

# Does the European public understand the impacts of climate change on the ocean?

11 July 2017



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The oceans are our lifeline and the lungs of our planet producing 70% of the oxygen we breathe. They regulate our climate and provide us with food, new medicines, and energy. However, the ocean - and therefore the future of humanity - is threatened by climate change. But how much does the public really understand the impacts of climate change and what can be done to facilitate better communication between scientists, the media, government, NGOs, and the public?

An opinion poll of 10,000 citizens published in *Frontiers in Marine Science* is the first in-depth study looking at public engagement with marine [climate change](#) issues across 10 European countries. Although most of the European population are relatively well informed about marine [climate](#) change issues, "a surprising number are poorly informed, and even misinformed revealing a major failure at communicating climate change science to the public" explains Prof. Carlos Duarte, co-author on the paper and Director of the Red Sea Research Center in Saudi Arabia.

54% of European citizens believe that humans play only a partial role or no role in climate change. Many who thought that they were well informed on the impacts of climate change on the ocean believe scenarios that may happen by 2100 if we

do not reduce [greenhouse gas emissions](#) have already occurred e.g. loss of Arctic sea-ice in the summer (26% of respondents) and sea temperature increases of more than 2°C (30% of respondents). "This is hugely disturbing because if these changes have already occurred in their minds, what incentive do these citizens have to demand action to prevent such changes?" says Duarte.

The European public perceive ocean pollution as the most severe human impact on the ocean, however they are not well informed on [ocean acidification](#) caused by [carbon dioxide emissions](#). Melting sea ice, coastal flooding, sea level rise, and [extreme weather events](#) were also of concern. Interestingly, nations that have already been coping with problems, such as the Dutch with [sea level rise](#) and the Norwegians with sea-ice loss, are the least concerned with the impacts of climate change. Citizens declared very little trust in government institutions and their scientists and have the most trust in scientists employed by universities.

Lead author Paul Buckley from the Centre for Environment, Fisheries and Aquaculture Science (Cefas) in the United Kingdom explains "the study shows that we don't all engage with issues around [climate change impacts](#) on the coast and seas in the same way. Awareness and levels of concern are generally higher for people living closest to the sea, women, Southern Europeans and increases with age. We need to tailor our message given the differences in how audiences across Europe engage with these issues. Making issues that seem remote from people's everyday lives relevant is certainly a challenge".

"We are at a time when decisions made will have irreversible consequences and this level of misinformation is a huge vulnerability for society in general and for future generations" says Duarte. "The survey calls for a major shift in the way we communicate climate change with far less

emphasis on what changes may occur in the future, as these can be misinterpreted by the public, and we need a greater involvement of university scientists".

**More information:** Paul J. Buckley et al, Ten Thousand Voices on Marine Climate Change in Europe: Different Perceptions among Demographic Groups and Nationalities, *Frontiers in Marine Science* (2017). [DOI: 10.3389/fmars.2017.00206](https://doi.org/10.3389/fmars.2017.00206)

Provided by Frontiers

APA citation: Does the European public understand the impacts of climate change on the ocean? (2017, July 11) retrieved 22 September 2019 from <https://phys.org/news/2017-07-european-impacts-climate-ocean.html>

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