

# Climate change could significantly alter distribution of jellyfish and other gelatinous zooplankton in the Arctic Ocean

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Gelatinous zooplankton, including jellyfish and other diverse, nearly transparent organisms, play important roles in marine ecosystems.

Climate change is expected to significantly alter their populations and distributions. New research published in *Limnology and Oceanography* examines their fate in the Arctic Ocean, one of the fastest warming oceans on Earth.

Investigators coupled three-dimensional species distribution models with oceanographic variables from the Coupled Model Intercomparison Project Phase 6. The analyses allowed the team to identify gelatinous zooplankton species with expanding or contracting habitat ranges in response to climate change in the Arctic Ocean.

Seven of the eight modeled species are predicted to move further north in response to changing ocean conditions. The impacts of these changes on Arctic Ocean fish populations and overall ecosystem dynamics warrant further investigation.

"Our findings reveal the dramatic potential for [climate change](#) to reshape Arctic Ocean ecosystems," said corresponding author Dmitrii Pantiukhin, a postdoc at the Alfred Wegener Institute Helmholtz Centre for Polar and Marine Research and the University of Bremen, in Germany. "These shifts in gelatinous zooplankton populations could have cascading effects throughout the entire food web."

**More information:** Pan-Arctic distribution modeling reveals climate-change driven poleward shifts of major gelatinous zooplankton species, *Limnology and Oceanography* (2024). [DOI: 10.1002/lno.12568](https://doi.org/10.1002/lno.12568)

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