# राष्ट्रीय मौसम पूर्वानुमान केन्द्र भारत मौसम विज्ञान विभाग पृथ्वी विज्ञान मंत्रालय



### National Weather Forecasting Centre India Meteorological Department Ministry of Earth Sciences

Thursday, May 2, 2024 Time of Issue: 0745 hours IST (MORNING)

### ALL INDIA WEATHER SUMMARY AND FORECAST BULLETIN

# **Significant Weather Features:**

# **Weather Systems and Forecast & Warnings:**

- ❖ A cyclonic circulation lies over northeast Bangladesh and a trough runs from Bihar to Nagaland in lower tropospheric levels. Another cyclonic circulation lies over northeast Assam in lower tropospheric levels. Strong southwesterly winds from Bay of Bengal to northeast India are prevailing. Under their influence:
  - ✓ Fairly widespread to widespread light to moderate rainfall/snowfall accompanied with isolated **thunderstorm & lightning & gusty winds (30-50 kmph)** very likely over Arunachal Pradesh, Assam, Meghalaya, Sikkim, Nagaland, Manipur, Mizoram, Tripura during next 5 days.
  - ✓ **Isolated heavy rainfall** very likely over Arunachal Pradesh and Assam & Meghalaya on 02<sup>nd</sup> and over Nagaland, Manipur, Mizoram & Tripura on 02<sup>nd</sup> & 03<sup>rd</sup>; with isolated **very heavy rainfall** over Arunachal Pradesh and south Assam, Meghalaya, Mizoram & Tripura on 02<sup>nd</sup> May 2024.
- ❖ A fresh Western Disturbance seen as a trough in middle tropospheric westerlies roughly along Long. 42°E to the north of Lat. 26°N. Under its influence:
  - ✓ Isolated to scattered light to moderate rainfall/snowfall accompanied with **thunderstorm and lightning** very likely over Jammu-Kashmir-Ladakh-Gilgit-Baltistan-Muzaffarabad, Uttarakhand and Himachal Pradesh during 03<sup>rd</sup>-06<sup>th</sup> May, 2024.
  - ✓ Isolated very light/light rainfall accompanied with **thunderstorm and lightning** very likely over West Uttar Pradesh, Haryana-Chandigarh-Delhi, Punjab, Rajasthan during 04<sup>th</sup>-06<sup>th</sup> May, 2024
  - ✓ **Strong surface winds (25-35 kmph)** very likely to prevail over Uttar Pradesh, Bihar and Haryana, Chandigarh & Delhi on 02<sup>nd</sup> & 03<sup>rd</sup> May, 2024.
- \* Rainfall activity is likely over south peninsular India & East India with isolated to scattered, light to moderate rainfall accompanied with **thunderstorm & lightning** over Odisha during next 7 days with possibility of hailstorm over coastal Odisha today and over Bihar, Jharkhand, Gangetic West Bengal, Coastal Andhra Pradesh & Yanam, Telangana. Rayalaseema, Tamil Nadu, Puducherry & Karaikal, South Interior Karnataka and Kerala & Mahe during 05<sup>th</sup>-08<sup>th</sup> May, 2024.

### **Maximum temperature observation:**

❖ Yesterday, maximum temperatures were in the range of 44-46°C in some parts of Odisha; in isolated pockets of Telangana, Coastal Andhra Pradesh & Rayalaseema; in the range of 42-44°C over many parts of Gangetic West Bengal; in some parts of Vidarbha; in isolated pockets of Chhattisgarh, southwest Madhya Pradesh, Madhya Maharashtra, North Interior Karnataka, and Tamil Nadu, Puducherry & Karaikal; in the range of 40-42°C over many parts of Bihar & Marathwada; in some parts of East Uttar Pradesh, Jharkhand, East Madhya Pradesh & Gujarat state; in isolated pockets of Sub-Himalayan West Bengal & southwest Uttar Pradesh. These were above normal by 5-7°C in many parts of Gangetic West Bengal; in isolated pockets of Sub-Himalayan West Bengal, Bihar & Tamil Nadu and above normal by 2-4°C in many parts of Odisha, Telangana, Coastal Andhra Pradesh & Yanam, Rayalaseema, Interior Karnataka; in some parts of Saurashtra & Kutch; in isolated pockets of East Uttar Pradesh, Jharkhand, Chhattisgarh, Gujarat Region & Madhya Maharashtra.

# Heat Wave, Warm Night and Hot & Humid weather warning for next 5 days:

- **❖** Maximum temperatures in the range of 44-47°C likely to continue over Gangetic West Bengal, East Jharkhand, north Odisha and Rayalaseema till 03<sup>rd</sup> May and decrease thereafter.
- ❖ **Heat Wave to severe heat wave conditions** very likely to prevail in many places over Gangetic West Bengal; some parts of Odisha, Bihar; in isolated pockets of Sub-Himalayan West Bengal, Jharkhand on 02<sup>nd</sup> May and reduce in intensity thereafter with heat wave conditions in isolated pockets over the region during subsequent 3-4 days.
- **Heat Wave to severe heat wave conditions** very likely to prevail in isolated pockets over Rayalaseema during next 2 days and heat wave conditions during subsequent 2-3 days.
- ❖ Heat wave conditions very likely in isolated pockets over Telangana, Interior Karnataka, Coastal Andhra Pradesh & Yanam during next 4-5 days; over Kerala on 02<sup>nd</sup> and over Tamil Nadu on 02<sup>nd</sup> & 03<sup>rd</sup> May.
- **♦ Heat wave conditions** very likely in isolated pockets over Konkan, Madhya Maharashtra, Gujarat State during 02<sup>nd</sup>-06<sup>th</sup> and over Marathwada during 03<sup>rd</sup>-06<sup>th</sup> May.
- ❖ Hot and humid weather very likely to prevail over Coast Karnataka and Kerala & Mahe during next 5 days.
- ❖ Warm night very likely to prevail over Chhattisgarh on 02<sup>nd</sup> & 03<sup>rd</sup>; Madhya Maharashtra and Marathwada during 03<sup>rd</sup>-06<sup>th</sup> and Odisha & Gangetic West Bengal on 02<sup>nd</sup> May.







# **Main Weather Observations:**

- Rainfall distribution (from 0830 hours IST to 1730 hours IST of yesterday): at isolated places over Himachal Pradesh, Assam & Meghalaya, Manipur, Gangetic West Bengal and Odisha.
- ❖ Significant amount of rainfall (from 0830 hours IST to 1730 hours IST of yesterday) (in cm): Odisha: Khordha-3, Bhubaneshwar-1.
- ❖ Yesterday, **Heat Wave conditions** at a few places with **severe heat wave conditions** in isolated pockets prevailed over Bihar, West Bengal and Tamil Nadu. **Heat wave conditions** prevailed in isolated places over Jharkhand, Odisha, Telangana, Coastal Andhra Pradesh and Rayalaseema. **Heat wave to severe heat wave conditions have been prevailing over Odisha since 15<sup>th</sup>, Gangetic West Bengal since 17<sup>th</sup>, Jharkhand & Sub-Himalayan West Bengal, Rayalaseema since 24<sup>th</sup> and Bihar since 26<sup>th</sup> April, 2024.**
- ❖ Minimum Temperature Departures (as on 01-05-2024): Minimum temperatures were appreciably above normal (3.1°C to 5.0°C) at a few places over Gangetic West Bengal; at isolated places over Madhya Maharashtra and Odisha; above normal (1.6°C to 3.0°C) at most places over Sub-Himalayan West Bengal & Sikkim; at many places over Rayalaseema, Interior Karnataka and Tamil Nadu, Puducherry & Karaikal; at a few places over Bihar, Jharkhand, Telangana and Kerala & Mahe; at isolated places over Assam & Meghalaya, Nagaland, Manipur, Mizoram & Tripura, Marathwada, Coastal Karnataka and Konkan & Goa. These were markedly below normal (-5.1°C or less) at many places over Punjab; at isolated places over Haryana-Chandigarh-Delhi and West Rajasthan; appreciably below normal (-3.1°C to -5.0°C) at many places over Jammu-Kashmir-Ladakh-Gilgit-Baltistan-Muzaffarabad, Uttarakhand and West Uttar Pradesh; at a few places over Himachal Pradesh; below normal (-1.6°C to -3.0°C) at many places over East Uttar Pradesh; at a few places over Madhya Pradesh; at isolated places over Gujarat state, Vidarbha and near normal over rest parts of the country. Yesterday, the lowest minimum temperature of 13.6°C was reported at Amritsar (Punjab) over the plains of the country.
- ❖ Maximum Temperature Departures (as on 01-05-2024): Maximum temperatures were markedly above normal (5.1°C or more) at most places over Gangetic West Bengal; at a few places over Bihar and Jharkhand; appreciably above normal (3.1°C to 5.0°C) at many places over Sub-Himalayan West Bengal & Sikkim, and Tamil Nadu; at isolated places Assam & Meghalaya, Nagaland, Manipur, Mizoram & Tripura, Odisha and Coastal Andhra Pradesh & Yanam; above normal (1.6°C to 3.0°C) at many places over Telangana and Interior Karnataka; at a few places over Kerala & Mahe and Coastal Karnataka; at isolated places Arunachal Pradesh, Chhattisgarh, Madhya Maharashtra, Konkan & Goa, Saurashtra & Kutch and East Uttar Pradesh. These were markedly below normal (-5.1°C or less) at many places over Jammu-Kashmir-Ladakh-Gilgit-Baltistan-Muzaffarabad, Himachal Pradesh, Punjab and Haryana-Chandigarh-Delhi; at a few places over West Rajasthan; at isolated places over East Rajasthan appreciably below normal (-3.1°C to -5.0°C) at few places over West Madhya Pradesh; at isolated places over Uttarakhand; below normal (-1.6°C to -3.0°C) at isolated places over West Uttar Pradesh, East Madhya Pradesh, and Vidarbha and near normal over rest parts of the country. Yesterday, the highest maximum temperature of 46.2°C was reported at Rentachintala (Coastal Andhra Pradesh) over the country.

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### National Weather Forecasting Centre India Meteorological Department Ministry of Earth Sciences

# Meteorological Analysis (Based on 0530 hours IST)

- ❖ A fresh Western Disturbance seen as a trough in middle tropospheric westerlies with its axis at 5.8 km above mean sea level roughly along Long. 42°E to the north of Lat. 26°N.
- ❖ The cyclonic circulation over northeast Assam & neighbourhood extending upto 3.1 km above mean sea level persists.
- ❖ The cyclonic circulation over northeast Bangladesh extending upto 0.9 km above mean sea level persists.
- ❖ The trough from north Bihar to Nagaland across Sub-Himalayan West Bengal, cyclonic circulation over northeast Bangladesh and south Assam & Meghalaya at 0.9 km above mean sea level persists.
- ❖ The cyclonic circulation over Southwest Arabian Sea & adjoining equatorial Indian Ocean extending upto 4.5 km above mean sea level persists.
- ❖ The Western Disturbance as a cyclonic circulation over Ladakh & neighbourhood at 5.8 km above mean sea level has moved away east-northeastwards.

# Weather Forecast for next 7 days (Upto 0830 hours IST of 09th May, 2024)

- ❖ Meteorological sub-division wise detailed 7 days rainfall forecast is given in Table-1.
- ❖ Rise in maximum temperatures by 2-3 °C very likely over Northwest India during next 3-4 days.
- ❖ No significant change in maximum temperatures very likely over East India during next 24 hours and fall by 2-3°C thereafter.
- ❖ Rise in maximum temperatures by 2-3 °C very likely over Central India during next 2-3 days.
- ❖ No significant change in maximum temperatures very likely over West India during next 24 hours and rise by 2-3°C thereafter.
- ❖ No significant change in maximum temperatures very likely over rest parts of the country.

# Weather Outlook for subsequent 3 days (During 09th-11th May, 2024)

- ❖ Isolated to scattered light/moderate rainfall likely over Northwest, Northeast, central & south Peninsular India.
- Dry weather likely to prevail over rest parts of the country.



# राष्ट्रीय मौसम पूर्वानुमान केन्द्र भारत मौसम विज्ञान विभाग पृथ्वी विज्ञान मंत्रालय



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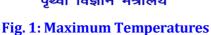
# Table-1

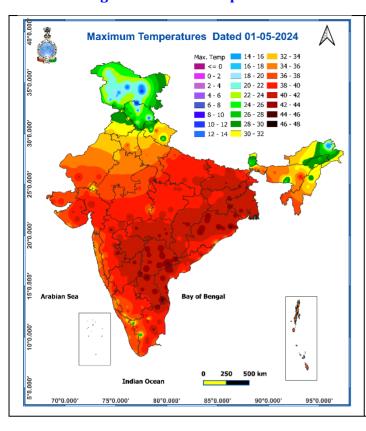
7 Days Rainfall Forecast								
•		02-	03-	04-	05-	06-	07-	08-
S.	Subdivision	May						
No.		Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7
1	ANDAMAN & NICOBAR ISLANDS	ISOL						
2	ARUNACHAL PRADESH	WS	FWS	FWS	WS	WS	FWS	FWS
3	ASSAM & MEGHALAYA	WS	FWS	FWS	WS	WS	FWS	FWS
4	NAGALAND, MANIPUR, MIZORAM & TRIPURA	WS	FWS	FWS	FWS	FWS	SCT	SCT
5	SUB-HIMALAYAN WEST BENGAL & SIKKIM	ISOL	ISOL	SCT	FWS	FWS	FWS	FWS
6	GANGETIC WEST BENGAL	DRY	DRY	ISOL	ISOL	SCT	SCT	SCT
7	ODISHA	ISOL	ISOL	ISOL	ISOL	SCT	SCT	SCT
8	JHARKHAND	DRY	DRY	DRY	ISOL	SCT	SCT	SCT
9	BIHAR	DRY	DRY	ISOL	ISOL	SCT	SCT	SCT
10	EAST UTTAR PRADESH	DRY	DRY	DRY	ISOL	ISOL	SCT	SCT
11	WEST UTTAR PRADESH	DRY	DRY	ISOL	ISOL	ISOL	ISOL	ISOL
12	UTTARAKHAND	DRY	DRY	ISOL	SCT	ISOL	ISOL	ISOL
13	HARYANA CHANDIGARH & DELHI	DRY	DRY	ISOL	ISOL	ISOL	ISOL	ISOL
14	PUNJAB	DRY	DRY	ISOL	ISOL	ISOL	DRY	DRY
15	HIMACHAL PRADESH	DRY	ISOL	FWS	SCT	ISOL	ISOL	ISOL
16	JAMMU & KASHMIR AND LADAKH	DRY	SCT	SCT	SCT	ISOL	ISOL	ISOL
17	WEST RAJASTHAN	DRY	DRY	ISOL	ISOL	ISOL	ISOL	ISOL
18	EAST RAJASTHAN	DRY	DRY	ISOL	ISOL	ISOL	ISOL	ISOL
19	WEST MADHYA PRADESH	DRY	DRY	DRY	ISOL	ISOL	ISOL	ISOL
20	EAST MADHYA PRADESH	DRY	DRY	DRY	ISOL	ISOL	ISOL	ISOL
21	GUJARAT REGION	DRY						
22	SAURASHTRA & KUTCH	DRY						
23	KONKAN & GOA	DRY						
24	MADHYA MAHARASHTRA	DRY	DRY	DRY	DRY	DRY	ISOL	ISOL
25	MARATHAWADA	DRY	DRY	DRY	DRY	ISOL	ISOL	ISOL
26	VIDARBHA	DRY	DRY	DRY	DRY	ISOL	ISOL	ISOL
27	CHHATTISGARH	DRY	DRY	DRY	ISOL	ISOL	ISOL	ISOL
28	COASTAL ANDHRA PRADESH & YANAM	DRY	DRY	ISOL	ISOL	ISOL	SCT	SCT
29	TELANGANA	DRY	DRY	DRY	ISOL	SCT	SCT	SCT
30	RAYALASEEMA	DRY	DRY	ISOL	ISOL	ISOL	SCT	SCT
31	TAMILNADU PUDUCHERRY & KARAIKAL	ISOL	ISOL	ISOL	ISOL	ISOL	SCT	SCT
32	COASTAL KARNATAKA	DRY	DRY	DRY	DRY	ISOL	ISOL	ISOL
33	NORTH INTERIOR KARNATAKA	DRY						
34	SOUTH INTERIOR KARNATAKA	DRY	DRY	ISOL	ISOL	ISOL	ISOL	ISOL
35	KERALA & MAHE	ISOL	ISOL	ISOL	ISOL	SCT	SCT	SCT
36	LAKSHADWEEP	DRY	DRY	DRY	DRY	SCT	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

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# Fig. 2: Departure of Maximum Temperatures





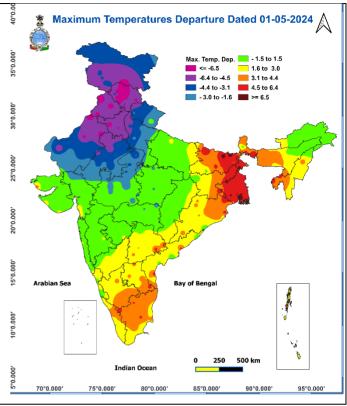
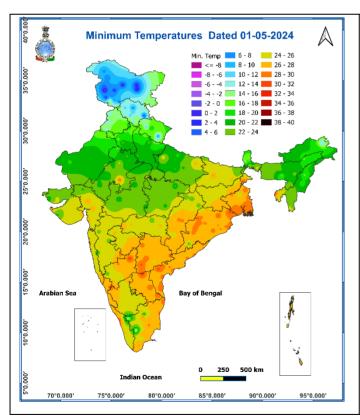


Fig. 3: Minimum Temperatures





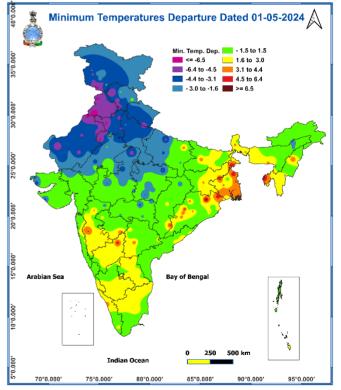
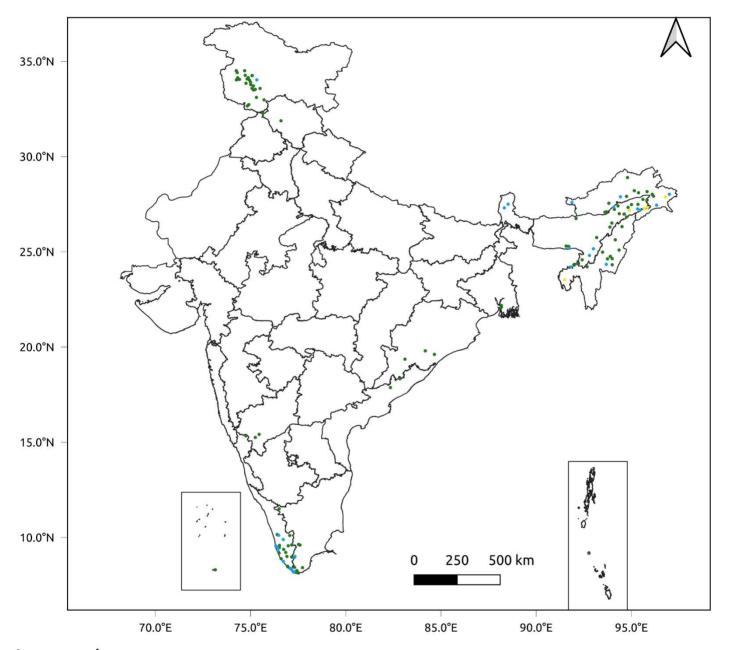




Fig. 5: Accumulated Rainfall (mm) during past 24 hours



# 24 Hr cumulative rainfall recorded over different stations during 0830 IST of 30-4-2024 to 0830 IST of 1-5-2024

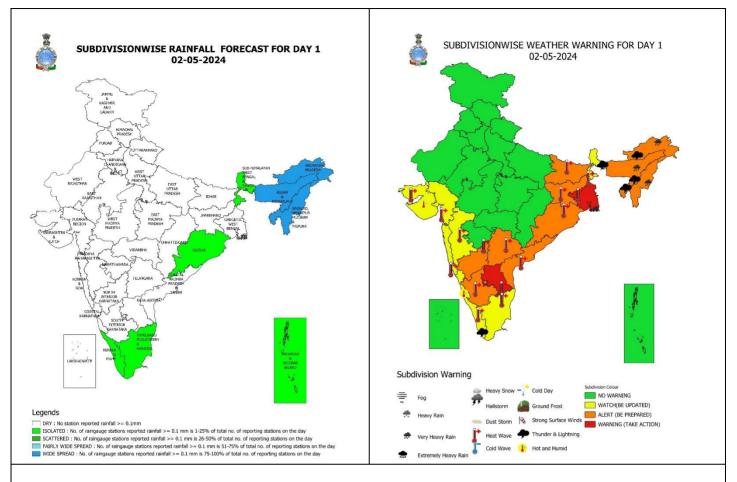


# Legends

- 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)





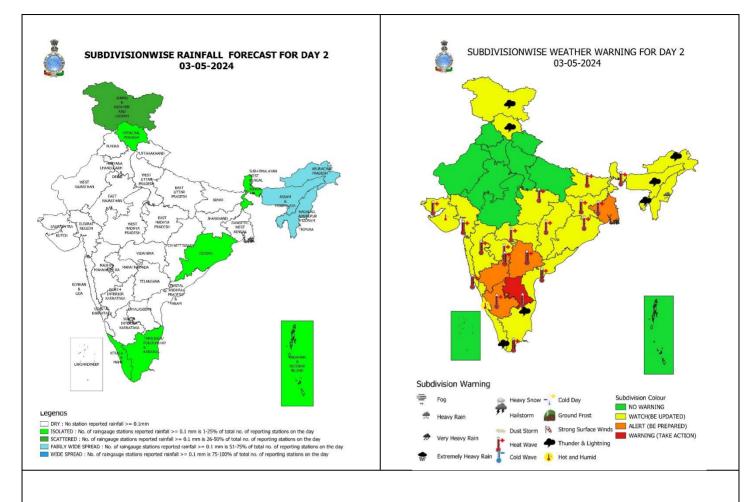


# 02 May (Day 1):

- ❖ Thunderstorm accompanied with lightning & squally winds (speed reaching 50-60 kmph) very likely at isolated places over Assam & Meghalaya, Nagaland, Manipur, Mizoram & Tripura; with lightning, gusty winds (speed reaching 30-40 kmph) at isolated places over Sikkim; with lightning at isolated places over Arunachal Pradesh and Kerala & Mahe.
- Heavy to very heavy rainfall very likely at isolated places over Arunachal Pradesh, Assam & Meghalaya and Mizoram & Tripura; heavy rainfall at isolated places over Nagaland & Manipur.
- **❖ Hot and humid weather** very likely to prevail over Coastal Karnataka.
- ❖ Heat wave to severe heat wave conditions very likely to prevail in many places over Gangetic West Bengal; in some parts over Jharkhand; in isolated pockets over Odisha, Bihar, Rayalaseema; heat wave conditions in isolated pockets over Sub-Himalayan West Bengal, Konkan, Madhya Maharashtra, Gujarat state, Coastal Andhra Pradesh & Yanam, Telangana, Interior Karnataka, Tamil Nadu, Puducherry & Karaikal and Kerala & Mahe.
- ❖ Warm night conditions very likely to prevail in isolated pockets over Chhattisgarh, Gangetic West Bengal, Odisha and North Interior Karnataka.





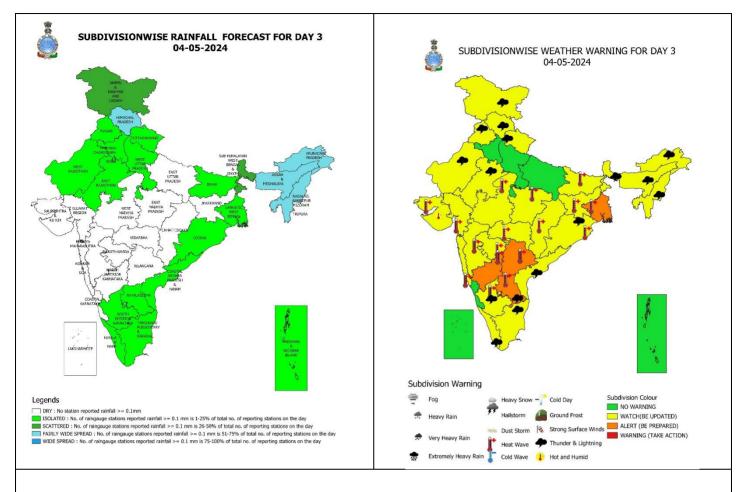


# 03 May (Day 2):

- ❖ Thunderstorm accompanied with lightning, gusty winds (speed reaching 30-40 kmph) very likely at isolated places over Assam & Meghalaya and Nagaland, Manipur, Mizoram & Tripura; with lightning at isolated places over Jammu-Kashmir-Ladakh-Gilgit-Baltistan-Muzaffarabad, Himachal Pradesh and Kerala & Mahe.
- ❖ Heavy rainfall very likely at isolated places over Nagaland & Manipur.
- **\* Hot and humid weather** very likely to prevail over Coastal Karnataka.
- ❖ Heat wave to severe heat wave conditions very likely to prevail in some parts over Gangetic West Bengal; in isolated pockets over Rayalaseema; heat wave conditions in isolated pockets over Odisha, Jharkhand, Bihar, Sub-Himalayan West Bengal, Marathwada, Vidarbha, Chhattisgarh, East Madhya Pradesh, Konkan, Madhya Maharashtra, Gujarat state, Coastal Andhra Pradesh & Yanam, Telangana, Interior Karnataka, Tamil Nadu, Puducherry & Karaikal.
- ❖ Warm night conditions very likely to prevail in isolated pockets over Chhattisgarh, Madhya Maharashtra, Marathwada and North Interior Karnataka.





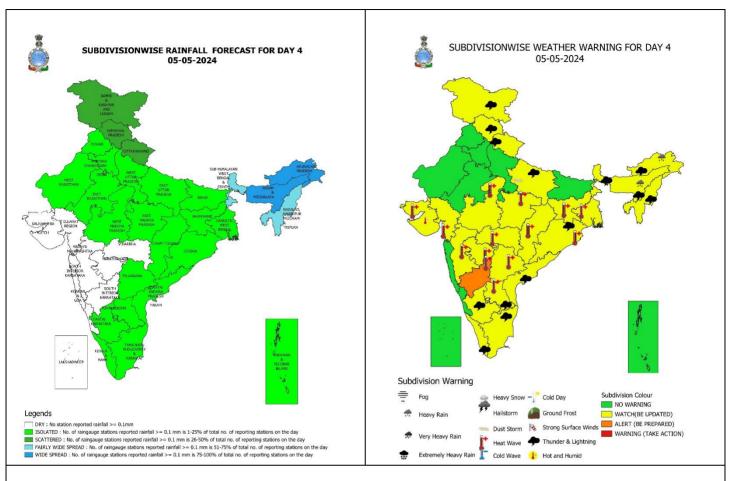


# 04 May (Day 3):

- ❖ Thunderstorm accompanied with lightning, gusty winds (speed reaching 40-50 kmph) very likely at isolated places over Sikkim; with lightning & gusty winds (speed reaching 30-40 kmph) at isolated places over Rajasthan, Assam & Meghalaya and Nagaland, Manipur, Mizoram & Tripura; with lightning at isolated places over Jammu-Kashmir-Ladakh-Gilgit-Baltistan-Muzaffarabad, Himachal Pradesh, Uttarakhand, Punjab, Odisha, Coastal Andhra Pradesh, Rayalaseema, South Interior Karnataka, Tamil Nadu and Kerala & Mahe.
- ❖ Heat wave conditions very likely to prevail in some parts over Gangetic West Bengal; in isolated pockets over Madhya Pradesh, Vidarbha, Chhattisgarh, Bihar, Jharkhand, Odisha, Konkan, Madhya Maharashtra, Marathwada, Gujarat state, Telangana, Rayalaseema and Interior Karnataka.
- ❖ Warm night conditions very likely to prevail in isolated pockets over Madhya Maharashtra, Marathwada and North Interior Karnataka.





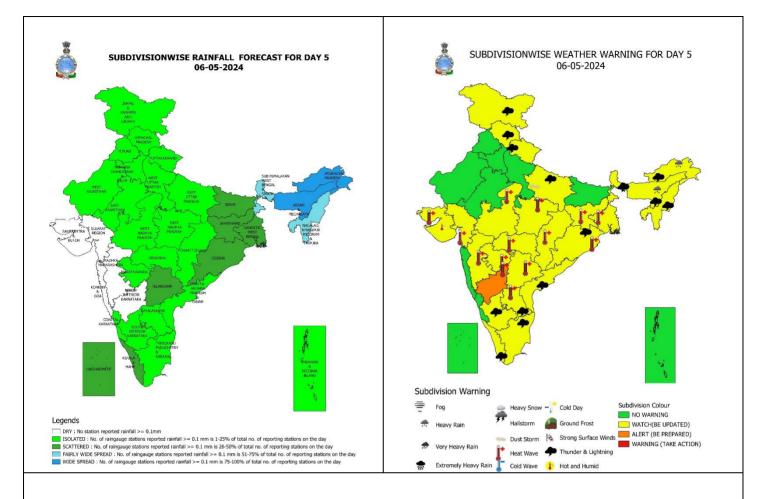


# 05 May (Day 4):

- ❖ Thunderstorm accompanied with lightning, gusty winds (speed reaching 40-50 kmph) likely at isolated places over Sikkim; with lightning & gusty winds (speed reaching 30-40 kmph) at isolated places over Assam & Meghalaya and Nagaland, Manipur, Mizoram & Tripura; with lightning at isolated places over Jammu-Kashmir-Ladakh-Gilgit-Baltistan-Muzaffarabad, Himachal Pradesh, Uttarakhand, East Uttar Pradesh, Odisha, Coastal Andhra Pradesh, Rayalaseema, South Interior Karnataka, Tamil Nadu and Kerala & Mahe.
- ❖ Heavy rainfall likely at isolated places over Arunachal Pradesh and Assam & Meghalaya.
- ❖ **Duststorm** likely at isolated places over East Uttar Pradesh.
- Heat wave likely to prevail in isolated pockets over Madhya Pradesh, Vidarbha, Chhattisgarh, Jharkhand, Odisha, Gangetic West Bengal, Madhya Maharashtra, Marathwada, Gujarat state, Telangana, Rayalaseema and North Interior Karnataka.
- **❖ Warm night conditions** likely to prevail in isolated pockets over Madhya Maharashtra, Marathwada and North Interior Karnataka.







# 06 May (Day 5):

- Thunderstorm accompanied with lightning, gusty winds (speed reaching 40-50 kmph) likely at isolated places over Sikkim; with lightning & gusty winds (speed reaching 30-40 kmph) at isolated places over Assam & Meghalaya and Nagaland, Manipur, Mizoram & Tripura; with lightning at isolated places over Jammu-Kashmir-Ladakh-Gilgit-Baltistan-Muzaffarabad, Himachal Pradesh, Uttarakhand, East Uttar Pradesh, Odisha, Coastal Andhra Pradesh, Rayalaseema, South Interior Karnataka, Tamil Nadu and Kerala & Mahe.
- ❖ Heavy rainfall likely at isolated places over Arunachal Pradesh and Assam & Meghalaya.
- **❖ Duststorm** likely at isolated places over East Uttar Pradesh.
- ❖ Heat wave likely to prevail in isolated pockets over Madhya Pradesh, Vidarbha, Chhattisgarh, Jharkhand, Odisha, Gangetic West Bengal, Madhya Maharashtra, Marathwada, Gujarat state, Telangana, Rayalaseema and North Interior Karnataka.
- ❖ Warm night conditions likely to prevail in isolated pockets over Madhya Maharashtra, Marathwada and North Interior Karnataka.







# SPATIAL DISTRIBUTION (% of Stations reporting)

30

34

36

% Stations	Category	% Stations	Category
76-100	Widespread (WS/Most Places)	26-50	Scattered (SCT/ A Few Places)
51-75	Fairly Widespred (FWS/ Many Places)	1-25	isolated (ISOL)

# WARNING

29 तेलंगाना

20 वेदलाना 30 चयनतीमा 31 विमानाडु ,पुडुचेरी एवंग कराईकत 32 वटिय कर्माड 33 ऑवरिक वसरी कर्माटक 34 ऑवरिक दक्षिणी कर्माटक 35 केरत एवंग गाहे 36 लक्षद्वीप

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

# Probabilistic Forecast

200

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





### **LEGENDS Probabilistic Forecast** WARNING WARNING (TAKE ACTION) Probability of Occurrence (%) **Terms** < 25 ALERT ( BE PREPARED) Likely WATCH (BE UPDATED) Very Likely Most Likely Heavy: 64.5 to 115.5 mm/cm \* Very Heavy: 115.6 to 204.4 mm/cm\* Rain/ Snow Extremely Heavy: > 204.4 mm/cm When maximum temperature of a station reaches ≥40° C for plains and ≥30° 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 ≥6.5° C (b). Based on Actual maximum temperature **Heat Wave** Heat Wave: When actual maximum temperature ≥45°C. Severe Heat Wave: When actual maximum temperature ≥47°C (c). Criteria for heat wave for coastal stations When maximum temperature departure is >4.5°C from normal. Heat Wave may be described provided maximum temperature ≥37°C When maximum temperature remains 40°C Warm Night Warm Night: When minimum temperature departure 4.5 °C to 6.4 °C Severe Warm Night: When minimum temperature departure >6.4 °C. When minimum temperature of a station ≤10°C for plains and ≤0°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 ≤ -6.5 °C (b) Based on actual Minimum Temperature (for Plains only) Cold Wave Cold Wave : When Minimum Temperature is ≤ 4.0 °C Severe Cold Wave: When Minimum Temperature is < 2.0 °C (c) For Coastal Stations When Minimum Temperature departure is ≤-4.5 °C & actual Minimum Temperature is ≤ 15 °C When minimum temperature of a station ≤10°C for plains and ≤0°C for hilly regions Based on departure Cold Day: Maximum Temperature Departure from normal -4.5 °C to -6.4 °C. Cold Day Severe Cold Day: Maximum Temperature Departure from normal ≤ -6.5 °C Phenomenon of small droplets suspended in air and the horizontal visibility < 1km Moderate Fog: When the visibility between 500-200 metres 0 Dense Fog: when the visibility between 50- 200 metres Fog Very Dense Fog: when the visibility < 50 metres 44 Sudden electrical discharges manifested by a flash of light (Lightning) and a sharp rumbling sound (thunder) Thunderstorm An ensemble of particles of dust or sand energetically lifted to great heights by a strong and **Dust/Sand** turbulent wind. Storm Ice deposits on ground Air temperature ≤4°C (over Plains) Frost A strong wind that rises suddenly, lasts for atleast 1 minute. Moderate: Wind speed 52-61 kmph 4 Severe: Wind speed 62-87 kmph Squall Very Severe: Wind speed >87 kmph 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 Sea State Phenomenal: Wind speed >117 kmph (>63 knots) & Wave height >14 metre Cyclonic Storm: Wind speed 62-87 kmph (34-47 knots) Severe Cyclonic Storm: Wind speed 88-117 kmph (48-63 knots) 9 Very Severe Cyclonic Storm: Wind speed 118-165 kmph (64 - 89 knots) Extremely Severe Cyclonic Storm: Wind speed 166-220 kmph (90 -119 knots) Cyclone Super Cyclone Strom: Wind speed >220 kmph (>119 knots)