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Polar fish fauna set to change as earth warms up

Scientists predict that global warming will lead to tropical marine fish migrating towards the poles, which might lead to significant changes in the polar fish fauna.

In a study to be published in the journal *Fish and Fisheries*, William Cheung and coauthors examined the potential impact of global warming on the distributions of 1066 marine fish and invertebrate species from around the world.

The authors used a dynamic bioclimate envelope model to predict the distributions of the study species in 2040–2060 under three climate scenarios representing high-, medium- and low- range greenhouse gas emissions with climate projections generated by the Geophysical Fluid Dynamics Laboratory of the U.S. National Oceanic and Atmospheric Administration.

The authors' model predicted general patterns of species invasion and local extinction across all the climate scenarios examined here, with the highest intensity of species invasion and local extinction predicted to be concentrated in the high latitude regions, specifically the Arctic and the Southern Ocean.

The distribution centroids and poleward range boundaries of most of the species studied were also predicted to shift poleward under climate change.

The authors consider the global analysis presented in the paper to be a first step towards developing marine conservation policy in the face of climate change.

For more information, see the paper: Cheung, WWL, VWY Lam, JL Sarmiento, K Kearney, R Watson and D Pauly (2009) Projecting global marine biodiversity impacts under climate change scenarios. *Fish and Fisheries*, doi: 10.1111/j.1467-2979.2008.00315.x.

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