

Heat Wave-2022

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What is a Heat wave?

A Heat wave is an extended period of unusually of hot weather relative to the expected conditions of the area at that time of year. It can be fatal for the human body and scientifically defined as the occurrence of temperature greater than normal in a certain reason.

IMD declares a heat wave when...

- The temperature of a place's crosses 40°C in the plains, 37°C in coastal areas, and 30°C in the hills.
- Temperature of a place is 4.5 to 6.4°C more than the normal temperature for the region on that day. If the increase is over 6.4°C , it is a 'severe' heat wave.
- Temperature of a place crosses the 45°C mark. When the temperature crosses 47°C a severe heat wave is declared.

Why is March and April Sweltered?

Northwest India recorded more than four western disturbances in March and April but were not strong enough to cause a significant change in the weather. The reason also did not receive any significant pre monsoon rainfall in March and April which compounded the severity of the successive heat waves spells.

Heat wave Days

An ongoing study by the IMD showed the number of heatwave days in India increasing

- 1981-90 – 413
- 2001-10 – 575
- 2011-20 – 600

Heat waves are not uncommon to Indian subcontinent during March to May. However, what made heat wave of 2022 deadliest is that started very early and extended for a longer period. A combination of low rainfall and high temperature has a more serious impact on agriculture than when there occurs separately. The yield of wheat crops decreases

substantially when high temperature and low rainfall occurs together (sharma and majumdar, 2017). By Indian Council of Agricultural Research has shed light on extent and kind of crop damage that happened due to the scorching heat wave in the months of March and April 2022. The heat wave had infected wheat yield and subsequently, a shortage of grain. But it also resulted in poor vegetative and retarded growth, pest infestations like fall Army and whitefly attacks and viral infections in crops and live stocks. The abnormal increase in maximum and minimum temperature during 2022 impacted crops, vegetables, and animals in the 9 States of Punjab, Haryana, Rajasthan, Jammu and Kashmir, Himachal Pradesh, Uttar Pradesh, Madhya Pradesh, Bihar, and Maharashtra. Poor pod setting, wilting and force maturity, flower drop, poor pollination and prematurity were observed in Rabi crops like green gram, maize, chickpea, wheat, mustard. They were also seen Important horticulture crops like citrus, apple, cabbage, cauliflower cucumber etc. The hot weather also increased the body temperature of livestock and milch animal by 0.5 to 3.5 °C which reduced milk yields by 15% animals faced the problem of increased calf mortality and skin infection. Rise temperature also reduced egg production by up to 10% during the initial two days of the heat wave. Northwest and Central India experienced their hottest April in 122 years, with average maximum temperature reaching 35.9 °C and 38.7 °C respectively. During this period the extreme temperatures were found to be higher by 8 °C to 10.8 degree Celsius and their rainfall over by 60 to 99% compared to normal in 10 out of 36 metrological subdivisions. As a result, a reduction of vegetable yield up to 40 to 50 percent compared to normal was observed in a few areas, especially in Himachal Pradesh and Jammu and Kashmir. A reduction of 23% was observed in kin now yield in Punjab. chickpea in Haryana also experienced a yield reduction up to 19%. In Uttar Pradesh temperature increase of 5 °C in March from the normal resulted on flower drop and lots of Jhumka (a fruiting disorder) in mango trees. Similarly in Rajasthan experienced heat wave and recorded yield losses up to 4 to 5 q/ha in wheat and 2 to 3 q/ha in mustard compared to normal.