

Title: The physical cause of Ocean Acidification and the possible methods of securing successful mitigation

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To maximize the restoration of ocean health, a reduction of CO₂ emissions, as well as the supplementation of AOA must be achieved. Ocean Acidification is undeniably a unique aspect of climate change, where it serves as quantifiable, “consequence of increasing atmospheric CO₂ concentrations “in the ocean (Matear and Lenton 2). The lowering of pH as a result of Ocean Acidification is linked with the destruction of important oceanic landforms such as the coral reefs. However, Ocean Acidification is not directly caused by CO₂ alone, CO₂’s effect on other climate features such as the potential of an “ice-free summertime Arctic Ocean”, leads to a growth in the surface area of acidified water (Qi et al. 197).

Amid worrying repetition of negative feedback loops, Artificial Ocean Alkalization appears to be a viable solution as it depends very little on biotic and seasonal factors and can consistently compensate “for the projected increase in atmospheric CO₂”, up to the year 2100(Lenton et al. 342). AOA is a CO₂ removal method that accelerates natural chemical sequestration processes through the “release of processed alkaline minerals” and “their dissociation products” in “the ocean-atmosphere interface”(Gonzalez and Ilyina 6493). Worryingly, AOA cannot solely contain the destruction of oceanic landmarks, even in its most receptive areas: the equatorial waters; AOA is unable to help prevent the current rate of destruction of coral reefs. Therefore AOA can be an effective tool to accelerate the deacidification of oceans, but not to prevent Ocean Acidification itself.

Works Cited

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