VANCOUVER, BRITISH COLUMBIA -- A University of British Columbia researcher put a number to the impact of climate change on world fisheries at today's Annual Meeting of the American Association for the Advancement of Science (AAAS) in Chicago.

A team of researchers from UBC's Sea Around Us Project and Princeton University used computer models to simulate changes in ocean temperature and current patterns caused by various climate change scenarios—and how they affect 1,066 commercially important fish and shellfish species from around the world, including cod, herring, sharks, groupers and prawns.

"We found that on average, the animals may shift their distribution towards the poles by 40 kilometres (25 miles) per decade," says William Cheung, who led the project while a post-doctoral fellow with UBC Fisheries Centre, under the guidance of Prof. Daniel Pauly.

"Atlantic cod on the east coast of the U.S. may shift their distribution towards the Canadian coast by more than 30 kilometres per decade, resulting in a 50 per cent reduction in some cod populations in the area by 2050," says Cheung, now a lecturer at the University of East Anglia in the U.K.

Cheung released the findings today at an AAAS news briefing in Chicago. The study, to be published this week in the journal Fish and Fisheries, also projects some Atlantic herring populations to decrease more than 20 per cent, while other species already living near the poles — such as the striped rockcod and the St. Paul rock lobster — may face extinction due to a lack of habitat.

Fishers in the tropics may take the brunt of these changes, especially since many are from developing countries and are ill-equipped to deal with the loss in catch. Nordic countries like Norway, on the other hand, may see a gain in potential catch.

Scientists have made projections of climate change impact on land species but this is the first such study on marine species ever published. The Sea Around Us Project is now looking at conservation and economic solutions to climate change impacts.