

What is a cold wave?

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In news– Delhi and other parts of northwest India have been reeling under a cold wave spell.

About cold wave-

- A cold wave is a weather phenomenon that is distinguished by a cooling of the air.
- The India Meteorological Department (**IMD**) marks a cold wave in terms of minimum temperatures – when the minimum temperature in the plains is 4 degrees or less or when the minimum temperature is less than 10 degrees and 4.5 to 6.4 degrees below the normal.
- One of the major factors contributing to colder than normal temperatures over north India this month is the large-scale fog cover.
- While **westerly and northwesterly winds of around 5 to 10 kmph in the afternoon have also been contributing** to the dip in temperature, an important factor this month is fog, which has been lasting for longer durations, preventing sunlight from reaching the surface and affecting the radiation balance.
- **Light winds and high moisture near the land surface have been contributing to the formation of a blanket of fog** over large swathes of the Indo-Gangetic plains in the morning.
- Since there has **not been any significant impact of western disturbances over the region, cold northwesterly winds have also been contributing to low temperatures.**
- Western disturbances, which are storms from the Mediterranean region, are associated with a change in wind direction, bringing easterly winds to northwest India.
- Delhi usually records cold wave spells in December and January. Over the past decade, the number of cold wave

days in January has ranged from none to seven.

Its impact on Health-

- An increase in blood pressure in the cold and blood clotting can be fatal for the heart and the brain.
- **The cold causes the blood vessels to contract.** This is known as **vasoconstriction** or the narrowing of blood vessels by small muscles in their walls and leads to high blood pressure.
- **Heart attacks occur due to blood clot formation in coronary arteries.** The fibrinogen levels in our body increase up to 23 per cent during winters. The platelet count increases as well. This can cause the blood to form clots and lead to a heart attack.
- **Hypothermia is caused by prolonged exposure to very cold temperatures** as the human body begins to lose heat at a faster pace than it is produced.
- When the human body's internal temperature drops to below 35 degrees Celsius, it will experience the symptoms of mild hypothermia.
- In case of severe hypothermia (below 28 degrees Celsius), the body may be unconscious and may not seem to have a pulse or be breathing. It will be dangerously close to death

What is heat wave?

A heatwave is a condition of air temperature, which becomes fatal to human body when exposed. It is also defined based on the temperature threshold over a region in terms of the actual temperature or its departure from normal. In certain countries, it is defined in terms of the heat index based on temperature or humidity or based on extreme percentile of the temperatures.