

Biology Researcher Publishes Study on Saving Marine Organisms from Ocean Acidification

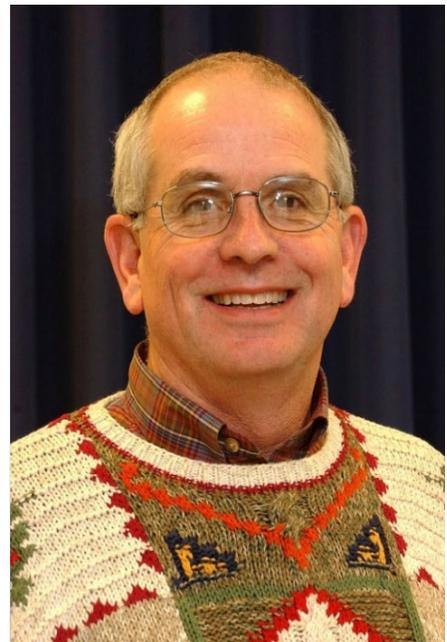
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By Noell Saunders (mailto:nsaunder@odu.edu)

An ongoing research study on how seagrass meadows play a key role in healthy coastal ecosystems is now a published article in the widely read scientific journal *Ecological Applications*.

Seagrasses provide an important source of food and shelter for marine animals, help fight erosion of the sediments that form the sea bed and filter bacterial pathogens from the water.

Richard Zimmerman, one of the lead authors of the publication and a professor in Old Dominion University's Department of Ocean, Earth and Atmospheric Sciences, said the article puts a strong emphasis on the damaging effects of ocean acidification resulting from high concentrations of carbon dioxide in coastal waters. It also focuses on a model researchers are testing to see if carbon dioxide absorbed by seagrass meadows could raise the pH of ocean water and help buffer short-term effects of acidification.



Richard Zimmerman

"Ocean acidification can harm organisms that make limestone shells, including mussels and oysters," Zimmerman said. "The carbon dioxide absorbed by the ocean reacts with the seawater to produce carbonic acid, which is corrosive to marine organisms."

Zimmerman said the article, titled "[Expected limits on the ocean acidification buffering potential of a temperate seagrass meadow](https://esajournals.onlinelibrary.wiley.com/doi/10.1002/eap.1771)" (<https://esajournals.onlinelibrary.wiley.com/doi/10.1002/eap.1771>), is available to the public for free and will help other researchers conduct studies to find more viable solutions for saving the world's most vulnerable marine creatures.

"The important element is protecting seagrasses and improving the water quality for oysters, fish and blue crabs," he said.

Other scientists involved in the publication are affiliated with the Carnegie Institution for Science; University of California Davis; University of California San Diego; California State University Northridge; University of Washington; and Monterey Bay Aquarium Research Institute.

Zimmerman and his team will start a new project next month, funded by National Oceanic and Atmospheric Administration, to explore the ability of seagrass in modifying ocean acidification thresholds for oysters in the Chesapeake Bay.

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https://www.odu.edu/news/2018/8/seagrass_study