



What is ocean acidification?

The oceans absorb about 30% of human-generated CO₂ emissions, leading to changes in seawater carbonate chemistry that are referred to collectively as 'ocean acidification' (OA).

Long-term observations of OA have shown an increase in surface ocean acidity of 26% since pre-industrial times. The current global rate of OA exceeds, by at least an order of magnitude, the rates inferred for the Paleocene - Eocene Thermal Maximum (PETM), which occurred approximately 56 Million years ago. At the current rate of CO₂ emissions, an increase in acidity of 100-150% by the end of this century is predicted.

OA exerts stress on calcifying marine organisms as seawater becomes ever more corrosive to marine life. Other marine organisms can be affected also. On an ecosystem scale, disruption of the marine food-web can have severe impacts or even result in ecosystem collapse.

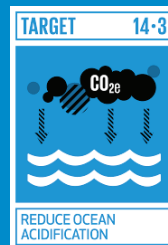
"It is virtually certain that human-caused CO₂ emissions are the main driver of current global acidification of the surface open ocean" - IPCC, 2021



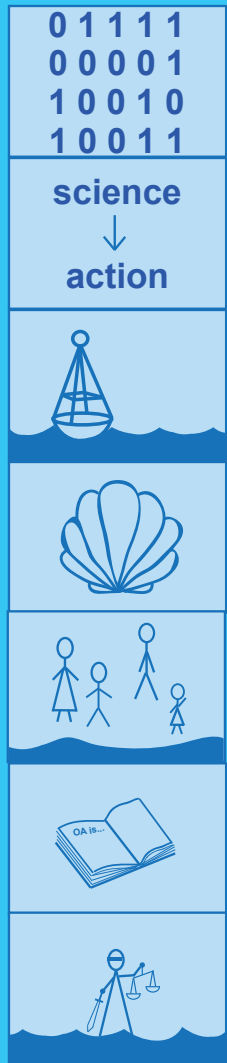
What is OARS?

GOA-ON's programme "Ocean Acidification Research for Sustainability" (OARS), endorsed as an Ocean Decade Action for the UN Decade of Ocean Science for Sustainable Development (2021-2030), will address Sustainable Development Goal indicator 14.3.1 and will further develop the science of OA by:

- enhancing OA capacity, increasing observations of ocean chemistry changes;
- identifying the impacts on marine ecosystems on local and global scales and;
- providing society and decision makers with the information needed to mitigate and adapt to OA.



OARS outcomes by 2030:



Provide world-wide OA data of known quality.

Identify and communicate data and evidence needs for mitigation and adaptation strategies to ensure efficient implementation of actions.

Co-design and implement new observation strategies.

Increase understanding of OA's biological impacts in order to protect marine life.

Develop societally-relevant predictions and projections of OA and impacts, to understand its implications and facilitate effective adaptation and mitigation strategies.

Increase ocean literacy within the public, specifically around the issues of OA.

Support development of strategies and solutions to enable countries and regions to develop their respective legislation around OA.

Do you want to get involved? Do you have a project which could contribute to achieving the OARS outcomes?

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