



ARTICLE

Ocean Warming Impacts Marine Fisheries



Coho salmon spend their first year of life in freshwater, but spend most of their lives at sea before returning to their natal streams to spawn and die.

NMFS / Southwest Fisheries Science Center

March 2019 - Ocean fish are key food sources for the many seabirds and marine mammals that draw visitors to coastal parks like Golden Gate National Recreation Area and Point Reyes National Seashore. Some fish, like coho salmon and steelhead trout, spend parts of their lives inland, in freshwater streams like Redwood Creek, where they play similarly important ecological roles. Not to mention the fact that marine fish are crucial to the diets and livelihoods of millions of people across the globe. Yet marine fish populations are often poorly managed, and overfishing looms as one of the biggest threats to their survival. Climate change is also thought to be a significant threat to marine fish populations, but how?

A recent study examines how warming ocean temperatures may have already affected commercial marine fish populations. The authors used fish population models and ocean temperature data to predict the extent to which warming has played a role in observed population changes, beyond what could be explained by population life histories, exploitation histories, etc. They estimate that overall, the number of fish that could be caught sustainably has declined by 4.1% from 1930 to 2010 because of warming ocean temperatures. For specific fish populations, the results varied widely, with a few populations even having benefited from the warmer temperatures so far. Still, the authors note that warming has impacted more populations negatively, and the majority of populations are likely to experience negative impacts going forward. Warming could further cause some fish populations to become more vulnerable to, or less able to recover from, overfishing. Even as additional research is needed to better understand this and other ways climate change could impact

marine fisheries, the authors suggest that managers can still take action now. Setting policies based on the lower fish population growth rates associated with warmer oceans, for example, can help ensure sustainable fisheries into the future.

To learn more, check out the original article, "[Impacts of historical warming on marine fisheries production](http://science.sciencemag.org/content/363/6430/979/tab-article-info) (<http://science.sciencemag.org/content/363/6430/979/tab-article-info>)," published in Science, or this [Carbon Brief article](https://www.carbonbrief.org/ocean-warming-has-caused-sustainable-fish-stocks-to-drop-by-4-since-1930s) (<https://www.carbonbrief.org/ocean-warming-has-caused-sustainable-fish-stocks-to-drop-by-4-since-1930s>), which synthesizes the study for a broader audience.

[See more from the Bay Area Nature & Science Blog](https://www.nps.gov/rlc/pacificcoast/blog.htm)
(<https://www.nps.gov/rlc/pacificcoast/blog.htm>).



sfan

blog

climate corner

climate change

research

Last updated: April 3, 2019

Was this page helpful?

☐ Yes

☐ No



An official form of the United States government. Provided by [Touchpoints](https://touchpoints.app.cloud.gov/)
(<https://touchpoints.app.cloud.gov/>)