

Fish will have to find new habitats or perish if global warming is left unchecked

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Climate change is forcing fish out of their current habitats and into cooler waters and many more species will soon be affected if climate goals are not met. Credit: D. Laffoley/Oceans 2015



Climate change is forcing fish out of their current habitats and into cooler waters and many more species will soon be affected if climate goals are not met, say scientists.

An international team of researchers compared the future of the oceans under two <u>climate change</u> scenarios. In one scenario, we limit atmospheric warming to two degrees by 2100, as outlined by the Copenhagen accord. In the other, we continue with the current approach, which researchers say would cause a five-degree increase in atmospheric temperatures. They say if warming continues unchecked, fish will migrate away from their current habitats 65 per cent faster, resulting in changes to biodiversity and ecosystem functions.

The new research, published today in *Science*, points to the need to limit emissions to help reduce the impact of rising atmospheric temperatures and acidifying oceans. The findings are intended to inform discussions at the upcoming 2015 United Nations Climate Change Conference in Paris.

"All the species and services we get from the <u>ocean</u> will be impacted and everyone, including Canadians, who benefit from these goods and services are vulnerable," said William Cheung, associate professor and co-director of the Nereus Program at UBC. "On a positive note, we still have options to substantially reduce these impacts now but the longer we wait the fewer and fewer options we have."

This study was completed by the Oceans 2015 Initiative, an international team of researchers from Europe, Australia, the U.S., and Canada. Cheung and his colleague Rashid Sumaila, co-authors of the study, examined how climate change will impact fisheries and the many coastal communities that depend heavily on fisheries resources for food and economic security.

"From looking at the surface of the ocean, you can't tell much is



changing," said Sumaila, director of UBC's Fisheries Economics Research Unit. "The oceans are closely tied to human systems and we're putting communities at high risk."

The researchers suggest taking action to protect marine ecosystems and to help communities adapt by providing education and training opportunities to diversify livelihood options. They also say it's important to make every effort now to limit emissions.

"While some regions will see increases in some fish biomass, these gains may be only temporary if <u>carbon dioxide emissions</u> continues," said Sumaila.

Background

For this study, researchers with the Ocean 2015 Initiative examined the latest research on the impact of climate change in our oceans, and the goods and services they provide, valued at hundreds of billion of dollars per year.

The study assessed the impact of climate change on marine and coastal ecosystems, ocean chemistry, tourism, and human health. Cheung and Sumaila specifically analyzed how warming will impact fisheries and the global economic gains we receive from these fisheries.

The findings are intended to inform discussions at the 2015 United Nations Climate Change Conference in Paris in December. This conference hopes to achieve a legally binding agreement on climate.

More information: Gattuso J.P., Magnan A., Billé R., Cheung W. W. L., Howes E. L., Joos F., Allemand D., Bopp L., Cooley S., Eakin M., Hoegh Guldberg O., Kelly R. P., Pörtner H.O., Rogers A. D., Baxter J. M., Laffoley D., Osborn D., Rankovic A., Rochette J., Sumaila U. R.,



Treyer S. & Turley C., 2015. Contrasting futures for ocean and society from different anthropogenic CO2 emissions scenarios. *Science*, <u>www.sciencemag.org/lookup/doi/ ... 1126/science.aac4722</u>

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