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Intelligence

Can the ocean store more carbon than previously believed?

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By Responsible Seafood Advocate

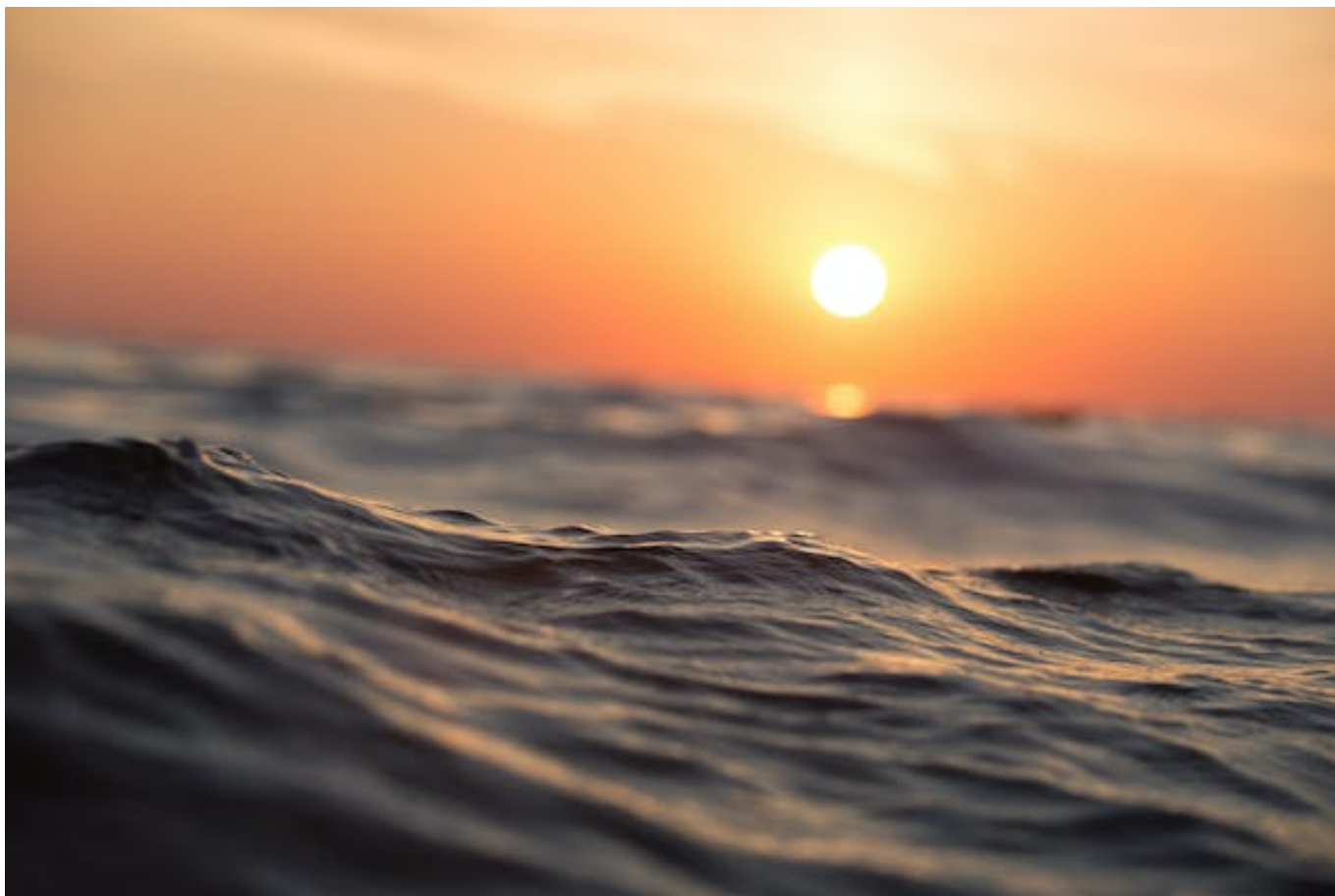
New study finds that the ocean can store about 20 percent more carbon than previously estimated by IPCC

A new study has found that the ocean can store more carbon dioxide from the air than scientists previously thought – about 20 percent more than what the latest IPCC (Intergovernmental Panel on Climate Change) report suggested.

The study, which was published in *Nature* (<http://dx.doi.org/10.1038/s41586-023-06772-4>) and led by an international research team, looked at how tiny organisms called plankton help move carbon from the ocean's surface to the bottom.

Plankton eat carbon dioxide and turn it into organic material through photosynthesis as they grow. When plankton die, some of them turn into particles called “marine snow.” These particles sink to the ocean floor, storing carbon there and supplying important nutrients for various deep-sea creatures, ranging from small bacteria to deep-sea fish.

A team of seven scientists studied data collected by oceanographic vessels worldwide since the 1970s. They used this data to create a digital map showing how organic matter moves throughout the oceans. Their new estimate suggests that the ocean can store 15 gigatons of carbon per year – which amounts



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to 20 percent more than what the IPCC reported in 2021 at 11 gigatons per year.

A banner for Best Seafood Practices certification. It features a fisherman in a yellow suit, a fishing boat on the ocean, and a list of benefits: Crew rights, Food safety, and Environmental responsibility. The text reads: "A comprehensive solution for the wild seafood supply chain." There is a "LEARN MORE" button with a right arrow.

(<https://bspcertification.org/>).

This reassessment of the ocean's storage capacity represents a significant advance in our understanding of carbon exchanges between the atmosphere and the ocean at the global level.

This reassessment of how much carbon the ocean can store could be a big step forward in the global knowledge of how carbon moves between the atmosphere and the ocean.

“While this absorption process takes place over tens of thousands of years, and is therefore not sufficient to offset the exponential increase in CO2 emissions caused by worldwide industrial activity since 1750, the study nonetheless highlights the importance of the ocean ecosystem as a major player in the long-term regulation of the global climate,” wrote the scientists in a press release.

Read the full study. (<http://dx.doi.org/10.1038/s41586-023-06772-4>).

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