DIRECTORATE OF PUBLIC HEALTH AND PREVENTIVE MEDICINE

From	To
Dr. T.S. Selvavinayagam, MD.,DPH.,DNB., Director of Public Health & Preventive Medicine, D.M.S. Campus, Chennai - 600 006.	1. The Director of Medical and Rural Health Services, DMS Campus, Chennai-6. 2. The Director of Medical Education and Research, Kilpauk, Chennai-10.

R.No.2798564/EPI/S3/2025, Dated:25.03.2025

Sir/Madam,

Sub: Public Health and Preventive Medicine - Epidemics - Heat Wave declared and notified as a "State Specific Disaster" for providing relief under State Disaster Response Fund - NCDC Advisory for Health Departments for Summer 2025 - Regarding.

Ref:
1. G.O. (Ms) No. 579, dated 09.12.2023 and G.O. (Ms) No. 419, dated 15.10.2024, Revenue and Disaster Management Department.
2. G.O. Lr.No.9241007/P1/2024-1, dated: 31.12.2024, Health & Family welfare Department.
3. This Office R.No.2798564/EPI/S3/2025, Dated: 23.01.2025 & 18.03.2025.
4. D.O.R.No.90/NCDC/CEOH&CCH/2020-21, Dt.24.01.2025 of Additional Director and Head of CEOH & CCH Office of NCDC, MoHFW, GOI, New Delhi-54.
5. R.C.No.10264/P14/SHS/2019, Dated: 10.02.2025 of Mission Director, SHS, NHM, Chennai-06.
6. This Office R.No.2874443 /EPI/S3/2025, Dated: 14.02.2025.
7. D.O letter No.90/NCDC/CEOH&CCH/2020-21, Dated: 13.03.2025 of Secretary to Government of India, MoHFW, GOI.

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In response to the reference letter 7th cited, I am to request you to disseminate public health and clinical guidelines on 'Heat and Health' available on the website of National Centre for Disease Control (NCDC) (bit.ly/NCDCnewweb) to all the health care staff for effective preparedness of Health Facilities to prevent, manage and monitor the health impacts of extreme heat.

Accordingly, I enclose herewith the "Advisory for State Health Departments for Summer 2025" and "Public Health Advisory incorporating Do's and Don'ts" prepared by NCDC to be utilized as Information, Education and Communication (IEC) materials and customize them to suit local needs in all health facilities to prepare for extreme heat.

Encl:

1. Advisory for State Health Departments for Summer 2025.
2. NPCCHH Public Health Advisory - Extreme Heat/Heatwave.
3. IMD Seasonal Outlook 2025.

Dr. T.S. Selvavinayagam,
Director of Public Health and
Preventive Medicine,, Chennai-06

Copy To
All the District Health Officers.

Copy Submitted to
The Principal Secretary to Government, Health and Family Welfare Department, Secretariat, Chennai-9.
The Additional Chief Secretary to Government, Commissionerate of Revenue Administration and Disaster Management, Chepauk, Chennai-05.

//True copy//forwarded//

25/3/25

for Director of Public Health and
Preventive Medicine, Chennai-6.

25/3/2025

Public Health Advisory: Extreme Heat/Heatwave

Do's

For general population

Stay hydrated:

- Drink sufficient water whenever possible, even if you are not thirsty. Thirst is not a good indicator of dehydration.
- Carry drinking water when traveling
- Use Oral Rehydration Solution (ORS), and consume homemade drinks like lemon water, butter milk/lassi, fruit juices with some added salt.
- Eat seasonal fruits and vegetables with high water content like water melon, musk melon, orange, grapes, pineapple, cucumber, lettuce or other locally available fruits and vegetables.

Stay covered:

- Wear thin loose, cotton garments preferably light coloured
- Cover your head: use umbrella, hat, cap, towel and other traditional head gears during exposure to direct sunlight
- Wear shoes or chappals while going out in sun

Stay alert:

- Listen to Radio; watch TV; read Newspaper for local weather news. Get the latest update of weather on India Meteorological Department (IMD) website at https://mausam.imd.gov.in/

Stay indoors/in shade as much as possible:

- In well ventilated and cool places
- Block direct sunlight and heat waves: Keep windows and curtains closed during the day, especially on the sunny side of your house. Open them up at night to let cooler air in.
- If going outdoor, limit your outdoor activity to cooler times of the day i.e., morning and evening
- Reschedule or plan outdoor activities during cooler parts of the day.

For vulnerable population

Although anyone at any time can suffer from the heat stress & heat-related illness, some people are at greater risk than others and should be given additional attention.

These include:

- Infants and young children
- Pregnant women
- People working outdoors
- People who have a mental illness
- Physically ill, especially with heart disease or high blood pressure
- Travelers from colder climate to a hot climate should allow one week's time for their bodies to acclimatized to heat, avoid overexertion, and should drink plenty of water. Acclimatization is achieved by gradual increase (over 10-15days) in exposure/physical activity in hot environment

Other precautions

- Elderly or sick people living alone should be supervised and their health monitored on a daily basis.
- Keep your home cool, use curtains, shutters or sunshade and open windows at night.
- Try to remain on lower floors during the day.
- Use fan, spray bottles, damp cloths, ice towels to cool down body.
- Immersing feet in 20°C water above ankle provides rapid cooling by reducing dehydration and thermal discomfort.

National Programme on Climate Change and Human Health

Don'ts

- Avoid getting out in the sun, especially between 12:00 noon and 03:00 pm
- Avoid strenuous activities when outside in the afternoon
- Do not go out barefoot
- Avoid cooking during peak summer hours. Open doors and windows to ventilate cooking area adequately
- Avoid alcohol, tea, coffee and carbonated soft drinks or drinks with large amount of sugar- as these actually, lead to loss of more body fluid or may cause stomach cramps
- Avoid high-protein food and do not eat stale food
- Do not leave children or pets in parked vehicle. Temperature inside a vehicle could get dangerous.

For Employers and workers

- Provide cool drinking water at work place and remind them to drink a cup of water every 20minutes or more frequently to stay hydrated
- Caution workers to avoid direct sunlight
- Provide shaded work area for workers. Temporary shelter can be created at work site.
- Schedule strenuous and outdoor jobs to cooler times of the day i.e., morning and evening hours
- Increase the frequency and length of rest breaks for outdoor activities- at least every 5 minutes after 1 hour of labour work
- Listen to Radio; watch TV; read Newspaper for local weather news and act accordingly. Get the latest update of weather on India Meteorological Department (IMD) website at https://mausam.imd.gov.in/
- Assign additional workers or slow down the pace of work
- Make sure everyone is properly acclimatized: it takes weeks to acclimatize to a hotter climate. Do not work for more than three hours in one day for the first five days of work. Gradually increase the amount and time of work.
- Train workers to recognize factors which may increase the risk of developing a heat related illness and the signs and symptoms of heat stress and start a "buddy system" since people are not likely to notice their own symptoms
- Trained First Aid providers should be available and an emergency response plan should be in place in the event of a heat-related illness.
- Pregnant workers and workers with a medical condition or those taking certain medications should discuss with their physicians about working in the heat.
- If working outdoors wear light-coloured clothing preferably long sleeve shirt and pants, and cover the head to prevent exposure to direct sunlight.
- Organize awareness campaigns for employees
- Install temperature and forecast display at the workplace.
- Distribute informational pamphlets and organize training for employers and workers regarding health impacts of extreme heat and recommendations to protect themselves during high temperatures.

Precautions During Mass gathering/Sport event

- Oudoor/indoor crowded situations increase risk of acute heat-related illnesses (HRI) even in absence of active heatwave alerts in the area.
- Physical exertion, direct sun exposure, overcrowding, and difficult access to water, food and shade may worsen health in vulnerable groups.
- Attendees should stay hydrated, cool, be aware of HRI signs, symptoms and seek medical care.

Health Impact of Heat: Heat-Related Illnesses

- Normal human body temperature ranges between 36.4°C to 37.2°C (97.5°F to 98.9°F)
- Exposure to high outdoor and/ indoor temperatures can induce heat stress, directly and indirectly, leading to heat-related illnesses
- Heat-related illnesses include (from mild to severe)–**heat rash** (prickly heat), **heat oedema** (swelling of hands, feet and ankles), **heat cramps** (muscle cramps), **heat tetany**, **heat syncope** (fainting), **heat exhaustion**, and **heat stroke**.
- Heat stress may also exacerbate chronic diseases like cardiovascular, respiratory, kidney diseases

Watch out for symptoms of heat stress, which include:

- dizziness or fainting;
- nausea or vomiting;
- headache
- extreme thirst
- decreased urination with unusually dark yellow urine
- rapid breathing and heartbeat

Heat-related illnesses are preventable

If you or others feel unwell and experience any of above symptoms during extreme heat,

- Immediately move to a cool place and drink liquids. **Water is best.**
- Get help/medical attention
- Measure your body temperature

If you experience painful muscular spasms (particularly in the legs, arms or abdomen, in many cases after sustained exercise during very hot weather),

- Rest immediately in a cool place, and drink oral rehydration solutions containing electrolytes
- Medical attention is needed if heat cramps last more than one hour

Heatstroke is a medical emergency!

Be aware of **Danger signs** & seek immediate medical attention if you observe

In adults	In children
• Altered mental sensorium with disorientation, confusion and agitation, irritability, ataxia, seizure or coma • Hot, red and dry skin • Core body temperature ≥40°C or 104°F • Throbbing headache • Anxiety, Dizziness, fainting and light headedness • Muscle weakness or cramps • Nausea and vomiting • Rapid heartbeat/Rapid, shallow breathing	• Refusal to feed • Excessive irritability • Decreased urine output • Dry oral mucosa & absence of tear/sunken eyes • Lethargy/altered sensorium • Seizures • Bleeding from any site

Call 108/102 immediately
if you find someone with
high body temperature and is either
unconscious, confused, or
has **stopped sweating**

Cool the person right away, while waiting, by:

- moving them to a cool place, if you can;
- applying cold water to large areas of the skin or clothing; and
- fanning the person as much as possible

National Programme on Climate Change and Human Health

National Centre for Disease Control
Directorate Health Services
Ministry of Health and Family Welfare
22-Sham Nath Marg, Civil Lines, New Delhi

Advisory for State Health Departments for Summer 2025

The country may observe above-normal seasonal maximum temperatures in line with the observed trend of increased global temperatures. To reduce the health impacts of extreme heat, health departments must ensure preparedness and timely response.

State Nodal Officers under the National Programme for Climate Change and Human Health (NPCCHH) to ensure the following activities:

1. Dissemination of the following guidelines to all districts:

- National Action Plan on Heat Related Illnesses, MoHFW
- Strengthening Health Systems Preparedness for Heat Related Illnesses (HRI) in India
- Emergency Cooling for Severe Heat-Related Illnesses
- Autopsy Findings in Heat Related Deaths

2. Implement Heat-Health Action Plan, a chapter of the State Action Plan on Climate Change and Human Health (SAPCCHH) at the State level

- Support implementation of District-specific and City-level heat-health action plans for focused preparedness and response.

3. Meeting with State and District Task Force on Climate Change and Human Health

- Organize a task force meeting for implementation of the heat-health action plan at State/District levels, to ensure health facility and ambulance preparedness and their strategic deployment.
- Monitor and utilize daily surveillance data for coordinated preparedness and response planning.
- Utilize local civil registration systems to understand patterns of temperature-related mortality for local early warning thresholds and for focused preparedness.
- Consider the strategic establishment of public cooling and drinking water facilities to prevent heat stress.
- The health sector heat action plan shall be updated in SAPCCHH and a copy of this may be sent to the State Disaster Management Authority (SDMA) or Relief Commissioner Department for incorporation in the State Action Plan on Heat Wave.

4. Reporting under Heat-Related Illness and Death Surveillance

- Ensure daily submission of data on heatstroke cases and deaths, emergency attendance and total deaths from **March 01, 2025,** on **the IHIP portal under the National Programme on Climate Change and Human Health** at https://ihip.mohfw.gov.in/npcchh.

- Submit data from health facilities, PHC, and above, using P-form level credentials. The updated data collection form focuses on patient-level information to create line lists with essential demographic, clinical, and exposure information.
- Ensure routine monitoring of data to ensure data quality. A 5-day correction window is provided for health facilities to correct their reports.
- Use clinical criteria to categorize heat-related deaths. A support tool, Checklist criteria to label heat stroke or HRI Deaths in clinical setting is enclosed. Undertake "**Investigation of Suspected Heat-Related Illness Death**" by a medical officer/epidemiologist for suspected heat-related illness deaths that cannot be assessed clinically (details in National Action Plan on Heat-Related Illnesses, MoHFW) to understand circumstances around the suspected HRI death.
- Ensure timely verification, investigation and response to reports of heat-related mortality clustering and provide incident reports.

5. Dissemination of early warning: of heat waves issued by the India Meteorological Department (IMD) daily after 1600 hours IST with a forecast for next four days should be disseminated to health facilities and vulnerable populations.

6. Issue health advisories and plan IEC activities to make the public aware of the precautions taken to safeguard against extreme heat by engaging frontline workers, print, and visual media. IEC material on heat health for general and vulnerable populations prepared by NCDC is available at https://ncdc.mohfw.gov.in/centre-for-environmental-occupational-health-climate-change-health/. If needed, it can be used as a template to prepare IEC at the state level after being translated into a regional language.

7. Sensitization and capacity building of medical officers and health care staff of health facilities on HRI symptoms, case identification, clinical management, emergency cooling, and surveillance reporting. Community health workers should be trained on public awareness measures, personal cooling measures, HRI identification, first aid, referral, and reporting. Training manuals for Nodal Officers, Medical Officers, Community Health Workers and Community published by NPCHH should be utilized for the training.

8. Health facility preparedness for prevention and management of severe HRI

- Procurement and supply of adequate quantities of ORS packs, essential medicines, IV fluids, ice packs, and equipment to support the management of volume depletion and electrolyte imbalance etc.
- Establish Heatstroke management units in secondary and tertiary level health care facilities. Ensure active, external cooling strategies that can be used for rapid and efficient cooling of patients at health facilities and field levels, develop internal protocols, and train health care staff.(NPCCHH PIP FY 24-25, 25-26 guidelines).
- Ambulance and primary care preparedness: Identify/procure resources at primary health facilities and for ambulances to ensure on-site emergency and rapid cooling of severe heat-related illness patients in line with Cool First, Transport Second strategy.
- Ensure the availability of sufficient drinking water at all health facilities.
- Ensure sufficient availability of general cooling appliances in waiting and patient treatment area and their functioning.

9. Fire safety in health facilities

Rising temperatures increase the risk of fire incidents in healthcare facilities. Most fire incidents result from short-circuits and electrical overloads

- Conduct regular fire risk assessments and inspections to identify vulnerable areas and to ensure functional firefighting systems.
- Fire prevention measures: Implement proper storage and handling of flammable materials. Conduct bi-annual electrical load audits, especially in high-demand areas like ICUs, to ensure power systems meet safety standards.
- Fire detection and suppression systems: Install and maintain smoke detectors, fire alarms, hydrants, and extinguishers in all hospital areas. Conduct monthly testing of alarms and detectors, ensuring batteries are replaced as needed.
- Staff training and emergency drills: Provide continuous training for staff on fire safety protocols, prevention, and evacuation procedures. Conduct bi-annual fire and evacuation drills to ensure preparedness.
- Emergency response plan: Establish and maintain an emergency response plan with SOPs for evacuating patients and staff. Ensure all staff members are familiar with emergency roles and responsibilities.

10. Health facility resiliency to extreme heat

- Coordinate with electricity distribution company/corporation for uninterrupted electricity supply to hospitals for constant functioning of cooling appliances.
- Adopt measures to reduce indoor heat and energy conservation in the health facilities like cool roof/green roof, window shading, rainwater harvesting, solarization etc.
- Provide shade outside the health facilities in heat-prone regions.

11. HRI-Focused Mass Gathering/Sporting Event Preparedness

While organizing mass gatherings or sporting events during summer, sufficient preparedness should be made to prevent and manage heat-related illnesses (HRI) by actively engaging health departments, other relevant departments, and local administration.

Event planning considerations

- **Environmental heat**
  - Check heatwave forecasts, high humidity, and active heatwave warnings, consult the local IMD center
  - Avoid days when active heatwave warnings and high humidity are expected
  - Avoid planning outdoor events at the hottest time of day (12PM-3PM)

- **Event ground amenities/infrastructure**
  - Plan assessment of event venue/ground with a medical team from local health facilities for setting up medical camps, cooling areas, water availability, and placement

- **Safe, Drinking Water Provision**
  - Adequate and safe water supply and convenient access for all attendees must be arranged.

- Suggested amount of water required per person is 20 liters/day with 4 Liters for drinking.
- For all-day events, water provision can be calculated based on following
  1. A minimum of 2 liters of free drinking water available/person or a rate calculated at 500ml/hour, whichever is the greater ***and***
  2. One water outlet per 500 people.
  3. Water outlets should be reviewed and approved for safety, water quality, and hygiene.
- Water quantity for emergency cooling/dousing/spraying should be considered separately.

➢ **Shade/shelter**: to reduce open exposure of attendees to the sun.

➢ **Cooling shelters:** Provision/ establishment of well, actively ventilated/cooled rooms/ misting areas.

➢ **Health promotion and risk communication**
Ensure adequate arrangement for frequent communication in local language for the attending population, (in advance and during the event) through social media, on-site posters, video clips/announcements about measures e.g.

- avoiding dehydration/adequate water intake
- wearing appropriate clothing, take protective measures like sunscreen, hat, umbrella
- reducing the risk of heat-related illnesses
- identifying primary symptoms of HRI, first-aid, and ways to contact first responders

<u>Health sector preparedness</u>

- Consider heat-related illnesses in health surveillance, medical management, and response planning
- Have a general understanding of possible vulnerable populations based on event type e.g. in mass sporting events exertional heatstroke may be observed, in pilgrimage-related mass gatherings classic heatstroke may be common.
- Prevent heat-related illness (HRIs) through the provision of ORS packs, essential medicines, IV fluids, icepacks, and equipments to support the management of volume depletion and electrolyte imbalance etc.
- Prioritize rapid assessment and rapid cooling of severe heat-related illnesses
- Designate a safe, accessible area for rapid whole-body cooling of heat exhaustion and heatstroke patients
- Identify suitable rapid cooling method based on access to water, shade, venue topography and access, procure equipments (rectal thermometer, ice boxes, ice cubes, cold water, tarp, ice coolers, fans, towels/sheets), and set up cooling area accordingly
- Ensure training of attending medical staff and relevant first responders in triage, rapid assessment, rapid cooling, medical record-keeping, referral, and surveillance
- Designate and inform nearest referral health facilities that can provide adequate HRI management and cooling facilities.

- Keeping ambulance with ice packs and cold water etc to transport serious patients to the nearest equipped health care facility.

During the event consideration

1. Ensure adequate air circulation, and avoid overcrowding pockets at the event site.
2. Identify and monitor the vulnerable population at the event with checkpoints at entry and within the event area; monitoring with the help of volunteers/cameras on site.
3. Uniformed medical aid teams with appropriate portable ice boxes, cold water, ORS packets should be mobilized in crowd.
4. Continue good public communication (in terms of broadcasts, posters) regarding the effects of heat and reminders to stay hydrated and cool.
5. Guide the public towards medical check posts, and nearest exits through a detailed map of event site and directions on display
6. Proper management and documentation of all patients treated for HRI and their follow-up after first aid administration.
7. Report heatstroke cases and deaths in Heat-Related Illness and Death surveillance under NPCCHH
8. Keep effective communication between the healthcare team and event stakeholders.

Resources

1. Guidelines for preparation of action plan- prevention and management of heat wave, 2019. National Disaster Management Authority, Government of India. Available at: https://ndma.gov.in/sites/default/files/PDF/Guidelines/heatwaveguidelines.pdf
2. Ahmedabad heat action plan 2019. Guide to extreme heat planning in Ahmedabad, India. Amdavad Municipal Corporation. Available at: https://www.nrdc.org/sites/default/files/ahmedabad-heat-action-plan-2018.pdf
3. World Health Organization. Public Health Advice on Heatwave Available at: https://www.who.int/health-topics/heatwaves#tab=tab_1
4. Guidelines for fire and life safety in health care facilities https://jipmer.edu.in/sites/default/files/Fire%20safety%20guidelines-Ministry%20of%20Health%20and%20Farnily%20Welfare.pdf
5. Water quality at public events | NT.GOV.AU https://nt.gov.au/industry/hospitality/public-events/water-public-events
6. World Health Organization. Public health for mass gatherings: key considerations. 180 p. https://www.who.int/publications/i/item/public-health-for-mass-gatherings-key-considerations

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PRESS RELEASE
New Delhi, 28th February 2025

भारत सरकार
Government of India
पृथ्वी विज्ञान मंत्रालय
(एम. ओ. ई. एस.)
Ministry of Earth Sciences
(MoES)

भारत मौसम विज्ञान विभाग
INDIA METEOROLOGICAL DEPARTMENT

Outlook for the Seasonal Temperatures during the Hot Weather Season (March to May) and Monthly Rainfall and Temperatures During March: 2025

Highlights

- During the upcoming hot weather season (March to May (MAM)), above-normal maximum temperatures are most likely over most parts of the country, except over southern parts of Peninsular India, and isolated pockets of Northeast India where normal to below-normal maximum temperatures are likely.
- During the season (MAM), above-normal minimum temperatures are likely over most parts of the country except some isolated southernmost regions of Peninsular India where normal minimum temperatures are likely.
- Monthly maximum temperatures for March 2025 are likely to be above normal over most parts of India, except over some southernmost parts of Peninsular India, where below normal maximum temperatures are likely.
- During March 2025, above normal monthly minimum temperatures are likely over most parts of the country except some parts of Northwest India and South Peninsula, where normal minimum temperatures are most likely.
- During March to May season 2025, above-normal number of heatwave days are likely over most parts of the country except over Northeast India, extreme north India and southwestern and southern parts of Peninsular India
- During March, 2025, above-normal heatwave days are likely over most parts of central India and adjoining northern parts of South Peninsula and some areas of northwest and east India..
- The rainfall during March 2025 averaged over the country as whole is most likely to be normal (83-117% of LPA). Above-normal rainfall is likely over parts of Peninsular India and neighbouring regions of south of central India, while normal to below-normal rainfall is likely in the rest of the country.

Outlook for the Seasonal Temperatures during the Hot Weather Season (March to May) and Monthly Rainfall and Temperatures During March: 2025

1. Background

Since 2016, the India Meteorological Department (IMD), Ministry of Earth Sciences (MoES) has been issuing seasonal forecast outlooks for temperatures over the country for both the hot and cold weather seasons. IMD also continuously works to improve the skill of forecasting models. The current strategy is based on the newly developed Multi-Model Ensemble (MME) based forecasting system. The MME approach uses the coupled global climate models (CGCMs) from different global climate prediction and research centers including IMD/MoES Monsoon Mission Climate Forecast System (MMCFS) model. IMD has now prepared seasonal and monthly temperature forecast outlooks over the country for the upcoming hot weather season (March to May 2025) and for March 2025. The same are presented below in the sections 2(a) and 2(b) respectively.

Heat Wave over a location refers to a prolonged period of excessively hot weather (above certain threshold temperature value) over the loation. The heatwave outlook for the hot weather season (MAM) and for March 2025 over the country is presented in section 3.

The monthly outlook for rainfall and temperatures for March 2025 are presented in section 4.

2. (a) Seasonal Temperature Outlook for March to May (MAM) 2025

Fig.1a and Fig.1b show the probabilistic forecast of the maximum and minimum temperatures respectively for March to May (MAM) 2025 season. The probability forecast for maximum temperatures (Fig.1a) indicates that above-normal maximum temperatures are most likely over most parts of the country, except over southern parts of Peninsular India, and isolated pockets of Northeast India where normal to below-normal maximum temperatures are most likely.The probability forecast for minimum temperatures (Fig.1b) indicates that during the season (MAM), above-normal minimum temperatures are likely over most parts of the country except some isolated southernmost regions of Peninsular India where normal minimum temperatures are likely..

2. (b) Monthly Temperature Outlook for March 2025

Fig.2a and Fig.2b show forecast probabilities of the maximum and minimum temperatures respectively for March 2025. During March 2025, monthly maximum temperatures are likely to be above normal over most parts of India, except over some southernmost parts of Peninsular India, where below normal maximum temperatures are likely.(Fig. 2a).

During March 2025, above normal monthly minimum temperatures are likely over most parts of the country except some parts of Northwest India and South Peninsula, where normal minimum temperatures are most likely. (Fig.2b).

3. Heat Wave outlook for the Hot Weather Season (March to May) and for the Month of March 2025

The anomaly (deviation from normal) forecast for the number of heatwave days in the country for March to May 2025 is shown in Fig. 3a. During March to May season 2025, above-normal number of heatwave days are likely over most parts of the country except over Northeast India, extreme north India and southwestern and southern parts of Peninsular India

The anomaly forecast for the number of heatwave days in the country for March 2025 is shown in Fig. 3b. During March, 2025, above-normal heatwave days are likely over most parts of central India and adjoining northern parts of South Peninsula, many areas of south Peninsular India and, some areas of northwest and east India..

Heatwaves pose significant risks to vulnerable populations, including the elderly, children, and those with pre-existing health conditions, leading to heatstroke, dehydration, and strain on infrastructure. Authorities are crucial in providing cooling centers and issuing timely heat advisories. To facilitate the public, IMD provides comprehensive early warning systems, including detailed heatwave forecasts, risk assessments, and location-specific alerts. These warnings are readily accessible through the IMD website, dedicated mobile applications, and public broadcast channels. Citizens are strongly encouraged to utilize these resources to proactively take personal precautions, such as staying hydrated, avoiding peak sun hours, and seeking cool environments, thereby minimizing the adverse health impacts of heatwaves.

4. Monthly Rainfall outlook for March 2025

The rainfall during March 2025 averaged over the country is most likely to be normal (83-117% of LPA). The LPA of rainfall over the country during March based on data from 1971 to 2020 is about 29.9 mm.

The probabilistic forecast for the spatial distribution of tercile rainfall categories (above normal, normal, and below normal) over the country for March 2025 is shown in Fig.4. The forecast suggests that above-normal rainfall is likely over most parts of Peninsular India and neighbouring regions of south of central India, while normal to below-normal rainfall is likely in the rest of the country. . The dotted areas in the map climatologically receive very less rainfall during March and the white-shaded areas within the land areas represent climatological probabilities.

5. SST Conditions over the Pacific and the Indian Oceans

Currently, weak La Niña conditions are prevailing over the equatorial Pacific, and the sea surface temperatures (SSTs) are coooer than normal over most of the equatorial Pacific Ocean. The latest MMCFS forecast indicates that La Niña conditions are likely to weaken during the upcoming season and turn to neutral ENSO conditions thereafter.

At present, neutral Indian Ocean Dipole (IOD) conditions persist over the Indian Ocean, and the latest MMCFS forecast indicates a continuation of these neutral IOD conditions during the upcoming season.

6. Extended Range Forecast and short to medium-range forecasting services

IMD also provides extended range forecasts (7–day averaged forecasts for the next four weeks) of rainfall and maximum and minimum temperatures over the country updated every week on Thursday. This is based on the Multi-model ensemble dynamical Extended Range Forecasting System currently operational at IMD. The extended range forecasts are available through the IMD website https://mausam.imd.gov.in/imd_latest/contents/extendedrangeforecast.php).

The extended range forecast is followed by a short to medium range forecast issued daily by IMD. The forecasts are available through the IMD website https://nwp.imd.gov.in/gfsproducts_cycle00_mausam.php

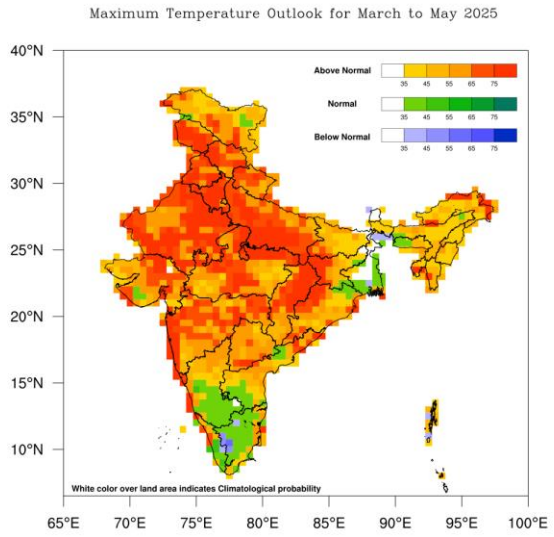

Fig.1a. Probability forecast of Maximum Temperature for March to May 2025.

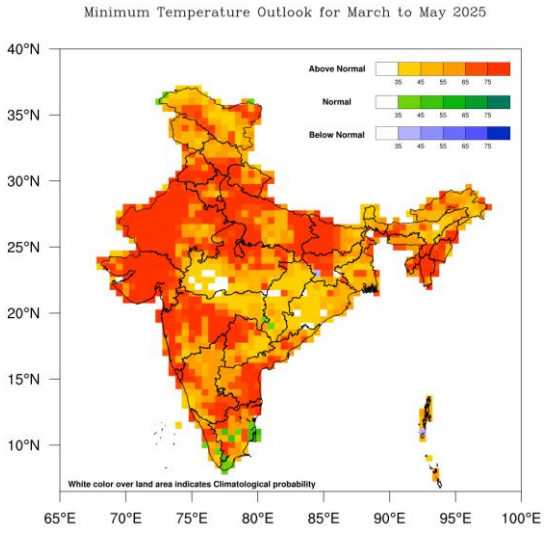

Fig.1b. Probability forecast of Minimum Temperature for March to May 2025.

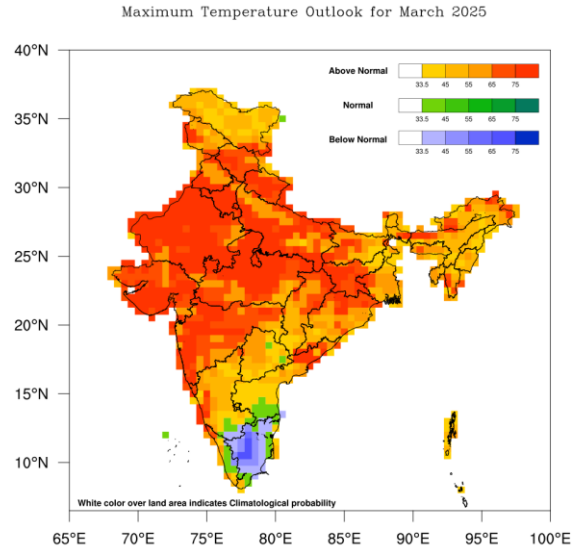

Fig.2a. Probability forecast of Maximum Temperature for March 2025.

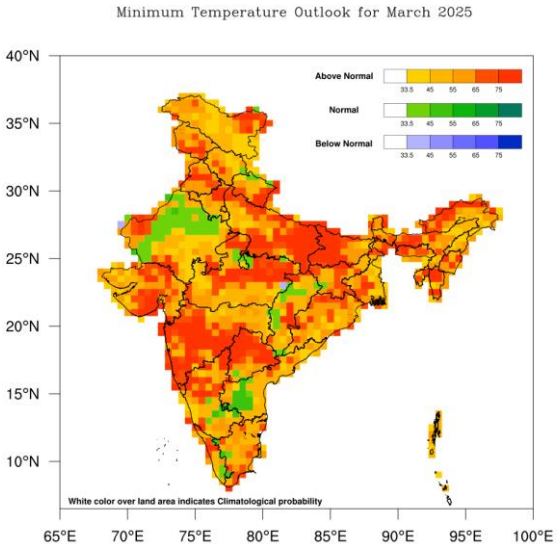

Fig2b. Probability forecast of Minimum Temperature for March 2025.

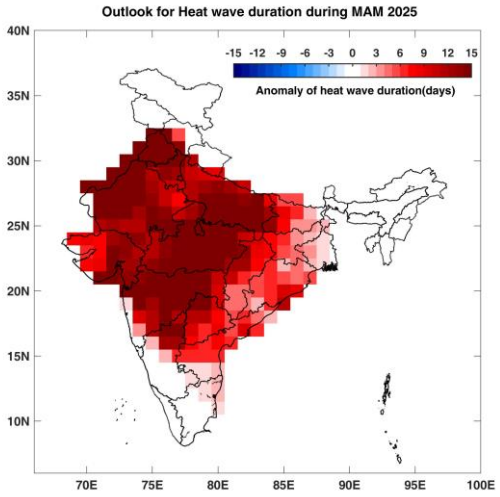

Fig3a. Probability forecast of heatwave events for the season March to May 2025.

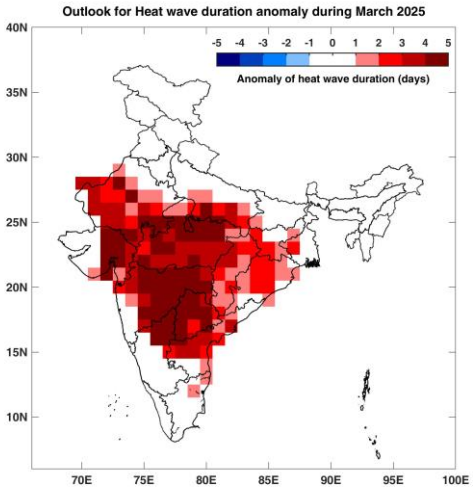

Fig3b. Probability forecast of heatwave events for March 2025.

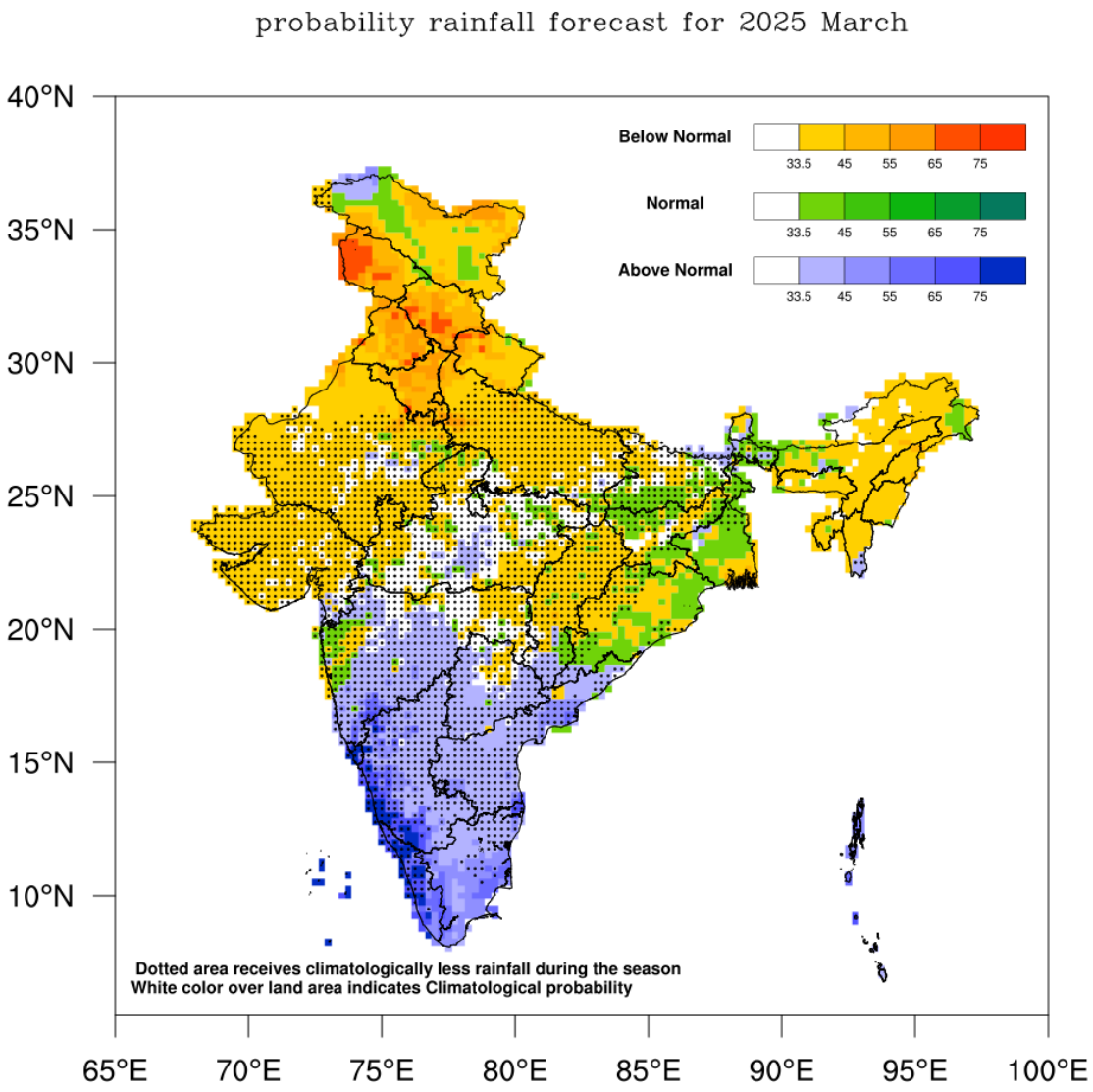

Fig.4. Probability forecast of tercile categories* (below normal, normal, and above normal) for the rainfall over India during March 2025. The figure illustrates the most likely categories as well as their probabilities. The dotted area shown in the map climatologically receives very less rainfall and the white-shaded areas within the land areas represent climatological probabilities. (*Tercile categories have equal climatological probabilities, of 33.33% each).