Dip in Delhi's Temperature - Causes

Why in news?

The minimum or night time temperature in New Delhi dropped to 4.1 degrees Celsius on 15 December 2020, the lowest during the season this year.

Why is it significant?

- A rapid decline in minimum temperature in Delhi was noted from 14.4 degrees Celsius on December 12 to 4.1 degrees on the 15th.
- The dip was five degrees below the normal temperature for this time of the year, according to the India Meteorological Department (IMD).
- IMD has also forecasted that the temperature would fall further over the next three days, both during night and day.

What is causing the dip in Delhi's temperature?

- There has been a significant amount of snowfall over the past few days in states falling in the western Himalayan range under the influence of a **Western Disturbance**.
    - These include Jammu & Kashmir, Himachal Pradesh and Uttarakhand.
- In winters, whenever an active Western Disturbance passes through the western Himalayan region, it leads to a dip in temperatures across northwest India.
    - A Western Disturbance is as an extra-tropical storm originating in the Mediterranean.
    - It is an area of low pressure that brings sudden showers, snow and fog in northwest India.
- Snowfall in the western Himalayan range means cold, north-westerly winds blowing over Delhi from the direction of this high altitude area.
- It also leads to clearing of cloud cover with the passing of Western Disturbance, and leads to a fall in temperatures.
- The lack of cloud cover also leads to higher radiation from the Earth's surface into the atmosphere at night time, which also cools the ground.
- Moreover, under the influence of an **active La Niña climate pattern**, temperatures across the globe have been dipping.
- The maximum or day time temperature has also dipped in Delhi from 29 degrees Celsius on December 10 to 19.4 on the 14th.

What does IMD forecast show?

- The IMD has forecast cold day and cold wave conditions in some parts of the city for the next three days.
    - A **cold day** is when the maximum temperature dips 4.5 degrees Celsius below normal temperature.
    - The 'normal' has been set based on climatological data of 30 years between 1981 and 2010.
    - **Cold wave** is when the minimum temperature dips to 10 degrees Celsius or less and the departure from normal temperature is 4.5 degrees Celsius or lower.
- Until December 19, the maximum temperature is forecast to be between 18 and 19 degrees Celsius.
- The minimum temperature is forecast to be between 4 and 5 degrees Celsius.

Source: The Indian Express

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