Heatwave in North India

Why in news?

Recently, many North Indian States have been experiencing severe to very severe heatwave conditions.

What is a heatwave?

- Heatwaves occur over India between March and June.
- Meteorologists declare a heatwave event when the maximum (day) temperature for a location in the plains crosses 40 degrees Celsius.
- Over the hills, the threshold temperature is 30 degrees Celsius.
- When the day temperature jumps by 4 to 5 degrees above the normal maximum temperature of a location, it is declared as a heatwave.

How long can a heatwave spell last?

- A heatwave spell generally lasts for a minimum of four days.
- On some occasions, it can extend up to seven or ten days.
- The longest recorded heatwave spell, in recent years, was between 18 and 31 May 2015.
- This spell had severely affected parts of West Bengal along with Odisha, Andhra Pradesh, and Telangana.
- The current heatwave spell commenced on May 22, 2020 and may continue till May 29.
- Heatwave conditions occurring in May have been observed to last longer, as the season reaches its peak this month.
- Whereas those reported in June die down sooner, often due to the onset of Southwest monsoon over the location or in its neighbourhood.

Does all of India experience heatwave conditions?

- No. Heatwaves are common over the Core Heatwave Zone (CHZ).
- CHZ includes Rajasthan, Punjab, Haryana, Chandigarh, Delhi, Madhya Pradesh, Uttar Pradesh, Chhattisgarh, Orissa, Vidarbha in Maharashtra, parts of Gangetic West Bengal, Coastal Andhra Pradesh and Telangana.
- This is categorised by India Meteorological Department (IMD).
- CHZ experiences more than six heatwave days per year during these four months.

- Many places in the northwest and cities along southeast coast report 8 heatwave days per season.
- However, the regions in the extreme north, northeast and southwest India are lesser prone to heatwaves.

Why did the country experience an unusual summer?

- Summer season reaches its peak by May 15 in India, when the day temperatures across north, west, and central India is between 40-45 degrees.
- This year, north India has experienced an unusual summer without heatwaves until May 21.
- It was mainly because of the **continuous inflow of Western Disturbances** that influenced the weather in the north until April.
- Between January & March, there were about 20 Western Disturbances over the north, appearing after every five to seven days.
- Originating in the Mediterranean Sea, Western Disturbances are eastward-moving winds that blow in lower atmospheric levels.
- They affect the local weather of a region during its onward journey.
- When they interact with weather systems heading from the two southern seas, they cause snowfall or rainfall over the north.
- [Here, Southern Seas = The Bay of Bengal or the Arabian Sea]
- A significant influence of Western Disturbances is experienced during December to February.
- However, this year, its influence persisted until early May.
- The recent Western Disturbances resulted in rainfall over Rajasthan, Punjab, Uttar Pradesh, north Madhya Pradesh and Delhi until mid-May.
- This has kept the atmospheric conditions cooler than normal for summer standards.

Has cyclone Amphan influenced the current heatwave?

- The event of severe heat has emerged immediately after the passing of Cyclone Amphan, a massive Super Storm covering 700 kms.
- Therefore, the experts confirm Cyclone Amphan’s role in leading to the present heatwave spell.
- It managed to drag maximum moisture from over the Bay of Bengal, entire South Peninsula, parts of Central India and to some extent, even from the Arabian Sea.
- All the moisture got gradually depleted from over vast areas as the storm advanced towards West Bengal and Bangladesh between May 16 and 20.
- It has now triggered dry north-westerly winds to blow over Rajasthan, Madhya Pradesh, Uttar Pradesh and Maharashtra causing heatwave.

Source: The Indian Express