# Marine heatwaves hit record highs around UK coasts, sparking ecological and economic alarm



In recent months, the alarming phenomenon of marine heatwaves has increasingly captured global attention, particularly around the UK, where sea temperatures have reached unprecedented levels. This spring, the warm waters became a focal point of public discourse, with a report indicating that the North Sea and Celtic Sea were recording average temperatures four degrees warmer than usual, marking an "exceptionally" prolonged heatwave that has implications for both marine ecosystems and human activity.

In May 2023, the UK not only experienced soaring sea surface temperatures but also recorded its warmest May since records began in 1850, with temperatures reaching approximately 1.6°C above the average from 1961 to 1990. Professor Stephen Belcher, Chief Scientist at the Met Office, described the month as particularly significant, not just for its record temperatures but for the implications these trends hold for the future of marine life. The heatwaves defined as periods where temperatures exceed seasonal thresholds for over five consecutive days have become more frequent and intense, raising concerns among scientists and environmentalists alike regarding the health of marine ecosystems.

The effects of these marine heatwaves are already becoming apparent. Reports highlight a surge in jellyfish populations and harmful algal blooms that pose threats to swimming areas and marine biodiversity. As well as changing the composition of marine life, these phenomena could disrupt fishing industries, which are foundational to many coastal communities. Recent assessments noted that significant rises in seawater temperatures have led to the mortality of seabird species like puffins and could potentially endanger local fisheries vital to the economy.

The Sainsbury Centre has launched a thought-provoking programme titled "Can the Seas Survive Us?", which seeks to address these pressing environmental concerns. The exhibition, featuring works that interrogate the urgent realities of climate change, emphasises not only the need for ecological restoration but also the immediate actions required to mitigate its effects. In a conversation with artist Josh Kline, who presents his speculative work "Adaption" at the centre, he remarked, “Human beings will have to adapt to a more dangerous world with higher seas, more fires, and less arable land.” His insights resonate with a broader scientific consensus that radical change is now unavoidable and that humanity must grapple with its own role in exacerbating these crises.

The exhibitions, including "A World of Water" and "Darwin in Paradise Camp" by artist Yuki Kihara, underline the interconnectedness of climate systems and the ocean's health, which is critical for sustaining life on Earth. As these artworks provoke deep reflection on humanity's relationship with the natural world, they simultaneously foster dialogue about adaptive strategies that can help prevent further damage to marine ecosystems. The urgency is palpable; as rising temperatures threaten various marine species, the challenge now lies in devising equitable and effective responses to a rapidly changing environment.

Thus, the question remains: Can the seas survive us? With the pressing reality of climate change manifesting more vividly in our coastal waters, this exhibition season confronts us not only with artistic interpretations of our changing world but also with the urgent necessity for substantial action to protect our oceans and, by extension, our future.

### 📌 Reference Map:

* Paragraph 1 – [[1]](https://www.edp24.co.uk/news/25212982.sainsbury-centre-explores-whether-seas-can-survive-us/?ref=rss), [[2]](https://www.metoffice.gov.uk/blog/2023/may-2023-a-record-for-uk-sea-surface-temperature-says-met-office-chief-scientist)
* Paragraph 2 – [[2]](https://www.metoffice.gov.uk/blog/2023/may-2023-a-record-for-uk-sea-surface-temperature-says-met-office-chief-scientist), [[3]](https://www.theguardian.com/environment/2023/jun/19/marine-heatwave-uk-irish-coasts-threat-oysters-fish-high-temperatures), [[4]](https://www.telegraph.co.uk/news/2023/06/19/extreme-marine-heatwave-declared-north-sea-jellyfish-coast/)
* Paragraph 3 – [[5]](https://www.theguardian.com/environment/2024/nov/23/catastrophic-marine-heatwaves-are-killing-sealife-and-causing-mass-disruption-to-uk-fisheries), [[6]](https://www.euronews.com/green/2023/06/20/meteorologists-observe-record-breaking-marine-heatwaves-off-uk-and-ireland)
* Paragraph 4 – [[1]](https://www.edp24.co.uk/news/25212982.sainsbury-centre-explores-whether-seas-can-survive-us/?ref=rss), [[6]](https://www.euronews.com/green/2023/06/20/meteorologists-observe-record-breaking-marine-heatwaves-off-uk-and-ireland)
* Paragraph 5 – [[1]](https://www.edp24.co.uk/news/25212982.sainsbury-centre-explores-whether-seas-can-survive-us/?ref=rss), [[3]](https://www.theguardian.com/environment/2023/jun/19/marine-heatwave-uk-irish-coasts-threat-oysters-fish-high-temperatures)

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## Bibliography

1. <https://www.edp24.co.uk/news/25212982.sainsbury-centre-explores-whether-seas-can-survive-us/?ref=rss> - Please view link - unable to able to access data
2. <https://www.metoffice.gov.uk/blog/2023/may-2023-a-record-for-uk-sea-surface-temperature-says-met-office-chief-scientist> - In May 2023, the UK experienced record-breaking sea surface temperatures, with the North Atlantic, including areas around the UK, reaching the highest temperatures for any May since 1850. Professor Stephen Belcher, the Met Office Chief Scientist, noted that May 2023 was the warmest May on record, with temperatures approximately 1.60°C above the 1961-1990 average. This anomaly was particularly significant in parts of north-western Europe, including the UK, where sea-surface temperatures were among the highest relative to average.
3. <https://www.theguardian.com/environment/2023/jun/19/marine-heatwave-uk-irish-coasts-threat-oysters-fish-high-temperatures> - An unprecedented marine heatwave off the coasts of the UK and Ireland posed a serious threat to marine life in June 2023. Sea temperatures, especially off the north-east coast of England and the west of Ireland, were several degrees above normal, setting records for late spring and early summer. The Met Office reported that global sea surface temperatures in April and May reached an all-time high for those months, with June also on course to hit record heat levels. The US National Oceanic and Atmospheric Administration classified parts of the North Sea as a category four 'extreme' marine heatwave, with areas off the coast of England up to 5°C above usual temperatures.
4. <https://www.telegraph.co.uk/news/2023/06/19/extreme-marine-heatwave-declared-north-sea-jellyfish-coast/> - In June 2023, an extreme marine heatwave was declared off the British coast, with temperatures in the North Sea up to 6°C warmer than usual for that time of year. This significant temperature increase pushed the sea into the extreme heatwave category, according to the US National Oceanic and Atmospheric Administration. The elevated temperatures were likely to attract more basking sharks, jellyfish, and algal blooms, posing potential risks to swimmers and dog walkers. The change meant temperatures offshore were likely to have risen as high as 18°C, compared with the temperatures of around 12°C that are more common for this time of year.
5. <https://www.theguardian.com/environment/2024/nov/23/catastrophic-marine-heatwaves-are-killing-sealife-and-causing-mass-disruption-to-uk-fisheries> - In early summer 2023, the UK experienced a marine heatwave that led to significant rises in sea water temperatures off the north-east coast of England and the west of Ireland. For more than two weeks, the sea in these regions was around five degrees above normal temperatures, setting records for late spring and early summer. The Met Office reported that the North Sea and north Atlantic experienced higher temperatures at the same time, with sea temperatures reaching an all-time high, according to records dating back to 1850. Marine heatwaves also caused the mass mortality of seabirds such as puffins. As global temperatures continue to rise, scientists believe it is inevitable that many more of these record-breaking heatwaves will affect waters around Britain and Ireland in the near future, with concerns about the impact on marine life and fisheries.
6. <https://www.euronews.com/green/2023/06/20/meteorologists-observe-record-breaking-marine-heatwaves-off-uk-and-ireland> - In June 2023, meteorologists observed record-breaking marine heatwaves off the coasts of the UK and Ireland. Sea temperatures were up to five degrees Celsius warmer than normal for that time of year, with parts of the North Sea classified as a category four 'extreme' marine heatwave by the US National Oceanic and Atmospheric Administration. The elevated temperatures were particularly high around the north-east coast of England and the west of Ireland. Warming seas could bring jellyfish and basking sharks closer to the shore and cause poisonous algae to bloom. The marine heatwave deeply concerned marine scientists, with some noting that such temperatures at this time of year were unprecedented.
7. <https://edition.cnn.com/2023/06/20/europe/marine-heatwave-north-atlantic-climate-scn-intl/index.html> - In June 2023, the North Atlantic experienced a 'totally unprecedented' marine heatwave, with temperatures around 1.25 degrees Celsius above average. The UK Met Office reported that the eastern Atlantic, from Iceland down to the tropics, was much warmer than average, with areas around parts of north-western Europe, including parts of the UK, having among the highest sea-surface temperatures relative to average. Scientists expressed concern over the rapid changes in the ocean basin, noting that such temperatures were beyond the worst-case predictions for the changing climate of the region.