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***A spatially explicit food web model to evaluate the effects of climate change and fishing on the Kerguelen Plateau***

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A regional understanding of ecosystems in the Southern Ocean is needed in order to evaluate the ecological impacts of climate change. The Antarctic Climate and Ecosystems Cooperative Research Centre is currently developing a suite of ecosystem models for east Antarctica, including the Kerguelen Plateau. The Kerguelen Plateau is a highly productive area that supports valuable fisheries for Patagonian toothfish and Mackerel icefish. This area is currently experiencing increasing temperatures and movement of frontal systems that interact with the plateau. Climate model projections suggest that these changes are likely to lead to increases in primary productivity in the future. We present the first balanced Ecopath with Ecosim model for the Kerguelen Plateau using published information on species biomass and diet. We present this model with an added spatial component (Ecospace) that allows us to examine spatial variation across the Plateau. We consider a set of spatially explicit scenarios to examine the combined effects of changes in primary productivity and fisheries for the Kerguelen Plateau and evaluate the impacts of these changes throughout the food web.