



## **Ocean acidification and its impact on organisms and ecosystems**

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The decline in ocean pH (also known as ocean acidification, OA) resulting from the uptake of CO<sub>2</sub>, has the potential to have dramatic effect on marine organisms and ecosystems. The present knowledge on the effects of ocean acidification (OA) on the marine biota is largely based on experimental work with single species and strains maintained in short-term incubations often exposed to abrupt and extreme changes in carbonate chemistry. Based on the presently available data little is therefore known about the responses of genetically diverse populations, synergistic effects from other stressors, and the ability of organisms to undergo physiological and genetic adaptations. A large gap in our understanding also concerns the transfer of responses from the organism to the community and ecosystem levels or the replacement of OA-sensitive by OA-tolerant species. In view of these uncertainties, it is presently impossible to define critical thresholds (tipping points) for tolerable pH decline or to predict the pathways of ecosystem changes where threshold levels have been surpassed. In this presentation I will briefly review what is known to date.