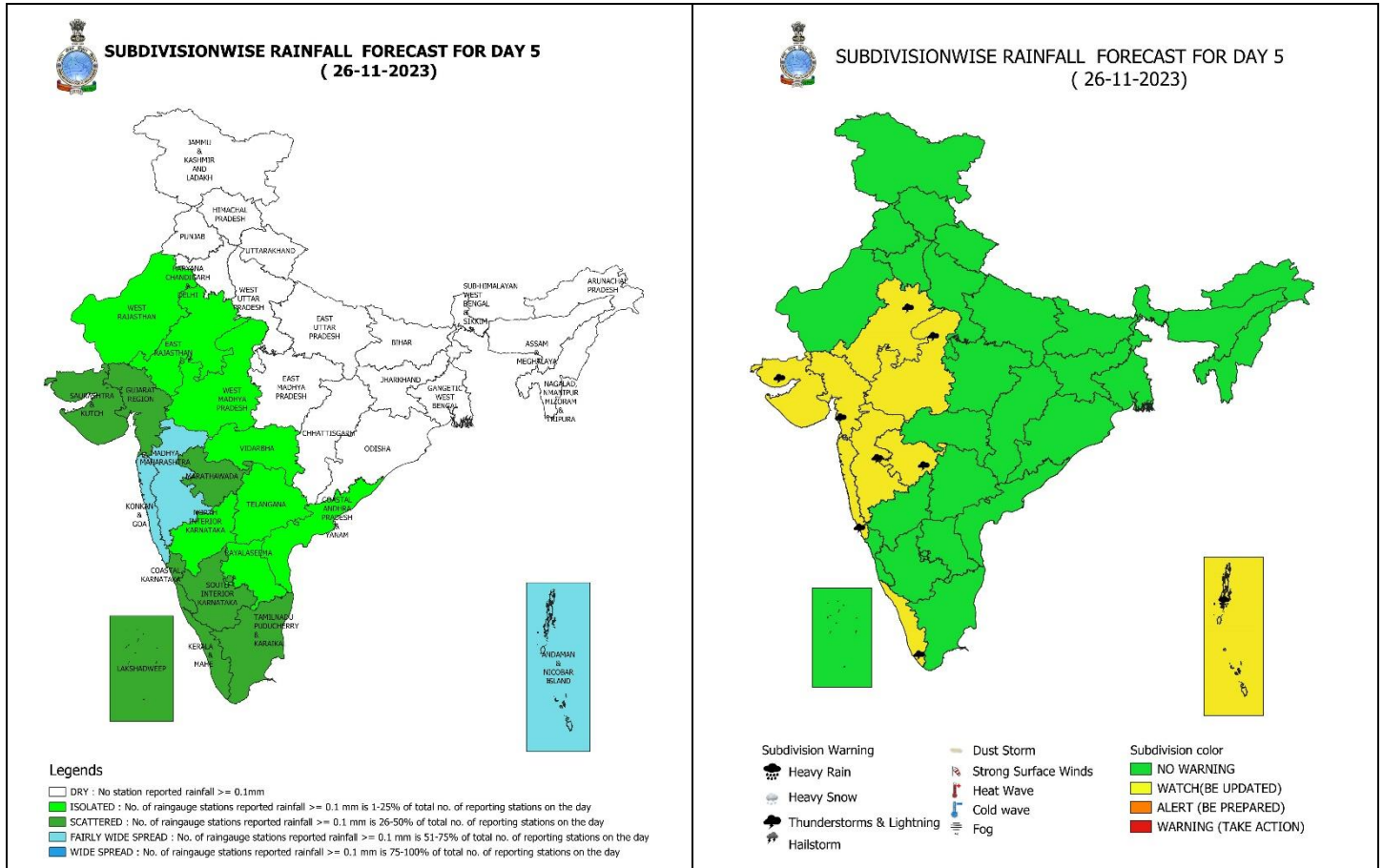
## 24 November (Day 3):

- ❖ **Heavy rainfall** very likely at isolated places over South Interior Karnataka, Tamil Nadu, Puducherry & Karaikal and Kerala & Mahe.
- ❖ **Thunderstorm accompanied with lightning & gusty winds (speed 30-40 kmph)** very likely at isolated places over Kerala & Mahe and **with lightning** at isolated places over Madhya Maharashtra, Marathwada, Konkan & Goa, Karnataka and Tamil Nadu, Puducherry & Karaikal.



## 25 November (Day 4):

❖ **Thunderstorm accompanied with lightning** likely at isolated places over Gujarat state, Madhya Maharashtra, Marathwada, Konkan & Goa, North Interior Karnataka, Tamil Nadu, Puducherry & Karaikal and Kerala & Mahe.



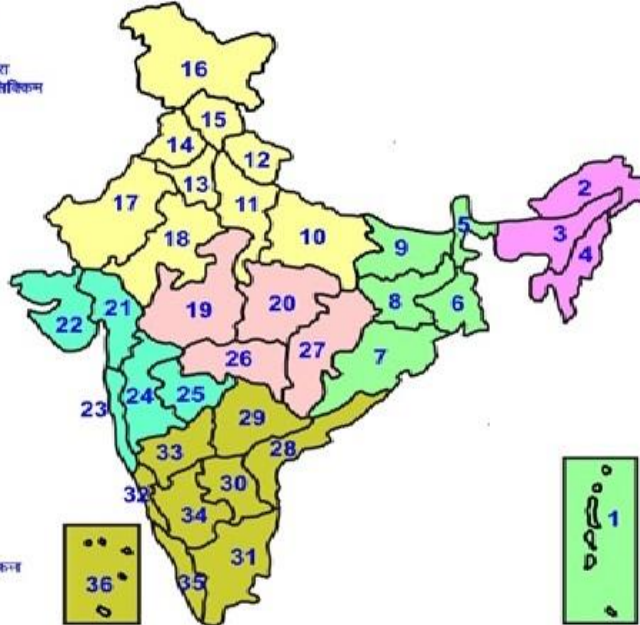
## 26 November (Day 5):

- ❖ **Heavy rainfall** likely at isolated places over Andaman & Nicobar Islands.
- ❖ **Thunderstorm accompanied with lightning** at isolated places over East Rajasthan, West Madhya Pradesh, Gujarat state, Madhya Maharashtra, Marathwada, Konkan & Goa and Kerala & Mahe.
- ❖ **Squally weather (wind speed reaching 40-45 kmph gusting to 55 kmph)** likely to prevailing over South and adjoining North Andaman Sea. Fishermen are advised not to venture into these areas.



## LEGENDS

- 1 अंडमान और निकोबार द्वीप समूह
- 2 अरुणाचल प्रदेश
- 3 असम और मेघालय
- 4 नागालैंड मनीपुर मीजोरम और त्रिपुरा
- 5 उप हिमालय पश्चिम बंगाल एवं सिक्किम
- 6 पश्चिम बंगाल
- 7 ओडिशा
- 8 झारखंड
- 9 बिहार
- 10 पूर्वी उत्तर प्रदेश
- 11 पश्चिम उत्तर प्रदेश
- 12 उत्तराखंड
- 13 हरियाणा चंडीगढ़ 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
- 22 सौराष्ट्र
- 23 कोंकण
- 24 मध्य महाराष्ट्र
- 25 महाराष्ट्र
- 26 विदर्भ
- 27 छत्तीसगढ़
- 28 तटीय आंध्र प्रदेश एवं यनम
- 29 तेलंगाना
- 30 चण्डीगढ़
- 31 तमिलनाडु, पुदुचेरी एवं कराईकल
- 32 उत्तर 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. Odisha
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. Marathawada
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

## 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)

\* 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

(Service to the Nation since 1875)