



Government of India
Ministry of Earth Sciences
India Meteorological Department



Press Release

Date: 18th May, 2024

Time of Issue: 1430 hours IST

Subject:

- i. **Heat wave to severe heat wave conditions likely to continue over plains of Northwest India during next 5 days and Heat wave conditions likely over East & Central India during next 3 days.**
- ii. **Heavy to very heavy rainfall very likely to continue over south Peninsular India till 23rd with extremely heavy falls during 19th-21st May, 2024.**
- iii. **Southwest Monsoon is very likely to advance into South Andaman Sea, some parts of Southeast Bay of Bengal and Nicobar Islands during next 48 hours.**
- iv. **A low pressure area is likely to form over Southwest Bay of Bengal around 22nd May. It is likely to move initially northeastwards and concentrate into a Depression over central parts of Bay of Bengal around 24th May.**

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, Tamil Nadu; **Heavy rainfall** at isolated places over Assam, Arunachal Pradesh, Coastal & South Interior Karnataka, Coastal Andhra Pradesh, Rayalaseema and Kerala.
- ❖ **Hailstorm** observed at isolated places over West Madhya Pradesh and Madhya Maharashtra.
- ❖ **Heat wave conditions** prevailed at most places over West Rajasthan; in some pockets over Haryana-Chandigarh-Delhi, Punjab, East Rajasthan; isolated pocket over Uttar Pradesh, Bihar & Gujarat State.
- ❖ **Thunderstorm** observed at many places over Tamil Nadu, Puducherry & Karaikal, Kerala & Mahe, South Interior Karnataka, Assam & Meghalaya; at some places over Telangana, Rayalaseema, Coastal Andhra Pradesh & Yanam, Coastal Karnataka, North Interior Karnataka, Konkan & Goa, Nagaland, Manipur, Mizoram & Tripura, Arunachal Pradesh; at isolated places over Jammu-Kashmir, Uttarakhand, Punjab, Madhya Pradesh, Sikkim, Odisha, Gujarat state and Madhya Maharashtra.
- ❖ **Gusty winds** data reported over the country is attached in **Annexure II**
- ❖ Yesterday, the **highest maximum temperature of 46.9°C** was reported at **Agra Taj (West Uttar Pradesh)** 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 during next 48 hours.
- ❖ A cyclonic circulation lies over south interior Tamil Nadu & neighbourhood in low and mid tropospheric levels. A trough runs from south Chhattisgarh to South Interior Karnataka and another trough runs from Marathwada to cyclonic circulation over south interior Tamil Nadu 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 Coastal Karnataka during 19th-22nd, South Interior Karnataka during 21st-22nd, Coastal Andhra Pradesh, Rayalaseema on 18th and Lakshadweep during 18th-21st May, 2024.**
 - **Isolated heavy to very heavy rainfall very likely over Tamil Nadu, Puducherry & Karaikal and Kerala & Mahe on 18th & 22nd and South Interior Karnataka during 18th-20th May, 2024.**
 - **Isolated extremely heavy rainfall also very likely over Tamil Nadu and Kerala during 19th-21st May, 2024.**

- Fairly widespread to widespread light to moderate rainfall very likely over Andaman & Nicobar Islands during next 7 days. **Isolated heavy rainfall very likely over Nicobar Islands during 20th-22nd May.**
 - Isolated light to moderate rainfall accompanied with **thunderstorm, lightning & gusty winds (30-40 kmph)** very likely over Konkan & Goa, Madhya Maharashtra, Marathawada, Madhya Pradesh on 18th & 19th May.
 - Isolated to scattered light to moderate rainfall accompanied with **thunderstorm, lightning & gusty winds (30-40 kmph)** very likely over Odisha, Gangetic West Bengal, Chhattisgarh, Vidarbha during next 7 days; over Bihar, Jharkhand, during 19th-23rd 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 5 days.
 - **Isolated heavy rainfall likely over Sikkim during 18th-20th; Arunachal Pradesh on 18th & 19th and Assam & Meghalaya during 18th-20th; Nagaland, Manipur on 18th 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. 56°E to the north of Lat. 27°N. Under its influence; Isolated to scattered light rainfall with **thunderstorm, lightning** very likely over Jammu-Kashmir-Ladakh-Gilgit-Baltistan-Muzaffarabad, Himachal Pradesh on 18th & 19th May and Uttarakhand during next 7 days.
 - ❖ **Strong surface winds (25-35 kmph)** very likely to prevail Uttar Pradesh and Rajasthan during next 5 days.

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 43-46°C in most places over Rajasthan; in many places over Haryana, Chandigarh and Punjab; in some places over Delhi, West Uttar Pradesh, Gujarat state; at isolated pockets over East Uttar Pradesh & West Madhya Pradesh; in the range of 40- 42°C at most places over Bihar, Gangetic West Bengal; in some parts over Jharkhand; at isolated pockets over Odisha, Vidarbha and Madhya Maharashtra. These were above normal by 2-4°C over these regions.
- ❖ Gradual rise by about 2-4°C in maximum temperatures very likely over many parts of Central India during next 5 days.
- ❖ Gradual rise by about 2-3°C in maximum temperatures very likely over many parts of East India & Maharashtra during next 3 days 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 many pockets over Rajasthan, Punjab, Haryana- Chandigarh-Delhi during 18th-22nd May and in some parts of West Uttar Pradesh on 18th & 19th May, 2024.**
- ❖ **Heat wave conditions** very likely in some parts of East Uttar Pradesh during 18th-22nd; West Uttar Pradesh during 20th-22nd; in isolated pockets over Uttarakhand, Gujarat state, Madhya Pradesh during 18th-22nd; Bihar, Gangetic West Bengal during 18th-20th; Jharkhand on 19th & 20th; Odisha during 20th-22nd May, 2024.
- ❖ **Hot and humid weather** very likely to prevail over Konkan & Goa during 18th-20th and Sub-Himalayan West Bengal on 18th & 19th May.
- ❖ **Warm night conditions** very likely to prevail over Uttar Pradesh, Bihar and West Rajasthan on 18th & 19th 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 Arunachal Pradesh, Assam & Meghalaya ; **at many places** over Andaman & Nicobar Islands, Tamil Nadu, Puducherry & Karaikal, Kerala & Mahe, South Interior Karnataka; **at a few places over** Sikkim, Nagaland, Manipur, Mizoram & Tripura, Lakshadweep, Coastal Andhra Pradesh & Yanam, Rayalaseema, Coastal Karnataka, North Interior Karnataka and **at isolated places** over Jammu-Kashmir-Ladakh-Gilgit-Baltistan-Muzaffarabad, Uttarakhand, Punjab, Madhya Maharashtra, Marathwada, Konkan & Goa, Gujarat State, Madhya Pradesh, Vidarbha, Chhattisgarh, Gangetic West Bengal, Odisha, Jharkhand, Bihar and Telangana.

Significant amount of rainfall (in cm):

- ❖ **Tamil Nadu:** Coonoor (dist The Nilgiris), Pillur Dam Mettupalayam (dist Coimbatore) 17 each, Coonoor PTO (dist The Nilgiris) 14, Usilampatti (dist Madurai), Manjalar (dist Theni) 9 each, Sivagiri (dist Tenkasi), Kil Kotagiri Estate (dist The Nilgiris), Burliar (dist The Nilgiris), Madathukulam (dist Tiruppur) 8 each, Alakarai Estate (dist The Nilgiris), Taluk Office Pandalur (dist The Nilgiris), Mylaudy (dist Kanniyakumari) 7 each,
- ❖ **Kerala & Mahe:** Enadimangalam Aws (dist Pathanamthitta) 11, Mankara Aws (dist Palakkad) 10, Sengulam Dam Aws (dist Idukki) 9, Ottapalam Aws (dist Palakkad) 8, Neryamangalam Arg (dist Ernakulam) 7, Anakayam Arg (dist Malappuram) 7, Perinthalamanna (dist Malappuram) 7,
- ❖ **South Interior Karnataka:** Gubbi (dist Tumakuru) 11, Begur (dist Chamarajanagar) 9, Sravanabelagola (dist Hassan) 7, C R Patna (dist Hassan) 7,
- ❖ **Assam & Meghalaya:** Resubelpara (dist North Garo Hills) 9, Manikpur Arg (dist Bongaigaon) 8, Shella (dist East Khasi Hills) 8, Manash Nh Xing (dist Barpeta) 7, Bahalpur (dist Dhubri) 7, Srijangram Arg (dist Bongaigaon) 7, Cherrapunji (dist East Khasi Hills) 7, Cherrapunji(rkm) (dist East Khasi Hills) 7
- ❖ **Rayalaseema:** Gurrnkonda (dist Annamayya District) 8, Tanakal (dist Sri Sathyasai District) 5, Palamaner (dist Chittoor) 5, Venkatagiri (dist Tirupati) 5,
- ❖ **Coastal Karnataka:** Yellapur (dist Uttara Kannada) 7, Mangaluru (dist Dakshina Kannada) 2.
- ❖ **Coastal Andhra Pradesh & Yanam:** Bapatla (dist Bapatla) 7, Karamchedu (dist Bapatla) 2, Avanigada (dist Krishna) 1,
- ❖ **Telangana:** Kollapur (dist Nagarkurnool) 6, Sirpur (t) (dist Kumaram Bheem) 5, Venkatapur (dist Mulugu) 5, Alampur (dist Jogulamba Gadwal) 5,

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

Vidarbha: Yavatmal 66, Chandrapur 40;

Gujarat State: Amreli 64, Banaskantha 42, Jamnagar 38;

Haryana: Jind 59, Panipat 49, Karnal 40;

Rajasthan: Sirohi 53, Udaipur 51, Jalore 48, Karauli 46, Jodhpur 44, Hanumangarh 42, Ajmer 40, Bhilwara, Sikar 38 each;

Jammu & Kashmir: Leh 51, Kargil 42;

Jharkhand: Bokaro 49, Khunti 48, Simdega 40;

Madhya Maharashtra: Nashik 44, Satara, Pune 42 each;

Himachal Pradesh: Shimla, Kinnaur 44, Solan 38;

Karnataka: Davanagere 42, Solapur 38;

Chhattisgarh: Kanker 42;

Tamil Nadu: Tiruvallur, Thoothukudi 40 each, Karur 38;

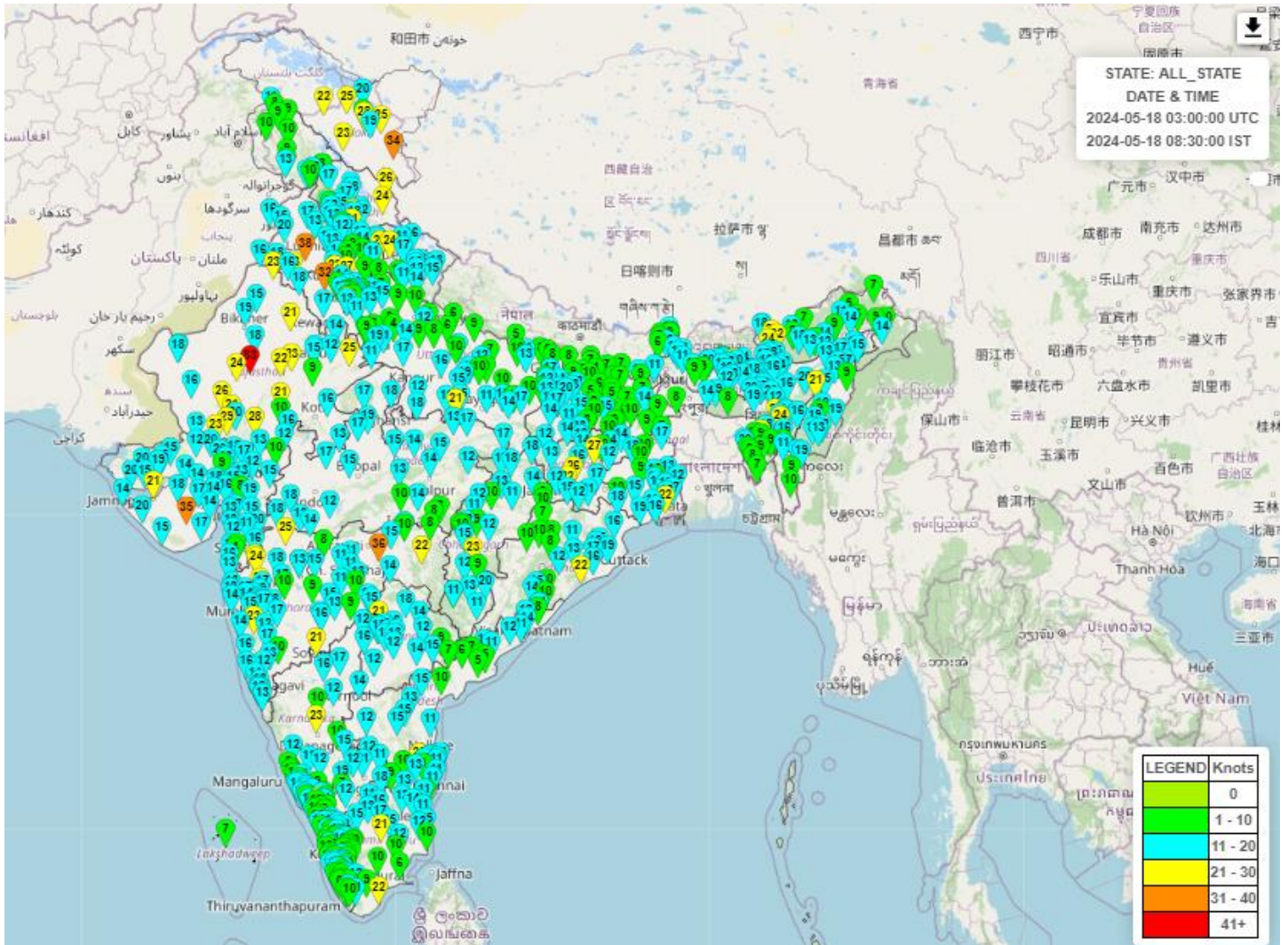
Odisha: Puri 40;

Gangetic West Bengal: South_Twenty_Four_Parganas 40;

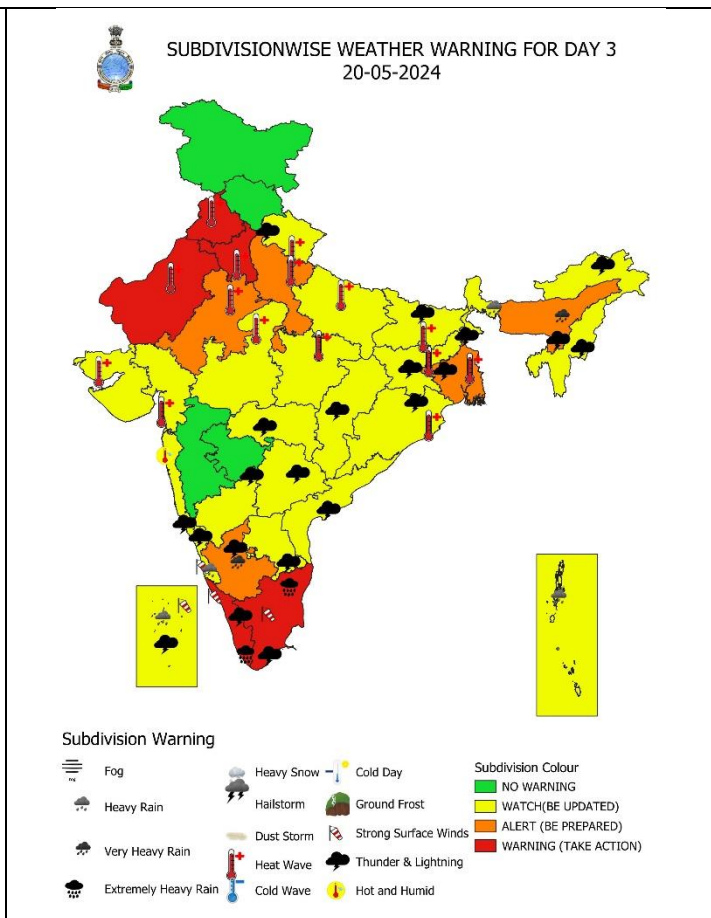
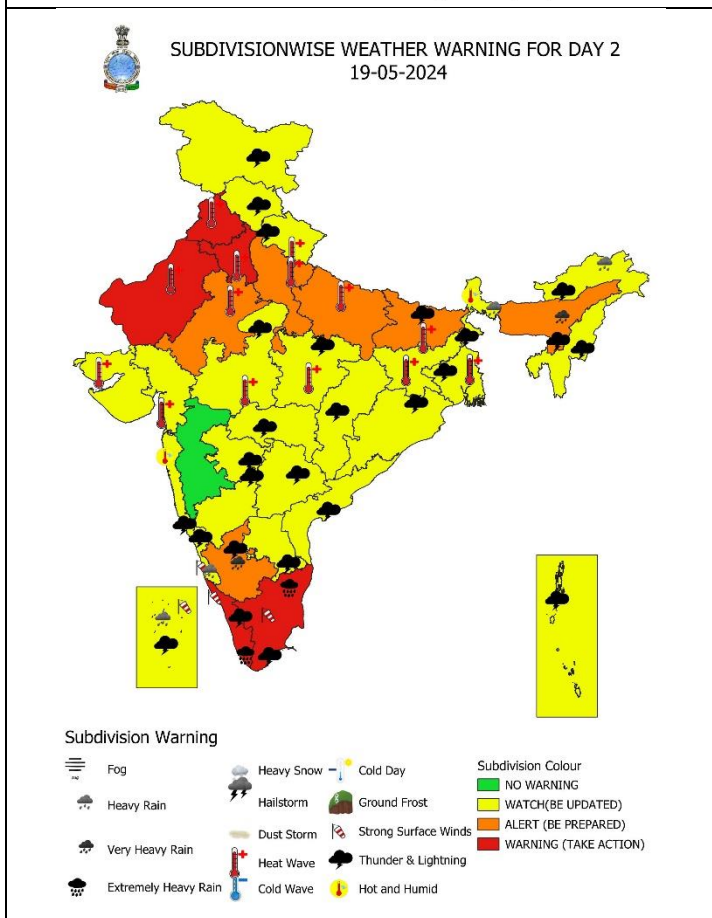
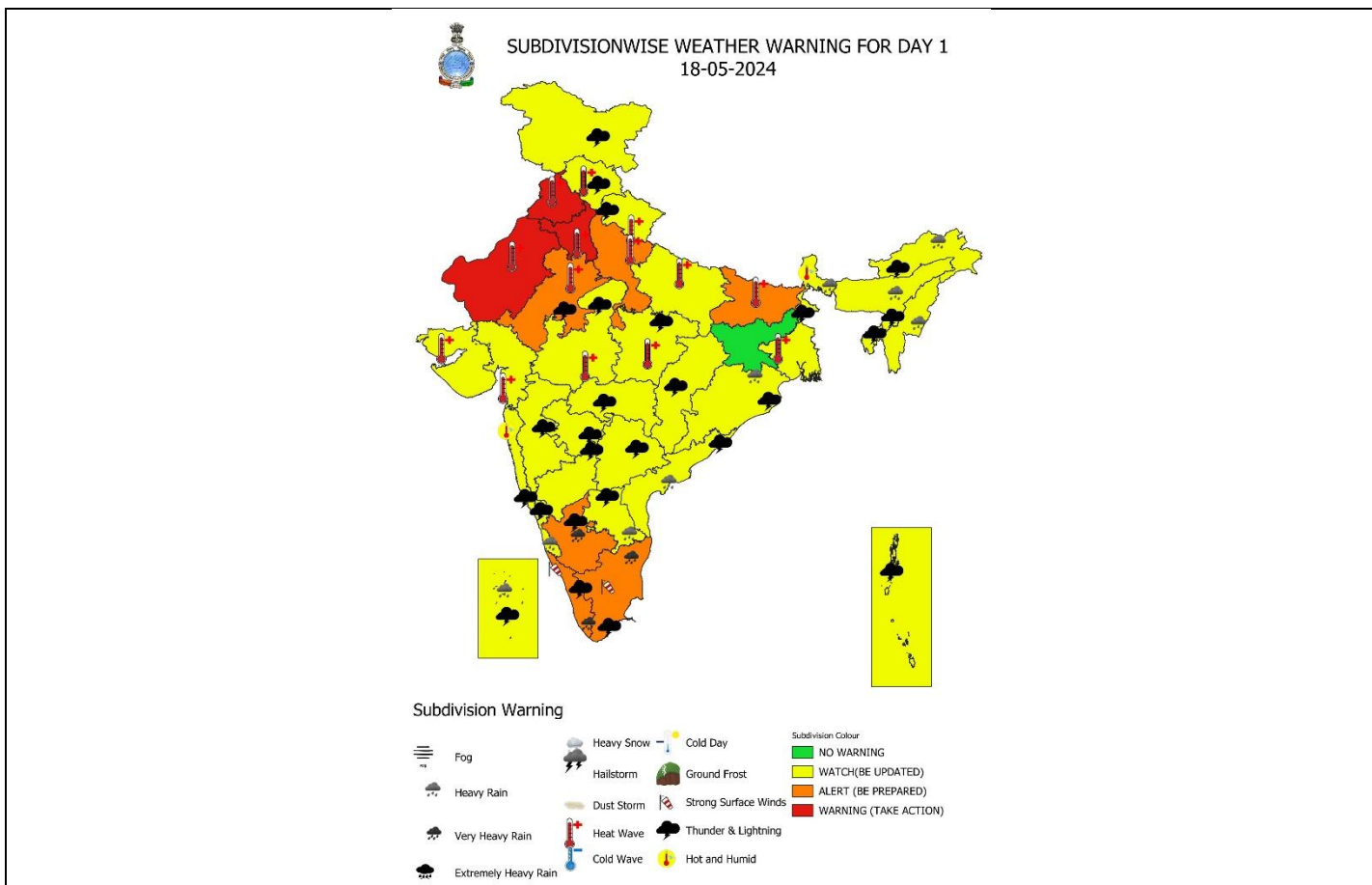
Uttar Pradesh: Chitrakoot 38;

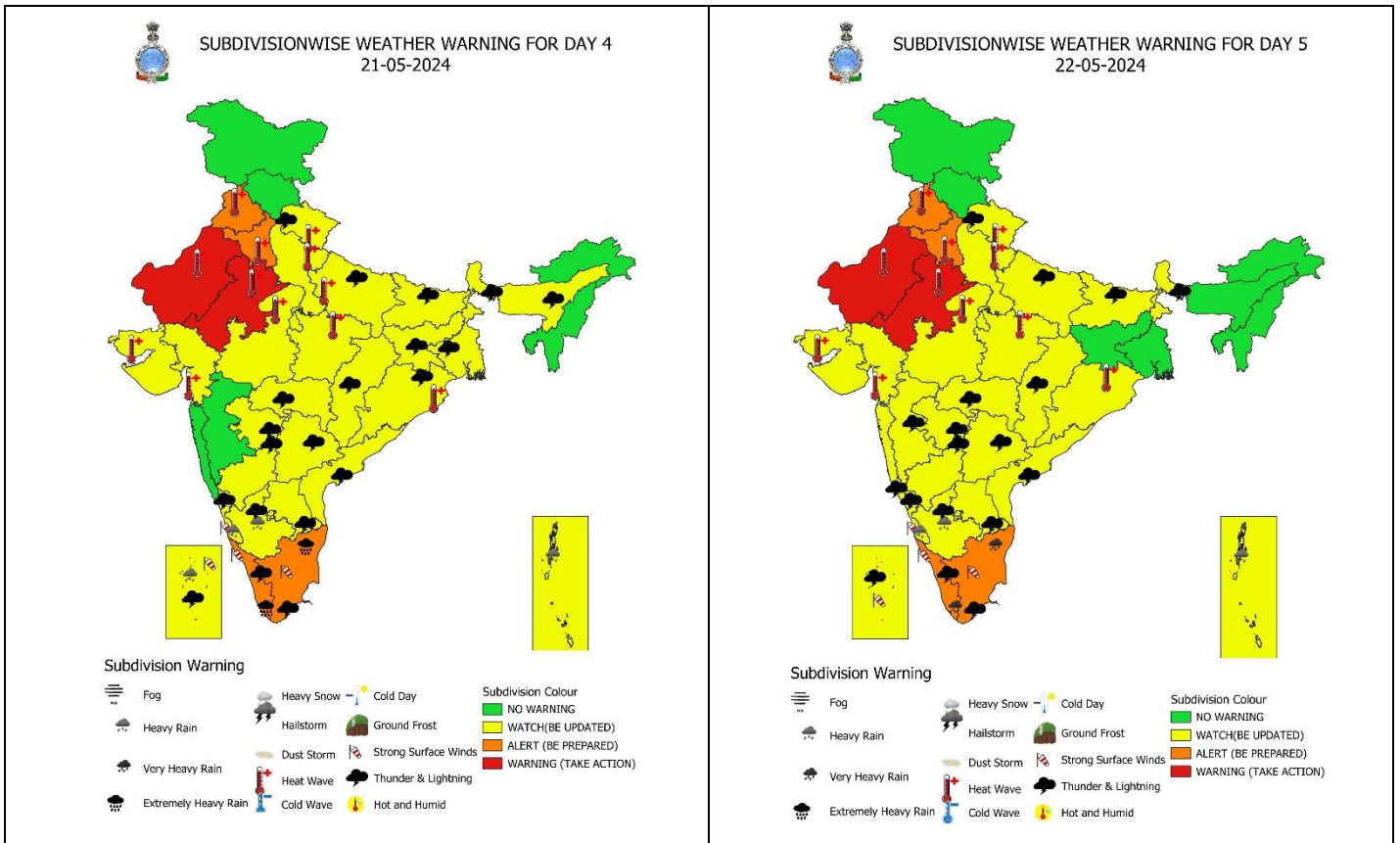
Telangana: Kamareddy 38;

Gusty winds reported over the country (in knots, 1 Knot = 1.85 kmph) from 0830 hrs IST of 17.05.2024 to 0830 hrs IST of 18.05.2024



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 18th-22nd; South Interior Karnataka during 18th-20th; Meghalaya on 19th & 20th 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 kutcha 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, Punjab, Haryana, Chandigarh, Delhi)

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

Orange alert Areas (East Rajasthan, Uttar Pradesh, Bihar)

- ✓ 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, Gujarat State, Jharkhand, Gangetic West Bengal, Odisha, Uttarakhand)

- ✓ 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, Gusty winds and Heat Wave likely over various parts of the country:

- Make provision for draining out excess water from crop fields to avoid water stagnation in Arunachal Pradesh, Assam & Meghalaya, Tripura, Sub Himalayan West Bengal & Sikkim, South Odisha, Andaman; Nicobar Islands, Tamil Nadu, Kerala, Lakshadweep, Coastal Karnataka, South Interior 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 Himachal Pradesh, Uttarakhand, Punjab, Haryana, Uttar Pradesh, Rajasthan, Gangetic West Bengal, Jharkhand, Bihar, Gujarat and North Madhya Pradesh.
- 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)