

Saturday, February 15, 2025
Time of Issue: 0815 hours IST
(MORNING)

ALL INDIA WEATHER SUMMARY AND FORECAST BULLETIN

Significant Weather Features:

i. Realised weather during past 24 hours till 0830 hours IST of Yesterday

- ❖ Cold wave to severe cold wave like conditions prevailed in isolated pockets of Himachal Pradesh.

Temperature:

- ❖ During Past 24 hours, Day temperatures have fallen by 2-5°C at many places over southeast Uttar Pradesh, Madhya Pradesh and adjoining parts of Chhattisgarh and northeast Rajasthan, it has fallen by 1-2°C at many places over interior Maharashtra, Bihar, North Interior Karnataka, Vidarbha, Telangana, Delhi and remaining parts of Uttar Pradesh; It has increased by 1-3°C at many places over southwest Rajasthan and Gujarat state.
- ❖ Day temperatures continued to be appreciably above normal to markedly above normal by 3°C to 6°C at many places over Central & East India; at isolated places over Western Himalayan region & northern parts of Peninsular India; above normal (1°C to 3°C) at most places over Northwest & Northeast India.
- ❖ During Past 24 hours, Night temperatures have fallen by 3-6°C over many parts of East India and by 1-3°C over some parts of Central & Northeast India, Northwest plains while it raised by about 1-3°C at few places over Rajasthan and south Peninsular India.
- ❖ Night temperatures were appreciably above normal (3°C to 5°C) at a few places over southwest Rajasthan, Gujarat State; above normal (1°C to 3°C) at isolated places over Punjab, Bihar, Odisha, Assam & Meghalaya, North Interior Karnataka. These are appreciably below normal (-3°C to -5°C) at isolated places over Central & East India, Telangana & Andhra Pradesh.

Rainfall

- ❖ Light Rainfall/Snowfall at many places over Arunachal Pradesh; Light Rainfall at a few places over Assam & Meghalaya; at isolated places over Sub-Himalayan West Bengal & Sikkim.

ii. Weather Systems, Forecast and warning (Annexure III & IV):

- ❖ A **cyclonic circulation** lies over Meghalaya & neighbourhood in lower tropospheric westerlies. Under its influence,
 - ✓ Scattered to Fairly widespread light to moderate rainfall/snowfall activity likely over Arunachal Pradesh during 15th-21st February.
 - ✓ Isolated to scattered light rainfall activity likely over Assam & Meghalaya, Nagaland, Manipur, Mizoram & Tripura and Sub-Himalayan West Bengal & Sikkim during next 7 days.
- ❖ A fresh **Western Disturbance** is likely to affect Western Himalayan Region from 17th February, 2025. Under its influence,
 - ✓ Isolated to scattered light rainfall/snowfall activity likely over Jammu-Kashmir-Ladakh-Gilgit-Baltistan-Muzaffarabad & Uttarakhand during 17th-21st; Himachal Pradesh during 19th-21st February. Isolated light rainfall activity likely over Rajasthan during 18th-21st; Punjab, Haryana & West Uttar Pradesh on 20th & 21st February.

Temperature, Cold wave and Fog Forecast:

Forecast of temperature:

Minimum Temperature:

- ❖ Gradual rise by 3-5°C over the plains of Northwest India except Rajasthan where it is likely to rise by 2-3°C during subsequent 3-4 days.
- ❖ Gradual rise in minimum temperature by 3-5°C likely over Central India during next 2-3 days.
- ❖ No significant change in minimum temperature likely over East India during next 24 hours and gradual rise by 2-4°C thereafter.
- ❖ Rise in minimum temperature by 2-3°C likely over Maharashtra during next 4-5 days.
- ❖ No significant change in minimum temperature likely over Gujarat region during next 2 days and gradual rise by about 2°C thereafter.
- ❖ No significant change in minimum temperature likely over South India during next 24 hours and gradual rise by 1-2°C thereafter.

Maximum temperature:

- ❖ Gradual rise in maximum temperature by 3-5°C likely over plains of Northwest India during next 2-3 days.
- ❖ Gradual rise in maximum temperature by 2-4°C likely over Central during next 2-3 days.
- ❖ No significant change in maximum temperature likely over East India during next 24 hours and gradual rise by 2-3°C thereafter.
- ❖ Gradual rise in maximum temperature by 2-3°C likely over Maharashtra during next 2-3 days.
- ❖ No significant change in maximum temperature likely over Gujarat region during next 2 days and gradual rise by about 2°C thereafter.
- ❖ No significant change in maximum temperature likely over South India during next 24 hours and gradual rise by 1-2°C thereafter.

Dense Fog Warnings:

- ❖ **Dense fog conditions** very likely to continue to prevail during early morning hours in isolated pockets of Sub-Himalayan West Bengal & Sikkim till 16th February.

Cold Wave Warnings:

Cold Wave conditions very likely in isolated pockets of Himachal Pradesh on 15th February.

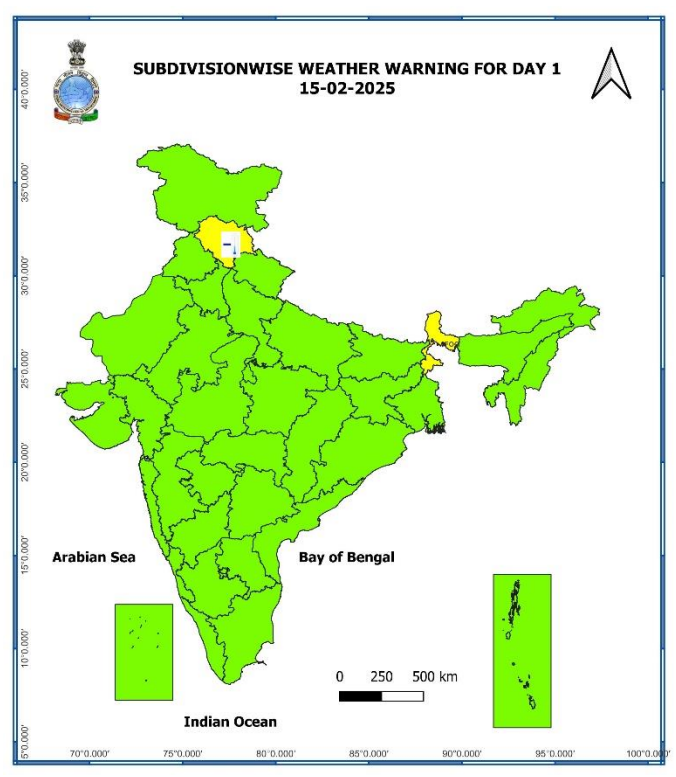
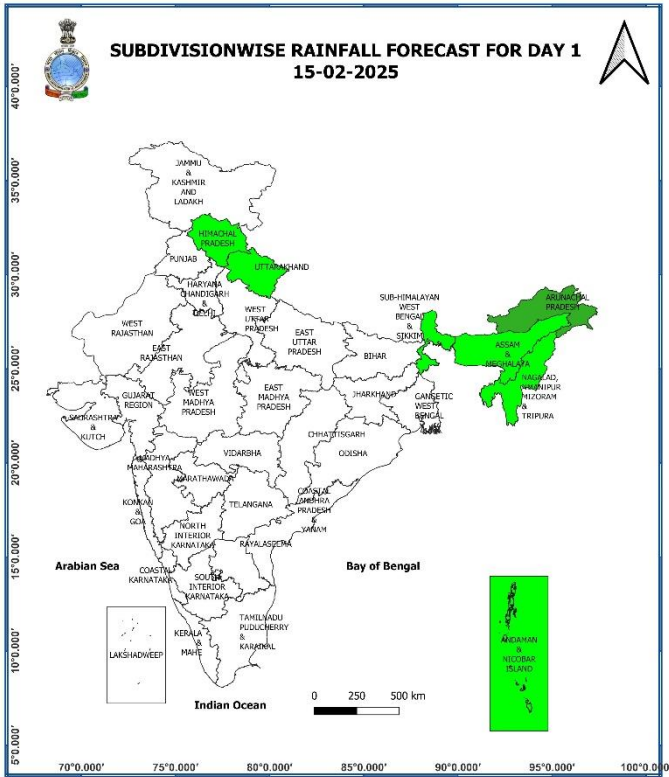
Main Weather Observations:

- ❖ **Rainfall/Snowfall distribution** (from 0830 hours IST to 1730 hours IST of yesterday): **at isolated places** over Arunachal Pradesh.
- ❖ **Rainfall distribution** (from 0830 hours IST to 1730 hours IST of yesterday): **at isolated places** over Sub-Himalayan West Bengal & Sikkim.
- ❖ **Significant amount of rainfall** (from 0830 hours IST to 1730 hours IST of yesterday) (in cm): **NIL**.
- ❖ **Minimum Temperature Departures (as on 14-02-2025)**: Minimum temperatures were **markedly above normal (5.1°C or more)** at isolated places over Nagaland, Manipur, Mizoram & Tripura; **appreciably above normal (3.1°C to 5.0°C)** at isolated places over West Rajasthan; **above normal (1.6°C to 3.0°C)** at isolated places over East Rajasthan, Assam & Meghalaya, Gujarat state, Madhya Maharashtra. These were **appreciably below normal (-3.1°C to -5.0°C)** at isolated places over Madhya Pradesh, Gangetic West Bengal, Tamil Nadu, Puducherry & Karaikal; **below normal (-1.6°C to -3.0°C)** at a few places over Jharkhand, Vidarbha; at isolated places over Odisha, Uttarakhand, Chhattisgarh and near normal over rest parts of the country (**Fig. 4**). Yesterday, the **lowest minimum temperature of 4.2°C** was reported at **Adampur (Punjab)** over the plains of the country.
- ❖ **Maximum Temperature Departures (as on 14-02-2025)**: Maximum temperatures were **markedly above normal (5.1°C or more)** at isolated places over Jammu-Kashmir-Ladakh-Gilgit-Baltistan-Muzaffarabad, Himachal Pradesh, Rajasthan and Saurashtra & Kutch; **appreciably above normal (3.1°C to 5.0°C)** at a few places over Punjab, Uttarakhand, Konkan & Goa and Gujarat Region; at isolated places over East Madhya Pradesh. Coastal Andhra Pradesh & Yanam and Kerala & Mahe; **above normal (1.6°C to 3.0°C)** at most places over North Interior Karnataka; at many places over Haryana-Chandigarh-Delhi, West Uttar Pradesh, East Madhya Pradesh, Chhattisgarh, Odisha, Vidarbha, Madhya Maharashtra, Marathwada, Telangana, Rayalaseema, South Interior Karnataka and Tamil Nadu, Puducherry & Karaikal and Tamil Nadu, Puducherry & Karaikal; at isolated places over West Uttar Pradesh, Gangetic West Bengal, Jharkhand and Coastal Karnataka. These were **below normal (-1.6°C to -3.0°C)** at many places over Arunachal Pradesh and at isolated places over Assam & Meghalaya, Sub-Himalayan West Bengal & Sikkim and Nagaland, Manipur, Mizoram & Tripura and near normal over rest parts of the country (**Fig. 2**). Yesterday, the highest **maximum temperature of 38.0°C** was reported at **Palakkad (Kerala)** over the country.

Meteorological Analysis (Based on 0530 hours IST)

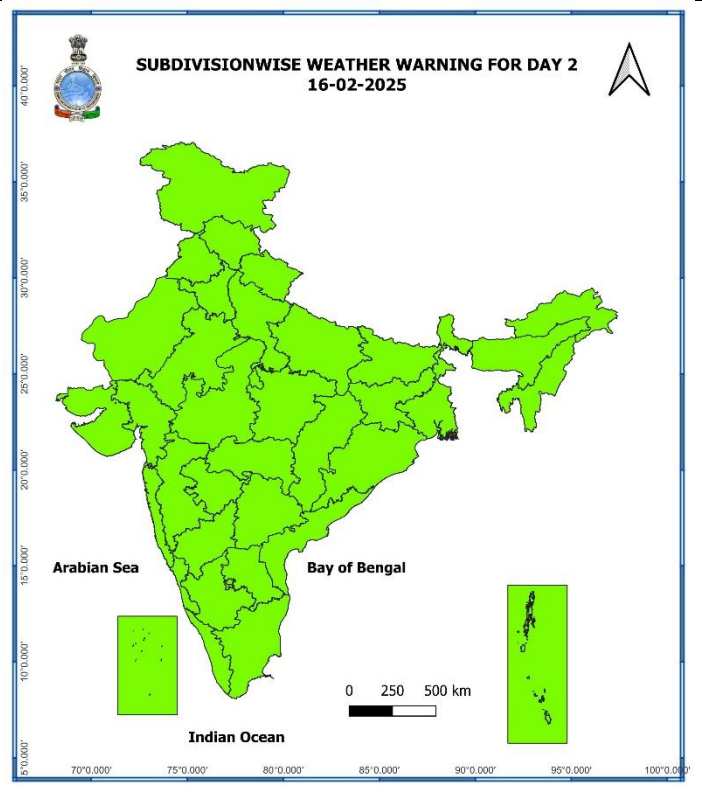
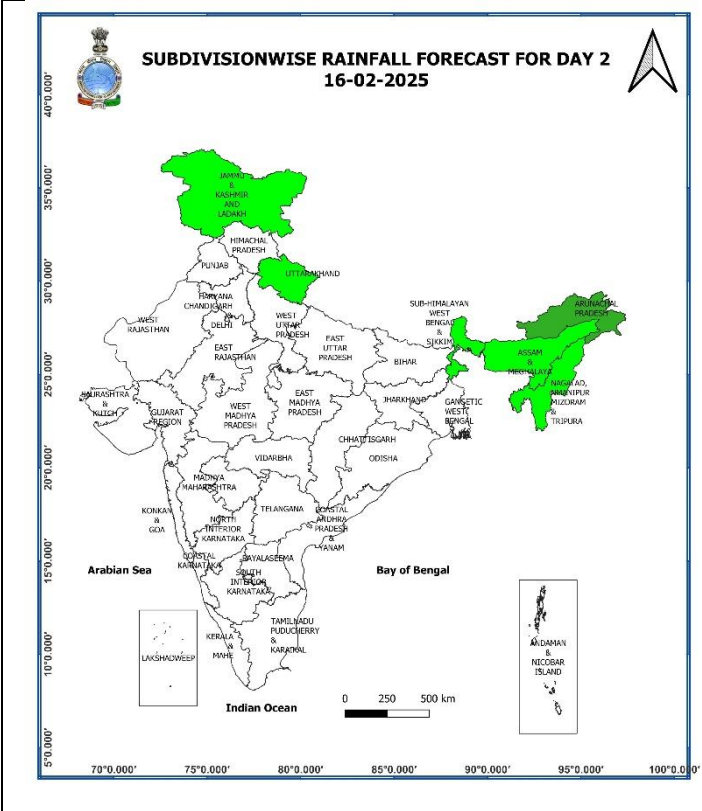
- ❖ A **cyclonic circulation** lies over Meghalaya & neighbourhood and extends upto 1.5 km above mean sea level.
- ❖ Subtropical **westerly Jet Stream** with core winds of the order of 110-120 knots at 12.6 km above mean sea level is prevailing over western Himalayan region.
- ❖ A fresh **Western Disturbance** is likely to affect Western Himalayan Region from 17th February, 2025.
- ❖ The **north-south trough** in lower & middle tropospheric westerlies roughly along Long. 93°E to the north of Lat. 24°N has become less marked.

Weather Forecast & Warnings for next 7 days (Upto 0830 hours IST of 22nd February, 2025)



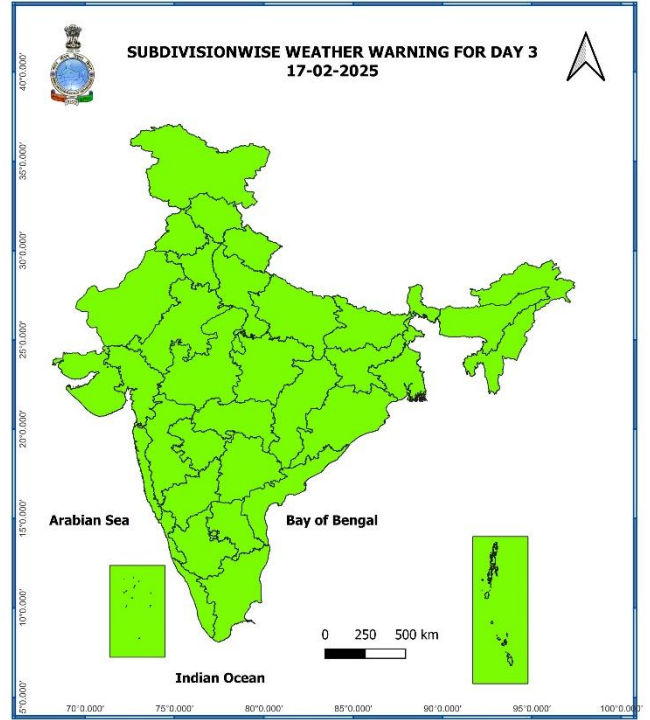
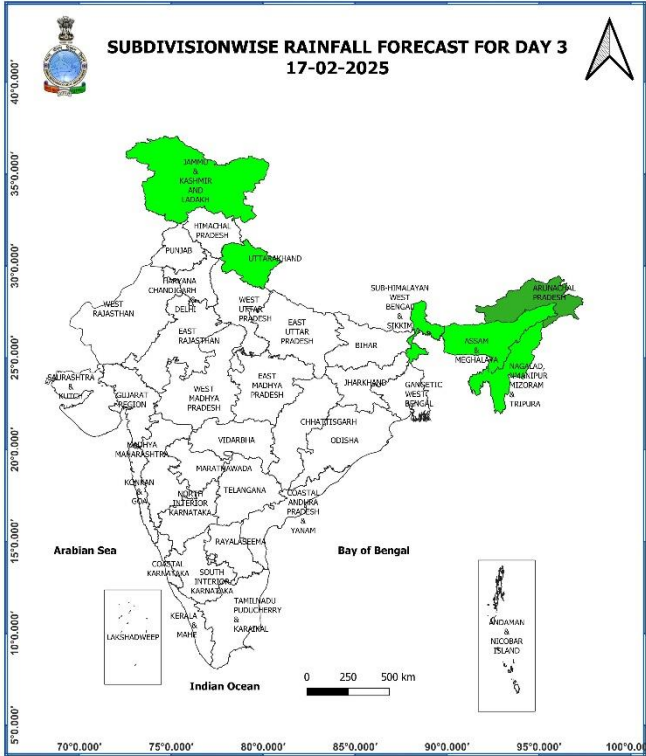
15th February (Day 1):

- ❖ **Dense fog conditions** very likely in isolated pockets of Sub-Himalayan West Bengal & Sikkim.
- ❖ **Cold wave condition** very likely in isolated pockets of Himachal Pradesh.



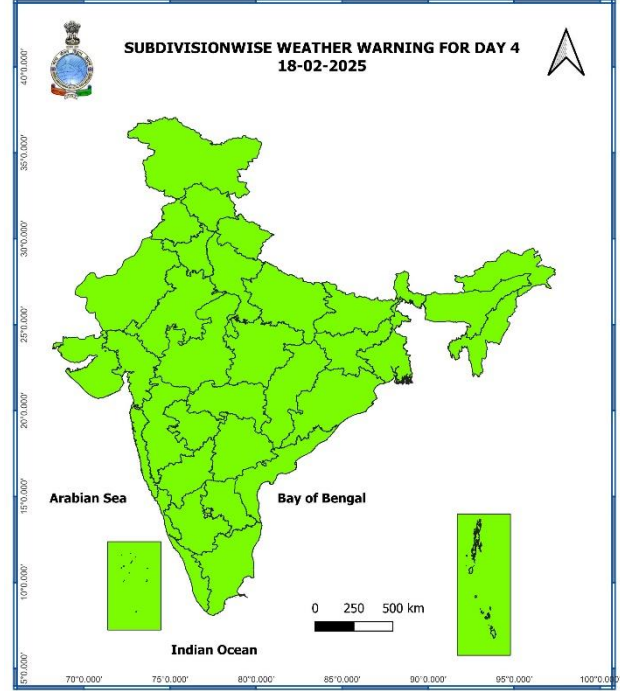
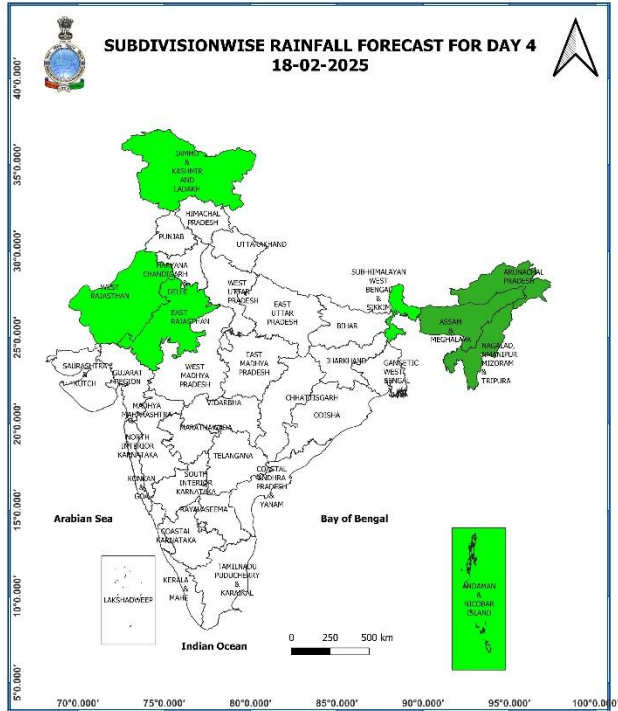
16th February (Day 2):

❖ **No Weather Warning.**



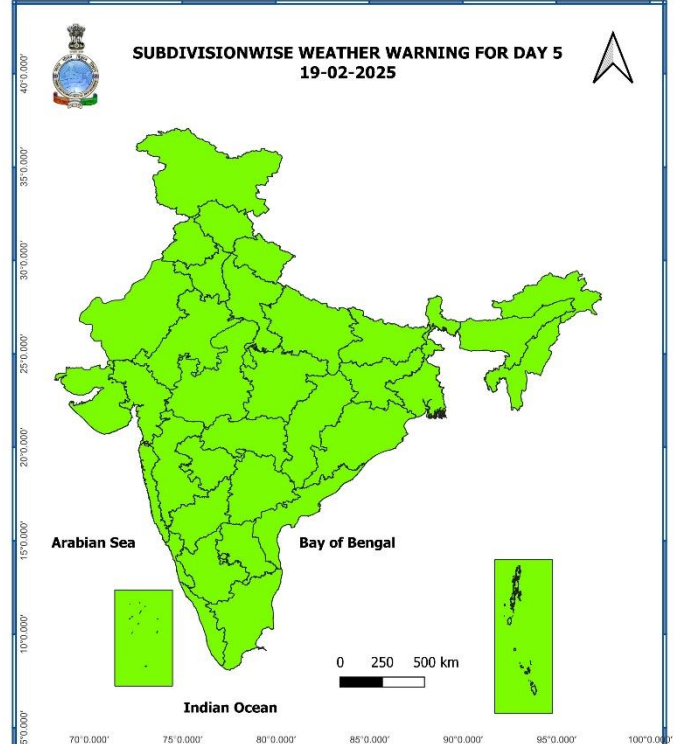
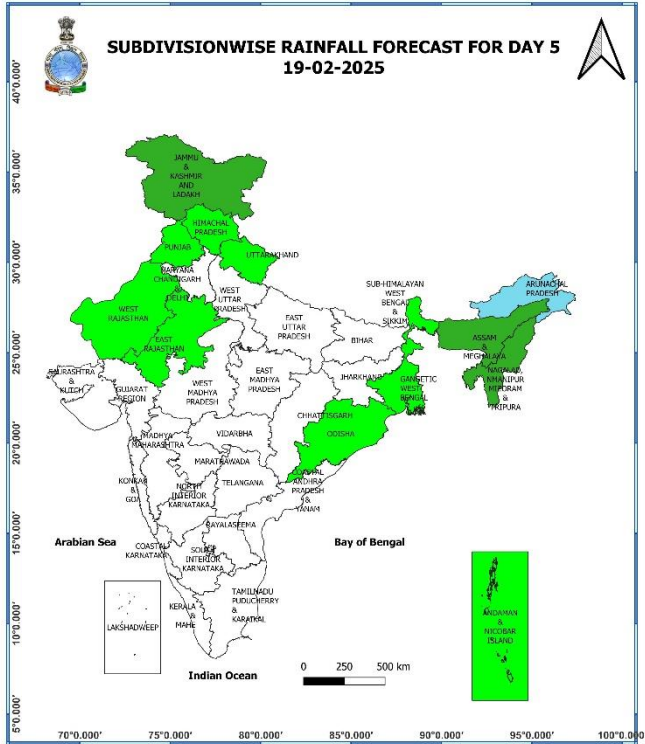
17th February (Day 3):

❖ No Weather Warning.



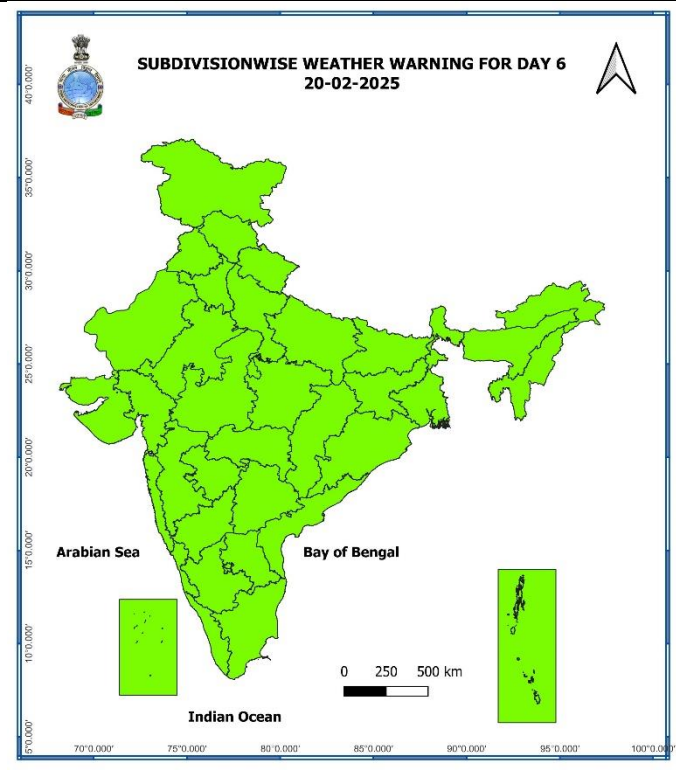
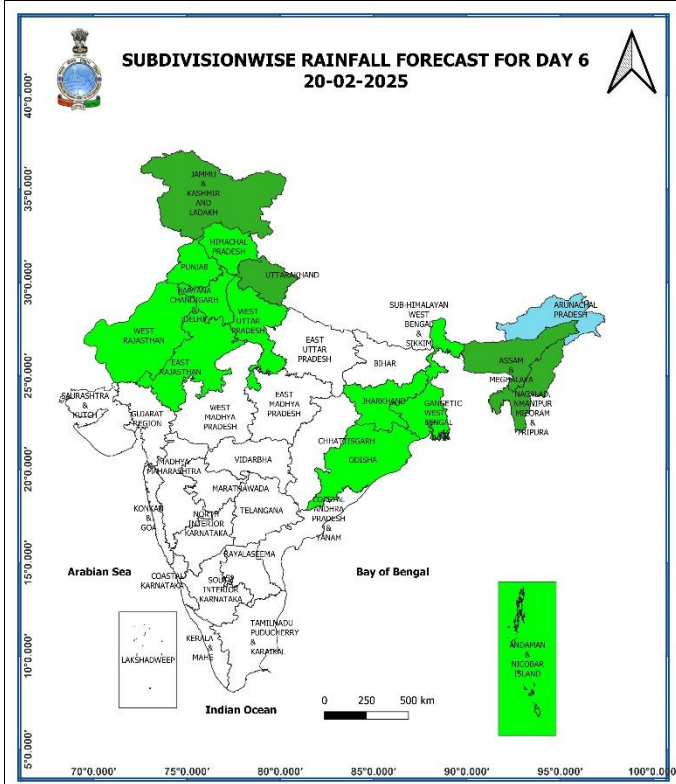
18th February (Day 4):

❖ **No Weather Warning.**



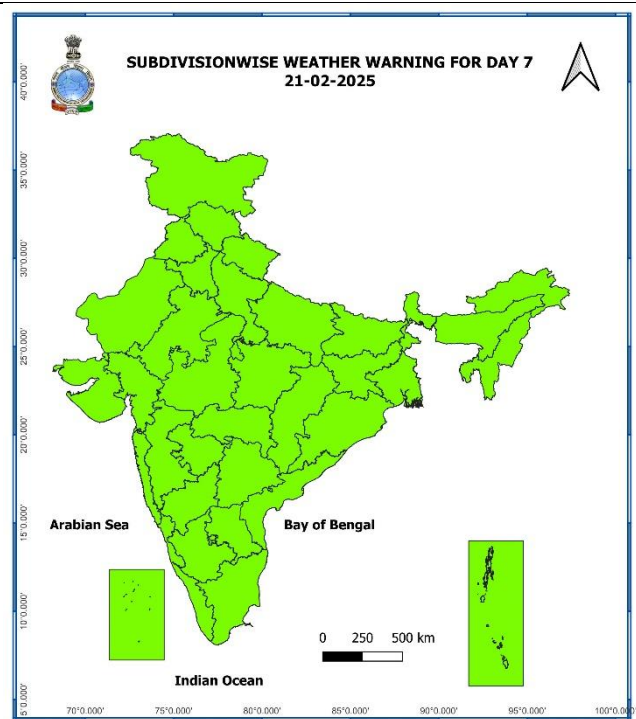
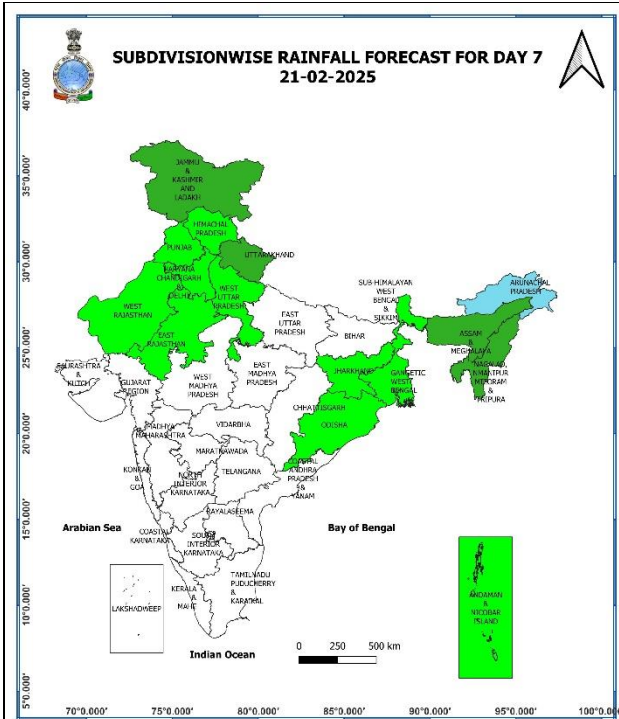
19th February (Day 5):

❖ **No Weather Warning.**



20th February (Day 6):

❖ **No Weather Warning.**



21st February (Day 7):

❖ **No Weather Warning.**

Weather Outlook for subsequent 3 days (During 22nd February- 24th February, 2025)

- ❖ **Scattered to fairly widespread rainfall/snowfall** likely over Western Himalayan region.
- ❖ **Isolated rainfall** likely over plains of Northwest, adjoining Central, East and Northeast India.

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.

Fig. 1: Maximum Temperatures

Fig. 2: Departure of Maximum Temperatures

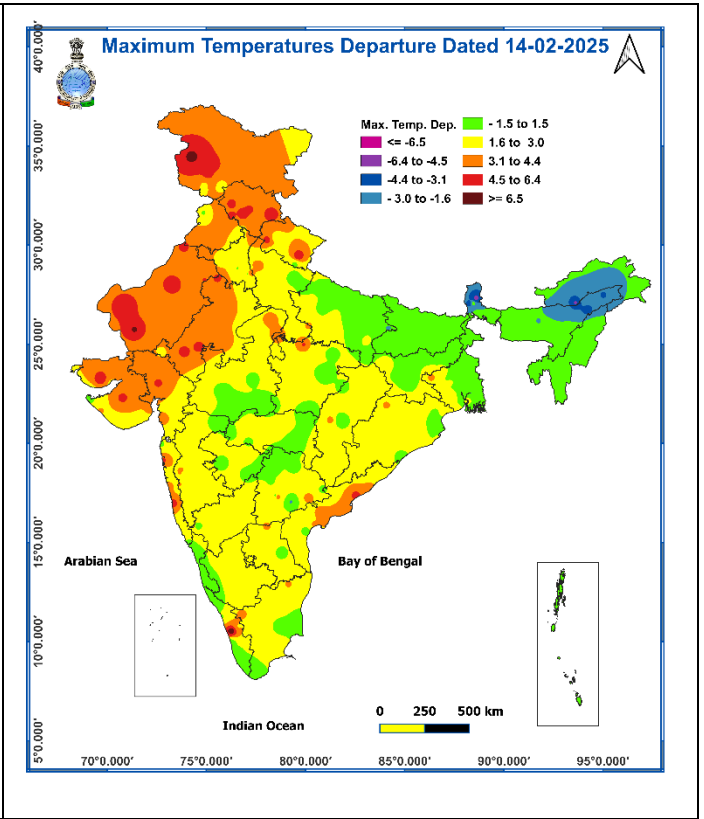
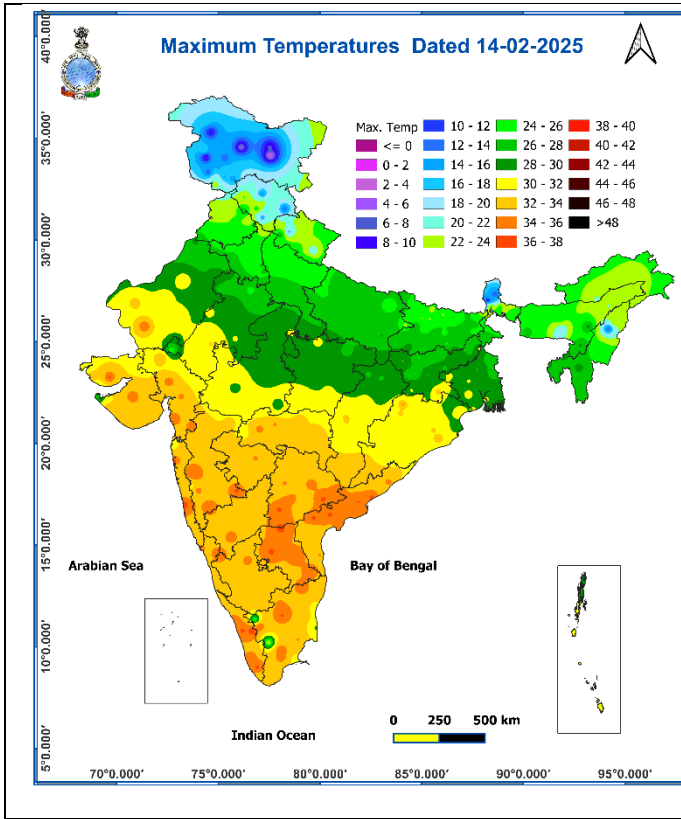
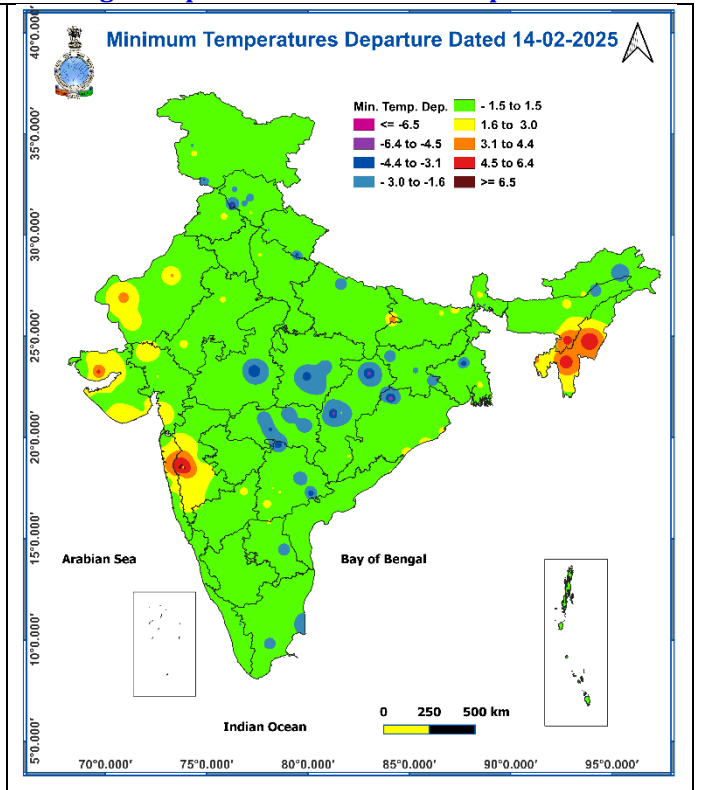
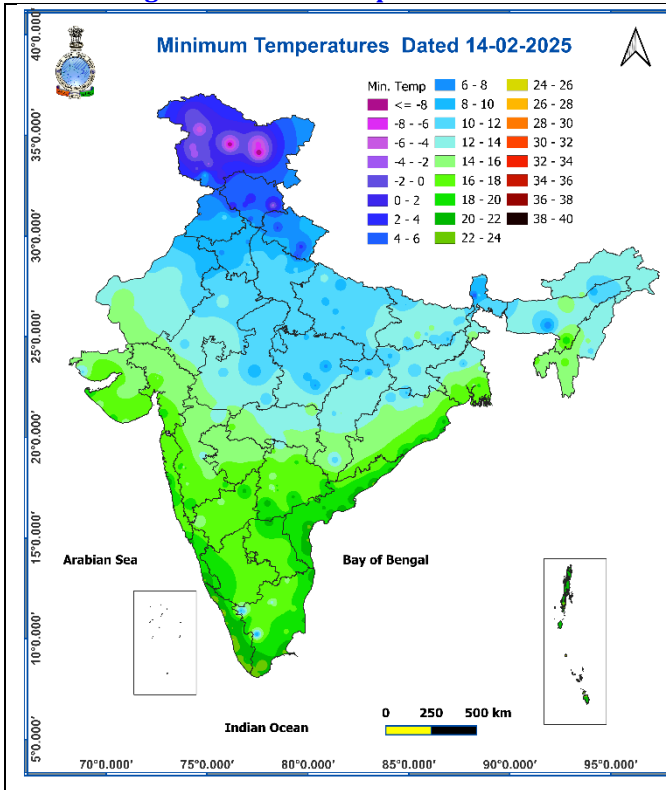


Fig. 3: Minimum Temperatures

Fig. 4: Departure of Minimum Temperatures



**Agromet advisories for likely impact of Cold wave
(Based on the IBF and advisories issued by different AMFUs)**

- In **Himachal Pradesh**, apply light and frequent irrigation to the standing crops in the evening to protect them from low temperature stress or cold injuries. Use mulching and cover vegetable nurseries and young fruit plants with straw/polythene sheets to maintain optimum soil temperature.

Livestock

- To protect from cold, keep cattle inside the sheds during night and provide dry bedding. Also keep the chicks warm by providing artificial light in the poultry sheds.

Likely Impact of prevailing above-normal temperatures on Agriculture

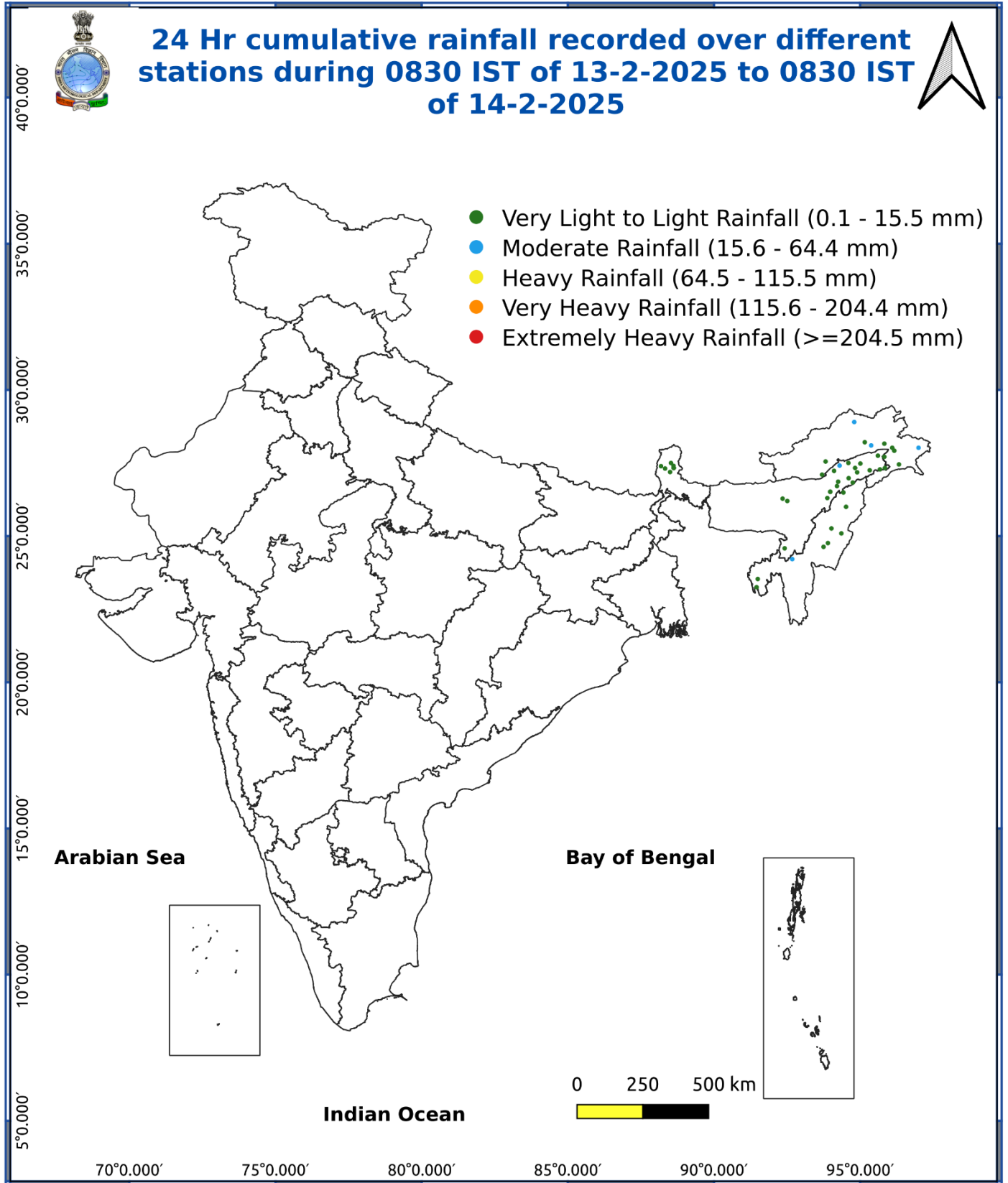
- Above normal temperatures in parts of Northwest and Central India may lead to forced maturity, sterile spikelets, and chaffy grains, reducing yields during critical growth stages like flowering and grain filling in crops like wheat and barley. Crops like mustard and chickpea may also experience early harvest.
- Vegetables like onions, garlic, and tomatoes may be affected during bulb formation or flowering, resulting in tip burning, bolting, and mismatched pollination, reducing their quality and yield. Horticultural crops like apples and stone fruits may experience early blooming due to warmer temperatures, resulting in poor fruit setting and quality.
- Livestock may experience heat stress, requiring adjustments in care and feeding practices, while fisheries face challenges in maintaining water quality.

Agromet Advisories

- Provide light and life-saving irrigation during sensitive growth stages such as grain filling, flowering, and tuber formation.
- Apply mulching to retain optimum soil moisture and regulate temperature.

Chemical sprays like potassium chloride and mineral nutrients are recommended to manage heat stress.

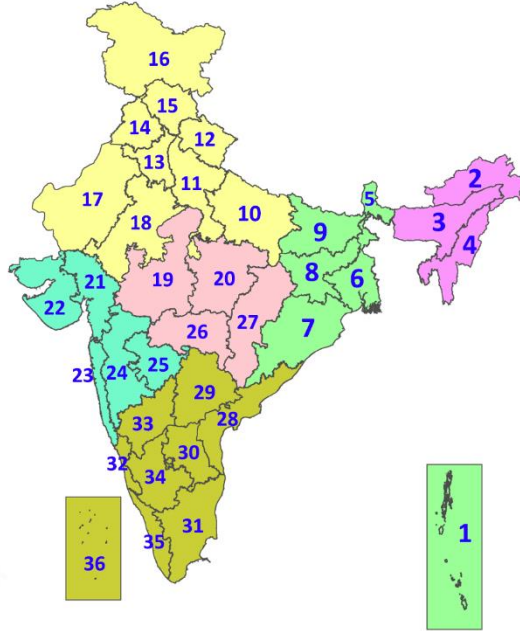
Fig. 5: Accumulated Rainfall (mm) during past 24 hours



* 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)

LEGENDS

1. अंडमान और निकोबार द्वीपसमूह
2. अरुणाचल प्रदेश
3. असम और मेघालय
4. नागालैंड, मणिपुर, मिजोरम और त्रिपुरा
5. उप-हिमालयी पश्चिम बंगाल और सिक्किम
6. गंगीय पश्चिम बंगाल
7. ओडिशा
8. झारखंड
9. बिहार
10. पूर्वी उत्तर प्रदेश
11. पश्चिम उत्तर प्रदेश
12. उत्तराखंड
13. हरियाणा, चंडीगढ़ और दिल्ली
14. पंजाब
15. हिमाचल प्रदेश
16. जम्मू और कश्मीर और लद्दाख
17. पश्चिम राजस्थान
18. पूर्वी राजस्थान
19. पश्चिम मध्य प्रदेश
20. पूर्वी मध्य प्रदेश
21. गुजरात
22. सौराष्ट्र
23. कोंकण और गोवा
24. मध्य महाराष्ट्र
25. मराठवाड़ा
26. विदर्भ
27. छत्तीसगढ़
28. तटीय आंध्र प्रदेश और यनम
29. तेलंगाना
30. रायलसीमा
31. तमिलनाडु, पुडुचेरी और कराईकल
32. तटीय कर्नाटक
33. आंतरिक उत्तरी कर्नाटक
34. आंतरिक दक्षिणी कर्नाटक
35. केरल और 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, Chandigarh & 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. Vidarbha
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)

- | | | |
|----------------------|----------------------|--------------|
| Fog | Heavy Snow | Cold Wave |
| Heavy Rain | Dust Storm | Cold Day |
| Very Heavy Rain | Heat Wave | Ground Frost |
| Extremely Heavy Rain | Warm Night | |
| Thunder & Lightning | Hot Day | |
| Hailstorm | Hot & Humid | |
| Dust Raising Winds | Strong Surface Winds | |

COLOUR CODED WARNING

No Warning (No Action)
Watch (Be Aware)
Alert (Be Prepared To Take Action)
Warning (Take Action)

Probabilistic Forecast

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

DEFINITION/CRITERIA

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)