

Future climate change may not adversely impact seafood quality, research suggests

October 31 2017, by Alan Williams



Credit: University of Plymouth

The eating qualities of UK oysters may not be adversely affected by future ocean acidification and global warming, new research has suggested.

Scientists have previously demonstrated that predicted increases in temperature and carbon dioxide levels within the marine environment can induce physiological changes in oysters.

However, a study by the University of Plymouth has shown oysters

exposed to levels currently expected to occur over the next century do not lose their sensory qualities.

Writing in *Frontiers in Marine Science*, the researchers say this has potentially positive implications for future global food supply.

PhD student Anaëlle Lemasson, who led the study, said:

"Many organisms struggle to cope under the conditions created by [ocean acidification](#) and warming, but the impact on taste and other sensory qualities has not been fully assessed. Our study gives an insight into how the consumer appeal for oysters might evolve in the future, and suggests that short-term exposure does not have any detrimental effects on their overall acceptability. However, there is still a lot to learn about the full implications of these conditions on their taste or nutritional quality."

Recent figures have suggested that seafood represents an estimated 17% of the global population's animal protein intake.

With the population expected to reach up to 12.3 billion by 2100, researchers say the demand for animal protein is unlikely to be met by terrestrial farming and there will be increasing reliance on the [marine environment](#).

For this study, scientists used the Pacific [oyster](#) (*Crassostrea gigas*) and samples were exposed to CO₂ and temperature levels currently projected to occur in the year 2100.

After five days, a panel of five experts was then asked to assess the samples in terms of their appearance, aroma, taste and overall acceptability.

The results showed the overall acceptability was not diminished by the

increased levels, while some aspects of the oysters' texture and appearance was actually enhanced.

Dr Antony Knights, Lecturer in Marine Ecology at the University, said:

"Environmental conditions in our oceans are increasingly punctuated by short-term, acute changes in temperature and pH as a result of global climate change. These results suggest commercially-important shellfish may well be resilient to these changes which is [good news](#) for producers and consumers alike."

Professor of Marine Biology Jason Hall-Spencer, an expert on the global impact of ocean acidification, added:

"It is clear that carbon dioxide emissions are having widespread adverse effects on marine organisms, killing large areas of the Great Barrier Reef this year. Scientists are now starting to focus on how we can adapt to these rapid changes to sustain the marine economy. It came as a surprise, and very good news, that the food [quality](#) of oysters can remain high despite increases in [ocean](#) acidity and temperature."

More information: Sensory qualities of oysters unaltered by exposure to elevated pCO₂ and temperature *Front. Mar. Sci.*. [DOI: 10.3389/fmars.2017.00352](#)

Provided by University of Plymouth

Citation: Future climate change may not adversely impact seafood quality, research suggests (2017, October 31) retrieved 6 July 2024 from <https://phys.org/news/2017-10-future-climate-adversely-impact-seafood.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.