



Office of the Principal Chief Commercial Manager
South Central Railway, Ministry of Railways, Government of India,
Rail Nilayam, Secunderabad-500 025 (Telangana)

No.C.272/G-II/P/Vol.VII

Date:30.04.2024

Sr.DCM/SC, HYB, BZA, GNT, GTL & NED

Sub: Heat wave bulletin for Indian Railways (IR) – Reg.

India Meteorological Department, has communicated on prevalence of Heat wave conditions in isolated pockets over Rayalaseema, Interior Karnataka, Tamil Nadu, Telangana and Andhra Pradesh during the next 5 days .i.e. from 29th April to 1st May.

In light of the above, the following facilities are to be made available for passengers to protect from heat related illness:

1. Adequate drinking water facilities at stations, platforms, and train coaches may be made available. In this connection, Services of NGO's & voluntary organizations may also be taken to provide free Drinking water service at stations & platforms.
2. Adequate Rail Neer / Package Drinking Water may be made available at both ends of platforms in order to facilitate passengers of GS coaches.
3. The availability of water in coaches should be monitored, and watering ensured at en-route watering stations.
4. Proper upkeep of waiting halls with adequate water supply may be ensured.
5. Temporary cooling shades and tents may be erected at both ends of platforms for convenience of passengers.

In view of the above, divisions are requested to take necessary actions to provide adequate facilities such as drinking water, cooling shades and monitoring water availability in coaches to mitigate the effects of the heat wave on passengers.

This issues with approval of CCM/PS

Encl: As above

**Digitally Signed by Bhaskar
Reddy Pinreddy
Date: 30-04-2024 13:38:10
Reason: Approved**

(Bhaskar Reddy Pinreddy)
Dy.CCM/G
For PCCM



Government of India
Ministry of Earth Sciences
India Meteorological Department



Date: 28th April, 2024
Time of Issue: 1700 hours IST

Heat wave bulletin for Indian Railways (IR)

(A) Heat Wave Warning

- ❖ **Heat Wave to severe heat wave conditions** very likely to prevail in many places over Gangetic West Bengal, Odisha and Bihar, in some parts over Jharkhand till 1st May and then **Heat Wave to severe heat wave conditions** likely at isolated places over these areas on 2nd May. **Heat Wave to severe heat wave conditions** likely at isolated places over Sub-Himalayan West Bengal on 28th April and **Heat wave conditions** in isolated pockets for subsequent 3 days. **Heat wave conditions** in isolated pockets over Rayalaseema, Interior Karnataka, Tamil Nadu and Andhra Pradesh during next 5 days, over Telangana during 29th April to 1st May; Kerala & Mahe on 28th April; Konkan on 28th and 29th April and East Uttar Pradesh during 28th -30th April.
- ❖ **Railways likely to be affected by Heat Waves:**
 - **Northeast frontier, Eastern, Southeastern & East coast Railways** over: West Bengal, Odisha, Bihar & Jharkhand during 28th April- 02nd May, 2024.
 - **Northern, Northeastern, Eastcentral & Northcentral Railways** over:
 - Uttar Pradesh during 28th-30th April, 2024.
 - **Southern and Southcentral Railways** over:
 - Rayalaseema, Tamil Nadu and Interior Karnataka during 28th April- 02nd May, 2024.
 - Kerala & Mahe on 27th & 28th April, 2024.
 - **Southcentral, East coast Railways** over:
 - Coastal Andhra Pradesh & Yanam during 28th April-02nd May 2024.
 - **Konkan Railways** over:
 - Konkan on 28th & 29th April, 2024.

(B) Hot and Humid Weather Warning

- ❖ **Hot and humid weather** very likely to prevail over West Assam & Meghalaya, Tripura on 28th & 29th; Kerala & Mahe, Coastal Karnataka during next 5-days, Telangana on 28th April & 2nd May, Konkan & Goa during 30th April -01st May, 2024.
- ❖ **Railways likely to be affected by Hot & Humid weather:**
 - **Northeast frontier railways** over west Assam, Meghalaya and Tripura on 28th & 29th April, 2024;
 - **Southern Railways** over Kerala & Mahe during 28th April-02nd May 2024;
 - **Konkan Railways** over Konkan & Goa, Coastal Karnataka during 30th April-01st May 2024.
 - **Southcentral Railways** over Telangana on 28th April & 2nd May, 2024.

(C) Impact expected & action suggested

- Make provision for the availability of drinking water at Railway Stations, Platforms and Train coaches.
- Make provision for cooling through shades, cool roofs etc.

Red alert Areas (Gangetic West Bengal, Odisha, Bihar, Jharkhand)

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

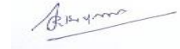
Orange alert Areas (Telangana, Adhra Pradesh, Rayalaseema, Interior Karnataka)

- ❖ 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 (East Uttar Pradesh, Assam & Meghalaya, Nagaland, Manipur, Mizoram & Tripura, Konkan & Goa, Coastal Karnataka, Kerala & Mahe, Tamil Nadu, Puducherry & Karaikal)

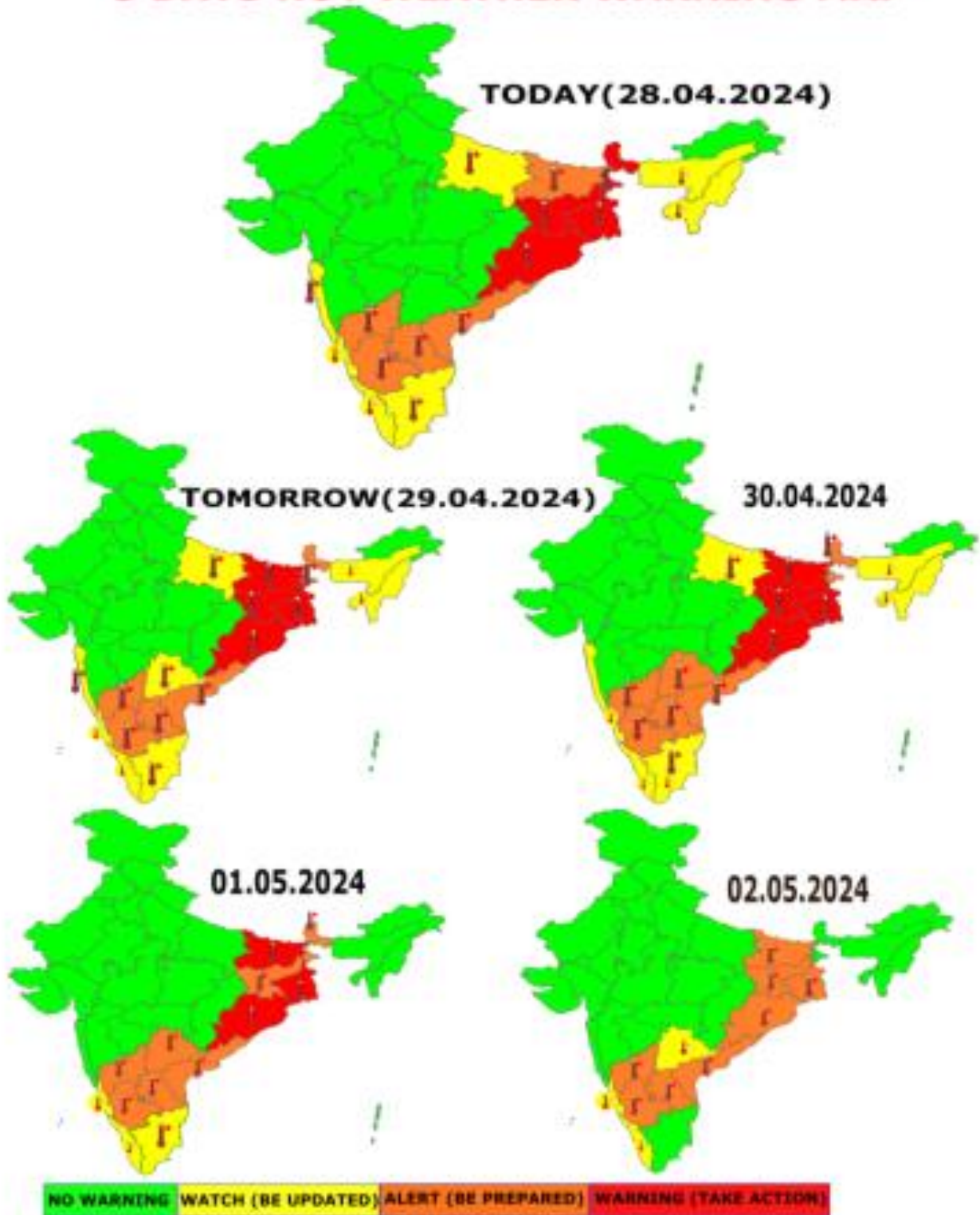
- ❖ Moderate temperature & heat is tolerable for general public but moderate health concern likely for vulnerable people e.g. infants, elderly, people with chronic diseases.
- ❖ Avoid heat exposure.
- ❖ Wear lightweight, light colour, loose, cotton clothes.
- ❖ Cover your head, use a cloth, hat or umbrella.



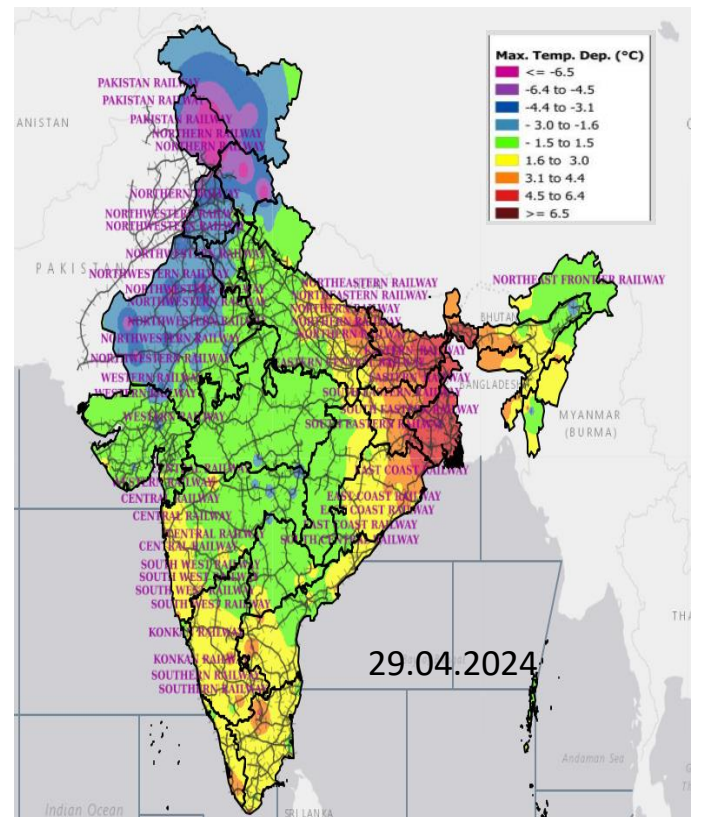
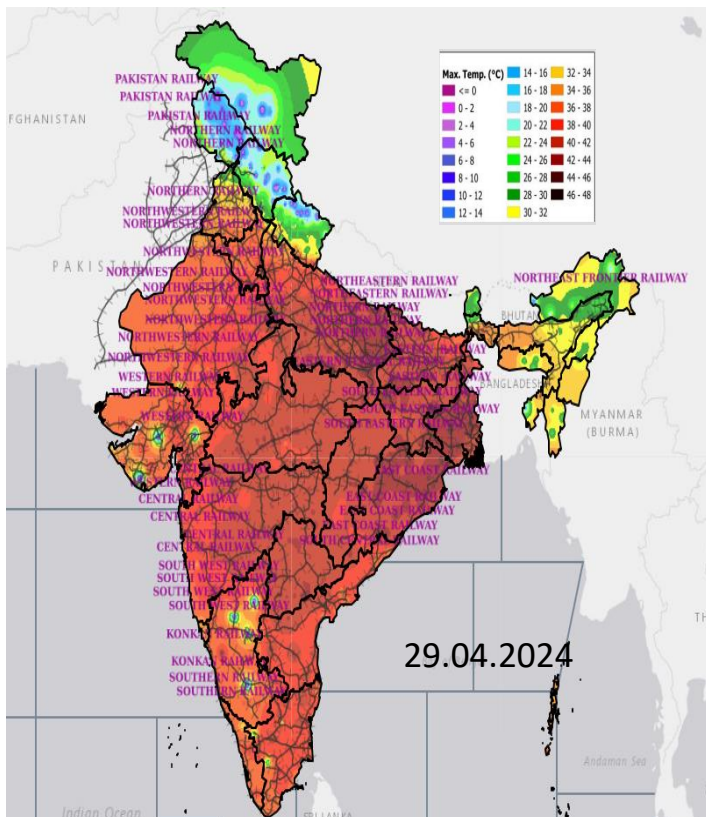
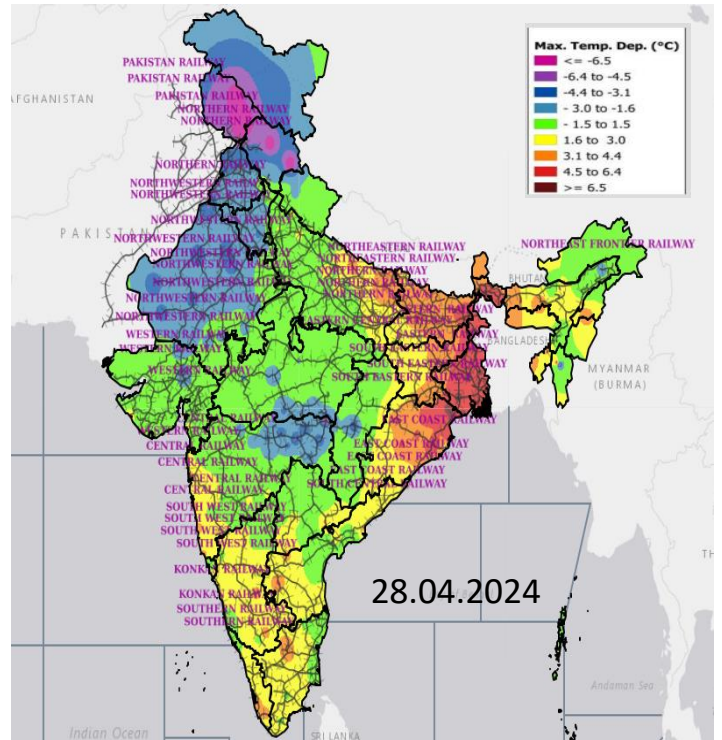
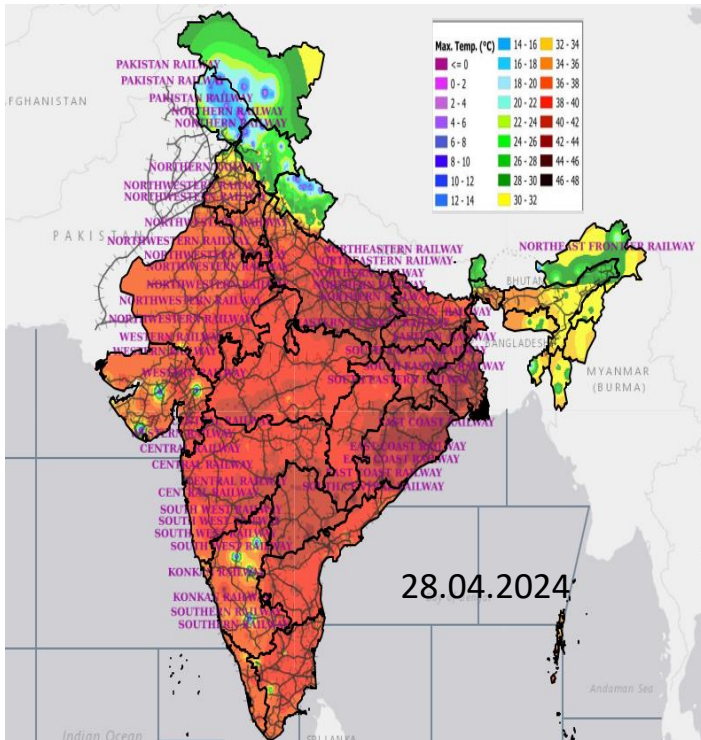
Dr. R K Jenamani
Scientist-G & Head NWFC

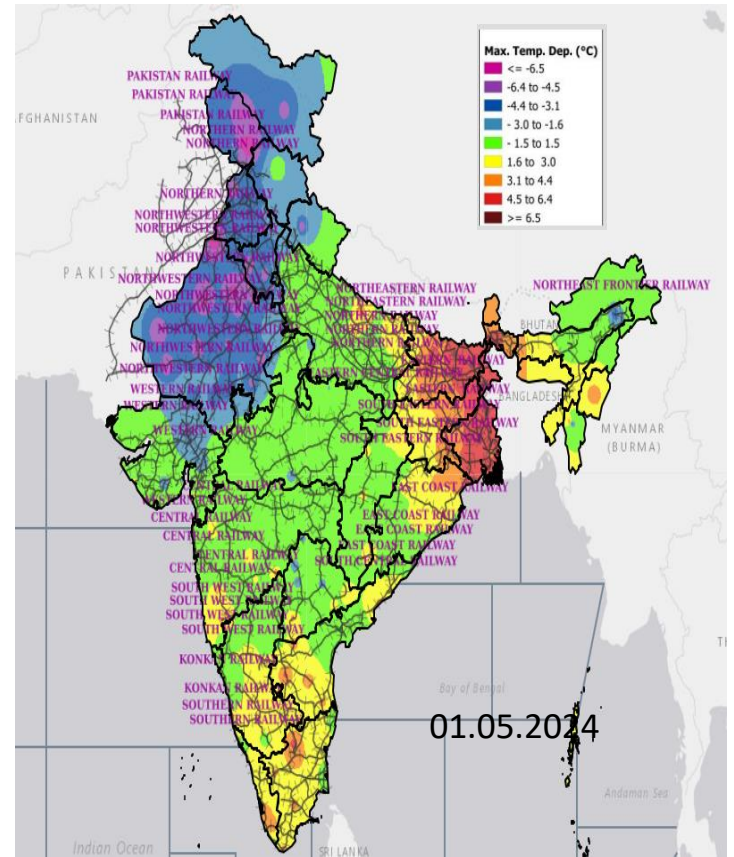
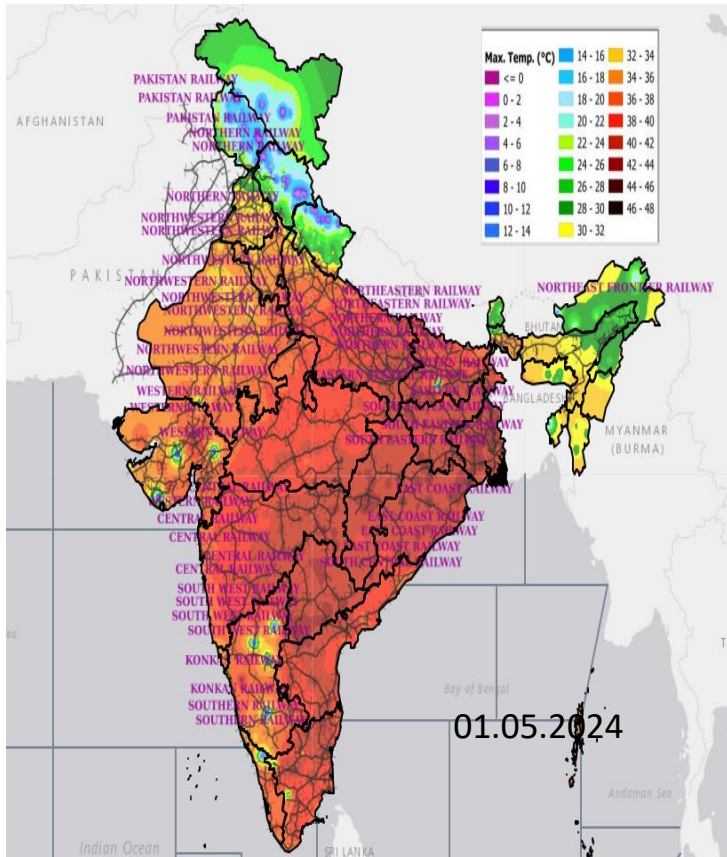
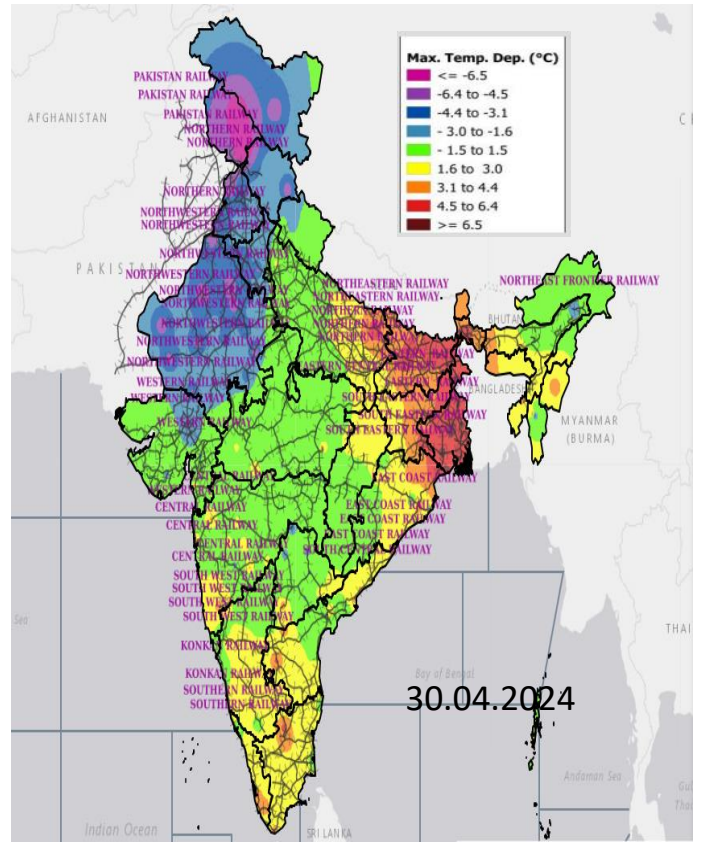
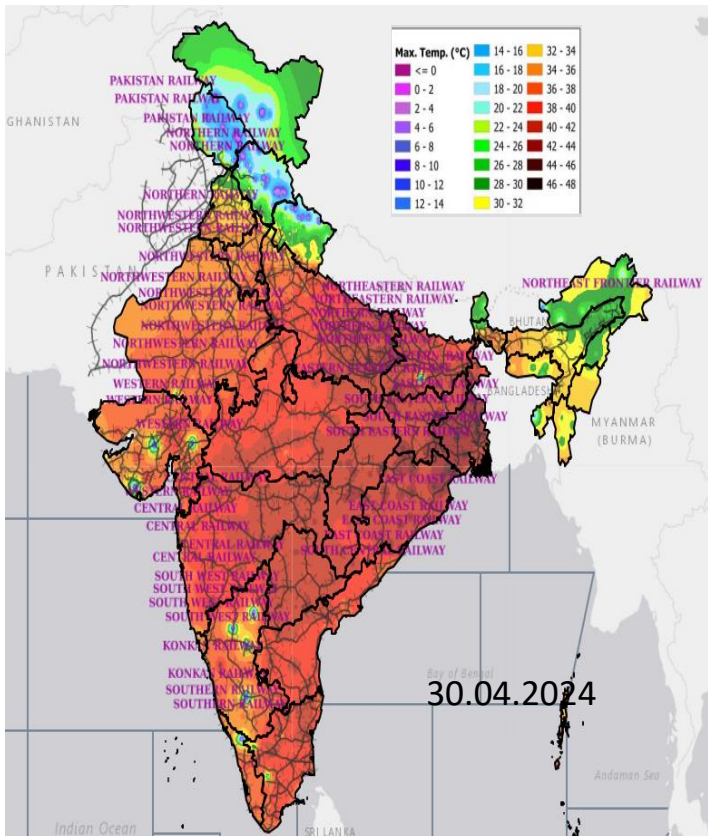
- **The All-India Multi Hazard Warning map enclosed in Annexure I.**
- **Maximum Temperatures forecast and its departures (from normal) forecast days with railway lines during next 5 days is enclosed in Annexure II.**
- **For All India weather Warning update, refer:**
https://mausam.imd.gov.in/responsive/all_india_forcast_bulletin.php
- **For heat wave related observational and Forecast products in form of interactive GIS based map, kindly refer:** http://103.215.208.18/dwr_img/GIS/heatwave.html
- **Customized Multi Hazard weather warning map for railway is available at:**
http://103.215.208.18/dwr_img/GIS/railway.html

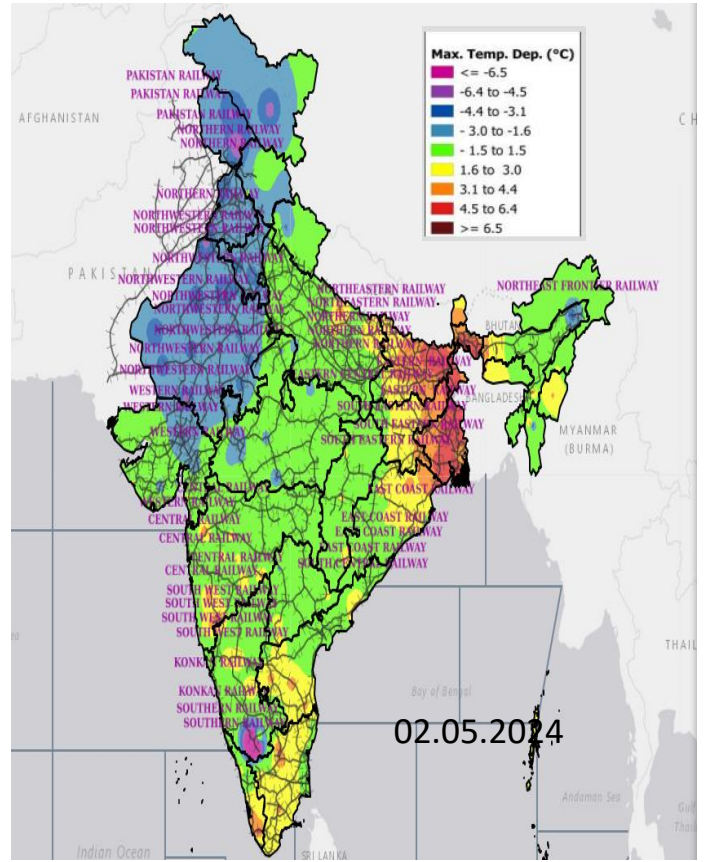
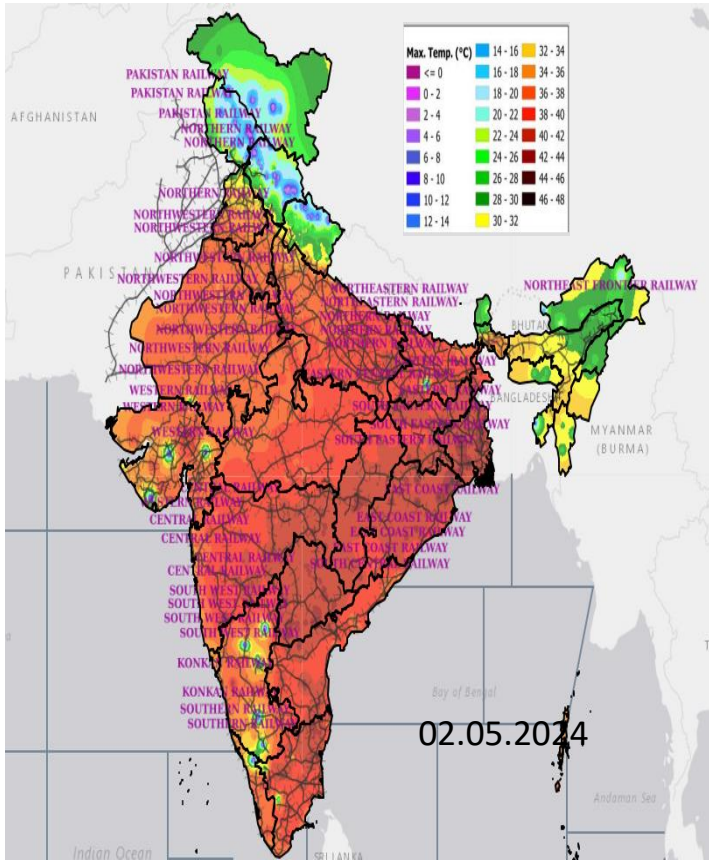
5 DAYS HOT WEATHER WARNING MAP



FORECAST FOR MAXIMUM TEMPERATURES AND ITS DEPARTURES FROM NORMAL












Legends & abbreviations:

- ❖ **Hot and Humid:** When maximum temperatures remain 3 degrees above normal along with the above normal relative humidity.
- ❖ **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 Marathwada.
 - **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)

Subdivision Warning	 Dust Storm	Subdivision color
 Heavy Rain	 Strong Surface Winds	 NO WARNING
 Heavy Snow	 Heat Wave	 WATCH (BE UPDATED)
 Thunderstorms & Lightning	 Cold wave	 ALERT (BE PREPARED)
 Hailstorm	 Fog	 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 *	<p>Heavy: 64.5 to 115.5 mm/cm *</p> <p>Very Heavy: 115.6 to 204.4 mm/cm*</p> <p>Extremely Heavy: > 204.4 mm/cm *</p>
 Heat Wave	<p>When maximum temperature of a station reaches $\geq 40^{\circ}\text{C}$ for plains and $\geq 30^{\circ}\text{C}$ for hilly regions</p> <p>(a) Based on Departure from normal</p> <p>Heat Wave: Maximum Temperature Departure from normal 4.5°C to 6.4°C.</p> <p>Severe Heat Wave: Maximum Temperature Departure from normal $\geq 6.5^{\circ}\text{C}$</p> <p>(b). Based on Actual maximum temperature</p> <p>Heat Wave: When actual maximum temperature $\geq 45^{\circ}\text{C}$.</p> <p>Severe Heat Wave: When actual maximum temperature $\geq 47^{\circ}\text{C}$</p> <p>(c). Criteria for heat wave for coastal stations</p> <p>When maximum temperature departure is $>4.5^{\circ}\text{C}$ from normal. Heat Wave may be described provided maximum temperature $\geq 37^{\circ}\text{C}$</p>
 Warm Night	<p>When maximum temperature remains 40°C</p> <p>Warm Night: When minimum temperature departure 4.5°C to 6.4°C.</p> <p>Severe Warm Night: When minimum temperature departure $>6.4^{\circ}\text{C}$.</p>
 Cold Wave	<p>When minimum temperature of a station $\leq 10^{\circ}\text{C}$ for plains and $\leq 0^{\circ}\text{C}$ for hilly regions.</p> <p>(a). Based on departure</p> <p>Cold Wave: Minimum Temperature Departure from normal -4.5°C to -6.4°C.</p> <p>Severe Cold Wave: Minimum Temperature Departure from normal $\leq -6.5^{\circ}\text{C}$</p> <p>(b) Based on actual Minimum Temperature (for Plains only)</p> <p>Cold Wave : When Minimum Temperature is $\leq 4.0^{\circ}\text{C}$</p> <p>Severe Cold Wave: When Minimum Temperature is $\leq 2.0^{\circ}\text{C}$</p> <p>(c) For Coastal Stations</p> <p>When Minimum Temperature departure is $\leq -4.5^{\circ}\text{C}$ & actual Minimum Temperature is $\leq 15^{\circ}\text{C}$</p>
 Cold Day	<p>When minimum temperature of a station $\leq 10^{\circ}\text{C}$ for plains and $\leq 0^{\circ}\text{C}$ for hilly regions</p> <p>Based on departure</p> <p>Cold Day: Maximum Temperature Departure from normal -4.5°C to -6.4°C.</p> <p>Severe Cold Day: Maximum Temperature Departure from normal $\leq -6.5^{\circ}\text{C}$</p>
 Fog	<p>Phenomenon of small droplets suspended in air and the horizontal visibility $< 1\text{km}$</p> <p>Moderate Fog: When the visibility between 500-200 metres</p> <p>Dense Fog: when the visibility between 50- 200 metres</p> <p>Very Dense Fog: when the visibility < 50 metres</p>
 Thunderstorm	<p>Sudden electrical discharges manifested by a flash of light (Lightning) and a sharp rumbling sound (thunder)</p>
 Dust/Sand Storm	<p>An ensemble of particles of dust or sand energetically lifted to great heights by a strong and turbulent wind.</p>
 Frost	<p>Ice deposits on ground</p> <p>Air temperature $\leq 4^{\circ}\text{C}$ (over Plains)</p>
 Squall	<p>A strong wind that rises suddenly, lasts for atleast 1 minute.</p> <p>Moderate: Wind speed 52-61 kmph</p> <p>Severe: Wind speed 62-87 kmph</p> <p>Very Severe: Wind speed >87 kmph</p>
 Sea State	<p>Effect of various waves in the sea over specific area</p> <p>Rough to very rough: Wind speed 41-62 kmph (22-33 knots) & Wave height 2.5-6 metre</p> <p>High to very high: Wind speed 63-117 kmph (34-63 knots) & Wave height 6-14 metre</p> <p>Phenomenal: Wind speed >117 kmph (>63 knots) & Wave height >14 metre</p>
 Cyclone	<p>Cyclonic Storm: Wind speed 62-87 kmph (34-47 knots)</p> <p>Severe Cyclonic Storm: Wind speed 88-117 kmph (48-63 knots)</p> <p>Very Severe Cyclonic Storm: Wind speed 118-165 kmph (64 - 89 knots)</p> <p>Extremely Severe Cyclonic Storm: Wind speed 166-220 kmph (90 -119 knots)</p> <p>Super Cyclone Storm: Wind speed >220 kmph (>119 knots)</p>