

Arctic Ocean Freshening Linked to Anthropogenic Climate Change: All Hands on Deck

Thomas W N Haine^{1,1}

¹Johns Hopkins University

November 30, 2022

Abstract

Arctic Ocean freshwater storage increased since the mid 1990s, but the cause was unknown. Now a recent paper by Jahn & Laiho [2020, 2020GL088854] uses ensemble runs of a coupled climate model to suggest that the observed increase is anthropogenic. The paper quantifies when the anthropogenic signals should emerge from the noise of natural variability. This result contextualizes research on the Arctic Ocean freshwater system and sketches an unprecedented opportunity. Future work should elucidate mechanisms, seek to observe the anthropogenic freshwater changes, and investigate the impacts on biogeochemistry and the North Atlantic Ocean circulation.