

Tuesday, April 2, 2024
Time of Issue: 0800 hours IST
(MORNING)

ALL INDIA WEATHER SUMMARY AND FORECAST BULLETIN

Significant Weather Features:

Weather Systems and Forecast & Warnings:

- ❖ A Western Disturbance as a trough in middle & upper tropospheric westerlies runs roughly along long. 60°E to the north of lat. 30°N. Another fresh Western Disturbance is likely to affect Western Himalayan Region from 05th April, 2024. Under their influence:
 - ✓ Isolated to scattered light to moderate rainfall/snowfall very likely over Western Himalayan Region during next 7 days and isolated light to moderate rainfall over adjoining plains of Northwest India during 03rd-05th April, 2024.
 - ✓ Isolated **thunderstorms & lightning** also likely over Jammu-Kashmir-Ladakh-Gilgit-Baltistan-Muzaffarabad and Himachal Pradesh during 03rd-05th; over Uttarakhand on 03rd & 05th and West Uttar Pradesh on 04th & 05th April, 2024 and decrease thereafter.
- ❖ A cyclonic circulation lies over northeast Assam and another over north Bangladesh in lower tropospheric levels. There is high moisture incursion from Bay of Bengal to northeastern states in lower tropospheric levels. Under the influence of these systems:
 - ✓ Isolated to Scattered light/moderate rainfall very likely over Sub-Himalayan West Bengal & Sikkim during next 7 days with isolated **thunderstorms & lightning** during 02nd- 03rd April, 2024.
 - ✓ Fairly widespread to widespread light/moderate rainfall/snowfall with isolated **thunderstorms & lightning very likely** over Arunachal Pradesh; scattered to fairly widespread light to moderate rainfall over Assam & Meghalaya and Nagaland, Manipur, Mizoram & Tripura during 02nd-06th April, 2024.
 - ✓ **Isolated heavy rainfall/snowfall very likely over Arunachal Pradesh during 02nd-06th April, 2024.**
 - ✓ **Isolated heavy rainfall over Assam & Meghalaya on 02nd & 04th April, 2024.**
- ❖ A trough/wind discontinuity runs from south Tamil Nadu to southeast Madhya Pradesh across interior Karnataka and Vidarbha in lower tropospheric levels. Under their influence; Isolated light rainfall likely over Konkan & Goa, Madhya Maharashtra, Marathwada during 05th -07th April; over Coastal Andhra Pradesh & Yanam, Telangana, Karnataka on 06th & 07th April, 2024

Maximum temperature observation and forecast for next 5 days:

- ❖ Yesterday, Maximum temperatures were in the range of 40-42°C at many places over Vidarbha, Odisha and Rayalaseema; at a few places over Madhya Maharashtra, Marathwada, Telangana, Coastal Andhra Pradesh & Yanam and at isolated pockets over Gangetic West Bengal, Jharkhand, Chhattisgarh, North Interior Karnataka and interior Tamil Nadu which were above normal by 2-3°C.
- ❖ Yesterday, the maximum temperature exceeded 95th percentile at a few places over north Odisha & adjoining Jharkhand and Gangetic West Bengal, Vidarbha, southeast Madhya Pradesh, Marathwada and Rayalaseema and at isolated places over Madhya Maharashtra, Coastal Andhra Pradesh & Yanam, Telangana, Interior Karnataka, Tamil Nadu, Puducherry & Karaikal and Kerala & Mahe.
- ❖ Maximum temperature likely to exceed 95th percentile over parts of Uttar Pradesh, Bihar and Madhya Pradesh from 03rd April. Thereafter, some to many parts of north Peninsular, East & Central India and Uttar Pradesh & Uttarakhand are likely to experience above 95th percentile of maximum temperatures by 04th April.
- ❖ Yesterday, minimum temperatures were above normal by 3-5°C at many places over East Uttar Pradesh, Madhya Maharashtra; at a few places over Bihar; at isolated places over Odisha.

Heat wave, Warm Night and Hot & Humid weather warning for next 5 days:

- ❖ **Heat wave conditions** very likely in isolated pockets over North Interior Karnataka during 02nd -06th; Rayalaseema, East Madhya Pradesh & Gangetic West Bengal during 03rd -06th; over Vidarbha & Jharkhand during 04th - 06th April, 2024.
- ❖ **Warm night conditions** very likely to prevail in isolated pockets over Madhya Maharashtra & Marathwada on 02nd April; over Odisha during 02nd -06th April, 2024.
- ❖ **Hot and humid weather** very likely to prevail over Kerala & Mahe & Tamil Nadu, Puducherry & Karaikal and Odisha during 02nd -06th April, 2024.

*** Red colour warning does not mean "Red Alert", Red colour 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.

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Main Weather Observations:

- ❖ **Rainfall/snowfall distribution** (from 0830 hours IST to 1730 hours IST of yesterday): at many places over Arunachal Pradesh.
- ❖ **Rainfall distribution** (from 0830 hours IST to 1730 hours IST of yesterday): at a few places over Assam & Meghalaya; at isolated places over Nagaland, Manipur, Mizoram & Tripura.
- ❖ **Significant amount of rainfall** (from 0830 hours IST to 1730 hours IST of yesterday) (in cm): **NIL**.
- ❖ **Minimum Temperature Departures (as on 01-04-2024):** Minimum temperatures were **appreciably above normal (3.1°C to 5.0°C)** at a few places over Madhya Maharashtra, East Uttar Pradesh; at isolated places over Bihar, Odisha; **above normal (1.6°C to 3.0°C)** at many places over Konkan & Goa, Marathwada, Coastal Karnataka, West Bengal & Sikkim; at isolated places over West Rajasthan, East Madhya Pradesh, North Interior Karnataka, Kerala & Mahe, Tamil Nadu, Puducherry & Karaikal, Assam & Meghalaya and Nagaland, Manipur, Mizoram & Tripura. These were **below normal (-1.6°C to -3.0°C)** at isolated places over Jammu-Kashmir-Ladakh-Gilgit-Baltistan-Muzaffarabad, Uttarakhand, Haryana-Chandigarh-Delhi, West Uttar Pradesh, East Rajasthan and Rayalaseema and **near normal** over rest parts of the country. Yesterday, **the lowest minimum temperature of 13.8°C** was reported at **Amritsar (Punjab)** over the plains of the country.
- ❖ **Maximum Temperature Departures (as on 01-04-2024):** Maximum temperatures were **appreciably above normal (3.1°C to 5.0°C)** at a few places over Gangetic West Bengal; at isolated places over Sub-Himalayan West Bengal & Sikkim and Odisha; **above normal (1.6°C to 3.0°C)** at many places over Coastal Andhra Pradesh & Yanam and Kerala & Mahe; at a few places over East Madhya Pradesh, Bihar, Konkan & Goa, Madhya Maharashtra, Telangana, Karnataka, Rayalaseema and Tamil Nadu, Puducherry & Karaikal; at isolated places over Jammu-Kashmir-Ladakh-Gilgit-Baltistan-Muzaffarabad, East Uttar Pradesh, Chhattisgarh, Jharkhand, Nagaland, Manipur, Mizoram & Tripura, Vidarbha, Marathwada and Saurashtra & Kutch. These were **markedly below normal (-5.1°C or less)** at isolated places over Himachal Pradesh; **appreciably below normal (-3.1°C to -5.0°C)** at isolated places over Haryana-Chandigarh-Delhi; **below normal (-1.6°C to -3.0°C)** at a few places over West Uttar Pradesh, West Rajasthan and Assam & Meghalaya; at isolated places over Arunachal Pradesh and Punjab and **near normal** over rest parts of the country. Yesterday, **the highest maximum temperature of 42.2°C** was reported at **Kurnool (Rayalaseema)** over the country.

Meteorological Analysis (Based on 0530 hours IST)

- ❖ The trough/wind discontinuity from south Tamil Nadu to southeast Madhya Pradesh across interior Karnataka and Vidarbha at 0.9 km above mean sea level persists.
- ❖ The cyclonic circulation over northeast Bihar now lies over north Bangladesh & neighbourhood at 0.9 km above mean sea level.
- ❖ The cyclonic circulation over northeast Assam at 0.9 km above mean sea level persists.
- ❖ The Western Disturbance as a trough in middle & upper tropospheric westerlies with its axis at 5.8 km above mean sea level now runs roughly along long. 60°E to the north of lat. 30°N.
- ❖ A fresh Western Disturbance is likely to affect Western Himalayan Region from 05th April, 2024.
- ❖ The Western Disturbance as a cyclonic circulation over northwest Uttar Pradesh & neighbourhood at 3.1 km above mean sea level has become less marked.

Weather Forecast for next 7 days (Upto 0830 hours IST of 09th April, 2024)

- ❖ Meteorological sub-division wise detailed 7 days rainfall forecast is given in Table-1.
- ❖ No significant change in maximum temperatures very likely over many parts of Northwest India during next 24 hours and rise by 2-4°C thereafter.
- ❖ Gradual rise in maximum temperatures by 2-3°C very likely over many parts of central and East India during next 3 days and no significant change thereafter.
- ❖ Gradual rise in maximum temperatures by 2-3°C very likely over many parts of Maharashtra during next 4 days and no significant change in maximum temperatures over rest parts of west India during next 5 days.
- ❖ No significant change in maximum temperatures very likely over many parts of south peninsular India during next 5 days except parts of Telangana & Rayalaseema where temperatures are likely to rise by 2-3°C during next 5 days.
- ❖ No significant change in maximum temperatures over rest parts of the country during next 5 days.

Weather Outlook for subsequent 3 days (During 09th-11th April, 2024)

- ❖ Scattered to fairly widespread light to moderate rainfall/snowfall likely over Northeast India and Western Himalayan Region.
- ❖ Isolated light rainfall likely over central India, Madhya Maharashtra, Marathwada, Karnataka and Kerala & Mahe.
- ❖ Dry weather likely to prevail over rest parts of the country.

Table-1

7 Days Rainfall Forecast								
S. No.	Subdivision	02-Apr	03-Apr	04-Apr	05-Apr	06-Apr	07-Apr	08-Apr
		Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7
1	ANDAMAN & NICOBAR ISLANDS	ISOL	ISOL	ISOL	DRY	DRY	DRY	DRY
2	ARUNACHAL PRADESH	WS	WS	WS	WS	FWS	FWS	FWS
3	ASSAM & MEGHALAYA	SCT	SCT	FWS	FWS	FWS	FWS	SCT
4	NAGALAND, MANIPUR, MIZORAM & TRIPURA	SCT	SCT	SCT	SCT	SCT	SCT	SCT
5	SUB-HIMALAYAN WEST BENGAL & SIKKIM	SCT	ISOL	ISOL	SCT	FWS	SCT	SCT
6	GANGETIC WEST BENGAL	DRY	DRY	DRY	ISOL	ISOL	SCT	ISOL
7	ODISHA	DRY	DRY	ISOL	ISOL	ISOL	ISOL	ISOL
8	JHARKHAND	DRY	DRY	DRY	DRY	ISOL	ISOL	ISOL
9	BIHAR	DRY	DRY	DRY	DRY	DRY	DRY	DRY
10	EAST UTTAR PRADESH	DRY	DRY	DRY	DRY	ISOL	DRY	DRY
11	WEST UTTAR PRADESH	DRY	DRY	ISOL	ISOL	DRY	DRY	DRY
12	UTTARAKHAND	ISOL	ISOL	ISOL	SCT	SCT	ISOL	ISOL
13	HARYANA CHANDIGARH & DELHI	DRY	ISOL	ISOL	ISOL	DRY	DRY	DRY
14	PUNJAB	DRY	ISOL	ISOL	ISOL	DRY	DRY	DRY
15	HIMACHAL PRADESH	ISOL	SCT	SCT	SCT	SCT	ISOL	ISOL
16	JAMMU & KASHMIR AND LADAKH	ISOL	FWS	ISOL	SCT	SCT	ISOL	ISOL
17	WEST RAJASTHAN	DRY	ISOL	DRY	DRY	DRY	DRY	DRY
18	EAST RAJASTHAN	DRY	DRY	DRY	DRY	DRY	DRY	DRY
19	WEST MADHYA PRADESH	DRY	DRY	DRY	DRY	DRY	ISOL	ISOL
20	EAST MADHYA PRADESH	DRY	DRY	DRY	DRY	ISOL	ISOL	ISOL
21	GUJARAT REGION	DRY	DRY	DRY	DRY	DRY	DRY	DRY
22	SAURASHTRA & KUTCH	DRY	DRY	DRY	DRY	DRY	DRY	DRY
23	KONKAN & GOA	DRY	DRY	DRY	ISOL	ISOL	ISOL	ISOL
24	MADHYA MAHARASHTRA	DRY	DRY	DRY	ISOL	ISOL	ISOL	ISOL
25	MARATHAWADA	DRY	DRY	DRY	ISOL	ISOL	ISOL	SCT
26	VIDARBHA	DRY	DRY	DRY	DRY	ISOL	ISOL	SCT
27	CHHATTISGARH	DRY	DRY	DRY	DRY	ISOL	ISOL	ISOL
28	COASTAL ANDHRA PRADESH & YANAM	DRY	DRY	DRY	DRY	ISOL	ISOL	ISOL
29	TELANGANA	DRY	DRY	DRY	DRY	ISOL	ISOL	ISOL
30	RAYALASEEMA	DRY	DRY	DRY	DRY	ISOL	DRY	DRY
31	TAMILNADU PUDUCHERRY & KARAIKAL	ISOL	DRY	DRY	DRY	DRY	DRY	DRY
32	COASTAL KARNATAKA	DRY	DRY	DRY	DRY	ISOL	ISOL	ISOL
33	NORTH INTERIOR KARNATAKA	DRY	DRY	DRY	DRY	ISOL	ISOL	ISOL
34	SOUTH INTERIOR KARNATAKA	DRY	DRY	DRY	DRY	ISOL	ISOL	ISOL
35	KERALA & MAHE	ISOL	ISOL	ISOL	ISOL	ISOL	ISOL	ISOL
36	LAKSHADWEEP	DRY	DRY	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

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Fig. 1: Maximum Temperatures

Fig. 2: Departure of Maximum Temperatures

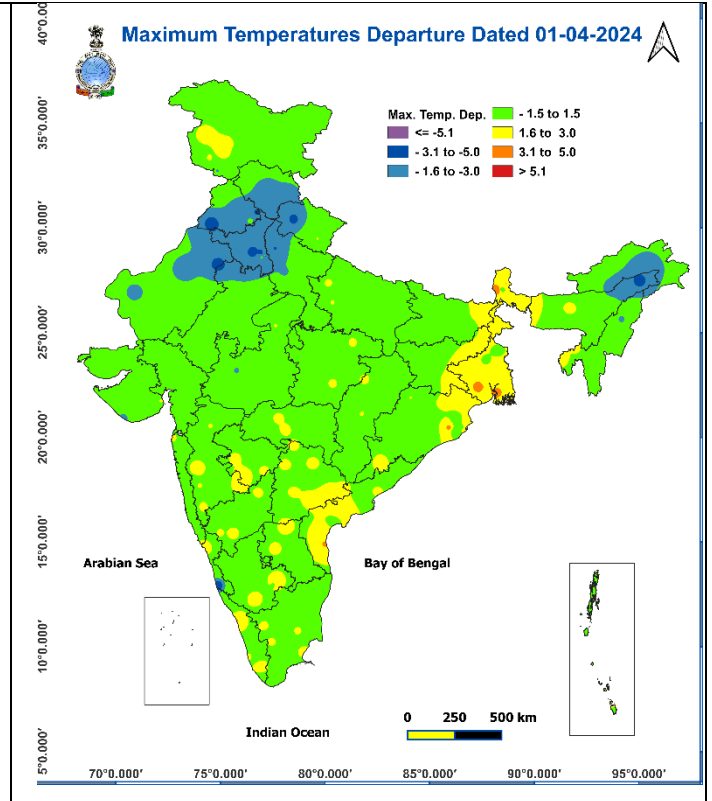
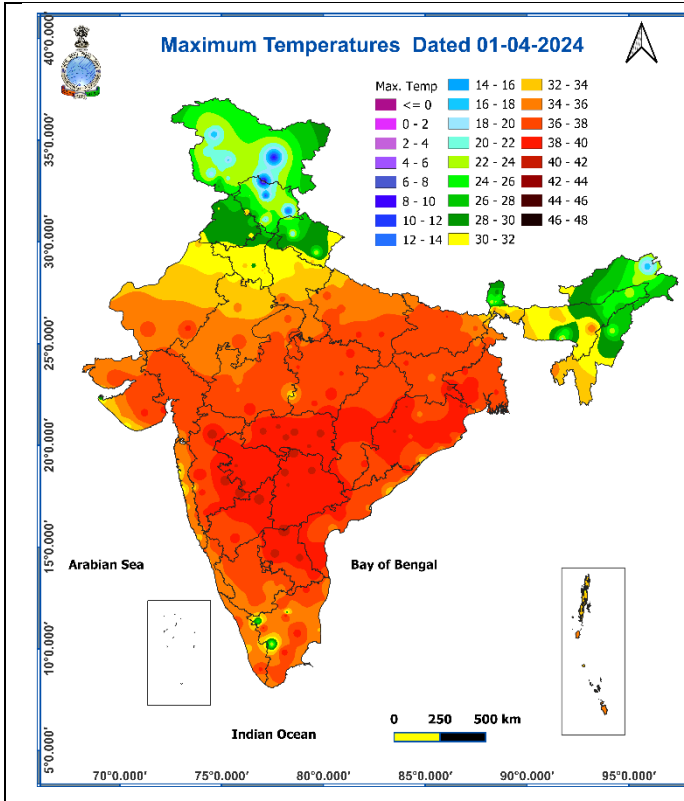


Fig. 3: Minimum Temperatures

Fig. 4: Departure of Minimum Temperatures

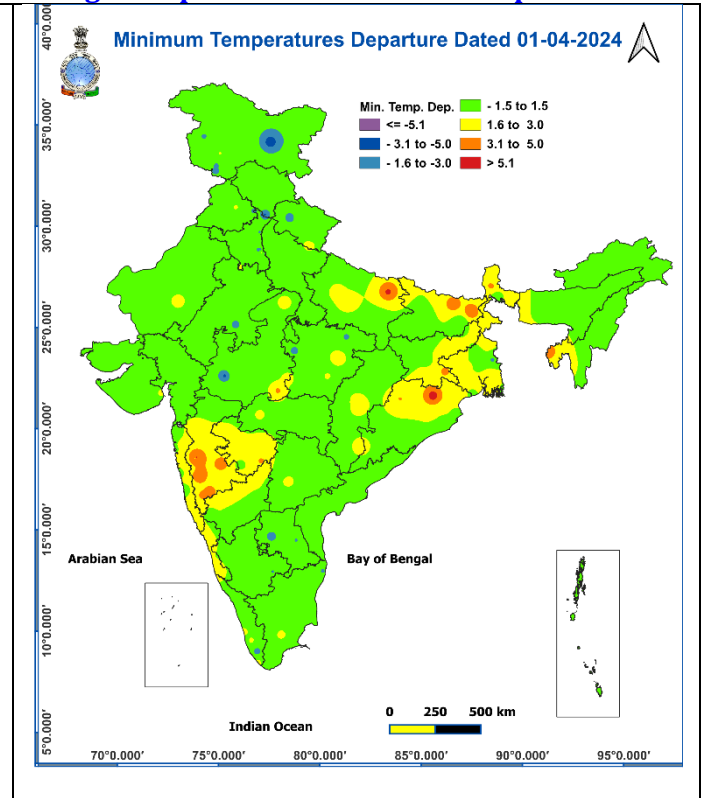
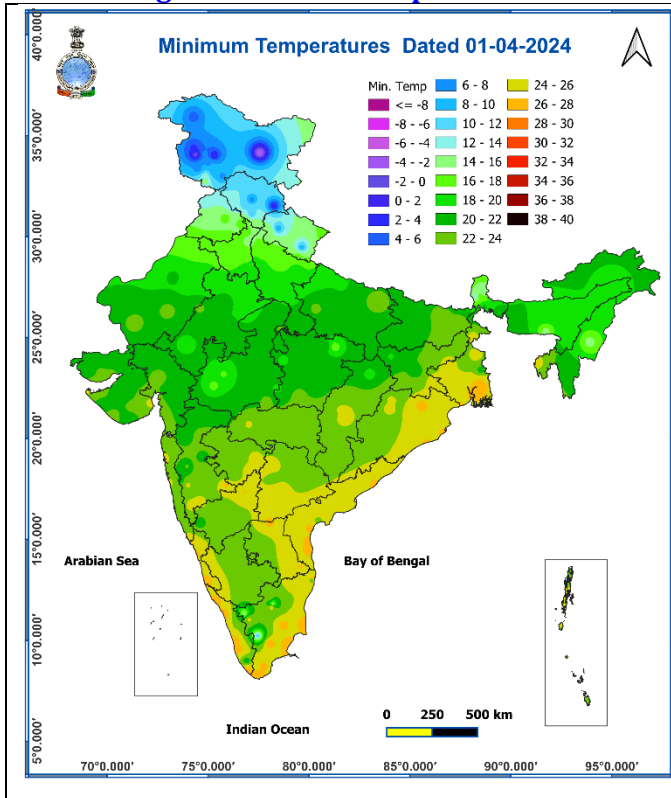
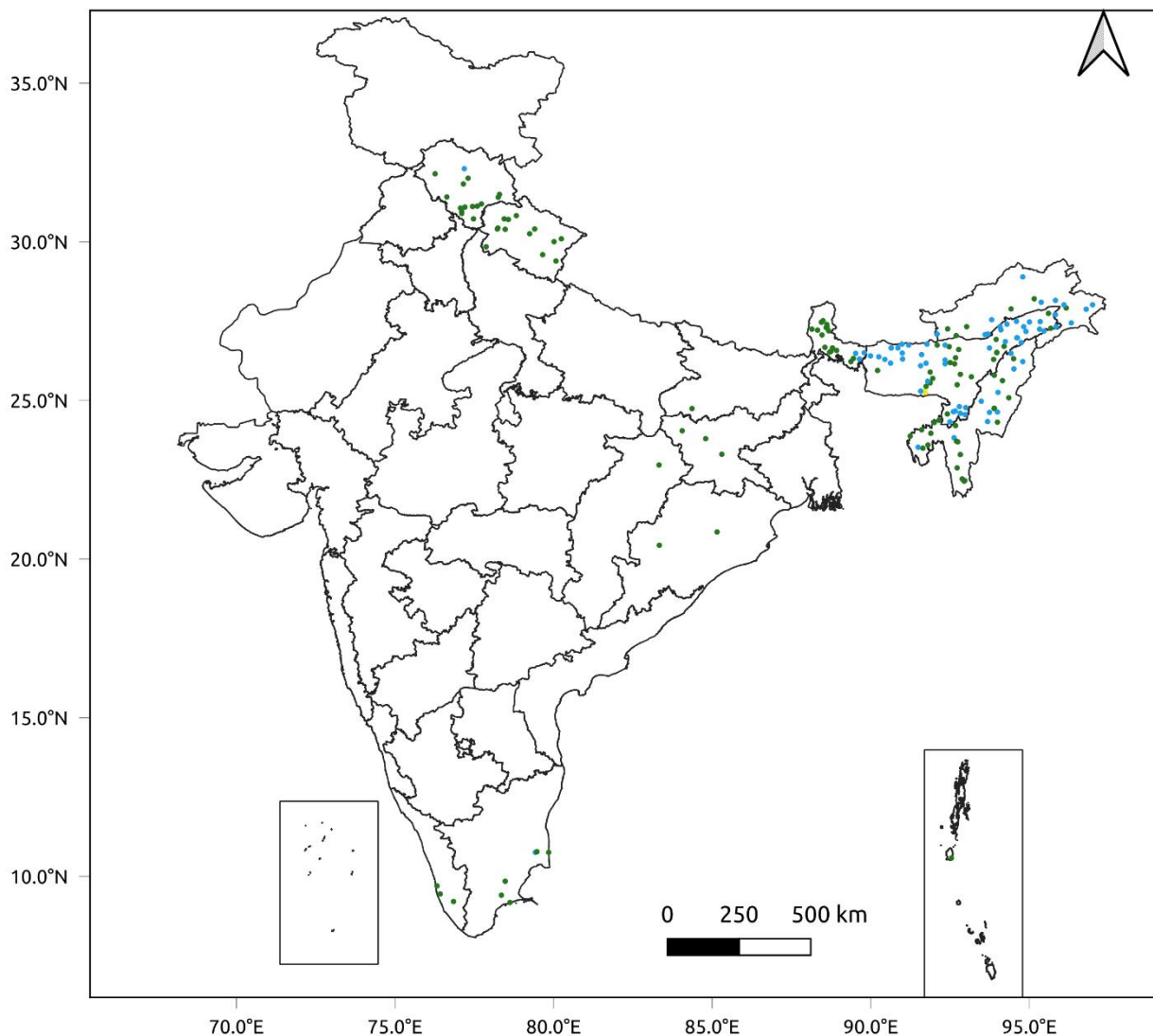


Fig. 5: Accumulated Rainfall (mm) during past 24 hours

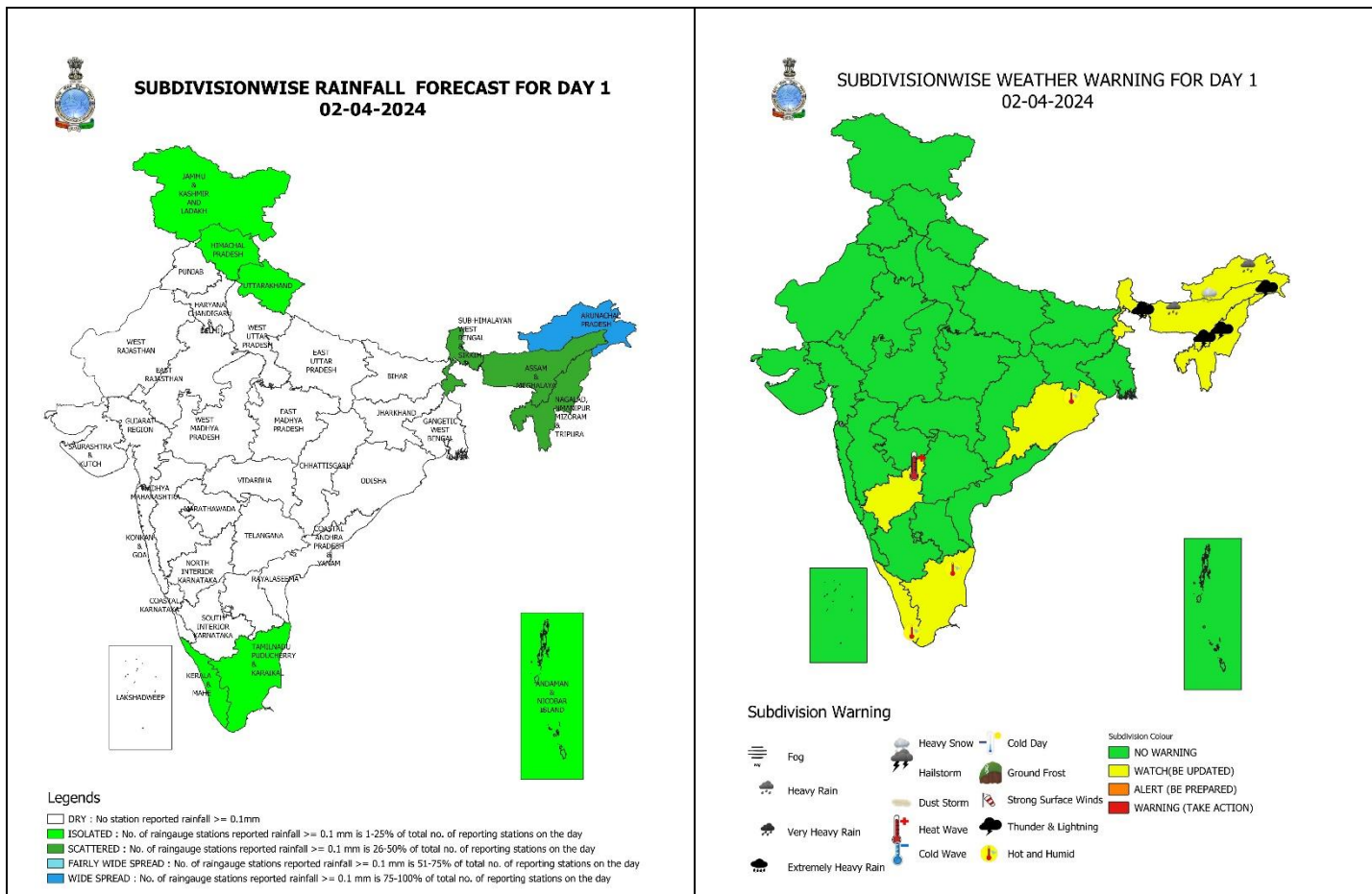


24 Hr cumulative rainfall recorded over different stations during 0830 IST of 31-3-2024 to 0830 IST of 1-4-2024



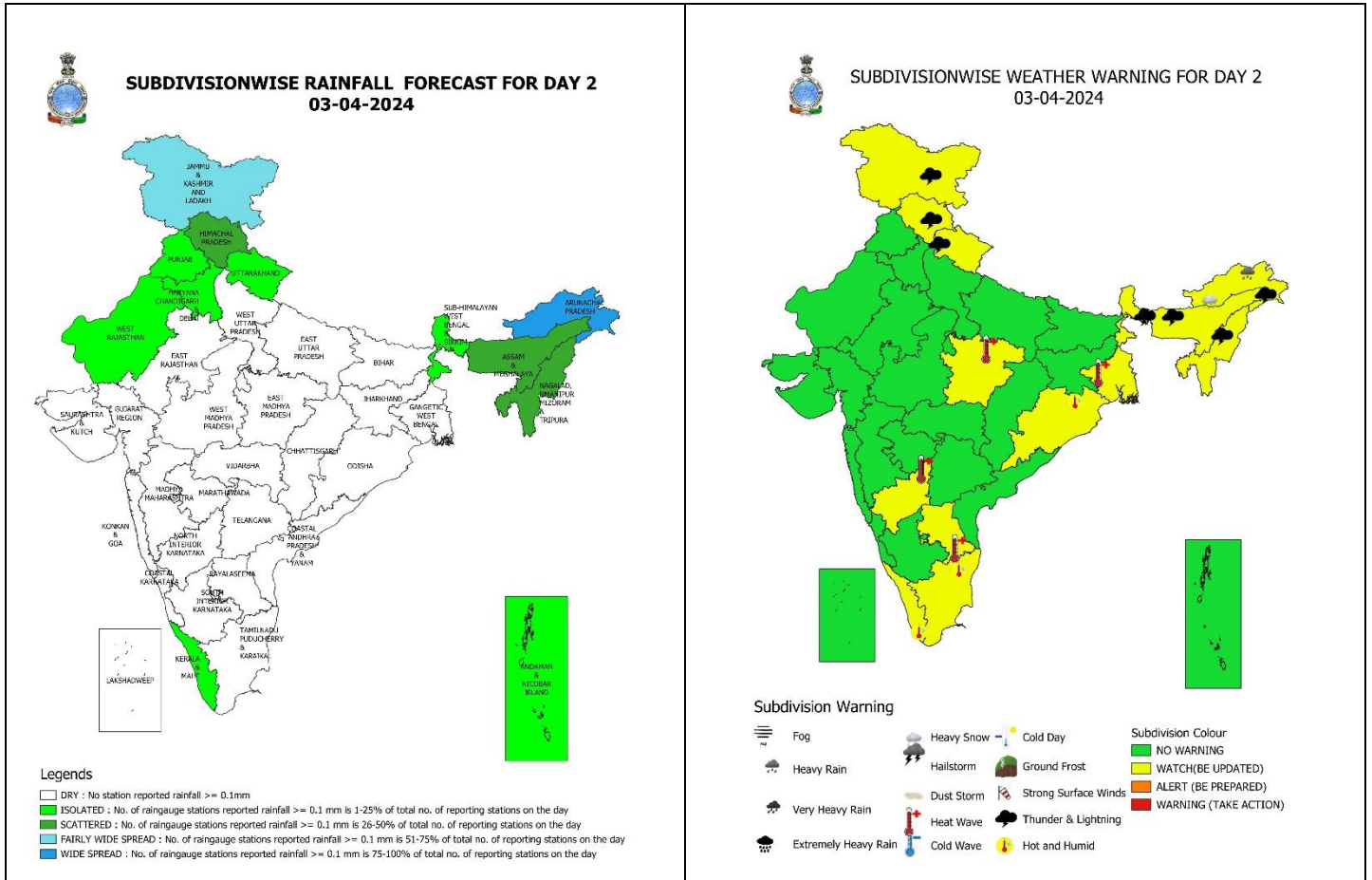
Legends

- 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)



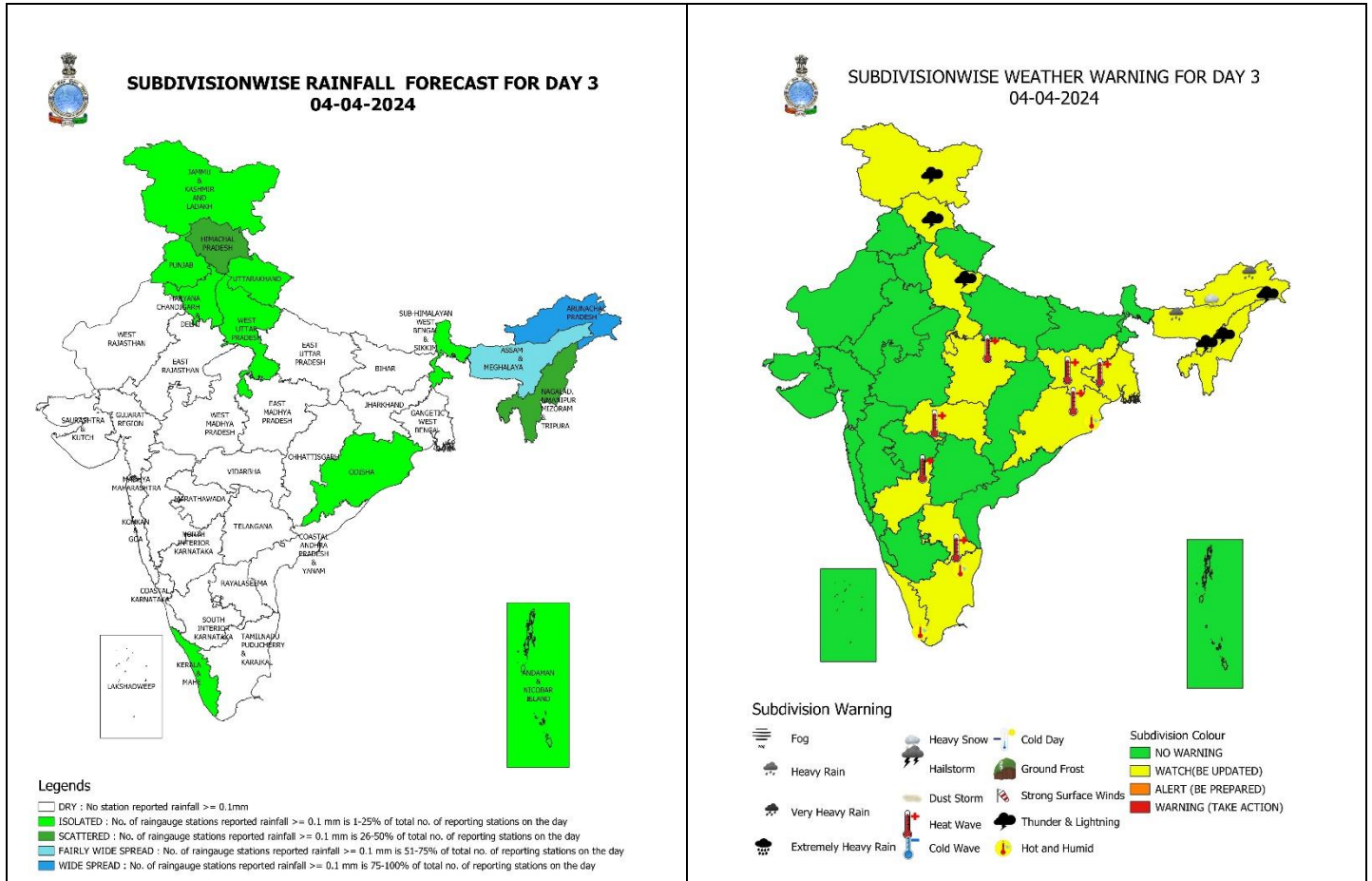
02 April (Day 1):

- ❖ **Thunderstorm accompanied with lightning & gusty winds (speed reaching 30-40 kmph)** very likely at isolated places over Sub-Himalayan West Bengal & Sikkim, Assam & Meghalaya and Nagaland, Manipur, Mizoram & Tripura; **with lightning** very likely at isolated places over Arunachal Pradesh.
- ❖ **Heavy rainfall/snowfall** very likely at isolated places over Arunachal Pradesh; **Heavy rainfall** at isolated places over Assam & Meghalaya.
- ❖ **Warm night** very likely to prevail in isolated pockets over Madhya Maharashtra, Marathwada and Odisha.
- ❖ **Heat wave conditions** very likely at isolated places over North Interior Karnataka.
- ❖ **Hot and humid weather** very likely to prevail over Odisha, Kerala & Mahe and Tamil Nadu, Puducherry & Karaikal.



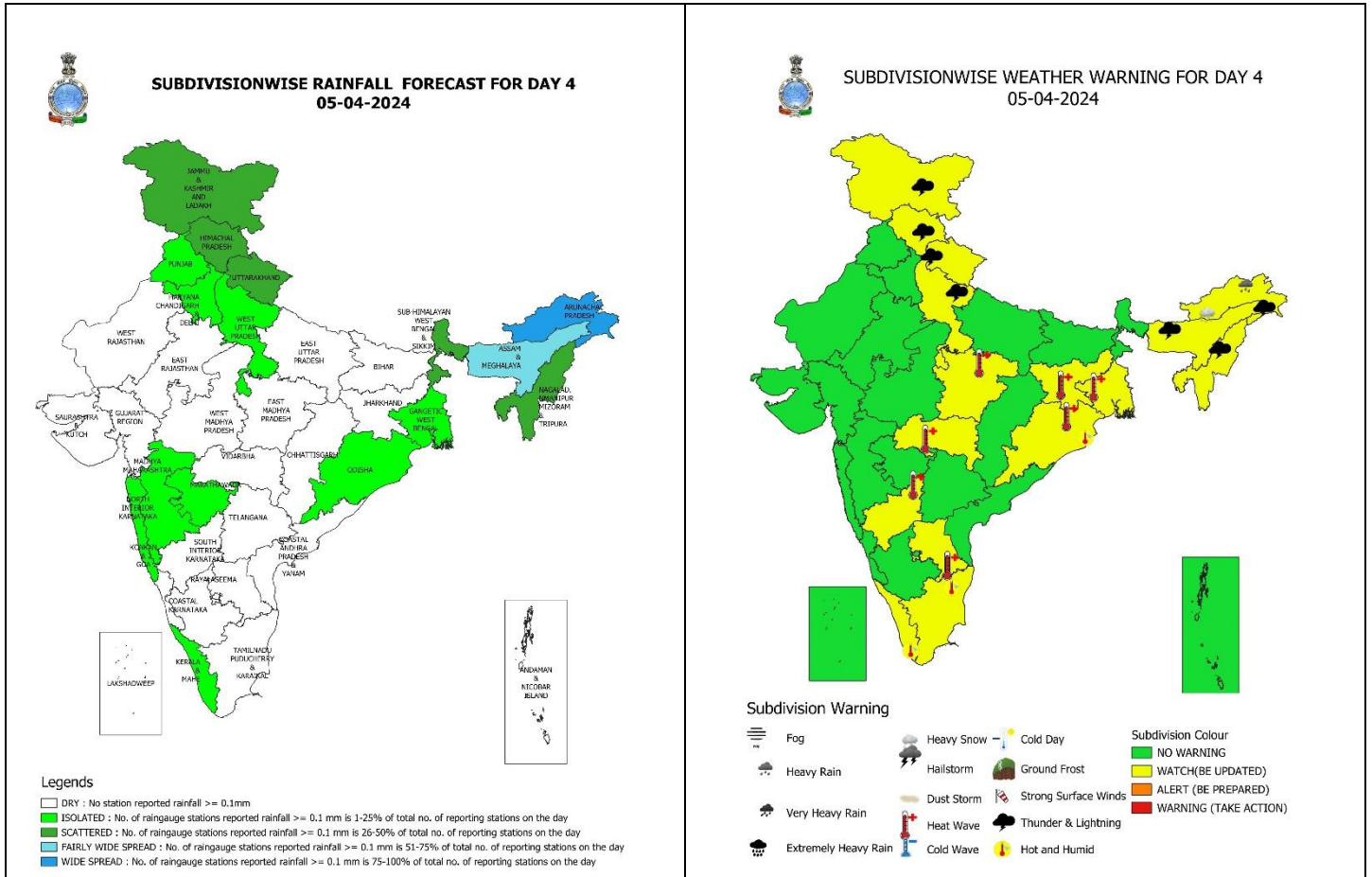
03 April (Day 2):

- ❖ **Thunderstorm accompanied with lightning & gusty winds (speed reaching 30-40 kmph)** very likely at isolated places over Sub-Himalayan West Bengal & Sikkim; **with lightning** very likely at isolated places over Jammu-Kashmir-Ladakh-Gilgit-Baltistan-Muzaffarabad, Himachal Pradesh, Uttarakhand, Arunachal Pradesh, Assam & Meghalaya and Nagaland, Manipur, Mizoram & Tripura.
- ❖ **Heavy rainfall/snowfall** very likely at isolated places over Arunachal Pradesh.
- ❖ **Warm night** very likely to prevail in isolated pockets over Odisha.
- ❖ **Heat wave conditions** very likely at isolated places over East Madhya Pradesh, Gangetic West Bengal, Rayalaseema and North Interior Karnataka.
- ❖ **Hot and humid weather** very likely to prevail over Odisha, Kerala & Mahe and Tamil Nadu, Puducherry & Karaikal.



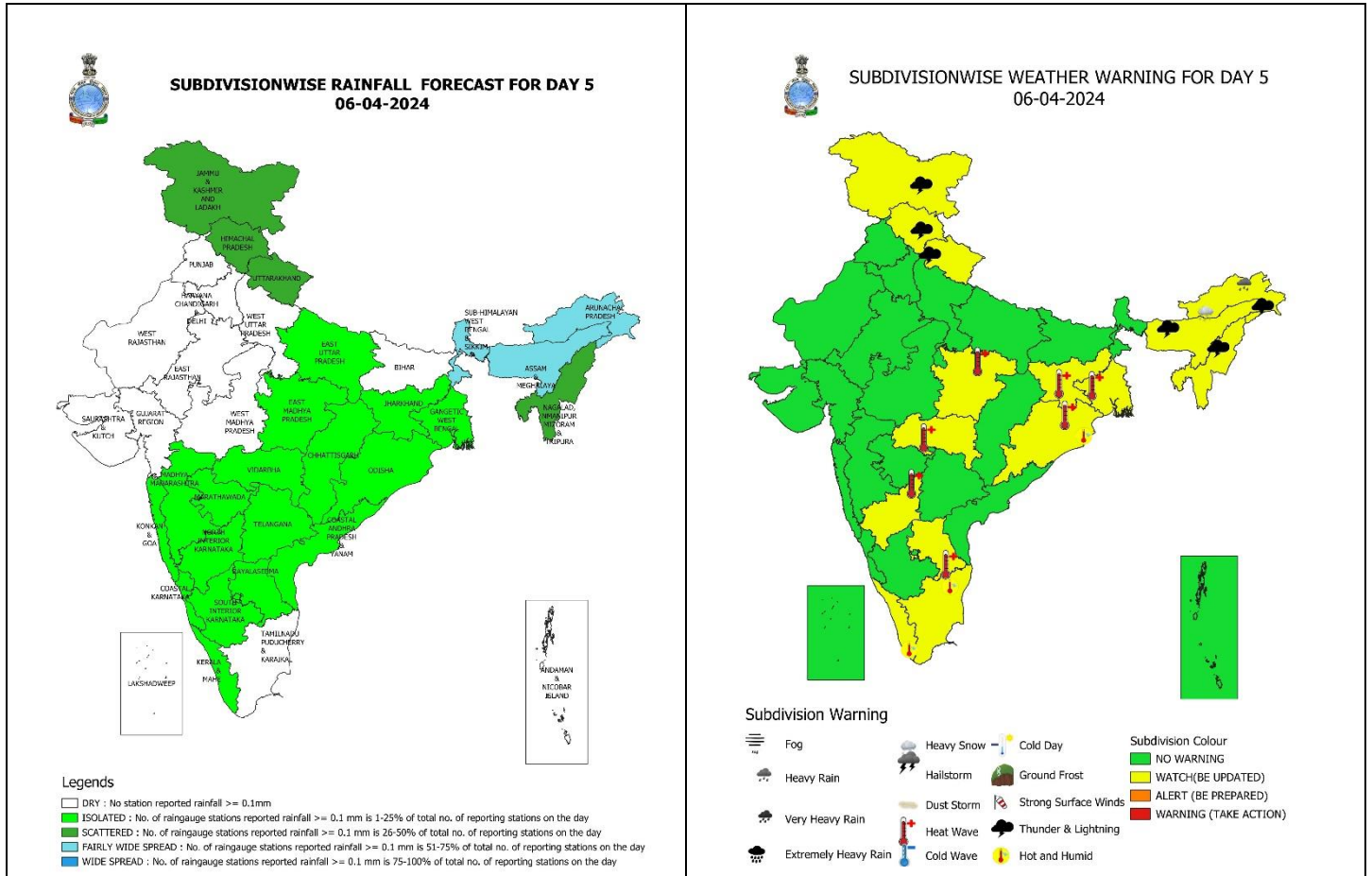
04 April (Day 3):

- ❖ **Thunderstorm accompanied with lightning & gusty winds (speed reaching 30-40 kmph)** likely at isolated places over Assam & Meghalaya and Nagaland, Manipur, Mizoram & Tripura; **with lightning** very likely at isolated places over Jammu-Kashmir-Ladakh-Gilgit-Baltistan-Muzaffarabad, Himachal Pradesh, West Uttar Pradesh and Arunachal Pradesh.
- ❖ **Heavy rainfall/snowfall** likely at isolated places over Arunachal Pradesh and Assam & Meghalaya.
- ❖ **Warm night** likely to prevail in isolated pockets over Odisha.
- ❖ **Heat wave conditions** likely at isolated places over East Madhya Pradesh, Vidarbha, Jharkhand, Gangetic West Bengal, Rayalaseema and North Interior Karnataka
- ❖ **Hot and humid weather** likely to prevail over Odisha, Kerala & Mahe and Tamil Nadu, Puducherry & Karaikal.



05 April (Day 4):

- ❖ **Thunderstorm accompanied with lightning & gusty winds (speed reaching 30-40 kmph)** likely at isolated places over Assam & Meghalaya and Nagaland, Manipur, Mizoram & Tripura; **with lightning** very likely at isolated places over Jammu-Kashmir-Ladakh-Gilgit-Baltistan-Muzaffarabad, Himachal Pradesh, Uttarakhand, West Uttar Pradesh and Arunachal Pradesh.
- ❖ **Heavy rainfall/snowfall** likely at isolated places over Arunachal Pradesh.
- ❖ **Warm night** likely to prevail in isolated pockets over Odisha.
- ❖ **Heat wave conditions** likely at isolated places over East Madhya Pradesh, Vidarbha, Jharkhand, Gangetic West Bengal, Rayalaseema and North Interior Karnataka
- ❖ **Hot and humid weather** likely to prevail over Odisha, Kerala & Mahe and Tamil Nadu, Puducherry & Karaikal.

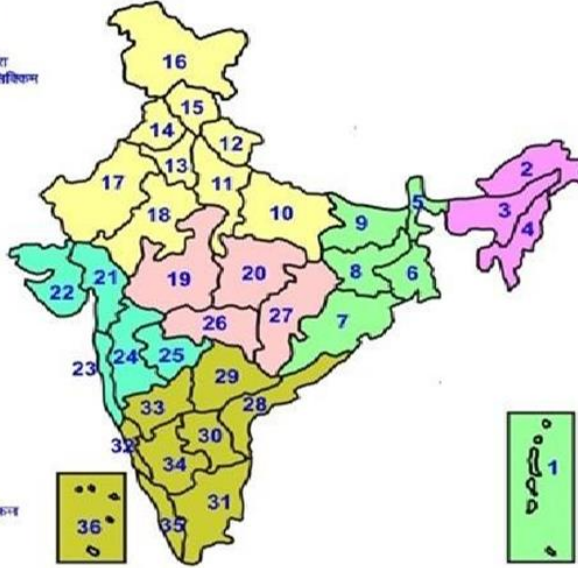


06 April (Day 5):

- ❖ **Thunderstorm accompanied with lightning & gusty winds (speed reaching 30-40 kmph)** likely at isolated places over Assam & Meghalaya and Nagaland, Manipur, Mizoram & Tripura; **with lightning** very likely at isolated places over Jammu-Kashmir-Ladakh-Gilgit-Baltistan-Muzaffarabad, Himachal Pradesh, Uttarakhand and Arunachal Pradesh.
- ❖ **Heavy rainfall/snowfall** likely at isolated places over Arunachal Pradesh.
- ❖ **Warm night** likely to prevail in isolated pockets over Odisha.
- ❖ **Heat wave conditions** likely at isolated places over East Madhya Pradesh, Vidarbha, Jharkhand, Gangetic West Bengal, Rayalaseema and North Interior Karnataka
- ❖ **Hot and humid weather** likely to prevail over Odisha, Kerala & Mahe and Tamil Nadu, Puducherry & Karaikal.

LEGENDS

- 1 अंडमन और निकोबार द्वीप समूह
- 2 अरुणाचल प्रदेश
- 3 असम और मेघालय
- 4 नागालैंड मणिपुर मीज़ोरम 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 एवंम 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 मराठवाड़ा
- 26 विदर्भ
- 27 उत्तरीसमूह
- 28 तटीय आंध्र प्रदेश एवं यानम
- 29 तेलंगाना
- 30 दख्खिणी
- 31 पश्चिमनाडु, पुदुचेरी एवंम कराईकल
- 32 तटिय कर्नाटक
- 33 आंतरिक उत्तरी कर्नाटक
- 34 आंतरिक दक्षिणी कर्नाटक
- 35 केरल एवंम 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

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 Strom: Wind speed > 220 kmph (> 119 knots)