



Tuesday 28 February 2023

MORNING

Time of Issue: 0800 hours IST

ALL INDIA WEATHER SUMMARY AND FORECAST BULLETIN

Significant Weather Features

Weather Forecast and Warnings:

◆ In quick succession, another Western Disturbance is likely to affect Western Himalayan Region & adjoining plains of northwest India from 28th February. Under its influence:

i) Light to moderate scattered to widespread rainfall/snowfall with thunderstorm & lightning very likely over Western Himalayan Region during 28th February to 02nd March. Light isolated to scattered rainfall is also very likely over Punjab during 28th February to 02nd March and over Haryana & Chandigarh on 01st & 02nd March, 2023.

ii) **Isolated Heavy rainfall/snowfall** is also very likely over Kashmir Valley and Himachal Pradesh on 01st March, 2023.

iii) **Thunderstorm with lightning & hail** at isolated places very likely over Jammu, Kashmir, Ladakh, Gilgit, Baltistan & Muzaffarabad and Uttarakhand on 01st & 02nd March and over Himachal Pradesh on 01st March. Thunderstorm with lightning & gusty winds (speed 30-40 kmph) likely over Punjab on 28th February & 01st March and over Haryana & Chandigarh on 01st March, 2023.

◆ Light isolated/scattered rainfall likely over Andaman & Nicobar Islands, Sub-Himalayan West Bengal & Sikkim and Arunachal Pradesh during next 4 days.

Main Weather Observations

◆ **Rainfall/thundershowers observed** (from 0830 hours IST to 1730 hours IST of yesterday): at **isolated places** over Jammu, Kashmir, Ladakh, Gilgit, Baltistan & Muzaffarabad.

◆ **Thunderstorm & lightning observed** (from 0830 hours IST to 1730 hours IST of yesterday): at isolated places over Jammu & Kashmir.

◆ **Minimum Temperature Departures (as on 27-02-2023):** Minimum temperatures were **appreciably above normal (3.1°C to 5.0°C)** at many places over Punjab; at a few places over Haryana, Chandigarh & Delhi and West Rajasthan; at isolated places over Saurashtra & Kutch and Andaman & Nicobar Islands; **above normal (1.6°C to 3.0°C)** at many places over Jammu, Kashmir, Ladakh, Gilgit, Baltistan & Muzaffarabad and East Rajasthan; at a few places over Uttar Pradesh, Bihar, Gangetic West Bengal and West Madhya Pradesh; at isolated places over Odisha, East Madhya Pradesh, Gujarat Region and Madhya Maharashtra. They were **appreciably below normal (-3.1°C to -5.0°C)** at a few places over Rayalaseema; at isolated places over Tamil Nadu, Puducherry & Karaikal; **below normal (-1.6°C to -3.0°C)** at a few places over Telangana and Kerala & Mahe; at isolated places over Assam & Meghalaya, Vidarbha and Coastal Andhra Pradesh & Yanam and **near normal** over rest parts of the country. Yesterday, the **lowest minimum temperature of 10.3°C** was reported at **Gaya (Bihar)** over plains of the country.

◆ **Maximum Temperature Departures (as on 27-02-2023):** Maximum temperatures were **markedly above normal (5.1°C or more)** at a few places over Jammu, Kashmir, Ladakh, Gilgit, Baltistan & Muzaffarabad, Himachal Pradesh, Punjab, West Uttar Pradesh, West Rajasthan, West Madhya Pradesh; **appreciably above normal (3.1°C to 5.1°C)** at many places over Haryana, Chandigarh & Delhi, East Rajasthan, East Madhya Pradesh; at a few places over Uttarakhand, East Uttar Pradesh, Vidarbha, Bihar, Jharkhand, Saurashtra & Kutch; at isolated places over Gangetic West Bengal, Nagaland, Manipur, Mizoram & Tripura, Gujarat Region; **above normal (1.6°C to 3.0°C)** at most places over Sub-Himalayan West Bengal & Sikkim, Arunachal Pradesh, Assam & Meghalaya; at many places over Konkan & Goa, Coastal Karnataka; at a few places over Chhattisgarh, Odisha, Kerala & Mahe and at isolated places over Marathwada and Tamil Nadu, Puducherry & Karaikal. They were **below normal (-1.6°C to -3.0°C)** at a few places over Andaman & Nicobar Islands and **near normal** over rest parts of the country. Yesterday, the **highest maximum temperature of 38.2°C** was reported at **Bramhapuri (Vidharbha)**.

* 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 www.imd.gov.in or contact : +91 11 24631913, 24643965, 24629798

(Copies to the Meteorologist in Charge)



Meteorological Analysis (Based on 0530 hours IST)

- ◆ A fresh **Western Disturbance** as a trough in middle & upper tropospheric westerlies with its axis at 5.8 km above mean sea level now runs roughly along Long. 65°E to the north of Lat. 32°N.
- ◆ The **cyclonic circulation** over northeast Bihar & neighbourhood at 3.1 km above mean sea level persists.
- ◆ The **Western Disturbance** as a trough in middle & upper tropospheric westerlies with its axis at 5.8 km above mean sea level roughly along Long. 72°E to the north of Lat. 32°N has moved away east-northeastwards.

Weather Forecast for next 5 days * upto 0830 hours IST of 05th March, 2023

- ◆ Meteorological sub-division wise detailed 5 days precipitation forecast is given in Table-1.
- ◆ No significant change in Maximum temperatures very likely over many parts of Northwest India during next 2 days and rise by about 2°C during subsequent 24 hours.
- ◆ Fall in Maximum temperatures very likely over Gujarat by 2-3°C during next 2 days and rise by 2-3°C during subsequent 24 hours.
- ◆ No significant change in Maximum temperatures very likely over many parts of Central & East India during next 2 days and rise by 2-3°C during subsequent 24 hours.
- ◆ No significant change in maximum Temperatures very likely over rest parts of the country during next 5 days.
- ◆ Maximum temperatures very likely continue to remain above normal by 3-5°C over most parts of Northwest India during next 24 hours.

Weather Outlook for subsequent 2 days during 05th-07th March, 2023

- ◆ Light to moderate isolated to scattered rainfall likely over Western Himalayan Region, south Gujarat and adjoining north Maharashtra & southeast Madhya Pradesh, Nicobar Island.
- ◆ Dry weather likely over rest parts of the country.

* 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 www.imd.gov.in or contact : +91 11 24631913, 24643965, 24629798

(Circle as the National office 1077)



Weather Warning during next 5 days *

28 Feb (Day 1): ♦ Thunderstorm accompanied with gusty wind (speed reaching 30-40 kmph) very likely at isolated places over Punjab.

01 March (Day 2): ♦ Heavy rainfall/snowfall likely at isolated places over Jammu & Kashmir, Ladakh, Gilgit-Baltistan & Muzaffarabad and Himachal Pradesh.

♦ **Thunderstorm accompanied with lightning & hailstorm** at isolated places very likely over Jammu & Kashmir, Ladakh, Gilgit-Baltistan & Muzaffarabad, Uttarakhand and Himachal Pradesh; **with lightning & gusty wind (speed reaching 30-40 kmph)** likely at isolated places over Punjab and Haryana & Chandigarh.

02 March (Day 3): ♦ Thunderstorm accompanied with lightning & hailstorm likely at isolated places over Uttarakhand and with lightning over Jammu & Kashmir, Ladakh, Gilgit-Baltistan & Muzaffarabad.

03 March (Day 4): ♦ No weather warning.

04 March (Day 5): ♦ No weather warning.

Kindly download MAUSAM APP for location specific forecast & warning, MEGHDOOT APP for Agromet advisory and DAMINI APP for Lightning Warning & visit state MC/RMC websites for district wise warning.

* 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 www.imd.gov.in or contact : +91 11 24631913, 24643965, 24629798

(Circle to the Nation since 1975)



Table-1
5 Day Rainfall Forecast (MORNING)
28-February-2023

Met-Sub-Division	28-Feb Today	01Mar Wed	02Mar Thu	03Mar Fri	04Mar Sat
1. Andaman & Nicobar Islands	ISOL	ISOL	ISOL	ISOL	ISOL
2. Arunachal Pradesh	ISOL	ISOL	ISOL	ISOL	ISOL
3. Assam & Meghalaya	DRY	DRY	DRY	DRY	DRY
4. N. M. M. & T.	DRY	DRY	DRY	DRY	DRY
5. S.H. West Bengal & Sikkim	ISOL	ISOL	ISOL	DRY	DRY
6. Gangetic West Bengal	DRY	DRY	DRY	DRY	DRY
7. Odisha	DRY	DRY	DRY	DRY	DRY
8. Jharkhand	DRY	DRY	DRY	DRY	DRY
9. Bihar	DRY	DRY	DRY	DRY	DRY
10. East Uttar Pradesh	DRY	DRY	DRY	DRY	DRY
11. West Uttar Pradesh	DRY	DRY	DRY	DRY	DRY
12. Uttarakhand	ISOL	SCT	SCT	ISOL	ISOL
13. Haryana, Chd & Delhi	DRY	ISOL	ISOL	DRY	DRY
14. Punjab	ISOL	SCT	ISOL	DRY	DRY
15. Himachal Pradesh	SCT	WS	FWS	ISOL	ISOL
16. J & K and Ladakh	SCT	WS	FWS	ISOL	ISOL
17. West Rajsthan	ISOL	ISOL	DRY	DRY	DRY
18. East Rajasthan	DRY	ISOL	DRY	DRY	DRY
19. West Madhya Pradesh	DRY	DRY	DRY	DRY	DRY
20. East Madhya Pradesh	DRY	DRY	DRY	DRY	DRY
21. Gujarat Region	DRY	DRY	DRY	DRY	DRY
22. Saurashtra & Kutch	DRY	DRY	DRY	DRY	DRY
23. Konkan & Goa	DRY	DRY	DRY	DRY	DRY
24. Madhya Maharashtra	DRY	DRY	DRY	DRY	DRY
25. Marathawada	DRY	DRY	DRY	DRY	DRY
26. Vidharbha	DRY	DRY	DRY	DRY	DRY
27. Chhattisgarh	DRY	DRY	DRY	DRY	DRY
28. Coastal A. P. & Yanam	DRY	DRY	DRY	DRY	DRY
29. Telangana	DRY	DRY	DRY	DRY	DRY
30. Rayalaseema	DRY	DRY	DRY	DRY	DRY
31. T.N.,Puducherry & Karaikal	ISOL	ISOL	DRY	DRY	DRY
32. Coastal Karnataka	DRY	DRY	DRY	DRY	DRY
33. North Interior Karnataka	DRY	DRY	DRY	DRY	DRY
34. South Interior Karnataka	DRY	DRY	DRY	DRY	DRY
35. Kerala & Mahe	ISOL	ISOL	DRY	DRY	DRY
36. Lakshadweep	DRY	SCT	DRY	DRY	DRY

% Station Reporting Rainfall

% 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)
No Rain	Dry		

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

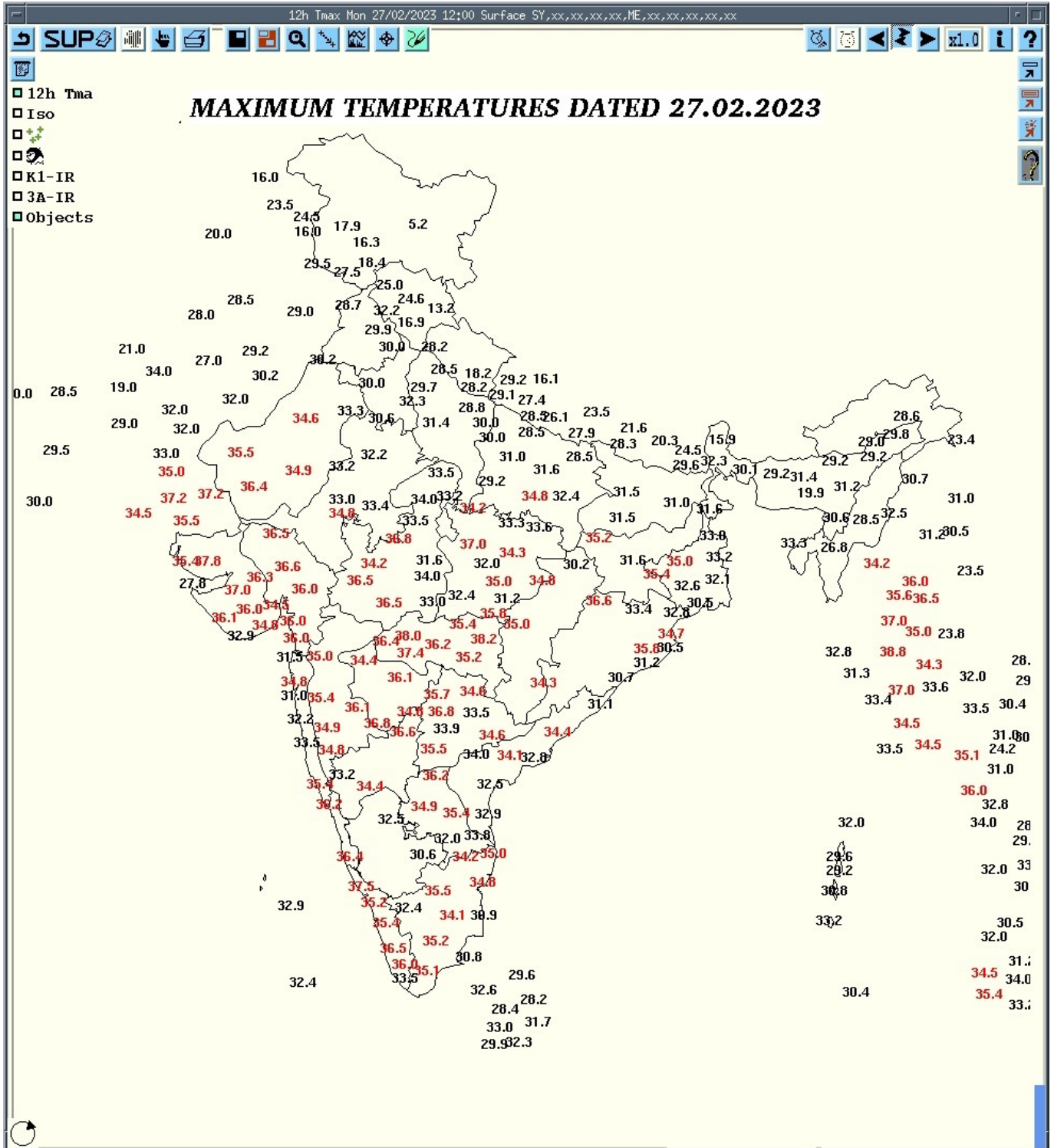
Forecast and Warning for any day is valid from 0830 hours IST of day till 0830 hours IST of next day

For more details kindly visit www.imd.gov.in or contact : +91 11 24631913, 24643965, 24629798

(Circle as the National flag)



Fig. 2: Maximum Temperature during past 24 hours



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

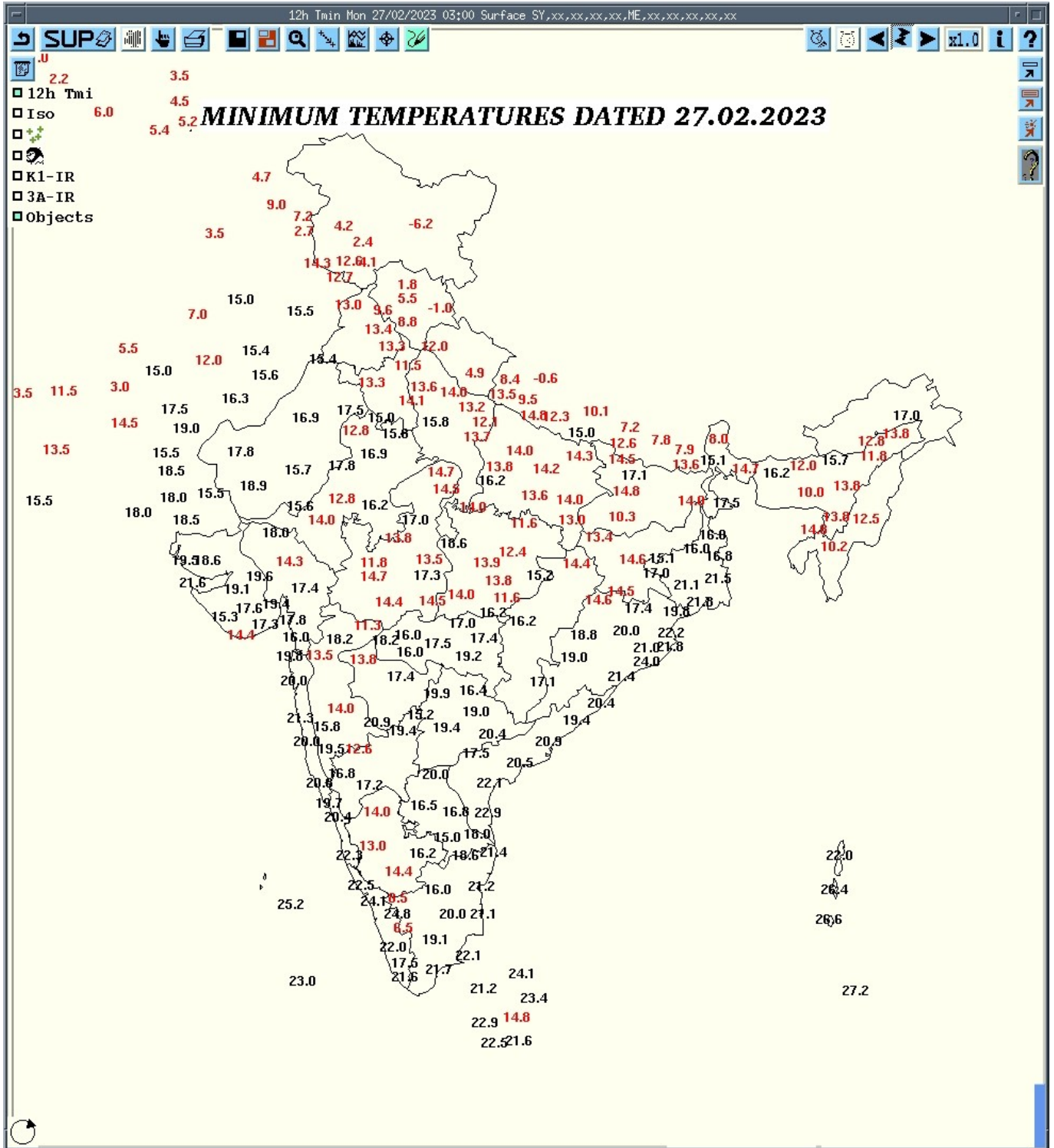
Forecast and Warning for any day is valid from 0830 hours IST of day till 0830 hours IST of next day

For more details kindly visit www.imd.gov.in or contact : +91 11 24631913, 24643965, 24629798

(Created by the National class 1077)



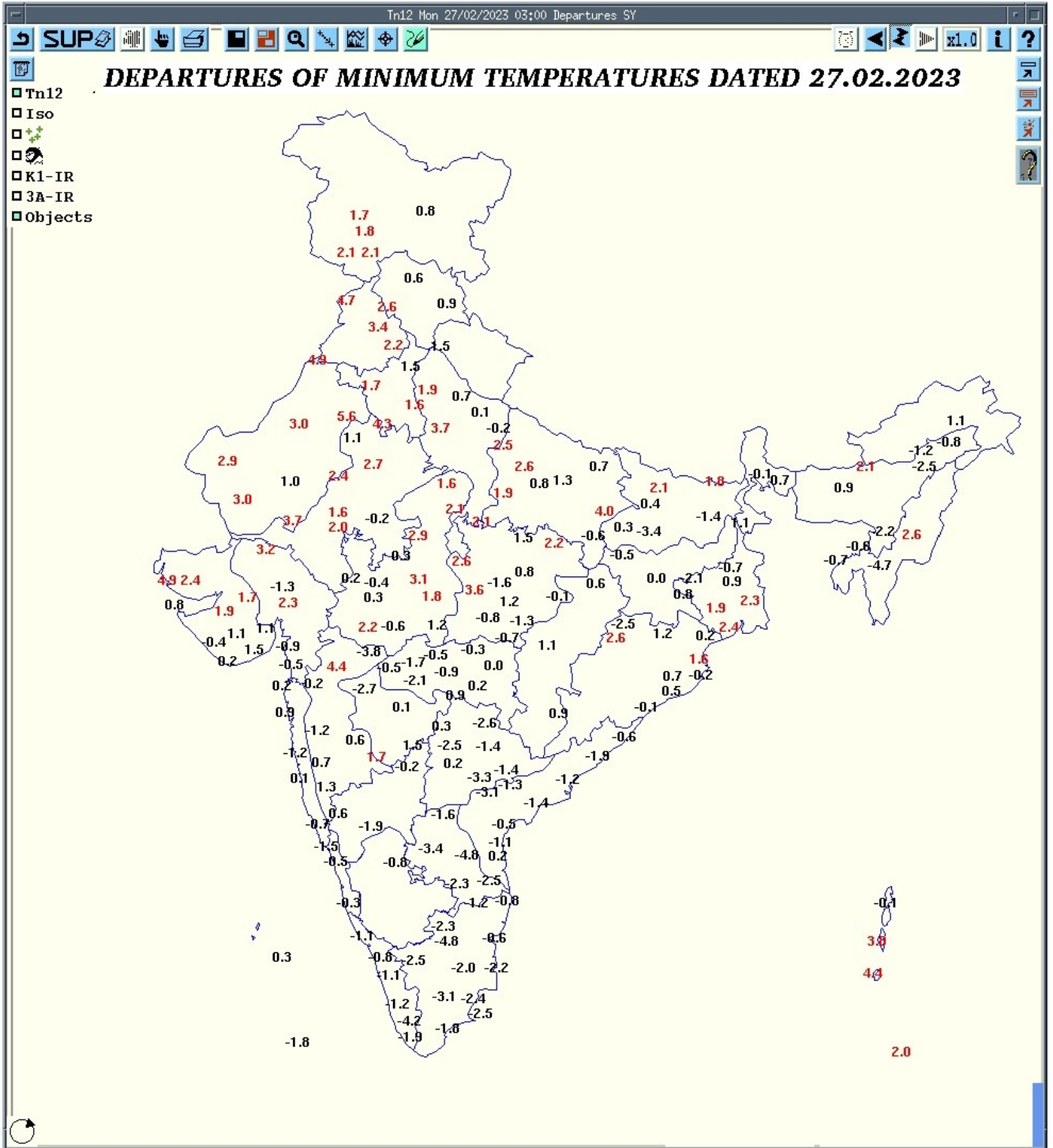
Fig. 3: Minimum Temperature during past 24 hours



* 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 www.imd.gov.in or contact : +91 11 24631913, 24643965, 24629798



Fig. 5: Departure from Normal of Minimum Temperatures



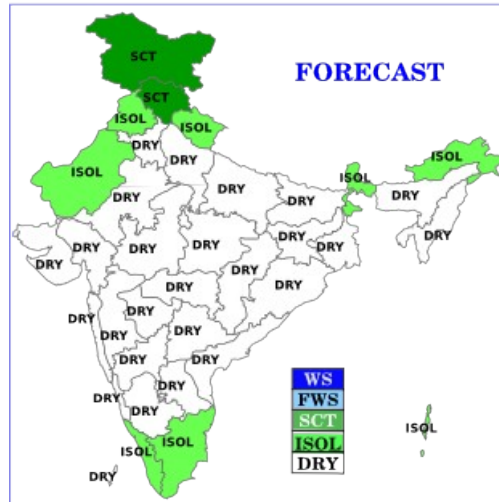
* Red color warning does not mean "Red Alert" Red color warning means "Take Action".

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 www.imd.gov.in or contact : +91 11 24631913, 24643965, 24629798

(Created by the MetInfo class 1977)

Tuesday 28 February 2023



28 Feb (Day 1): ♦ Thunderstorm accompanied with gusty wind (speed reaching 30-40 kmph) very likely at isolated places over Punjab.

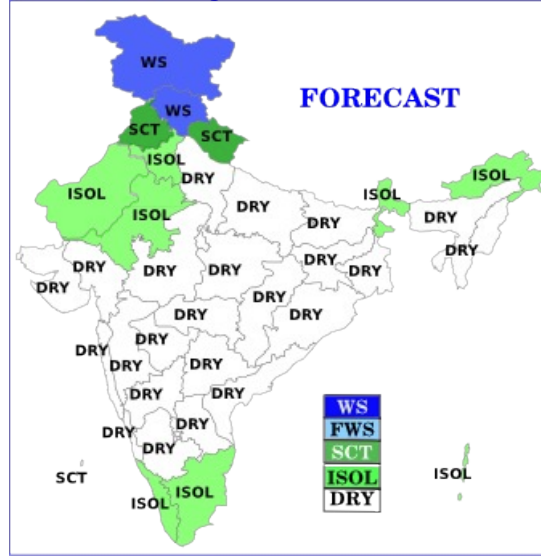
* Red color warning does not mean "Red Alert" Red color warning means "Take Action".

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 www.imd.gov.in or contact : +91 11 24631913, 24643965, 24629798

(Circle as the National flag)

Wednesday 01 March 2023



01 March (Day 2): ♦ Heavy rainfall/snowfall likely at isolated places over Jammu & Kashmir, Ladakh, Gilgit-Baltistan & Muzaffarabad and Himachal Pradesh.

♦ **Thunderstorm accompanied with lightning & hailstorm** at isolated places very likely over Jammu & Kashmir, Ladakh, Gilgit-Baltistan & Muzaffarabad, Uttarakhand and Himachal Pradesh; **with lightning & gusty wind (speed reaching 30-40 kmph)** likely at isolated places over Punjab and Haryana & Chandigarh.

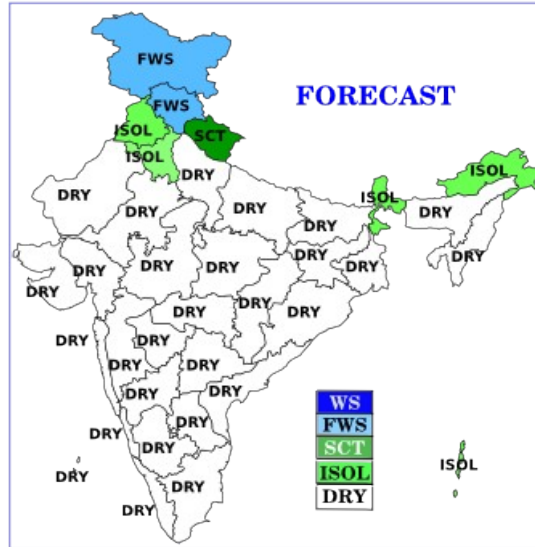
* Red color warning does not mean "Red Alert" Red color warning means "Take Action".

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 www.imd.gov.in or contact : +91 11 24631913, 24643965, 24629798

(Circle as the Nation since 1975)

Thursday 02 March 2023



02 March (Day 3): ♦ Thunderstorm accompanied with lightning & hailstorm likely at isolated places over Uttarakhand and with lightning over Jammu & Kashmir, Ladakh, Gilgit-Baltistan & Muzaffarabad.

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

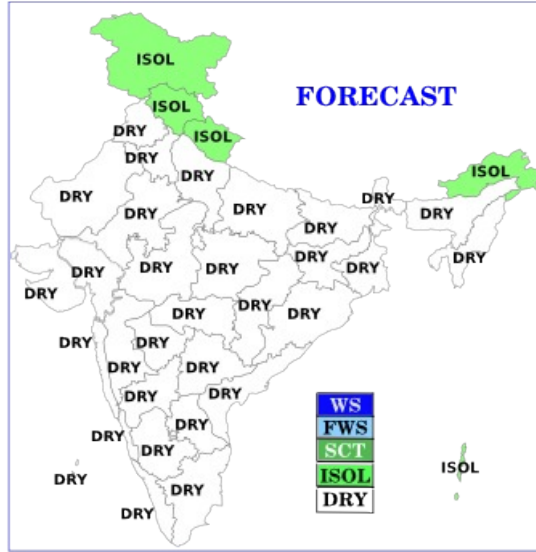
Forecast and Warning for any day is valid from 0830 hours IST of day till 0830 hours IST of next day

For more details kindly visit www.imd.gov.in or contact : +91 11 24631913, 24643965, 24629798

(Circle as the Nation since 1975)



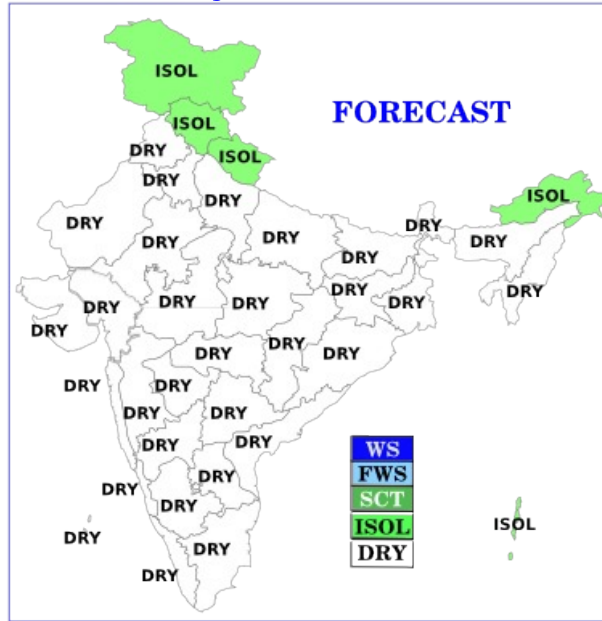
Friday 03 March 2023



03 March (Day 4): ♦ No weather warning.



Saturday 04 March 2023



04 March (Day 5): ♦ No weather warning.

LEGENDS

- 1 अंडमान और निकोबार द्वीप समूह
- 2 अरुणाचल प्रदेश
- 3 असम और मेघालय
- 4 नागालैंड मनीपुर मीजोरम और त्रिपुरा
- 5 उप हिमालय पश्चिम बंगाल एंवम् सिक्किम
- 6 पश्चिम गंगोय बंगाल
- 7 ओडिशा
- 8 झारखंड
- 9 बिहार
- 10 पूर्वी उत्तर प्रदेश
- 11 पश्चिम उत्तर प्रदेश
- 12 उत्तराखंड
- 13 हरियाणा चंडिगढ़ एंवम् दिल्ली
- 14 पंजाब
- 15 हिमाचल प्रदेश
- 16 जम्मू एंवम् कश्मीर एंवम् लद्दाख
- 17 पश्चिम राजस्थान
- 18 पूर्वी राजस्थान
- 19 पश्चिम मध्य प्रदेश
- 20 पूर्वी मध्य प्रदेश
- 21 गुजरात क्षेत्र
- 22 सौराष्ट्र एंवम् कच्छ
- 23 कोंकण एंवम् गोवा
- 24 मध्य महाराष्ट्र
- 25 मराठावाडा
- 26 विदर्भ
- 27 छत्तीसगढ़
- 28 तटीय आंध्र प्रदेश एवं यनम
- 29 तेलंगाना
- 30 रायलसीमा
- 31 तमिलनाडु, पुदुचेरी एंवम् कराईकल
- 32 तटिय कर्नाटक
- 33 आंतरिक उत्तरी कर्नाटक
- 34 आंतरिक दक्षिणी कर्नाटक
- 35 केरल एंवम् 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

* 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 www.imd.gov.in or contact : +91 11 24631913, 24643965, 24629798

(Copies to the Media upto 1070)

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)

* 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 www.imd.gov.in or contact : +91 11 24631913, 24643965, 24629798

(Created by the Meteorology Dept)