



ALLIANCE™

[.https://www.globalseafood.org](https://www.globalseafood.org)

Intelligence

# Ocean acidification poses a greater threat to marine diatoms: study

31 May 2022

By Responsible Seafood Advocate

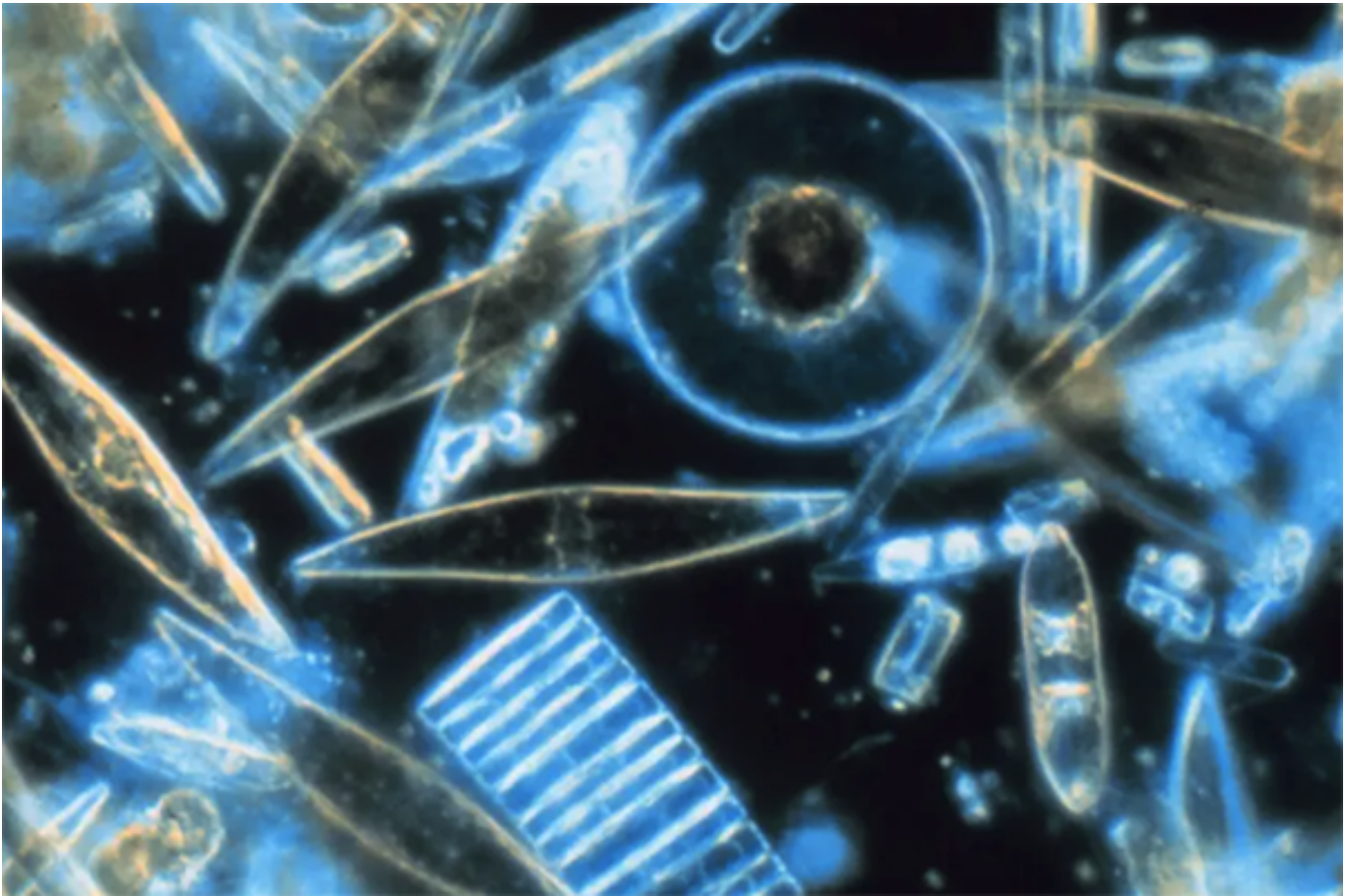
## ***Nature* study finds that silicon-shelled diatoms dissolve more slowly, causing them to sink**

A **study** (<https://www.nature.com/articles/s41586-022-04687-0>) in the May 25 issue of *Nature* indicates that ocean acidification, a process triggered by the uptake of excessive amounts of carbon dioxide (CO<sub>2</sub>), is a greater threat to marine diatoms than previously believed.

Researchers from GEOMAR Helmholtz Centre for Ocean Research Kiel in New Zealand and the University of Tasmania say that diatoms, a common type of phytoplankton, linked an overarching analysis of various data sources with Earth system modeling.

They discovered that the silicon shells dissolved more slowly than those of calcifying organisms like oysters and corals, which use calcium carbonate to form their shells. Globally widespread, diatoms use silica— a compound of silicon, oxygen and hydrogen — as a building material for their shells.

Dissolving more slowly causes diatoms to sink to deeper layers of the ocean before they are chemically dissolved and converted back into silica, removing a key nutrient from upper light-flooded layers, where it is needed to form shells. This causes a decline in diatoms, which are the basis of many marine food webs and act as a biological carbon pump that transports CO<sub>2</sub> into the deep ocean for long-term



Believed to be less susceptible to the effects of ocean acidification, marine diatoms could struggle to form silica-based shells, new research shows. Photo by Prof. Gordon T. Taylor, Stony Brook University, Public domain, via Wikimedia Commons.

storage.



**LUCENT WATER**  
Pure Sensors | Pure Solutions



(<https://lucentwater.com/>).

Read the **full study** (<https://www.nature.com/articles/s41586-022-04687-0>), here.

Follow the *Advocate* on Twitter @GSA\_Advocate ([https://twitter.com/GSA\\_Advocate](https://twitter.com/GSA_Advocate)).

**Author**

---



**RESPONSIBLE SEAFOOD ADVOCATE**

[editor@globalseafood.org](mailto:editor@globalseafood.org) (<mailto:editor@globalseafood.org>)

Copyright © 2022 Global Seafood Alliance

All rights reserved.