



## EDITORIAL: **INDIAN EXPRESS**

**GENERAL STUDIES 3: DISASTER MANAGEMENT**  
**TOPIC: HEATWAVE**

**DATE: 03.04.2025**

**With a very hot summer ahead, how prepared is India?**

### 1. Context and Forecast

- The **India Meteorological Department (IMD)** has predicted an **above-normal number of heatwave days** across most of India during **summer 2025**.
- This trend reflects the **increasing intensity and frequency of extreme heat events** in the country.
- **Heatwaves**, driven by climate change, are becoming a **major threat to public health, livelihoods, and economic stability**.
- Although many states have **Heat Action Plans (HAPs)** in place, their **implementation remains inadequate**, leaving vulnerable populations exposed.

### 2. Regional Heatwave Predictions for 2025

- According to IMD, **northern, central, and eastern India** will face a **sharp rise in heatwave days** between **April and June**.
- Some relief is expected in **Jammu & Kashmir, Himachal Pradesh, and the Northeast**, which may escape extreme heat due to topographical differences.
- The rest of India is likely to endure **prolonged and widespread heat stress**.

### 3. Data on Recent Heatwave Trends (2024)

- **Rajasthan**: Normally records 8–12 heatwave days; in 2024, it had 23 days in eastern and 29 days in western regions.
- **Uttar Pradesh**: From an average of 10–12 days, it jumped to **32 heatwave days** in 2024.
- **Kerala**: An uncommon region for heatwaves, recorded **6 heatwave days**.
- In total, India saw **554 heatwave days** in 2024, the **second-highest in 15 years**, after 2010 which had 578 days.
- **Important Note**: Heatwaves are **short-term concentrated events** and are not directly correlated with annual average temperatures.

### 4. Long-Term Heatwave Trends in India



- A study published in *Climate Dynamics* titled "**Heat Waves in India: Patterns, Associations, and Sub-Seasonal Prediction Skills**" highlights several critical findings:
  - Since **2000**, heatwave days have been increasing by **three days per decade** in **central, northwest, and southeast India**.
  - **Southeastern states** like Odisha, Andhra Pradesh, Telangana, and Chhattisgarh have seen the **most pronounced rise**.
  - **Long-duration heatwaves (7+ days)** are becoming more frequent in northwest, central, and southeastern parts.
  - Heatwaves are now appearing **earlier in the year**, even in **February**, due to shifting climate patterns.

## 5. Importance of Forecasting and Response

- The IMD provides **reliable weekly forecasts**, allowing local administrations time to prepare.
- Heatwaves, unlike localized rain events, affect **large geographic areas**, making them easier to monitor and predict.
- However, **forecasting alone is insufficient**—there must be **effective and proactive response mechanisms**.

## 6. Heat Action Plans (HAPs): Present Framework

- At least **23 states** and multiple districts have HAPs, aimed at reducing heat-related deaths and distress.
- Measures include:
  - Establishing **public shade structures**
  - Ensuring **access to clean drinking water**
  - Distributing **oral rehydration solutions (ORS)**
  - **Rescheduling work and school hours** during peak heat
- These short-term actions have shown positive outcomes in specific regions, such as **Ahmedabad's heatwave response system**.

## 7. Challenges in Implementation

- According to a **Sustainable Futures Collaborative study**, most governments rely on **reactive, short-term interventions**, rather than sustained adaptation.
- Key gaps include:



- Lack of **urban greening** (e.g., tree planting, green corridors)
- Failure to **rejuvenate water bodies** that can act as natural cooling systems
- Neglect in **climate-responsive infrastructure**, such as heat-reflective roofs and urban design
- Most HAPs are **trigger-based**, activated only after an alert is issued, not integrated into broader **urban and climate planning**.

## 8. Broader Impacts of Inadequate Action

- Failure to act on heat preparedness leads to:
  - **Increased health risks**, especially among the elderly, outdoor workers, and children
  - **Loss of productivity** in agriculture, construction, and informal sectors
  - **Damage to infrastructure** like roads and power grids
  - **Water shortages** and pressure on public services during peak summer months

## 9. Long-Term Solutions Needed

- Strengthening India's heat resilience requires:
  - **Urban afforestation** and expansion of **green spaces**
  - **Reviving ponds, lakes, and rivers** to regulate micro-climates
  - Encouraging **heat-resistant building materials** and **cool roofs** in housing schemes
  - Integrating HAPs into **city development plans** and **disaster management policies**
  - Promoting **awareness campaigns** for public safety during extreme heat spells

## 10. Conclusion and Way Forward

- The rising frequency and severity of heatwaves demand a **comprehensive climate adaptation strategy**.
- While forecasting and emergency responses are vital, they must be complemented by **long-term infrastructure planning, urban cooling initiatives, and policy integration**.
- Without **proactive, science-based action**, India's population will remain vulnerable to escalating heat events, with **grave risks to public health, economic output, and social stability**.

Source: <https://indianexpress.com/article/explained/explained-climate/with-a-very-hot-summer-ahead-how-prepared-is-india-9921095/>



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