

 <p>Agreement on the Conservation of Albatrosses and Petrels</p>	<p style="text-align: center;">Joint Thirteenth Meeting of the Seabird Bycatch Working Group and Ninth Meeting of the Population and Conservation Status Working Group</p> <p style="text-align: center;"><i>Swakopmund, Namibia, 26 May 2026</i></p> <p style="text-align: center;">Environmental and anthropogenic drivers of foraging habitat selection for chick-rearing black-browed albatrosses</p> <p style="text-align: center;">Sarah L. Becker^{*1,2}, Francesco Ventura³, Julien Collet⁴, Karine Delord⁴, Daniel F. Doak¹, Cassandra M. Brooks^{1,2}, Nicholas Gasco⁵, Christophe Barbraud⁴, Stephanie Jenouvrier⁶, Henri Weimerskirch⁴, Samantha C. Patrick⁷</p> <p>*sarah.becker-2@colorado.edu</p> <p>¹Department of Environmental Studies, University of Colorado Boulder, Boulder, Colorado, United States of America, ²Institute of Arctic and Alpine Research, University of Colorado Boulder, Boulder, Colorado, United States of America, ³Physical Oceanography Department, Woods Hole Oceanographic Institution, Woods Hole, Massachusetts, United States of America, ⁴Centre d'Etudes Biologiques de Chizé, UMR7372 - CNRS & La Rochelle Université, France, ⁵Laboratoire de Biologie Des Organismes et Écosystèmes Aquatiques (BOREA), UMR 8067 - MNHN - CNRS - IRD - Su - UCN - UA, Paris, France, ⁶Biology Department, Woods Hole Oceanographic Institution, Woods Hole, Massachusetts, United States of America, ⁷School of Environmental Sciences, University of Liverpool, Liverpool, United Kingdom</p>
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SUMMARY

Seabirds travel widely to forage, locating patchily distributed prey over large distances. Foraging bouts can bring them into contact with fisheries operating in the same productive waters. Habitat selection models, often used to understand environmental conditions seabirds use to identify foraging sites, rarely account for anthropogenic drivers. Fisheries may impact seabird foraging and accurate modeling of these dynamics, but it is poorly understood if and how fishing operations alter natural foraging. We test whether albatross foraging selection differs near fishing. Using 2004-2015 tracking data from chick-rearing Kerguelen black-browed albatrosses *Thalassarche melanophris*, we built models comparing selection on environmental cues in the presence and absence of fisheries. All models accurately identified areas used by the birds, with distance from colony, sea surface temperature (SST), SST gradient and bathymetry slope the most influential. Habitat selection appeared similar between foraging associated and not associated with fisheries, except for

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shelf edges, where fishing is concentrated, which was not selected in the absence of fishing. We found stronger differences in habitat selection for SST and nekton biomass between individuals that frequently encounter vessels compared to those that did not. These results show that at the population scale birds do not alter foraging preferences due to fishing operations. However, high individual variability suggests that individuals respond differently to fishing vessel presence, or that individual preferences may drive fisheries exposure. This indicates our models are accurately representing ecological drivers of habitat selection, but highlights the importance of testing the effect of anthropogenic factors on habitat models.