



Saturday, April 15, 2023

MORNING

Time of Issue: 0800 hours IST

## ALL INDIA WEATHER SUMMARY AND FORECAST BULLETIN

### Significant Weather Features

#### Significant Meteorological features:

- ❖ A **cyclonic circulation** lies over southwest Rajasthan in lower levels.
- ❖ A **trough/wind discontinuity** runs from north Chhattisgarh to Kerala in lower levels.
- ❖ A **Western Disturbance** sees as a trough in middle tropospheric levels roughly along Long. 56°E to the north of Lat. 28°N.

#### Maximum Temperatures, Forecast and Heat Wave Warning during next 5 days:

- ❖ **Maximum temperatures** are in the range of 40-42°C over many parts of central & east India; some parts of Peninsular and Northwest India. These are above normal by 3-5°C over many parts of Gangetic West Bengal, some parts of Odisha, Coastal Andhra Pradesh & Yanam, Kerala & Mahe, Jammu division, Punjab and North India.
- ❖ Maximum Temperatures are very likely to be above normal by 3-5°C over some parts of Madhya Pradesh, Bihar, Jharkhand, Gangetic West Bengal, Odisha, Coastal Andhra Pradesh & Yanam, Kerala & Mahe, Jammu division, Punjab and North India during next 4-5 days. These are likely to be above normal by 1-3°C over most parts of the rest parts of the country.
- ❖ **Heat wave conditions very likely in isolated pockets over Gangetic West Bengal during 15<sup>th</sup>-18<sup>th</sup>; over north coastal Andhra Pradesh during 15<sup>th</sup>-16<sup>th</sup> April, Odisha on 15<sup>th</sup> April and over Bihar during 15<sup>th</sup>-18<sup>th</sup> April, 2023.**

#### Rainfall Forecast and Warnings:

##### West & Central India:

☒ Light/moderate isolated rainfall with thunderstorm/lightning/gusty wind very likely over Konkan & Goa, Madhya Maharashtra, Marathwada on 15<sup>th</sup> & 16<sup>th</sup> and over Vidarbha & Chhattisgarh on 15<sup>th</sup> April.

##### Northwest India:

☒ Light/moderate scattered rainfall with thunderstorm/lightning very likely over Western Himalayan Region from night of 15<sup>th</sup> to 17<sup>th</sup> April and fairly widespread to widespread rainfall with isolated heavy rainfall likely over the region on 18<sup>th</sup> & 19<sup>th</sup> April.

☒ **Hailstorm** likely at isolated places over Jammu & Kashmir on 17<sup>th</sup> and over Himachal Pradesh and Uttarakhand on 18<sup>th</sup> & 19<sup>th</sup> April.

##### South Peninsular India:

☒ Light/moderate isolated rainfall with thunderstorm/lightning/gusty winds very likely over Kerala, Karnataka, Coastal Andhra Pradesh and Telangana during next 5 days.

**No significant weather likely over rest parts of the country.**

\* 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 [www.imd.gov.in](http://www.imd.gov.in) or contact : +91 11 24631913, 24643965, 24629798

## Main Weather Observations

- ❖ **Rainfall/thundershowers observed** (from 0830-1730 hours IST of yesterday): **at isolated places** over Madhya Maharashtra.
- ❖ **Significant rainfall recorded** (in cm): Nil.
- ❖ **Thunderstorm observed** (from 0830 hours IST of yesterday to 0530 hours IST of today): at isolated places over Jammu, Kashmir, Ladakh, Gilgit, Baltistan & Muzaffarabad, Himachal Pradesh and interior Maharashtra.
- ❖ Yesterday, **Heat Wave conditions** prevailed in some pockets over Gangetic West Bengal and in isolated pockets over Odisha and Coastal Andhra Pradesh.
- ❖ **Minimum Temperature Departures (as on 14-04-2023):** Minimum temperatures were **appreciably above normal (3.1°C to 5.0°C)** at a few places over West Rajasthan, West Madhya Pradesh and Madhya Maharashtra and at isolated places over Punjab and Saurashtra & Kutch; **above normal (1.6°C to 3.0°C)** at many places over Chhattisgarh; at a few places over Jammu, Kashmir, Ladakh, Gilgit, Baltistan & Muzaffarabad, Himachal Pradesh, Uttarakhand, East Uttar Pradesh, East Rajasthan, Marathwada, Bihar, Gangetic West Bengal and Gujarat Region and at isolated places over East Madhya Pradesh, Odisha and Kerala & Mahe. They were **below normal (-1.6°C to -3.0°C)** at isolated places over Haryana, Chandigarh & Delhi and Tamil Nadu, Puducherry & Karaikal and **near normal** over rest parts of the country. Yesterday, **the lowest minimum temperature of 14.6°C** was reported at **Pantnagar (Uttarakhand)** over plains of the country.
- ❖ **Maximum Temperature Departures (as on 14-04-2023):** Maximum temperatures were markedly above normal (**5.1°C or more**) at a few places over Jammu, Kashmir, Ladakh, Gilgit, Baltistan & Muzaffarabad, Gangetic West Bengal, Nagaland, Manipur, Mizoram & Tripura; at isolated places over Coastal Andhra Pradesh & Yanam; **appreciably above normal (3.1°C to 5.0°C)** at most places over Sub-Himalayan West Bengal & Sikkim, Arunachal Pradesh, Assam & Meghalaya; at many places over Himachal Pradesh, Punjab; at a few places over West Rajasthan and at isolated places over Kerala & Mahe, Tamil Nadu, Puducherry & Karaikal; **above normal (1.6°C to 3.0°C)** at most places over Bihar, Jharkhand, Odisha, Chhattisgarh; at many places over East Rajasthan, Uttar Pradesh, Konkan & Goa, Rayalaseema; at few places over Madhya Pradesh and at isolated places over Gujarat and Vidarbha and **near normal** over rest parts of the country. Yesterday, the **highest maximum temperature of 44.0°C** was reported at **Baripada (Odisha)**.

## Meteorological Analysis (Based on 0530 hours IST)

- ❖ The **cyclonic circulation** over southwest Rajasthan & neighbourhood persists and now seen at 3.1 km above mean sea level.
- ❖ The **trough/wind discontinuity** from north Chhattisgarh to Kerala across Interior Maharashtra, Telangana and Interior Karnataka at 0.9 km above mean sea level persists.
- ❖ The **cyclonic circulation** over north Bangladesh & neighbourhood extending upto 1.5 km above mean sea level persists.
- ❖ The **Western Disturbance** as a trough in mid & upper tropospheric westerlies with its axis at 5.8 km above mean sea level roughly along Long. 56°E to the north of Lat. 28°N persists.
- ❖ A **cyclonic circulation** over northwest Madhya Pradesh & neighbourhood at 0.9 km above mean sea level.

## Weather Forecast for next 5 days ( upto 0830 hours IST of 20th April, 2023)

- ❖ Meteorological sub-division wise detailed 5 days rainfall forecast is given in Table-1.
- ❖ **Northwest India:** Maximum Temperatures are very likely to rise gradually by about 2°C during next 24 hours and no significant change thereafter.
- ❖ **East India:** No significant change in Temperatures very likely during 5 days.
- ❖ **Central India:** Maximum Temperatures are very likely to rise gradually by 2-3°C during next 5 days.
- ❖ **Saurashtra & Kutch:** Maximum Temperatures are very likely to rise gradually by 2-3°C during next 5 days.
- ❖ **South India:** No significant change in Temperatures very likely during 5 days.

## Weather Outlook for subsequent 2 days ( during 20th-22nd April, 2023)

- ❖ Fairly widespread to widespread light/moderate rainfall likely over Western Himalayan region, Northeast India and isolated light rainfall over adjoining plains of Northwest India.
- ❖ Isolated to scattered light rainfall likely over parts of Peninsular India, Central & East India and Maharashtra.



## Weather Warning during next 5 days

**15 April (Day 1):** ♦ **Thunderstorm with lightning & gusty wind (30-40 kmph)** likely at isolated places over Vidarbha, Chhattisgarh, Karnataka and Telangana and **with lightning** at isolated places over Madhya Maharashtra, Marathwada and Kerala & Mahe.

♦ **Heat Wave conditions** very likely in some parts over Gangetic West Bengal and in isolated pockets over Odisha, Bihar and Coastal Andhra Pradesh.

♦ **Squally weather (wind speed 40-45 kmph gusting to 50 kmph)** very likely over Gulf of Oman and adjoining westcentral Arabian Sea. Fishermen are advised not to venture into these areas.

**16 April (Day 2):** ♦ **Thunderstorm with lightning & gusty wind (30-40 kmph)** likely at isolated places over Kerala & Mahe, Karnataka and Telangana and **with lightning** at isolated places over Jammu, Kashmir, Ladakh, Gilgit, Baltistan & Muzaffrabad, Punjab, Madhya Maharashtra, Marathwada.

♦ **Heat Wave conditions** very likely in some parts over Gangetic West Bengal and in isolated pockets over Bihar and Coastal Andhra Pradesh.

**17 April (Day 3):** ♦ **Hailstorm with thunderstorm & lightning** likely at isolated places over Jammu, Kashmir, Ladakh, Gilgit, Baltistan & Muzaffrabad.

♦ **Thunderstorm with lightning & gusty wind (30-40 kmph)** likely at isolated places over Punjab and Kerala & Mahe and **with lightning** at isolated places Himachal Pradesh, Uttarakhand, Odisha and Karnataka.

♦ **Heat Wave conditions** very likely in some parts over Gangetic West Bengal and in isolated pockets over Bihar.

**18 April (Day 4):** ♦ **Heavy rainfall** likely at isolated places over Jammu, Kashmir, Ladakh, Gilgit, Baltistan & Muzaffrabad and Himachal Pradesh.

♦ **Hailstorm with thunderstorm & lightning** likely at isolated places over Himachal Pradesh and Uttarakhand.

♦ **Thunderstorm with lightning & gusty wind (30-40 kmph)** likely at isolated places over Punjab, Haryana, Chandigarh & Delhi, north Rajasthan and Kerala & Mahe and **with lightning** at isolated places over Jammu, Kashmir, Ladakh, Gilgit, Baltistan & Muzaffrabad, Odisha and Karnataka.

♦ **Heat Wave conditions** likely in isolated pockets over Gangetic West Bengal and Bihar.

**19 April (Day 5):** ♦ **Heavy rainfall** likely at isolated places over Jammu, Kashmir, Ladakh, Gilgit, Baltistan & Muzaffrabad and Himachal Pradesh.

♦ **Hailstorm with thunderstorm & lightning** likely at isolated places over Himachal Pradesh and Uttarakhand.

♦ **Thunderstorm with lightning & gusty wind (30-40 kmph)** likely at isolated places over Punjab, Haryana, Chandigarh & Delhi, north Rajasthan, West Uttar Pradesh and Kerala & Mahe and **with lightning** at isolated places over Jammu, Kashmir, Ladakh, Gilgit, Baltistan & Muzaffrabad, Odisha and Karnataka.

♦ **Heat Wave conditions** likely in isolated pockets over Gangetic West Bengal and Bihar.

\* 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 [www.imd.gov.in](http://www.imd.gov.in) or contact : +91 11 24631913, 24643965, 24629798



**Table-1**

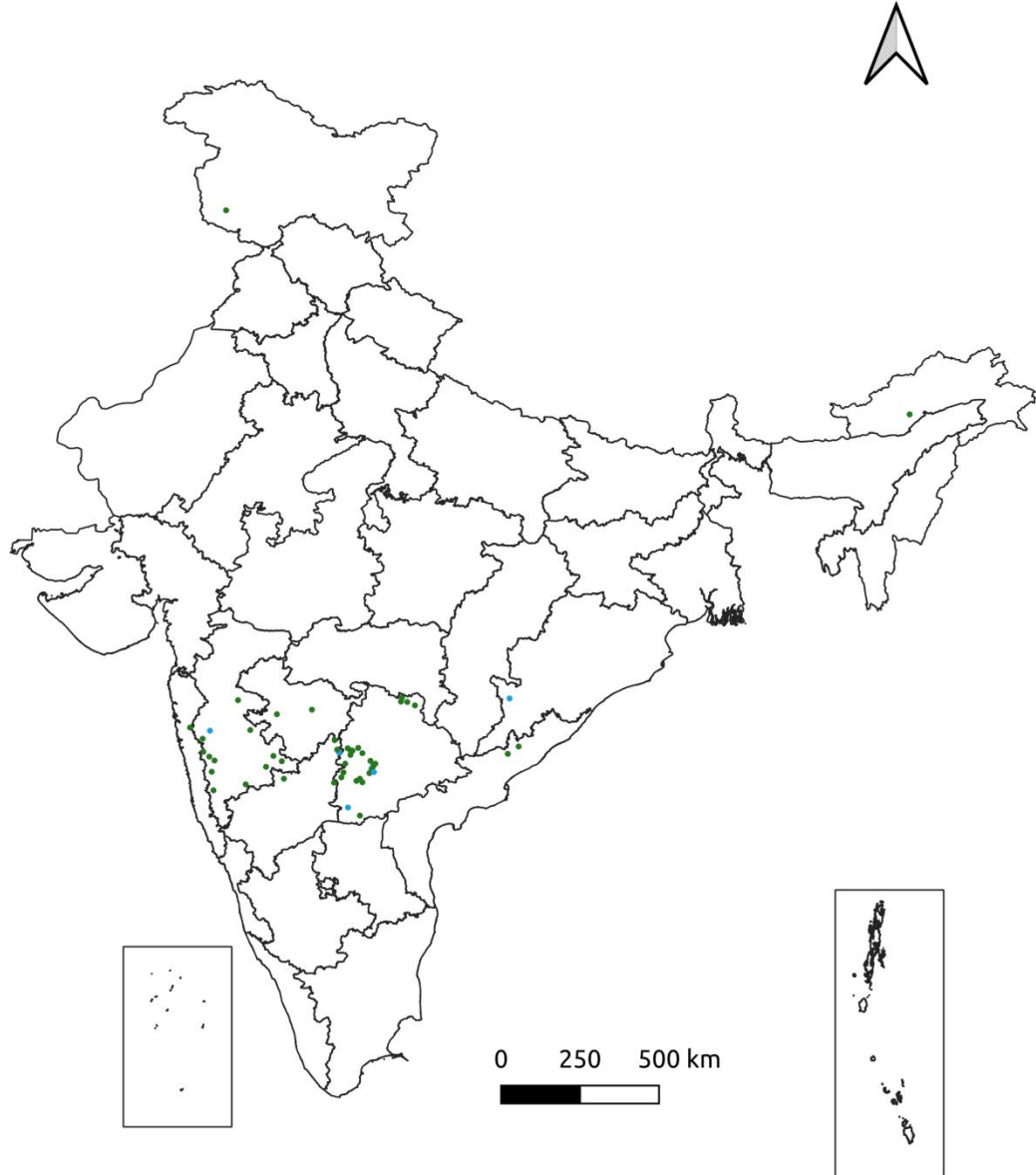
<b>5 Day Rainfall Forecast</b>						
S. No.	Subdivision	15-Apr	16-Apr	17-Apr	18-Apr	19-Apr
		Day 1	Day 2	Day 3	Day 4	Day 5
1	ANDAMAN & NICOBAR ISLANDS	DRY	DRY	DRY	DRY	DRY
2	ARUNACHAL PRADESH	ISOL	SCT	SCT	ISOL	ISOL
3	ASSAM & MEGHALAYA	ISOL	ISOL	ISOL	ISOL	ISOL
4	NAGALAND, MANIPUR, MIZORAM & TRIPURA	ISOL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

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: Accumulated Rainfall (mm) during past 24 hours



24 Hr cumulative rainfall recorded over different stations during 0830 IST of 13-4-2023 to 0830 IST of 14-4-2023



### 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)

\* 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 [www.imd.gov.in](http://www.imd.gov.in) or contact : +91 11 24631913, 24643965, 24629798

Fig. 2: Maximum Temperatures Dated 14.04.2023

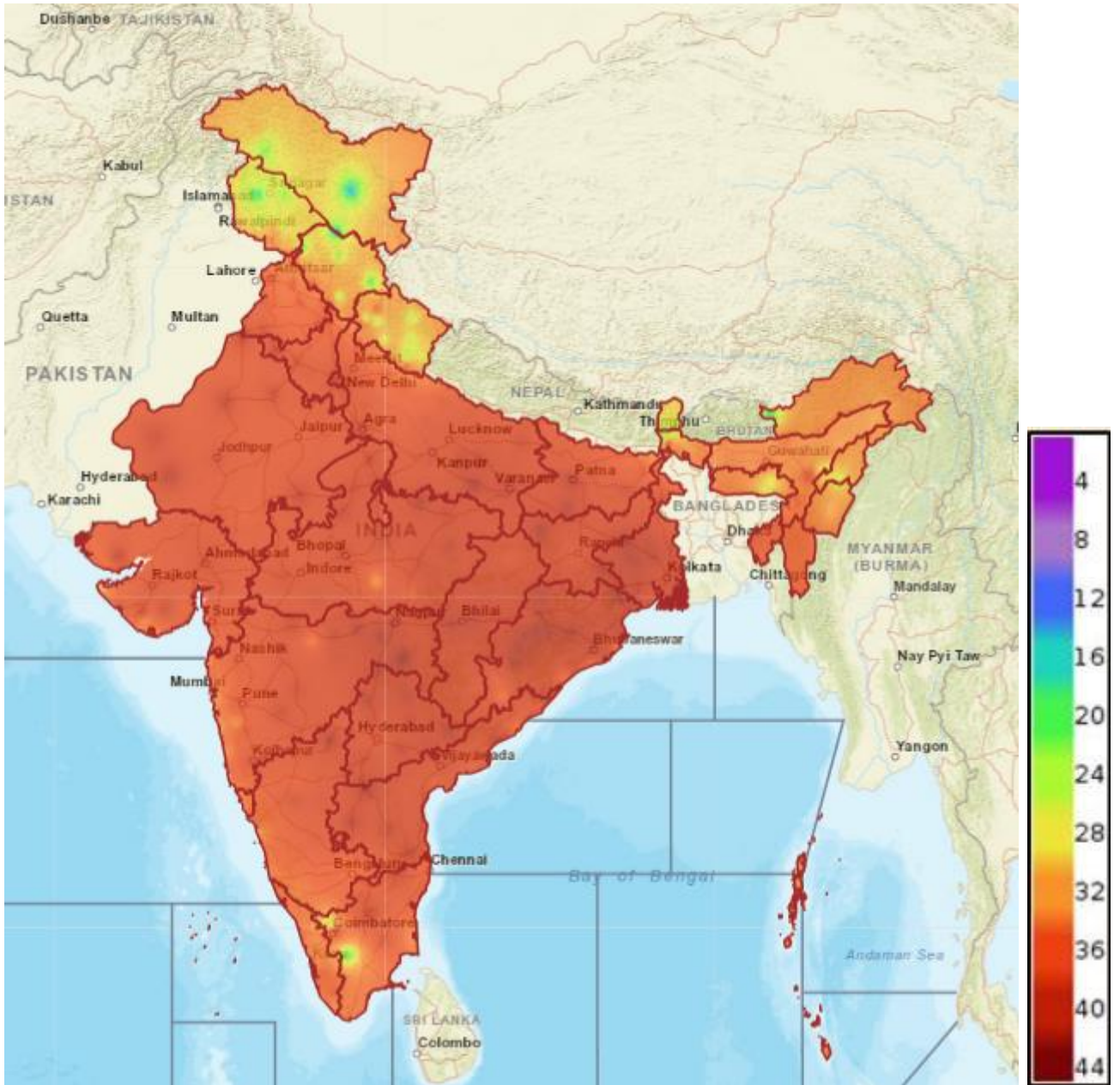


Fig. 3: Minimum Temperatures Dated 14.04.2023

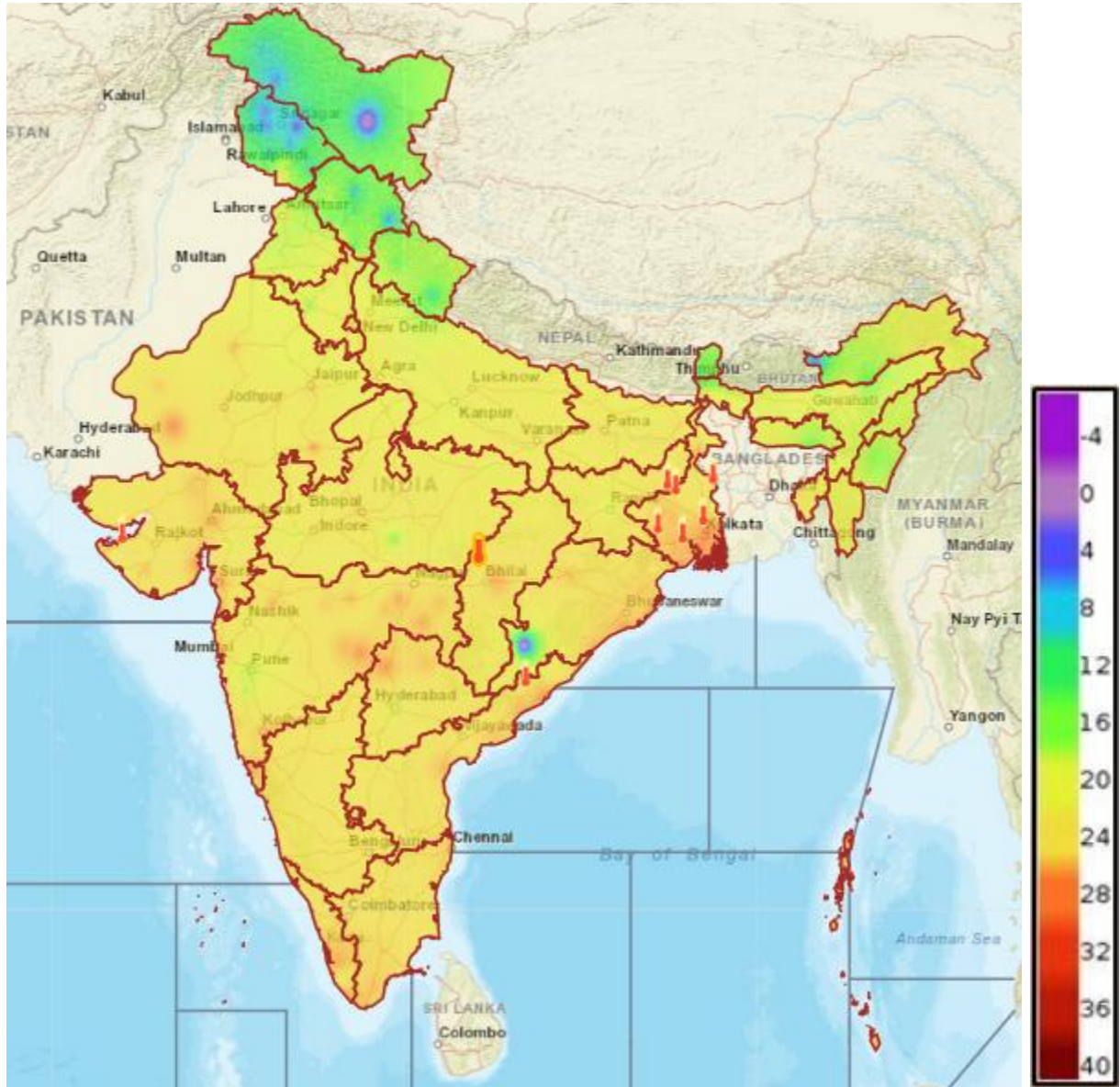
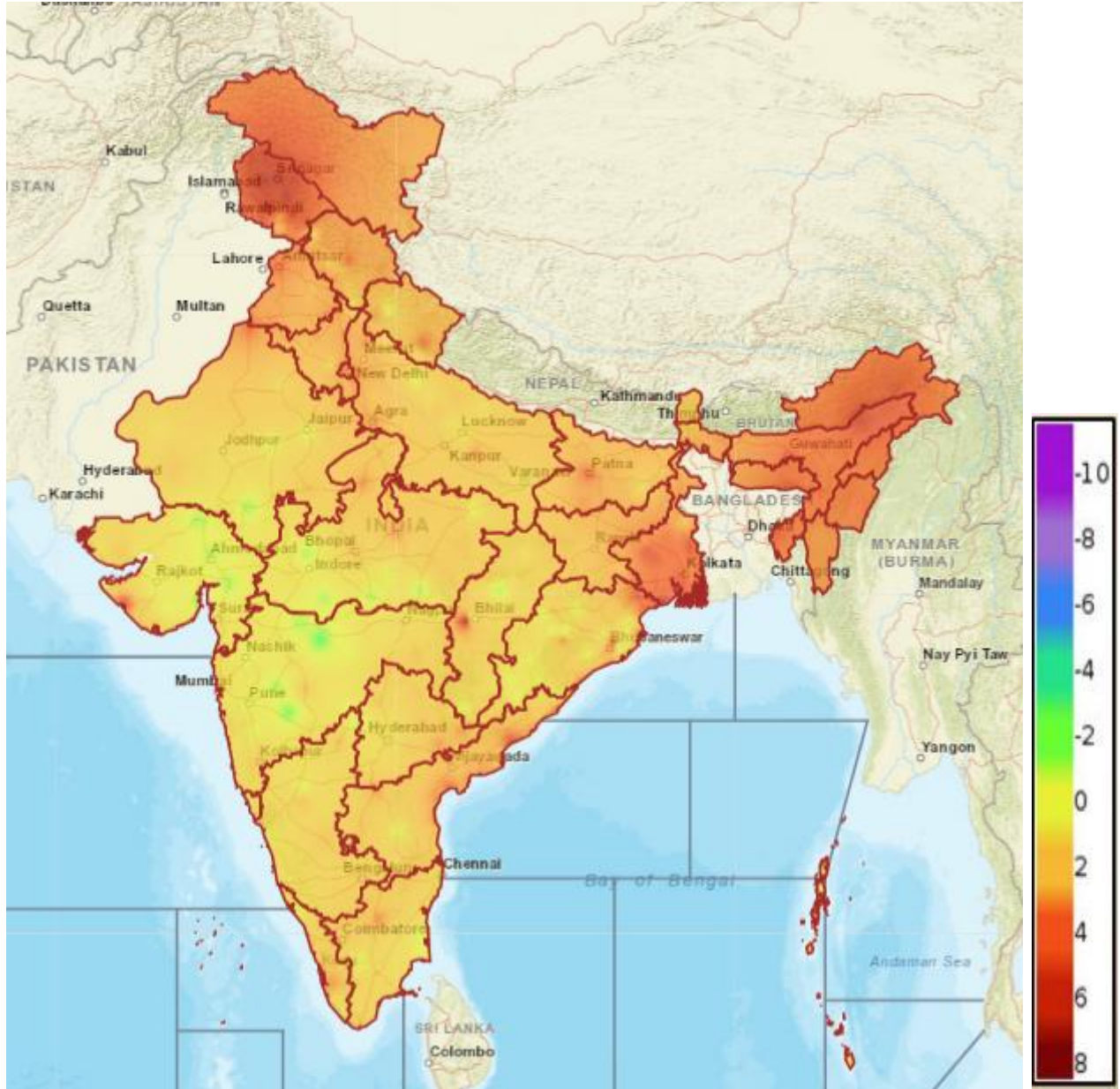


Fig. 4: Departure from Normal of Maximum Temperatures Dated 14.04.2023

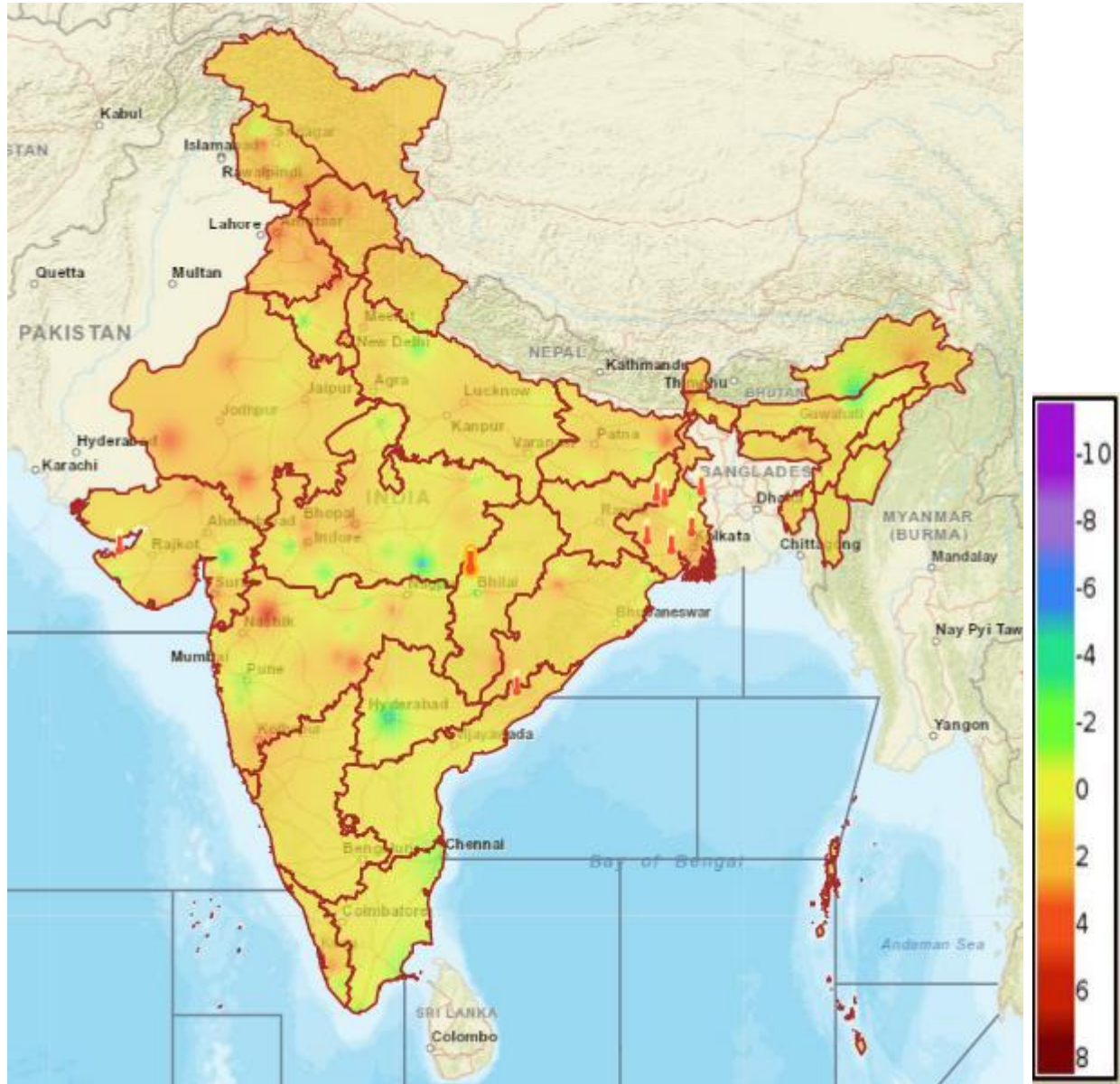


\* Red color warning does not mean "Red Alert" Red color warning means "Take Action".

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 [www.imd.gov.in](http://www.imd.gov.in) or contact : +91 11 24631913, 24643965, 24629798

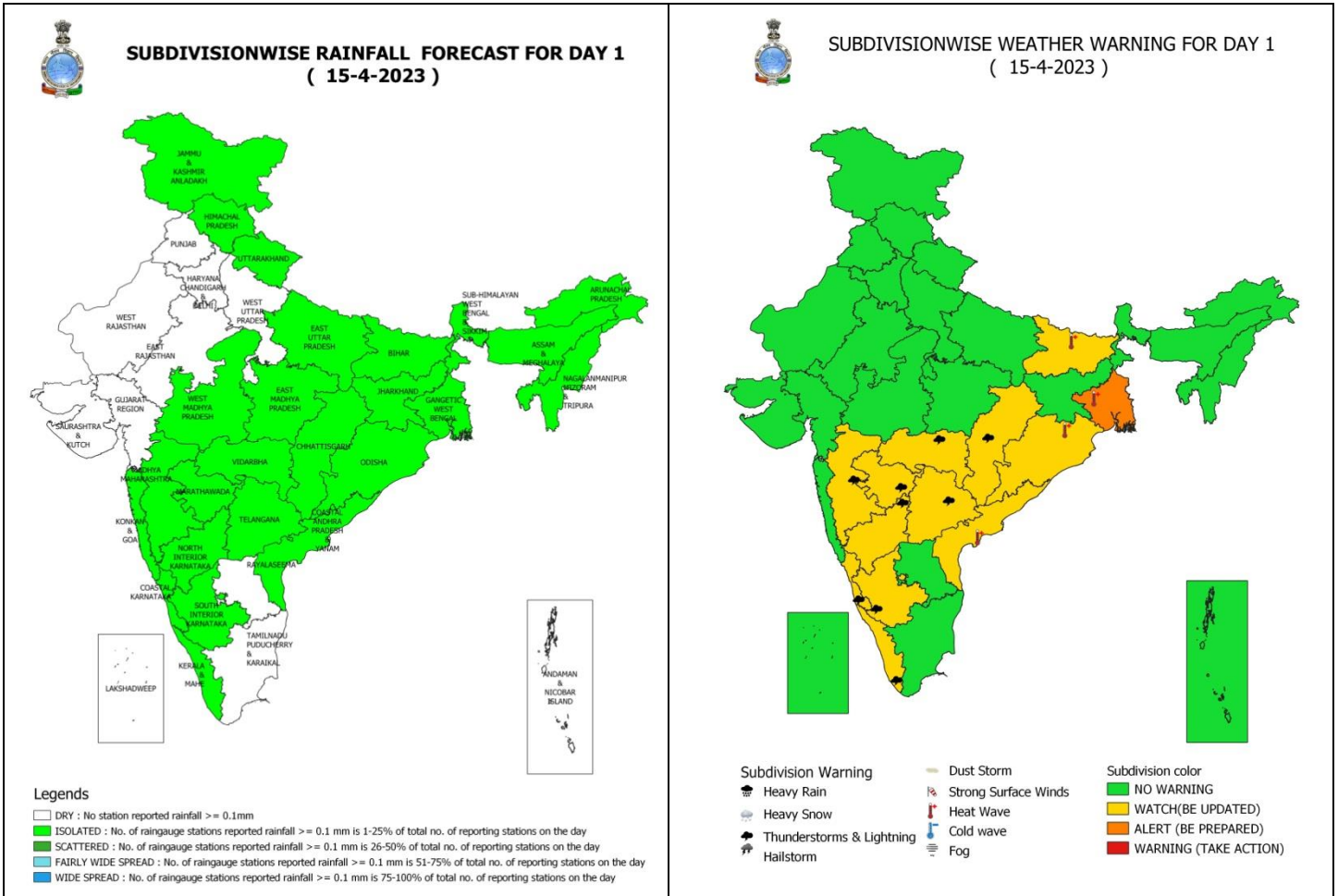
Fig. 5: Departure from Normal of Minimum Temperatures Dated 14.04.2023



\* 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

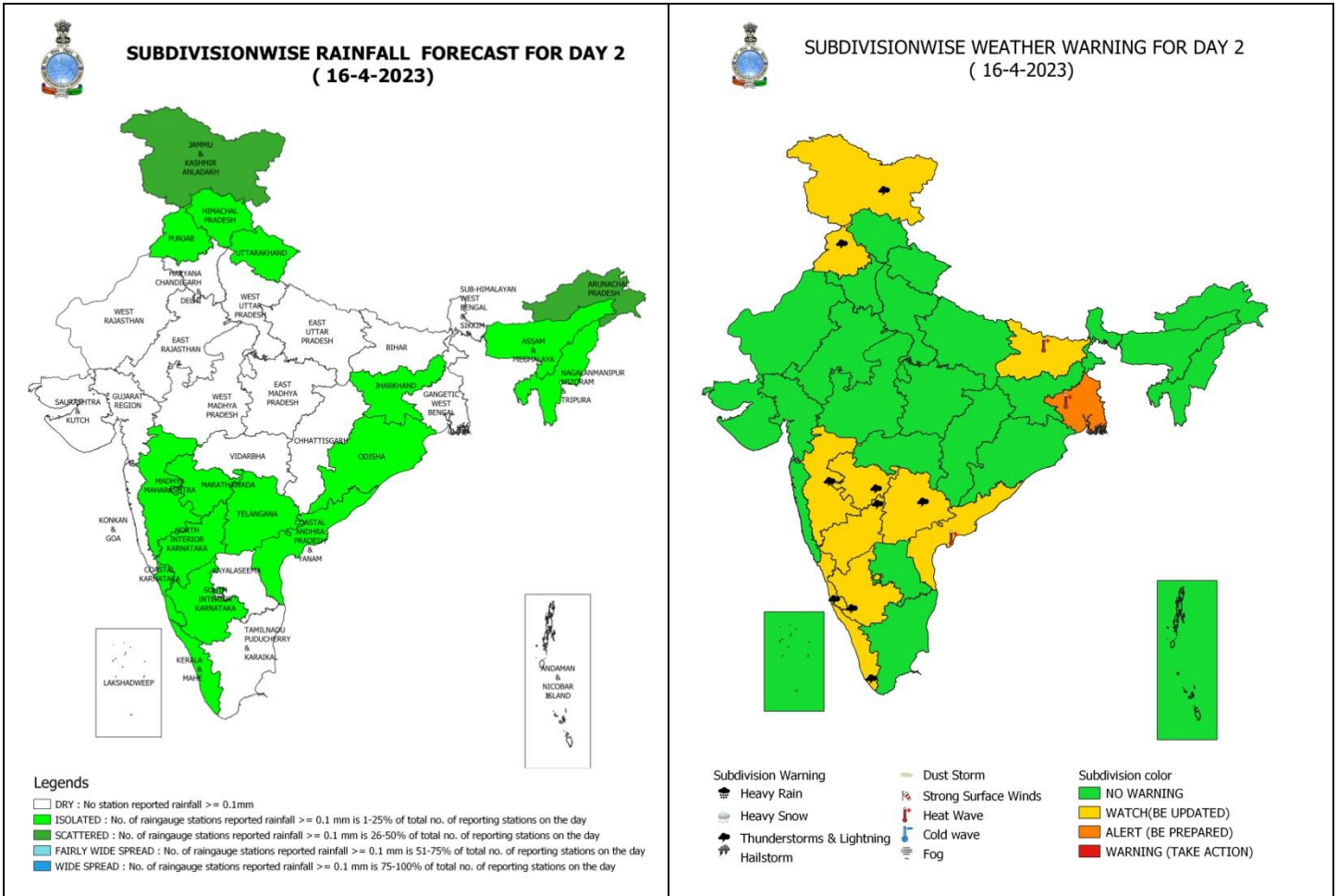
For more details kindly visit [www.imd.gov.in](http://www.imd.gov.in) or contact : +91 11 24631913, 24643965, 24629798



**15 April (Day 1):** ♦ **Thunderstorm with lightning & gusty wind (30-40 kmph)** likely at isolated places over Vidarbha, Chhattisgarh, Karnataka and Telangana and **with lightning** at isolated places over Madhya Maharashtra, Marathwada and Kerala & Mahe.

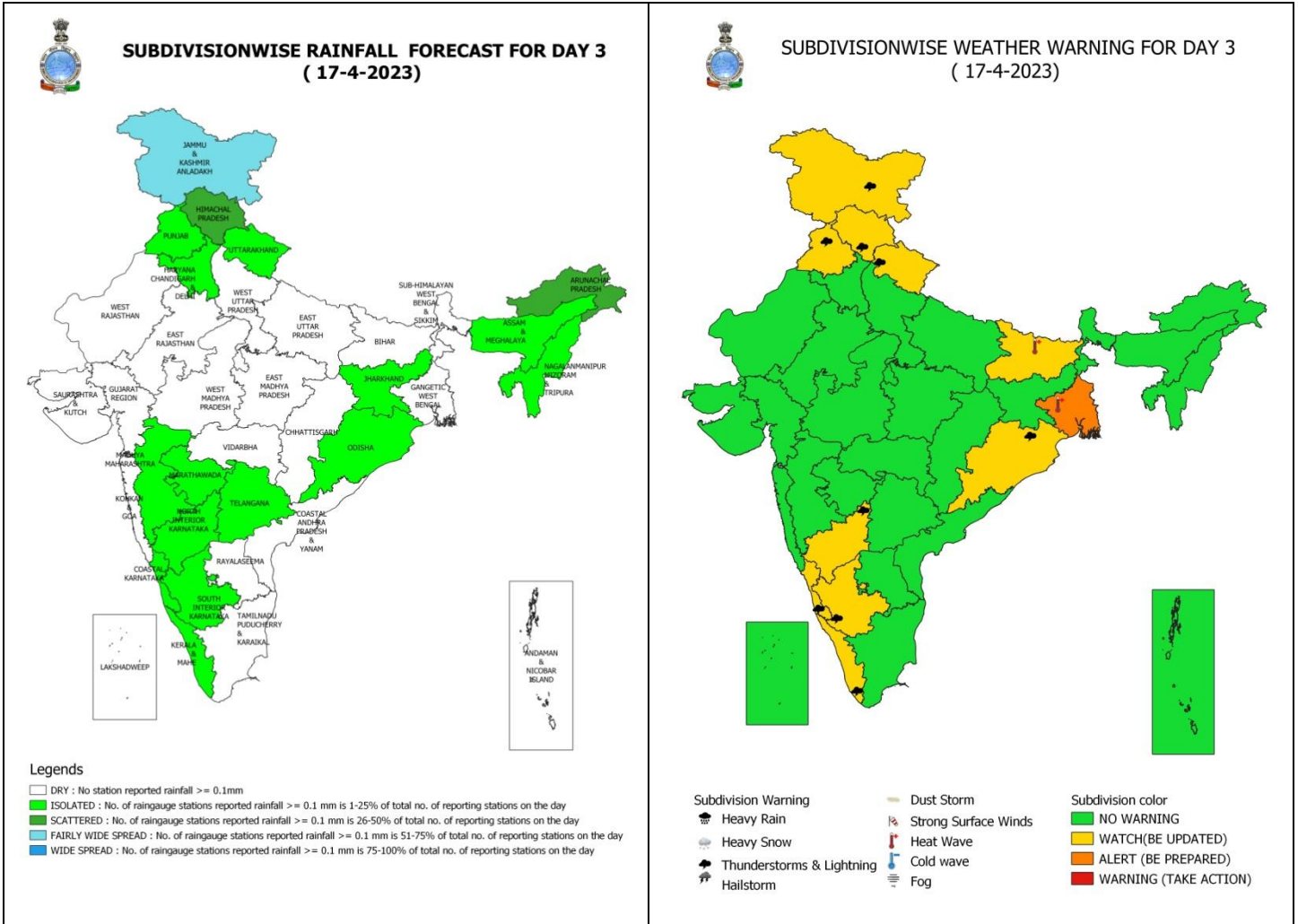
♦ **Heat Wave conditions** likely in some pockets over Gangetic West Bengal and in isolated pockets over Odisha, Bihar and Coastal Andhra Pradesh.

♦ **Squally weather (wind speed 40-45 kmph gusting to 50 kmph)** very likely over Gulf of Oman and adjoining westcentral Arabian Sea. Fishermen are advised not to venture into these areas.



**16 April (Day 2): ♦ Thunderstorm with lightning & gusty wind (30-40 kmph)** likely at isolated places over Kerala & Mahe, Karnataka and Telangana and **with lightning** at isolated places over Jammu, Kashmir, Ladakh, Gilgit, Baltistan & Muzaffrabad, Punjab, Madhya Maharashtra, Marathwada.

♦ **Heat Wave conditions** likely in some pockets over Gangetic West Bengal and in isolated pockets over Bihar and Coastal Andhra Pradesh.



**17 April (Day 3): ♦ Hailstorm with thunderstorm & lightning** likely at isolated places over Jammu, Kashmir, Ladakh, Gilgit, Baltistan & Muzaffrabad.

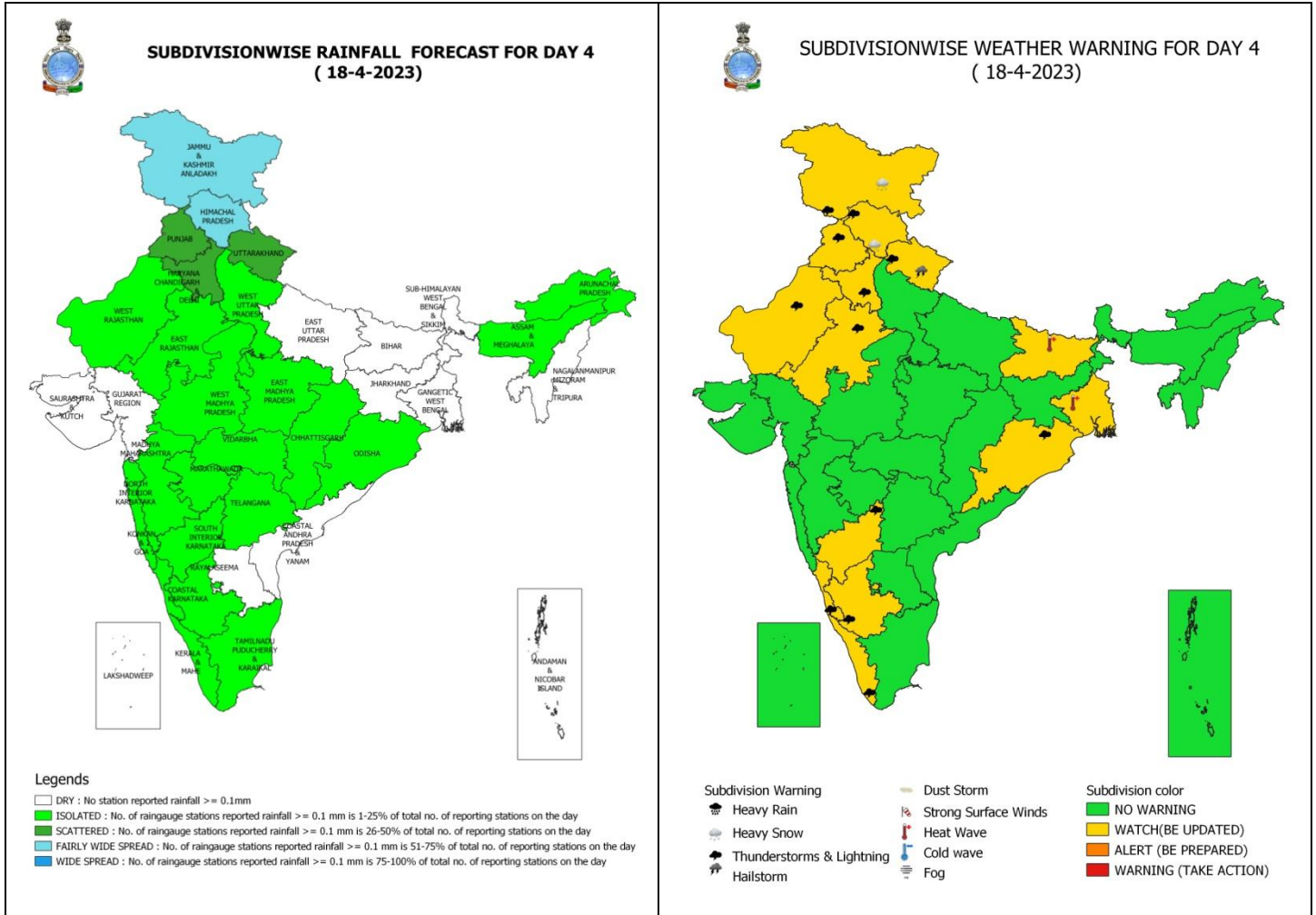
♦ **Thunderstorm with lightning & gusty wind (30-40 kmph)** likely at isolated places over Punjab and Kerala & Mahe and **with lightning** at isolated places Himachal Pradesh, Uttarakhand, Odisha and Karnataka.

♦ **Heat Wave conditions** likely in some pockets over Gangetic West Bengal and in isolated pockets over Bihar.

\* 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 [www.imd.gov.in](http://www.imd.gov.in) or contact : +91 11 24631913, 24643965, 24629798



**18 April (Day 4): ♦ Heavy rainfall** likely at isolated places over Jammu, Kashmir, Ladakh, Gilgit, Baltistan & Muzaffrabad and Himachal Pradesh.

♦ **Hailstorm with thunderstorm & lightning** likely at isolated places over Himachal Pradesh and Uttarakhand.

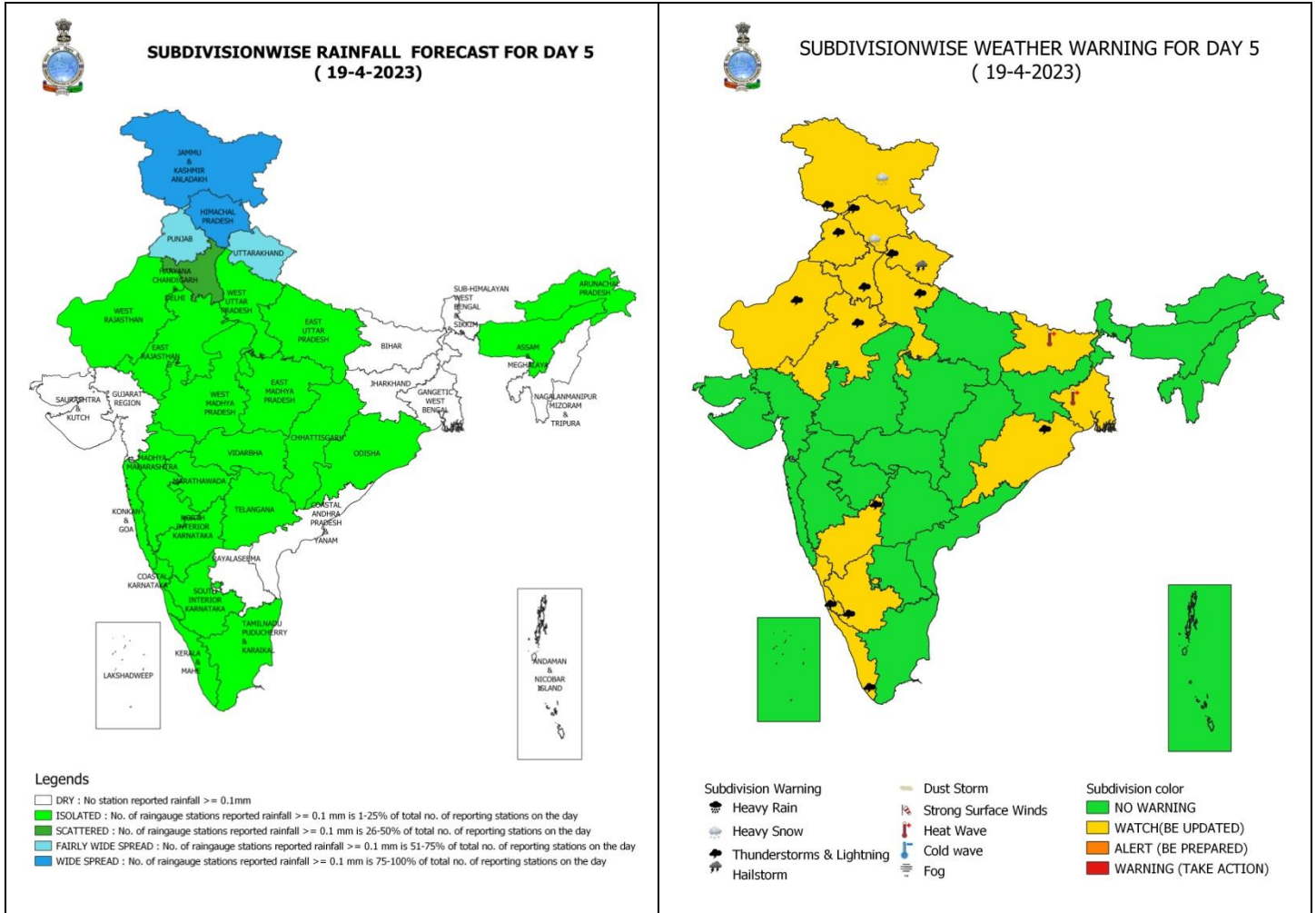
♦ **Thunderstorm with lightning & gusty wind (30-40 kmph)** likely at isolated places over Punjab, Haryana, Chandigarh & Delhi, north Rajasthan and Kerala & Mahe and **with lightning** at isolated places over Jammu, Kashmir, Ladakh, Gilgit, Baltistan & Muzaffrabad, Odisha and Karnataka.

♦ **Heat Wave conditions** likely in isolated pockets over Gangetic West Bengal and Bihar.

\* 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 [www.imd.gov.in](http://www.imd.gov.in) or contact : +91 11 24631913, 24643965, 24629798



**19 April (Day 5): ♦ Heavy rainfall** likely at isolated places over Jammu, Kashmir, Ladakh, Gilgit, Baltistan & Muzaffrabad and Himachal Pradesh.

♦ **Hailstorm with thunderstorm & lightning** likely at isolated places over Himachal Pradesh and Uttarakhand.

♦ **Thunderstorm with lightning & gusty wind (30-40 kmph)** likely at isolated places over Punjab, Haryana, Chandigarh & Delhi, north Rajasthan, West Uttar Pradesh and Kerala & Mahe and **with lightning** at isolated places over Jammu, Kashmir, Ladakh, Gilgit, Baltistan & Muzaffrabad, Odisha and Karnataka.

♦ **Heat Wave conditions** likely in isolated pockets over Gangetic West Bengal and Bihar.

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

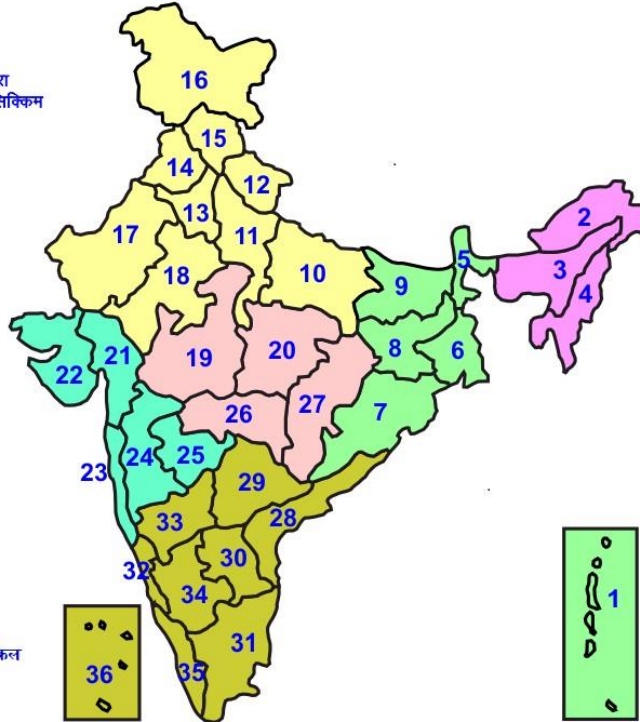
Forecast and Warning for any day is valid from 0830 hours IST of day till 0830 hours IST of next day

For more details kindly visit [www.imd.gov.in](http://www.imd.gov.in) or contact : +91 11 24631913, 24643965, 24629798



## 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 एंव सिक्किम
- 6 पश्चिम गॉंगेय बंगाल
- 7 ओडिसा
- 8 झारखंड
- 9 बिहार
- 10 पूर्वी उत्तर प्रदेश
- 11 पश्चिम उत्तर प्रदेश
- 12 उत्तराखंड
- 13 हरियाणा चंडिगढ़ एंव दिल्ली
- 14 पंजाब
- 15 हिमाचल प्रदेश
- 16 जम्मू एंव कश्मीर एंव लद्दाख
- 17 पश्चिम राजस्थान
- 18 पूर्वी राजस्थान
- 19 पश्चिम मध्य प्रदेश
- 20 पूर्वी मध्य प्रदेश
- 21 गुजरात क्षेत्र
- 22 सौराष्ट्र एंव कच्छ
- 23 कोंकण एंव गोवा
- 24 मध्य महाराष्ट्र
- 25 मराठावाडा
- 26 विदर्भ
- 27 छत्तीसगढ़
- 28 तटीय आंध्र प्रदेश एंव यनम
- 29 तेलंगाना
- 30 रायलसीमा
- 31 तमिलनाडु, पुदुचेरी एंव कराईकल
- 32 तटिय कर्नाटक
- 33 आंतरिक उत्तरी कर्नाटक
- 34 आंतरिक दक्षिणी कर्नाटक
- 35 केरल एंव 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. 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

<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

\* 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 [www.imd.gov.in](http://www.imd.gov.in) or contact : +91 11 24631913, 24643965, 24629798

## 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 [www.imd.gov.in](http://www.imd.gov.in) or contact : +91 11 24631913, 24643965, 24629798