

Monday, July 15, 2024
Time of Issue: 0800 hours IST
(MORNING)

ALL INDIA WEATHER SUMMARY AND FORECAST BULLETIN

Significant Weather Features:

Weather Systems

- ✓ The Monsoon trough is south of its normal position and extends upto lower tropospheric levels. It is likely to be south of its normal position during next 4-5 days.
- ✓ The off-shore trough runs along south Gujarat-north Kerala coasts at mean sea level.
- ✓ A cyclonic circulation lies over Gangetic West Bengal & adjoining Jharkhand and Odisha in lower & middle tropospheric levels.

-Forecast & Warnings:

❖ West, Central and South Peninsular India

- ✓ Fairly widespread to widespread light to moderate rainfall accompanied with thunderstorm & lightning very likely over Konkan & Goa, Madhya Maharashtra, Marathwada, Kerala & Mahe, Lakshadweep, Karnataka, Gujarat state, Madhya Pradesh, Vidarbha, Chhattisgarh, Coastal Andhra Pradesh & Yanam; scattered to fairly widespread light to moderate rainfall over Telangana, Rayalaseema; isolated to scattered light to moderate rainfall over Tamil Nadu, Puducherry & Karaikal during next 5 days.
- ✓ **Heavy to very heavy rainfall very likely at isolated/some places over Konkan & Goa, Kerala & Mahe, Coastal & South Interior Karnataka; at isolated places over Madhya Maharashtra, Gujarat state during next 5 days. Isolated extremely heavy rainfall very likely over Konkan & Goa, ghat areas of Madhya Maharashtra on 15th & 16th; Coastal Karnataka and South Interior Karnataka on 15th; Kerala & Mahe on 15th July.**
- ✓ Isolated **Heavy rainfall** over Telangana, Madhya Pradesh, Vidarbha, Chhattisgarh during 15th-19th; Marathwada, Tamil Nadu, Puducherry & Karaikal, Coastal Andhra Pradesh & Yanam, North Interior Karnataka on 15th & 16th July. **Isolated very heavy rainfall likely over Vidarbha, Telangana, Coastal Andhra Pradesh & Yanam, North Interior Karnataka on 15th and Marathwada on 15th July.**

❖ East & Northeast India

- ✓ Fairly widespread to widespread light to moderate rainfall **accompanied with thunderstorm, lightning** very likely over Andaman & Nicobar Islands, Sub-Himalayan West Bengal & Sikkim and Odisha; scattered to fairly widespread light to moderate rainfall over Northeast India and Gangetic West Bengal and isolated to scattered light to moderate rainfall over Bihar, Jharkhand during next 5 days.
- ✓ **Heavy rainfall** very likely at isolated places over Odisha on 15th, 17th & 18th; Arunachal Pradesh during 15th-17th; Assam & Meghalaya, Sub-Himalayan West Bengal & Sikkim, Bihar on 15th; Nagaland, Manipur, Mizoram & Tripura on 15th & 16th July.

❖ Northwest India

- ✓ Scattered to fairly widespread light to moderate rainfall **accompanied with thunderstorm & lightning** very likely over Uttarakhand, Uttar Pradesh and West Rajasthan; isolated to scattered rainfall likely over Jammu-Kashmir-Ladakh-Gilgit-Baltistan-Muzaffarabad, Himachal Pradesh, Punjab, Haryana-Chandigarh-Delhi and East Rajasthan during next 5 days.
- ✓ Isolated **heavy rainfall** very likely over Uttarakhand, East Rajasthan during 15th-19th; East Uttar Pradesh on 15th & 18th July.

Main Weather Observations:

- ❖ **Rainfall distribution** (from 0830 hours IST to 1730 hours IST of yesterday): **at most places** over Odisha, Vidarbha and Kerala & Mahe; **at many places** over Konkan & Goa and Coastal Andhra Pradesh & Yanam; **at a few places** over Madhya Pradesh, Gangetic West Bengal, Madhya Maharashtra, Coastal Karnataka and Lakshadweep; **at isolated places** over Jammu-Kashmir-Ladakh-Gilgit-Baltistan-Muzaffarabad, Uttarakhand, Uttar Pradesh, East Rajasthan, Saurashtra & Kutch, Bihar, Jharkhand, Chhattisgarh, Sub-Himalayan West Bengal & Sikkim, Assam & Meghalaya, Nagaland, Manipur, Mizoram & Tripura, Marathwada, Interior Karnataka, Telangana, Rayalaseema, Tamil Nadu, Puducherry & Karaikal and Andaman & Nicobar Islands.
- ❖ **Heavy rainfall** (from 0830 hours IST to 1730 hours IST of yesterday): **Heavy rainfall** at isolated places over Konkan & Goa.
- ❖ **Significant amount of rainfall** (from 0830 hours IST to 1730 hours IST of yesterday)((in cm): **Konkan & Goa:** Matheran 11, Panjim 8, Ratnagiri 3; **Madhya Maharashtra:** Mahabaleshwar 6, Sangli 3, Pune-Shivajinagar 2; **Vidarbha:** Wardha 5, Amraoti 4, Yeotmal 2; **Madhya Pradesh:** Sagar 4, Ratlam, Khargone & Seoni 2 each; **Coastal Karnataka:** Mangalore 4, Honavar & Karwar 3 each; **West Uttar Pradesh:** Muzaffarnagar 3; **Nagaland:** Kohima 3, **Kerala & Mahe:** Palakkad-palghat 3, Kochi & Kannur 2 each; **West Bengal:** Asansol & Kolkata-Alipur 2 each; **Odisha:** Nabarangpur, Koraput, Titlagarh & Bolangir 2 each; **North Interior Karnataka:** Belgaum 2; **Coastal Andhra Pradesh & Yanam:** Machilipatnam 2.
- ❖ **Minimum Temperature Departures (as on 14-07-2024):** Minimum temperatures were **above normal (1.6°C to 3.0°C)** at a few places over Sub-Himalayan West Bengal & Sikkim and Bihar; at isolated places over Arunachal Pradesh, Assam & Meghalaya, Punjab, Haryana-Chandigarh-Delhi, West Rajasthan, Gujarat state, East Madhya Pradesh, Gangetic West Bengal, Marathwada and Kerala & Mahe. These were **below normal (-1.6°C to -3.0°C)** at isolated places over Jammu-Kashmir-Ladakh-Gilgit-Baltistan-Muzaffarabad, East Uttar Pradesh, Coastal Andhra Pradesh & Yanam and Telangana and **near normal** over rest parts of the country. Yesterday, **the lowest minimum temperature of 18.5°C** was reported at **Dehri (Bihar)** over the plains of the country.
- ❖ **Maximum Temperature Departures (as on 14-07-2024):** Maximum temperatures were **appreciably above normal (3.1°C to 5.0°C)** at a few places over Sub-Himalayan West Bengal & Sikkim and Assam & Meghalaya; at isolated places over Uttarakhand, Punjab and Gujarat Region; **above normal (1.6°C to 3.0°C)** at a few places over East Uttar Pradesh and Arunachal Pradesh; at isolated places over Jammu-Kashmir-Ladakh-Gilgit-Baltistan-Muzaffarabad, West Uttar Pradesh, Rajasthan, Saurashtra & Kutch, Madhya Pradesh, Bihar, Jharkhand, Odisha, Chhattisgarh, Nagaland, Manipur, Mizoram & Tripura and Vidarbha. These were **markedly below normal (-5.1°C or less)** at isolated places over Coastal Andhra Pradesh & Yanam; **appreciably below normal (-3.1°C to -5.0°C)** at isolated places over Madhya Maharashtra and Telangana; **below normal (-1.6°C to -3.0°C)** at isolated places over Konkan & Goa, Marathwada and North Interior Karnataka and **near normal** over rest parts of the country. Yesterday, **the highest Maximum Temperature of 41.3°C** was reported at **Jaisalmer (West Rajasthan)** over the country.

Meteorological Analysis (Based on 0530 hours IST)

- ❖ The Monsoon trough at mean sea level now passes through Jaisalmer, Kota, Guna, Sagar, Puri and thence southeastwards to eastcentral Bay of Bengal extending upto 0.9 km above mean sea level.
- ❖ The **Western Disturbance** as a trough in middle tropospheric westerlies with its axis at 5.8 km above mean sea level now runs roughly along Long. 72°E to the north of Lat. 30°N.
- ❖ The off-shore trough at mean sea level along South Gujarat-north Kerala coasts persists.
- ❖ The cyclonic circulation over Gangetic West Bengal & adjoining Jharkhand & Odisha extending upto 5.8 km above mean sea level tilting southwestwards with height persists.
- ❖ A cyclonic circulation lies over West Rajasthan & neighbourhood at 0.9 km above mean sea level.
- ❖ The cyclonic circulation over Nagaland & neighbourhood extending upto 1.5 km above mean sea level has become less marked.
- ❖ The cyclonic circulation over Gujarat at 5.8 km above mean sea level has become less marked.

Weather Forecast for next 7 days (Upto 0830 hours IST of 22nd July, 2024)

- ❖ Meteorological sub-division wise detailed 7 days rainfall forecast is given in Table-1.
- ❖ Thunderstorm accompanied with lightning very likely at isolated places over western Himalayan Region, Central and South Peninsular India during next 4-5 days.
- ❖ No significant change in maximum temperatures very likely over most parts of the country.

Weather Outlook for subsequent 3 days (During 22nd -24th July, 2024)

- ❖ Fairly widespread to widespread rainfall likely over most parts of the country except plains of northwest India and East peninsular India where isolated to scattered rainfall likely.

Table-1

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

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

* 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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Fig. 1: Maximum Temperatures

Fig. 2: Departure of Maximum Temperatures

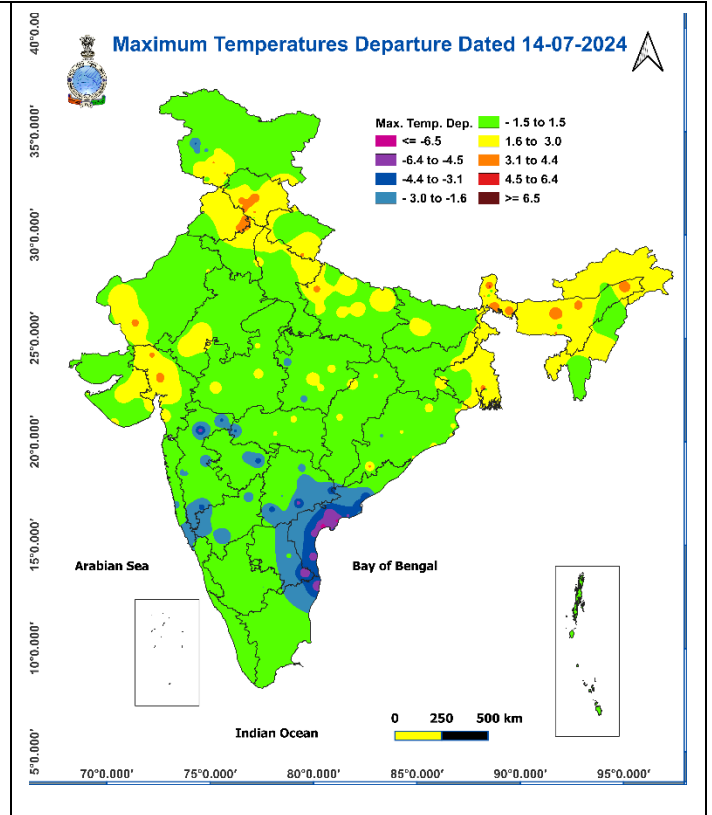
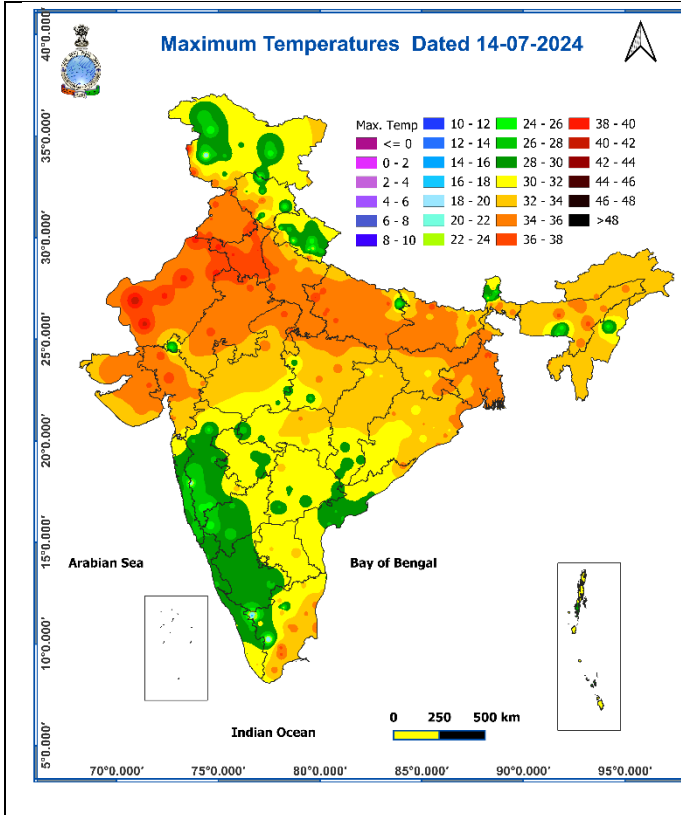


Fig. 3: Minimum Temperatures

Fig. 4: Departure of Minimum Temperatures

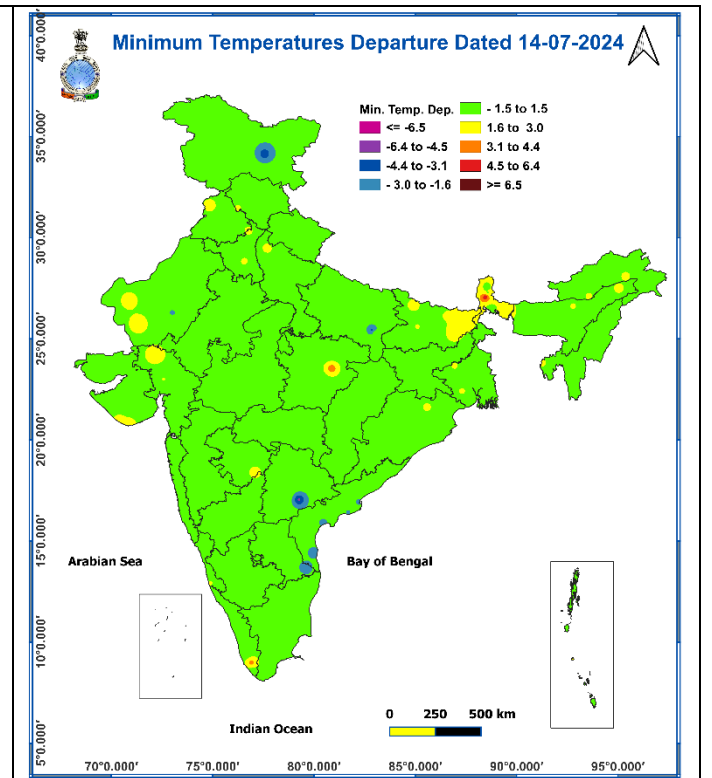
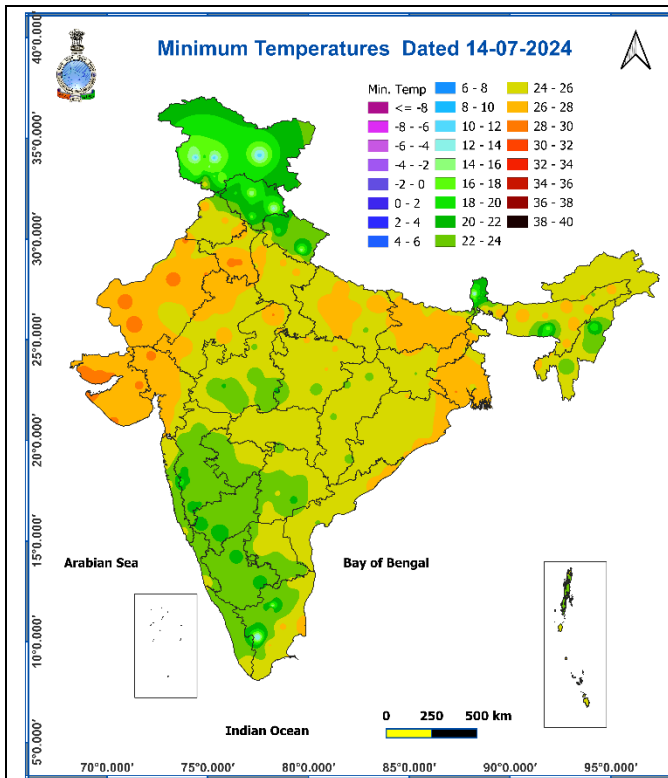
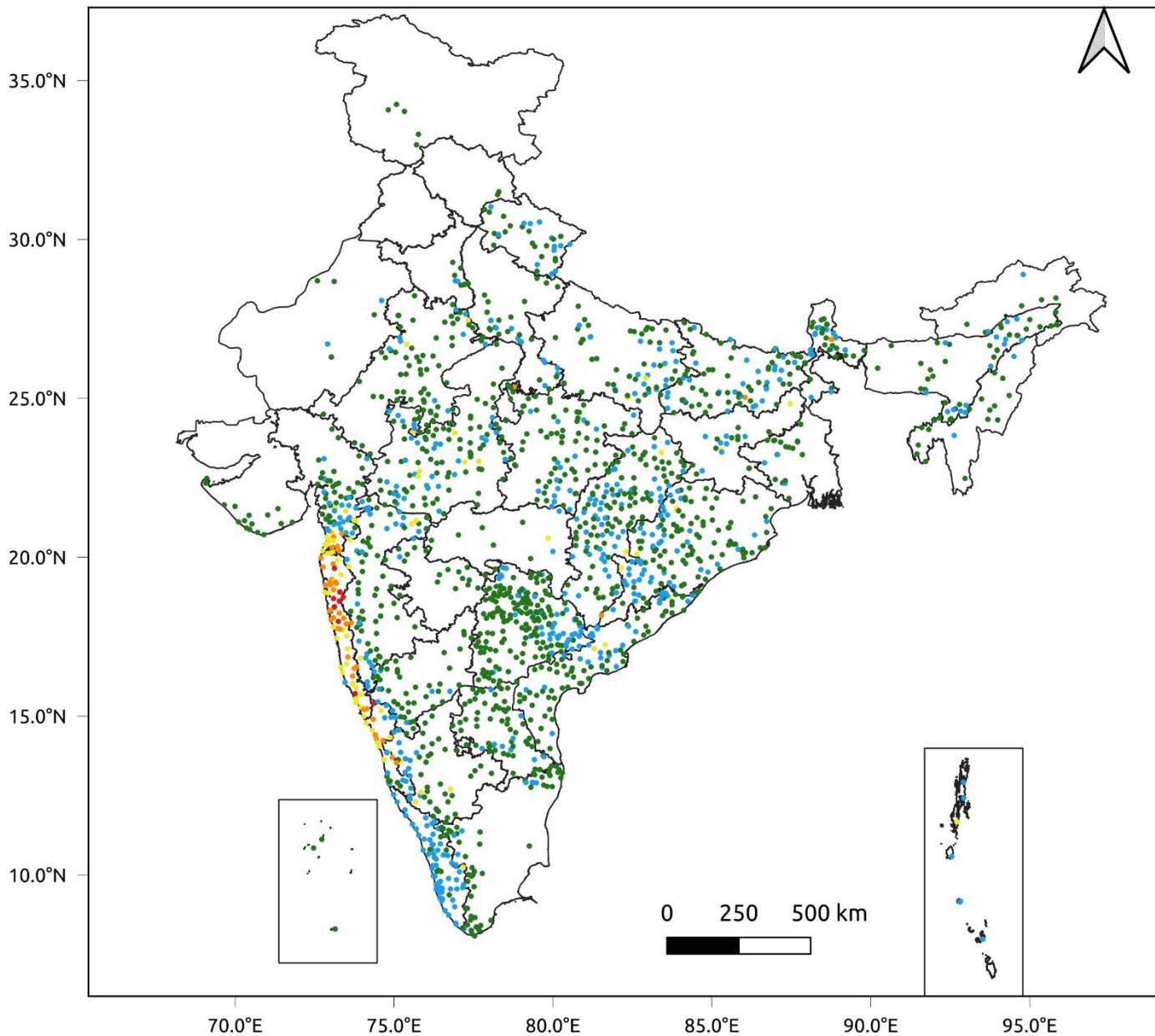


Fig. 5: Accumulated Rainfall (mm) during past 24 hours

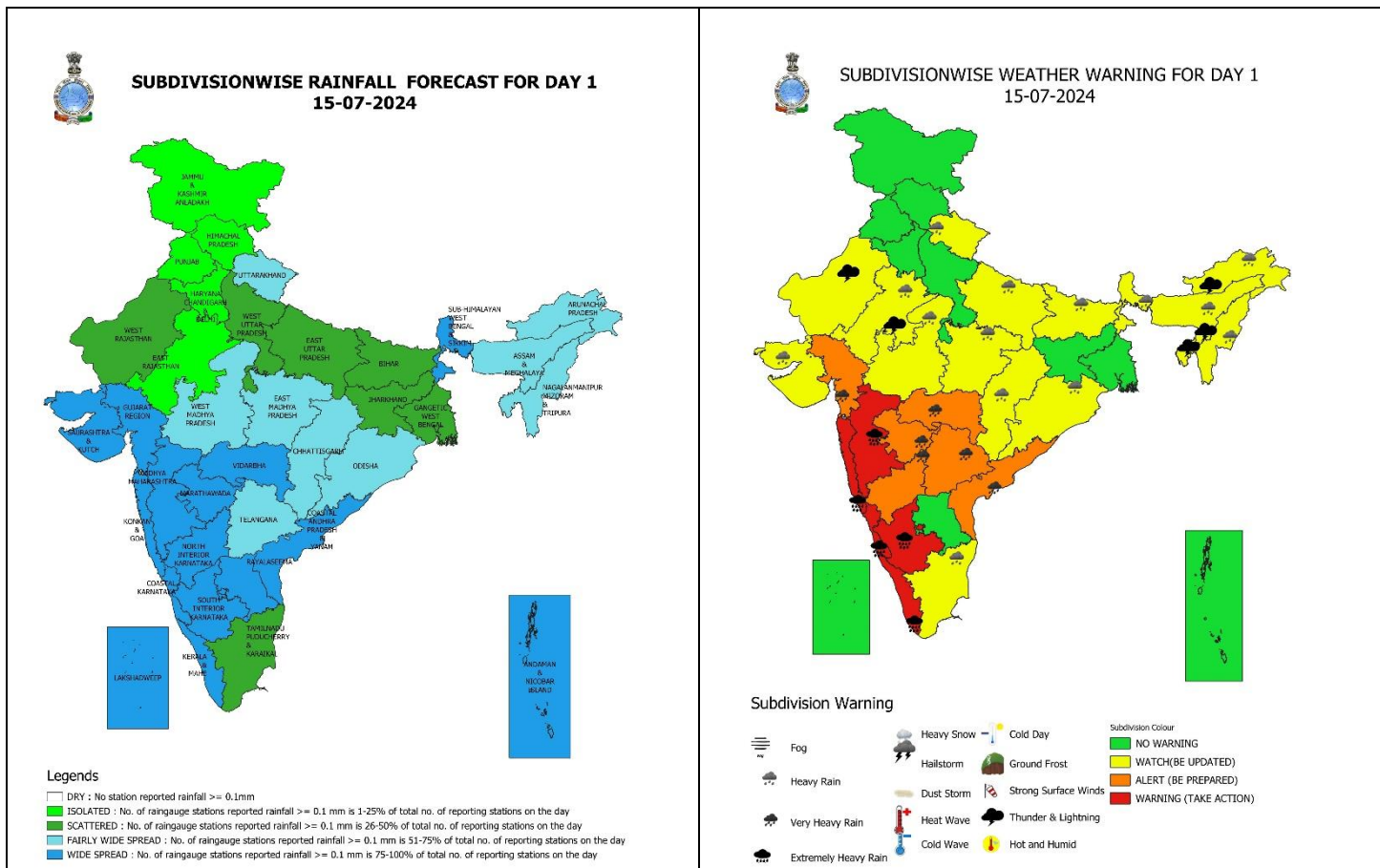


24 Hr cumulative rainfall recorded over different stations during 0830 IST of 13-7-2024 to 0830 IST of 14-7-2024



Legends

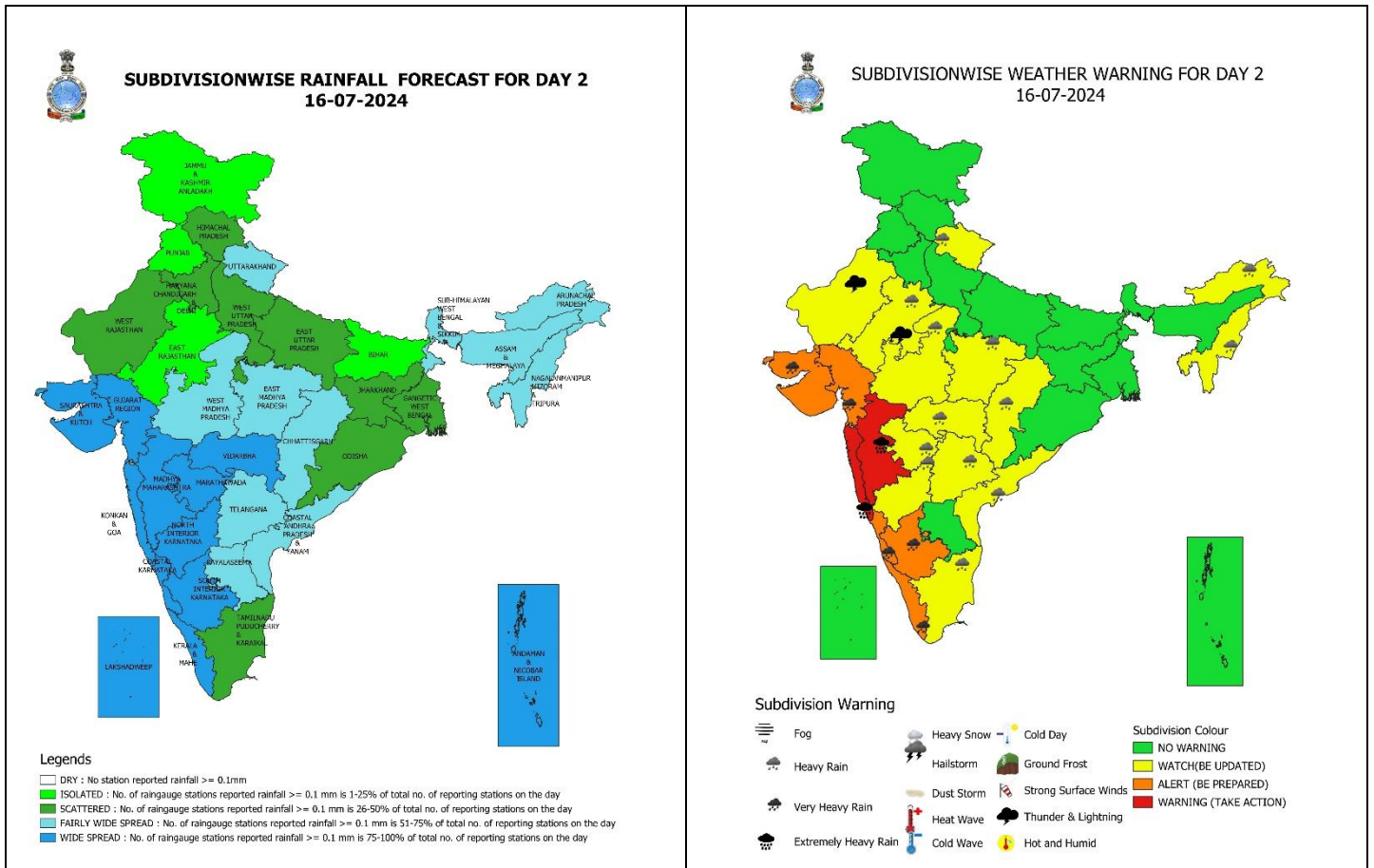
- Very Light to Light Rainfall (0.1 - 15.5 mm)
- Moderate Rainfall (15.6 - 64.4 mm)
- Heavy Rainfall (64.5 - 115.5 mm)
- Very Heavy Rainfall (115.6 - 204.4 mm)
- Extremely Heavy Rainfall (≥ 204.5 mm)



15 July (Day 1):

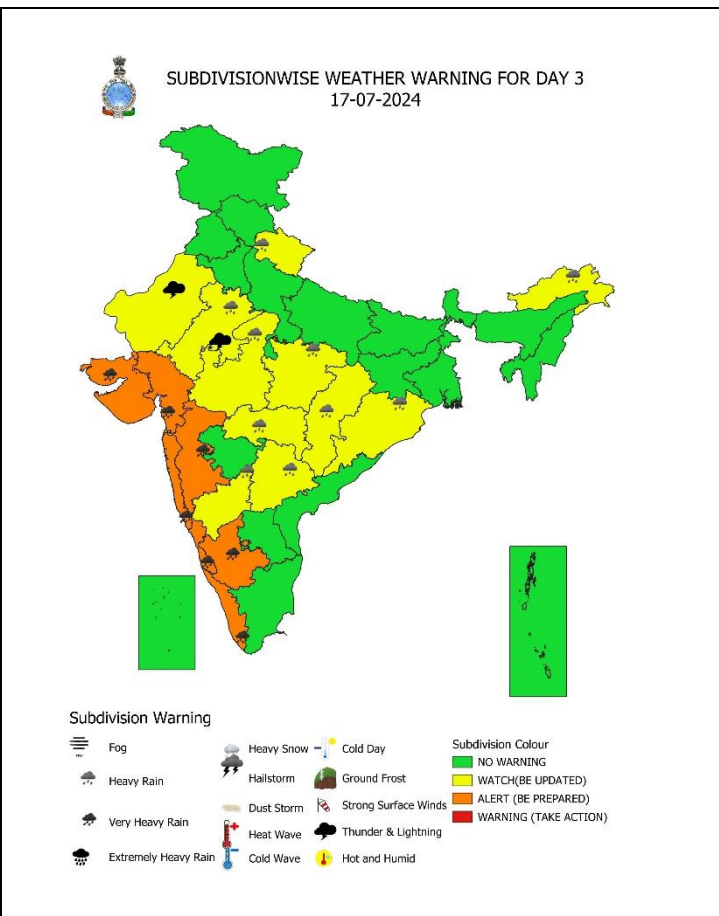
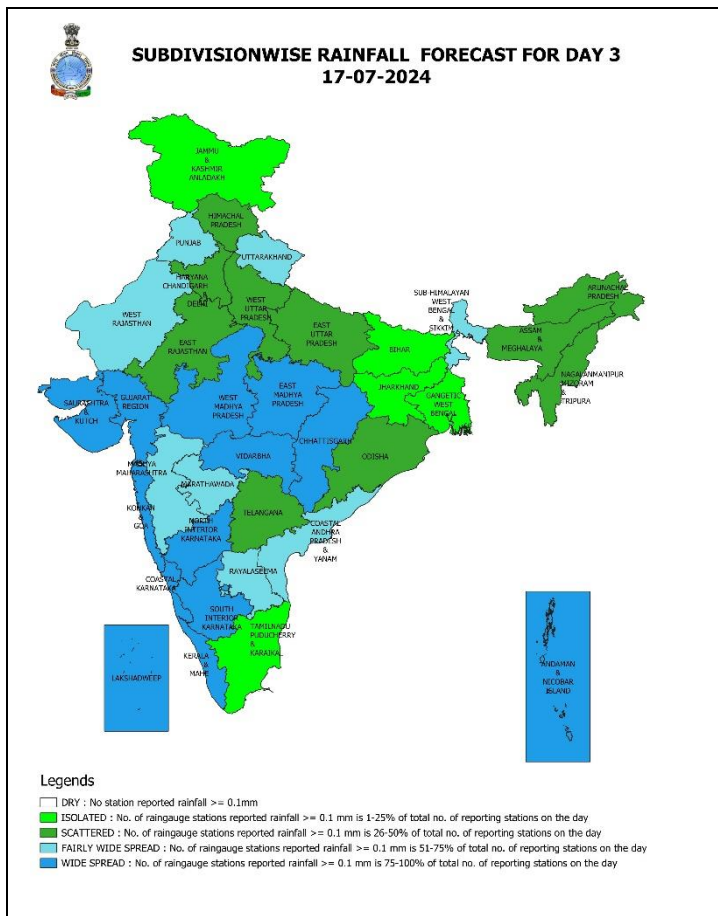
- ❖ **Heavy to very heavy rainfall with extremely heavy falls very likely** at a few places over Konkan & Goa, Kerala & Mahe and Coastal Karnataka and at isolated places over ghat area of Madhya Maharashtra and South Interior Karnataka; **Heavy to very heavy rainfall** at isolated places over Vidarbha, Marathwada, Gujarat Region, Coastal Andhra Pradesh & Yanam, Telangana and North Interior Karnataka; **Heavy rainfall** at isolated places over Uttarakhand, East Uttar Pradesh, East Rajasthan, Madhya Pradesh, Chhattisgarh, Sub-Himalayan West Bengal & Sikkim, Bihar, Odisha, Arunachal Pradesh, Assam & Meghalaya, Nagaland, Manipur, Mizoram & Tripura, Saurashtra & Kutch and Ghat area of Tamil Nadu.
- ❖ **Thunderstorm accompanied with lightning & gusty winds (speed reaching 30-40 kmph)** very likely at isolated places over West Rajasthan; **Thunderstorm accompanied with lightning** at isolated places over East Rajasthan, Arunachal Pradesh, Assam & Meghalaya and Nagaland, Manipur, Mizoram & Tripura.
- ❖ **Squally weather with wind speed reaching 35 kmph to 45 kmph gusting to 55 kmph likely** to prevail over northeast Arabian sea and adjoining northwest Arabian sea, Central Arabian sea and adjoining south Arabian sea, along and off Gujarat, Maharashtra, Konkan, goa, Karnataka, Kerala coasts, over Lakshadweep area, gulf of Mannar, off Sri Lanka coasts, over south and central Bay of Bengal, over north Andaman Sea. **Squally weather with wind speeds reaching 45 kmph to 55 kmph gusting to 65 kmph** likely to prevail parts of eastcentral and adjoining southeast Arabian Sea and along & off Maharashtra, Konkan, Goa & Karnataka coasts, westcentral & adjoining eastcentral Bay of Bengal and along & off Andhra Pradesh coast; Westcentral and adjoining Eastcentral & adjoining areas of north Arabian sea, and southwest Arabian sea, along & off Somalia & Oman coasts.

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16 July (Day 2):

- ❖ **Heavy to very heavy rainfall with extremely heavy falls** very likely at a few places over Konkan & Goa and at isolated places over ghat area of Ghat area of Madhya Maharashtra; **Heavy to very heavy rainfall** at isolated places over Gujarat state, Kerala & Mahe and Coastal & South Interior Karnataka ; **Heavy rainfall** at isolated places over Uttarakhand, East Uttar Pradesh, East Rajasthan, Madhya Pradesh, Chhattisgarh, Vidarbha, Arunachal Pradesh, Nagaland, Manipur, Mizoram & Tripura, Marathwada, Coastal Andhra Pradesh & Yanam, Telangana, North Interior Karnataka and Ghat area of Tamil Nadu.
- ❖ **Thunderstorm accompanied with lightning & gusty winds (speed reaching 30-40 kmph)** very likely at isolated places over West Rajasthan; **Thunderstorm accompanied with lightning** at isolated places over East Rajasthan.
- ❖ **Squally weather with wind speed reaching 35 kmph to 45 kmph gusting to 55 kmph** likely to prevail over northeast Arabian sea, central Arabian sea, and adjoining south Arabian sea, along and off Gujarat, Kerala coasts, over Lakshadweep area, gulf of Mannar, off Sri Lanka coasts, over south and central Bay of Bengal, over north Andaman Sea. **Squally weather with wind speeds reaching 45 kmph to 55 kmph gusting to 65 kmph** likely to prevail parts of eastcentral and adjoining southeast Arabian Sea and along & off Maharashtra, Konkan, Goa & Karnataka coasts, westcentral and Bay of Bengal and along & off Andhra Pradesh coast; Westcentral and adjoining Eastcentral & adjoining areas of north Arabian sea, and southwest Arabian sea, along & off Somalia & Oman coasts.

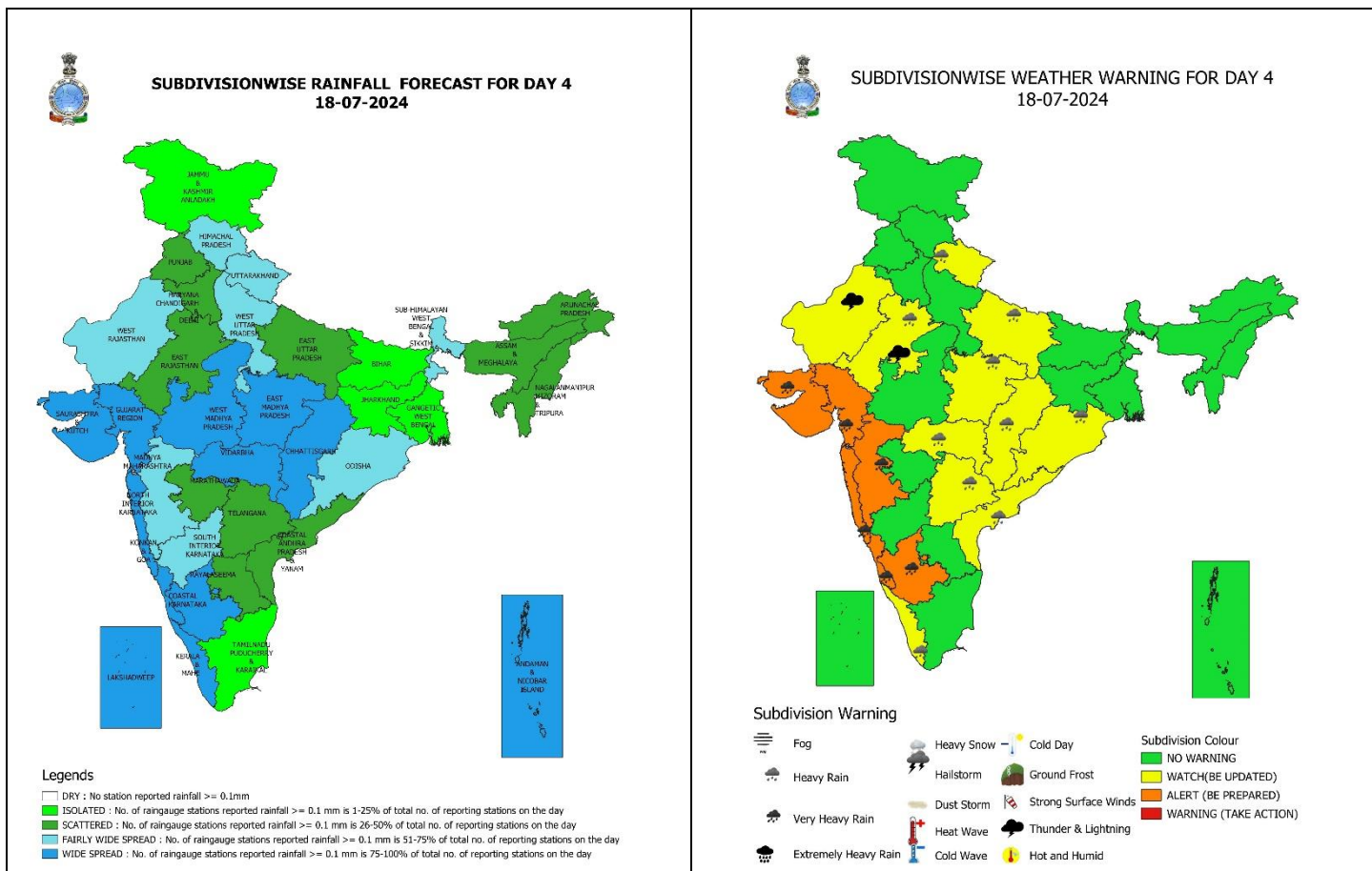


17 July (Day 3):

❖ **Heavy to very heavy rainfall falls likely** at a few places over Konkan & Goa; at isolated places over Madhya Maharashtra, Gujarat state, Kerala & Mahe, Coastal Karnataka and North Interior Karnataka; **Heavy rainfall** at isolated places over Uttarakhand, East Rajasthan, Madhya Pradesh, Vidarbha, Chhattisgarh, Odisha, Arunachal Pradesh and Telangana.

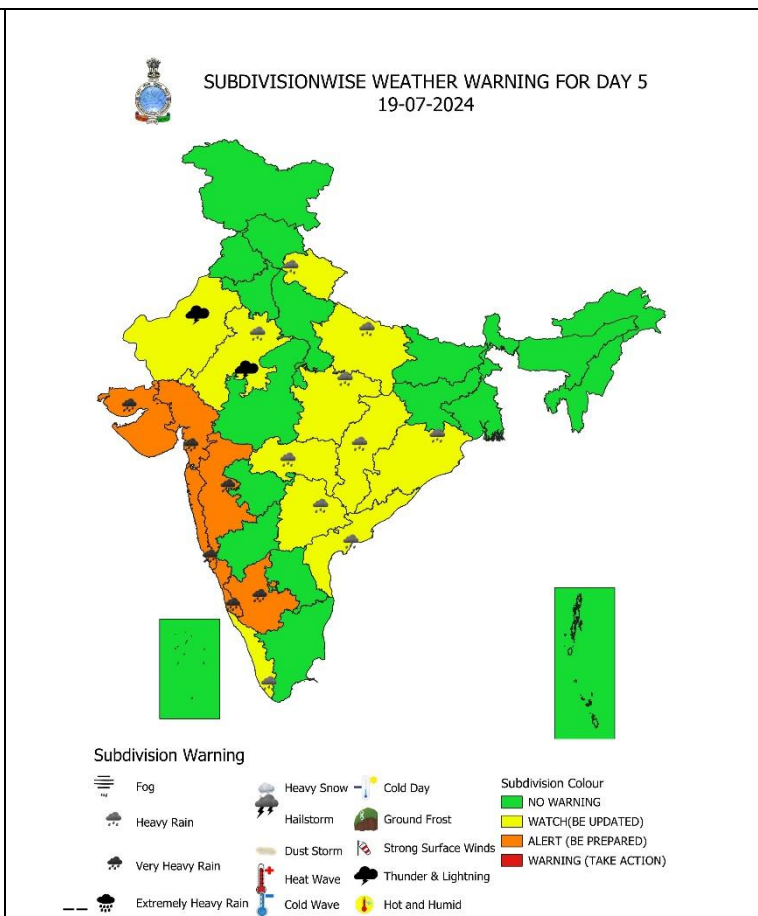
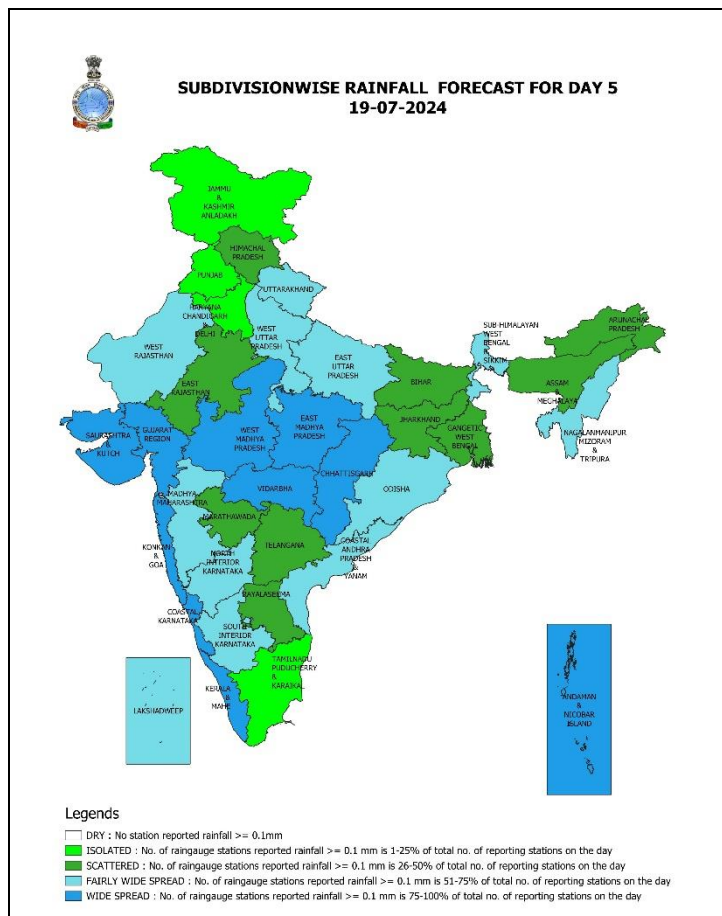
❖ **Thunderstorm accompanied with lightning & gusty winds (speed reaching 30-40 kmph)** very likely at isolated places over West Rajasthan; **Thunderstorm accompanied with lightning** at isolated places over East Rajasthan.

Squally weather with wind speed reaching 35 kmph to 45 kmph gusting to 55 kmph likely to prevail over northeast Arabian sea, central and adjoining south Arabian sea, along and off Gujarat, Kerala coasts, over Lakshadweep area, gulf of Mannar, off Sri Lanka coasts, over south and central Bay of Bengal, over north Andaman Sea. **Squally weather with wind speeds reaching 45 kmph to 55 kmph gusting to 65 kmph** likely to prevail parts of eastcentral and adjoining southeast Arabian Sea and along & off Maharashtra, Konkan, Goa & Karnataka coasts, westcentral and Bay of Bengal and along & off Andhra Pradesh coast; Westcentral and adjoining Eastcentral & adjoining areas of southwest Arabian sea, along & off Somalia & Oman coasts.



18 July (Day 4):

- ❖ **Heavy to very heavy rainfall falls likely** at a few places over Konkan & Goa; at isolated places over Madhya Maharashtra, Gujarat state, Coastal Karnataka and North Interior Karnataka; **Heavy rainfall** at isolated places over Uttarakhand, East Uttar Pradesh, East Rajasthan, West Madhya Pradesh, Vidarbha, Chhattisgarh, Odisha, Kerala & Mahe, Coastal Andhra Pradesh & Yanam and Telangana.
- ❖ **Thunderstorm accompanied with lightning & gusty winds (speed reaching 30-40 kmph)** very likely at isolated places over West Rajasthan; **Thunderstorm accompanied with lightning** at isolated places over East Rajasthan.
- ❖ **Squally weather with wind speed reaching 35 kmph to 45 kmph gusting to 55 kmph** likely to prevail over northeast Arabian sea, central and adjoining south Arabian sea, along and off Konkan & Goa, Kerala coasts, over Lakshadweep area, gulf of Mannar, off Sri Lanka coasts, over south and central Bay of Bengal, over north Andaman Sea. **Squally weather with wind speeds reaching 45 kmph to 55 kmph gusting to 65 kmph** likely to prevail parts of eastcentral and adjoining northeast Arabian Sea and along & off Gujarat coasts, Maharashtra, westcentral and Bay of Bengal and along & off Andhra Pradesh coast; Westcentral and adjoining Eastcentral & adjoining areas of southwest Arabian sea, along & off Somalia & Oman coasts.

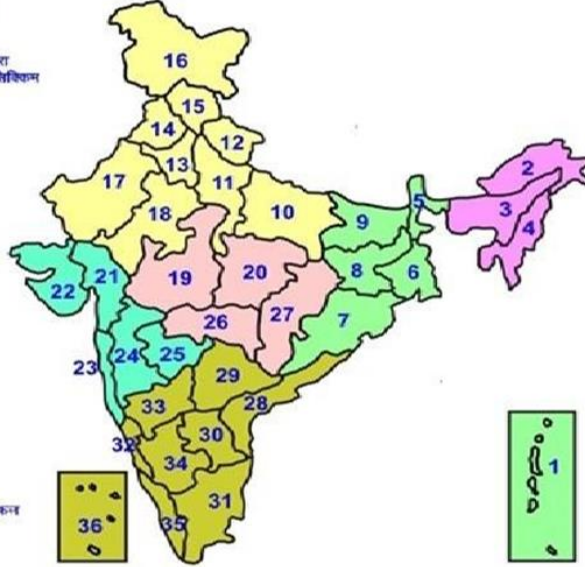


19 July (Day 5):

- ❖ **Heavy to very heavy rainfall falls likely** at a few places over Konkan & Goa; at isolated places over Madhya Maharashtra, Gujarat state, Coastal Karnataka and North Interior Karnataka; **Heavy rainfall** at isolated places over Uttarakhand, East Uttar Pradesh, East Rajasthan, West Madhya Pradesh, Vidarbha, Chhattisgarh, Odisha, Kerala & Mahe, Coastal Andhra Pradesh & Yanam and Telangana.
- ❖ **Thunderstorm accompanied with lightning & gusty winds (speed reaching 30-40 kmph)** very likely at isolated places over West Rajasthan; **Thunderstorm accompanied with lightning** at isolated places over East Rajasthan.
- ❖ **Squally weather with wind speed reaching 35 kmph to 45 kmph gusting to 55 kmph** likely to prevail over northeast Arabian sea, central and adjoining south Arabian sea, along and off Konkan & Goa, Kerala coasts, over Lakshadweep area, gulf of Mannar, off Sri Lanka coasts, over south and central Bay of Bengal, over north Andaman Sea. **Squally weather with wind speeds reaching 45 kmph to 55 kmph gusting to 65 kmph** likely to prevail parts of eastcentral and adjoining northeast Arabian Sea and along & off Gujarat coasts, Maharashtra, westcentral and Bay of Bengal and along & off Andhra Pradesh coast; Westcentral and adjoining Eastcentral & adjoining areas of southwest Arabian sea, along & off Somalia & Oman coasts.

LEGENDS

- 1 अंडमान और निकोबार द्वीप समूह
- 2 अरुणाचल प्रदेश
- 3 असम और मेघालय
- 4 नागालैंड, मणिपुर, मिजोरम 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 एवं कच्छ
- 24 मध्य प्रदेश
- 25 मराठवाड़ा
- 26 विदर्भ
- 27 छत्तीसगढ़
- 28 उत्तरी आंध्र प्रदेश एवं यानम
- 29 तेलंगाना
- 30 आंध्र प्रदेश
- 31 तमिलनाडु, पुदुचेरी एवं केरला
- 32 उत्तरी 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. 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

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)