



National Weather Forecasting Centre India Meteorological Department Ministry of Earth Sciences

Wednesday, July 10, 2024 Time of Issue: 2000 hours IST (NIGHT)

ALL INDIA WEATHER SUMMARY AND FORECAST BULLETIN

Significant Weather Features:

Weather Systems

- ✓ The Monsoon trough is active and it is near to its normal position in lower tropospheric levels.
- ✓ A shear zone runs over north peninsular India in middle tropospheric levels tilting southwards with height.
- ✓ The off-shore trough at mean sea level runs along north Maharashtra- north Kerala coasts.
- ✓ A cyclonic circulation over Kutch in lower tropospheric levels tilting southwestwards with height.
- ✓ A cyclonic circulation over northeast Assam & neighbourhood and an east-west trough runs from northeast Uttar Pradesh to the above cyclonic circulation over northeast Assam in lower tropospheric levels.

Forecast & Warnings

West 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; scattered to fairly widespread light to moderate rainfall over Gujarat Region, Coastal Andhra Pradesh & Yanam, Telangana; isolated to scattered light to moderate rainfall over Tamil Nadu, Puducherry & Karaikal and Rayalaseema during next 5 days.
- ✓ Isolated heavy to very heavy rainfall very likely over Konkan & Goa, Madhya Maharashtra and Coastal Karnataka during 10th-14th; isolated heavy rainfall over Gujarat Region during 10th-14th; North Interior Karnataka during 11th-14th; Saurashtra & Kutch on 10th & 11th; Lakshadweep on 10th; Kerala & Mahe and South Interior Karnataka during 12th-14th July.
- ✓ Isolated very heavy rainfall also likely over Goa on 10th & 11th; Konkan during 12th-14th and Gujarat State today.

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, Bihar and Northeast India; scattered to fairly widespread light to moderate rainfall over Gangetic West Bengal, Jharkhand, Odisha during next 5 days.
- ✓ **Heavy to very heavy rainfall** very likely at isolated places over Sub-Himalayan West Bengal & Sikkim, Bihar, Arunachal Pradesh, Assam & Meghalaya during 10th−14th; isolated **heavy rainfall** over Jharkhand on 11th & 12th; Odisha during 12th-14th; Nagaland and Manipur on 10th, 11th & 14th July.
- ✓ Isolated extremely heavy rainfall very likely over Sub-Himalayan West Bengal & Sikkim, Meghalaya on 10th & 11th and Bihar on 11th July.

Northwest & Central India

- ✓ Fairly widespread to widespread light to moderate rainfall accompanied with thunderstorm & lightning very likely over Uttarakhand and Central India; scattered to fairly widespread light to moderate rainfall over Himachal Pradesh, Uttar Pradesh, Jammu-Kashmir-Ladakh-Gilgit-Baltistan-Muzaffarabad and East Rajasthan during next 5 days; Punjab, Haryana-Chandigarh-Delhi during 11th-13th July.
- ✓ Isolated **heavy rainfall** very likely over East Uttar Pradesh & Chhattisgarh during 10th-14th; Uttarakhand, West Uttar Pradesh during 10th-12th; Himachal Pradesh during 11th-13th; Jammu on 12th & 13th; north Haryana, north Punjab on 12th; East Rajasthan, Madhya Pradesh on 10th & 11th July.
- ✓ Isolated very heavy rainfall also likely over East Uttar Pradesh on 10th & 11th and East Madhya Pradesh on 11th July.







Main Weather Observations:

- * Rainfall distribution (from 0830 hours IST to 1730 hours IST of today): at many places over Assam & Meghalaya; at a few places over Uttar Pradesh, Bihar, Sub-Himalayan West Bengal & Sikkim, Nagaland, Manipur, Mizoram & Tripura, Konkan & Goa, Lakshadweep and Andaman & Nicobar Islands; at isolated places over Jammu-Kashmir-Ladakh-Gilgit-Baltistan-Muzaffarabad, Himachal Pradesh, Punjab, Haryana-Chandigarh-Delhi, Gangetic West Bengal, Jharkhand, Odisha, Chhattisgarh, Madhya Pradesh, Arunachal Pradesh, East Rajasthan, Gujarat state, Vidarbha, Madhya Maharashtra, Karnataka, Telangana, Coastal Andhra Pradesh & Yanam, Rayalaseema, Kerala & Mahe and Tamil Nadu, Puducherry & Karaikal.
- **Heavy rainfall** (from 0830 hours IST to 1730 hours IST of today): at isolated places over Chhattisgarh.
- ❖ Significant amount of rainfall (from 0830 hours IST to 1730 hours IST of today) (in cm): Chhattisgarh: Ambikapur 7; East Uttar Pradesh: Varanasi (Babatpur) 6, Kanpur (IAF) 4, Ballia 2; Coastal Karnataka: Karwar 6; Gujarat state: Diu & Botad 4 each, Chjotaudepur 2; Lakshadweep: Agathi & Amini Divi 4 each; Madhya Pradesh: Damoh 3, Bhopal & Shivpuri 2 each; Bihar: Forbesganj 3; Meghalaya: Cherrapunji 3; Gangetic West Bengal: Asansol 3; Arunachal Pradesh: Pasighat 3; Punjab: Amritsar 2; Delhi: Palam 2, Safdarjung 1; Sub-Himalayan West Bengal & Sikkim: Bagdogra and Jalpaiguri 2 each; Vidarbha: Wardha 2; Tamil Nadu: Kodaikanal 2.
- ❖ Minimum Temperature Departures (as on 10-07-2024): Minimum temperatures are above normal (1.6°C to 3.0°C) at a few places over West Rajasthan; at isolated places over Himachal Pradesh, Bihar, Odisha, East Madhya Pradesh, East Uttar Pradesh, Gujarat state, Sub-Himalayan West Bengal & Sikkim and East Rajasthan. These are below normal (-1.6°C to -3.0°C) at isolated places over Jammu-Kashmir-Ladakh-Gilgit-Baltistan-Muzaffarabad, West Uttar Pradesh, Vidarbha and North Interior Karnataka and near normal over rest parts of the country. Today, the lowest minimum temperature of 23.2°C is reported at Ridge (Delhi) over the plains of the country.
- ❖ Maximum Temperature Departures (as on 10-07-2024): Maximum temperatures are appreciably above normal (3.1°C to 5.0°C) at a few places over Odisha; at isolated places over Himachal Pradesh, West Rajasthan, East Uttar Pradesh, Jharkhand, Gangetic West Bengal, Chhattisgarh, Madhya Pradesh, Kerala & Mahe and Tamil Nadu, Puducherry & Karaikal; above normal (1.6°C to 3.0°C) at a few places over Madhya Maharashtra & Rayalaseema; at isolated places over Punjab, Uttarakhand, East Rajasthan, Gujarat state, West Uttar Pradesh, Bihar, Konkan & Goa, Vidarbha, Telangana and Coastal Andhra Pradesh & Yanam. These are below normal (-1.6°C to -3.0°C) at isolated places over Assam & Meghalaya, Arunachal Pradesh, Nagaland, Manipur, Mizoram, Tripura and Lakshadweep and near normal over rest parts of the country. Today, the highest Maximum Temperature of 42.7°C is reported at Bikaner (West Rajasthan) over the country.





National Weather Forecasting Centre India Meteorological Department Ministry of Earth Sciences

Meteorological Analysis (Based on 1730 hours IST)

- The Monsoon trough at mean sea level continue to pass through Jaisalmer, Kota, Shivpuri, Daltongani, Purulia, Contai and thence eastwards to northeast Bay of Bengal.
- The cyclonic circulation over northeast Assam & neighbourhood extending upto 1.5 km above mean sea level persists.
- The east-west trough from northeast Uttar Pradesh to the above cyclonic circulation over northeast Assam across north Bihar and Sub-Himalayan West Bengal at 1.5 km above mean sea level persists.
- The off-shore trough at mean sea level along north Maharashtra north Kerala coasts persists.
- ❖ The shear zone roughly along 20°N between 3.1 & 5.8 km above mean sea level tilting southwards with height persists.
- ❖ The cyclonic circulation over Kutch extending upto 1.5 km above mean sea level tilting southwestwards with height persists.
- The cyclonic circulation over northeast Rajasthan & neighbourhood extending upto 1.5 km above mean sea level persists.

Weather Forecast for next 7 days (Upto 0830 hours IST of 17th 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 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 17th-19th 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.





National Weather Forecasting Centre India Meteorological Department Ministry of Earth Sciences

Table-1

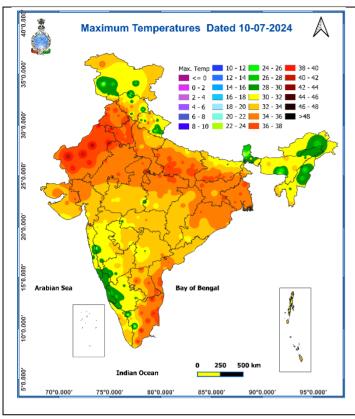
	7 Days Rainfall Forecast							
S.	Subdivision	10- Jul	11- Jul	12- Jul	13- Jul	14- Jul	15- Jul	16- Jul
No.		Day						
		1	2	3	4	5	6	7
1	ANDAMAN & NICOBAR ISLANDS	SCT	FWS	FWS	WS	WS	WS	WS
2	ARUNACHAL PRADESH	WS	WS	WS	FWS	FWS	FWS	FWS
3	ASSAM & MEGHALAYA	WS	WS	WS	FWS	FWS	FWS	FWS
4	NAGALAND, MANIPUR, MIZORAM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

Legend	Category	% Stations
WS	Widespread/Most Places	76-100
FWS	Fairly Widespread/Many Places	51-75
SCT	Scattered/ A Few Places	26-50
ISOL	Isolated Places	1-25
DRY	No Rain	0



Fig. 1: Maximum Temperatures

Fig. 2: Departure of Maximum Temperatures



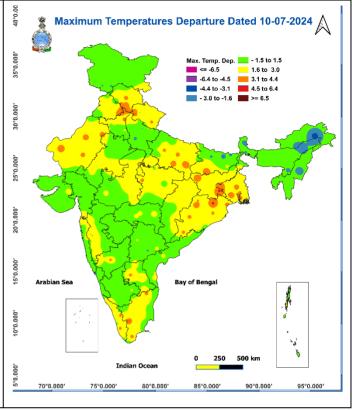
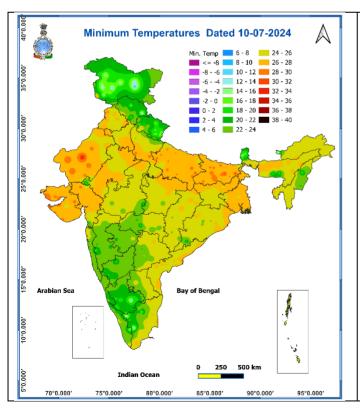
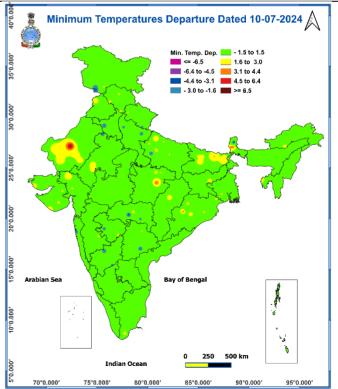


Fig. 3: Minimum Temperatures

Fig. 4: Departure of Minimum Temperatures





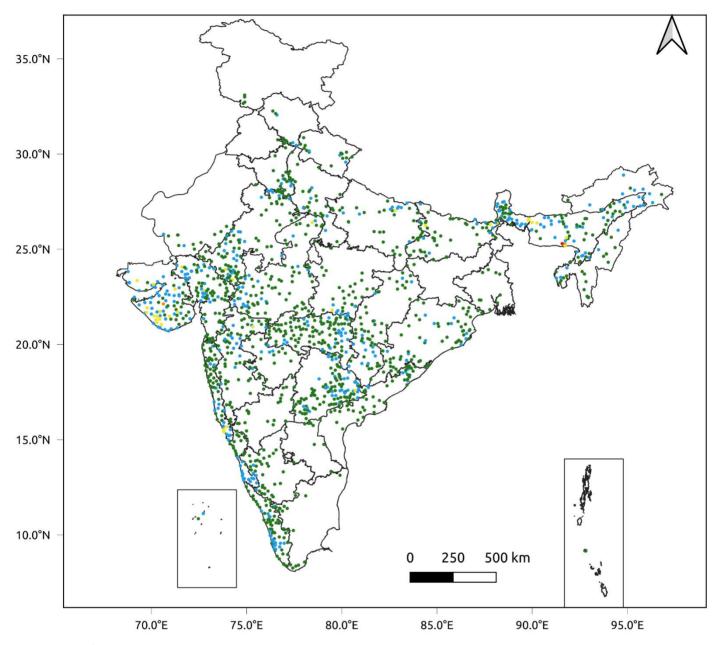








24 Hr cumulative rainfall recorded over different stations during 0830 IST of 9-7-2024 to 0830 IST of 10-7-2024

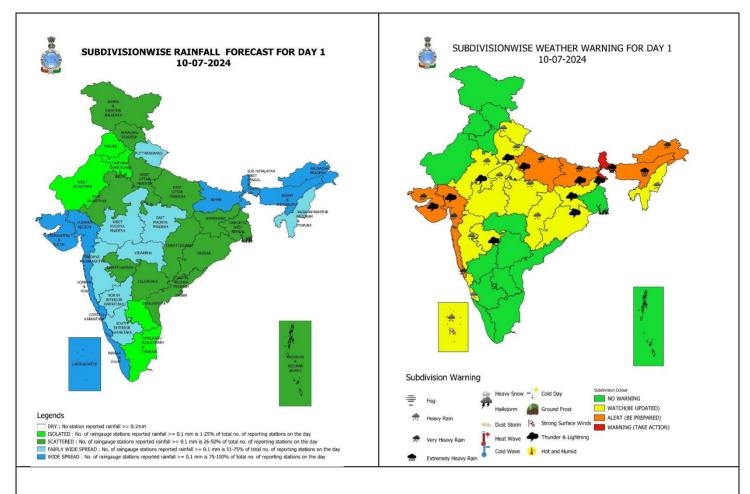


Legends

- 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)





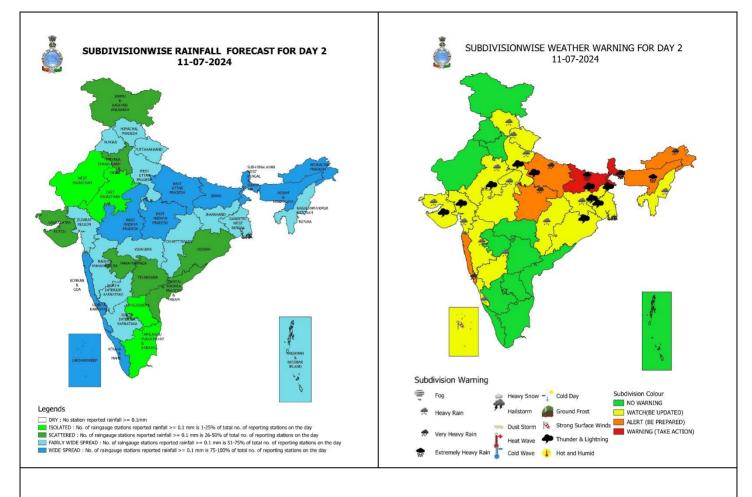


10 July (Day 1):

- * Heavy to very heavy rainfall with extremely heavy falls very likely at isolated places over Sub-Himalayan West Bengal & Sikkim, Assam & Meghalaya; Heavy to very heavy rainfall at isolated places over East Uttar Pradesh, Bihar, Arunachal Pradesh, Konkan & Goa, Gujarat state; Heavy rainfall at isolated places over Uttarakhand, West Uttar Pradesh, East Rajasthan, Madhya Pradesh, Chhattisgarh, Nagaland, Manipur, Madhya Maharashtra, Lakshadweep and Coastal Karnataka.
- ❖ Thunderstorm accompanied with lightning very likely at isolated places over Uttar Pradesh, East Rajasthan, Sub-Himalayan West Bengal & Sikkim, Bihar, Jharkhand, Odisha, Arunachal Pradesh, Assam & Meghalaya, Marathwada and Gujarat state.
- ❖ Squally weather with wind speed 35 kmph to 45 kmph gusting to 55 kmph very likely to prevail over many parts of eastcentral and westcentral Arabian sea, northern parts of southwest Arabian sea, gulf of Mannar, off Sri Lanka coast, southwest & adjoining southeast Bay of Bengal, most parts of central Bay of Bengal and adjoining northwest Bay of Bengal, off north Andhra Pradesh, south Odisha coasts. Squally weather with wind speed 45 kmph to 55 kmph gusting to 65 kmph likely to prevail along and off Somalia coast, adjoining and northern parts of southwest Arabian sea, over most parts of westcentral Arabian sea, along and off south Oman coast. Fishermen are advised not to venture into these areas.





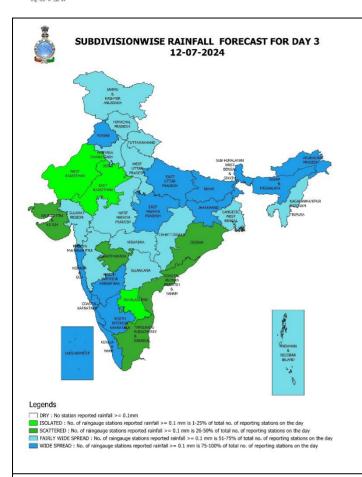


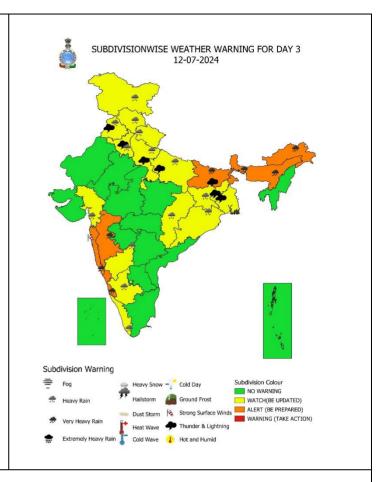
11 July (Day 2):

- ❖ Heavy to very heavy rainfall with extremely heavy falls very likely at isolated places over Sub-Himalayan West Bengal & Sikkim, Bihar and Meghalaya; Heavy to very heavy rainfall at isolated places over East Uttar Pradesh, East Madhya Pradesh, Arunachal Pradesh, Assam, Konkan & Goa; Heavy rainfall at isolated places over Himachal Pradesh, Uttarakhand, West Uttar Pradesh, East Rajasthan, West Madhya Pradesh, Chhattisgarh, Jharkhand, Nagaland, Manipur, Madhya Maharashtra, Gujarat state, Coastal & North Interior Karnataka.
- ❖ Thunderstorm accompanied with lightning very likely at isolated places over Uttar Pradesh, East Rajasthan, West Bengal & Sikkim, Bihar, Jharkhand, Odisha, Arunachal Pradesh, Assam & Meghalaya and Gujarat state.
- ❖ Squally weather with wind speed 35 kmph to 45 kmph gusting to 55 kmph very likely to prevail over southern parts of northeast Arabian sea and adjoining northwest Arabian sea, many parts of eastcentral and most parts of westcentral Arabian sea, northern parts of southwest Arabian sea and adjoining southeast Arabian sea, gulf of Mannar, off Sri Lanka coast, southwest & adjoining southeast Bay of Bengal, most parts of central and northwest Bay of Bengal, off north Andhra Pradesh and south Odisha coasts. Squally weather with wind speed 45 kmph to 55 kmph gusting to 65 kmph likely to prevail along and off Somalia coast, adjoining and northern parts of southwest Arabian sea, over most parts of westcentral Arabian sea, along and off south Oman coast. Fishermen are advised not to venture into these areas.



National Weather Forecasting Centre India Meteorological Department Ministry of Earth Sciences



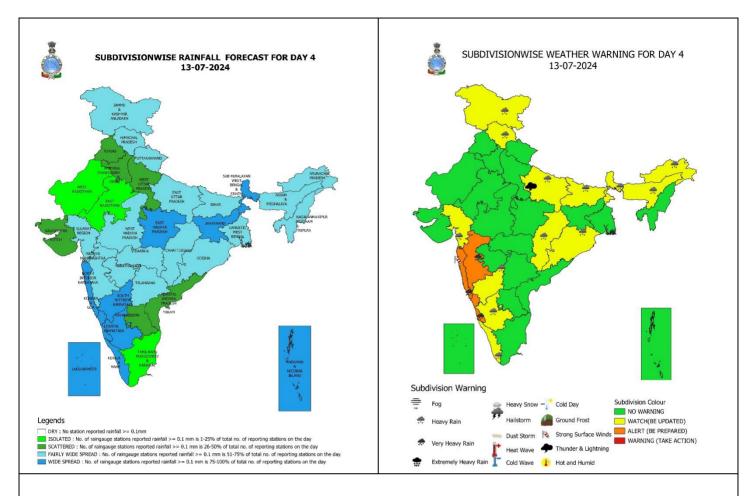


12 July (Day 3):

- Heavy to very heavy rainfall very likely at isolated places Sub-Himalayan West Bengal & Sikkim, Bihar, Arunachal Pradesh, Assam & Meghalaya, Madhya Maharashtra and Coastal Karnataka; Heavy rainfall at isolated places over Jammu-Kashmir-Ladakh-Gilgit-Baltistan-Muzaffarabad, Himachal Pradesh, Uttarakhand, Punjab, Haryana-Chandigarh-Delhi, Uttar Pradesh, Chhattisgarh, Jharkhand, Odisha, Konkan & Goa, Gujarat Region, Kerala & Mahe and Interior Karnataka.
- ❖ Thunderstorm accompanied with lightning very likely at isolated places over Punjab, Haryana-Chandigarh-Delhi, Uttar Pradesh, Gangetic West Bengal, Bihar, Jharkhand and Assam & Meghalaya.
- ❖ Squally weather with wind speed 35 kmph to 45 kmph gusting to 55 kmph very likely to prevail over southern parts of northeast Arabian sea and adjoining northwest Arabian sea, eastcentral and adjoining westcentral Arabian sea, northern parts of southeast Arabian sea and most parts of southwest Arabian sea, along and off Gujarat, Maharashtra, Konkan, Goa coasts, gulf of Mannar, off Sri Lanka coast, southwest & adjoining southeast Bay of Bengal, most parts of central Bay of Bengal and north Bay of Bengal, off north Andhra Pradesh and south Odisha coasts. Squally weather with wind speed 45 kmph to 55 kmph gusting to 65 kmph likely to prevail over central parts of west central Bay of Bengal, along and off Somalia coast & adjoining and northern parts of southwest Arabian sea, over westcentral Arabian sea, adjoining eastcentral Arabian sea, southern parts of northwest Arabian sea, along and off Oman coast. Fishermen are advised not to venture into these areas.





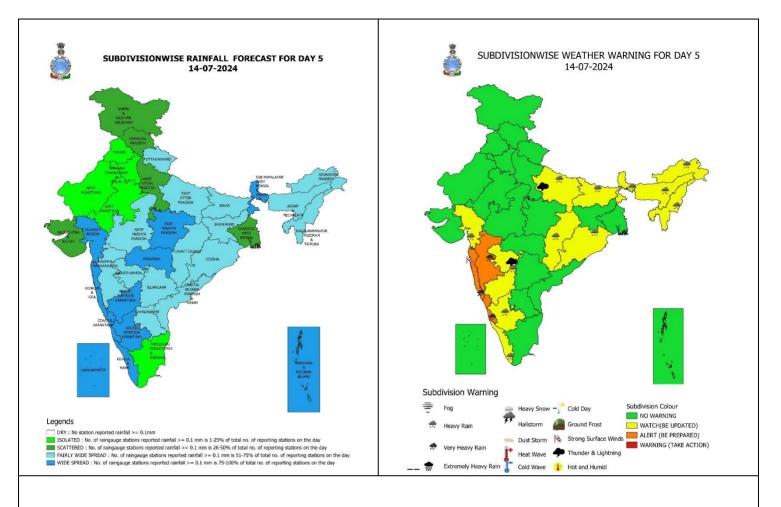


13 July (Day 4):

- Heavy to very heavy rainfall likely at isolated places over Madhya Maharashtra, Konkan & Goa, Coastal Karnataka; Heavy rainfall at isolated places over Jammu-Kashmir-Ladakh-Gilgit-Baltistan-Muzaffarabad, Himachal Pradesh, East Uttar Pradesh, Chhattisgarh, Sub-Himalayan West Bengal & Sikkim, Bihar, Odisha, Arunachal Pradesh, Assam & Meghalaya, Gujarat Region, Kerala & Mahe and Interior Karnataka.
- **Thunderstorm accompanied with lightning** likely at isolated places over East Uttar Pradesh.
- ❖ Squally weather with wind speed 35 kmph to 45 kmph gusting to 55 kmph likely to prevail over southern parts of northeast Arabian sea and adjoining northwest Arabian sea, eastcentral and adjoining westcentral Arabian sea, northern parts of southeast Arabian sea and most parts of southwest Arabian sea, along and off Gujarat, Maharashtra, Konkan, goa coasts, gulf of Mannar, off Sri Lanka coast, southwest & adjoining southeast Bay of Bengal, most parts of central Bay of Bengal and north Bay of Bengal, off north Andhra Pradesh and south Odisha coasts. Squally weather with wind speed 45 kmph to 55 kmph gusting to 65 kmph likely to prevail over central parts of west central Bay of Bengal, along and off Somalia coast & adjoining and northern parts of southwest Arabian sea, over westcentral Arabian sea, adjoining eastcentral Arabian sea, southern parts of northwest Arabian sea, along and off Oman coast. Fishermen are advised not to venture into these areas.







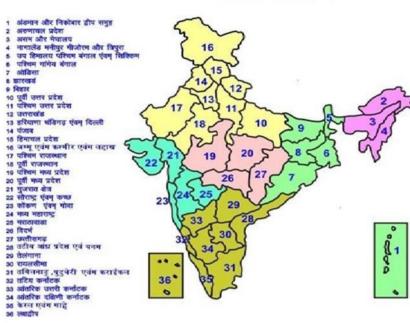
14 July (Day 5):

- ❖ Heavy to very heavy rainfall likely at isolated places over Konkan & Goa, Madhya Maharashtra, Coastal Karnataka; Heavy rainfall at isolated places over East Uttar Pradesh, Chhattisgarh, Sub-Himalayan West Bengal & Sikkim, Bihar, Odisha, Arunachal Pradesh, Assam & Meghalaya, Kerala & Mahe, Gujarat Region and Interior Karnataka.
- **Thunderstorm accompanied with lightning** likely at isolated places over East Uttar Pradesh, Marathwada.
- ❖ Squally weather with wind speed 35 kmph to 45 kmph gusting to 55 kmph likely to prevail over southern parts of northeast Arabian sea and adjoining northwest Arabian sea, eastcentral and adjoining westcentral Arabian sea, northern parts of southeast Arabian sea and most parts of southwest Arabian sea, along and off Gujarat, Maharashtra, Konkan, goa coasts, gulf of Mannar, off Sri Lanka coast, southwest & adjoining southeast Bay of Bengal, most parts of central Bay of Bengal and north Bay of Bengal, off north Andhra Pradesh and south Odisha coasts. Squally weather with wind speed 45 kmph to 55 kmph gusting to 65 kmph likely to prevail over central parts of west central Bay of Bengal, along and off Somalia coast & adjoining and northern parts of southwest Arabian sea, over westcentral Arabian sea, adjoining eastcentral Arabian sea, southern parts of northwest Arabian sea, along and off Oman coast. Fishermen are advised not to venture into these areas.









- 1. Andaman & Nicobar Islands
 2. Arunachai 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. Himachai Pradesh
 16. Jammu & Kashmir and Ladakh
 17. West Rajsthan
 19. West Madhya Pradesh
 21. Gujarat
 22. Saurashtra
 21. Gujarat
 22. Saurashtra
 23. Konkan & Goa
 24. Madhya Maharashtra
 25. Marathawada
 26. Vidharbha
 27. Chhattisgarh
 28. Coastal Andra Pradesh & Yanam
 29. Telangana
 30. Rayalaseema
 31. Tamilinadu, 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 Widespred (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 **Probabilistic Forecast** WARNING WARNING (TAKE ACTION) Probability of Occurrence (%) Terms < 25 ALERT (BE PREPARED) Likely WATCH (BE UPDATED) Very Likely Most Likely > 75 Heavy: 64.5 to 115.5 mm/cm * Very Heavy: 115.6 to 204.4 mm/cm* Rain/ Snow Extremely Heavy: > 204.4 mm/cm When maximum temperature of a station reaches ≥40° C for plains and ≥30° 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 ≥6.5° C (b). Based on Actual maximum temperature **Heat Wave** Heat Wave: When actual maximum temperature ≥45°C. Severe Heat Wave: When actual maximum temperature ≥47°C (c). Criteria for heat wave for coastal stations When maximum temperature departure is >4.5°C from normal. Heat Wave may be described provided maximum temperature ≥37°C When maximum temperature remains 40°C + Warm Night Warm Night: When minimum temperature departure 4.5 °C to 6.4 °C Severe Warm Night: When minimum temperature departure >6.4 °C. When minimum temperature of a station ≤10°C for plains and ≤0°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 ≤ -6.5 °C (b) Based on actual Minimum Temperature (for Plains only) **Cold Wave** Cold Wave: When Minimum Temperature is ≤ 4.0 °C Severe Cold Wave: When Minimum Temperature is ≤ 2.0 °C (c) For Coastal Stations When Minimum Temperature departure is ≤-4.5 °C & actual Minimum Temperature is ≤ 15 °C When minimum temperature of a station ≤10°C for plains and ≤0°C for hilly regions Cold Day: Maximum Temperature Departure from normal -4.5 °C to -6.4 °C **Cold Day** Severe Cold Day: Maximum Temperature Departure from normal ≤ -6.5 °C Phenomenon of small droplets suspended in air and the horizontal visibility < 1km Moderate Fog: When the visibility between 500-200 metres 0 Dense Fog: when the visibility between 50-200 metres Fog Very Dense Fog: when the visibility < 50 metres Sudden electrical discharges manifested by a flash of light (Lightning) and a sharp rumbling sound (thunder) 44 Thunderstorm An ensemble of particles of dust or sand energetically lifted to great heights by a strong and **Dust/Sand** turbulent wind. Storm Ice deposits on ground Air temperature ≤4°C (over Plains) Frost A strong wind that rises suddenly, lasts for atleast 1 minute. Moderate: Wind speed 52-61 kmph 4 Severe: Wind speed 62-87 kmph Squall Very Severe: Wind speed >87 kmph 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 Sea State Phenomenal: Wind speed >117 kmph (>63 knots) & Wave height >14 metre Cyclonic Storm: Wind speed 62-87 kmph (34-47 knots) Severe Cyclonic Storm: Wind speed 88-117 kmph (48-63 knots) 9 Very Severe Cyclonic Storm: Wind speed 118-165 kmph (64 - 89 knots) Extremely Severe Cyclonic Storm: Wind speed 166-220 kmph (90 -119 knots) Cyclone Super Cyclone Strom: Wind speed >220 kmph (>119 knots)