



Government of India
Ministry of Earth Sciences
India Meteorological Department



Press Release

Date: 13th May, 2024

Time of Issue: 1345 hours IST

Subject:

- i. A fresh spell of heat wave likely to commence over Northwest India from 16th May, 2024.
- ii. Wet spell with isolated heavy rainfall accompanied with thunderstorms, lightning & gusty winds very likely over south Peninsular India till 17th May, 2024.
- iii. Wet spell accompanied with thunderstorms, lightning & gusty winds very likely over East & Central India till 14th May, 2024.
- iv. Southwest Monsoon is very likely to advance into South Andaman Sea, some parts of Southeast Bay of Bengal and Nicobar Islands around 19th May, 2024.

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

- ❖ **Heavy to very heavy rainfall** observed at isolated places over Tamil Nadu, Telangana and **heavy rainfall** at isolated places over Odisha, Karnataka, Rayalaseema and Kerala.
- ❖ **Hailstorm activity** observed at isolated places over Jammu-Kashmir, Uttarakhand, West Uttar Pradesh, Madhya Pradesh, Vidarbha, Marathwada, Telangana and Madhya Maharashtra.
- ❖ **Thundersquall/Gusty winds** observed at some places over Haryana, Chhattisgarh, Gangetic West Bengal, Jharkhand, Odisha, Bihar, Uttar Pradesh, Rajasthan, Madhya Pradesh, Vidarbha, Madhya Maharashtra, Marathwada, Telangana, Interior Karnataka and Tamil Nadu.
- ❖ Yesterday, the **highest maximum temperature of 43.2°C** was reported at **Hoshangabad (West Madhya Pradesh)** over the country.

Weather Systems and Forecast & Warnings: (Annexure II)

- ❖ Southwest Monsoon is very likely to advance into South Andaman Sea, some parts of Southeast Bay of Bengal and Nicobar Islands around 19th May, 2024.
- ❖ A cyclonic Circulation lies over South Interior Karnataka and a trough runs from this to northwest Madhya Pradesh in lower tropospheric levels. Another cyclonic circulation lies over Comorin area in lower tropospheric levels. Under their influence:
 - Isolated to scattered light to moderate rainfall accompanied with **thunderstorm, lightning & squally winds (40-60 kmph)** very likely over Madhya Pradesh, Vidarbha, Chhattisgarh, Madhya Maharashtra and Marathwada during next 5 days and accompanied with **thunderstorm, lightning & gusty winds (30-40 kmph)** very likely over Gujarat region on 13th & 14th May. Isolated **Hailstorm activity** very likely over Madhya Pradesh on 13th & 14th; Madhya Maharashtra and Marathwada on 13th May, 2024. **Isolated heavy rainfall very likely over Madhya Maharashtra on 13th May, 2024.**
 - Scattered to Fairly widespread light to moderate rainfall accompanied with **thunderstorm, lightning & squally winds (40-50 kmph)** very likely over Sub-Himalayan West Bengal & Sikkim and Andaman & Nicobar Islands during next 7 days; Odisha on 13th & 14th; Gangetic West Bengal on 13th and Isolated to scattered light to moderate rainfall accompanied with **thunderstorm, lightning & gusty winds (30-40 kmph)** over Bihar and Jharkhand on 13th & 14th May, 2024. **Isolated heavy rainfall very likely over Odisha and Sub-Himalayan West Bengal & Sikkim on 13th May, 2024.**
 - Scattered to Fairly widespread light to moderate rainfall accompanied with **thunderstorm, lightning & squally winds (40-50 kmph)** likely over Tamil Nadu, Puducherry & Karaikal, Kerala & Mahe and

Karnataka during next 7 days and Isolated to scattered light to moderate rainfall accompanied with **thunderstorm, lightning & gusty winds (30-40 kmph)** over Coastal Andhra Pradesh & Yanam, Telangana, Rayalaseema during the same period. **Isolated heavy rainfall very likely over Tamil Nadu, Puducherry & Karaikal and Kerala & Mahe during 13th-17th; Coastal Karnataka and South Interior Karnataka during 13th-16th; North Interior Karnataka, Coastal Andhra Pradesh and Telangana on 13th May, 2024.**

- ❖ A cyclonic circulation lies over northeast Assam in lower tropospheric levels. Under their influence:
 - Scattered light to moderate rainfall accompanied with **thunderstorm, lightning & squally winds (30-40 kmph)** very likely over Arunachal Pradesh, Assam, Meghalaya, Nagaland, Manipur, Mizoram and Tripura on 13th & 14th and likely to increase to fairly widespread to widespread rainfall during 15th - 18th May, 2024.
 - **Isolated heavy rainfall also likely over Arunachal Pradesh on 16th & 17th and Assam & Meghalaya on 17th May, 2024.**
- ❖ A Western Disturbance seen as a trough in middle tropospheric westerlies roughly along long. 73°E to the north of lat. 32°N. A fresh Western Disturbance likely to affect western Himalayan region from 17th May. Under their influence:
 - Isolated rainfall activity very likely over Jammu-Kashmir-Ladakh-Gilgit-Baltistan-Muzaffarabad, Himachal Pradesh and Uttarakhand on 13th May, 2024.
 - Isolated light to moderate rainfall accompanied with **thunderstorm, lightning & gusty winds (40-50 kmph)** very likely over Rajasthan on 13th & 14th May, 2024.
 - **Duststorm/thunderstorm with gusty winds (30-40 kmph)** very likely to prevail at isolated places over Rajasthan and Uttar Pradesh on 13th May, 2024.
 - **Strong surface winds (30-40 kmph)** very likely to prevail over plains of Uttar Pradesh and south Rajasthan on 13th May, 2024.
 - Isolated rainfall activity very likely over Jammu-Kashmir-Ladakh-Gilgit-Baltistan-Muzaffarabad, Himachal Pradesh and Uttarakhand during 17th -19th May, 2024.

Maximum temperature observation and forecast for next 5 days:

- ❖ **Areas having maximum temperatures greater than 40°C:** Yesterday, maximum temperatures were in the range of 40-42°C over many parts of West Rajasthan, East Madhya Pradesh & Vidarbha; in some parts of West Madhya Pradesh, Chhattisgarh, Gujarat Region & Rayalaseema and in isolated pockets of East Rajasthan, Saurashtra & Kutch and Telangana.
- ❖ Gradual rise by about 3-5°C in maximum temperatures very likely over many parts of Northwest & East India during next 5 days.
- ❖ No significant change in maximum temperatures very likely over many parts of West & Central India during next 2 days and rise by about 2-4°C for subsequent 3 days.
- ❖ No significant change in maximum temperatures very likely over rest parts of the country.

Heat Wave and Hot & Humid weather warning for next 5 days:

- ❖ **Heat wave conditions** likely over West Rajasthan during 15th-17th; over Uttar Pradesh, Punjab, East Rajasthan and south Haryana on 16th & 17th and northwest Madhya Pradesh and Bihar on 17th May, 2024.
- ❖ **Hot and humid weather** very likely to prevail over Saurashtra & Kutch during next 5 days.

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

Reported maximum wind speed (kmph) during past 24 hours till 0830 hours IST of today:

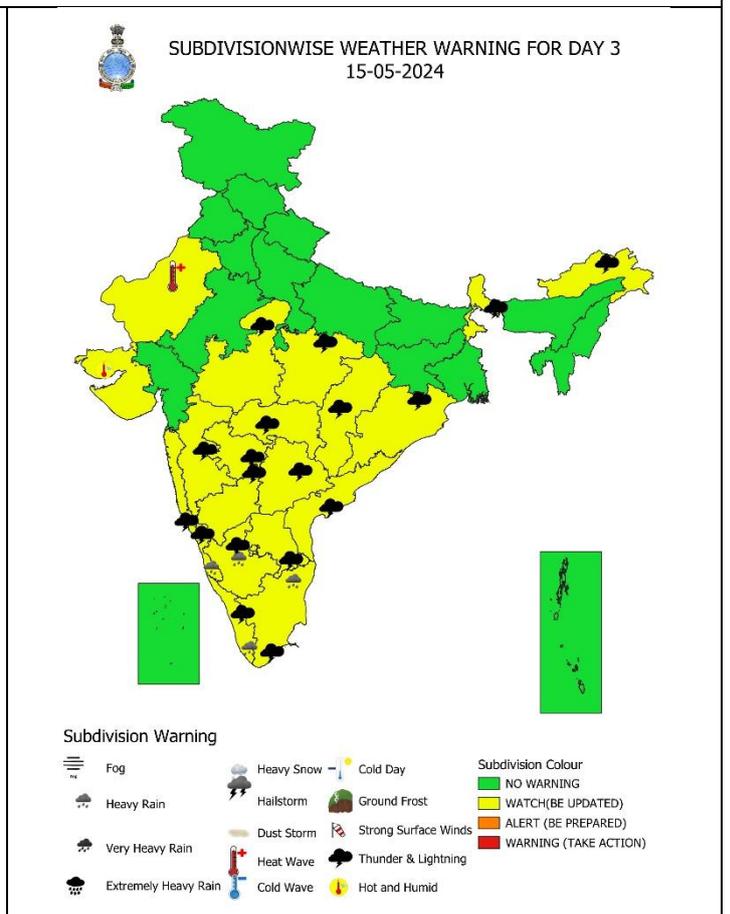
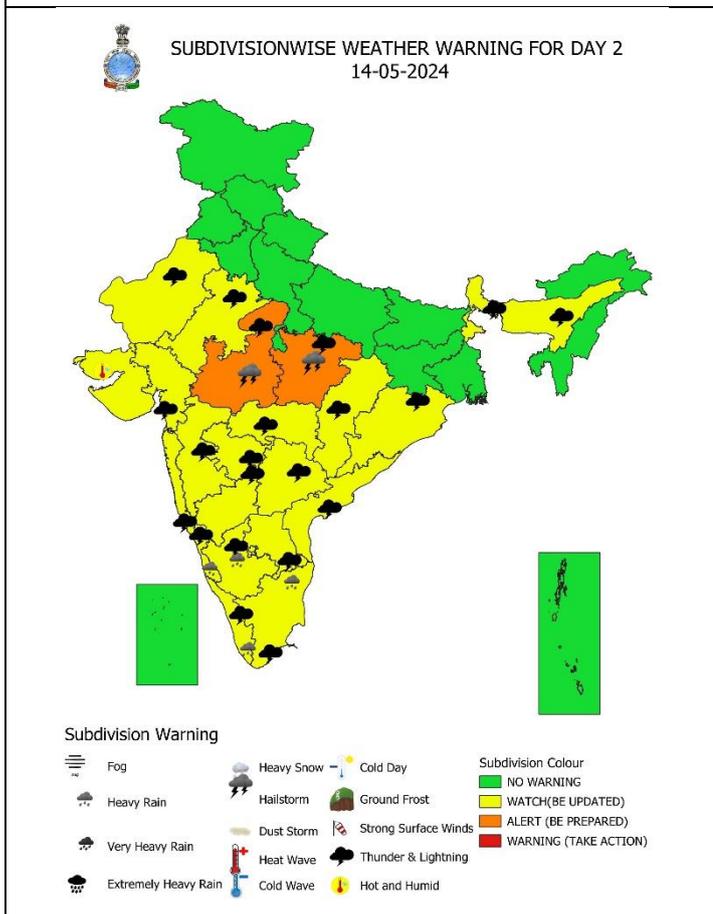
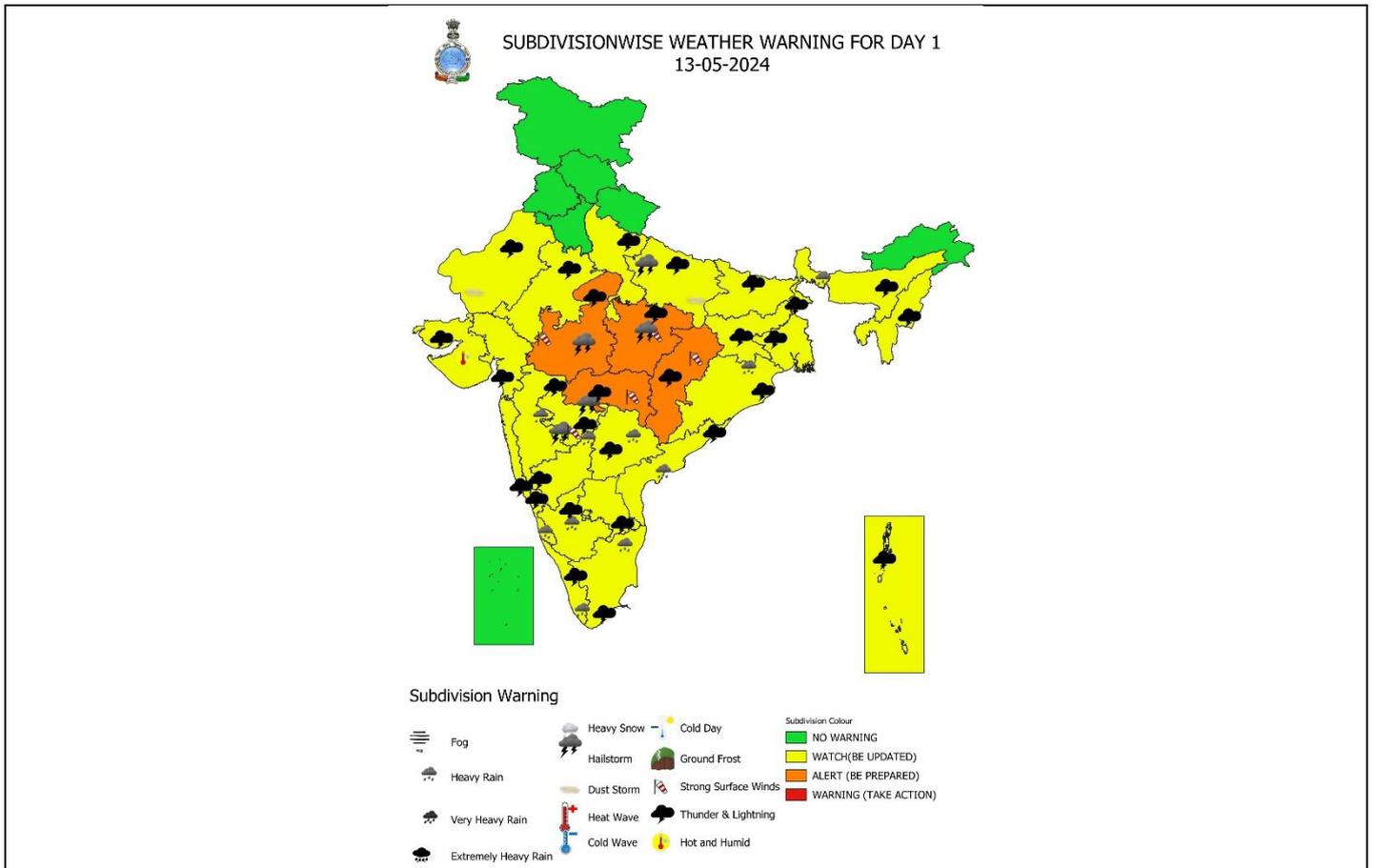
- ❖ **Madhya Pradesh:** Chhindwara 88, Sagar 59, Singrauli 55, Mandla 51, Sehore 51, Shajapur 46
- ❖ **Jharkhand:** Simdega 77
- ❖ **Odisha:** Angul 57, Ganjam 50, Khurdha 44, Puri 42, Nayagarh 40
- ❖ **Marathwada:** Osmanabad: 55;
- ❖ **Vidarbha:** Wardha 55, Yavatmal 51, Chandrapur 46
- ❖ **Punjab:** Patiala 66, Barnala 40, Shahid_Bhagat_Singh_Nagar 40
- ❖ **Jammu & Kashmir:** Leh 75, Kargil 74,
- ❖ **Rajasthan:** Udaipur 61, Jaisalmer 42, Chittaurgarh 50, Hanumangarh 40
- ❖ **Uttar Pradesh:** Mainpuri, Ghazipur 40 each;
- ❖ **Bihar:** Aurangabad, Madhubani 38 each;
- ❖ **Tamil Nadu:** Karur 42
- ❖ **Kerala:** Wayanad 57, Kozhikode 44, Kasaragod 40
- ❖ **North Interior Karnataka:** Yadgir 59, Solapur 48, Bagalkot 44;
- ❖ **South Interior Karnataka:** Chikmagalur 46, Chamarajanagar 38, Tumkur 42, Kolar 44
- ❖ **Telangana:** Vikarabad 74, Siddipet 61
- ❖ **Haryana:** Karnal 51, Kaithal 46

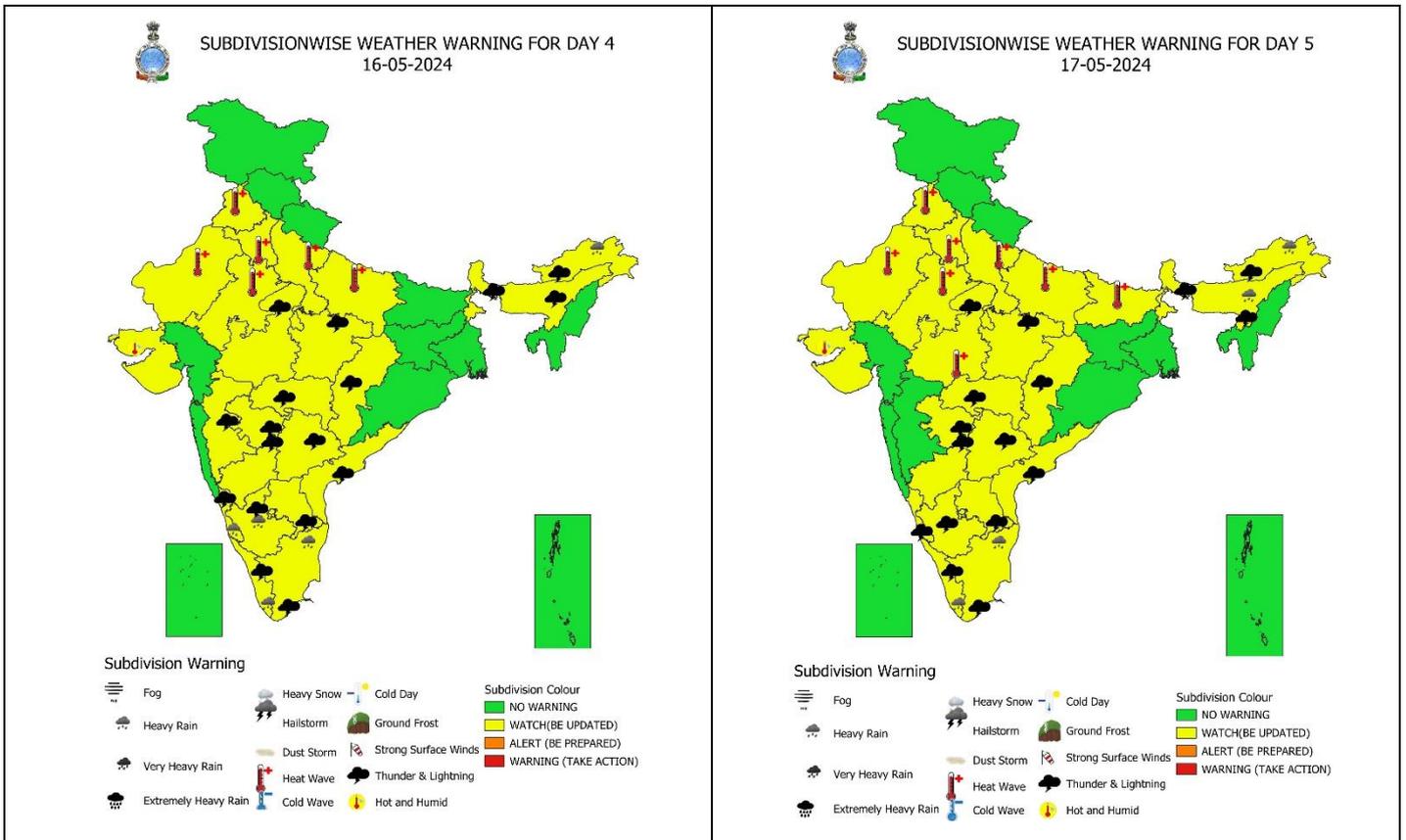
Realised Rainfall during past 24 hours till 0830 hours IST of today:

- ❖ Light to moderate rainfall accompanied with isolated thunderstorm & lightning observed **at most places** over Andaman & Nicobar Islands, Sub-Himalayan West Bengal & Sikkim, Jammu-Kashmir-Ladakh-Gilgit-Baltistan-Muzaffarabad; **at many places** over Vidarbha, Telangana, Interior Karnataka, Kerala & Mahe; **at a few places** over Odisha, Himachal Pradesh, Uttarakhand, West Madhya Pradesh, Chhattisgarh, Rayalaseema, Tamil Nadu, Puducherry & Karaikal, Coastal Karnataka, Lakshadweep and **at isolated places** over Gangetic West Bengal, Jharkhand, Bihar, Arunachal Pradesh, Assam & Meghalaya, Nagaland, Manipur, Mizoram & Tripura, Uttar Pradesh, Haryana, Punjab, East Rajasthan, East Madhya Pradesh, Gujarat Region, Konkan & Goa, Madhya Maharashtra, Marathwada, Coastal Andhra Pradesh & Yanam.

Significant amount of rainfall (in cm):

- ❖ **Telangana:** Atmakurwrgl (dist Hanumakonda) 13, Shayampet (dist Hanumakonda) 12, Kothaguda (dist Mahabubabad) 11, Bhupalpalle (dist J. Bhupalpally) 9, Hanamkonda (dist Hanumakonda) 8, Khanapur (dist Warangal) 8, Govindaraopet (dist Mulugu) 7, Jangaon (dist Jangaon) 7, Ghanpur (dist Jangaon) 6, Jangaon (dist Jangaon) 6, Chennaraopet (dist Warangal) 6,
- ❖ **Tamil Nadu:** Sivagiri (dist Tenkasi) 12, Chittar (dist Kanniyakumari), Periyakulam (dist Theni) 8 each, Elumalai (dist Madurai), Mandapam (dist Ramanathapuram) 7 each, Kuppanampatti (dist Madurai) 6, Andipatti (dist Theni), Thalavadi (dist Erode), Barwood (dist The Nilgiris) 5 each,
- ❖ **Coastal Karnataka:** Puttur (dist Dakshina Kannada) 10, Uppinangadi (dist Dakshina Kannada) 9,
- ❖ **North Interior Karnataka:** Raichur (dist Raichur) 10, Gabbur (dist Raichur) 7, Belagavi (dist Belagavi) 7, Kurdi (dist Raichur) 5, Aurad (dist Bidar) 5, Guttal (dist Haveri) 4, Manthala (dist Bidar) 3,
- ❖ **South Interior Karnataka:** Sira (dist Tumakuru) 8, Kottigehara (dist Chikkamagaluru) 8, Kadur (dist Chikkamagaluru) 6, Koppa (dist Chikkamagaluru) 6, Tumakuru (dist Tumakuru) 4,
- ❖ **Rayalaseema:** Rolla (dist Sri Sathyasai) 9, Dhone (dist Nandyal) 9, C Belagal (dist Kurnool) 7, Yemmiganur (dist Kurnool) 7, Guntakal (dist Anantapuramu) 6, Rayadurg (dist Anantapuramu) 6, Gonegandla (dist Kurnool) 6, Nandavaram (dist Kurnool) 5,
- ❖ **Kerala & Mahe:** Ponnani (Malappuram district) 7; Kottarakkara (Kollam district) 5, Angadipuram (Malappuram district), Ranni & Venkurinji (both in Pathanamthitta district) & Vynthala (Thrissur district) 4 each
- ❖ **West Madhya Pradesh:** Neapanagar (dist Burhanpur) 6, Manawar (dist Dhar) 5, Sendhwa (med) (dist Barwani) 4, Jhirnya (dist Khargone) 3, Bhainsdehi (dist Betul) 2, Ashta-aws (dist Sehore) 2,
- ❖ **Bihar:** Supaul-5, Araria-4
- ❖ **Odisha:** Rairakhol (Sambalpur) 8, Angul (Angul) 7, Barkote (Deogarh) 6, Rayagada (Rayagada) 6, Rayagada (Rayagada) 6, Banki (Cuttack) 5, Bhanjnar (Ganjam) 5, Lamataput (Koraput) 4.





Impact expected and action suggested due to thunderstorms, lightning & gusty winds/hailstorm over East & Central India till 14th and south Peninsular India till 17th May, 2024.

Impact expected:

- Strong wind/hail may damage plantation, horticulture and standing crops.
- Hail may injure people and cattle at open places.
- Partial damage to vulnerable structures due to strong winds.
- Minor damage to kutcha houses/walls and huts.
- Loose objects may fly.

Action suggested:

- Stay indoors, close windows & doors and avoid travel if possible.
- Take safe shelters; do not take shelter under trees.
- Do not lie on concrete floors and do not lean against concrete walls.
- Unplug electrical/ electronic appliances.
- Immediately get out of water bodies.
- Keep away from all the objects that conduct electricity.

Agromet advisories for Heavy Rainfall, Hailstorm & Gusty winds likely over various parts of the country:

- Use hail nets or hail caps in fruit orchards to prevent mechanical damage and provide mechanical support to horticultural crops & staking to vegetables in East Uttar Pradesh, Madhya Pradesh, Madhya Maharashtra and Marathwada.
- Drain out excess water from crop fields to avoid water stagnation in Tamil Nadu, Kerala, Karnataka, Andhra Pradesh, Telangana., Madhya Maharashtra, Sub Himalayan West Bengal and Odisha.
- Provide mechanical support to horticultural crops & staking to vegetables to prevent damage from gusty winds.

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; **dist:** District; **NH:** National Highway; **KVK:** Krishi Vigyan Kendra; **DVC:** Damodar Valley Corporation; **PTO:** Part Time Office.
- ❖ **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.

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 Rain
 Very Heavy Rain
 Extremely Heavy Rain

 Heavy Snow
 Hailstorm
 Dust Storm
 Heat Wave
 Cold Wave

 Cold Day
 Ground Frost
 Strong Surface Winds
 Thunder & Lightning
 Hot and Humid

Subdivision Colour

NO WARNING

WATCH(BE UPDATED)

ALERT (BE PREPARED)

WARNING (TAKE ACTION)

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

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 < 1km

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)