

Invasive animals threaten natives as oceans heat up

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Native and non-native animals, including orange sea squirts and brown bryozoans, cover an experimental plate after six weeks in the waters of Bodega Bay. (Cascade Sorte/UC Davis photo)

Warmer oceans promote invasive animals and threaten natives, say UC Davis marine biologists who report striking new evidence from the eastern Pacific fishing harbor of Bodega Bay, Calif.

For 50 years, researchers at the university's Bodega Marine Laboratory have been monitoring plant and [animal life](#) in the bay, said study co-author Susan Williams, a UC Davis professor of evolution and ecology and an expert on near-shore ecosystems. In that time, water temperatures have climbed more than 2.5 degrees Fahrenheit, and there are now twice

as many nonnative species as there are natives.

To better understand what continued warming might mean for this and other saltwater communities, the UC Davis researchers recently studied so-called "fouling organisms" -- the squishy or prickly creatures that live on rocks, docks, boat hulls, seawater pipelines and shellfish farms.

The biologists carried these bryozoans (also called moss animals) and tunicates (sea squirts) from Bodega Bay to their laboratories, where they measured the creatures' tolerance to the higher water temperatures that have been predicted by climate scientists.

"We determined that introduced species tolerated significantly higher temperatures than natives," Williams said. "Our results strongly suggest that, as [ocean temperatures](#) continue to increase, [native species](#) in this system will decrease in abundance, whereas introduced species are likely to increase."

More information: The research was described in the journals [Ecology](#) (August) and *Oikos* (online, July; print, in press).

Provided by UC Davis

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