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TITLE: Anthropogenic carbon and ocean pH

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ABSTRACT:

The coming centuries may see more ocean acidification than the past 300 million years. Most carbon dioxide released into the atmosphere as a result of the burning of fossil fuels will eventually be absorbed by the ocean¹, with potentially adverse consequences for marine biota^{2,3,4}. Here we quantify the changes in ocean pH that may result from this continued release of CO₂ and compare these with pH changes estimated from geological and historical records. We find that oceanic absorption of CO₂ from fossil fuels may result in larger pH changes over the next several centuries than any inferred from the geological record of the past 300 million years, with the possible exception of those resulting from rare, extreme events such as bolide impacts or catastrophic methane hydrate degassing.

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