

Variability within the marginal ice zone is important for air-sea gas exchange, how well do methods of sea ice observation capture this?

PhD Project: Remote sensing for understanding carbon-uptake in the polar marginal sea ice zone

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- The MIZ is dynamic in time and space
- Global flux estimates currently assume a linear relationship with the fraction of open water
- Is this a fair assumption and are currently available data sets providing sufficient data for this to be tested in field studies?

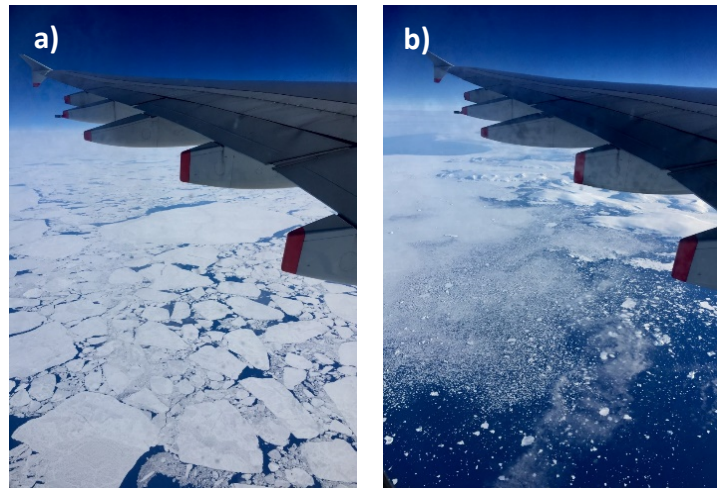


Figure 1. Aerial photographs of the MIZ taken over a) Greenland and b) Davies Strait towards the end of the spring melt season in late May 2019.

Aim: To conduct a meta-data analysis of previous polar ocean eddy covariance studies in the literature to:

(i) Re-assess and compare results of previous studies to determine if variability in sea ice characteristics other than coverage (e.g. type, floe size) are important

(ii) Assess the ability of current remote sensing methods and data sets to characterise sea ice conditions in the MIZ

