

## Heat Waves across the World

### Why in news?

Continents like North America, Africa, Asia and Europe have been experiencing heat waves, caused by either formation of heat domes or arrival of anticyclones in most cases.

### What is a heat wave?

- A heat wave is a period of abnormally high temperatures, more than the normal maximum temperature that occurs.
- Heat waves typically occur between March and June, and in some rare cases even extend till July in India.
- [Click here](#) to know more about heat waves.

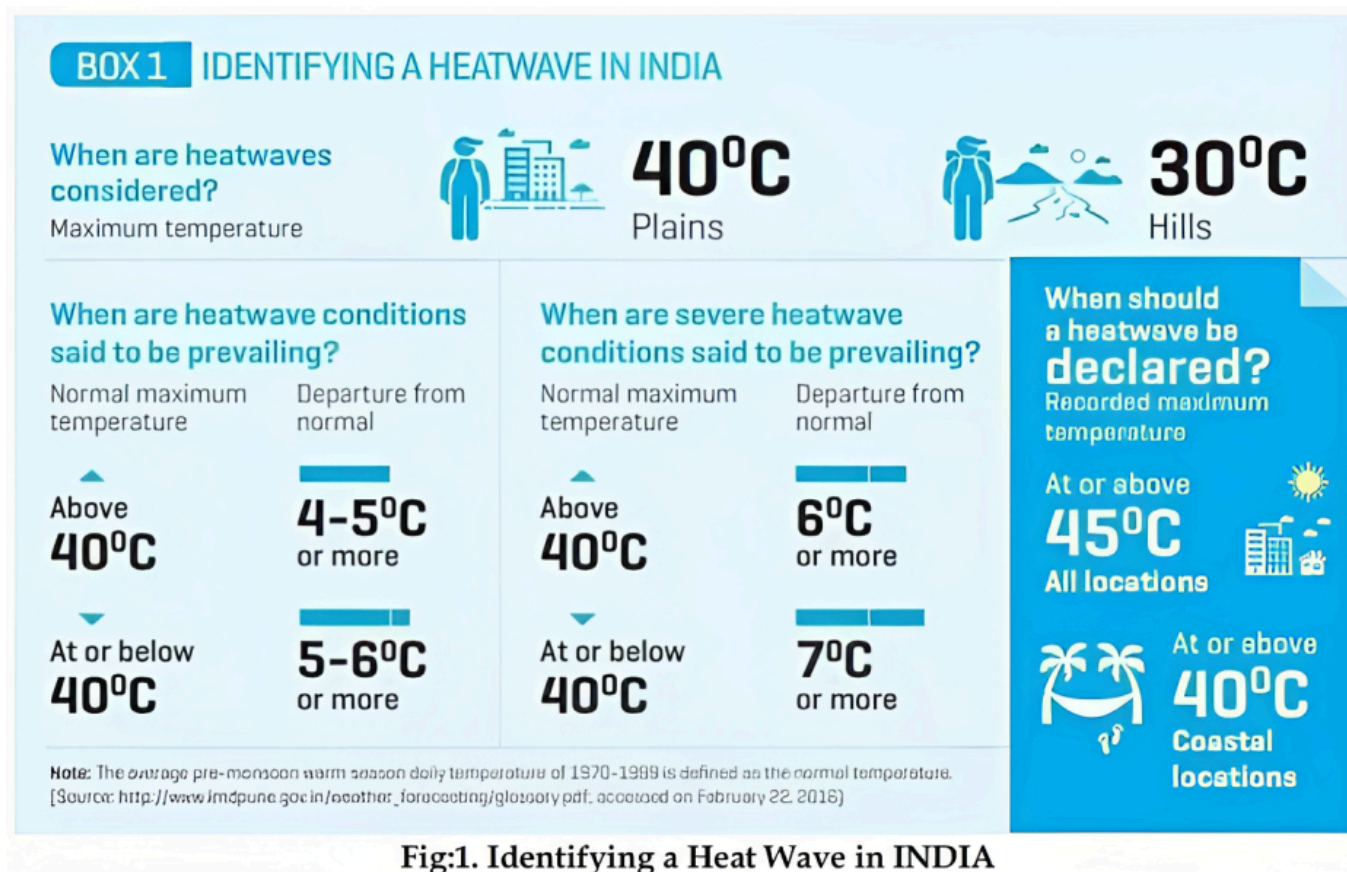


Fig:1. Identifying a Heat Wave in INDIA

### How dangerous are the 'heat waves'?

According to a study released recently, heat waves killed more than 60,000 in Europe last year.

- Heat waves are particularly lethal when they become wet bulbs.
- **Wet bulb** is a condition when high temperatures combine with high humidity.
- In such conditions, sweat from the human body isn't able to evaporate, failing to stabilise the body temperature.
- This could ultimately cause heat stroke and even death.

### How different parts of the world are affected by heat waves?

*A marine heat wave is an extreme weather event. It occurs when the surface temperature of a particular region of the sea rises to 3 or 4 degree Celsius above the average temperature for at least five days.*

- **North America** - The USA's Arizona, California and southern Nevada have been gripped by a blazing heat wave.
- Southern, western and mid-western regions of USA continue to simmer due to unusually warm waters in the Gulf of Mexico and in the western Atlantic Ocean.
- Soaring temperatures have sparked *wildfires in Canada* which have so far burned nearly 25 million acres.
- **Europe** - Countries like Italy and Greece have been gripped by two consecutive heat waves within two weeks.
- Europe witnessed record-breaking temperatures and wildfires in different areas. [Click here](#) to know more about it.
- **Africa** - Record-breaking temperatures have been reported in North Africa's Algeria crossing 50 degree Celsius mark.
- Tunisia is also impacted by severe heat with some parts of it reaching 49 degree Celsius.
- **Asia** - China has been searing under the impact of a series of heat waves since June.
- West Asian countries like Iran and Saudi Arabia also saw soaring temperatures in several regions.
- **India** - The occurrence of heat waves is expected in the month of July, on contrary temperatures have been under control because of heavy monsoon rains.
- In June 2023, more than 60 people died in *Uttar Pradesh's Ballia* after the region was hit by a heat wave.

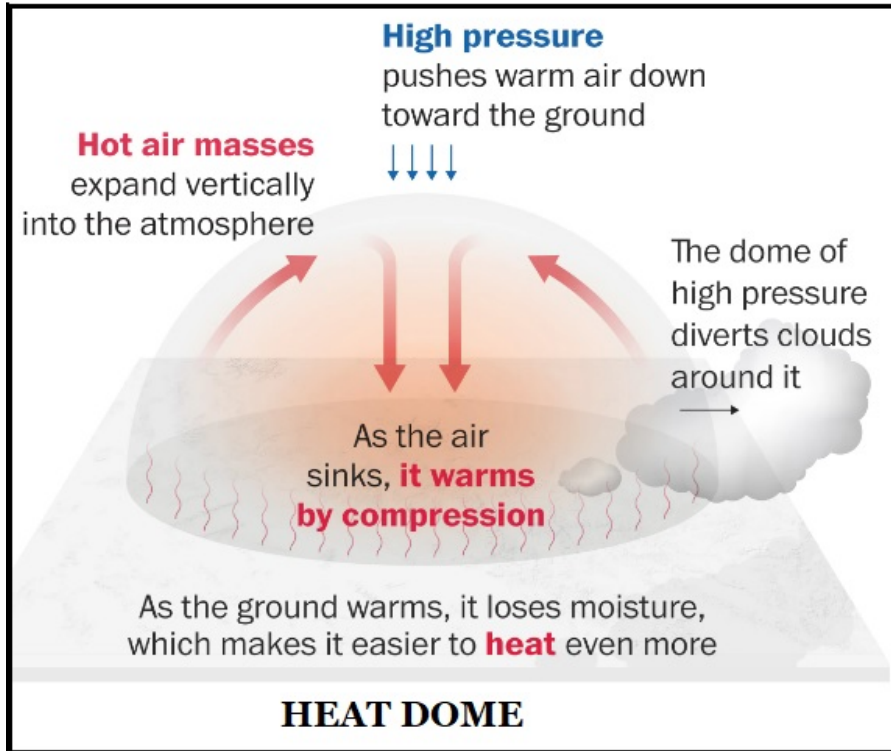
*June 2023 was the Earth's hottest June since the record-keeping of global temperatures began 174 years ago by National Oceanic and Atmospheric Administration (NOAA).*

### What is causing heat waves across the world?

- **Global warming** - Extreme weather events have a direct correlation with global warming.
- Climate change has increased the frequency and intensity of extreme weather events like heat waves and mass scale floods.
- **Heat domes** - Heat domes were responsible for unleashing heat waves the USA and

Algeria.

- [Heat dome](#) occurs when an area of high-pressure stays over a region for days and weeks.
- It traps warm air, just like a lid on a pot, for an extended period producing warmer conditions with every passing day.
- Heat domes, if they last for a long period, may cause deadly heat waves.



- **Anticyclones** - Europe has suffered due to the arrival of two consecutive [anticyclones](#) that originated in Africa.
- Anticyclone is a *high pressure system* in which the air goes downwards towards the Earth's surface.
- As the air sinks, its molecules get compressed, which increases the pressure, making it warmer and causing dry and hot weather.
- **High sea surface temperatures** - [El Nino](#) is a weather pattern that refers to an abnormal warming of surface waters in the equatorial Pacific Ocean.
- The El Nino conditions have developed for the first time in 7 years and are exacerbating the extreme heat around the world.

## References

1. [IE - What's causing heat waves across the world?](#)
2. [IE - How different parts of the world are sizzling under heat waves](#)