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Only IAS Academy by Grandson of "Per. unthalaivar Kamarajar"

# Heat waves in different parts of the world

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## Why in News:

The city of Phoenix, located in the United States' Arizona, on Tuesday (July 18) witnessed the 19th consecutive day of temperatures of 43.3 degree Celsius or above, breaking a record set in 1974. The development has come amid scorching heat waves that have affected millions of people not just in North America but also in Asia and Europe.

## Instances of Heatwaves across the globe

### North America

Apart from Arizona, the USA's California and southern Nevada have also been gripped by a blazing heat wave.

In a report published recently, the World Meteorological Organisation noted: "On the weekend of 15-16 July, excessive heat warnings and advisories covered more than 100 million people with "dangerous and sweltering heat" especially across much of the Western USA."

Forecasts suggest that the country's southern, western and mid-western regions will continue to simmer in the following days, partly also due to unusually warm waters in the Gulf of Mexico and in the western Atlantic Ocean that would exacerbate humidity in coastal areas and thwart nighttime cooling, WMO reported.

Daytime temperatures are expected to touch 46.7 degree Celsius in Arizona until July 21 and 46.7 degree Celsius and overnight low temperatures of more than 32.3 degree Celsius.

In the neighbouring Canada, soaring temperatures have sparked wildfires, which have so far burned nearly 25 million acres.

According to the Canadian Interagency Forest Fire Centre, as of July 16, a total of 887 wildfires were burning across the country, making it the worst wildfire season ever recorded.

### Europe

Much like North America, different areas of Europe have witnessed record-breaking temperatures and wildfires.

The continent has been struck by two consecutive heat waves, which have unofficially acquired monikers of Greek mythology figures like Cerberus and Charon.

One of the worst affected countries is Italy, where the mercury in the island of Sardinia hit 44 degree Celsius and Rome went more than 40 degree Celsius

Taking cognizance of the rapidly deteriorating conditions, health authorities issued red weather alerts for 20 of the nation's 27 main cities, with the number expected to rise to 23

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Similarly, in Greece, temperatures crossed the 40-degree Celsius mark, forcing authorities to shut down the Acropolis and other ancient sites for tourists on July 14 — officials subsequently changed the working hours at these tourist sites to allow workers to cope with the high heat.

Not only this, parched conditions have caused wildfires in southern, western and northern areas of Athens. More than 7,400 acres of forest has already been burnt and firefighters have been struggling to control the flames despite aerial water bombardments

A wildfire has also been reported on La Palma, the most northwesterly of Spain's Canary Islands. Blazing since July 15, the fire has driven out about 4,000 residents from their homes and ruined 10,000 acres of land. More than 500 firefighters, aided by several water-carrying helicopters, are trying to douse the flames.

France is also reeling under intense heat. On Tuesday, DW said a record 29.5 degrees Celsius had been reached in the Alpine ski resort of Alpe d'Huez, which is located at a height of 1,860 metres, while 40.6 degree Celsius had been recorded for the first time in Verdun in the foothills of the Pyrenees, a mountain range straddling between France and Spain.

To make matters worse, WMO's recent forecast said there is no immediate respite in sight for most of Europe and a further continuation into August is possible. High temperatures are expected to reach parts of Croatia, Serbia, southern Bosnia and Herzegovina, and Montenegro also

## **Asia**

China has been searing under the impact of a series of heat waves since June, which eventually led to a record-breaking temperature of 52 degree Celsius at the northwest township of Sanbao in Xinjiang's Turpan Depression on July 16.

The country has, notably, been facing extreme weather conditions in recent years — just six months ago, it recorded minus 50 degree Celsius.

West Asian countries like Iran and Saudi Arabia also saw soaring temperatures in several regions. Mercury went over the 50 degree Celsius mark in Saudi Arabia, temperatures in various cities of Iraq hovered around the same level.

Besides this: “At Persian Gulf International Airport on Iran's southwestern coast, the heat index — which measures how hot it really feels outside based on both temperature and humidity — hit an extraordinary high of 152 degrees Fahrenheit (66.7 Celsius)

Contrary to the aforementioned countries, in India, where the occurrence of heat waves is expected in the month of July, temperatures have been under control because of heavy monsoon rains in recent weeks. The country, however, this year faced the hottest February on record and then endured sweltering heat during April.

## **Responsibility of Climate change**

According to experts, extreme weather events have a direct correlation with global warming.

As humans have continued to burn fossil fuels at unprecedented levels over decades, more and more carbon emissions have collected in the Earth's atmosphere, causing the planet to become 1.16 degree Celsius warmer since the pre-industrial age.

This has had a catastrophic effect on the Earth's ecosystem and geography.

“The carbon dioxide that builds up in the atmosphere ... traps heat, leading to what is also known as the greenhouse gas effect – the Earth acts like a greenhouse where heat gets entrapped inside

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As a result, mass-scale floods, drought, deadly heat waves, extremely heavy rainfalls, and other such events are taking place more frequently than ever before.

And they will become even more frequent unless the world cuts greenhouse gas emissions to as close to zero as possible.

Moreover, scientists have pointed out that if the Earth breaches the 1.5 degree Celsius global warming limit by the 2030s, there could be irrevocable damage to the planet's ecosystem, which would, in turn, severely impact humans and other living beings.

The present crisis of high temperatures in different continents is also a consequence of El Nino conditions that have developed for the first time in seven years.

Essentially a weather pattern that refers to an abnormal warming of surface waters in the equatorial Pacific Ocean, El Nino is known to “greatly increase the likelihood of breaking temperature records and triggering more extreme heat in many parts of the world and in the ocean