



ALLIANCE™

[.https://www.globalseafood.org](https://www.globalseafood.org)

Intelligence

Startup awarded \$1 million to create a 'digital twin' of the North Pacific Ocean

13 January 2023

By Responsible Seafood Advocate

National Science Foundation funds will help PolArctic forecast climate change and impacts on fisheries

Oceanographic and data science company PolArctic – a Yup'ik, woman, and disabled veteran-owned small business – announced that it was awarded U.S. \$1 million by the National Science Foundation through a non-dilutive Phase II Small Business Innovation Research (SBIR) award.

The company, founded in 2018, will develop a “digital twin” of the North Pacific Ocean to understand and prepare for the impacts of climate change on fishery stocks across Alaska.

“With the ability to optimize the parameters for all use cases, from subsistence activities to commercial fisheries, this project will advance the national health, prosperity and welfare of Alaska and Arctic communities by providing tailored information to establish local and sustainable fisheries,” said Leslie Canavera, CEO and co-founder of PolArctic LLC.

With the recent snow crab population crash, salmon disasters on the Yukon and Kuskokwim, and documented habitat change due to the loss of sea ice and warming [ocean temperature](https://www.globalseafood.org/advocate/hottest-ocean-temperature-record-set-in-2022-for-seventh-consecutive-year/) (<https://www.globalseafood.org/advocate/hottest-ocean-temperature-record-set-in-2022-for-seventh-consecutive-year/>), this work is timely for Alaska's communities and seafood industry.



PolArctic is using AI to create a “digital twin” of the North Pacific to understand and prepare for the impacts of climate change.

PolArctic’s digital twin product will weave together multiscale information such as traditional indigenous knowledge, scientific measurements and satellite data to create a holistic picture of ongoing climate variability and change. With advanced AI and agent-based modeling, PolArctic intends to account for the dynamism and complexity of marine fisheries by modeling ocean entities as individual agents, replete with their own characteristics and behaviors in various environments.

This approach will enable PolArctic to simulate various interactions within the environment, to include emergent phenomena such as acidification, temperature changes, and predator and prey interactions.

Follow the *Advocate* on Twitter [@GSA_Advocate](https://twitter.com/GSA_Advocate) (https://twitter.com/GSA_Advocate).

Author



RESPONSIBLE SEAFOOD ADVOCATE

editor@globalseafood.org (<mailto:editor@globalseafood.org>).

Copyright © 2023 Global Seafood Alliance

All rights reserved.