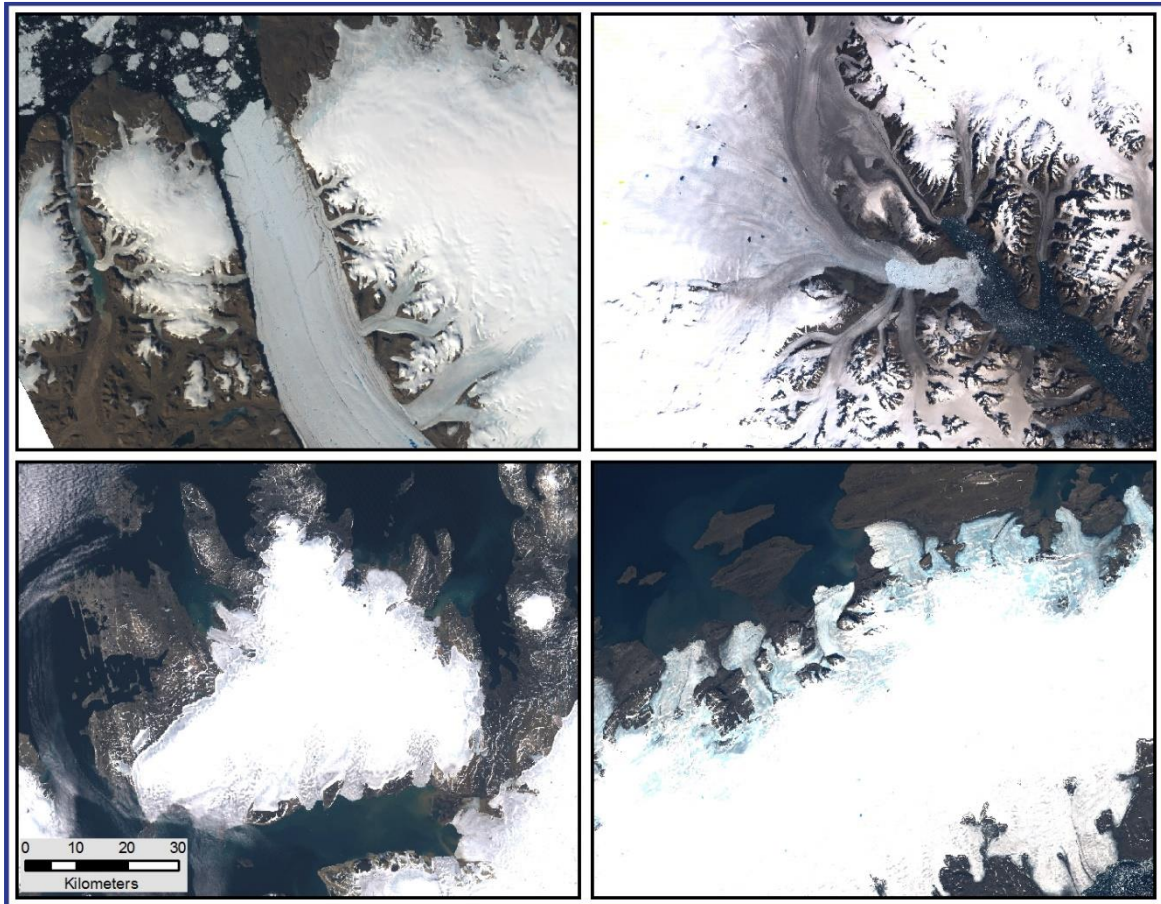


The aim of this project is to quantify pan-Arctic retreat rates during the past two decades and to analyse changes in relation to climatic forcing factors.



Arctic ice masses have lost mass rapidly during the past two decades and a major component of this has been the acceleration of major marine-terminating outlet glaciers. These glaciers provide a mechanism by which ice caps and ice sheets can respond very rapidly to climate change, but their behaviour is poorly understood. Previous studies have tended to focus on individual glaciers or regions, so it is uncertain how glacier retreat rates vary at the pan-Arctic scale or how their relationship to climate forcing differs.

This project aims to:

1. Quantify retreat rates on major marine-terminating Arctic outlet glaciers, located in Greenland, Svalbard and the Russian High Arctic, for the period 1992-2010.
2. Assess temporal and spatial differences in glacier retreat rates, at both regional and pan-Arctic scales.
3. Investigate the relative influence of different climatic and ocean forcing factors on regional-scale glacier retreat rates.

This work is a collaboration between Dr Rachel Carr, Prof. Chris Stokes, Durham University, and Prof. Andreas Vieli, University of Zurich.