



Heat Wave: Guidelines and Preparedness

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WHAT IS A HEATWAVE?

A heatwave is an extended period of hot weather relative to the expected conditions of the area at that time of year. It can be fatal for the human body.

IMD declares a heatwave when...



The temperature of a place crosses **40°C in the plains, 37°C in coastal areas, and 30°C in the hills**

Temperature of a place is **4.5 to 6.4°C more** than the normal temperature for the region on that day. If the **increase is over 6.4°C, it is a 'severe' heat wave**



Temperature of a place **crosses the 45°C mark**. When the temp crosses 47°C, a **'severe' heat wave is declared**



Source: CSE India, Down To Earth

Background

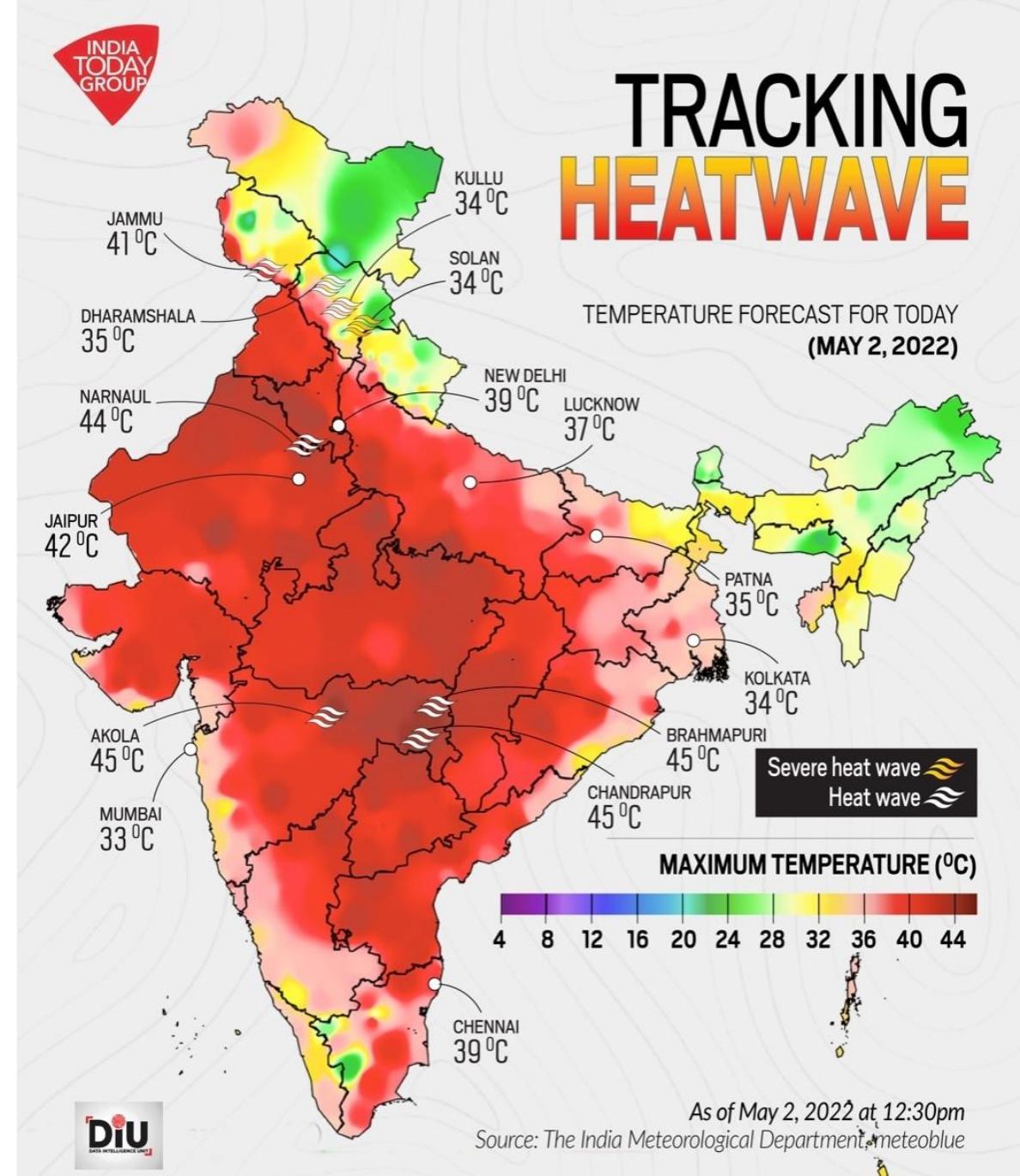
- MARCH-JUNE
- Major weather hazard in the country:
Intensity, frequency, duration, spatial distribution

Futuristic threat to be severe in India as per the IPCC report
- 5-6 events in North India and 8-10 in South India per annum on an average:
- Need to evaluate causes, vulnerability, impacts
- Plan adaptation and mitigation strategies

Year	Number of States experiencing Heat Wave
2015	9
2016	13
2017	17
2018	19
2019	23
2020	23

Context

- Slow onset
- Socio-economic dimensions
- Other meteorological factors
- Local Thresholds
- Effects sectors like Health, AH, Water, Power Supply, Education, Transport

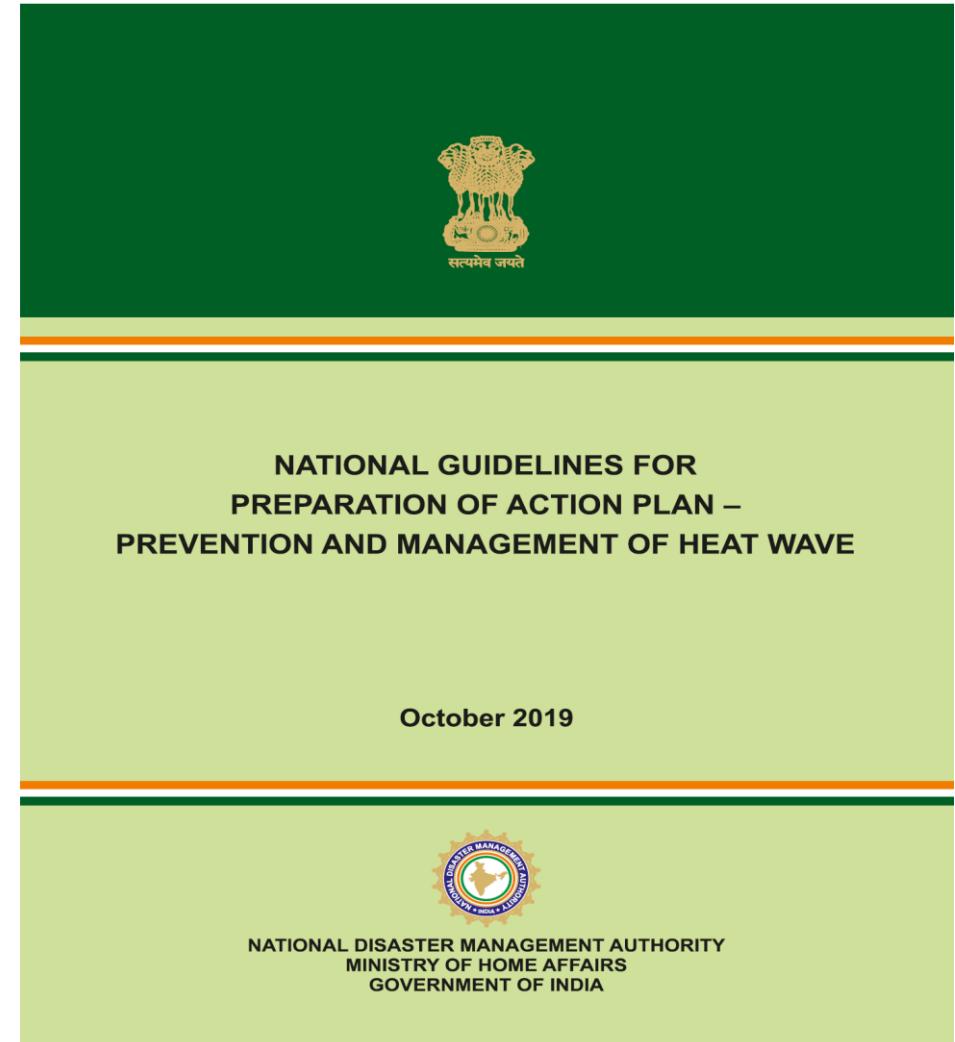


Roles and responsibilities of NDMA

- Formulation of Policy, Plan and Guideline
- Review preparedness and mitigation measures
- Inter- ministerial Coordination for preparedness activities
- Support Research on various aspects
- Public awareness and community outreach
- To develop a National Programme on Heat Wave Preparedness and Mitigation

Action taken by NDMA

- National Guidelines for preparation of action plan
 - Prevention and Management of Heat Wave – October 2019
- Expert group to build consensus on the content of the guidelines
- Awareness Generation - IEC materials
- National Workshop on “Preparedness, Mitigation & Management of Heat Wave 2020” - December, 2019, Bengaluru;
- National Webinars on Heatwave in 2021 and 2022



Building Scientific Knowhow - NDMA

- Manual on House Owners Guide to Alternate Roof Cooling Solutions, 2021
- Assessment of Vulnerability and Threshold of heat related health hazards in four Cities of India(**PHFI**) (Ongoing)
- Framework for Heat vulnerability Mapping and model Heat Action Plan for Indian Cities(**VNIT**) (Ongoing)
- Hazard analysis of heat wave including wind speed, wind direction, night temperature and consecutive heat days to issuing forecast warning 2021 (IMD)



Representational Image

Key take aways from the National workshops

1. States to formulate and implement Heat Action Plans (HAPs)
2. Need for strengthening the existing Early Warning System (EWS)
3. Need for understanding the local thresholds of Heat Wave (LT)
4. Need for appropriate **Institutional Mechanisms** for implementing the Plans
5. Need for robust **data collection** and its analysis for ensuring formulation of evidence-based policies
6. Need to improve the way we **communicate these warnings** to the last man

Contd.....

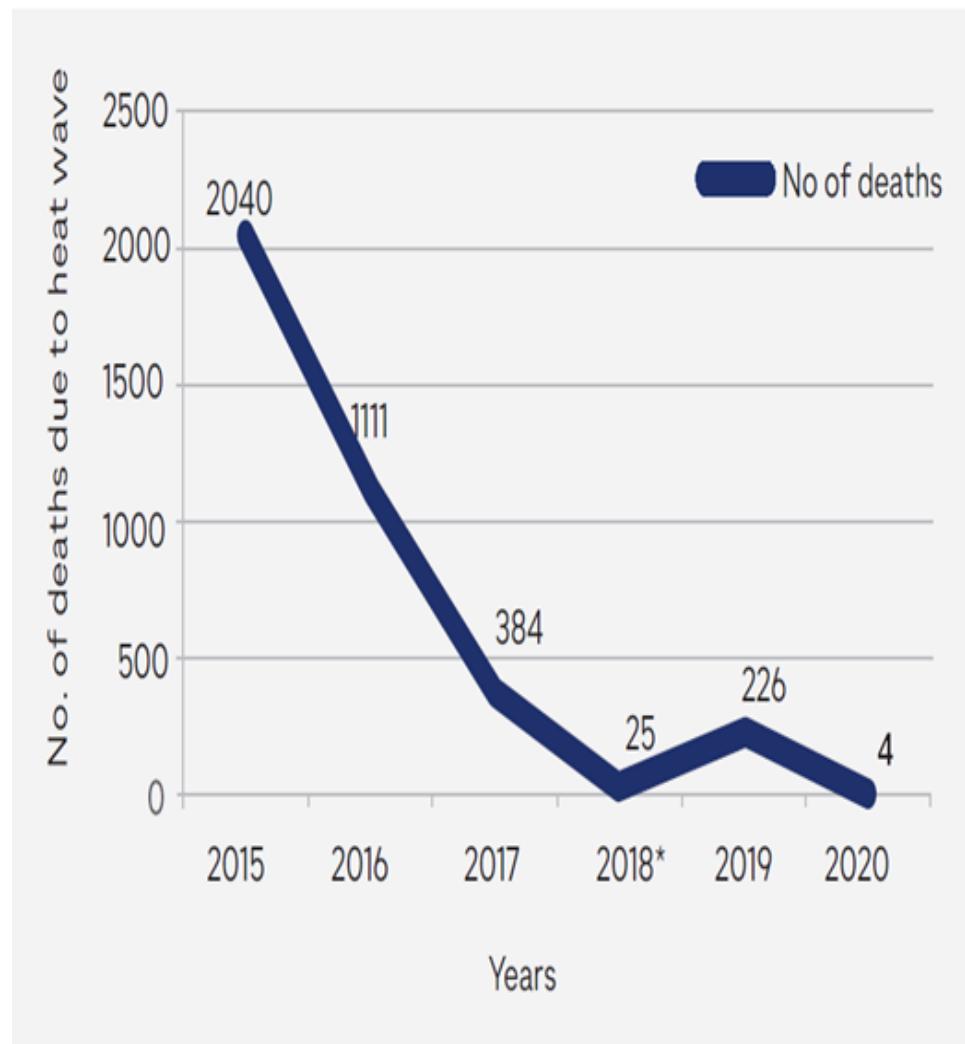
7. Research Organizations and Knowledge Centers sensitized to the Heat Risk in their respective States should take up **vulnerability assessment locally**
8. **Capacity of States** to handle multi hazardous situations needs to be built by strengthening SDMAs and DDMAs
9. States to take measures for building **suitable temperature-resistant houses** at an affordable cost for vulnerable sections.
10. Need to build the **capacity of doctors, paramedics and volunteers** to tackle health related issues under the overall ambit of Disaster Management

Heat wave action plan at state level

- To provide a framework for developing plans for implementation, inter agency coordination and impact evaluation
- To alert those at high risk of heat related illness
- To mobilise departments and communities
- To establish early warning and communication systems
- Preparedness at local level for health eventualities & Hospital preparedness
- Identification and recording of causalities – proper database management
- Assessing the impact – feedback for reviewing and updating the plan

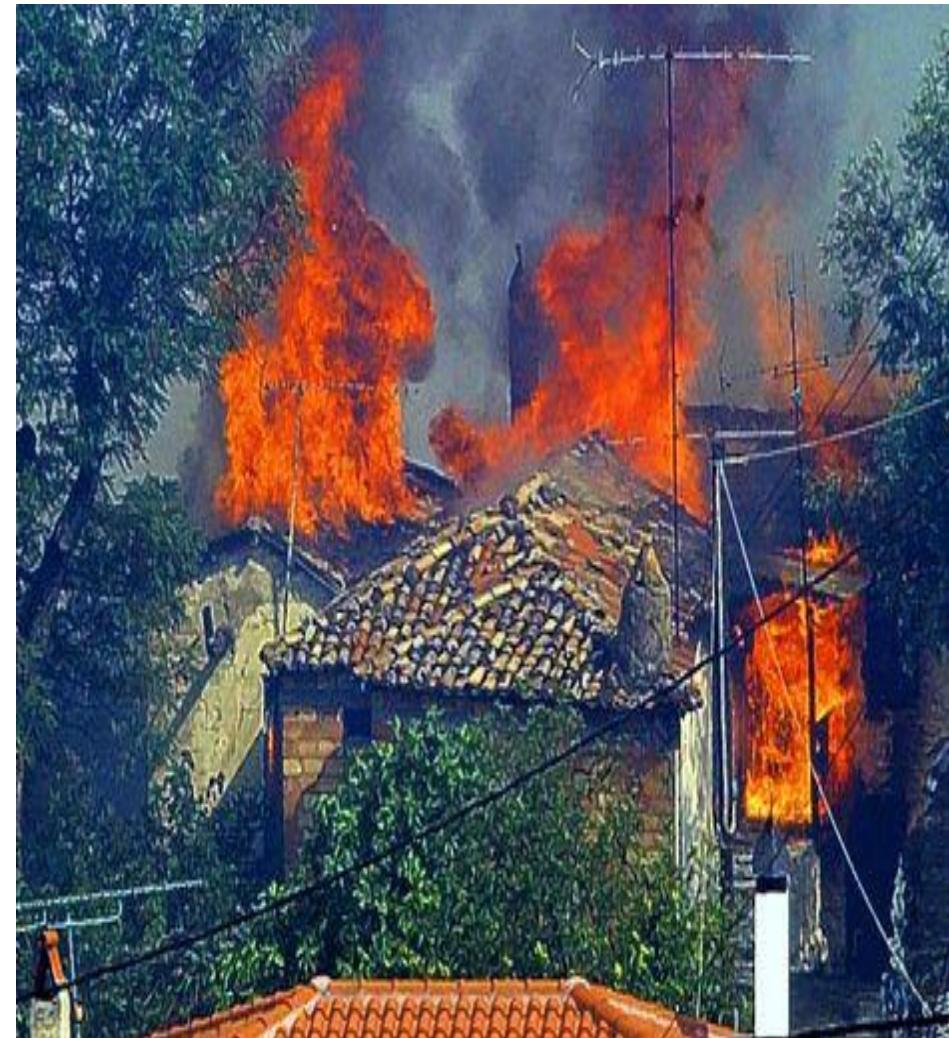
Outcomes of Interventions

- Significant Reduction in Mortality due to Heat Wave
- 17 heat-wave prone states have prepared their Heat Wave Action Plans. And more than 120 districts/cities from 14 states have also prepared their own Action Plans
- Improved Inter-agency coordination among the IMD, IDSP, NCDC, concerned ministries/departments and States
- Enhanced Awareness on Heat Wave – Enhanced Anticipatory Action by Stakeholders



Way Forward

- Understanding Heat Wave better- (Concurrent or Cascading disasters -Fire, Forest Fire, Drought, Urban Heat Island)
- Developing a loss and damage framework for capturing Heat Wave Impact
- Data Collection and Analysis for evidence based policy
- Implementation of Long-term Mitigation Strategy and Mainstreaming with development plans
- Strong academic and implementing agency partnership
- Strengthening of existing Early Warning Systems
- Capacity building of Stakeholders and volunteers





THANK YOU