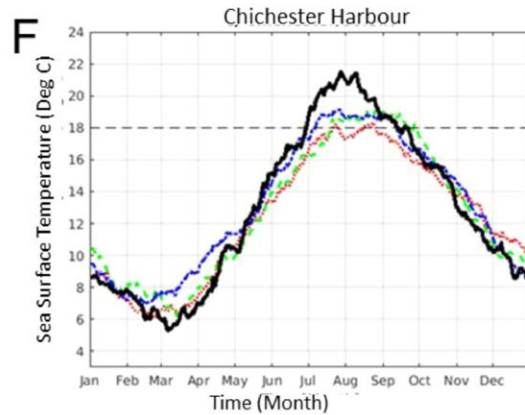
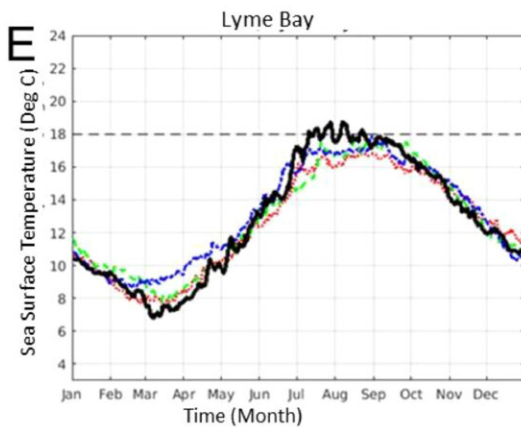
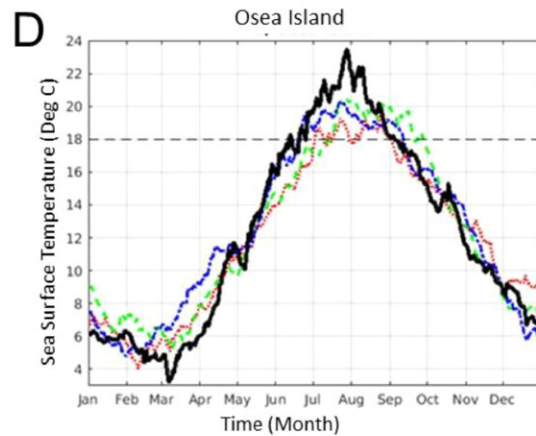
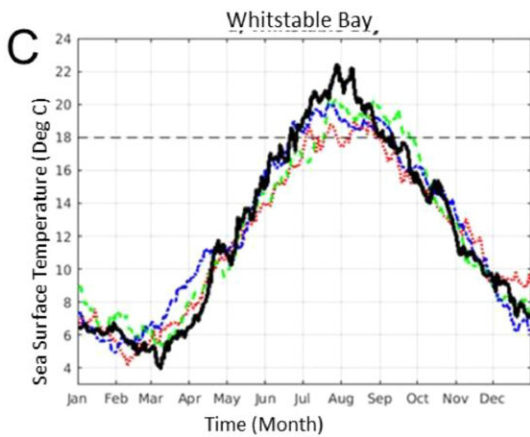


New bacteria found in UK waters as temperatures rise

January 10 2022



Site	N°	E°
Aberystwyth	52.5	-4.1
Bangor	53.24	-4.095
Blackpool	53.7	-3.1
Bristol Channel	51.25	-3.2
Caernarfon	53.12	-4.295
Chichester Harbour	50.825	-1.1
Cliffe Pools	51.45	0.5
Exmouth	50.6	-3.2
Lyme Bay	50.695	-2.93
Osea Island	51.73	0.81
Poole	50.67	-1.91
Selsey	50.75	-0.9
Swanage	50.6	-1.9
Teignmouth	50.54	-3.49
Thames Estuary	51.5	1
The Wash	52.9	0.3
Weymouth	50.59	-2.48
Whitstable Bay	51.34	1.01



Time series of sea-surface temperature data [deg C] (at foundation depth, from OSTIA) from 2015-2018 in England and Wales. For 2015 (red dotted), 2016

(green dashed), 2017 (blue dash-dot) and 2018 (black solid). Credit: DOI: 10.1016/j.watres.2021.117942

Rising temperatures are causing a "growing diversity" of *Vibrio* bacteria in the sea around the UK, new research shows.

The study, led by the University of Exeter, found two *Vibrio* species—*Vibrio rotiferianus* and *Vibrio jasicida*—that have never been recorded in UK waters before.

These species can harm sea creatures such as [shellfish](#), but the increasing range of *Vibrio* species also raises concerns for [human health](#).

Some *Vibrio* bacteria can cause gastroenteritis when eaten in raw or undercooked shellfish, and the bacteria can also cause skin infections.

The researchers say the spread of *Vibrio* species has resulted in a "worldwide surge" of vibriosis infections in humans and aquatic animals.

"*Vibrio* species can often be found in UK waters in summer, when temperatures are more favorable for them," said Dr. Sariqa Wagley, of the University of Exeter.

"With [sea-surface temperatures](#) rising due to [climate change](#), *Vibrio* activity in the waters is more common, and the diversity of *Vibrio* species is now increasing."

The study used Met Office data to identify locations where summer sea-surface temperatures were favorable for *Vibrio* bacteria (based on average number of days per year warmer than 18°C).

Researchers then analyzed shellfish samples from four sites used by the shellfish industry—Chichester Harbor, Osea Island, Whitstable Bay and Lyme Bay.

"We found *Vibrio parahaemolyticus*—the leading cause of seafood-borne gastroenteritis worldwide—at Chichester Harbor," Dr. Wagley said.

"*Vibrio alginolyticus*, which can also cause illness in humans, was identified at three of the sites that had sea-surface temperatures above 18°C (Chichester Harbor, Osea Island and Whitstable Bay).

"It is important to note that thorough cooking kills harmful *Vibrio* bacteria in seafood.

"However, increasing abundance and diversity of *Vibrio* bacteria creates health risks not only for people eating seafood, but for those using the sea for recreation purposes—either due to swallowing infected seawater or from the bacteria entering exposed wounds or cuts.

"*Vibrio* bacteria are also a threat to a variety of marine species including shellfish themselves. Disease costs the global aquaculture industry £6 billion a year, and this burden of disease can be devastating.

"We have not seen mass mortality of shellfish due to *Vibrio* [bacteria](#) here in the UK yet, but this has occurred elsewhere—including in France and Australia."

Dr. Wagley added: "Our findings support the hypothesis that *Vibrio*-associated diseases are increasing and are influenced by the rise in sea-surface temperature.

"We need to monitor this situation closely, to protect human health,

marine biodiversity and the seafood industry."

Dr. Joanne Preston, from the University of Portsmouth, said: "It is important to monitor the impact of increasing sea surface temperature on potential shellfish pathogens, not just for human health and safety, but also to understand the resilience of our coastal species and habitats to climate change."

Dr. Luke Helmer, from the Blue Marine Foundation and the University of Portsmouth, added: "The impacts of climate change on the marine environment are likely to be widespread.

"Understanding how these changes will affect ecologically and commercially important species and the people that rely on them will be crucial moving forward, in order to mitigate against them."

The study—funded by Biotechnology and Biological Sciences Research Council (BBSRC) – was supported by Chichester and Havant Council and Sussex Inshore Fisheries and Conservation Authority.

The paper, published in the journal *Water Research*, is titled: "The increased prevalence of *Vibrio* [species](#) and the first reporting of *Vibrio jasicida* and *Vibrio rotiferianus* at UK shellfish sites."

More information: Jamie Harrison et al, The increased prevalence of *Vibrio* species and the first reporting of *Vibrio jasicida* and *Vibrio rotiferianus* at UK shellfish sites, *Water Research* (2021). [DOI: 10.1016/j.watres.2021.117942](https://doi.org/10.1016/j.watres.2021.117942)

Provided by University of Exeter

Citation: New bacteria found in UK waters as temperatures rise (2022, January 10) retrieved 11 May 2024 from <https://phys.org/news/2022-01-bacteria-uk-temperatures.html>

This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.