



Saturday, July 15, 2023
Time of Issue: 0845 hours IST
(MORNING)

ALL INDIA WEATHER SUMMARY AND FORECAST BULLETIN

Significant Weather Features

Significant Weather features, Forecast and Warning during next 5 days:

- ❖ The western end of the monsoon trough at mean sea level lies south of its normal position and eastern end lies north of its normal position.
- ❖ A Western Disturbance as a cyclonic circulation in middle & upper tropospheric level lies over central Pakistan.
- ❖ A cyclonic circulation lies over Haryana and another cyclonic circulation over central parts Uttar Pradesh in lower tropospheric levels.
- ❖ A cyclonic circulation is likely to form over Northwest Bay of Bengal around 16th July, 2023. Under its influence, a low pressure area is likely to form over the same region during subsequent 2-3 days.

Weather Forecast and Warning:

Northwest India: Fairly widespread to widespread rainfall with **isolated heavy to very heavy rainfall** is very likely to continue over Uttarakhand and Uttar Pradesh during next 5 days. **Isolated heavy rainfall also very likely** over Himachal Pradesh, East Rajasthan during next 5 days.

Isolated extremely heavy rainfall very likely over Uttarakhand on 17th July.

East & adjoining Northeast India: Fairly widespread to widespread rainfall with **isolated heavy to very heavy rainfall** very likely over **Sub-Himalaya West Bengal & Sikkim** during 15th to 17th; over Bihar on 17th July. **Isolated heavy rainfall** very likely over Odisha during next 5 days; over Jharkhand during 15th to 17th; over Gangetic West Bengal on 15th; over Nagaland, Manipur, Mizoram & Tripura, Assam & Meghalaya during next 4 days and over Arunachal Pradesh during 15th to 16th July.

Central India: Light/moderate fairly widespread to widespread rainfall with **isolated heavy rainfall** is very likely over West Madhya Pradesh during next 5 days; over Vidarbha during 17th - 19th; **Isolated heavy to very heavy rainfall** likely over East Madhya Pradesh during next 5 days; over Chhattisgarh during 16th to 18th July.

West India: Light/moderate fairly widespread to widespread rainfall with **isolated heavy to very heavy rainfall** very likely to continue over **Konkan & Goa** during next 5 days. **Isolated very heavy rainfall** also very likely over Ghat areas of Madhya Maharashtra on 15th; over Gujarat Region on 18th & 19th July.

South India: Light/moderate scattered to fairly widespread rainfall with **isolated heavy rainfall** very likely to over Coastal Karnataka during 15th to 18th; over Telangana & Kerala & Mahe on 18th July.

Main Weather Observations

- ❖ **Rainfall/thundershowers observed** (from 0830 hours IST to 1730 hours IST of yesterday): **at most places** over Konkan & Goa, Bihar and Sub-Himalaya West Bengal & Sikkim; **at many places over** Coastal Karnataka, Jharkhand and Nagaland, Manipur, Mizoram & Tripura; **at a few places over** East Uttar Pradesh, West Madhya Pradesh, Vidarbha, Gujarat state, Madhya Maharashtra, Lakshadweep, Odisha and Assam & Meghalaya and **at isolated places over** Jammu-Kashmir-Ladakh-Gilgit-Baltistan-Muzaffarabad, Himachal Pradesh, Uttarakhand, Haryana-Chandigarh-Delhi, West Uttar Pradesh, East Madhya Pradesh, Marathwada, Interior Karnataka, South Interior Karnataka, Chhattisgarh, Gangetic West Bengal, Kerala & Mahe and Tamil Nadu, Puducherry & Karaikal.
- ❖ **Heavy Rainfall observed** (from 0830 hours IST to 1730 hours IST of yesterday): **Heavy to very heavy rainfall** at isolated places over Saurashtra & Kutch and **heavy rainfall** at isolated places over West Bengal & Sikkim.
- ❖ **Significant rainfall recorded** (from 0830 hours IST to 1730 hours IST of yesterday): (in cm): Keshod-12; Jalpaiguri-7; Midnapur-6; Bhaunagar, Bombay, Patna, Sabaur, Kalimpong and Cooch Behar-4; Veraval, Matheran, Amraoti, Dhubri-2; Daman, Mangalore, Karwar, Goa, Hirakud, Chapra and Indore-2 each.
- ❖ **Thunderstorm observed** (from 0830 hours IST of yesterday to 0530 hours IST of today): at isolated places over Himachal Pradesh, Uttarakhand, Haryana, Coastal Karnataka, Saurashtra & Kutch, Madhya Pradesh, Coastal Andhra Pradesh & Yanam, Gangetic West Bengal, Vidarbha, Telangana, Bihar, East Uttar Pradesh, Jharkhand, Odisha, Tamil Nadu, Puducherry & Karaikal, Assam & Meghalaya and Tripura.
- ❖ **Minimum Temperature Departures (as on 14-07-2023):** Minimum temperatures were **above normal (1.6°C to 3.0°C)** at most places over Chhattisgarh; at many places over Jharkhand; a few places over East Madhya Pradesh, Vidarbha, Gangetic West Bengal, North Interior Karnataka and at isolated places over Punjab, Odisha, Gujarat Region. They were **below normal (-1.6°C to -3.0°C)** at a few places over Haryana-Chandigarh-Delhi, Marathwada and at isolated places over Rajasthan, Tamil Nadu, Puducherry & Karaikal and **near normal** over rest parts of the country. Yesterday, **the lowest minimum temperature of 22.0°C** was reported at **Khandwa (West Madhya Pradesh)** over the plains of the country.
- ❖ **Maximum Temperature Departures (as on 14-07-2023):** Maximum temperatures were **appreciably above normal (3.1°C to 5.0°C)** at a few places over Gangetic West Bengal and Kerala & Mahe and at isolated places over East Uttar Pradesh, East Madhya Pradesh, Coastal Andhra Pradesh & Yanam and Tamil Nadu, Puducherry & Karaikal; **above normal (1.6°C to 3.0°C)** at most places over Chhattisgarh; at many places over Rayalaseema, Odisha and Jharkhand; at a few places over Marathwada, North Interior Karnataka, Coastal Andhra Pradesh & Yanam and Nagaland, Manipur, Mizoram & Tripura and at isolated places over Uttarakhand, Vidarbha and Assam & Meghalaya. They were **below normal (-1.6°C to -3.0°C)** at many places over West Rajasthan and Bihar; at a few places over Haryana-Chandigarh-Delhi, West Madhya Pradesh, Konkan & Goa, Sub-Himalaya West Bengal & Sikkim and **near normal** over rest parts of the country. Yesterday, **the highest maximum temperature of 40.0°C** was reported at **Rentachintala (Coastal Andhra Pradesh & Yanam)**.

Meteorological Analysis (Based on 0530 hours IST)

- ❖ The Monsoon Trough at mean sea level now passes through Bikaner, Narnaul, Gwalior, Satna, Daltonganj, Digha and thence eastwards to northeast Bay of Bengal and extends upto 0.9 km above mean sea level.
- ❖ The Western Disturbance as a cyclonic circulation over central Pakistan & neighbourhood between 4.5 km & 9.5 km above mean sea level persists.
- ❖ The cyclonic circulation over central parts of south Uttar Pradesh & neighbourhood at 1.5 km above mean sea level persists.
- ❖ The cyclonic circulation over Haryana & neighbourhood at 3.1 km above mean sea level persists.
- ❖ The cyclonic circulation over south Gujarat & neighbourhood at 3.1 km above mean sea level persists.
- ❖ The cyclonic circulation over north Coastal Andhra Pradesh & neighbourhood between 5.8 km & 7.6 km above mean sea level persists.
- ❖ The off-shore trough at mean sea level from south Maharashtra coast to north Kerala coast persists.
- ❖ A cyclonic circulation is likely to form over Northwest Bay of Bengal around 16th July, 2023.

Weather Forecast for next 5 days (Upto 0830 hours IST of 19th July, 2023)

- ❖ Meteorological sub-division wise detailed 5 days rainfall forecast is given in Table-1.
- ❖ No significant change in maximum temperatures likely over most parts of country during next 5 days.

Weather Outlook for subsequent 2 days

- ❖ Fairly widespread to widespread light/moderate rainfall likely over most parts of the country except over Jammu-Kashmir-Ladakh-Gilgit-Baltistan-Muzaffarabad, West Rajasthan, Andhra Pradesh, Rayalaseema, South Interior Karnataka and Tamil Nadu, Puducherry & Karaikal where isolated to scattered rainfall is 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	FWS	WS	WS	WS	WS	WS	WS
2	ARUNACHAL PRADESH	WS	FWS	SCT	SCT	SCT	SCT	SCT
3	ASSAM & MEGHALAYA	WS	FWS	FWS	SCT	SCT	SCT	SCT
4	NAGALAND, MANIPUR, MIZORAM & TRIPURA	WS	WS	FWS	FWS	FWS	FWS	FWS
5	SUB-HIMALAYAN WEST BENGAL & SIKKIM	WS	WS	WS	FWS	FWS	SCT	SCT
6	GANGETIC WEST BENGAL	WS	FWS	FWS	FWS	SCT	SCT	SCT
7	ODISHA	FWS	FWS	SCT	SCT	SCT	ISOL	FWS
8	JHARKHAND	FWS	FWS	FWS	WS	WS	WS	WS
9	BIHAR	SCT	SCT	SCT	SCT	SCT	SCT	SCT
10	EAST UTTAR PRADESH	FWS	FWS	WS	WS	FWS	SCT	SCT
11	WEST UTTAR PRADESH	FWS	FWS	FWS	WS	FWS	SCT	SCT
12	UTTARAKHAND	WS	WS	WS	WS	FWS	FWS	FWS
13	HARYANA CHANDIGARH & DELHI	SCT	SCT	FWS	FWS	FWS	SCT	SCT
14	PUNJAB	ISOL	ISOL	SCT	FWS	FWS	SCT	SCT
15	HIMACHAL PRADESH	WS	WS	WS	WS	FWS	FWS	FWS
16	JAMMU & KASHMIR AND LADAKH	SCT	SCT	SCT	SCT	SCT	SCT	SCT
17	WEST RAJASTHAN	ISOL	ISOL	ISOL	SCT	FWS	FWS	FWS
18	EAST RAJASTHAN	ISOL	ISOL	FWS	WS	WS	FWS	FWS
19	WEST MADHYA PRADESH	FWS	FWS	WS	WS	FWS	FWS	FWS
20	EAST MADHYA PRADESH	FWS	WS	WS	WS	WS	WS	WS
21	GUJARAT REGION	SCT	SCT	SCT	FWS	FWS	FWS	FWS
22	SAURASHTRA & KUTCH	ISOL	ISOL	SCT	SCT	FWS	FWS	FWS
23	KONKAN & GOA	WS	WS	WS	WS	WS	WS	WS
24	MADHYA MAHARASHTRA	SCT	FWS	FWS	FWS	FWS	FWS	FWS
25	MARATHAWADA	FWS	SCT	SCT	FWS	FWS	FWS	FWS
26	VIDARBHA	FWS	FWS	WS	WS	WS	WS	WS
27	CHHATTISGARH	FWS	FWS	WS	WS	WS	WS	WS
28	COASTAL ANDHRA PRADESH & YANAM	SCT	SCT	SCT	SCT	FWS	FWS	FWS
29	TELANGANA	SCT	SCT	SCT	FWS	FWS	FWS	FWS
30	RAYALASEEMA	ISOL	ISOL	ISOL	ISOL	ISOL	ISOL	ISOL
31	TAMILNADU PUDUCHERRY & KARAIKAL	ISOL	ISOL	ISOL	ISOL	ISOL	ISOL	ISOL
32	COASTAL KARNATAKA	WS	WS	WS	WS	WS	WS	WS
33	NORTH INTERIOR KARNATAKA	SCT	SCT	SCT	SCT	SCT	SCT	SCT
34	SOUTH INTERIOR KARNATAKA	FWS	SCT	SCT	SCT	SCT	SCT	SCT
35	KERALA & MAHE	FWS	FWS	FWS	WS	FWS	FWS	FWS
36	LAKSHADWEEP	WS	FWS	FWS	FWS	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
DRY	No Rain	0

* Red color warning does not mean "Red Alert" Red color warning means "Take Action".
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Fig. 1: Maximum Temperatures Dated 14.07.2023

Fig. 2: Departure of Maximum Temp. Dated 14.07.2023

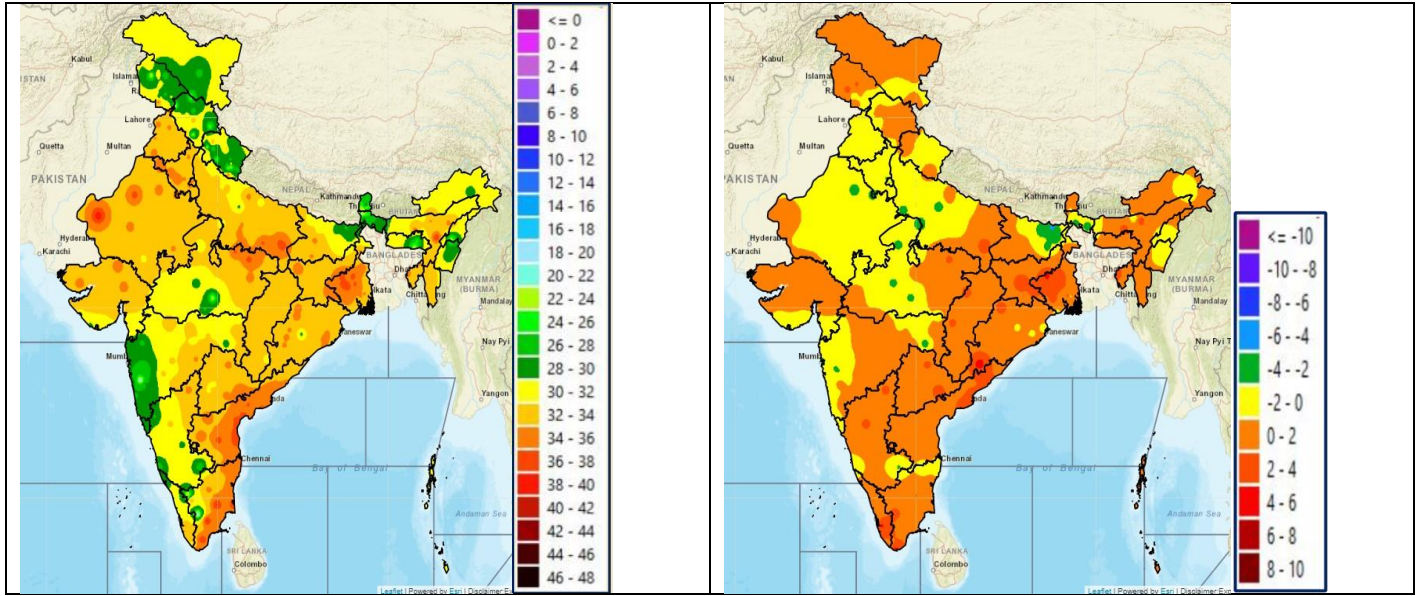


Fig. 3: Minimum Temperatures Dated 14.07.2023

Fig. 4: Departure of Minimum Temp. Dated 14.07.2023

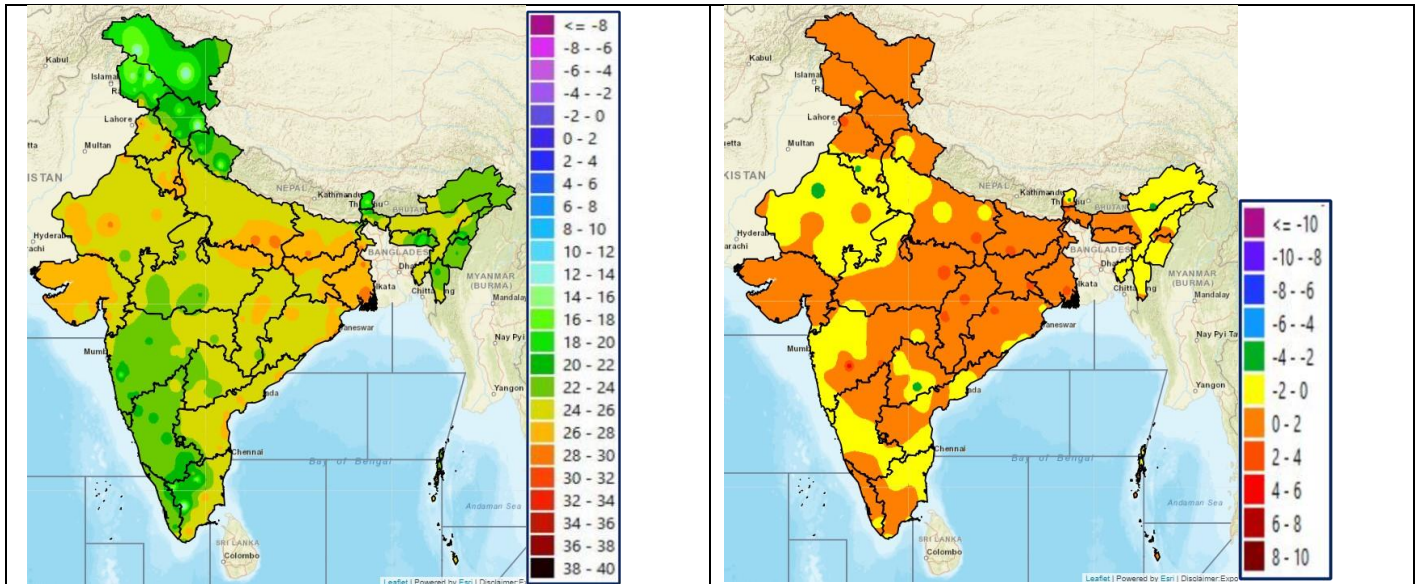
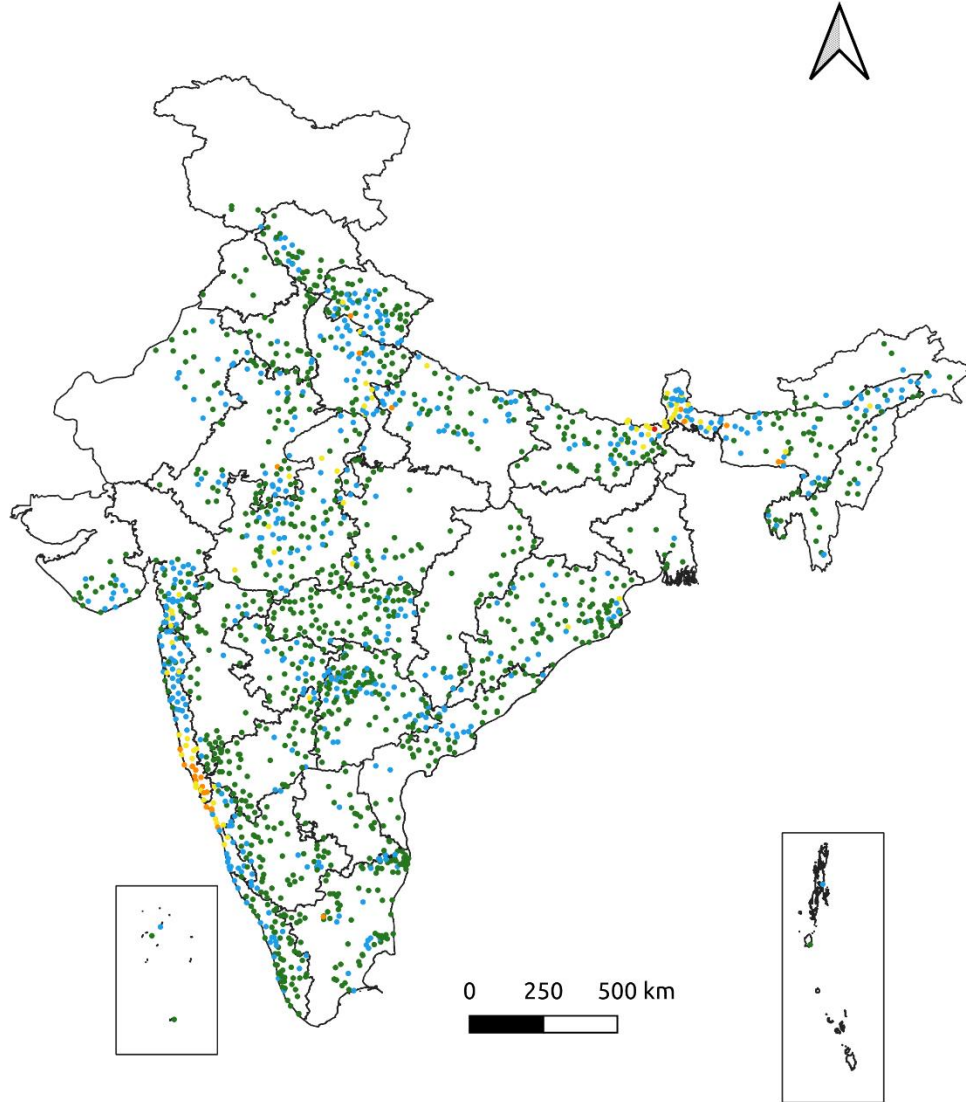


Fig. 5: Accumulated Rainfall (mm) during past 24 hours

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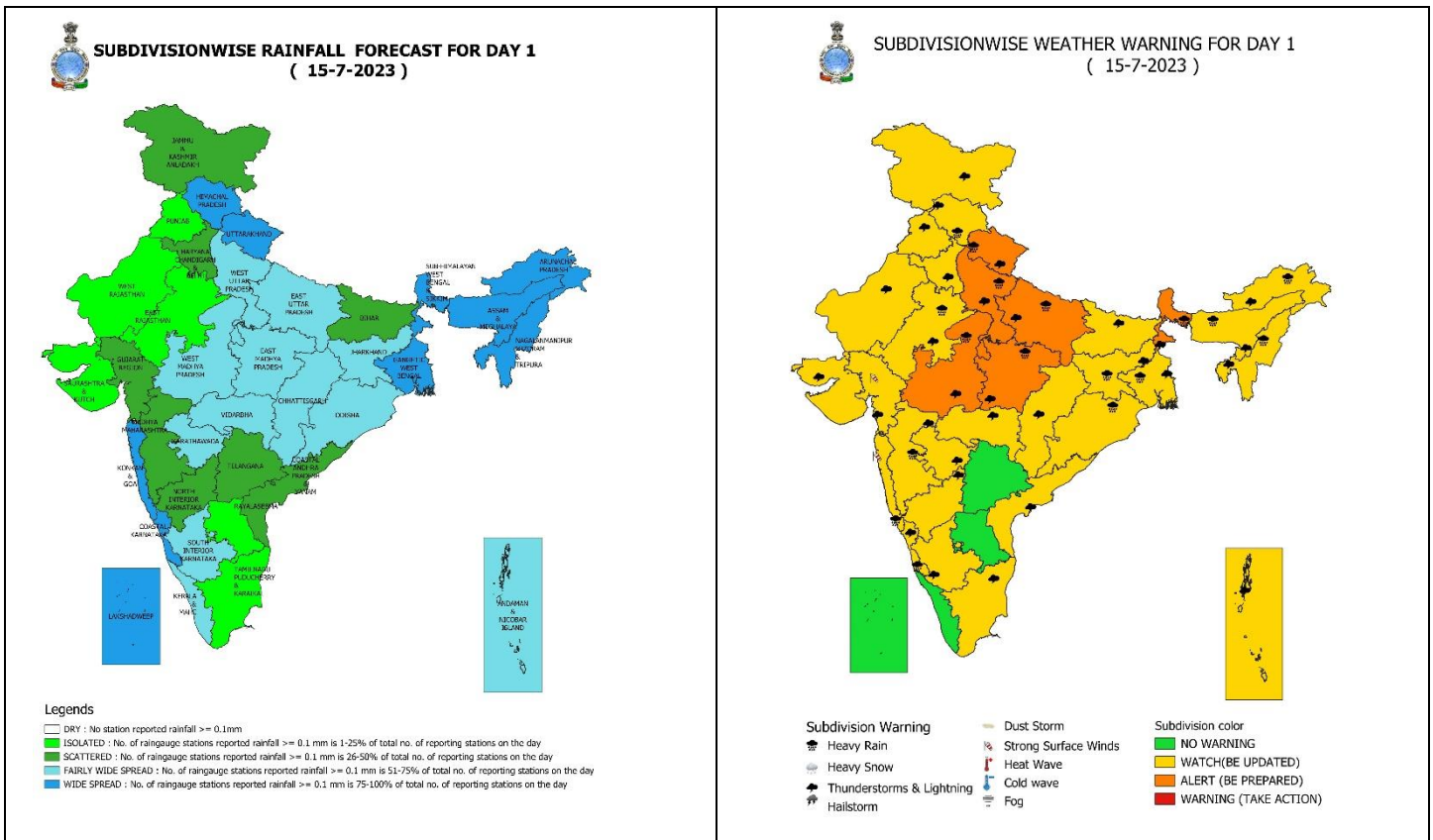


24 Hr cumulative rainfall recorded over different stations during 0830 IST of 13-7-2023 to 0830 IST of 14-7-2023



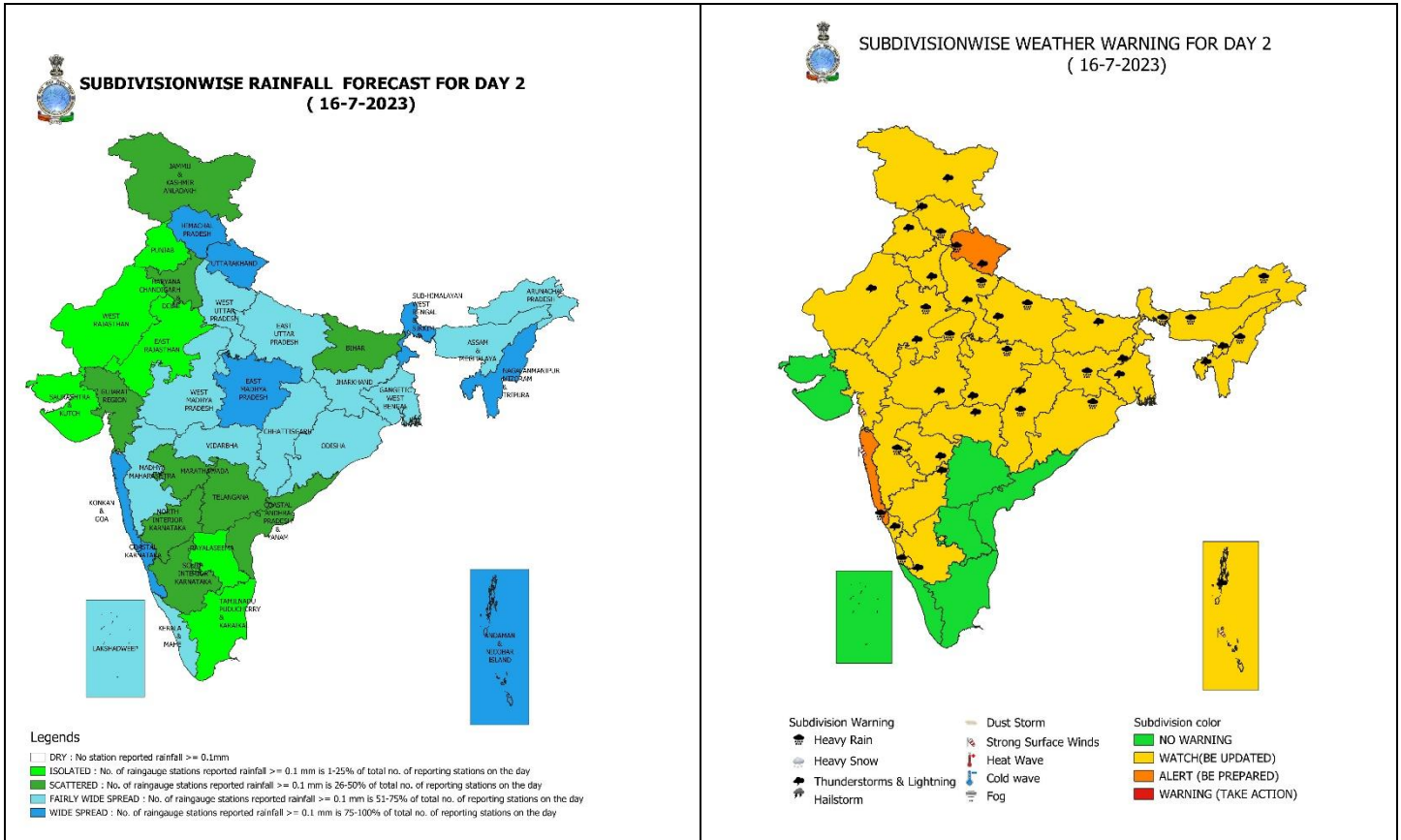
Legends

- 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 (≥ 204.5 mm)



15 July (Day 1):

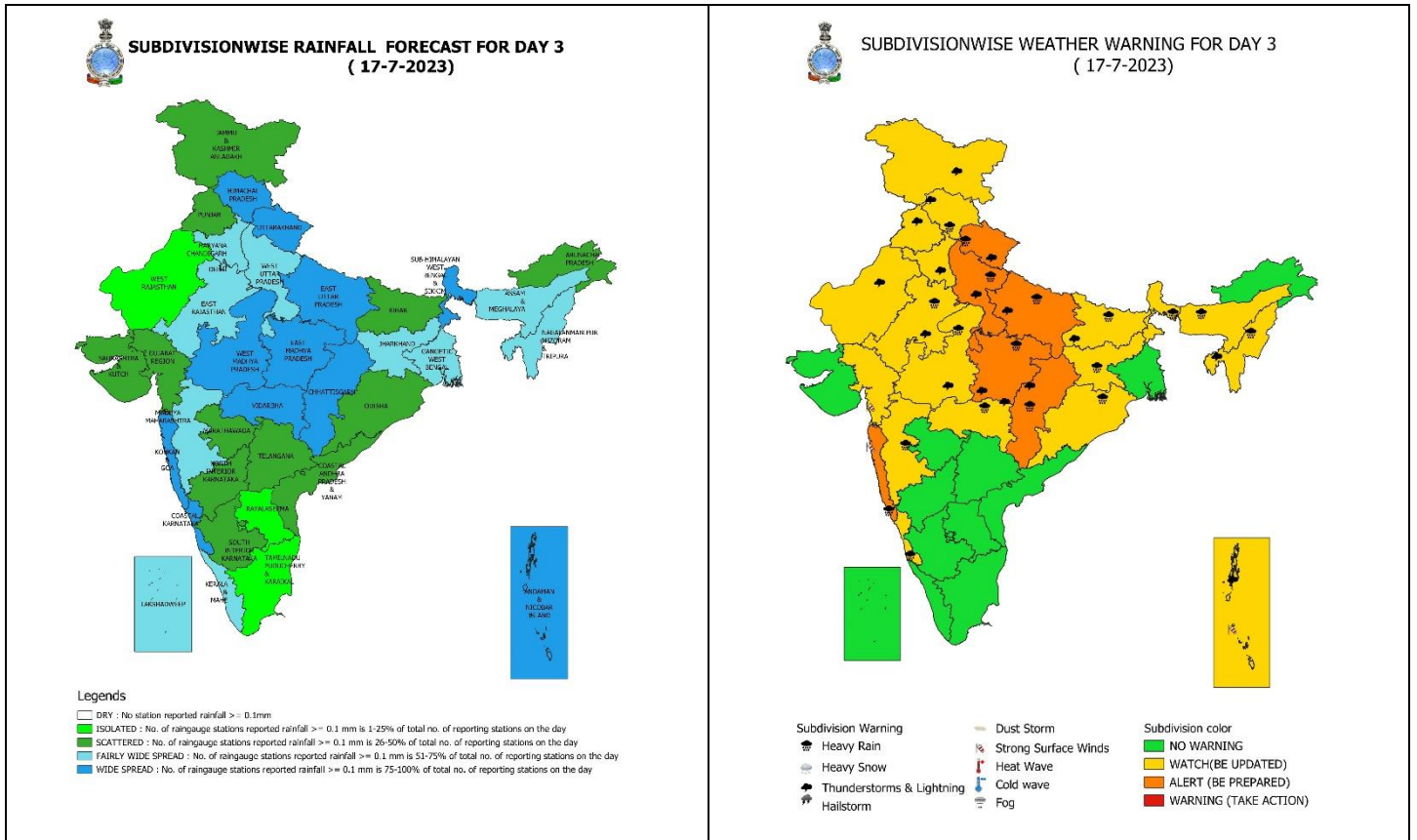
- ❖ **Heavy to very heavy rainfall** very likely at isolated places over Uttarakhand; **Heavy rainfall** at isolated places over Assam, Meghalaya, Himachal Pradesh, Uttar Pradesh, East Rajasthan, Madhya Pradesh, West Bengal & Sikkim, Odisha, Jharkhand, Arunachal Pradesh, Nagaland, Manipur, Mizoram & Tripura, Konkan & Goa, Madhya Maharashtra and Coastal Karnataka.
- ❖ **Thunderstorm with lightning** very likely at isolated places over Arunachal Pradesh, Assam & Meghalaya, Nagaland, Manipur, Mizoram & Tripura, West Bengal & Sikkim, Bihar, Jharkhand, Jammu-Kashmir-Ladakh-Gilgit-Baltistan-Muzaffarabad, Himachal Pradesh, Uttarakhand, Punjab, Haryana-Chandigarh-Delhi, Uttar Pradesh, Rajasthan, Madhya Pradesh, Vidarbha, Chhattisgarh, Madhya Maharashtra, Marathwada, Gujarat state, Coastal Andhra Pradesh & Yanam, Andaman & Nicobar Islands, Tamil Nadu, Puducherry & Karaikal and Karnataka.
- ❖ **Squally wind** speed reaching 45-55 kmph gusting to 65 kmph likely over Westcentral & Southwest Arabian Sea, Gulf of Mannar **Squally weather with wind speed reaching 40-45 kmph gusting to 50 kmph** likely over Maharashtra coast. Fishermen are advised not to venture into these areas.



16 July (Day 2):

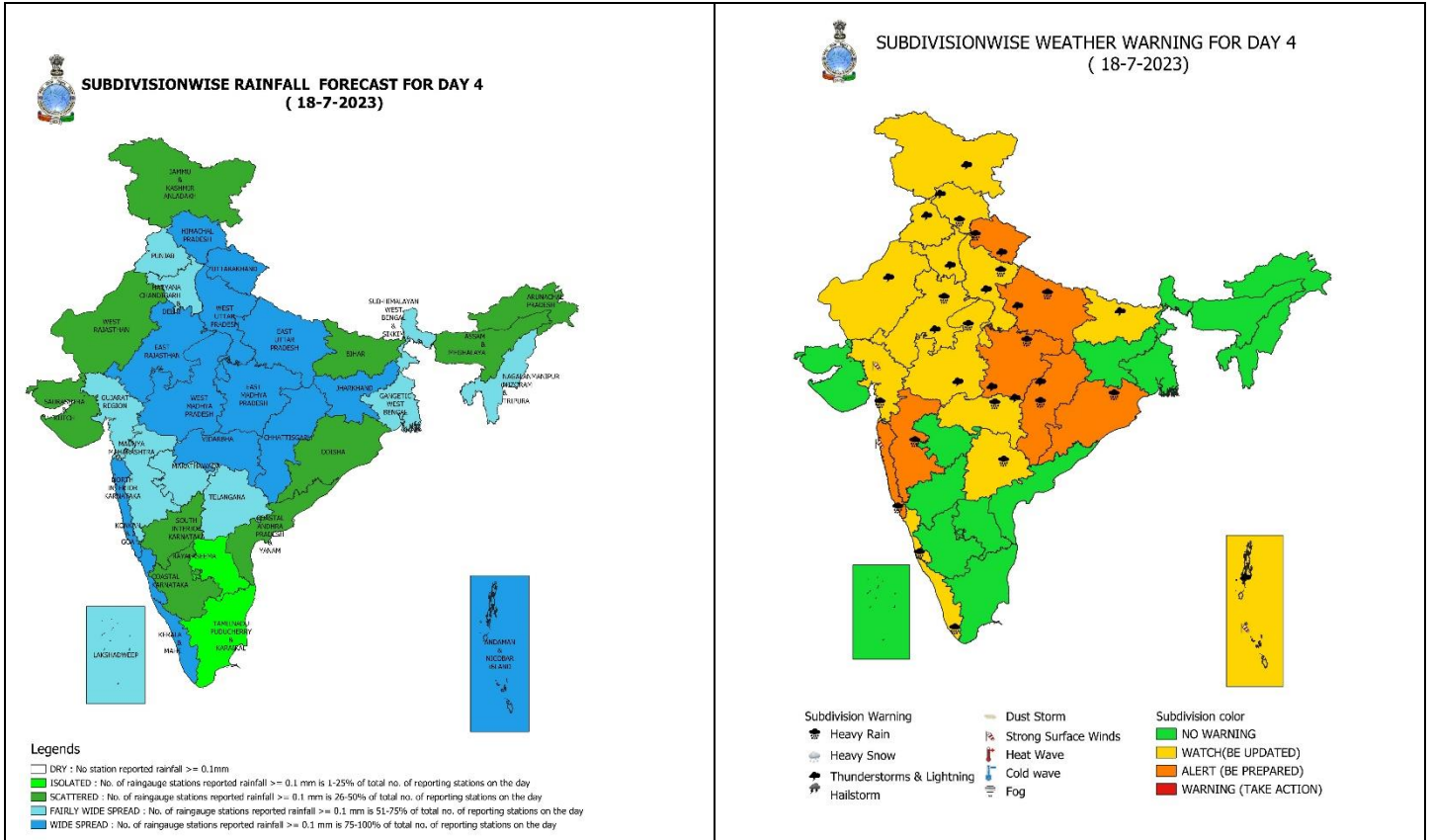
- ❖ **Heavy to very heavy rainfall** very likely at isolated places over Uttarakhand, Konkan & Goa; **Heavy rainfall** at isolated places over Assam, Meghalaya, Himachal Pradesh, Uttar Pradesh, East Rajasthan, Madhya Pradesh, Chhattisgarh, West Bengal & Sikkim, Odisha, Jharkhand, Arunachal Pradesh, Nagaland, Manipur, Mizoram & Tripura, Madhya Maharashtra and Coastal Karnataka.
- ❖ **Thunderstorm with lightning** very likely at isolated places over Assam & Meghalaya, Nagaland, Manipur, Mizoram & Tripura, Gangetic West Bengal, Bihar, Jharkhand, Jammu-Kashmir-Ladakh-Gilgit-Baltistan-Muzaffarabad, Himachal Pradesh, Uttarakhand, Punjab, Haryana-Chandigarh-Delhi, Uttar Pradesh, Rajasthan, Madhya Pradesh, Vidarbha, Chhattisgarh, Marathwada, Andaman & Nicobar Islands and Karnataka.

Squally wind speed reaching 45-55 kmph gusting to 65 kmph likely over Westcentral & Southwest Arabian Sea, Gulf of Mannar **Squally weather with wind speed reaching 40-45 kmph gusting to 50 kmph** likely over Maharashtra coast, south Bay of Bengal and north Andaman Sea. Fishermen are advised not to venture into these areas.



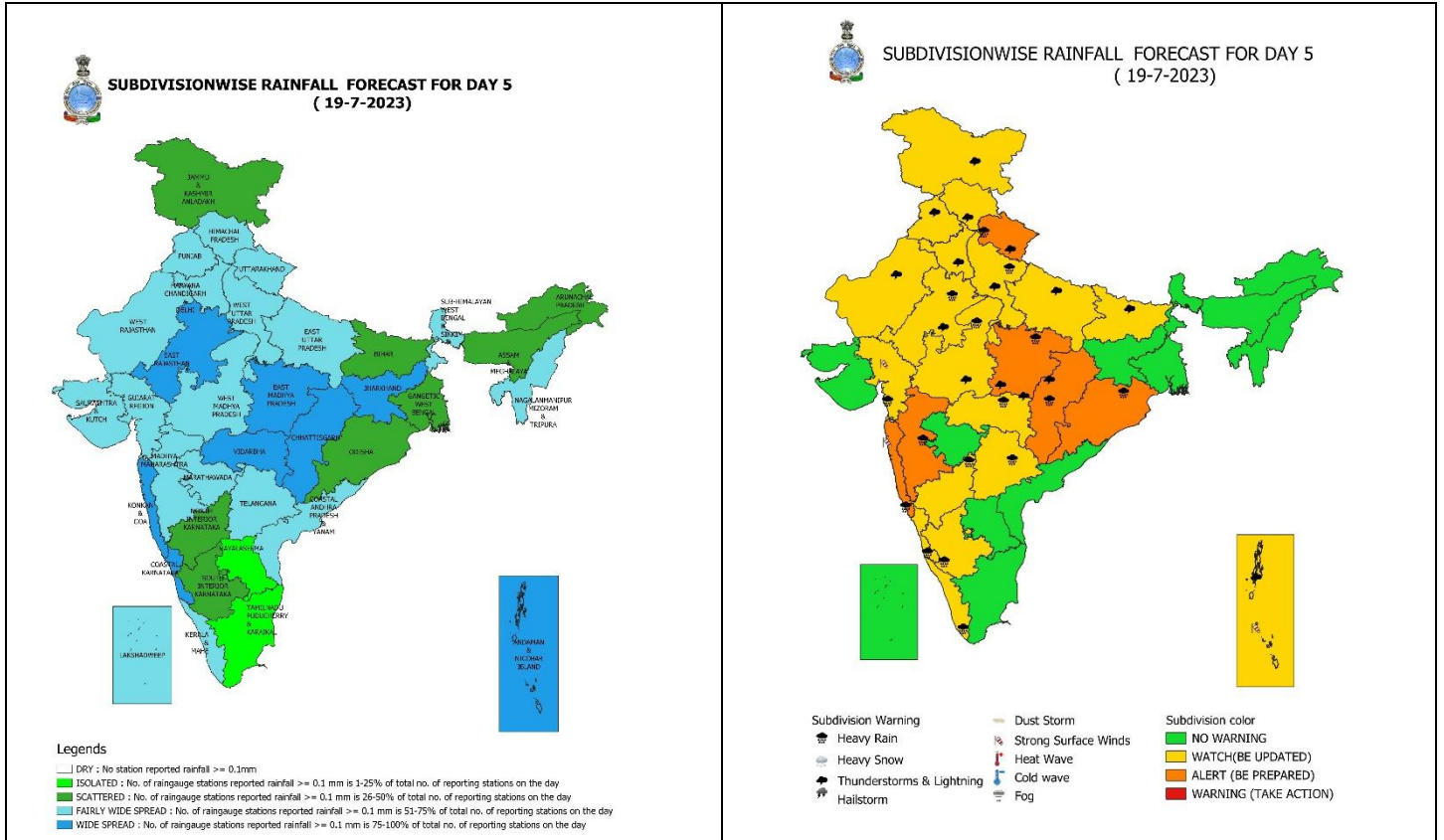
17 July (Day 3):

- ❖ **Heavy to very heavy rainfall with extremely heavy falls** likely at isolated places over Uttarakhand; **Heavy to very heavy rainfall** at isolated places over Uttar Pradesh, East Madhya Pradesh, Chhattisgarh, Konkan & Goa; **heavy rainfall** at isolated places over Himachal Pradesh, East Rajasthan, West Madhya Pradesh, Vidarbha, Sub-Himalaya West Bengal & Sikkim, Bihar, Jharkhand, Odisha, Assam & Meghalaya, Nagaland, Manipur, Mizoram & Tripura, Madhya Maharashtra and Coastal Karnataka.
- ❖ **Thunderstorm with lightning** likely at isolated places over Nagaland, Manipur, Mizoram & Tripura, Bihar, Jammu-Kashmir-Ladakh-Gilgit-Baltistan-Muzaffarabad, Himachal Pradesh, Uttarakhand, Punjab, Haryana-Chandigarh-Delhi, Uttar Pradesh, Rajasthan, Madhya Pradesh, Vidarbha, Chhattisgarh and Andaman & Nicobar Islands.
- ❖ **Squally wind** speed reaching 45-55 kmph gusting to 65 kmph likely over Westcentral & Southwest Arabian Sea, Gulf of Mannar **Squally weather with wind speed reaching 40-45 kmph gusting to 50 kmph** likely over Eastcentral Arabian Sea along & off Gujarat-Maharashtra coasts, central Bay of Bengal and north Andaman Sea. Fishermen are advised not to venture into these areas.



18 July (Day 4):

- ❖ **Heavy to very heavy rainfall** likely at isolated places over Uttarakhand, East Uttar Pradesh, East Madhya Pradesh, Chhattisgarh, Odisha, Konkan & Goa, Madhya Maharashtra; **heavy rainfall** at isolated places over Himachal Pradesh, East Rajasthan, West Madhya Pradesh, Vidarbha, Gujarat Region, Telangana, Kerala & Mahe and Coastal Karnataka.
- ❖ **Thunderstorm with lightning** likely at isolated places over Bihar, Jammu-Kashmir-Ladakh-Gilgit-Baltistan-Muzaffarabad, Himachal Pradesh, Uttarakhand, Punjab, Haryana-Chandigarh-Delhi, Uttar Pradesh, Rajasthan, Madhya Pradesh, Vidarbha, Chhattisgarh and Andaman & Nicobar Islands.
- ❖ **Squally wind** speed reaching 45-55 kmph gusting to 65 kmph likely over Westcentral & Southwest Arabian Sea, Gulf of Mannar **Squally weather with wind speed reaching 40-45 kmph gusting to 50 kmph** likely over Eastcentral Arabian Sea along & off Gujarat-Maharashtra coasts, south & central Bay of Bengal and north Andaman Sea. Fishermen are advised not to venture into these areas.



19 July (Day 5):

- ❖ **Heavy to very heavy rainfall** likely at isolated places over Uttarakhand, East Uttar Pradesh, East Madhya Pradesh, Chhattisgarh, Odisha, Konkan & Goa, Madhya Maharashtra; **heavy rainfall** at isolated places over Himachal Pradesh, East Rajasthan, West Madhya Pradesh, Vidarbha, Gujarat Region, Telangana, Kerala & Mahe and Coastal Karnataka.
- ❖ **Thunderstorm with lightning** likely at isolated places over Bihar, Jammu-Kashmir-Ladakh-Gilgit-Baltistan-Muzaffarabad, Himachal Pradesh, Uttarakhand, Punjab, Haryana-Chandigarh-Delhi, Uttar Pradesh, Rajasthan, Madhya Pradesh, Vidarbha, Chhattisgarh and Andaman & Nicobar Islands.
- ❖ **Squally wind** speed reaching 45-55 kmph gusting to 65 kmph likely over Westcentral & Southwest Arabian Sea, Gulf of Mannar **Squally weather with wind speed reaching 40-45 kmph gusting to 50 kmph** likely over Eastcentral Arabian Sea along & off Gujarat-Maharashtra coasts, south & central Bay of Bengal and north Andaman Sea. Fishermen are advised not to venture into these areas.

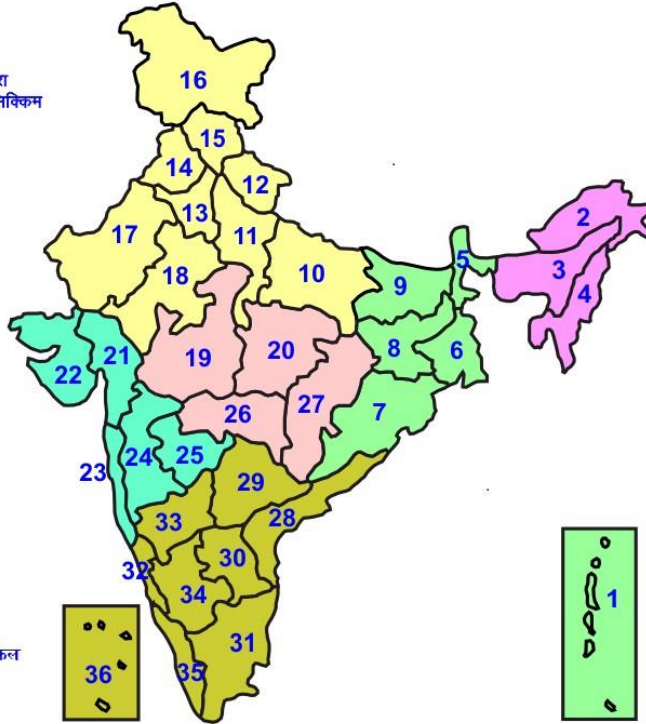
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LEGENDS

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

WARNING (TAKE ACTION)
ALERT (BE PREPARED)
WATCH (BE UPDATED)
NO WARNING (NO ACTION)

Probabilistic Forecast

Terms	Probability of Occurrence (%)
Unlikely	< 25
Likely	25 - 50
Very Likely	50 - 75
Most Likely	> 75



Heavy Rain



Heavy Snow



Thunderstorm



Dust Storm



Strong Winds



Visibility



Cyclone



Squall/ Hail



Frost



Cold Wave



Heat Wave



Sea State

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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)

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

Forecast and Warning for any day is valid from 0830 hours IST of day till 0830 hours IST of next day For more details kindly visit <https://mausam.imd.gov.in> or contact : 011-2434-4599

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