

Editorial: Telltale signs of climate change

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The human-caused climate change has been influencing the frequency and intensity of tropical cyclones. A very severe cyclonic storm, 'Tauktae' over the Arabian Sea, which has left a trail of destruction in Kerala, Goa, Karnataka, Maharashtra and Gujarat, has the telltale signs of the damage that climate change can do. The speed at which it intensified bears out the effect of global warming. The warming of oceans means cyclones are now intensifying more rapidly. Climate scientists warn that the Arabian Sea is fast becoming a cyclone hotbed. Earlier, the Bay of Bengal used to have more cyclones because the sea surface temperature remains consistently above 28 degree Celsius, while the Arabian Sea area remained a few degrees cooler. But, sea surface temperatures in the Arabian Sea have increased rapidly during the past century due to the climate crisis. Now, temperatures are often above the 'warm pool threshold', which supports the formation of intense cyclones. The intensity of cyclones has a direct bearing on global warming. Scientists have predicted that there could be a 5% increase in maximum cyclonic wind speeds if the world warmed by two degree Celsius by 2100. Rising seawater levels will intensify the destructive impact of the cyclonic storms due to increased storm surges which inundate coastal areas, bringing in seawater that decreases soil fertility and corrodes buildings. Tropical cyclones have caused 28.6% of the mortalities in the last five decades, second only to floods responsible for maximum human deaths. The strategies to minimise the losses due to natural disasters must be based on climate science.

There is a growing consensus that human activities are influencing some aspects of these extreme weather events, although the exact extent of the human influence is still difficult to determine. The world currently experiences about 100 tropical cyclones a year. As global warming gathers pace, intense cyclones from the Bay of Bengal and the Arabian Sea are making landfall with greater frequency every year. In fact, it must be said that 2020 was the year of cyclones when cyclone Amphan formed over the Bay of Bengal and travelled at great speed towards the Bengal coast, turning into a super cyclone within 24 hours. It was supercharged by gathering energy from the anomalously high sea surface temperatures in the Bay of Bengal. About a week after Amphan caused widespread havoc in West Bengal, cyclone Nisarga formed over the Arabian Sea and struck Maharashtra coast as a destructive storm front. There is a need for governments to improve cyclone preparedness plans and to invest more in monitoring technologies to track cyclones. At present, many States lack modern early warning systems and multi-purpose cyclone shelters.

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