

India Faces Prolonged Heatwaves: Causes, Impact, and Preparedness

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Extended heatwaves in India Latest News

- The [India Meteorological Department \(IMD\)](#) forecasts an above-normal number of [heatwave](#) days this summer, aligning with the trend of increasing heat intensity and frequency.

- This poses health risks, especially for vulnerable groups, and causes economic losses. While heatwaves can be managed through timely action, the implementation of heat action plans in many states and cities has been inadequate.

IMD's Heatwave Forecast for 2024

- The IMD predicts an “above-normal” number of heatwave days across northern, central, and eastern India from April to June.
- Only the extreme south, the northeast, Jammu & Kashmir, and Himachal Pradesh might be spared from extreme heat.
- It predicted above-normal temperatures for 10-11 days in central and eastern states like Odisha, Jharkhand, and eastern Uttar Pradesh.
- Night temperatures are also expected to be higher than usual, except in the Himalayan and sub-Himalayan regions.
 - Some parts of Gujarat, Odisha, and Vidarbha have already experienced 3-5 heatwave days in March.

Expected Heatwave Days

- The number of heatwave days varies by region.
- In Rajasthan, for instance, western areas could face 12-18 heatwave days, while eastern Rajasthan may experience 10-15 days, exceeding the usual count of over eight days.

2024: A Record-Breaking Year for Heat

- Every Indian state, except Kerala, witnessed a heatwave in 2024, including Karnataka, which rarely experiences such conditions.
- Kerala has also seen rising heat stress over the last 15 years.

Heatwaves vs. Annual Temperature Trends

- Although 2024 was India's warmest recorded year, there is no direct correlation between heatwave days and average annual temperature.
 - The World Meteorological Organization's (WMO) *State of the Global Climate 2024* report confirmed that 2024 was the hottest year in 175 years, with a global temperature rise of 1.55°C above pre-industrial levels.
- Heatwaves are concentrated periods of extreme heat above 40°C, which may not significantly affect yearly temperature averages.

Historical Heatwave Data

- The highest recorded heatwave days in India were in 2010 (578 days), followed by 2024.
- However, 2014 saw only 188 heatwave days, while the severe 2022 heatwave recorded 467 days.

Economic and Social Impact of Extreme Heat

- The Reserve Bank of India's (RBI) Department of Economic and Policy Research warns that climate change could lead to a 2.8% GDP loss and 34 million of the projected 80 million global job losses.
- Urban heat island effects could warm cities by 4°C by 2100, creating severe health challenges.
- Extreme heat is linked to increased mortality, school closures, water shortages, power outages, and food insecurity.

Heat Action Plans (HAPs) in India

- Heat Action Plans (HAPs) have become India's key strategy for heatwave management. India's first city-level HAP emerged in 1999 after Odisha's devastating 1998 heatwave.
- At least 23 states and many districts have formulated heat action plans to minimize heatwave disruptions and prevent heat-related deaths.
- These plans outline measures such as creating shaded areas, ensuring water availability, and adjusting school and office timings.

Challenges in Implementation

- Despite improved forecasts and well-designed plans, implementation remains weak.
- Studies show that authorities often prioritize short-term emergency responses—like providing drinking water and cooling rooms—over long-term strategies to address extreme heat exposure.

Other Shortcomings

- Inadequate planning for vulnerable groups like children and elderly
- Weak long-term planning and mitigation strategies
- Unlike air pollution control (which has a legally mandated Graded Response Action Plan for Delhi-NCR), no automatic heat mitigation system exists.
- IMD issues heat alerts, but delayed impacts make timely interventions challenging.

Need for Stronger Coordination

- A study by the Sustainable Futures Collaborative found that most local administrations lacked clear responsibilities and an empowered organization to lead the effort.
- Effective implementation requires a well-coordinated, government-backed mechanism to adapt to climate change.

Future Recommendations

- Naming heatwaves (like hurricanes) to improve public awareness, as seen with "Zoe" in Seville, Spain (2022).
- WHO recommends the health sector take a lead role in strengthening governance, preparedness, and response to protect high-risk populations.

Extended Heatwaves in India FAQs

Q1. What causes extended heatwaves in India?

Ans. Rising greenhouse gas emissions and deforestation increase temperatures, leading to prolonged heatwaves in India.

Q2. How do heatwaves impact public health?

Ans. Heatwaves cause dehydration, heatstroke, and cardiovascular diseases, disproportionately affecting the elderly and outdoor workers.

Q3. What role does climate change play in India's heatwaves?

Ans. Climate change intensifies heatwaves by increasing global temperatures and altering weather patterns.

Q4. How does India prepare for heatwaves?

Ans. India implements heat action plans, early warning systems, and urban cooling initiatives to mitigate heatwave impacts.

Q5. What are the economic effects of prolonged heatwaves?

Ans. Heatwaves reduce agricultural yields, disrupt labor productivity, and increase electricity demand, straining economic resources.

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