

Underwater terrain may be key factor in little auk foraging

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Little auk. Credit: Samuel Perret

Little auks forage in the same areas off East Greenland—the continental shelf and its edge—regardless of whether sea ice is present or absent, according to a study published July 20, 2016 in the open-access journal

PLOS ONE by Françoise Amélineau, from the University of Montpellier, France, and colleagues.

Little auks, which live only in the Arctic, dive for copepods and other zooplankton in the "marginal ice zone" that lies between pack ice and open water. To test the impact of [sea ice loss](#) and underwater terrain on these seabirds, Amélineau and colleagues compared their foraging habits during two breeding seasons on the east coast of Greenland. Sea ice there varies naturally from year to year, and was present during one of the study periods but nearly absent during the other. The researchers temporarily fitted the auks with GPS and temperature-depth loggers to track the birds' movements during foraging.

The researchers found that whether sea ice was present or absent, little auks foraged in the same areas, targeting the continental shelf and its edge where prey may be concentrated. While the birds showed a preference for larger lipid-rich copepods, they also targeted smaller species that were plentiful at the shelf break when ice was absent. Importantly, the difference in diet had no impact on the body condition of adult little auks or on the growth of their chicks. These findings strengthen hypotheses from other recent work suggesting that little auks may have more flexibility than expected as the Arctic warms, and identified [underwater terrain](#) as a potential key factor for foraging.

Françoise Amélineau adds: "Climate change is hitting the Arctic very hard. Sea-ice vanishes off Greenland, but we found that seabirds (little auks) keep their foraging habits, in areas where ocean topography and currents aggregate prey. Birds ate smaller prey in the absence of [sea-ice](#) but this had no consequence for adult [body condition](#) and chick growth."

More information: Françoise Amélineau et al, Where to Forage in the Absence of Sea Ice? Bathymetry As a Key Factor for an Arctic Seabird, *PLOS ONE* (2016). [DOI: 10.1371/journal.pone.0157764](https://doi.org/10.1371/journal.pone.0157764)

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