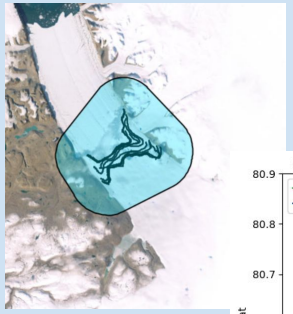
Grounding line/zone delineation using ICESat-2 data

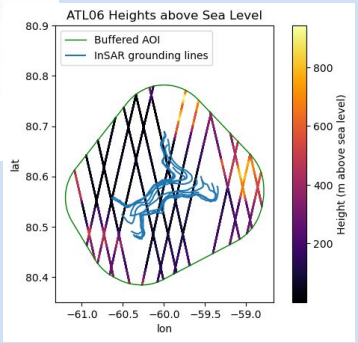
Team members: Hui Gao, Devin Power, Emily Glazer, Mollie Passacantando, Rasmus Meyer, Mohammad Salmani, Lucy Wanzer, Victoria Benson

The goal of this project is to use ICESat-2 data products to identify grounding zone locations on five Greenland ice shelves.

Data Access

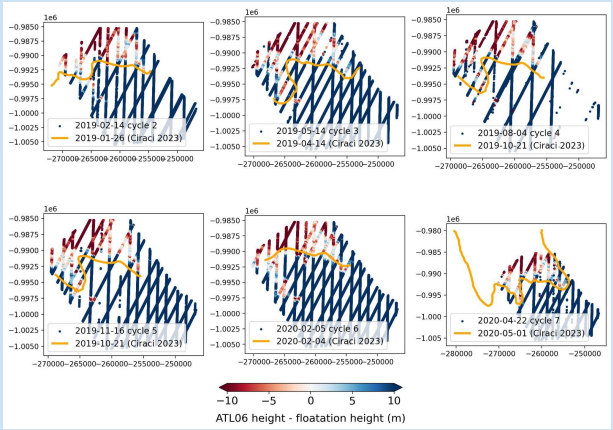
We used a dataset from 2017 showing InSAR-derived grounding lines on five Greenland ice shelves, and used these to subset buffered AOI's for subsetting ICESat-2 ATL06 data.





Flotation Height

Method 1: Compared land-ice height elevations (ATL06) with BedMachine bed elevation to determine difference between surface elevation and floatation height.



Inflection Point

Method 2: Identified the grounding line through the inflection of ice sheet slope and elevation anomalies using ATL11.