



## Rising heat waves

### Description

#### Theme:

- Extreme heat waves are a big problem in India and cause a lot of health and environmental issues. Heat waves are a combination of climate risks, as well as risks to society, jobs, and public health. More and more people are dying from heat waves, which means we need to find new ways to prevent these deaths during the summer months.

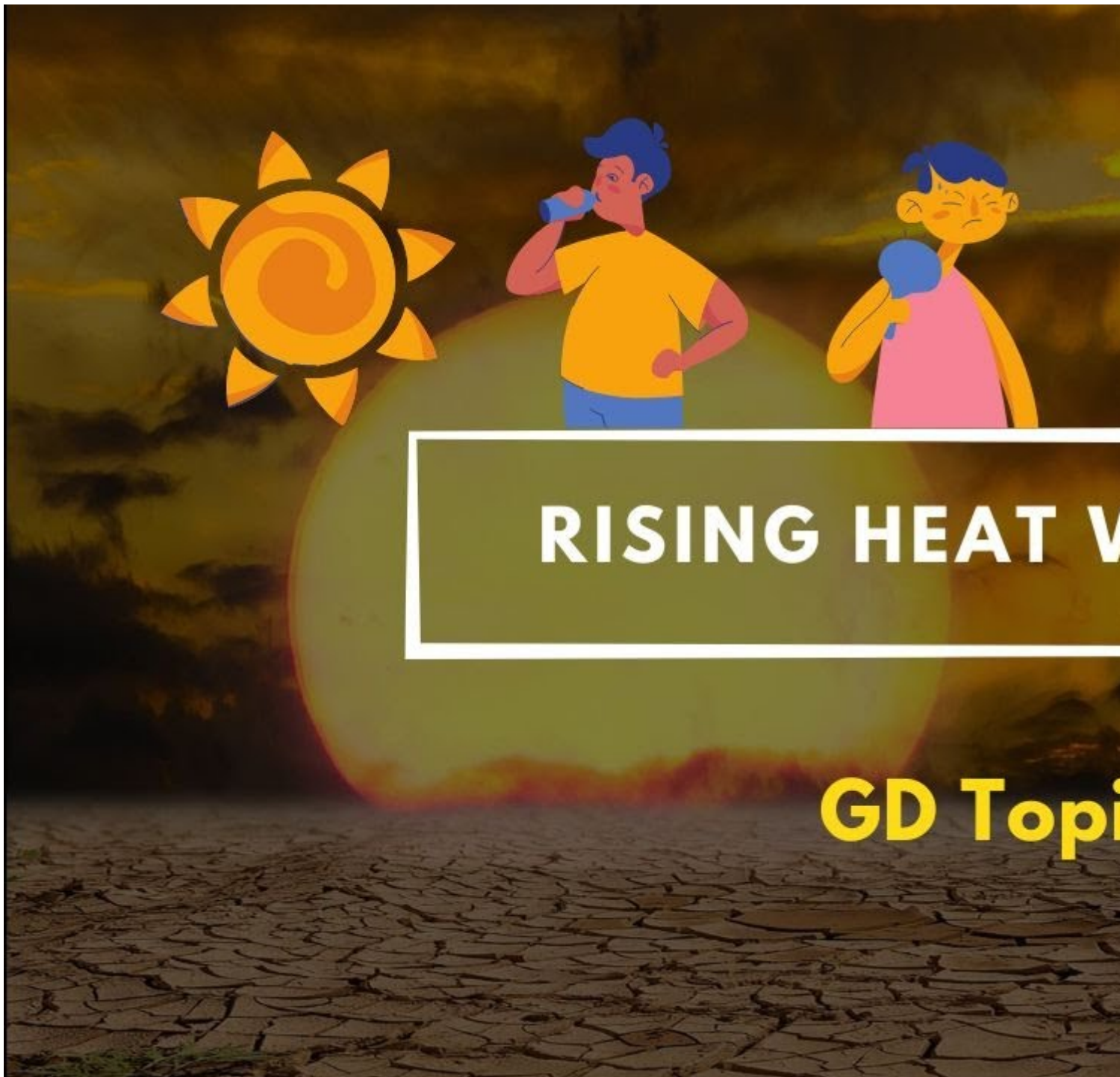
#### What is a heat wave?

- A prolonged duration of extreme heat is typically referred to as a heat wave. According to the Indian Meteorological Department (IMD), a heat wave occurs when the maximum temperature of a station reaches at least 40°C for the plains and at least 30°C for the hilly regions. Heat waves are declared when there is an increase of 5°C to 6°C from the normal temperature, and severe heatwave conditions occur when there is an increase of 7°C or more from the normal temperature.

#### Causes of heat waves:

- Less moisture in many areas leaves large parts of India arid and dry.
- The heat waves in India are partly caused by the unusual pattern of pre-monsoon rainfall coming to an abrupt halt.
- Trade winds coming from South America normally blow westward towards Asia during the Southwest Monsoon, and the warming of the Pacific Ocean results in the weakening of these winds. Therefore, moisture and heat content get limited, resulting in a reduction and uneven distribution of rainfall across the Indian subcontinent.
- The increase in global temperatures due to the buildup of greenhouse gases can contribute to heat waves becoming more frequent and intense.
- High levels of air pollution can trap heat in the atmosphere, leading to higher temperatures.
- Deforestation can contribute to heat waves by changing the balance of heat absorption and

release in a given area.



### Effects of heat waves:

- Health consequences: Heat waves can cause dehydration, heat exhaustion, and heat stroke. Prolonged exposure to high temperatures can also exacerbate existing health conditions such as heart and respiratory diseases.
- Economic impacts: Heat waves can cause reduced productivity and increased absenteeism

in the workforce. The energy demand for cooling increases during heat waves, which can cause power outages and increase energy costs.

- **Agricultural impacts:** Heat waves can damage crops and reduce yields, leading to food shortages and increased food prices.
- **Environmental impacts:** Heat waves can lead to droughts, forest fires, and the degradation of ecosystems.
- **Social impacts:** Heat waves can disproportionately impact vulnerable populations, such as the elderly, children, and low-income communities. They can also lead to social unrest, loss of work hours, and migration.

### Potential solutions for heat waves:

- **Plant more trees:** Trees can provide shade and help cool down urban areas. They also absorb carbon dioxide from the atmosphere, which helps reduce the greenhouse gas effect.
- **Improve urban planning:** Cities can be designed to reduce the urban heat island effect by incorporating green roofs, using reflective materials on buildings, and increasing the amount of green space.
- **Develop early warning systems:** Governments can develop systems to alert people to the dangers of heat waves. This can include weather forecasts, public announcements, and education campaigns.
- **Increase access to clean water:** During heat waves, people need to stay hydrated to avoid heat-related illnesses. Governments can ensure that clean drinking water is available to everyone, especially vulnerable populations.
- **Promote energy efficiency:** Reducing energy consumption can help to reduce the demand for electricity during heat waves. This can be achieved through policies that promote energy efficiency and the use of renewable energy sources such as solar and wind power.

### Conclusion:

The rise of heat waves is a significant challenge that requires urgent attention and action. The increasing frequency and intensity of heat waves have significant impacts on human health, the environment, and the economy. The causes of heat waves are multifaceted, with a combination of natural and human-made factors contributing to their occurrence. However, mitigating heat waves requires a coordinated effort from governments, the private sector, and communities. Through early warning systems, urban planning, sustainable practices, and innovative cooling technologies, we can work towards reducing the impact of heat waves. It is essential that we take proactive measures to mitigate the effects of heat waves, safeguarding the well-being of our communities and the planet.

*Photo by [Mary Taylor](#)*

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