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.

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

