

## Heat waves in India

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#### **Definition of Heat Waves**

- A Heatwave is a period of abnormally high temperatures, more than the normal maximum temperature that occurs during the summer season in the North-Western parts of India.

  • Heat Waves typically occur between March and June, and in some rare
- cases even extend till July.







### Criteria for Heat waves

The Indian Meteorological Department (IMD) has given the following criteria for **Heat Waves:** 

- Heat Waves need not be considered till the maximum temperature of a station reaches at least 40°C for Plains and at least 30°C for Hilly regions.
- When the normal maximum temperature of a station is less than or equal to 40°C:
- 1. Heatwave Departure from normal is 5°C to 6°C
- 2. Severe Heatwave Departure from normal is 7°C or more.
- When normal maximum temperature of a station is more than 40°C:
- 1. Heat Wave Departure from normal is 4°C to 5°C
- 2. Severe Heatwave Departure from normal is 6°C or more
- When actual maximum temperature remains 45°C or more irrespective of normal maximum temperature, heat waves should be declared.

## How long can a heatwave spell last?

- A heatwave spell generally lasts for a minimum of four days.
- On some occasions, it can extend up to seven or ten days.
- The longest recorded heatwave spell, in recent years, was between 18 31 May 2015. This spell had severely affected parts of West Bengal along with Odisha, Andhra Pradesh, and Telangana.
- A similar spell in 2014 was reported during June 2 June 11.

### Areas of Heat waves in India

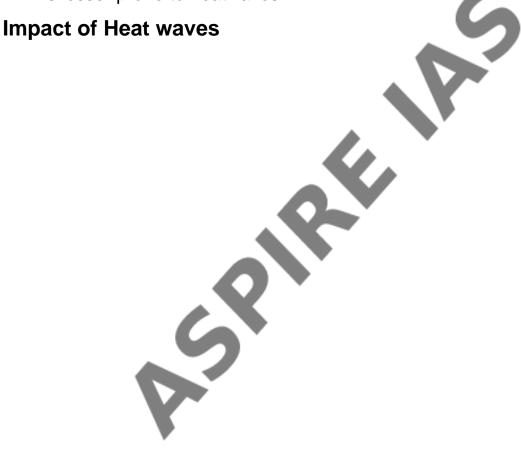






# **UPSC GS Study Notes**

- Heatwaves are common over the Core Heatwave Zone (CHZ) Rajasthan, Punjab, Haryana, Chandigarh, Delhi, West Madhya Pradesh, Uttar Pradesh, Chhattisgarh, Orissa, Vidarbha in Maharashtra, parts of Gangetic West Bengal, Coastal Andhra Pradesh, and Telangana, as categorised by India Meteorological Department.
- Several recent studies indicate that CHZ experience more than six heatwave days per year during these four months.
- Many places in the northwest and cities along with the southeastern coast report eight heatwave days per season.
- However, the regions in the extreme north, northeast, and southwestern India is lesser prone to heatwaves.







# **UPSC GS Study Notes**

- Dehydration, heat cramps, heat exhaustion, and/or heat stroke.
- It also causes heat cramps, fatigue, weakness, dizziness, headache, nausea, vomiting, muscle cramps, and sweating.
- The extreme temperatures and resultant atmospheric conditions adversely affect people living in these regions as they cause physiological stress, sometimes resulting in death.
- Older people and people with chronic illnesses such as heart disease, respiratory disease, and diabetes are more susceptible to heatstroke.
- The condition also prevents clouds from forming, allowing for more radiation from the sun to hit the ground.
- The trapping of heat can also damage crops, dry out vegetation and result in droughts.
- During blackouts and power-related issues, Houses without air conditioners experience an unbearable rise in temperature of their home which can lead to sudden deaths.

## How to help someone suffering from the heat?

- Move the person to a cool place under the shade.
- Give water or a rehydrating drink (if the person is still conscious).
- Fan the person.
- Consult a doctor if symptoms get worse or are long-lasting or the person is unconscious.
- Do not give alcohol, caffeine, or aerated drink.
  Cool the person by putting a cool wet cloth on his/her face/body.
  Loosen clothes for better ventilation.

#### Solutions for Heat waves in India

- Emergency and Public cooling shelters, portable ACs enabled public shelters, etc.
- Afforestation can cool a neighborhood by a few degrees during the hottest
- Use lighter shade in public buildings so that it absorbs less heat.
- Smarter grids and new forecasting tools could help electric utilities prepare for heat waves in the case of Blackouts.