



Government of India  
Ministry of Earth Sciences  
India Meteorological Department



Press Release

Date: 15<sup>th</sup> May, 2024

Time of Issue: 1315 hours IST

**Subject:**

- i. A fresh spell of heat wave likely to commence over Northwest India from 16<sup>th</sup> May and East India from 18<sup>th</sup> May, 2024.
- ii. Wet spell with isolated heavy rainfall accompanied with thunderstorms, lightning & gusty winds very likely to continue over south Peninsular India till 20<sup>th</sup> May, 2024.
- iii. Southwest Monsoon is very likely to advance into South Andaman Sea, some parts of Southeast Bay of Bengal and Nicobar Islands around 19<sup>th</sup> May, 2024.

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

- ❖ **Heavy rainfall** observed at isolated places over Coastal Andhra Pradesh, Tamil Nadu, North Interior Karnataka and Kerala.
- ❖ **Hailstorm activity** observed at isolated places over Madhya Pradesh, Konkan, Marathwada, Vidarbha and Madhya Maharashtra.
- ❖ **Thunderstorm** observed at many places over Madhya Pradesh; at some places over Gangetic West Bengal, Jharkhand, Gujarat Region, Madhya Maharashtra, Konkan & Goa, Marathwada, Rajasthan, Chhattisgarh, Coastal Andhra Pradesh, Telangana, Rayalaseema, Karnataka, Kerala and Tamil Nadu.
- ❖ **Gusty winds** data reported over the country (in Kmph) is attached in Annexure II
- ❖ Yesterday, the **highest maximum temperature** of **44.0°C** was reported at **Nuapada (Odisha)** over the country.

**Weather Systems and Forecast & Warnings: (Annexure III)**

- ❖ Southwest Monsoon is very likely to advance into South Andaman Sea, some parts of Southeast Bay of Bengal and Nicobar Islands around 19<sup>th</sup> May, 2024.
- ❖ A cyclonic circulation lies over southwest Bay of Bengal & adjoining south Sri Lank and a trough runs from this cyclonic circulation to Lakshadweep in lower tropospheric levels. Another trough runs from South Interior Karnataka to east Vidarbha in lower tropospheric levels. Under their influence:
  - Isolated light to moderate rainfall accompanied with **thunderstorm, lightning & gusty winds (40-60 kmph)** very likely over Konkan & Goa, Madhya Maharashtra, Marathawada during 15<sup>th</sup>-17<sup>th</sup>; over Madhya Pradesh, Vidarbha, Chhattisgarh, Odisha, Gujarat Region on 15<sup>th</sup> & 16<sup>th</sup> May. Isolated **Hailstorm activity** very likely over Konkan on 15<sup>th</sup>, Madhya Maharashtra on 15<sup>th</sup> & 16<sup>th</sup> May, 2024.
  - Scattered to fairly widespread with light to moderate rainfall very likely over Andaman & Nicobar Islands during next 7 days. **Isolated heavy rainfall very likely over Nicobar Islands on 19<sup>th</sup> May.**
  - Scattered to Fairly widespread light to moderate rainfall accompanied with **thunderstorm, lightning & gusty winds (40-50 kmph)** likely over Tamil Nadu, Puducherry & Karaikal, Kerala & Mahe, Lakshadweep, Karnataka and Isolated light to moderate rainfall accompanied with **thunderstorm, lightning & gusty winds (30-40 kmph)** over Coastal Andhra Pradesh & Yanam, Telangana and Rayalaseema during next 7 days.

- ✓ *Isolated heavy rainfall very likely over Tamil Nadu, Puducherry & Karaikal, Kerala & Mahe, Coastal & South Interior Karnataka during 15<sup>th</sup>-19<sup>th</sup>; North Interior Karnataka on 15<sup>th</sup> & 16<sup>th</sup> May, 2024.*
- ✓ *Isolated very heavy rainfall also very likely over Tamil Nadu on 15<sup>th</sup>, 18<sup>th</sup> & 19<sup>th</sup> and Kerala on 19<sup>th</sup> May, 2024.*

- ❖ A cyclonic circulation lies over Assam & neighbourhood and a trough in westerlies runs roughly along long. 88°E to the north of lat. 21°N in lower tropospheric levels. Under its influence:
  - Scattered to fairly widespread light to moderate rainfall accompanied with **thunderstorm, lightning & gusty winds (40-50 kmph)** very likely over Sub-Himalayan West Bengal & Sikkim during next 7 days.
  - Scattered light to moderate rainfall accompanied with **thunderstorm, lightning & gusty winds (30-40 kmph)** very likely over Arunachal Pradesh, Assam, Meghalaya, Nagaland, Manipur, Mizoram and Tripura on 15<sup>th</sup> and likely to increase to fairly widespread to widespread rainfall during 16<sup>th</sup> -19<sup>th</sup> May, 2024.
  - *Isolated heavy rainfall also likely over Arunachal Pradesh during 16<sup>th</sup>-19<sup>th</sup> and Assam & Meghalaya during 17<sup>th</sup>-19<sup>th</sup> May, 2024.*
- ❖ A fresh Western Disturbance likely to affect Western Himalayan region from 17<sup>th</sup> May. Under their influence; Isolated to scattered light to moderate rainfall activity very likely over Jammu-Kashmir-Ladakh-Gilgit-Baltistan-Muzaffarabad, Himachal Pradesh and Uttarakhand during 17<sup>th</sup>-19<sup>th</sup> 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 in some parts of Haryana-Chandigarh-Delhi, Rajasthan, East Uttar Pradesh, East Madhya Pradesh, Saurashtra & Kutch and Vidarbha and in isolated pockets of Madhya Maharashtra, Marathwada, Telangana, Chhattisgarh, Odisha, Jharkhand and West Uttar Pradesh.
- ❖ Gradual rise by about 3-4°C in maximum temperatures very likely over many parts of Northwest & East India during next 4 days and no significant change thereafter.
- ❖ Gradual rise by about 2-4°C in maximum temperatures very likely over many parts of Central India and Gujarat during next 4-5 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** very likely in isolated/some pockets over West Rajasthan during 15<sup>th</sup>-19<sup>th</sup>; over Punjab, south Haryana during 16<sup>th</sup>-19<sup>th</sup> and north Madhya Pradesh, East Rajasthan, Uttar Pradesh, Bihar during 17<sup>th</sup>-19<sup>th</sup> May, 2024. **Severe Heat wave conditions** also very likely in isolated/some parts of West Rajasthan during 17<sup>th</sup>-19<sup>th</sup>; Punjab, south Haryana on 18<sup>th</sup> & 19<sup>th</sup>; East Rajasthan on 19<sup>th</sup> May, 2024.
- ❖ **Heat wave conditions** very likely in isolated pockets over Gujarat Region during 15<sup>th</sup>-17<sup>th</sup>; Konkan on 15<sup>th</sup> & 16<sup>th</sup>; Saurashtra & Kutch on 16<sup>th</sup> & 17<sup>th</sup>; Delhi, Jharkhand, Gangetic West Bengal, Odisha on 18<sup>th</sup> & 19<sup>th</sup> May, 2024.
- ❖ **Hot and humid weather** very likely to prevail over Assam & Meghalaya, Tripura, Sub-Himalayan West Bengal, Bihar on 15<sup>th</sup> & 16<sup>th</sup> May.

For more details, kindly refer: [https://mausam.imd.gov.in/responsive/all\\_india\\_forcast\\_bulletin.php](https://mausam.imd.gov.in/responsive/all_india_forcast_bulletin.php)

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

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

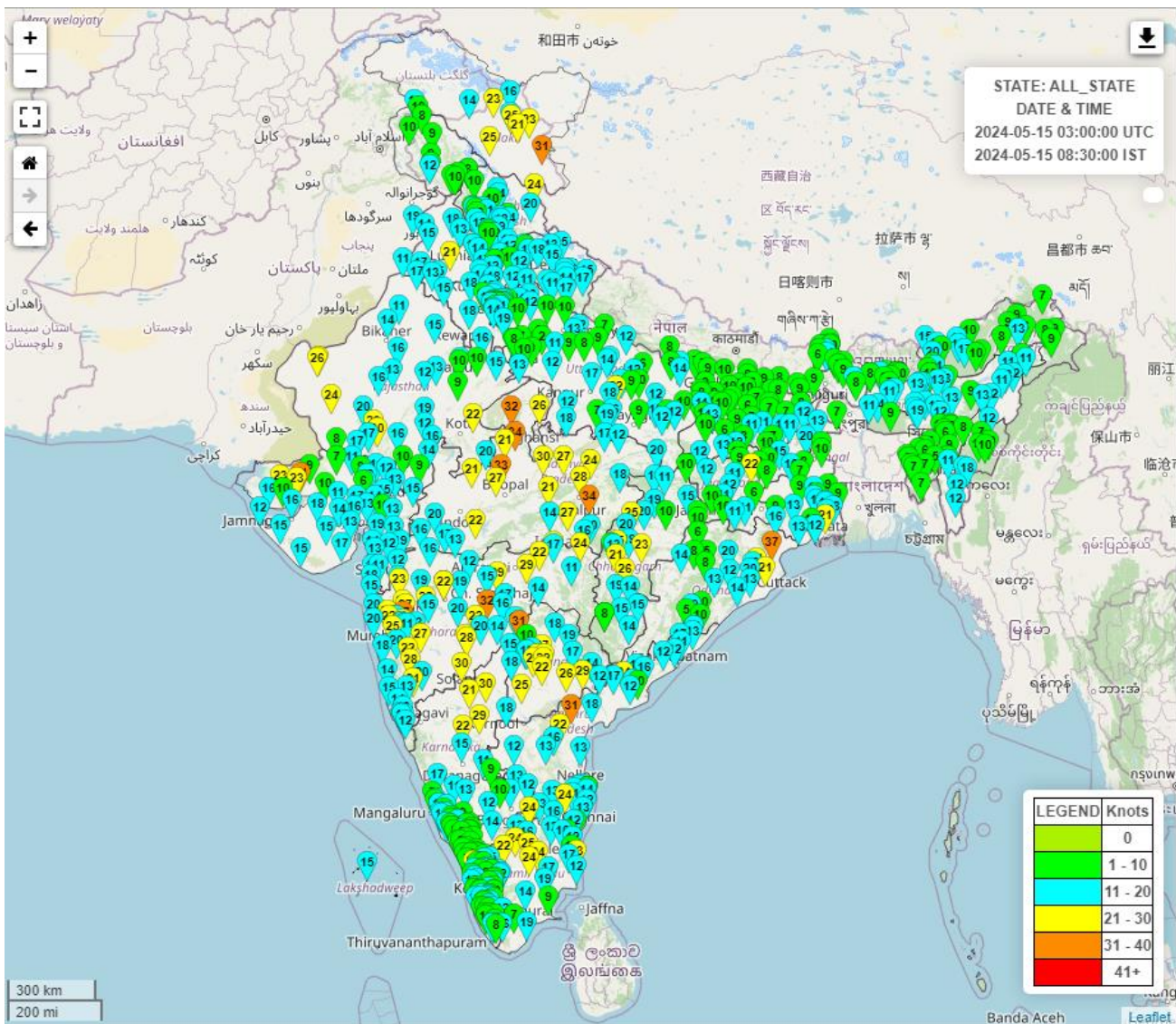
**Significant amount of rainfall (in cm):**

- ❖ **Kerala:** Neryamangalam ARG (Ernakulam district) 9; Erimayur ARG (Palakkad district) 6, Varkala (Thiruvananthapuram district) & Anchal ARG (Kollam district) 5 each,
- ❖ **Tamil Nadu:** Kovilankulam (dist Virudhunagar), Aruppukottai KVK AWS (dist Virudhunagar) 8 each, Udumalpet (dist Tiruppur) 6, Kilanilai (dist Pudukkottai), Thangachimadam (dist Ramanathapuram), PWD Makkinampatti (dist Coimbatore), Devakottai (dist Sivagangai), Sendurai (dist Ariyalur), Rajapalayam (dist Virudhunagar), Thirparappu (dist Kanniyakumari) 5 each, Sular (dist Coimbatore), Sankarankoil (dist Tenkasi), Old Taluk Office Srivaikuntam (dist Thoothukudi), Srivilliputhur (dist Virudhunagar) 4 each,
- ❖ **Coastal Andhra Pradesh:** Tenali (dist Guntur) 7, Jangamaheswarapuram (dist Palnadu) 5,
- ❖ **North Interior Karnataka:** Hukkeri (dist Belagavi) 7, Zalki Cross (dist Vijayapura) 6, Mahalingapur (dist Bagalkote) 5, Hidkal Dam (dist Belagavi) 5, Jewargi (dist Kalaburgi) 5, Kushtagi (dist Koppal) 4, Rabkavi (dist Bagalkote) 3, Londa (dist Belagavi) 3, Yedrami (dist Kalaburgi) 3,

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

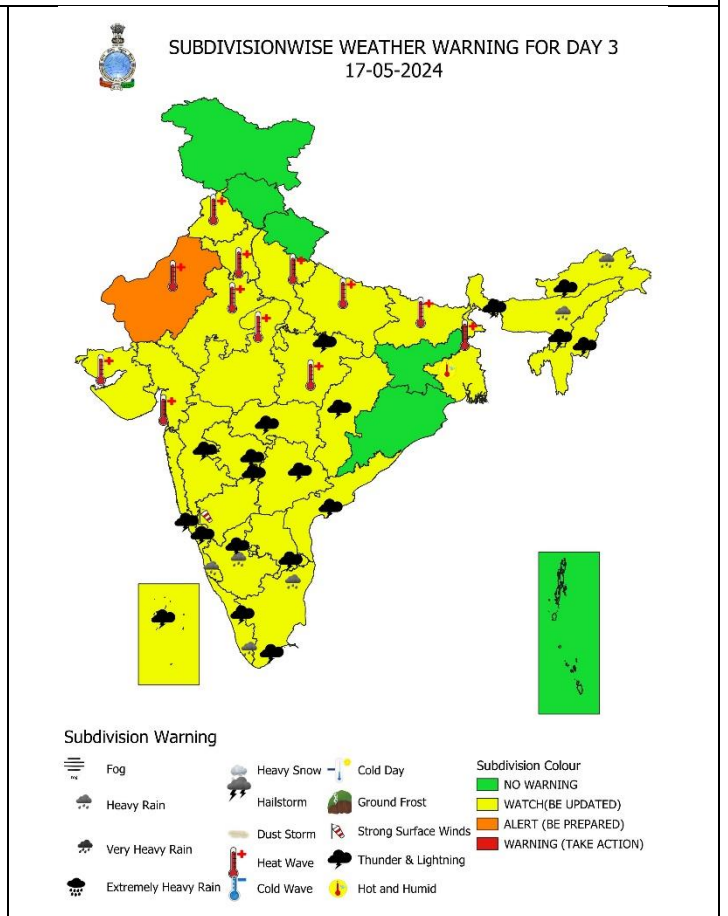
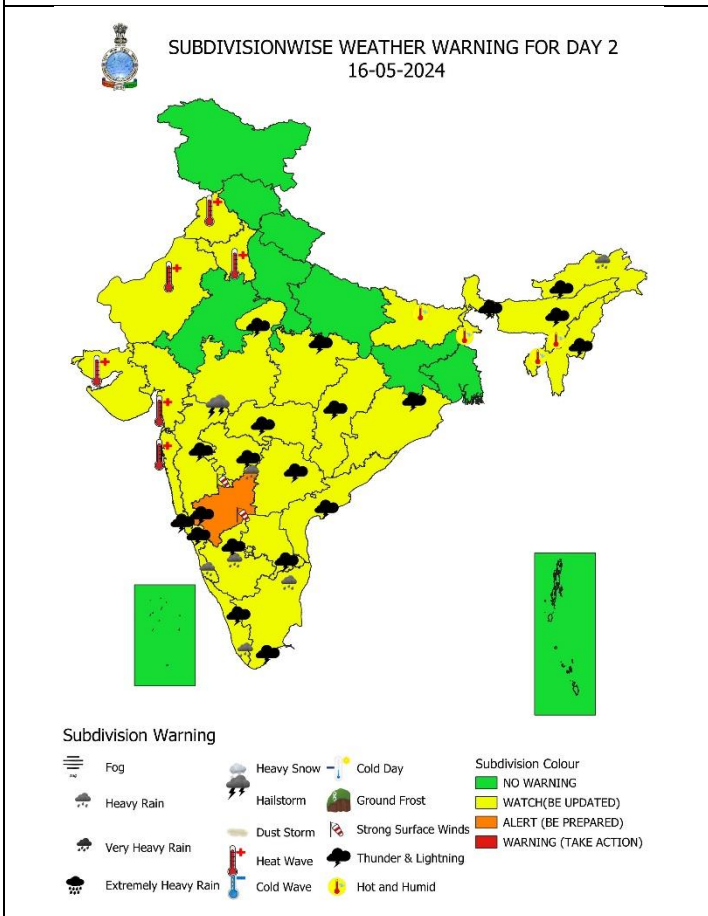
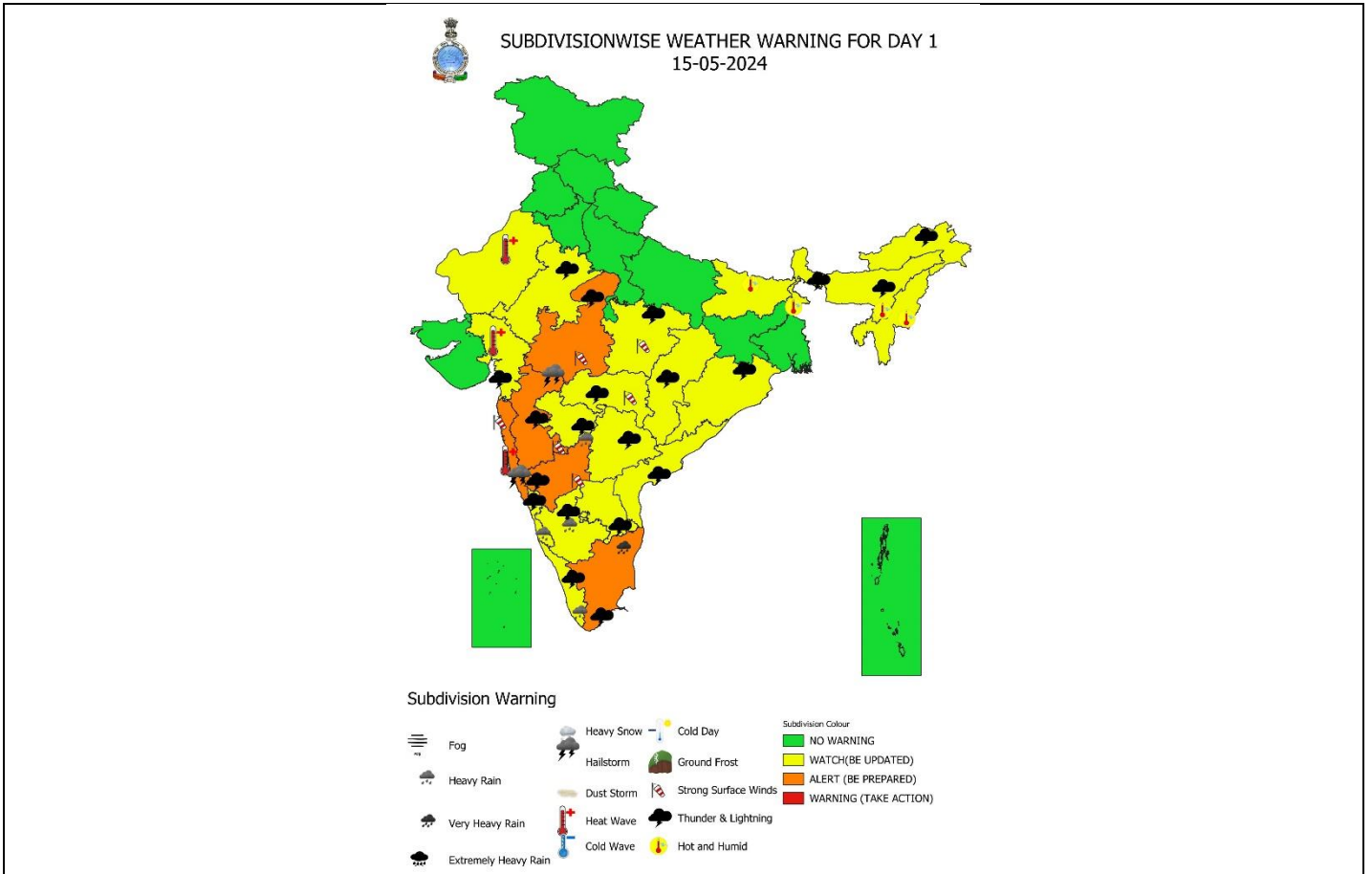
- ❖ **Odisha:** Bhadrak 68, Jagatsinghpur, Cuttack 38 each;
- ❖ **Madhya Maharashtra:** Pune 68, Raigad 53, Satara 51;
- ❖ **West Madhya Pradesh:** Ashoknagar - 63, Sehore - 62, Shivpuri - 60, Bhopal - 52, Indore - 43, Khandwa - 41, Shajapur/ Guna - 39, Rajgarh/ Badwani - 37,
- ❖ **East Madhya Pradesh:** Mandla - 63, Sagar - 56, Jabalpur - 52, Seoni - 50, Damoh - 50, Katni - 45, Balaghat - 37, Singrauli - 37, Shahdol - 34, Chhatarpur - 34, Satna - 32
- ❖ **Marathwada:** Parbhani 59, Osmanabad 51;
- ❖ **Telangana:** Nizamabad 57, Garikapadu 53, Siddipet, Ranga\_Reddy 50 each, Nalgonda 48;
- ❖ **Coastal Andhra Pradesh:** Prakasam 57, Eluru 44, Prakasam 40;
- ❖ **Saurashtra & Kutch:** Bachau\_AMFU 57, Kandla, Bhuj 42;
- ❖ **Jammu & Kashmir:** Leh 57, Kargil 46;
- ❖ **Rajasthan:** Shirohi 55, Jaisalmer 48, Barmer 44, Baran 40;
- ❖ **North Interior Karnataka:** Yadgir 55, Koppal 53, Haveri 40, Bagalkot 38;
- ❖ **Vidarbha:** Washim, Yavatamal 53 each, Bhandara 44, Nagpur 42;
- ❖ **Chhattisgarh:** Kanker 48, Mungeli, Durg 46, Mahasamund 42;
- ❖ **Tamil Nadu:** Namakkal 46, Karaikal 42, Erode, Karur, Tiruchirappalli, Krishnagiri, Ranipet 44 each;
- ❖ **Jharkhand:** Bokaro 40;
- ❖ **Uttar Pradesh:** Jalaun 40;
- ❖ **Punjab:** Barnala 38;

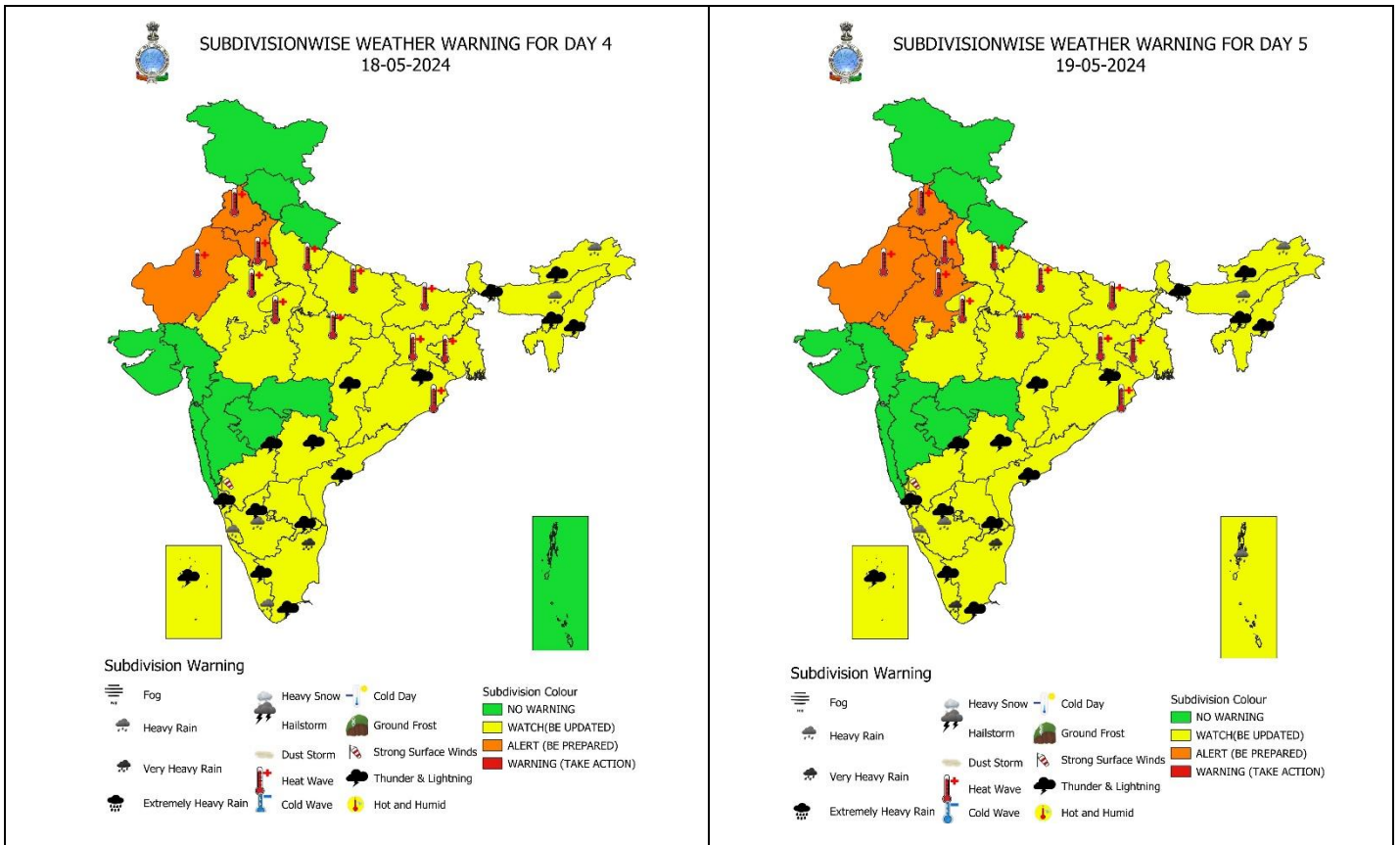
**Gusty winds reported over the country (in knots) from 0830 hrs IST of 14.05.2024 to 0830 hrs IST of 15.05.2024**



1 Knot = 1.852 kmph

For more details, kindly refer: <http://aws.imd.gov.in:8091/>





**Impact expected and action suggested due to thunderstorms, lightning & gusty winds/hailstorm over Konkan on 15<sup>th</sup> and North Interior Karnataka, Madhya Maharashtra on 15<sup>th</sup> & 16<sup>th</sup> 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.

**IMPACT & ACTION SUGGESTED due to very heavy rainfall over Tamil Nadu on 15<sup>th</sup>, 18<sup>th</sup> & 19<sup>th</sup>; Kerala on 19<sup>th</sup> May, 2024.**

**A. Impact Expected**

- Localized Flooding of roads, water logging in low lying areas and closure of underpasses mainly in urban areas of the above region.
- Occasional reduction in visibility due to heavy rainfall.
- Disruption of traffic in major cities due to water logging in roads leading to increased travel time.
- Minor damage to kutchra roads.
- Possibilities of damage to vulnerable structure.
- Localized Landslides/Mudslides
- Damage to horticulture and standing crops in some areas due to inundation.
- It may lead to riverine flooding in some river catchments (for riverine flooding please visit Web page of CWC)

**B. Action Suggested**

- Check for traffic congestion on your route before leaving for your destination.
- Follow any traffic advisories that are issued in this regard.
- Avoid going to areas that face the water logging problems often.
- Avoid staying in vulnerable structure.

**IMPACT & ACTION SUGGESTED due to Heat Wave Conditions:**

**Orange alert Areas (Punjab, Haryana, Rajasthan)**

- ✓ High temperature & increased likelihood of heat illness symptoms in people who are either exposed to sun for a prolonged period or doing heavy work.
- ✓ High health concern for vulnerable people e.g. infants, elderly, people with chronic diseases.
- ✓ Avoid heat exposure- keep cool. Avoid dehydration.
- ✓ Drink sufficient water- even if not thirsty.
- ✓ Use ORS, homemade drinks like lassi, torani (rice water), lemon water, buttermilk, etc. to keep yourself hydrated.

**Yellow alert Areas (Uttar Pradesh, Madhya Pradesh, Bihar, Konkan, Gujarat State, Jharkhand, Gangetic West Bengal, Odisha)**

- ✓ Moderate temperature & heat is tolerable for general public but moderate health concern likely for vulnerable people e.g. infants, elderly, people with chronic diseases.
- ✓ Avoid heat exposure.
- ✓ Wear lightweight, light colour, loose, cotton clothes.
- ✓ Cover your head, use a cloth, hat or umbrella.

**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 Konkan and Madhya Maharashtra.
- Make provision for draining out excess water from crop fields to avoid water stagnation in Tamil Nadu, Kerala, Karnataka and Arunachal Pradesh.
- Apply light and frequent irrigation to standing crops to avoid heat stress; provide mulching to conserve soil moisture and minimise evaporation in Punjab, Haryana, West Rajasthan, Gujarat and Konkan.
- 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)



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



## LEGENDS

### WARNING

<b>WARNING (TAKE ACTION)</b>
<b>ALERT ( BE PREPARED)</b>
<b>WATCH (BE UPDATED)</b>
<b>NO WARNING ( NO ACTION)</b>

### 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 $4.5^{\circ}\text{C}$ to $6.4^{\circ}\text{C}$ .	
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  $40^{\circ}\text{C}$**

Warm Night: When minimum temperature departure $4.5^{\circ}\text{C}$ to $6.4^{\circ}\text{C}$ .	
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 $-4.5^{\circ}\text{C}$ to $-6.4^{\circ}\text{C}$ .	
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 $-4.5^{\circ}\text{C}$ to $-6.4^{\circ}\text{C}$ .	
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)	