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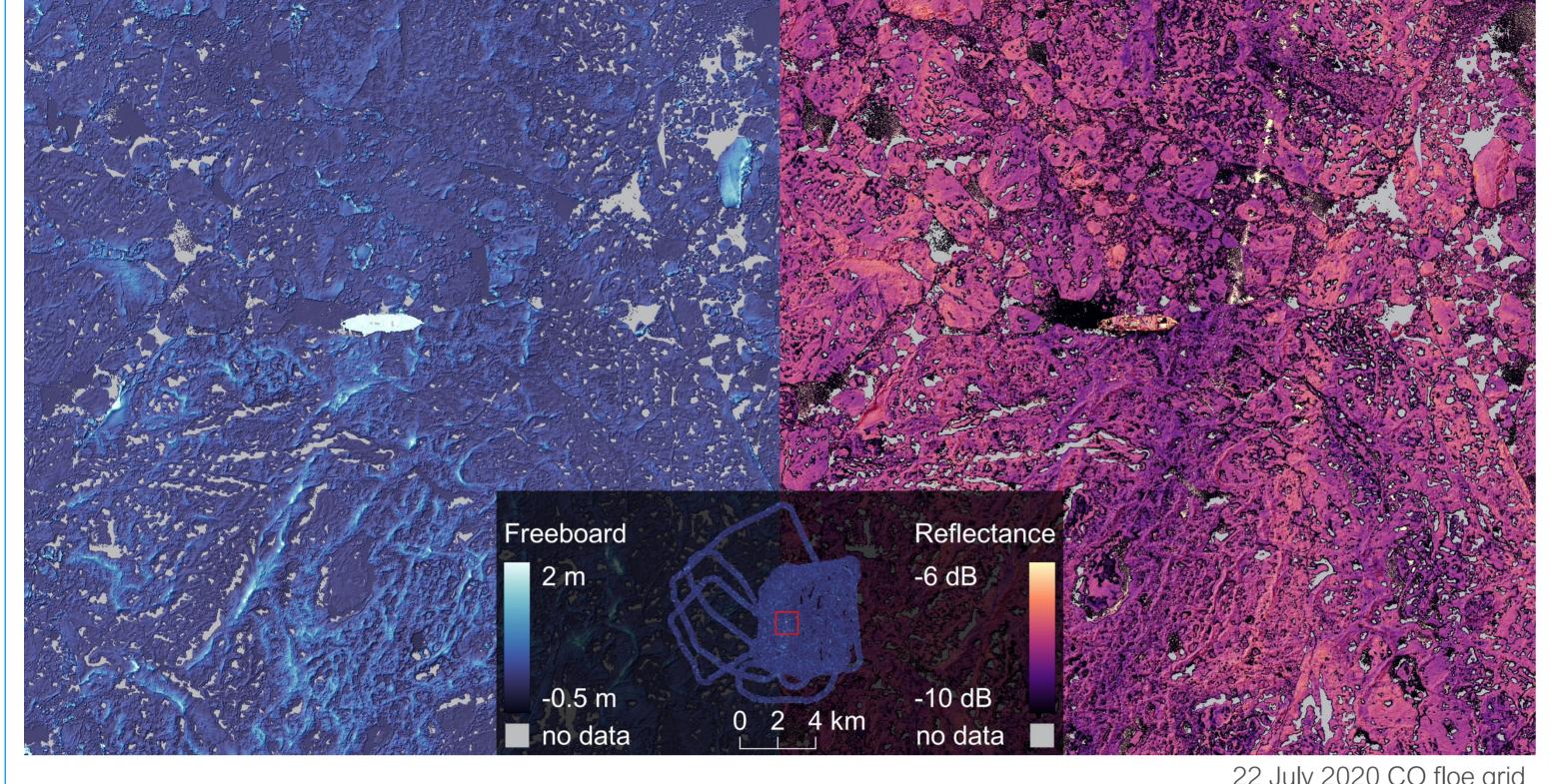
2019

2020

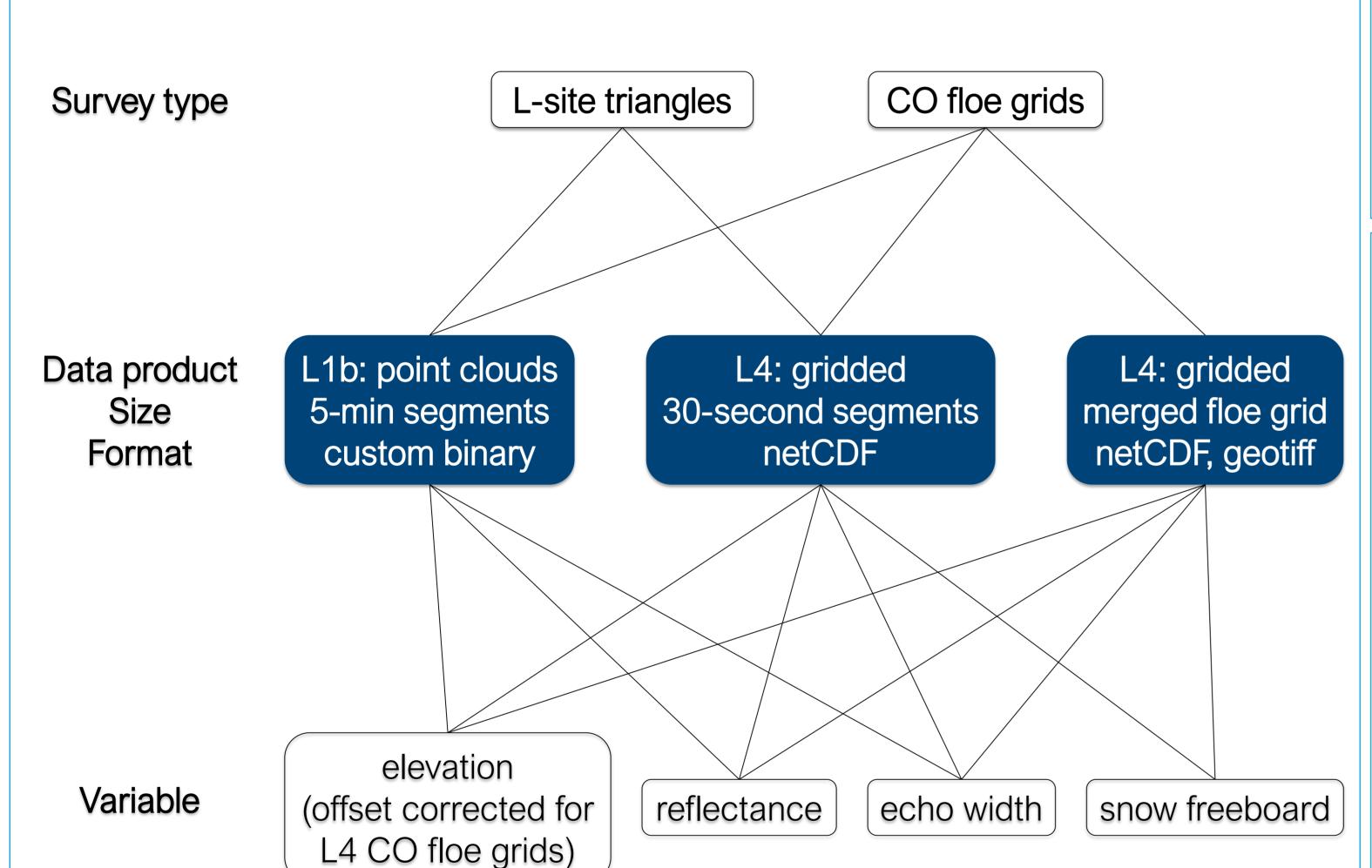


Kilometer-scale digital elevation models of the sea ice surface with airborne laser scanning during MOSAiC

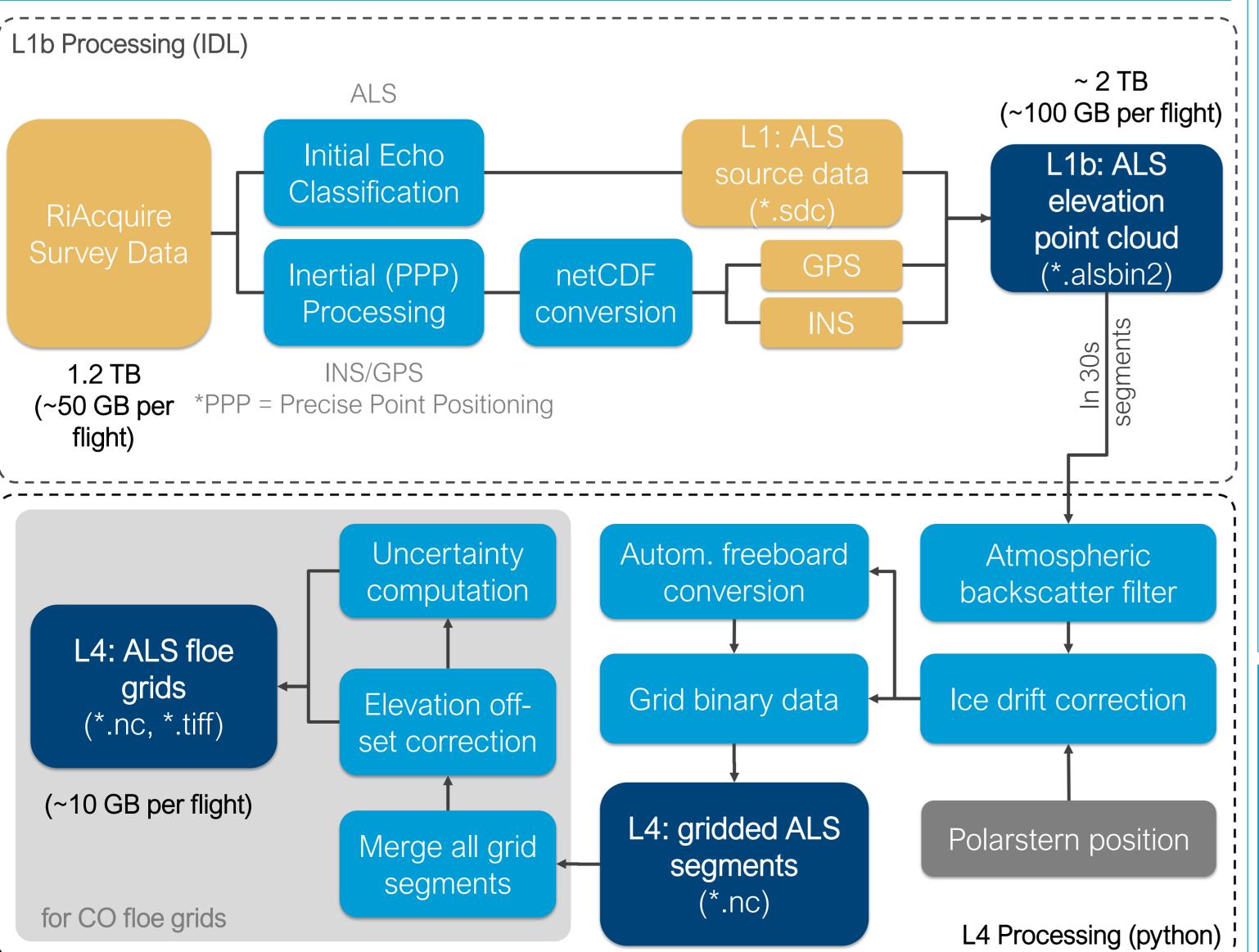
Data products: version 1



22 July 2020 CO floe grid

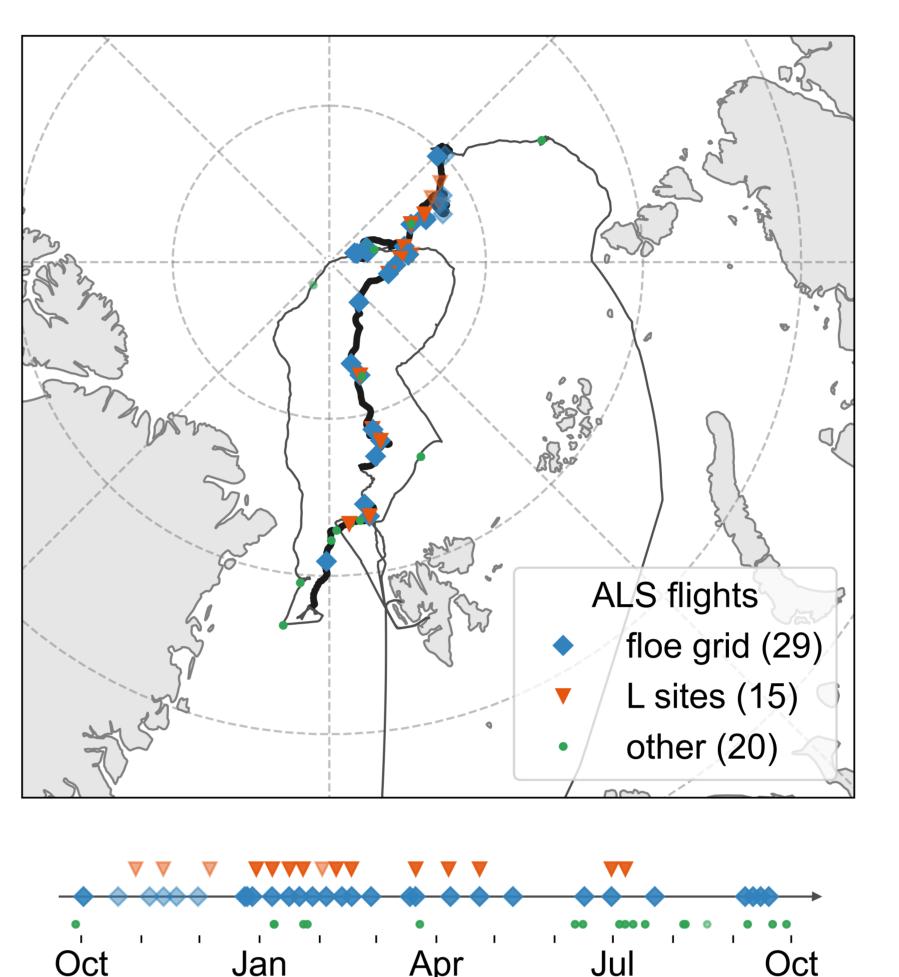


Processing



This work is part of the German Federal Ministry of Education and Research (BMBF) funded project IceSense — Remote Sensing of the Seasonal Evolution of Climate-relevant Sea Ice Properties (03F0866A)

Overview



Apr

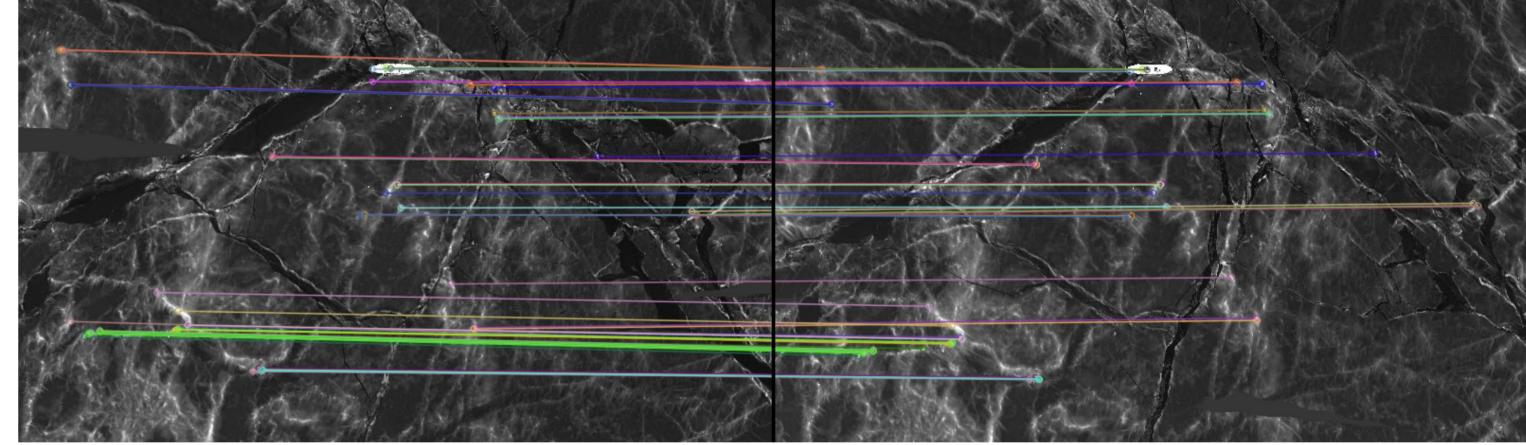
Flights with potential minor quality in transparent

- Number of flights:
 - > 60 (~weekly)
- Grid spacing: 0.5 m (or better)
- Scale: from local (CO floe grid, $\sim 5 \times 5$ km) to satellite grid cell/regional (L-site triangles, up to ~25 km away from Polarstern)
- ► Challenge: degraded GPS precision >85° N

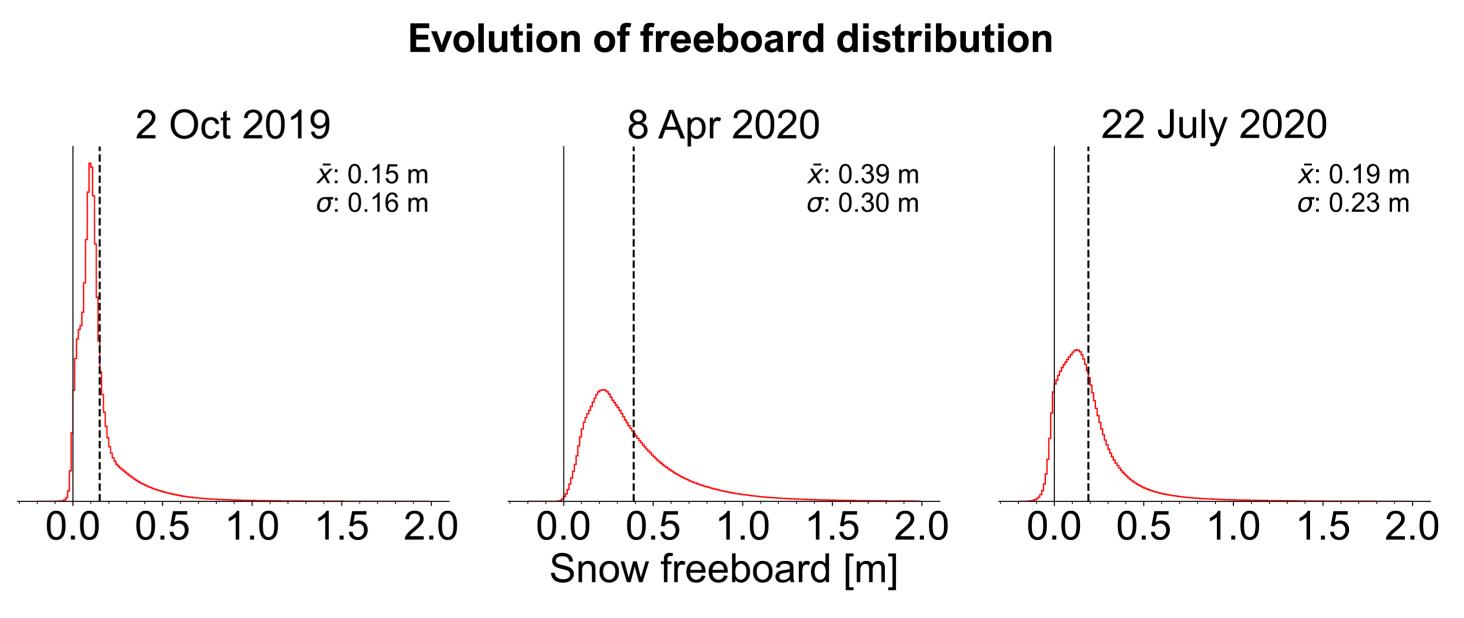
Science questions

What are the spatial variability and temporal evolution of the snow and sea ice cover and their surface features over the annual cycle? Freeboard, roughness, deformation, snow redistribution, floe size, pressure ridges, melt ponds, etc.

Feature tracking



8 Apr 2020 CO floe grid



Full CO floe grids, variable areal coverage

- ▶ Still not sure how to access the ALS data? Let's meet at FLEX time!
- ➤ See also the poster by Hutter et al.: Observations of sea-ice deformation and floe interaction from satellite observations and airborne laser scanner surveys during MOSAiC







23 Apr 2020 CO floe grid