

## Pliocene seasonal sea-ice history around the Kerguelen Plateau in the Southern Ocean based on diatom analysis

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Fossil diatoms have been regarded as a useful proxy for paleoceanographic reconstruction such as past sea-ice distribution in the Southern Ocean (Armand et al., 2005). Several studies have attempted to reveal sea-ice history based on fluctuation of the sea-ice related diatoms, however there is few paleoceanographic studies focusing on changes of summer and winter sea-ice distribution. We categorized the sea-ice related diatoms reported in Armand et al. (2005) into two groups, summer sea-ice diatom species and winter sea-ice diatom species. The former group is abundantly observed within summer sea-ice zone and the latter group is widely found within winter sea-ice zone. In this study, late Pliocene summer and winter sea-ice distributions in the Indian sector of the Southern Ocean are estimated based on temporal changes in abundance of the summer and winter sea-ice diatom species. Analyzed samples are ODP Leg 188 Hole 1165B and Leg 119 Hole 745B, which are located near recent summer and winter sea-ice edge respectively.

Keywords: Southern Ocean, paleoenvironment, sea ice, ODP, diatom