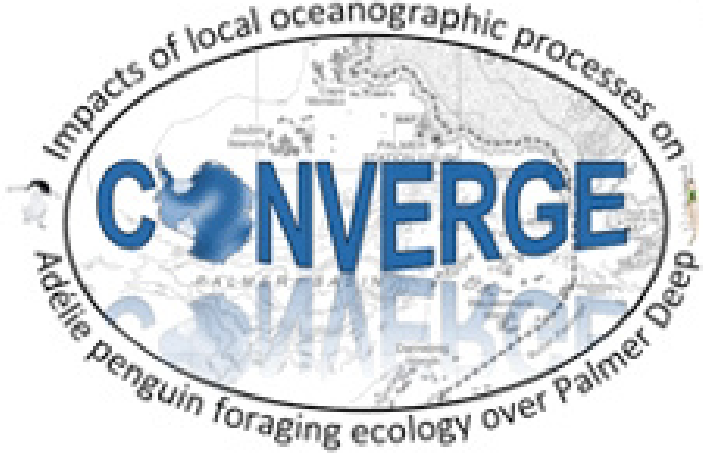
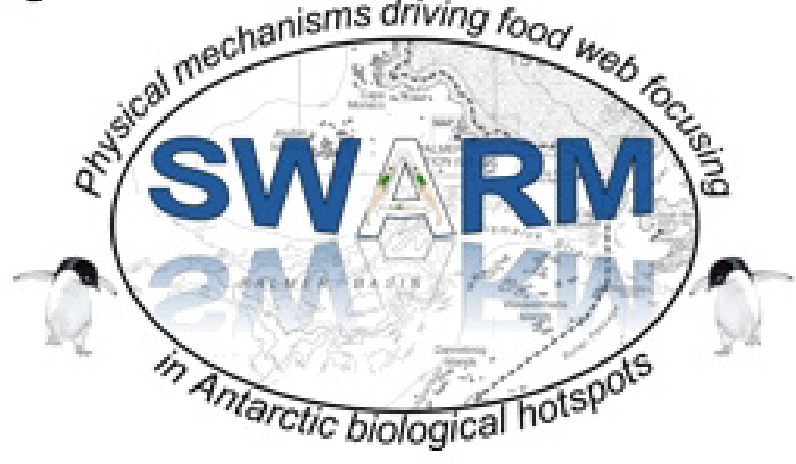
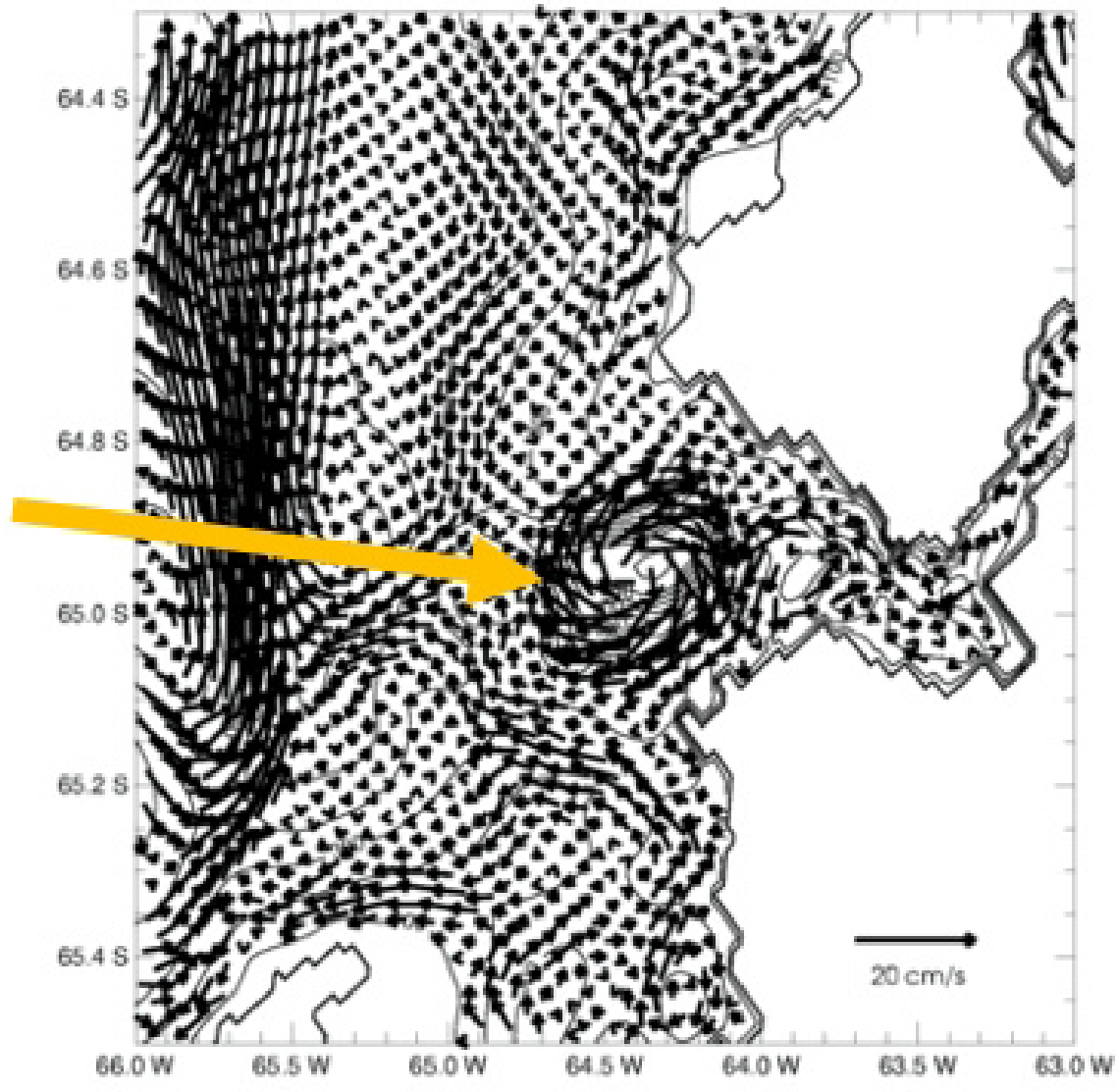
A subsurface, recirculating eddy increases residence times in Palmer Deep Canyon

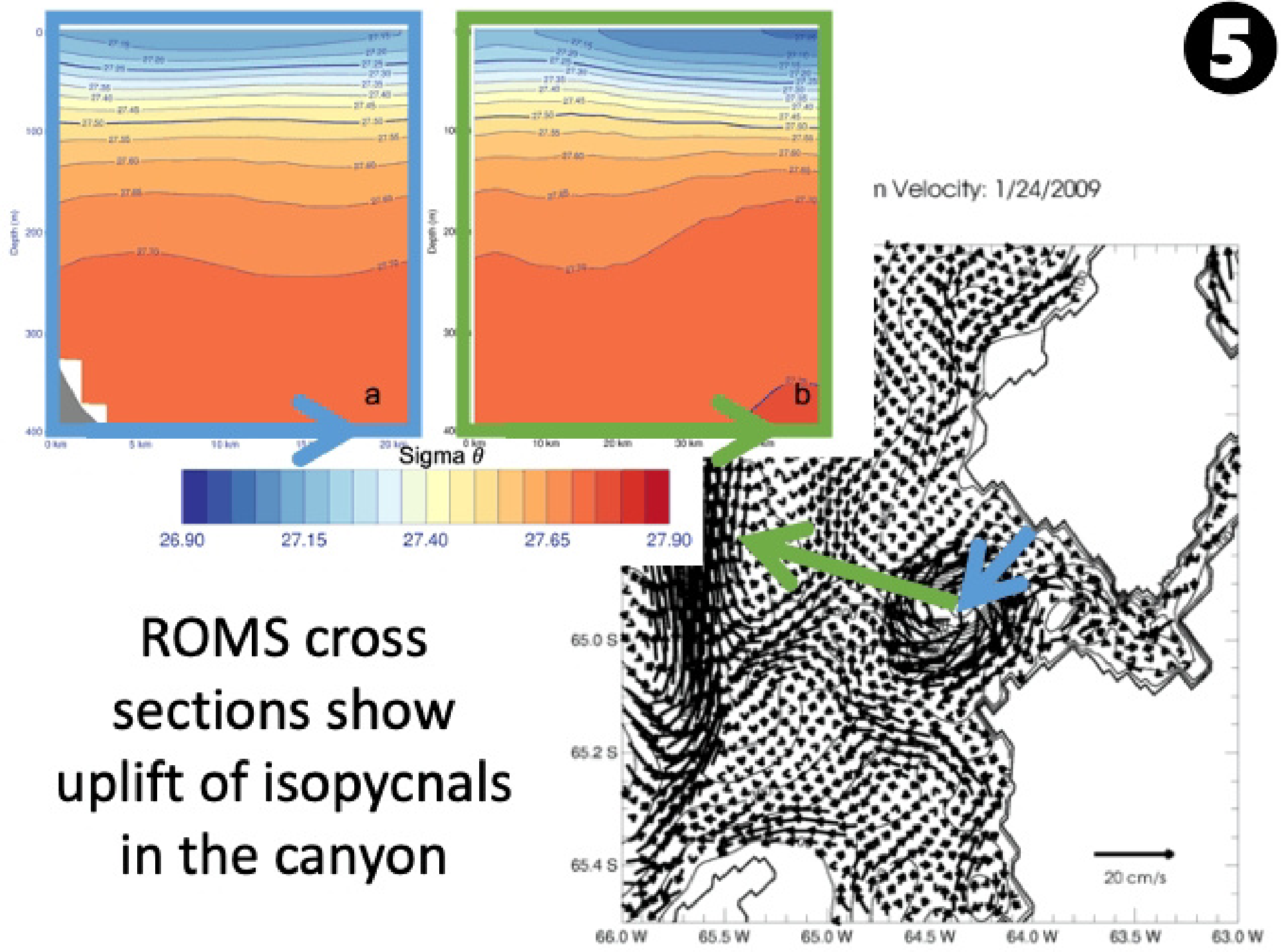




K. Hudson (khudson@udel.edu), M.J. Oliver, J. Kohut, M. Dinniman, J. Klinck, H. Statscewich, K. Bernard, W. Fraser

Regional Ocean Modeling System (ROMS) simulations reveal subsurface eddy over canyon during austral summer





ROMS cross sections show uplift of isopycnals in the canyon

Slocum Glider deployments in 2015 and 2020 show similar isopycnal uplift over the canyon

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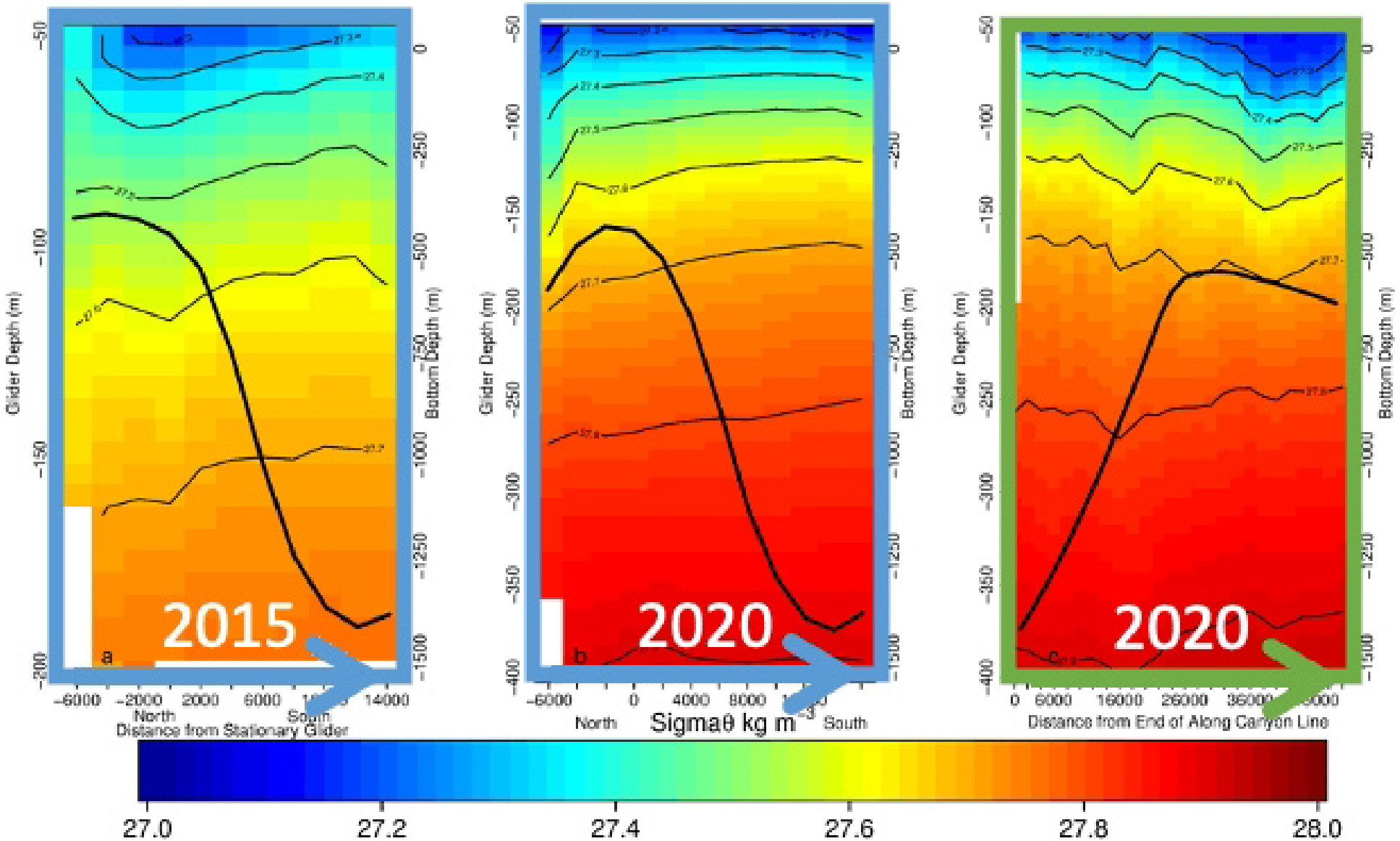

Particle residence times over the canyon increase with depth in ROMS simulations

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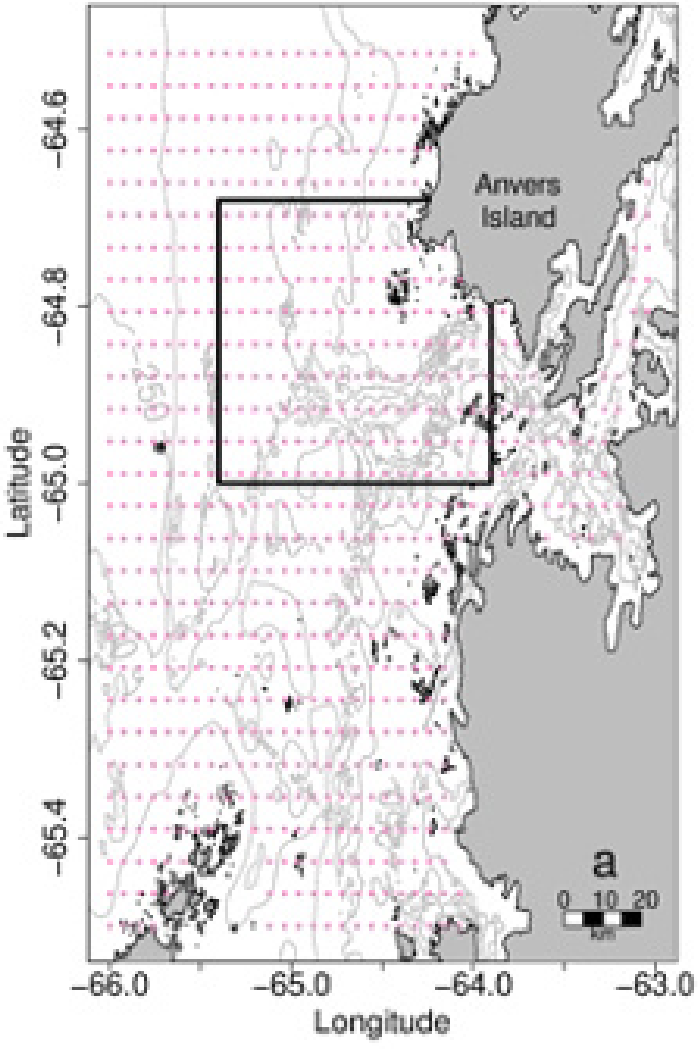

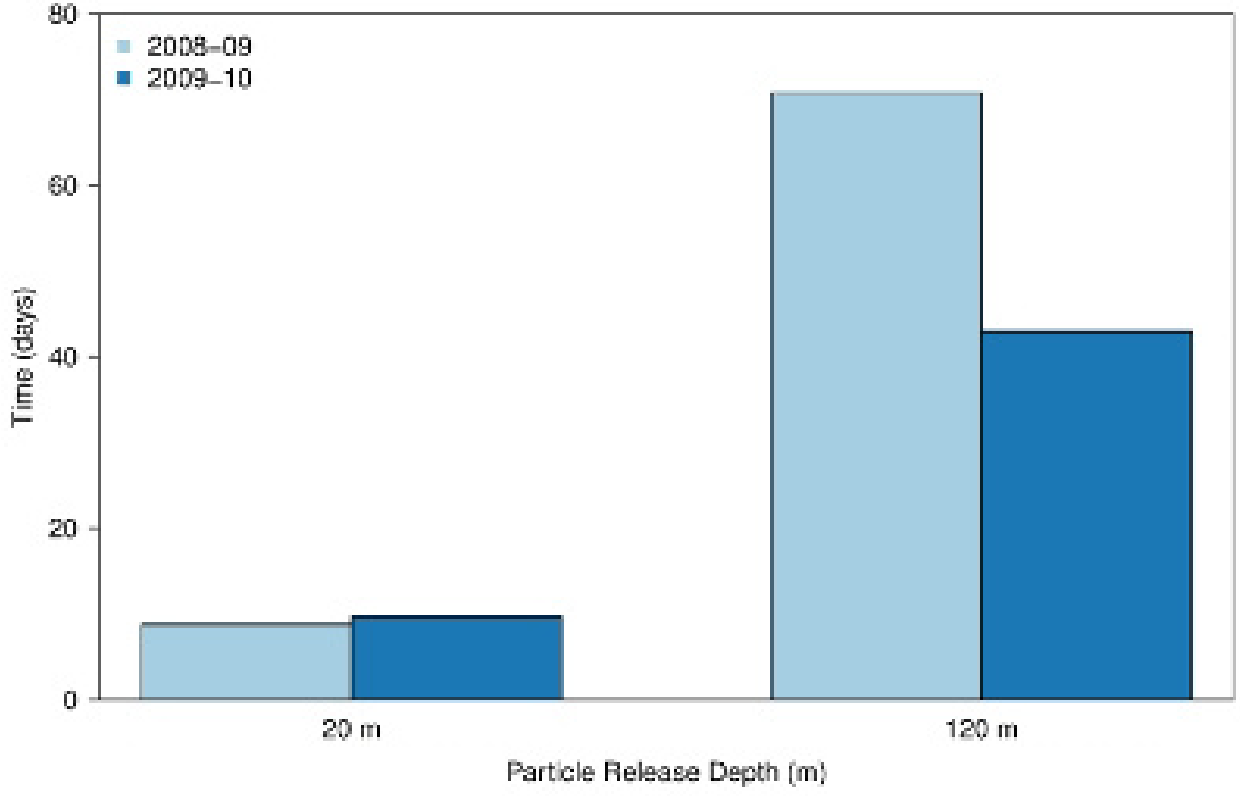

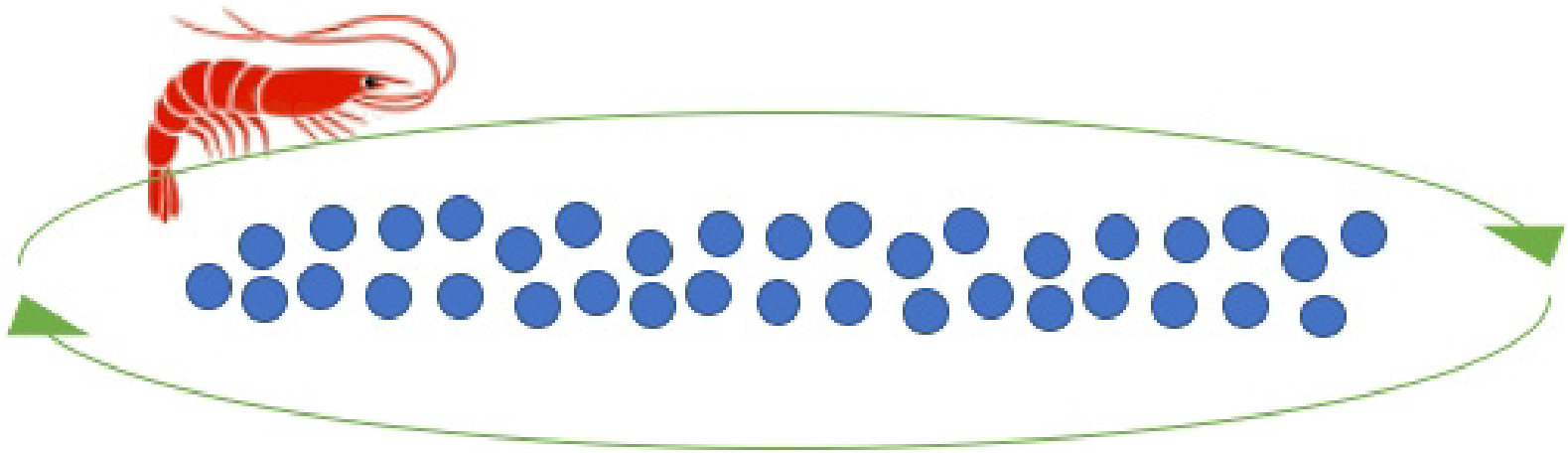

Eddy could increase krill residence times in the region, providing constant food resources for penguin colonies