



Government of India
Ministry of Earth Sciences
India Meteorological Department



Press Release

Date: 17th May, 2024

Time of Issue: 1245 hours IST

Subject:

- i. **Heat to severe heat wave conditions likely over plains of Northwest India & Bihar during next 5 days and Heat wave conditions very likely to commence over East & Central India from 18th May, 2024.**
- ii. **Wet spell with isolated heavy to very heavy rainfall very likely to continue over south Peninsular India till 23rd 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 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 Meghalaya, Coastal Andhra Pradesh, Telangana; **Heavy rainfall** at isolated places over Assam, Goa, Coastal & South Interior Karnataka, Tamil Nadu and Kerala.
- ❖ **Hailstorm** observed at isolated places over East Madhya Pradesh and Konkan.
- ❖ **Heat wave conditions** prevailed in isolated pockets over Gujarat State.
- ❖ **Thunderstorm** observed at isolated places over Madhya Pradesh, Sikkim, Jharkhand, Odisha, Gujarat state, Madhya Maharashtra, Konkan & Goa, Coastal Andhra Pradesh, Telangana, Rayalaseema, Karnataka, Kerala and Tamil Nadu.
- ❖ **Gusty winds** data reported over the country is attached in **Annexure II**
- ❖ Yesterday, the **highest maximum temperature of 46.3°C** was reported at **Sri Ganganagar (West Rajasthan)** 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 19th May, 2024.
- ❖ A cyclonic circulation lies over south Tamil Nadu & neighbourhood in lower tropospheric levels and another over Rayalaseema & adjoining north Tamil Nadu in lower & middle tropospheric levels. A trough runs from south Chhattisgarh to Comorin area in lower tropospheric levels. Under their influence:
 - Fairly widespread to widespread light to moderate rainfall accompanied with **thunderstorm, lightning & gusty winds (40-50 kmph)** likely over Tamil Nadu, Puducherry & Karaikal, Kerala & Mahe, Lakshadweep, south Karnataka and Isolated to scattered light/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 17th-21st and Lakshadweep on 20th & 21st May, 2024.**
 - **Isolated very heavy rainfall very likely over Tamil Nadu, Puducherry & Karaikal during 17th-21st; Kerala & Mahe 17th-19th; Coastal Andhra Pradesh, Rayalaseema on 17th and South Interior Karnataka on 20th & 21st May, 2024.**
 - **Isolated extremely heavy rainfall also very likely over Kerala on 20th & 21st May, 2024.**
 - Isolated light to moderate rainfall accompanied with **thunderstorm, lightning & gusty winds (30-40 kmph)** very likely over Konkan & Goa, Madhya Maharashtra, Marathwada during 17th-19th; over

Madhya Pradesh, Vidarbha, Chhattisgarh on 17th & 18th May. **Isolated hailstorm likely over Madhya Maharashtra today.**

- Scattered to fairly widespread light to moderate rainfall very likely over Andaman & Nicobar Islands during next 7 days. **Isolated heavy rainfall very likely over Nicobar Islands on 20th & 21st May.**
- Isolated to scattered light to moderate rainfall accompanied with **thunderstorm, lightning & gusty winds (30-40 kmph)** very likely over Odisha during next 7 days; over Bihar, Jharkhand, Gangetic West Bengal during 19th-22nd May.

- ❖ A cyclonic circulation lies over northeast Assam & neighbourhood 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.
 - Fairly widespread to widespread 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 during next 7 days.
 - **Isolated heavy rainfall likely over Sikkim on 19th & 20th; Arunachal Pradesh during 17th-19th and Assam & Meghalaya during 17th-20th; Nagaland, Manipur on 17th & 19th May, 2024. Isolated very heavy rainfall also likely over Meghalaya on 19th & 20th May.**

- ❖ A fresh Western Disturbance seen as a trough in middle tropospheric westerlies roughly along Long. 50°E to the north of Lat. 30°N. Under its influence; Isolated to scattered light 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 42°C:** Yesterday, maximum temperatures were in the range of 43- 46°C in most places over Rajasthan; in many places over south Haryana, Gujarat Region and Uttar Pradesh, in some places over Bihar and Madhya Pradesh. These were above normal by 2-4°C over these regions.
- ❖ Gradual rise by about 2°C in maximum temperatures very likely over many parts of Northwest India during next 2 days and no significant change thereafter.
- ❖ Gradual rise by about 2-3°C in maximum temperatures very likely over many parts of Central & East India during next 3-4 days and no significant change thereafter.
- ❖ No significant change in maximum temperatures very likely over Maharashtra during next 24 hours and rise by about 2-4°C thereafter.
- ❖ Gradual rise by about 2°C in maximum temperatures very likely over many parts of Northwest India during next 24 hours and no significant change thereafter.
- ❖ 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 to severe heat wave conditions very likely in some /many pockets over Rajasthan, Punjab, Haryana, Delhi during 17th-21st May, 2024.**
- ❖ **Heat wave conditions** very likely in some parts of Uttar Pradesh during 17th-21st; in isolated pockets over Gujarat state during 17th-21st; Bihar during 17th-20th; Jharkhand on 19th & 20th; north Madhya Pradesh during 18th-21st; Gangetic West Bengal during 18th-20th; Odisha on 20th & 21st May, 2024.
- ❖ **Hot and humid weather** very likely to prevail over Konkan & Goa, Jharkhand, Assam, Tripura on 17th & 18th; West Bengal on 17th and Odisha on 18th & 19th May.
- ❖ **Warm night conditions** very likely to prevail over Uttar Pradesh on 17th & 18th May, 2024.

For more details, kindly refer: https://mausam.imd.gov.in/responsive/all_india_forecast_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 most places** over Coastal & North Interior Karnataka, Telangana; **at many places** over Arunachal Pradesh, Kerala & Mahe, Lakshadweep, South Interior Karnataka, Coastal Andhra Pradesh & Yanam; **at a few places over** Konkan & Goa, Vidarbha, Tamil Nadu, Puducherry & Karaikal, Assam & Meghalaya, Andaman & Nicobar Islands, Sub-Himalayan West Bengal & Sikkim and **at isolated places** over Jammu-Kashmir-Ladakh-Gilgit-Baltistan-Muzaffarabad, Madhya Maharashtra, Marathwada, Gujarat State, Marathwada, Chhattisgarh, Nagaland, Manipur, Mizoram & Tripura, Gangetic West Bengal, Bihar, Jharkhand and Odisha.

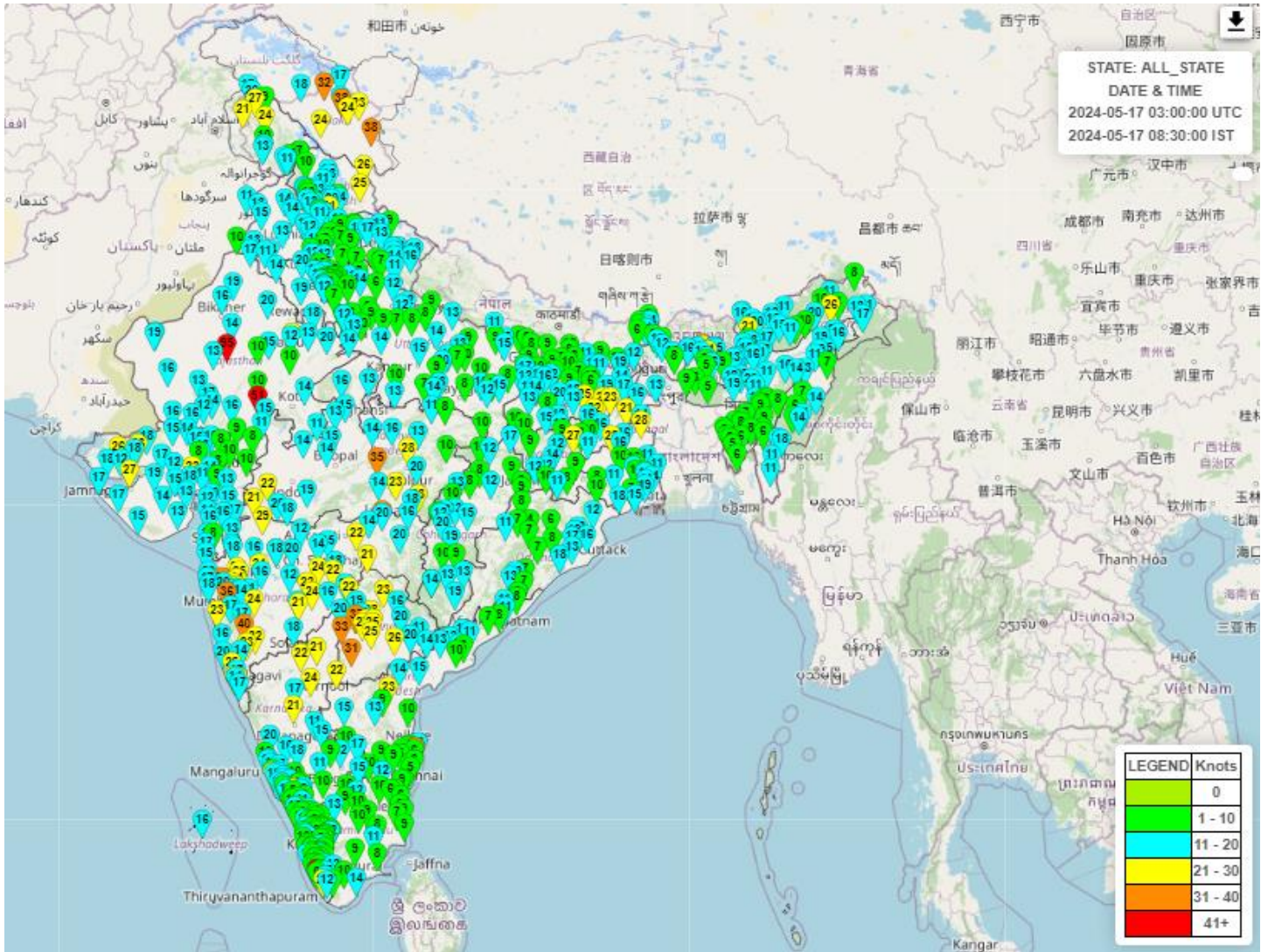
Significant amount of rainfall (in cm):

- ❖ **Assam & Meghalaya:** Shillong C.s.o. (dist East Khasi Hills) 13, Shillong_ Aws (dist East Khasi Hills) 12, Moranhat (dist Dibrugarh) 7, Dhemaji (dist Dhemaji) 6, Jowai_aws (dist West Jaintia Hills) 6, Tamulpur (dist Baksa) 5, Drf (dist Baksa) 5,
- ❖ **Telangana:** Mahabubabad (dist Mahabubabad) 12, Garla (dist Mahabubabad) 10, Malyal (dist Mahabubabad) 10, Kalwakurthy (dist Nagarkurnool) 10, Ghattu (dist Jogulamba Gadwal) 10, Bayyaram (dist Mahabubabad) 9, Shekpet (dist Hyderabad) 9, Yellandu (dist B. Kothagudem) 9, Suryapet (dist Suryapet) 8, Jajireddigudem (dist Suryapet) 8, Mothey (dist Suryapet) 7, Zaffergadh (dist Jangaon) 7, Palakurthi (dist Jangaon) 7, Yellandu(arg) (dist B. Kothagudem) 7, Hasanparthy (dist Hanumakonda) 7,
- ❖ **Kerala:** Kudulu (Kasaragod district) 8, Taliparamba (Kannur district), Poonjar AWS (Kottayam district), Ayyankunnu AWS & Panniyoor ARG (both in Kannur district) 7 each, Thiruvananthapuram, Aruvikkara AWS & Perumkadavila ARG (Thiruvananthapuram district) & Thodupuzha ARG (Idukki district) 6 each, Thiruvananthapuram Airport, Neyyattinkara (Thiruvananthapuram district) & Adakkaputhur AWS (Palakkad district) 5 each,
- ❖ **Tamil Nadu:** Mylaudy (dist Kanniyakumari) 7, Thiruchendur AWS (dist Thoothukudi), Valparai PTO (dist Coimbatore), Nannilam (dist Thiruvarur) 6 each, Cuddalore Collector Office (dist Cuddalore), Kottaram (dist Kanniyakumari), Upasi Tea research Foundation AWS 5 each, Kayalpattinam (dist Thoothukudi), Sivalogam - Chittar II (dist Kanyakumari) 4,
- ❖ **Konkan & Goa:** Canacona (dist South Goa) 7, Ponda (dist North Goa) 5, Awalegaon - Arg (dist Sindhudurg) 5,
- ❖ **Karnataka:** Puttur Hms (dist Dakshina Kannada) 7, Bhagamandala (dist Kodagu) 7, Kammardi (dist Chikkamagaluru) 7, Konanur (dist Hassan) 7; Shiggaon (dist Haveri) 6, Raichur Pto (dist Raichur) 6, Gokak (dist Belagavi) 5,
- ❖ **Coastal Andhra Pradesh:** Masulipatnam Cdr (dist Krishna) 6, Ongole (dist Prakasam) 6, Avanigada (dist Krishna) 5, Tenali (dist Guntur) 5, Veligandla (dist Prakasam) 5, Karamchedu (dist Bapatla) 5,

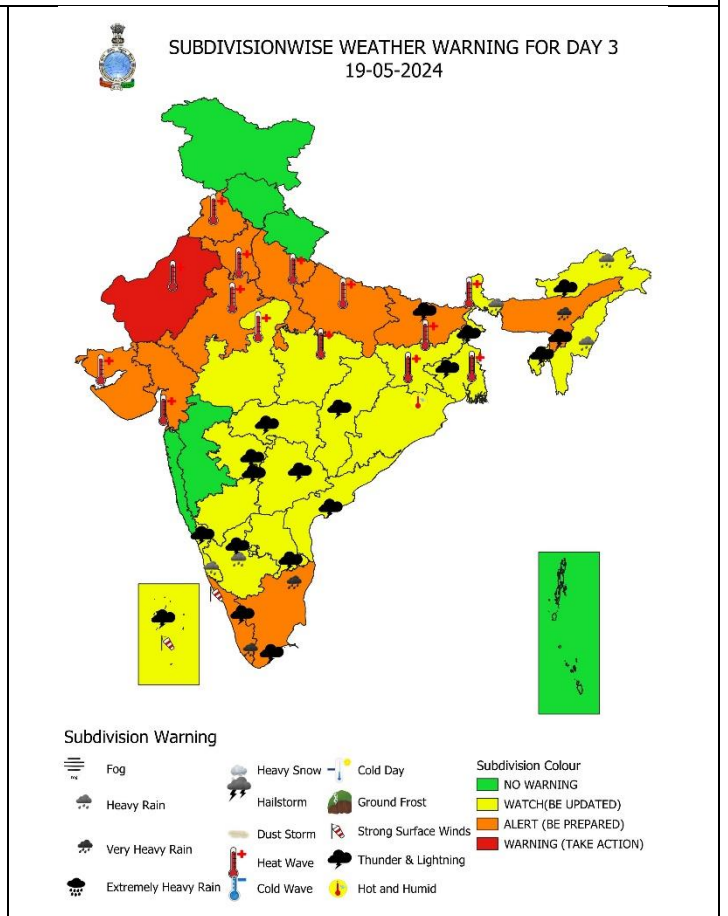
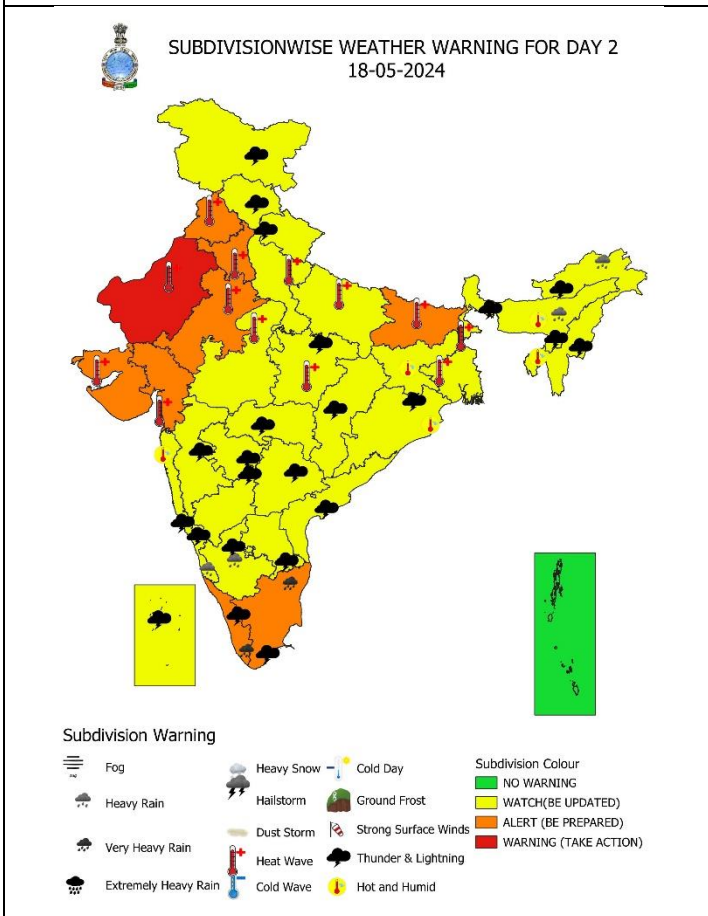
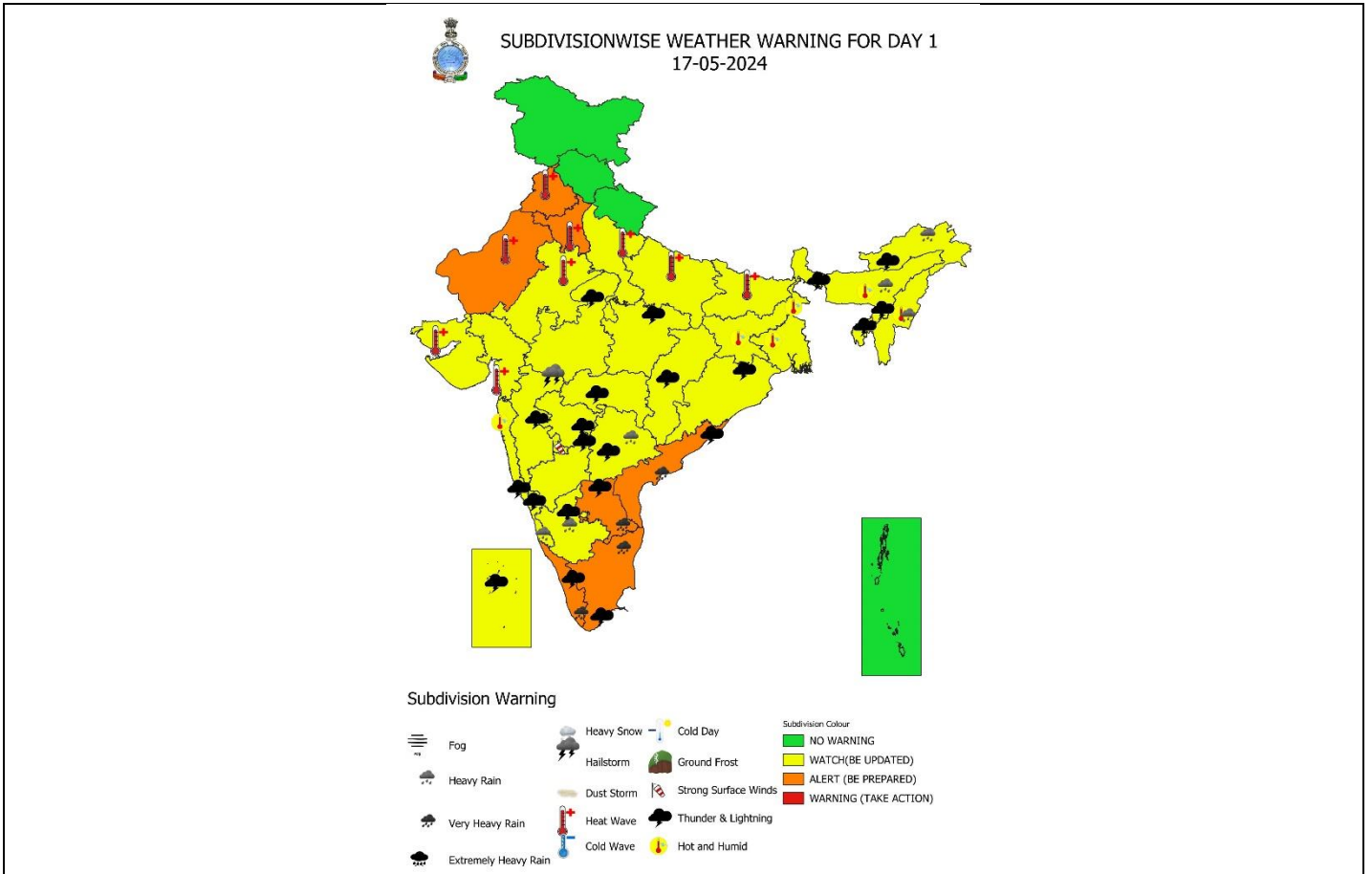
Reported maximum wind speed (kmph) during past 24 hours till 0830 hours IST of today:

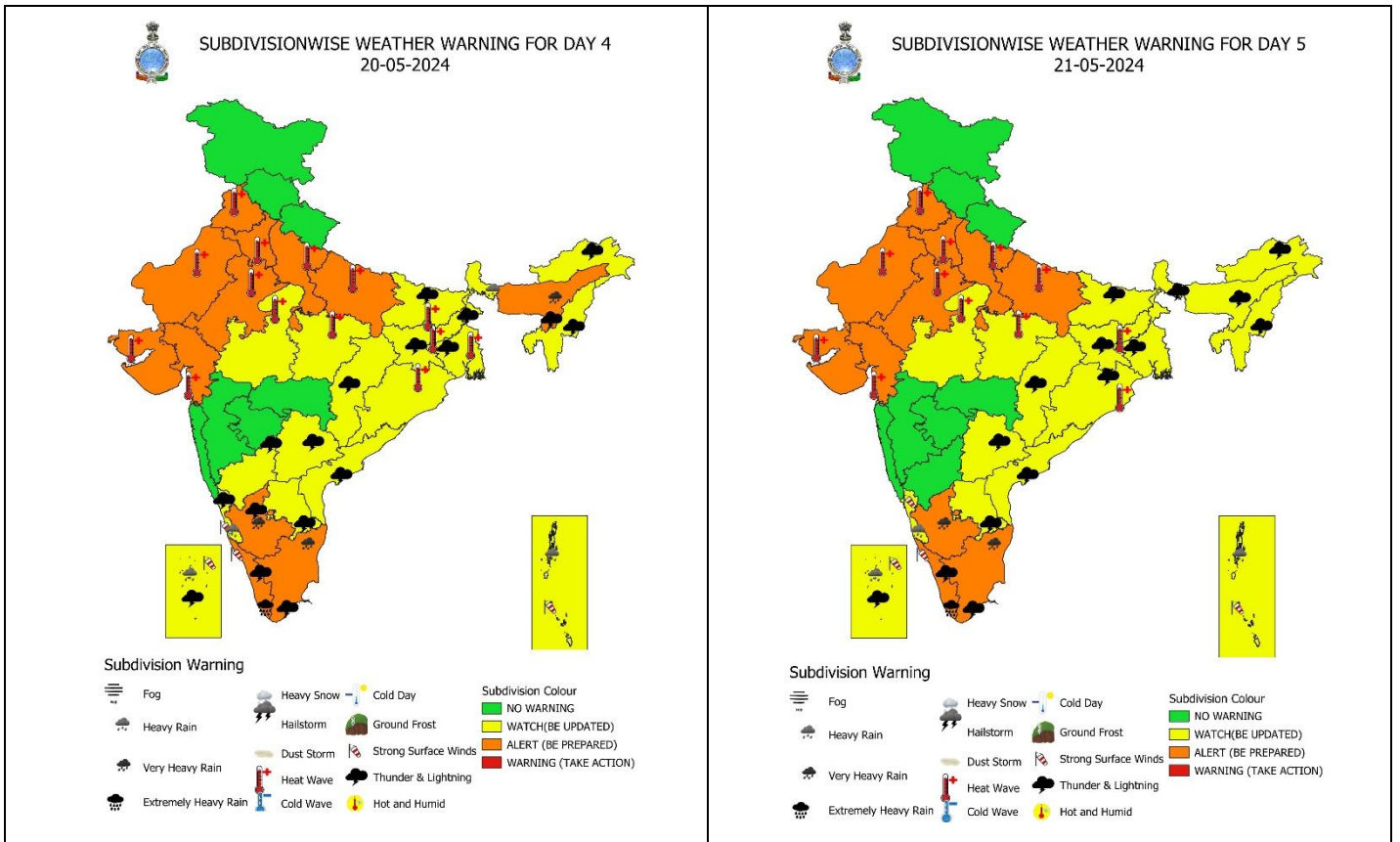
State	Station/District	Speed (Kmph)
Rajasthan	Pali	176
	Chittaurgarh	94
Madhya Pradesh	Chindwara	65
	Jabalpur	52
Maharashtra	Karjat	70
	Pune	67
	Dhule	54
	Sindhudurg	46
	Satara	74
Telangana	Tandur	61
	Kandi	68
	Wanaparthy	57
Tamil Nadu	Chennai	57
Kerala	Kollam (Paripalli)	78
	Wayanad	50
Bihar	Banka	54
	Jamui	46
Jharkhand	Bokaro	50
West Bengal	Durgapur	52
	Musrshidabad	52
Gujarat	Jamnagar	50
	Bhuj	48

Gusty winds reported over the country (in knots, 1 Knot = 1.85 kmph) from 0830 hrs IST of 16.05.2024 to 0830 hrs IST of 17.05.2024



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





IMPACT & ACTION SUGGESTED due to very heavy rainfall/extremely falls over Tamil Nadu, Puducherry & Karaikal, Kerala & Mahe during 17th-21st; Coastal Andhra Pradesh, Rayalaseema on 17th; South Interior Karnataka on 20th & 21st 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:

Red alert Areas: (West Rajasthan)

- ✓ Very high likelihood of developing heat illness and heat stroke in all ages.
- ✓ Extreme care needed for vulnerable people.

Orange alert Areas (Punjab, Haryana, Delhi, East Rajasthan, Uttar Pradesh, Bihar, Gujarat State)

- ✓ 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 (Madhya Pradesh, 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 Madhya Maharashtra.
- Make provision for draining out excess water from crop fields to avoid water stagnation in Arunachal Pradesh, Assam & Meghalaya, Nagaland, Tamil Nadu, Kerala, South Interior Karnataka, Coastal Karnataka and Andhra 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, Uttar Pradesh, Rajasthan, Gangetic West Bengal, Sub Himalayan West Bengal, Bihar and Gujarat.
- 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

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)