



Government of India
Ministry of Earth Sciences
India Meteorological Department



Press Release

Date: 21st September, 2024

Time of Issue: 1330 hours IST

Subject: (i) Isolated heavy rainfall is very likely over Tamil Nadu, North Interior Karnataka, and Coastal Andhra Pradesh on 21st September 2024.
(ii) A low-pressure area is likely to form over northwest & adjoining westcentral Bay of Bengal around 23rd September 2024.

Realised weather during past 24 hours till 0830 hours IST of today (Annexure I)

Heavy to very Heavy rainfall at isolated places over Tamil Nadu, Puducherry & Karaikal;
Heavy rainfall at isolated places over Telangana, North Interior Karnataka.

Weather Systems:

- ✓ Conditions are becoming favourable for withdrawal of **Southwest Monsoon** from parts of West Rajasthan and Kachchh around from 23rd September.
- ✓ Embedded with an East-West shear zone, yesterday's **upper air cyclonic circulation** over westcentral Bay of Bengal & adjoining southwest Bay of Bengal lay over westcentral Bay of Bengal and extends upto mid tropospheric levels. Another **upper air cyclonic circulation** lay over northern parts of Thailand & neighbourhood and extends upto mid tropospheric levels. The later upper air cyclonic circulation is likely to move west-northwestwards.
- ✓ Under the influence of these two **upper air cyclonic circulations**, a **low-pressure area** is likely to form over northwest & adjoining westcentral Bay of Bengal around 23rd September 2024.

Forecast & Warnings (upto 7 days) (Annexure II & III):

Central India:

- ✓ Fairly widespread to widespread light/moderate rainfall very likely over Vidarbha; Scattered to Fairly widespread light to moderate rainfall very likely over Chhattisgarh; Isolated to Scattered light to moderate rainfall during next 3 days over Madhya Pradesh & Scattered to Fairly widespread light to moderate rainfall during the next subsequent 4 days over Madhya Pradesh during the week.
- ✓ Isolated **heavy rainfall** very likely over Vidarbha during 23th-27th; Chhattisgarh during 23th - 26th; Madhya Pradesh during 24th -27th September.

East & Northeast India

- ✓ Fairly widespread to widespread light/moderate rainfall very likely over Odisha, Andaman & Nicobar Islands; Isolated to Scattered light to moderate rainfall during next 3 days over West Bengal & Sikkim, Jharkhand, Arunachal Pradesh, Assam & Meghalaya, Nagaland, Manipur, Mizoram & Tripura and Fairly widespread to widespread light/moderate rainfall during next subsequent 4 days over the same region; Isolated to Scattered light to moderate rainfall very likely over Bihar during the week.
- ✓ Isolated **heavy rainfall** very likely over Nagaland, Manipur, Mizoram & Tripura during the next 7 days; Arunachal Pradesh, Assam & Meghalaya during 23rd -27th; Bihar during 23rd -25th; Andaman & Nicobar Islands on 23rd; West Bengal & Sikkim on 25th September.
- ✓ **Hot and Humid Weather** very likely over Sub-Himalayan West Bengal & Sikkim on 21th & 22nd; Arunachal Pradesh, Assam & Meghalaya, Nagaland, Manipur, Mizoram & Tripura during 21th-23rd September.

Northwest India & West India

- ✓ Isolated to Scattered light to moderate rainfall very likely over northwest India except West Rajasthan where mainly dry weather likely to prevail during the week; Isolated to Scattered light to moderate rainfall very likely over Saurashtra & Kutch; Isolated to Scattered light to moderate rainfall very likely during next 3 days over the region & Scattered to Fairly widespread light to moderate rainfall very likely over the same region during the next subsequent 4 days during the week.
- ✓ Isolated **heavy rainfall** very likely over Marathwada on 23rd & 24th; Madhya Maharashtra, Konkan & Goa during 24th -27th; Gujarat Region during 25th -27th September.

South Peninsular India

- ✓ Fairly widespread to widespread light/moderate rainfall very likely over Coastal Karnataka, North Interior Karnataka; Scattered to Fairly widespread light to moderate rainfall very likely over South Interior Karnataka, Rayalaseema, Telangana, Coastal Andhra Pradesh & Yanam; Isolated to Scattered light to moderate rainfall very likely over Tamil Nadu, Puducherry & Karaikal, Kerala & Mahe, Lakshadweep during the week.
- ✓ Isolated **heavy rainfall** very likely over Tamil Nadu, Puducherry & Karaikal on 21st; Coastal Andhra Pradesh & Yanam during 21st -23rd; North Interior Karnataka during 21st -24th; Telangana during 21st & 23rd -25th; South Interior Karnataka on 22nd & 23rd; Rayalaseema on 24th & 25th September.
- ✓ **Above normal Maximum temperature** very likely over Tamil Nadu, Puducherry & Karaikal, Kerala & Mahe during next 3 days.

For more details, kindly refer: https://mausam.imd.gov.in/responsive/all_india_forecast_bulletin.php

For District wise warnings refer: <https://mausam.imd.gov.in/responsive/districtWiseWarningGIS.php>

ANNEXURE I

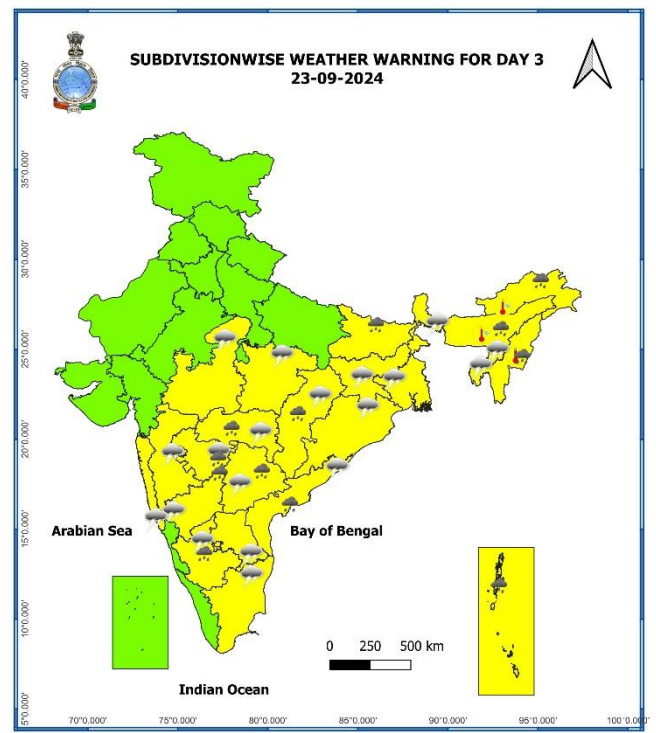
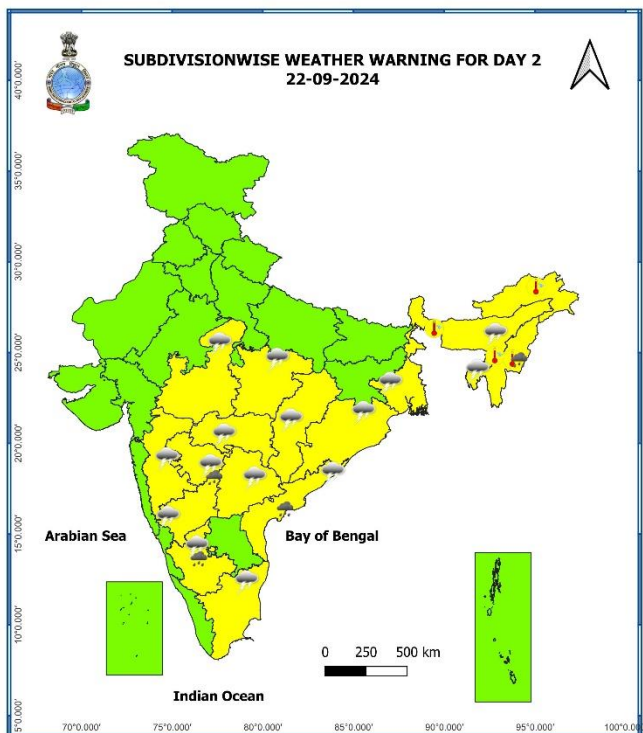
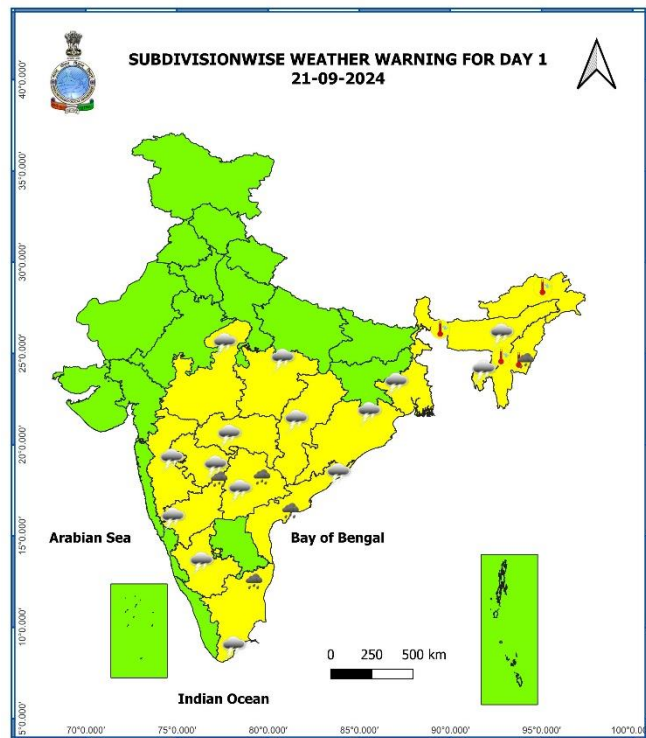
Significant Rainfall recorded during past 24 hours till 0830 hours IST of today 21.09.2024 (in cm):

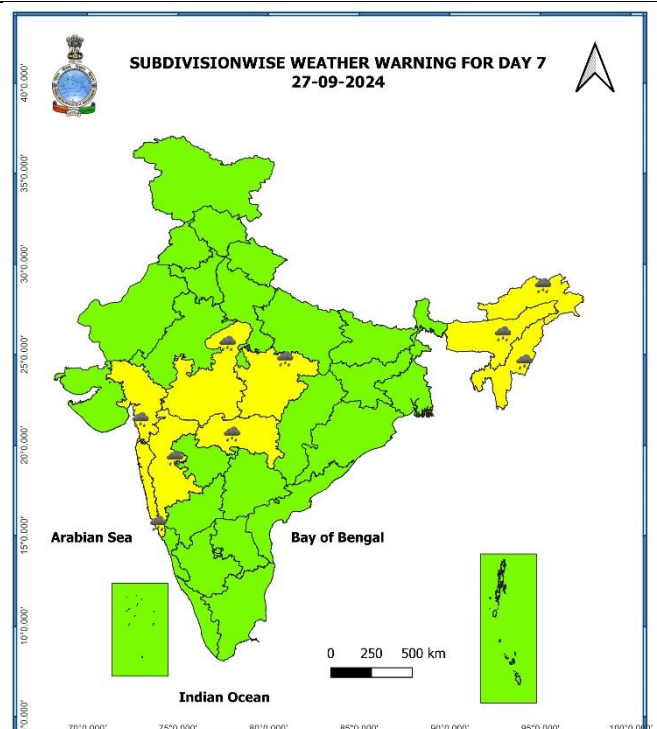
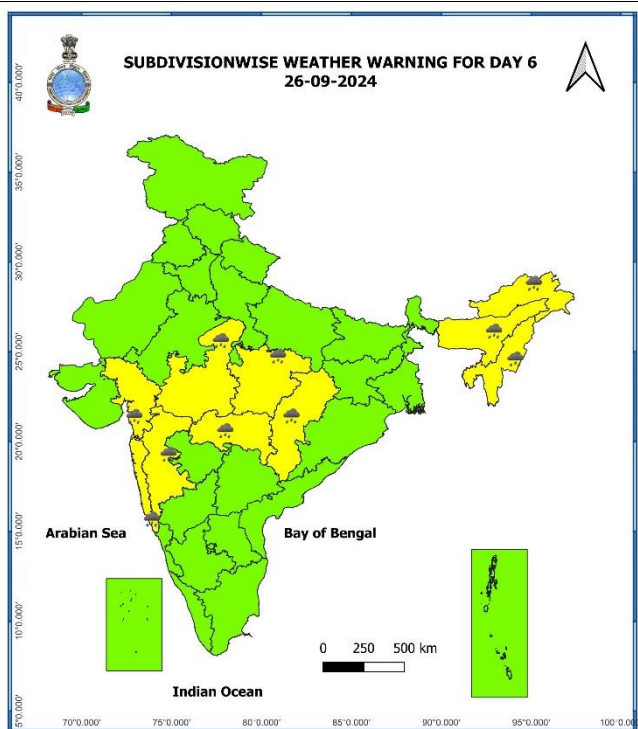
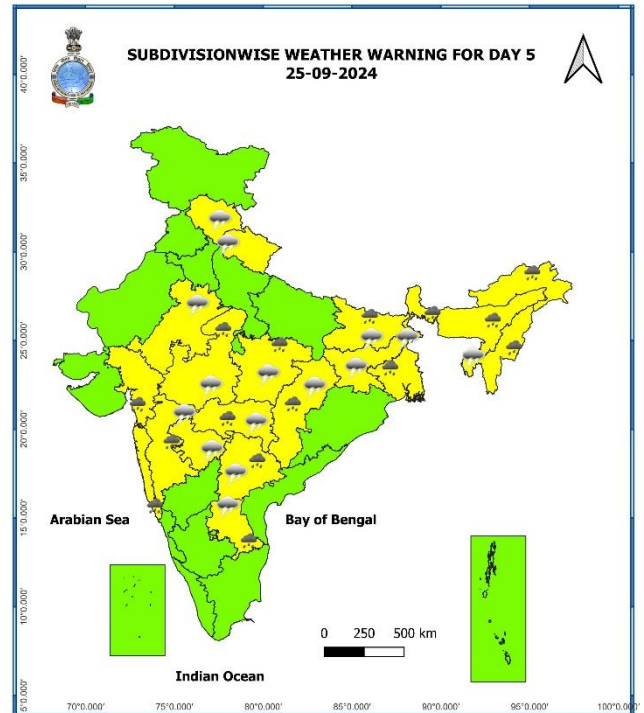
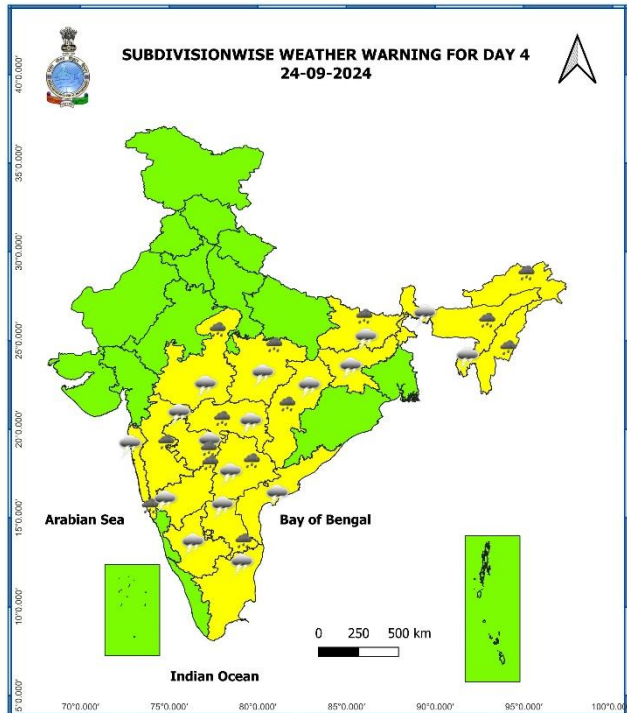
- ❖ **Tamil Nadu, Puducherry & Karaikal:** Zone 15 Sholinganallur (dist Chennai) 17, Sholinganallur (dist Chennai) 10, Satyabama Uty ARG (dist Kancheepuram) 9, Tambaram (dist Chengalpattu),
- ❖ **Telangana:** Himayatnagar (dist Hyderabad) 9, Kodakandla (dist Jangaon) 7,
- ❖ **North Interior Karnataka:** Chitaguppa (dist Bidar) 7,

ANNEXURE II

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

- As the lead period increases forecast accuracy decreases.





- 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.

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

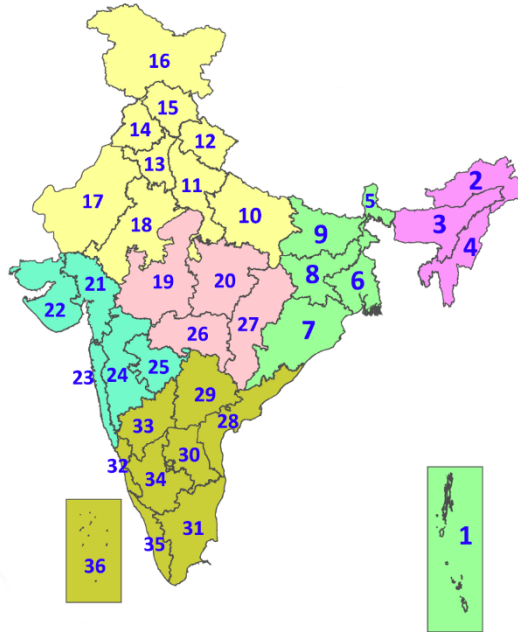
- ✓ Make provision for draining out excess water from standing crop fields and fruit orchards to avoid water stagnation in Tamil Nadu, North Interior Karnataka, South Interior Karnataka, Andhra Pradesh, Telangana, Arunachal Pradesh, Assam & Meghalaya, NMMT, Odisha, Chhattisgarh, Madhya Pradesh and Maharashtra.
- ✓ Provide mechanical support to horticultural crops & staking to vegetables.
- ✓ Keep the harvested produce at safer place.

Legends & abbreviations:

- ❖ **Heavy Rain:** 64.5-115.5mm; **Very Heavy Rain:** 115.6-204.4mm; **Extremely Heavy Rain:** >204.4mm.
- ❖ **Obsy:** Observatory; **AWS:** Automatic Weather Station; **ARG:** Automatic Rain Gauge; **dist:** District; **NH:** National Highway; **KVK:** Krishi Vigyan Kendra; **DVC:** Damodar Valley Corporation; **PTO:** Part Time Office, **Aero:** Aerodrome, **IAF:** Indian Air Force.
- ❖ **Region wise classification of meteorological Sub-Divisions:**
 - **Northwest India:** Western Himalayan Region (Jammu-Kashmir-Ladakh-Gilgit-Baltistan-Muzaffarabad, Himachal Pradesh and Uttarakhand); Punjab, Haryana-Chandigarh-Delhi; West Uttar Pradesh, East Uttar Pradesh, West Rajasthan and East Rajasthan.
 - **Central India:** West Madhya Pradesh, East Madhya Pradesh, Vidarbha and Chhattisgarh.
 - **East India:** Bihar, Jharkhand, Sub-Himalayan West Bengal & Sikkim; Gangetic West Bengal, Odisha and Andaman & Nicobar Islands.
 - **Northeast India:** Arunachal Pradesh, Assam & Meghalaya and Nagaland, Manipur, Mizoram & Tripura.
 - **West India:** Gujarat Region, Saurashtra & Kutch, Konkan & Goa, Madhya Maharashtra and Marathawada.
 - **South India:** Coastal Andhra Pradesh & Yanam, Telangana, Rayalaseema, Coastal Karnataka, North Interior Karnataka, South Interior Karnataka, Kerala & Mahe, Tamil Nadu, Puducherry & Karaikal and Lakshadweep.

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

* 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)

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)

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