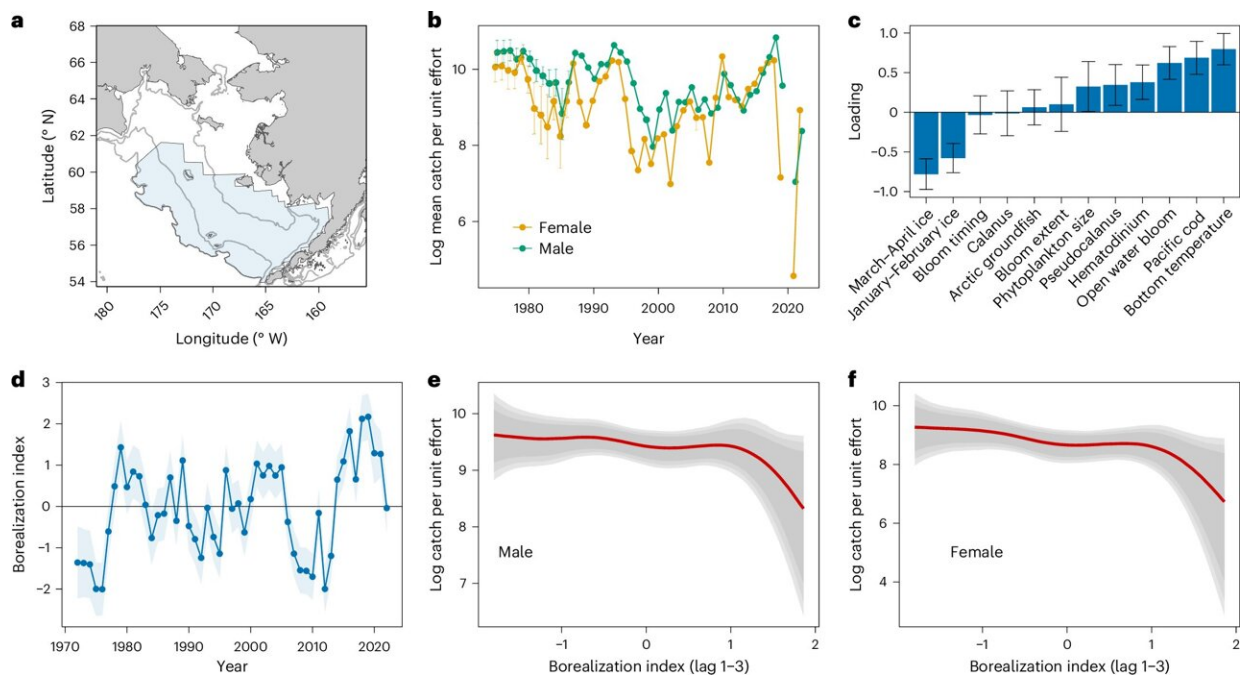


New study shows Alaskan snow crab population collapse in Bering Sea due to climate change

August 26 2024, by Bob Yirka



The snow crab collapse in the context of Bering Sea borealization. Credit: *Nature Climate Change* (2024). DOI: 10.1038/s41558-024-02093-0

A team of marine biologists from the U.S. National Oceanic and Atmospheric Administration has found that climate change is the reason for the population collapse of Alaskan snow crabs in the Bering Sea.

In their [study](#), published in *Nature Climate Change*, the group conducted analyses of ice cover, temperatures at the [bottom of the sea](#), algal bloom levels under the sea ice and the makeup of Arctic communities over the years 1972 to 2022.

Prior research has shown that the number of snow crabs in the Bering Sea has declined dramatically in recent years—some estimates have found population numbers dropping by 10 billion between 2018 and 2021. In this new effort, the research team found enough evidence to blame climate change with 98% confidence.

In looking at temperature, ice cover and algae populations, particularly at the bottom of the sea, the researchers found that temperature changes have made it much more difficult for young crabs to survive to adulthood. Prior to the warming, research had shown that young crabs were able to survive because they lived in water so cold that predators could not reach them. Such cold temperatures were found in cold pools at the bottom of the sea.

But over the past several decades, temperatures in these pools have risen to such an extent that predators are now free to attack. The researchers note that the massive declines in populations of snow crabs coincided with marine heat waves in the region, which have been tied to [climate change](#). They also noted that populations of Pacific cod have increased during the same period—the fish are the prime predators of young [snow crabs](#).

The research team also found that incidences of bitter crab disease, which can potentially be fatal, rose in the region over the same period, which, they note, tends to occur during warm periods.

They conclude that the crabs are not being boiled alive by [warm ocean temperatures](#), as some have claimed, but have fallen victim to the

circumstances caused by rising seawater temperatures, particularly at lower depths—and that things are likely to grow worse for the crabs as ocean temperatures rise further.

More information: Michael A. Litzow et al, Human-induced borealization leads to the collapse of Bering Sea snow crab, *Nature Climate Change* (2024). [DOI: 10.1038/s41558-024-02093-0](https://doi.org/10.1038/s41558-024-02093-0)

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