

# Warming oceans 'warn of looming climate disaster'

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January 14 2020,  
12:00pm,  
The Times

Science

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The oceans are warming at an accelerating rate, having risen four and a half times faster since 1987 than from 1955 to 1986

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The world's oceans reached their highest temperature last year since modern records began more than 60 years ago.

The record was broken for the third year running and scientists attributed the warmth to the sea's absorption of most of the heating caused by human activity.

John Abraham, an engineering professor at the University of St Thomas in Minnesota and one of the authors of a study on [sea temperatures](#), said that the heat absorbed by the oceans was equivalent to “five Hiroshima bombs . . . every second, day and night, 365 days a year”.

The oceans absorb more than 90 per cent of all the heat added to the atmosphere by human activity. The authors of the study said ocean temperatures were one of the best ways to assess the rate of global warming. Air temperature measurements are better known, but fluctuate more.

The study, published in *Advances in Atmospheric Sciences*, said: “The past five years are the top five warmest years in the ocean . . . and the past ten years are also the top ten years on record.”

The results also show that the oceans are warming at an accelerating rate, having risen four and a half times faster since 1987 than from 1955 to 1986.

[Ocean heating](#) contributes to rising sea levels through thermal expansion. Rising heat

increases evaporation and the extra moisture in the atmosphere causes heavier rainfall.

“The oceans are really what tells you how fast the Earth is warming,” Professor Abraham told *The Guardian*. “We see a continued, uninterrupted and accelerating warming rate of planet Earth. This is dire news.

“When the world and the oceans heat up, it changes the way rain falls and evaporates. There’s a general rule of thumb that drier areas are going to become drier and wetter areas are going to become wetter.”

Michael Mann, from Penn State University, another author on the study, said: “We found that 2019 was not only the warmest year on record, it displayed the largest single-year increase of the entire decade, a sobering reminder that human-caused heating of our planet continues unabated.”

The heat absorbed by the oceans causes marine heatwaves that threaten sealife and especially coral reefs. Temperatures only 1-2C higher than the long-term summer average can cause coral bleaching, in which coral polyps expel the

colourful algae living in them.

Marine heatwaves are getting longer, more frequent and hotter, the Marine Biological Association in Plymouth found last year.

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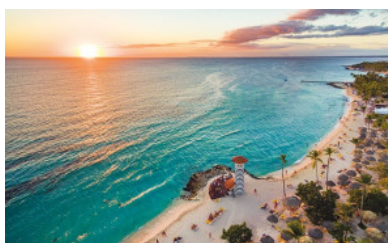
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