

Mitigating risks of Heat Waves: Notes for UPSC General Studies

A heat wave is a period of extreme hot weather, accompanied by high humidity from time to time, especially in oceanic climate countries.

The topic about Heat Waves and their risks are featured in the General Studies section of the UPSC Prelims Exam.

Definition of Heat Waves

The World Meteorological Organization defines a heat wave as five or more consecutive days during which the daily maximum temperature exceeds the average maximum temperature by five degrees Celsius.

- If the maximum temperature of the affected region continues to be more than 45° C consecutively for two days, it will be declared a heat wave affected area.
- Heat wave is also called a “silent disaster” as it occurs at a slow pace, but still inflicts large-scale casualties on humans and animals alike.
- In India, heat waves typically occur between March and June, and on rare occasions, in July.
- Heat waves frequently occur in Northern India, especially in the Gangetic-belt regions.

How can risks from Heat Waves be reduced?

With the help of the following methods the problems caused by heat waves can be reduced

- **Early warning system and inter-agency coordination** –Temperature forecasts and heat alerts must be sent as bulk messages on mobile phones not just by the nodal agency in charge but also by the other relief agencies as well.
- **Medical upgradation and administrative measures** –Heat treatment wings must be created in hospitals, and an advisory on how to prevent exposure and other heat wave related injuries must circulated in schools and offices
- **Public Awareness and community outreach** – Raising public awareness messages on how to protect against extreme heat-wave situations must be done through electronic, print as well as social media, and IEC materials.
- **Collaboration with NGOs and civil society organizations** – Building temporary shelters, wherever necessary, improving water delivery systems in public areas and other innovative measures to tackle heat wave conditions must be implemented

- **Assessing the impact** –Feedback for reviewing and updating the plan for heat wave disaster risk reduction must be made a regular feature in Government actions as this can help in preparing early prevention plans in accordance with the developing situation.

Advisory by the National Disaster Management Authority of India

The National Disaster Management Authority of India (NDMA) has issued an advisory on what those in a heat wave affected area should do and not. They are as follows:

Do's

- Drink enough water and whenever possible, even if not thirsty. It is necessary to stay hydrated in these conditions.
- Schedule strenuous jobs to cooler times of the day.
- Increasing the frequency and length of rest breaks when involved in outdoor activities.
- Pregnant workers and workers with a medical condition should be given additional attention and leave if necessary.
- Planting trees and or even smaller plants will reduce the surface and air temperatures by providing shade and cooling around your house.

Don'ts

- Do not leave children or pets in parked vehicles. The metallic bodies of these vehicles will super heat the vehicles resulting in dehydration and at times even death.
- Avoid going out in the afternoons, especially around 12.00 noon and 3.00 p.m.
- Do not wear dark, heavy or tight clothing. Wearing loose clothing is advisable as it allows the body to exhale more easily
- Do not engage in physically demanding activities when the outside temperature is high.
- Do not cook during peak hours. But should you choose to, open doors and windows to ventilate the cooking area adequately?
- Drinks like tea, alcohol, coffee and aerated drinks, will dehydrate your body faster. So they must be avoided
- Avoid food items high in proteins and completely avoid eating stale food.

Relevant questions for Heat Waves and its risks

How does a heat wave occur?

A heat wave occurs when a system of high atmospheric pressure moves into an area and lasts two or more days. In such a high-pressure system, air from upper levels of our atmosphere is pulled toward the ground, where it becomes compressed and increases in temperature.

How does heat waves affect the world?

Heat waves can be dangerous, causing illnesses such as heat cramps and heat stroke, or even death. The increase in air temperature also affects the oceans, weather patterns, snow and ice, and plants and animals.

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