

Increase In Temperature of Ocean Surface

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In the recent decades tropical Indian Ocean has experienced a rapid increase in ocean warming with an average rise in Sea Surface Temperature (SST) of about 1°C over the period of 1951-2015 at a rate of 0.15°C/decade. In addition, a recent study by the Indian Institute of Tropical Meteorology (IITM), an autonomous institute under the Ministry of Earth Sciences has investigated the marine heatwaves. The study shows that the western Indian Ocean had a total of 66 Marine Heat Wave (MHW) events while the Bay of Bengal had 94 events during 1982–2018. The western Indian Ocean region experienced a four-fold rise in marine heatwaves events (increasing at a rate of 1.5 events per decade) and the north Bay of Bengal experience a two-to-three fold rise (at a rate of 0.5 events per decade).

In the year 2021, there were 6 marine heatwaves recorded in the western Indian Ocean over a period of 52 days. In the north Bay of Bengal, there were 4 marine heatwaves over a period of 32 days. These heatwaves did not break all previous records but were above normal. The western Indian Ocean heatwaves in 2021 were in the top four years in terms of the number of events.

The monsoon forecast models used by the India Meteorological Department (IMD) incorporates the ocean surface temperatures as input data. These forecasts can be used for advance planning and disaster management.

This information was given by the Minister of State (I/C) for M/o Earth Sciences and M/o Science & Technology, Dr. Jitendra Singh in a written reply in Rajya Sabha today.

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