

Thursday, August 8, 2024
Time of Issue: 0745 hours IST
(MORNING)

ALL INDIA WEATHER SUMMARY AND FORECAST BULLETIN

Significant Weather Features:

Weather Systems

- ✓ A cyclonic circulation lies over Jharkhand, adjoining north Odisha & Chhattisgarh in lower & middle tropospheric levels tilting southwestwards with height. Under its influence, a Low Pressure Area is likely to form over the same region during next 24 hours.
- ✓ The **Monsoon trough** is active and near to its normal position at mean sea level.
- ✓ The feeble **off-shore trough** at mean sea level runs along South Gujarat to north Karnataka coast.
- ✓ A north-south trough runs from Rayalaseema to Comorin area in lower tropospheric levels.

Forecast & Warnings: (upto 7 days):

❖ Northwest India

- ✓ Fairly widespread to widespread light/moderate rainfall **accompanied with thunderstorm & lightning** very likely over Jammu-Kashmir, Himachal Pradesh, Uttarakhand & Rajasthan; scattered to fairly widespread rainfall over Uttar Pradesh, Punjab, Haryana-Chandigarh-Delhi during the week.
- ✓ Isolated **very heavy rainfall** also likely over Himachal Pradesh on 10th; Uttarakhand on 08th August.
- ✓ Isolated **heavy rainfall** very likely over Jammu-Kashmir on 10th & 11th; Uttarakhand, Rajasthan during 08th-14th, Himachal Pradesh, Uttar Pradesh during 08th-11th; Punjab on 10th; Haryana-Chandigarh on 08th & 10th August.

❖ West & Central India

- ✓ Fairly widespread to widespread light to moderate rainfall **accompanied with thunderstorm & lightning** very likely over the region Konkan & Goa, Gujarat Region during the week; scattered to fairly widespread rainfall over Madhya Maharashtra, Marathwada & Saurashtra & Kutch during the week.
- ✓ **Heavy rainfall** very likely at isolated places over Madhya Pradesh, Vidarbha and Chhattisgarh on 08th; Konkan & Goa during 08th -09th, Madhya Maharashtra during 08th-10th; Gujarat Region during 08th-10th and Saurashtra & Kutch on 09th & 10th August.

❖ East & Northeast India

- ✓ Fairly widespread to widespread light to moderate rainfall **accompanied with thunderstorm, lightning** very likely over East & Northeast India during the week.
- ✓ **Very heavy rainfall** very likely at isolated places over Assam & Meghalaya on 08th & 09th; Sub-Himalayan West Bengal & Sikkim on 08th, Arunachal Pradesh, Bihar on 09th August.
- ✓ Isolated **heavy rainfall** very likely over Arunachal Pradesh, Assam & Meghalaya, Nagaland, Manipur, Mizoram & Tripura during 08th-14th; Bihar during 08th-11th; Odisha during 08th-10th; Jharkhand on 08th; Gangetic West Bengal on 10th & 11th; Sub-Himalayan West Bengal & Sikkim during 08th-09th August.

❖ South Peninsular India:

- ✓ Scattered to fairly widespread light to moderate rainfall over Kerala & Mahe, Lakshadweep, Karnataka and isolated to scattered rainfall over Tamil Nadu, Puducherry & Karaikal, Coastal Andhra Pradesh & Yanam, Telangana and Rayalaseema during next 5 days.
- ✓ **Heavy rainfall** very likely at isolated places over Coastal Karnataka on 08th August.

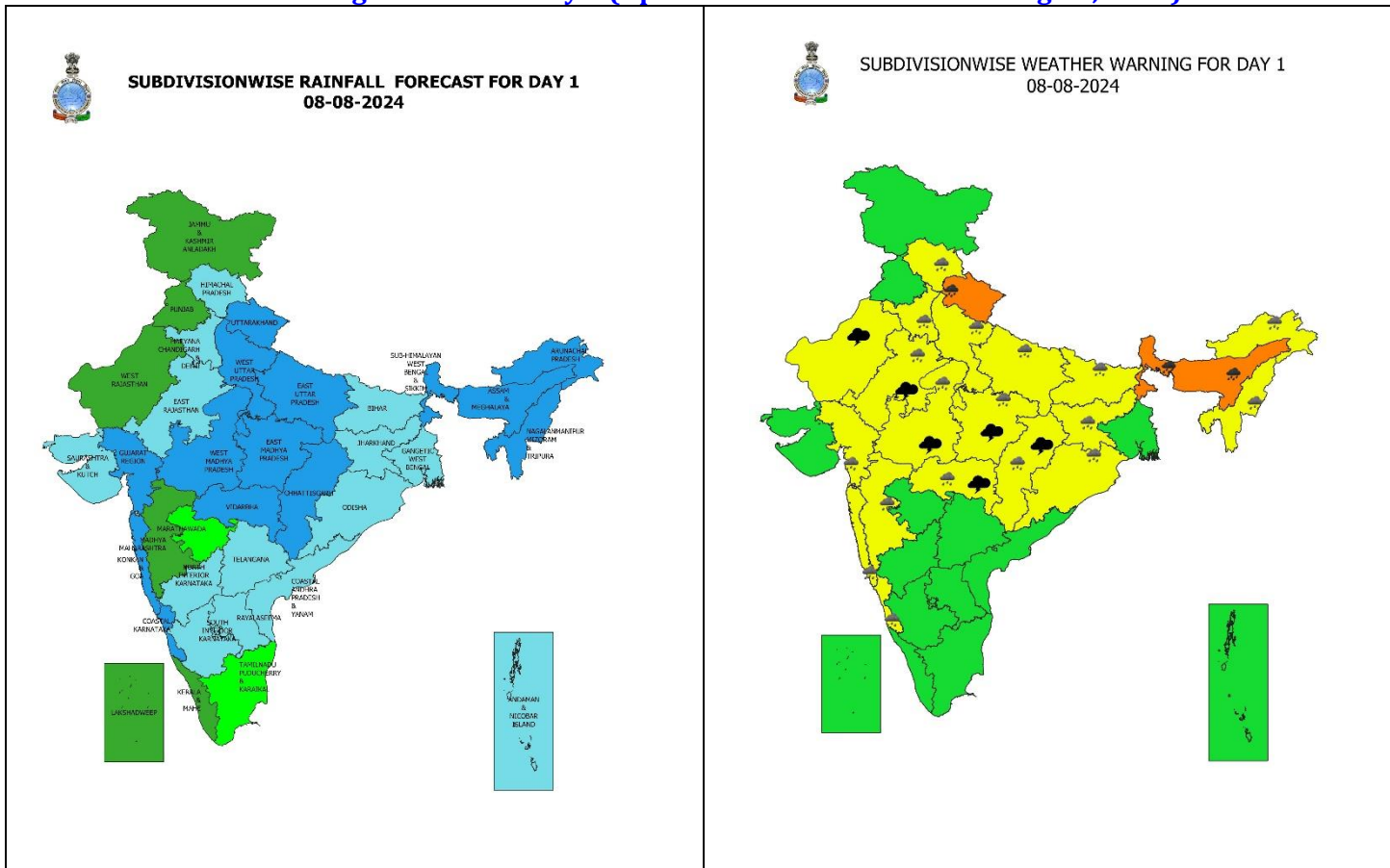
Main Weather Observations:

- ❖ **Rainfall distribution** (from 0830 hours IST to 1730 hours IST of yesterday): **at many places** over East Madhya Pradesh, Gangetic West Bengal, Telangana & Coastal Andhra Pradesh & Yanam ; **at a few places** over Uttar Pradesh, East Rajasthan, Sub-Himalayan West Bengal & Sikkim, Odisha, Chhattisgarh, Konkan & Goa, Madhya Maharashtra, Marathwada and Tamil Nadu, Puducherry & Karaikal; **at isolated places** over Jammu-Kashmir-Ladakh-Gilgit-Baltistan-Muzaffarabad, Uttarakhand, Punjab, Himachal Pradesh, Haryana-Chandigarh-Delhi, West Rajasthan, Gujarat state, West Madhya Pradesh, Bihar, Jharkhand, Arunachal Pradesh, Assam & Meghalaya, Nagaland, Manipur, Mizoram & Tripura, Vidarbha, Rayalaseema & Karnataka state.
- ❖ **Heavy rainfall recorded** (from 0830 hours IST to 1730 hours IST of yesterday): **Heavy rainfall** at isolated places over Jammu-Kashmir, Uttarakhand, Chhattisgarh & Jharkhand.
- ❖ **Significant amount of rainfall** (from 0830 hours IST to 1730 hours IST of yesterday) (in cm): **Jammu-Kashmir-Ladakh-Gilgit-Baltistan-Muzaffarabad**: Chatha_AFMU 9, Jammu 7; **Uttarakhand**: Mokampur 9, Maldevta 7; **Delhi**: SPS Mayur Vihar 5, Najafgarh & NCMRWF (NOIDA) 3 each; **West Uttar Pradesh**: Shahjahanpur 5, Jhansi 4, Gautam Budhnagar, Bulandshahr & Bareilly 3 each; **East Uttar Pradesh**: Hardoi 6, Chitrakoot & Bhadohi 4 each; **Assam & Meghalaya**: Dibrugarh 5; **Gangetic West Bengal**: Midnapore 3; **Chhattisgarh**: Lakhanpur_KVK (Korba) 8, Koriya 7, Jagdalpur 4, Pendra Road 3; **Jharkhand**: Simdega 8; **Vidarbha**: Gondia 5; **Coastal Andhra Pradesh & Yanam**: Kakinada 3; **Telangana**: Kothagudem 4; Khammam 3; **Konkan & Goa**: Panjim 3; **Madhya Maharashtra**: Mahabaleshwar 3; Kerala & Mahe: Munnar (IDDUKI dist) 3.
- ❖ **Minimum Temperature Departures (as on 07-08-2024)**: Minimum temperatures were **above normal (1.6°C to 3.0°C)** at many places over Jammu-Kashmir-Ladakh-Gilgit-Baltistan-Muzaffarabad; at isolated places over Punjab, Himachal Pradesh, East Madhya Pradesh, Vidarbha and Marathwada. These were **below normal (-1.6°C to -3.0°C)** at isolated places over East Rajasthan. Coastal Andhra Pradesh & Yanam, Telangana and Tamil Nadu, Puducherry & Karaikal and are **near normal** over rest parts of the country. Yesterday, **the lowest minimum temperature of 18.0°C** was reported at **Deesa (Gujarat Region)** over the plains of the country (Fig.4).
- ❖ **Maximum Temperature Departures (as on 07-08-2024)**: Maximum temperatures were **markedly above normal (5.1°C or more)** at isolated places over Bihar and Saurashtra & Kutch; **appreciably above normal (3.1°C to 5.0°C)** at isolated places over Nagaland, Manipur, Mizoram & Tripura; **above normal (1.6°C to 3.0°C)** at isolated places over Jammu-Kashmir-Ladakh-Gilgit-Baltistan-Muzaffarabad, Assam & Meghalaya, Kerala & Mahe and Tamil Nadu, Puducherry & Karaikal. These were **markedly below normal (-5.1°C or Less)** at a few places over West Rajasthan; at isolated places East Rajasthan & West Uttar Pradesh; **appreciably below normal (-3.1°C to -5.0°C)** at few places over Coastal Andhra Pradesh & Yanam; at isolated places over Uttarakhand, Odisha, Telangana & Rayalaseema; **below normal (-1.6°C to -3.0°C)** at isolated places over East Uttar Pradesh, Konkan & Goa, Madhya Pradesh, Madhya Maharashtra, Chhattisgarh, Interior Karnataka, Tamil Nadu and Puducherry & Karaikal and **near normal** over rest parts of the country. Yesterday, **the highest Maximum Temperature of 37.5 °C** was reported at **Sriganaganagar (West Rajasthan)** over the country (Fig. 2).

Meteorological Analysis (Based on 0530 hours IST)

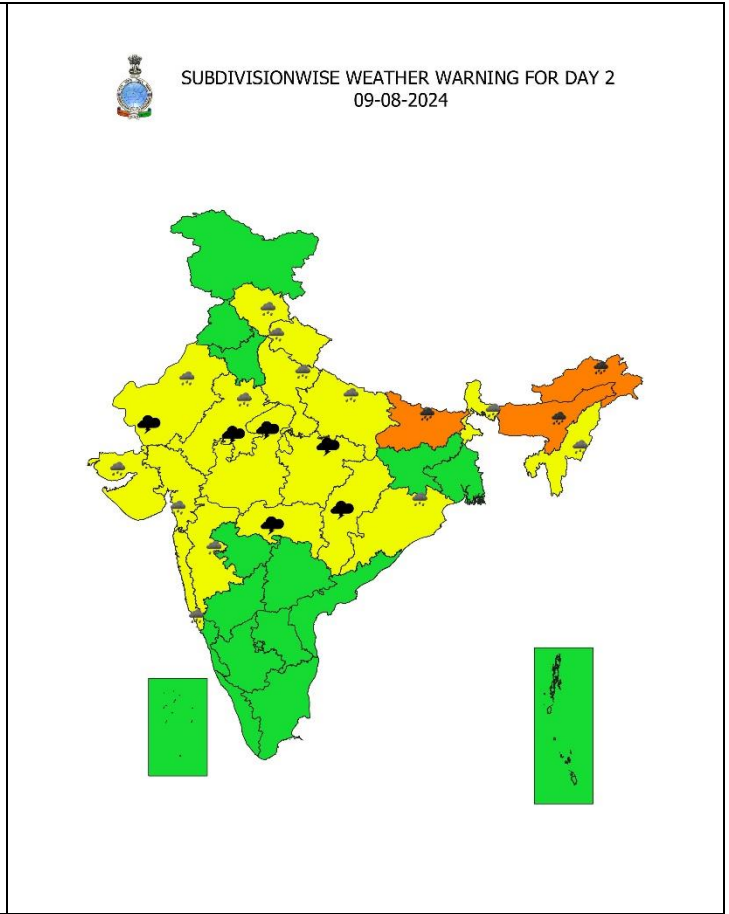
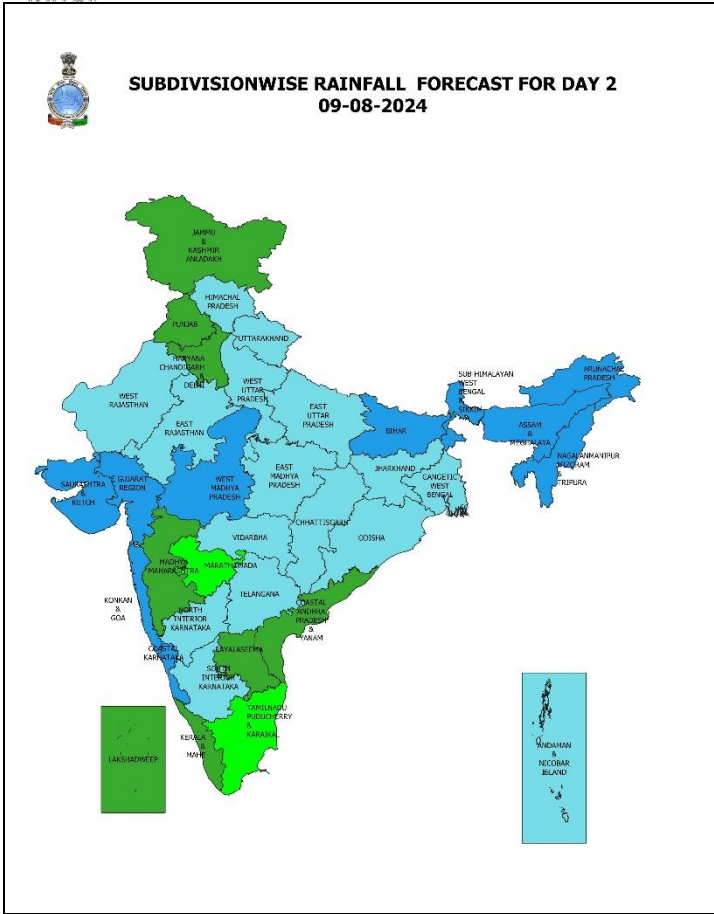
- ❖ The **Monsoon trough** at mean sea level now passes through Ganganagar, Hissar, Aligarh, Varanasi, Digha and thence southeastwards to eastcentral Bay of Bengal.
- ❖ The cyclonic circulation over Jharkhand, adjoining north Odisha & Chhattisgarh extending upto 5.8 km above mean sea level tilting southwestwards with height persists. Under its influence, a Low Pressure Area is likely to form over the same area during next 12 hours.
- ❖ The cyclonic circulation over Haryana & neighbourhood between 1.5 & 4.5 km above mean sea level persists.
- ❖ The cyclonic circulation over northeast Assam & neighbourhood between 1.5 & 3.1 km above mean sea level persists.
- ❖ The feeble off-shore trough at mean sea level along south Gujarat to north Karnataka persists.
- ❖ The north-south trough from Rayalaseema to Comorin area across interior Tamil Nadu at 0.9 km above mean sea level persists.

Weather Forecast & Warnings for next 7 days (Upto 0830 hours IST of 15th August, 2024)



08 August (Day 1):

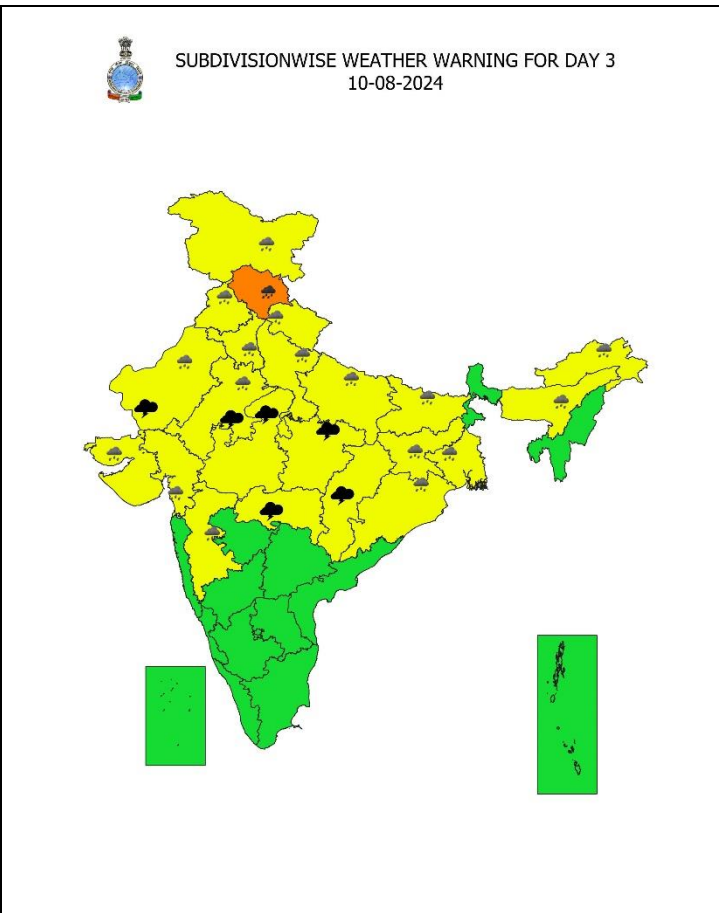
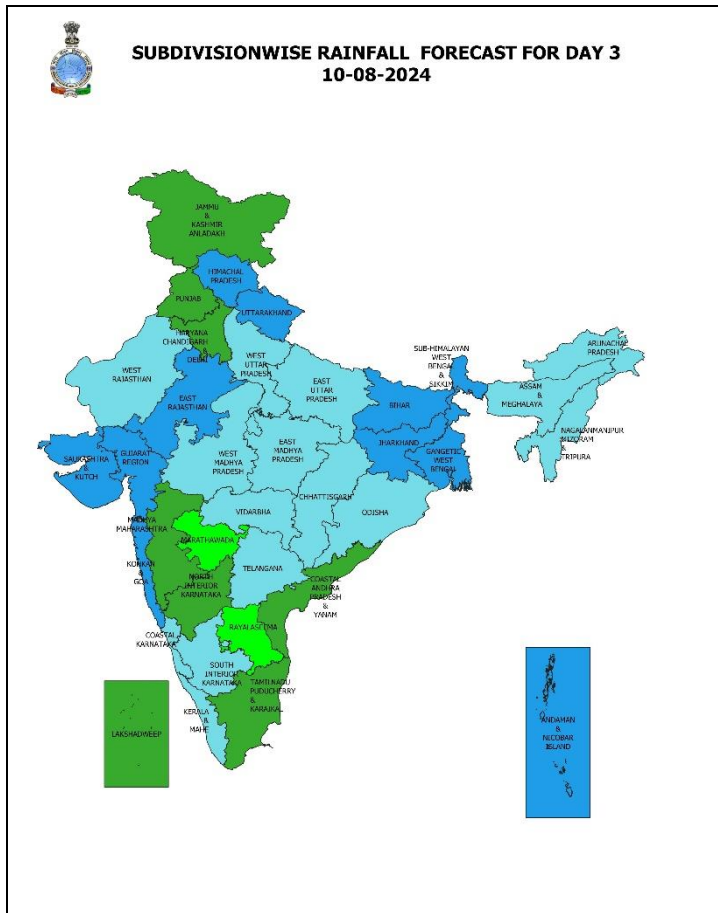
- ❖ **Heavy to very heavy rainfall (≥ 12 cm)** very likely at isolated places over Uttarakhand, Sub-Himalayan West Bengal & Sikkim, Assam & Meghalaya; **Heavy rainfall (≥ 7 cm) at isolated places** over Himachal Pradesh, Haryana-Chandigarh, Uttar Pradesh, East Rajasthan, Madhya Pradesh, Vidarbha, Chhattisgarh, Jharkhand, Bihar, Odisha, Arunachal Pradesh, Nagaland, Manipur, Mizoram & Tripura, Konkan & Goa, Madhya Maharashtra, Gujarat Region and Coastal Karnataka.
- ❖ **Thunderstorm accompanied with lightning** very likely at isolated places over Rajasthan, Madhya Pradesh, Vidarbha and Chhattisgarh.
- ❖ **Squally weather with wind speed reaching 35 kmph to 45 kmph gusting to 55 kmph** likely to prevail over northeast and adjoining northwest Arabian sea, many parts of eastcentral and westcentral Arabian sea, northern parts of southwest Arabian sea, along and off Gujarat coast, gulf of Mannar, off Sri Lanka coast, off north Tamil Nadu coast, southwest and adjoining southeast Bay of Bengal, many parts of central Bay of Bengal and few southern parts of northwest Bay of Bengal. **Squally winds with speed reaching 45 kmph to 55 kmph gusting to 65 kmph** likely to prevail over west central and adjoining eastcentral Arabian sea & adjoining areas of southwest Arabian sea, along & off Somalia, Yemen & Oman coasts. Fishermen are advised not to venture into these areas.



09 August (Day 2):

- ❖ **Heavy to very heavy rainfall (≥ 12 cm)** likely at isolated places over Bihar, Arunachal Pradesh and Assam & Meghalaya; **Heavy rainfall (≥ 7 cm)** at isolated places over Himachal Pradesh, Uttarakhand, Uttar Pradesh, Rajasthan, Sub-Himalayan West Bengal & Sikkim, Odisha, Nagaland, Manipur, Mizoram & Tripura, Konkan & Goa, Madhya Maharashtra and Gujarat.
- ❖ **Thunderstorm accompanied with lightning** very likely at isolated places over Rajasthan, Madhya Pradesh, Vidarbha and Chhattisgarh.

Squally weather with wind speed reaching 35 kmph to 45 kmph gusting to 55 kmph likely to prevail over northeast and adjoining northwest Arabian sea, many parts of eastcentral and westcentral Arabian sea, northern parts of southwest Arabian sea, along and off Gujarat coast, gulf of Mannar, off Sri Lanka coast, southwest and adjoining southeast Bay of Bengal, many parts of central Bay of Bengal and few southern parts of northwest Bay of Bengal. **Squally winds with speed reaching 45 kmph to 55 kmph gusting to 65 kmph** likely to prevail over west central and adjoining eastcentral Arabian sea & adjoining areas of southwest Arabian sea, along & off Somalia, Yemen & Oman coasts. Fishermen are advised not to venture into these areas.

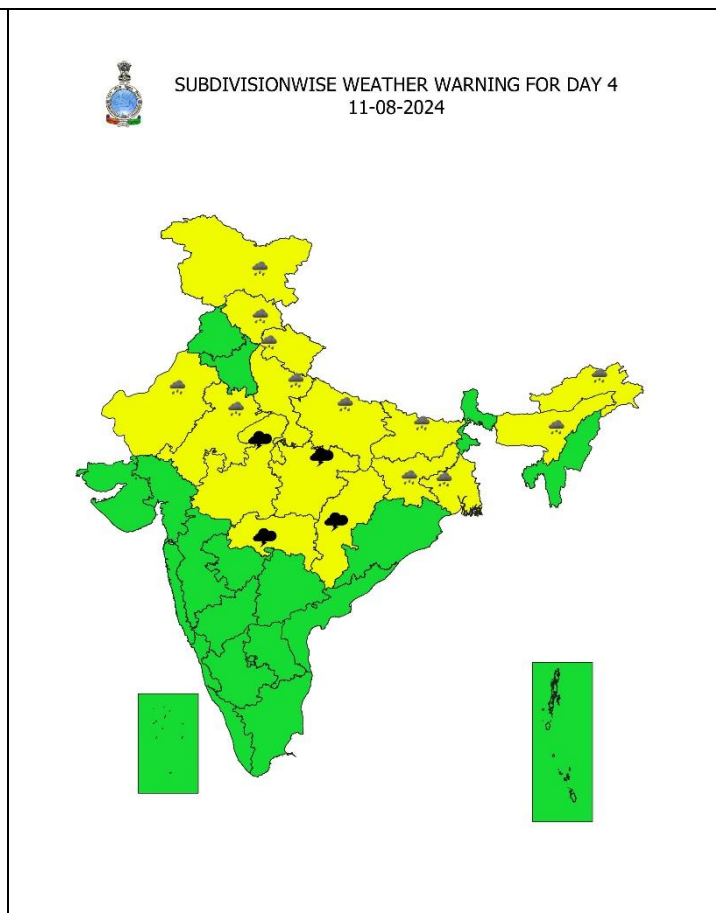
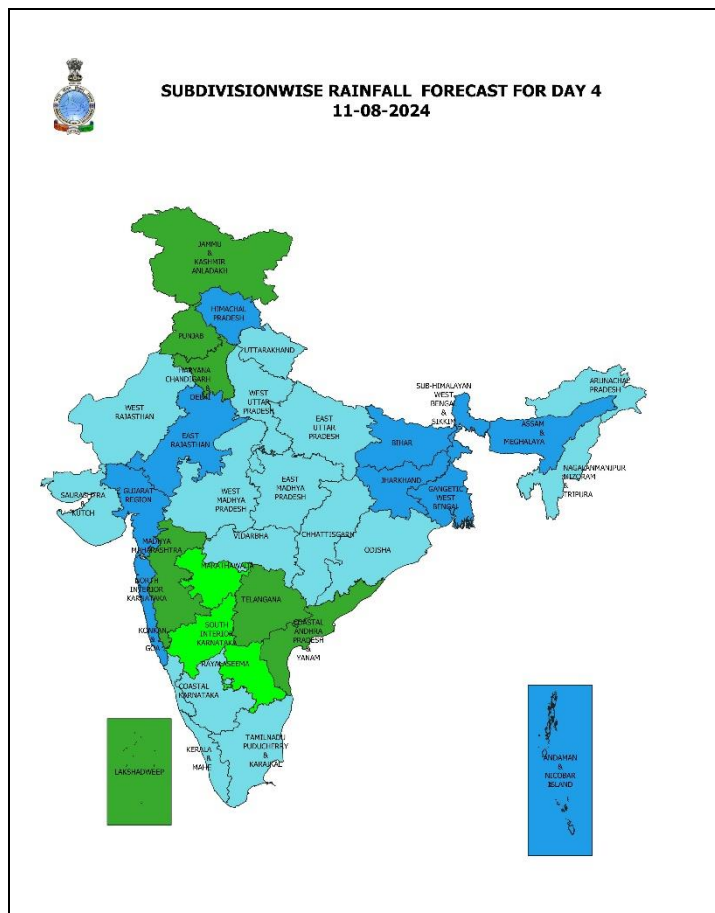


10 August (Day 3):

❖ **Heavy to very heavy rainfall (≥ 12 cm)** likely at isolated places over Himachal Pradesh; **Heavy rainfall (≥ 7 cm)** at isolated places over Jammu-Kashmir-Ladakh-Gilgit-Baltistan-Muzaffarabad, Uttarakhand, Punjab, Haryana-Chandigarh, Uttar Pradesh, Rajasthan, Gangetic West Bengal, Jharkhand, Odisha, Bihar, Arunachal Pradesh, Assam & Meghalaya, Madhya Maharashtra and Gujarat state.

❖ **Thunderstorm accompanied with lightning** likely at isolated places over Rajasthan, Madhya Pradesh, Vidarbha and Chhattisgarh.

Squally weather with wind speed reaching 35 kmph to 45 kmph gusting to 55 kmph likely to prevail over northeast and adjoining northwest Arabian sea, many parts of eastcentral and westcentral Arabian sea, northern parts of southwest Arabian sea, along and off Gujarat coast, gulf of Mannar, off Sri Lanka coast, southwest and adjoining southeast Bay of Bengal, many parts of central Bay of Bengal and few southern parts of northwest Bay of Bengal. **Squally winds with speed reaching 45 kmph to 55 kmph gusting to 65 kmph** likely to prevail over west central and adjoining eastcentral Arabian sea & adjoining areas of southwest Arabian sea, along & off Somalia, Yemen & Oman coasts. Fishermen are advised not to venture into these areas.

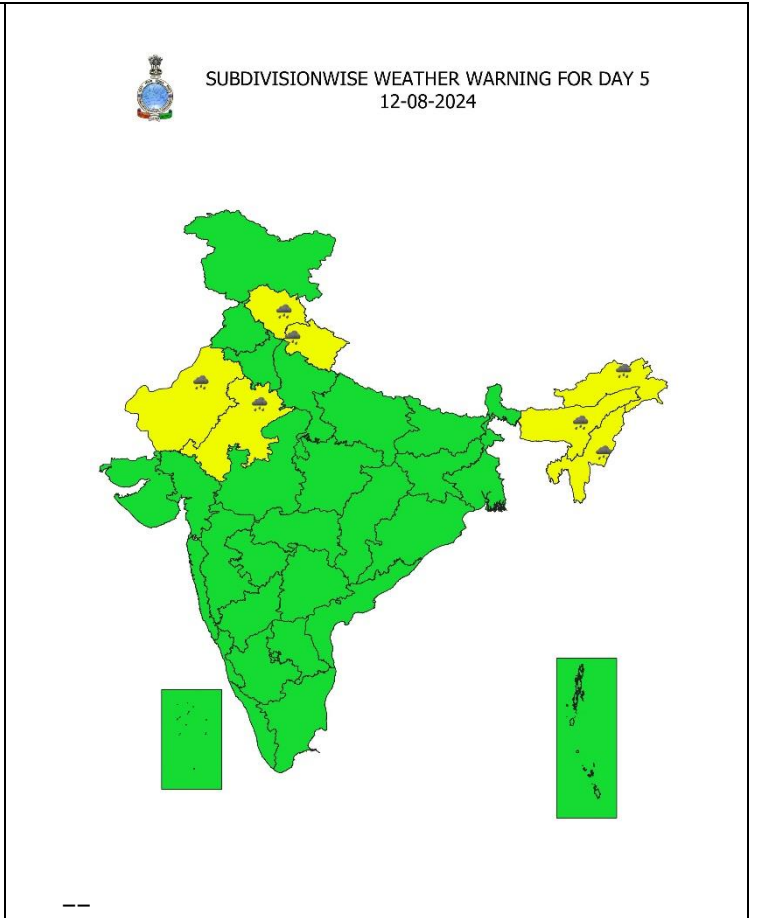
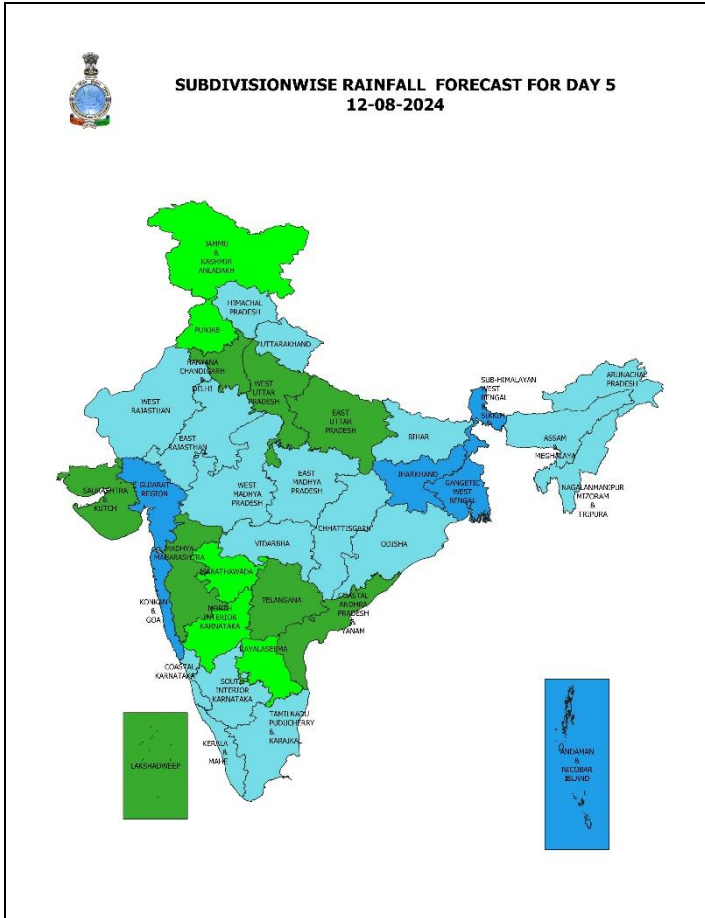


11 August (Day 4):

❖ **Heavy rainfall (≥ 7 cm)** likely at isolated places over Jammu-Kashmir-Ladakh-Gilgit-Baltistan-Muzaffarabad, Himachal Pradesh, Uttarakhand, Uttar Pradesh, Rajasthan, Gangetic West Bengal, Bihar, Jharkhand, Arunachal Pradesh, Assam & Meghalaya.

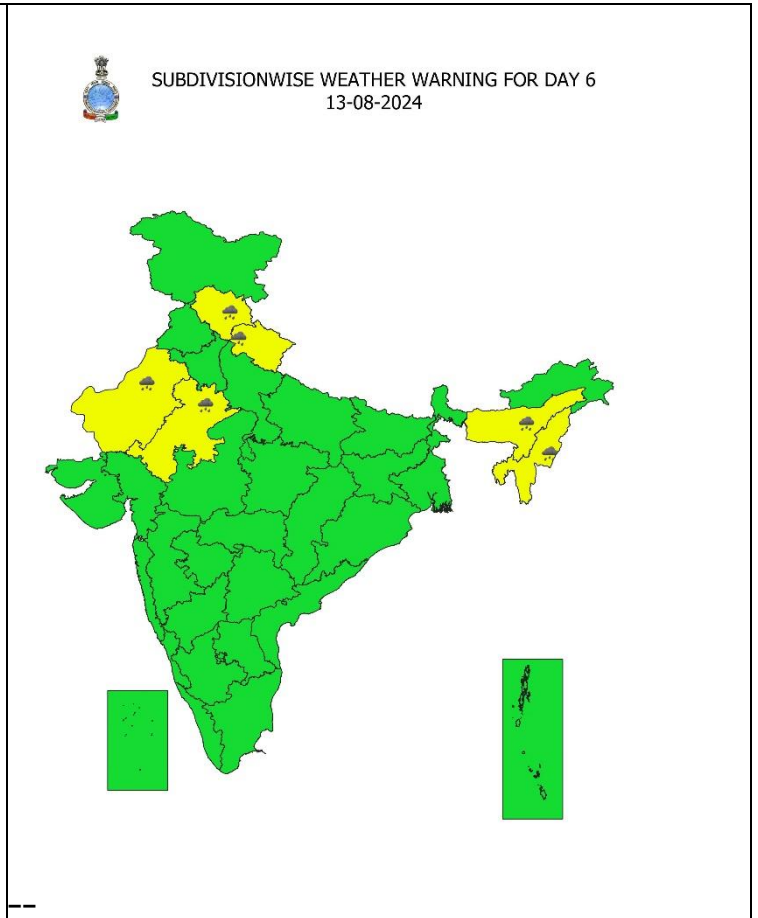
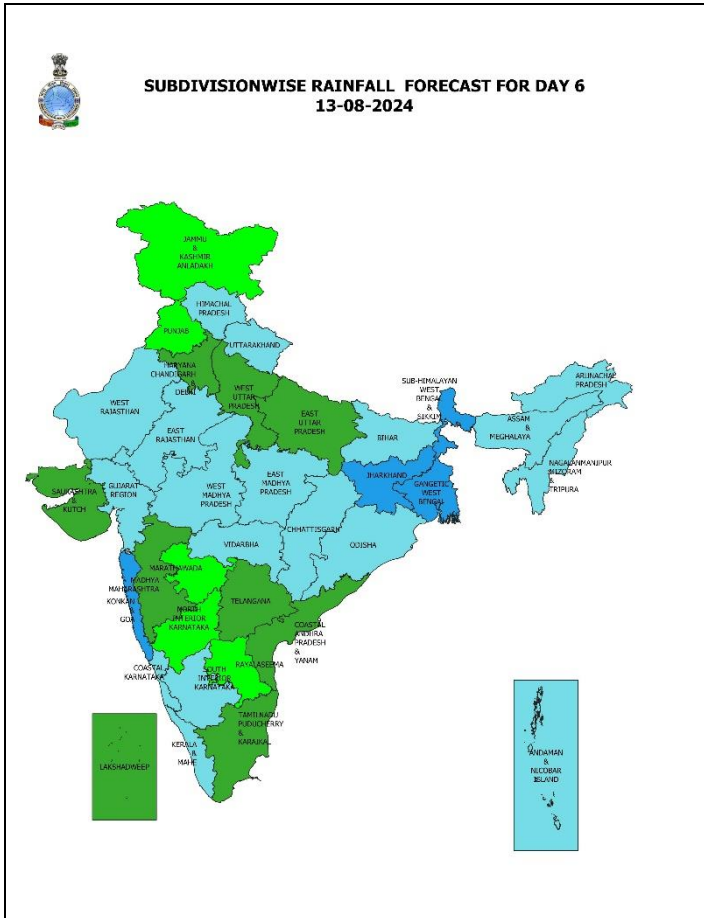
❖ **Thunderstorm accompanied with lightning** likely at isolated places over Madhya Pradesh, Vidarbha and Chhattisgarh.

Squally weather with wind speed reaching 35 kmph to 45 kmph gusting to 55 kmph likely to prevail over northeast and adjoining northwest Arabian sea, many parts of eastcentral and westcentral Arabian sea, northern parts of southwest Arabian sea, along and off Gujarat coast, gulf of Mannar, off Sri Lanka coast, southwest and adjoining southeast Bay of Bengal, many parts of central Bay of Bengal and few southern parts of northwest Bay of Bengal. **Squally winds with speed reaching 45 kmph to 55 kmph gusting to 65 kmph** likely to prevail over west central and adjoining eastcentral Arabian sea & adjoining areas of southwest Arabian sea, along & off Somalia, Yemen & Oman coasts. Fishermen are advised not to venture into these areas.



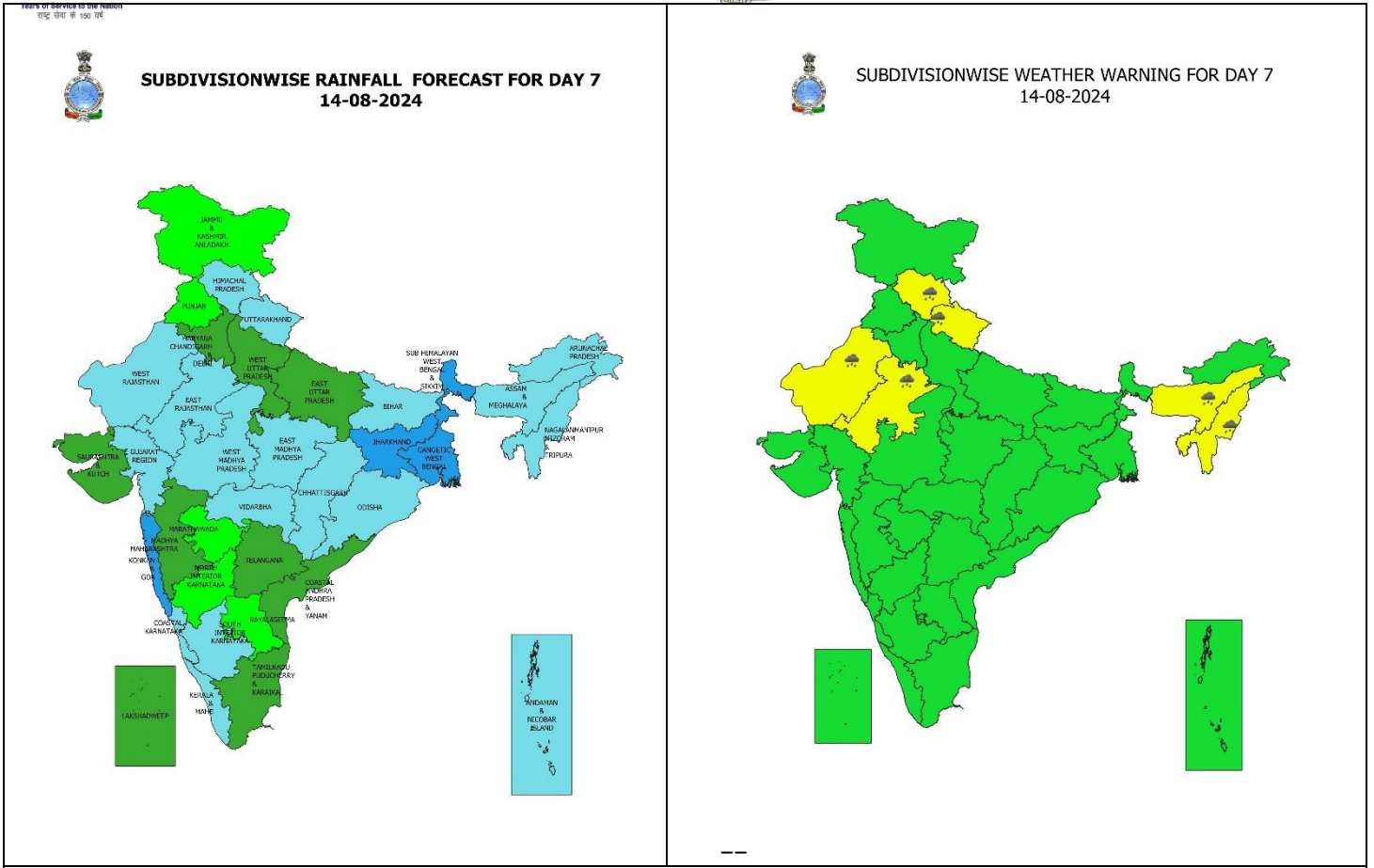
12 August (Day 5):

❖ **Heavy rainfall (≥ 7 cm)** likely at isolated places over Himachal Pradesh, Uttarakhand, Rajasthan, Arunachal Pradesh, Assam & Meghalaya, Nagaland, Manipur, Mizoram & Tripura.



13 August (Day 6):

❖ **Heavy rainfall (≥ 7 cm)** likely at isolated places over Himachal Pradesh, Uttarakhand, Rajasthan, Assam & Meghalaya, Nagaland, Manipur, Mizoram & Tripura.



14 August (Day 7):

- ❖ **Heavy rainfall (≥ 7 cm)** likely at isolated places over Himachal Pradesh, Uttarakhand, Rajasthan, Assam & Meghalaya, Nagaland, Manipur, Mizoram & Tripura.

Weather Outlook for subsequent 3 days (During 14th August - 16th August, 2024)

- ❖ Fairly widespread to widespread rainfall likely over most parts of the country except Marathwada where isolated to scattered rainfall likely.

- Action may be taken based on **ORANGE AND RED** COLOUR warnings.
- **Vulnerable regions likely urban and hilly areas** action may be initiated for heavy rainfall warning.
- **As the lead period increases forecast accuracy decreases.**

* 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.
For more details, kindly visit <https://mausam.imd.gov.in> or contact: 011-2434-4599
(Service to the Nation since 1875)

Impact due to

- **Very heavy rainfall** at isolated places over Assam & Meghalaya on 08th & 09th; Sub-Himalayan West Bengal & Sikkim on 08th, Arunachal Pradesh, Bihar on 09th August.
- **Low to Moderate flash flood risk likely over few watersheds & neighbourhoods of Uttarakhand, Himachal Pradesh, East Madhya Pradesh, South Chhattisgarh, adjoining Vidarbha and Telangana Met Sub-divisions on 09th August. (ANNEXURE I)**
 - ✓ Localized Flooding of roads, water logging in low lying areas and closure of underpasses mainly in urban areas of the above region.
 - ✓ Occasional reduction in visibility due to heavy rainfall.
 - ✓ Disruption of traffic in major cities due to water logging in roads leading to increased travel time.
 - ✓ Minor damage to kutcha roads.
 - ✓ Possibilities of damage to vulnerable structure.
 - ✓ Localized Landslides/Mudslides/landslips/mud slips/land sinks/mud sinks.
 - ✓ Damage to horticulture and standing crops in some areas due to inundation.
 - ✓ It may lead to riverine flooding in some river catchments (for riverine flooding please visit Web page of CWC)

Action Suggested

- ✓ Check for traffic congestion on your route before leaving for your destination.
- ✓ Follow any traffic advisories that are issued in this regard.
- ✓ Avoid going to areas that face the water logging problems often.
- ✓ Avoid staying in vulnerable structure.

Agromet advisories for Heavy Rainfall likely over various parts of the country

- Drain out excess water from field crops and horticultural crops in Odisha, Jharkhand, Bihar, Sub-Himalayan West Bengal, Himachal Pradesh, Uttarakhand, Chhattisgarh, Konkan & Goa, Madhya Maharashtra (ghat areas), Tamil Nadu, Coastal Karnataka, Andhra Pradesh and Telangana.
 - Make provision for draining out excess water from standing crop fields and fruit orchards to avoid water stagnation in North Eastern states, Haryana, Uttar Pradesh, Rajasthan and Madhya Pradesh.
 - Provide mechanical support to horticultural crops & staking to vegetables.
 - In Arunachal Pradesh, make proper arrangement for runoff management in Jhum rice fields by putting obstacles across the slopes.
 - In Assam, provide mulching in ginger and turmeric.
- In Interior Odisha, postpone sowing of maize, pigeon pea and vegetables.

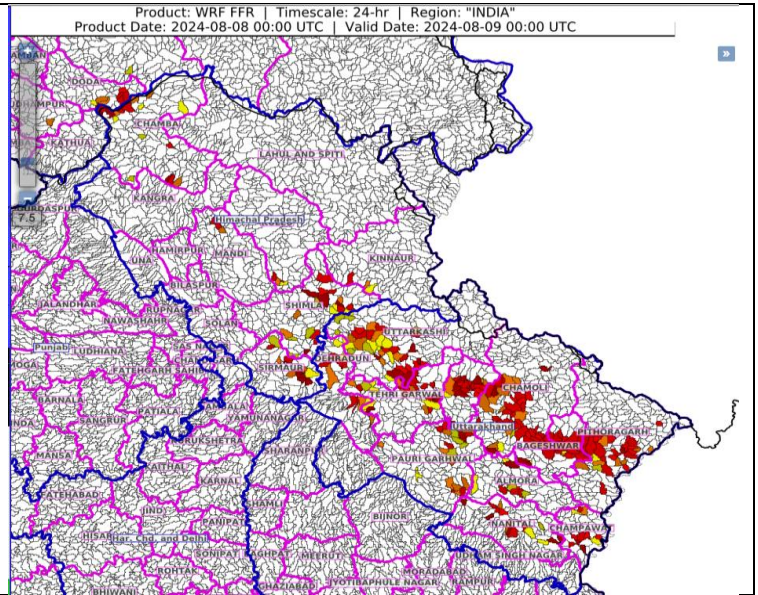
FLASH FLOOD GUIDANCE:

Annexure-I

24 hours Outlook for the Flash Flood Risk (FFR) till 0530 IST of 09-08-2024 :

Low to Moderate flash flood risk likely over few watersheds & neighbourhoods of **Uttarakhand** and adjoining **Himachal Pradesh** Met Sub-divisions during next 24 hours.

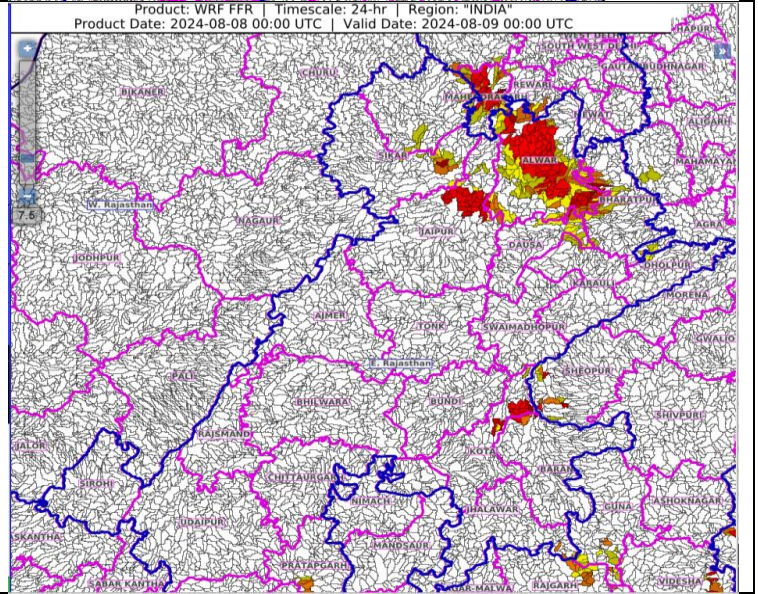
Surface runoff/ Inundation may occur at some fully saturated soils & low-lying areas over AoC as shown in map due to expected rainfall occurrence in next 24 hours.



24 hours Outlook for the Flash Flood Risk (FFR) till 0530 IST of 09-08-2024 :

Low flash flood risk likely over few watersheds & neighbourhoods of Northern parts of **East Rajasthan** Met Sub-divisions during next 24 hours.

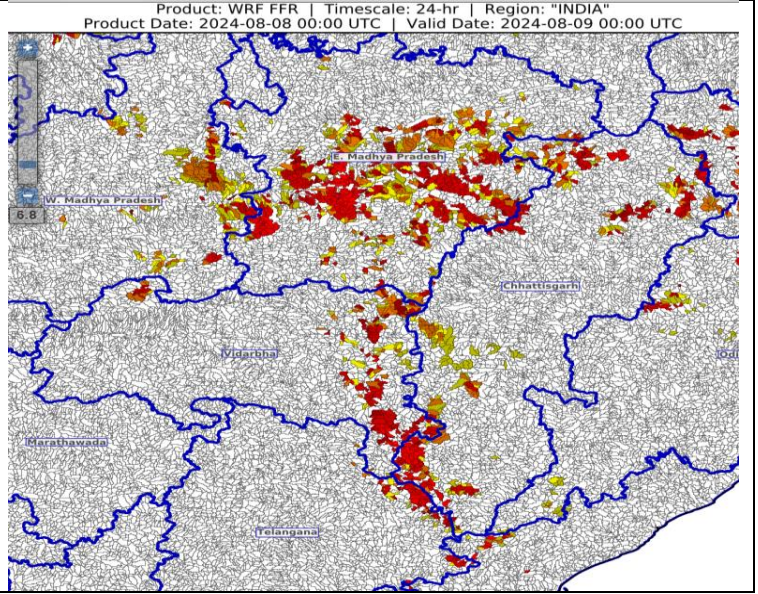
Surface runoff/ Inundation may occur at some fully saturated soils & low-lying areas over AoC as shown in map due to expected rainfall occurrence in next 24 hours.



24 hours Outlook for the Flash Flood Risk (FFR) till 0530 IST of 09-08-2024 :

Low flash flood risk likely over few watersheds & neighbourhoods of **East Madhya Pradesh**, **South Chhattisgarh**, adjoining **Vidarbha** and **Telangana** Met Sub-divisions during next 24 hours.

Surface runoff/ Inundation may occur at some fully saturated soils & low-lying areas over AoC as shown in map due to expected rainfall occurrence in next 24 hours.



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Fig. 1: Maximum Temperatures

Fig. 2: Departure of Maximum Temperatures

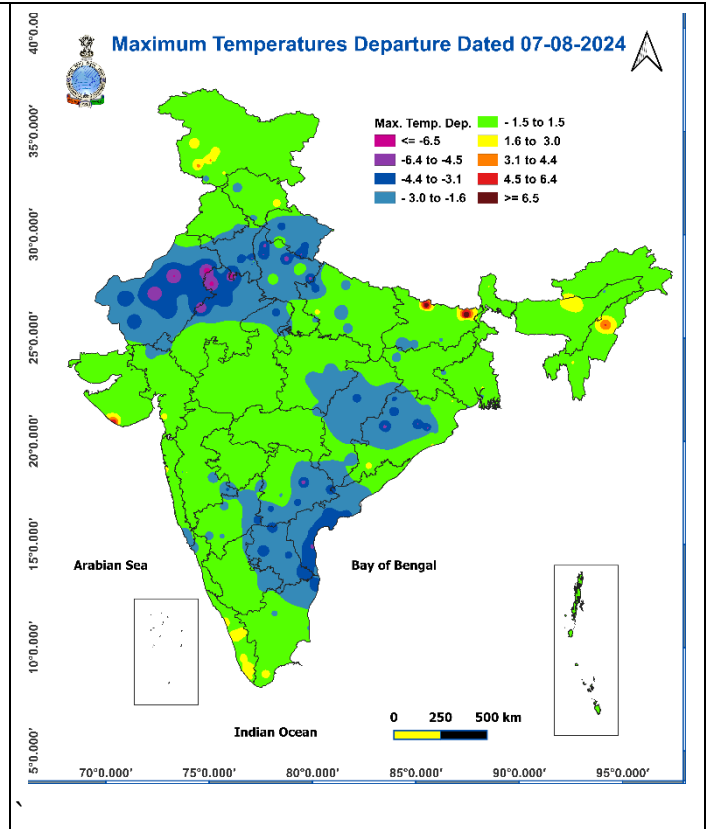
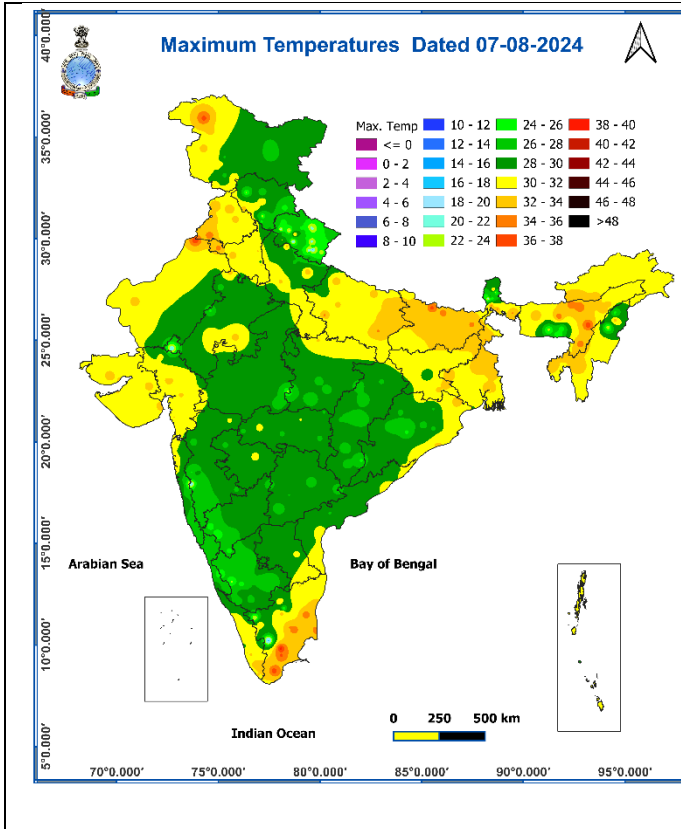


Fig. 3: Minimum Temperatures

Fig. 4: Departure of Minimum Temperatures

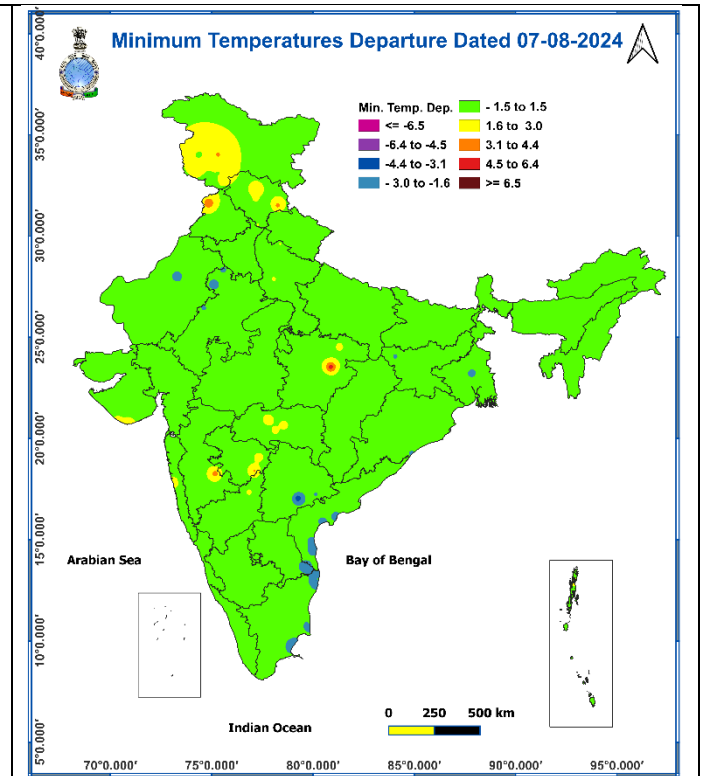
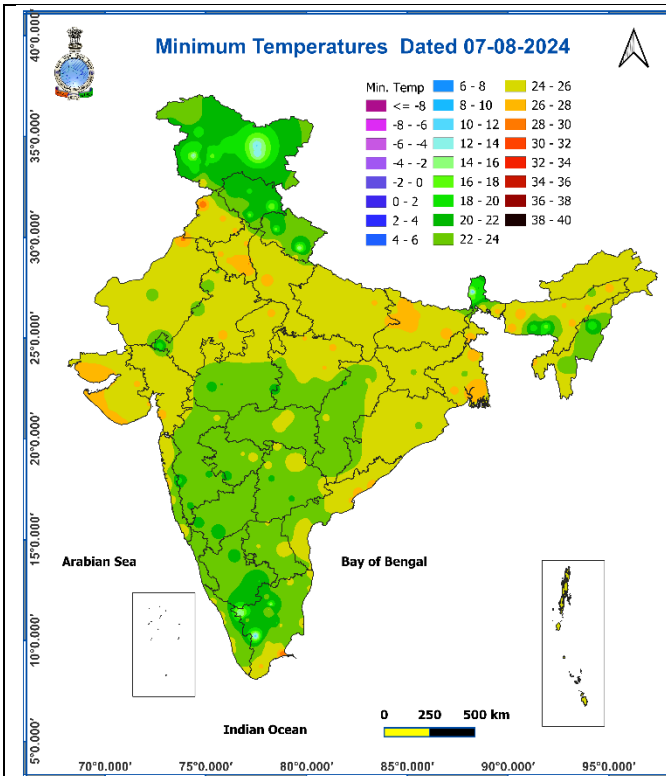
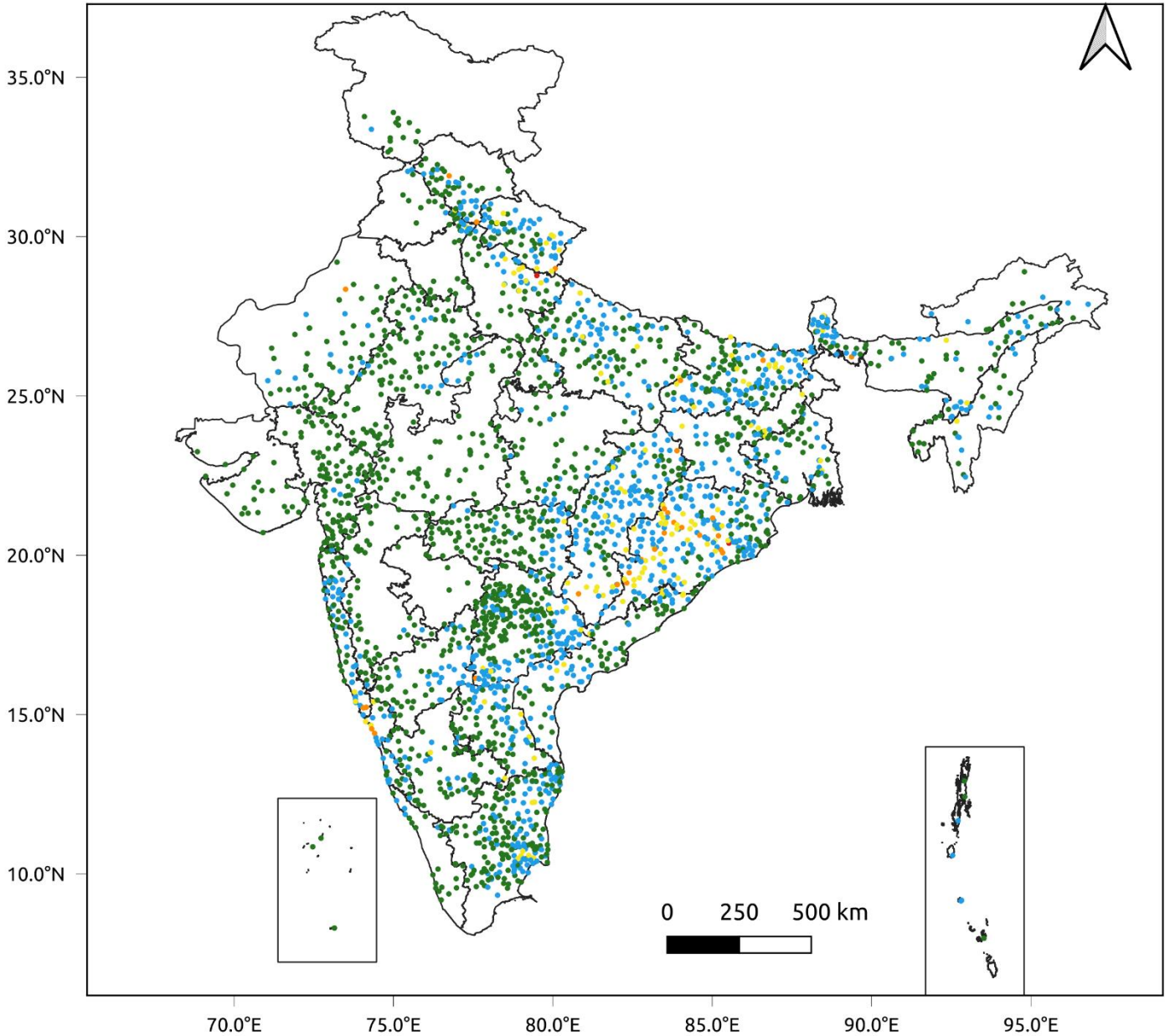


Fig. 5: Accumulated Rainfall (mm) during past 24 hours



24 Hr cumulative rainfall recorded over different stations during 0830 IST of 6-8-2024 to 0830 IST of 7-8-2024

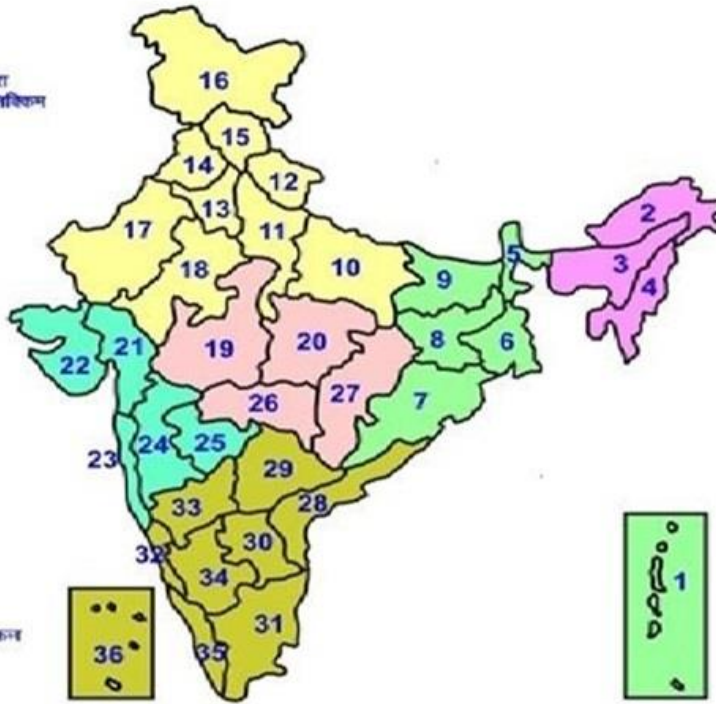


Legends

- 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)

LEGENDS

- 1 अंडमन 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 क्षेत्र
- 22 सौराष्ट्र एवं कच्छ
- 23 कोकण एवं गोवा
- 24 मध्य महाराष्ट्र
- 25 मराठवाड़ा
- 26 विदर्भ
- 27 छत्तीसगढ़
- 28 उत्तर आंध्र प्रदेश एवं यनम
- 29 तेलंगाना
- 30 दक्षिण तेलंगाना
- 31 तमिलनाडु, पुदुचेरी एवं काराईकल
- 32 उत्तरी कर्नाटक
- 33 अंतरीक उत्तरी कर्नाटक
- 34 अंतरीक 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)

			Subdivision Colour

* Red colour warning does not mean "Red Alert", Red colour warning means "Take Action".
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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 Storm: Wind speed > 220 kmph (> 119 knots)

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