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Heatwaves trigger intense coral bleaching in Lakshadweep

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Researchers at the Central Marine Fisheries Research Institute (CMFRI) have recorded widespread bleaching impacting coral reefs in the Lakshadweep sea owing to marine heatwaves.

Survey results from various Lakshadweep islands showed that a considerable percentage of hard coral species had undergone severe bleaching, primarily due to prolonged period of marine heat waves affecting the region since late October 2023. A communication from the CMFRI said marine heatwaves were rare extreme weather



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K.R. SREENATH
Senior scientist, CMFRI

events that involved prolonged periods of abnormally high ocean temperatures. These temperatures often exceed the 90th percentile of typical regional ocean temperatures based on historical data.

According to the Nation-

al Oceanic and Atmospheric Administration (NOAA), the level of heating posed a substantial risk of coral bleaching, threatening the region's diverse marine ecosystems.

"Such heat stress levels signify a severe threat to coral health, leading to extensive bleaching where corals lose the symbiotic algae [zooxanthellae], compromising their survival by depriving them of essential nutrients. If the situation continues to rise, it could precipitate an unprecedented biodiversity crisis due to multispecies mortality," said K.R. Sreenath, senior scientist at the CMFRI.

Shelton Padua, senior scientist at the CMFRI, identifies the primary causes of marine heatwaves as excessive heat atmospheric transfer coupled with shifts in ocean currents, leading to unusually high water temperatures.

Since October 27, 2023, the Lakshadweep sea, spanning from 80.0 to 12.0 N latitude and 71.0 to 75.0 E longitude, has been experiencing these conditions, with temperatures consistently registering rises greater than 1 degree Celsius above the norm.

Since the health of marine ecosystems is integral to the livelihoods of coastal

communities, influencing tourism and fisheries sectors, Dr. Sreenath said the ongoing marine heatwaves were likely to cause significant economic losses by disrupting their vital ecosystem services. Furthermore, death and disintegration of coral reefs could threaten coastal communities, leaving them vulnerable to the impact of sea level aggressions.

"The ongoing heat waves also threaten other critical marine habitats, including seagrass meadows. Similar to corals, seagrass meadows are experiencing detrimental impacts due to heatwaves," Mr. Sreenath said.