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### ***Climate model projections of under ice habitats for Antarctic krill larvae***

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Overwintering of larvae underneath Antarctic pack ice is an important stage in the life cycle of Antarctic krill. Previous work based on simplified climate change scenarios has demonstrated that simple assumptions for the important characteristics of under ice habitats for larval krill can reveal surprising predictions for available habitat under climate change: reductions in overall ice extent may not necessarily lead to less larval krill habitat. Here we extend that approach using the ensemble of CMIP5 models. Despite variability in future projections (and varying model skill in representing ice), all models project a significant decrease in sea ice cover over the coming century across a range of scenarios. However, even at the resolution of GCMs, reductions in total area do not necessarily lead to reductions in projected habitat. In this presentation, we consider some of the regional differences in projected habitat change, including considering whether strength of dependence of larval krill on winter sea ice may vary between regions of Antarctica. We also discuss limitations to using GCM output for such analyses; specifically, that required variables are not retained from runs of most models. We suggest that better dialogue between climate modellers and ecologists will help maximise the utility of future GCMs for understanding the ecological implications of physical changes.