# Study reveals alarming increase in ocean heatwaves due to climate change



A recent study has unveiled alarming findings regarding the impact of climate change on ocean heatwaves, revealing a threefold increase in their duration. Conducted by scientists from the Mediterranean Institute for Advanced Studies in Mallorca, Spain, the research underscores the escalating intensity of these heatwaves and their detrimental effects on marine ecosystems, including critical habitats such as kelp forests and coral reefs.

The study, published in the Proceedings of the National Academy of Sciences, is considered the first extensive investigation into how the global climate crisis alters oceanic heatwave patterns. Researchers indicated that nearly half of the marine heatwaves recorded since the year 2000 would not have occurred without the influence of global warming, primarily attributed to the combustion of fossil fuels.

Marta Marcos, the lead researcher, highlighted the situation in the Mediterranean, where certain marine heatwaves have been measured at temperatures reaching 5°C above average. "It’s horrible when you go swimming. It looks like soup," she remarked during her commentary regarding the current state of the ocean waters in the region. The effects are not limited to aesthetic discomfort; these heating trends adversely impact the health of vital underwater ecosystems such as seagrass meadows. Additionally, Marcos noted that "warmer oceans provide more energy to the strong storms that affect people at the coast and inland," suggesting an augmentation of extreme weather events linked to this phenomenon.

The data indicates a significant change in the intensity and frequency of marine heatwaves over recent decades. While the ocean surface experienced an average of approximately 15 days of extreme heat per year in the 1940s, this figure has surged to nearly 50 days globally in contemporary times. Certain regions, such as the Indian Ocean, the tropical Atlantic, and the western Pacific, are now enduring upwards of 80 heatwave days annually. This trend is particularly alarming in the context of cooler seas, where the influx of additional heat can drive more severe temperature increases, as evidenced in regions like the Mediterranean Sea and the North Sea.

Recent history has witnessed several major marine heatwaves, including a prolonged event in the Pacific Ocean from 2014 to 2015 that resulted in extensive marine life fatalities. The Tasman Sea experienced intense heat during the period of 2015 to 2016, and the Mediterranean recorded unprecedented sea temperatures in 2023.

Marcos emphasised the urgent need to address the root causes of climate change, stating, "the only solution is cutting the burning of fossil fuels." She explained that more than 90% of the excess heat resulting from greenhouse gas emissions is absorbed by the oceans; thus, controlling atmospheric warming is critical for mitigating ocean temperature increases.

The report serves as a significant contribution to the ongoing discourse on climate change, highlighting the growing urgency for addressing its effects on global marine environments.

Source: [Noah Wire Services](https://www.noahwire.com)

## References

* <https://www.irishexaminer.com/news/arid-41613697.html> - This article supports the claim that the duration of ocean heatwaves has significantly increased due to the climate crisis, further exacerbating storms and marine ecosystem damage.
* <https://eo4society.esa.int/projects/careheat/> - This link provides information on the detection of marine heatwaves, which aligns with the study's focus on their increasing intensity and impact on marine environments like the Mediterranean.
* <https://imedea.uib-csic.es/en/communication-and-scientific-literacy/news/?new_id=2023> - This resource corroborates the intensification of marine heatwaves in the Mediterranean, particularly during summer months, affecting ecological habitats.
* <https://www.icm.csic.es/en/news/marine-heat-waves-leave-80-coral-northwestern-mediterranean-very-fragile-condition> - This study highlights the devastating effects of marine heatwaves on coral reefs and benthic species in the Mediterranean, consistent with the article's mention of impacts on vital underwater ecosystems.
* <https://pubmed.ncbi.nlm.nih.gov/35848527/> - This PubMed entry supports the notion that climate change is driving increased mass mortality events in marine organisms due to heatwaves, underscoring the ecological risks mentioned in the article.