



## **Investigating the Antarctic phytoplankton in response to environmental changes over the last decades**

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We focus on attributing the role of natural phenomena and anthropogenic activity on biogeochemical cycling and ecosystem dynamics in the Southern Ocean over the last decades. The study relies on model simulations of the dynamics of a various phytoplankton functional types (PFTs) based on a version of the Darwin ocean biogeochemical model (Follows et al., 2007, Prowe et al., 2014, Dutkiewicz et al., 2015) coupled to the MITgcm general circulation model with a configuration based on a cubed-sphere grid (Menemenlis et al. 2008). The results are evaluated and complemented with information on phytoplankton compositions estimated with available in situ observations and hyper- and multi-spectral optical satellite data.