

A Novel Method for Creating Complete, Gapless Lines From Fragmented 2D Data of Antarctic Grounding Line Measurements

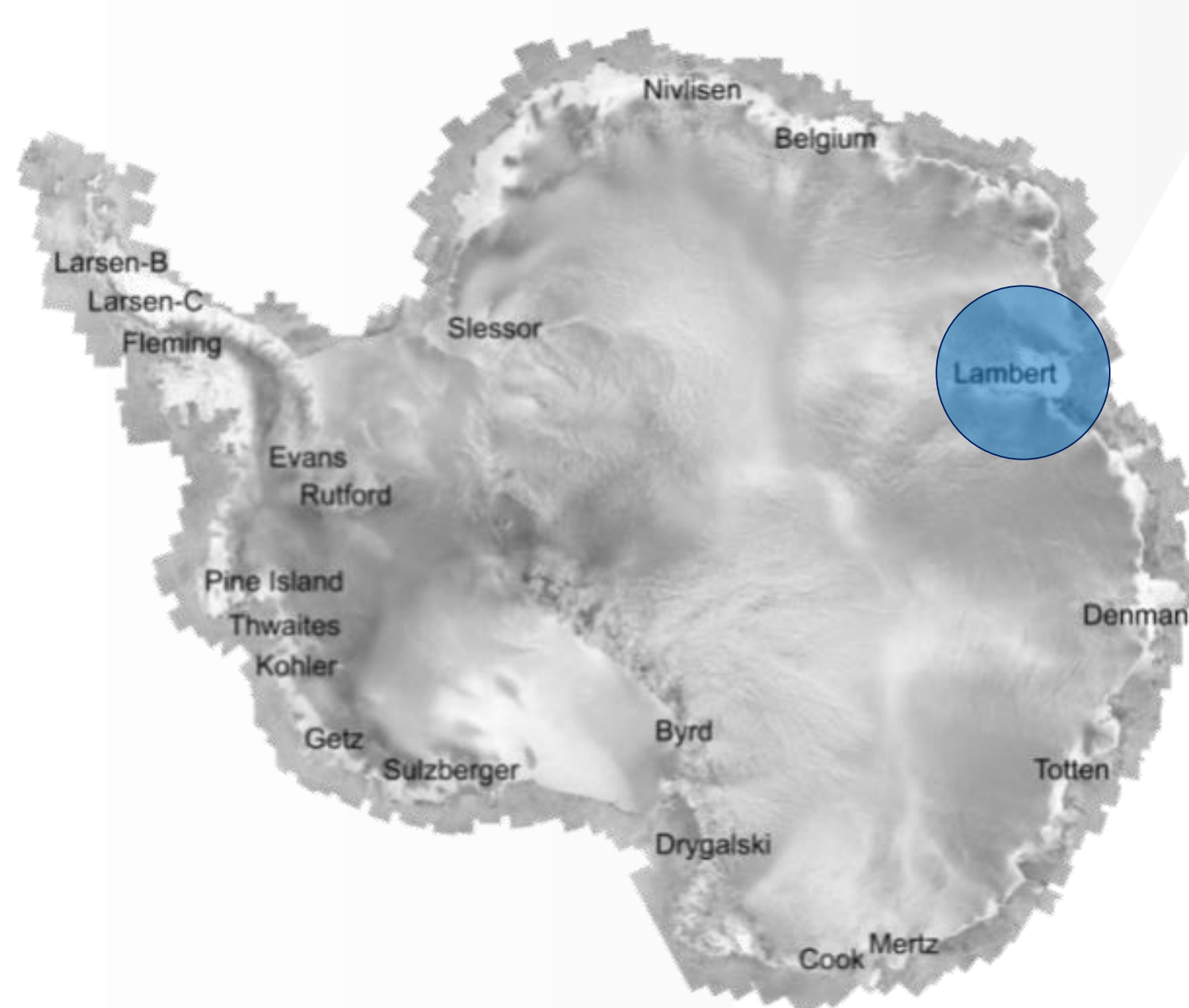
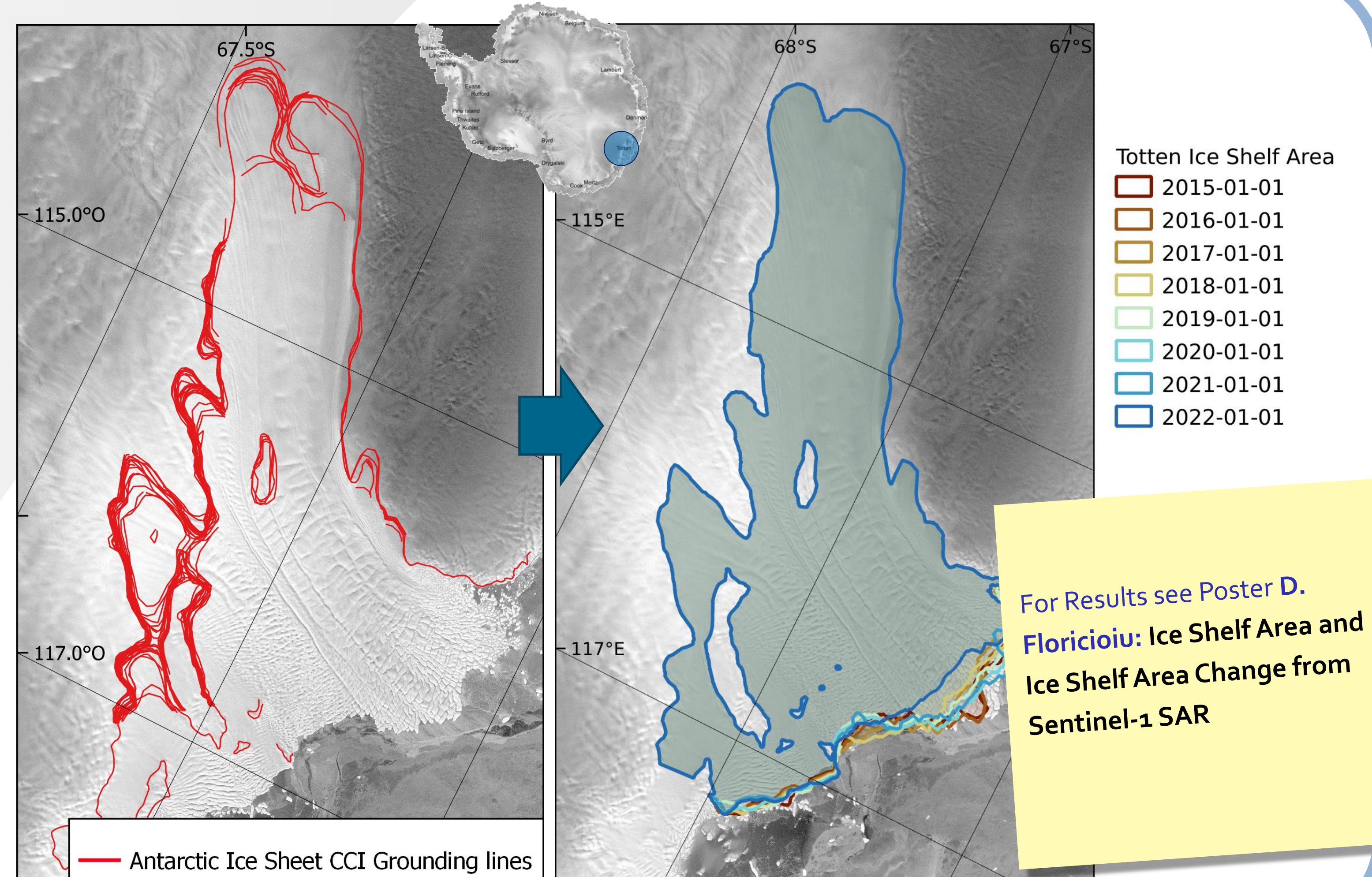
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Scientific importance of a complete gapless grounding line

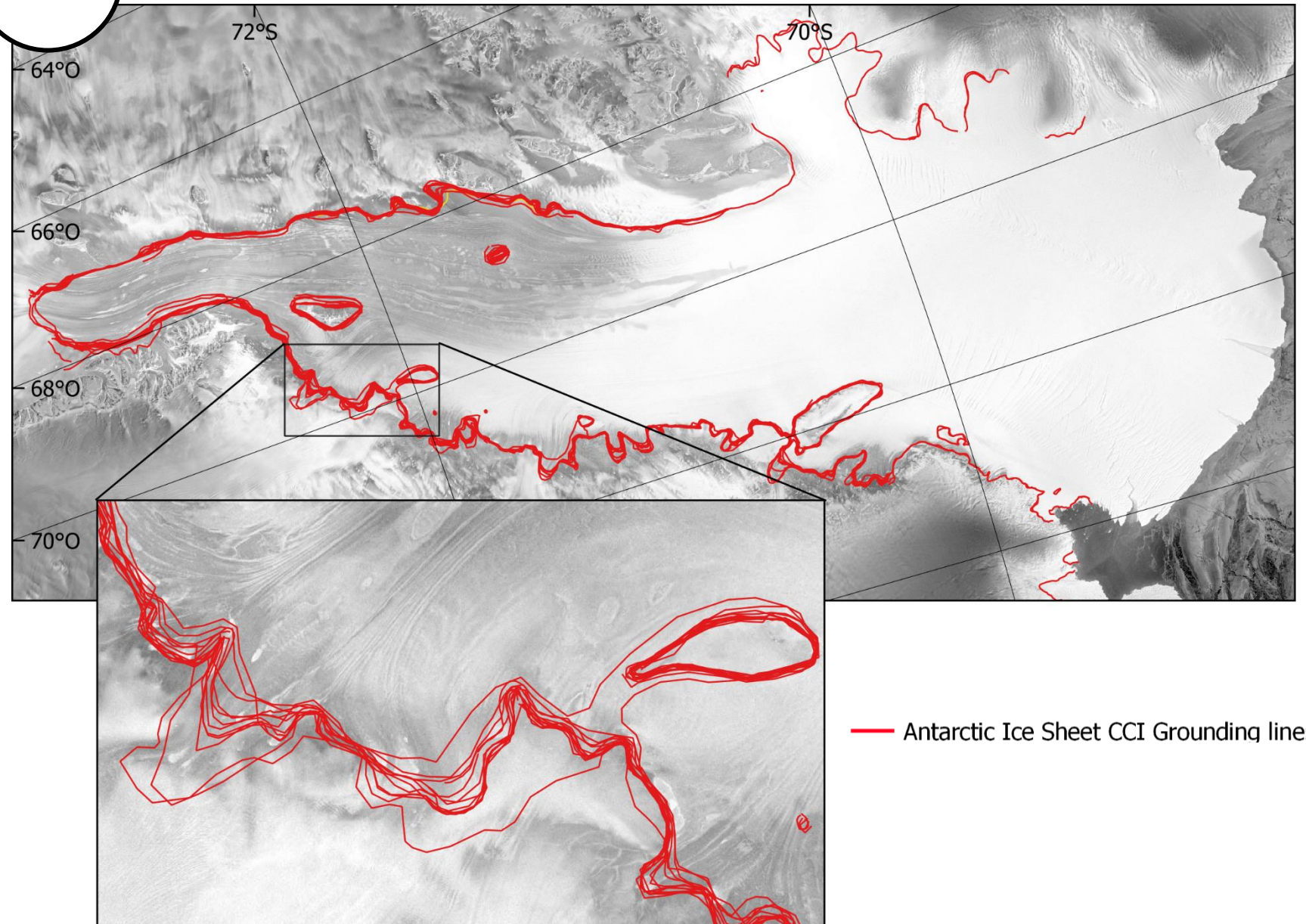
- Neither manually nor automatically delineated grounding lines are complete & gapless
- InSAR grounding lines often contain gaps due to variations in interferometric coherence, tidal states, and the generally intricate geometry of the grounding line

Complete & gapless grounding line

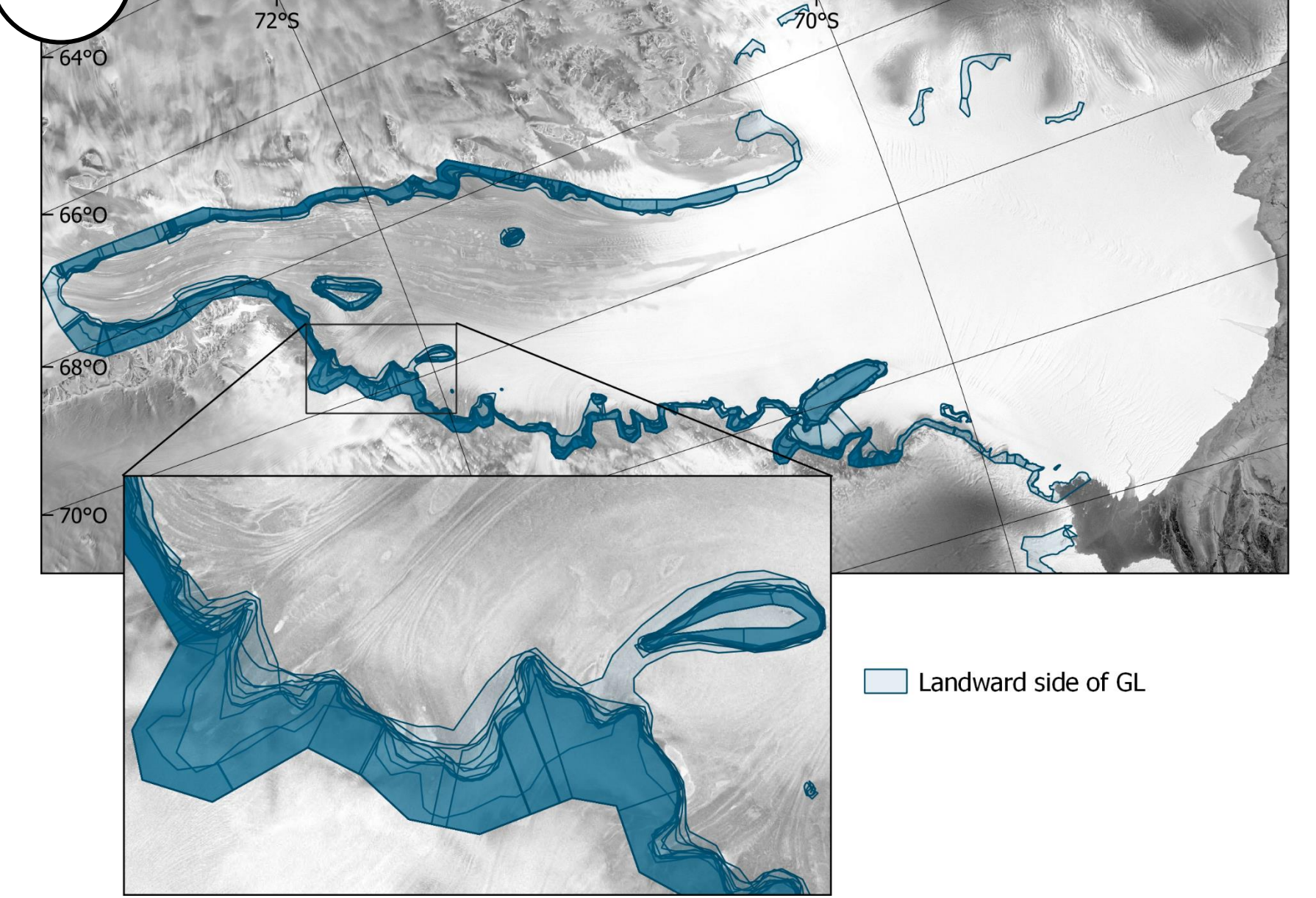
- Ease of use:
 - calculating ice discharge across the grounding line
 - calculating grounding line retreat
 - seeding drainage basin calculation
- Allows for delineation of ice shelf extent when combined with calving front data
- Short term variations of GL positions can be tackled



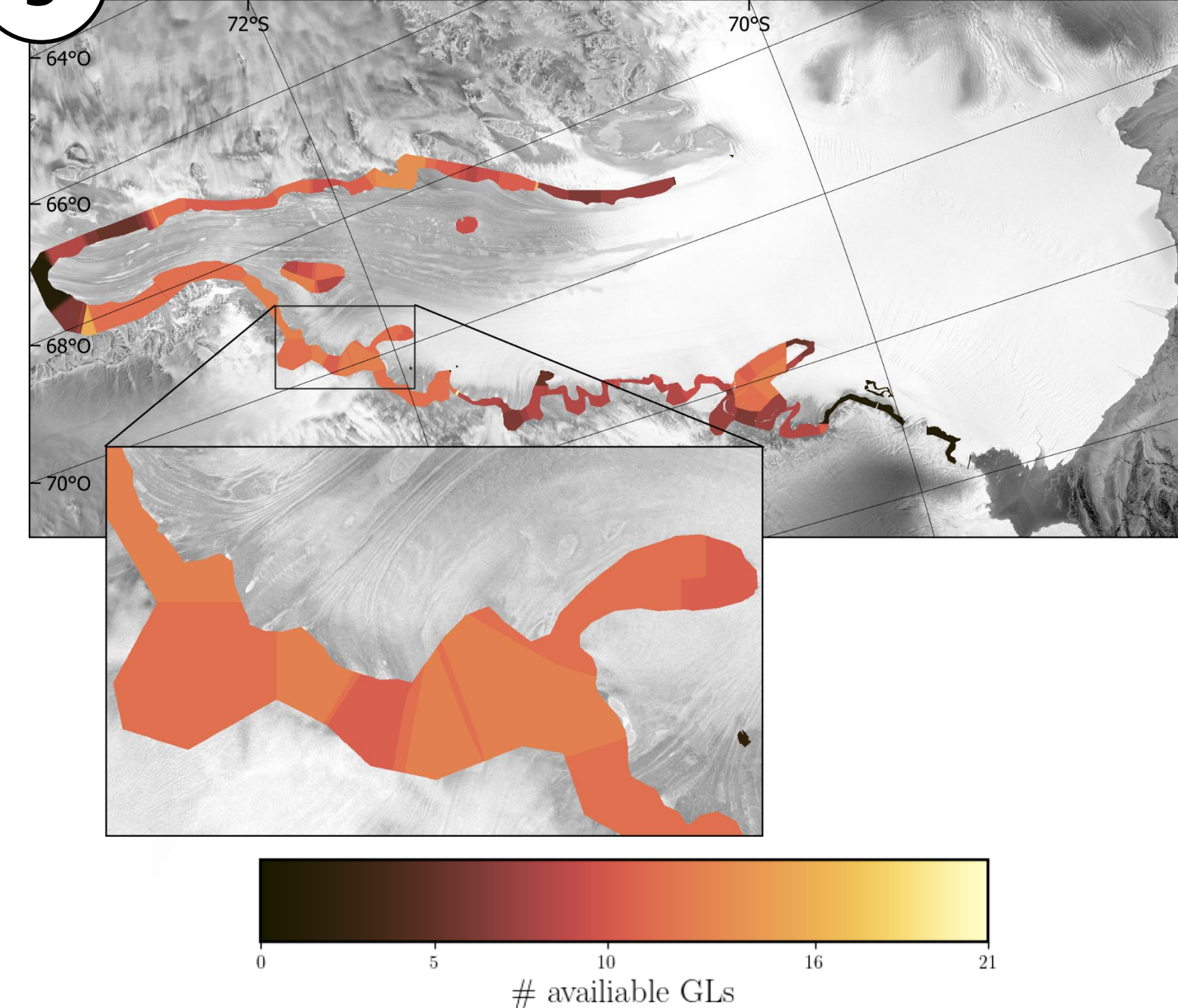
1 Initial lines



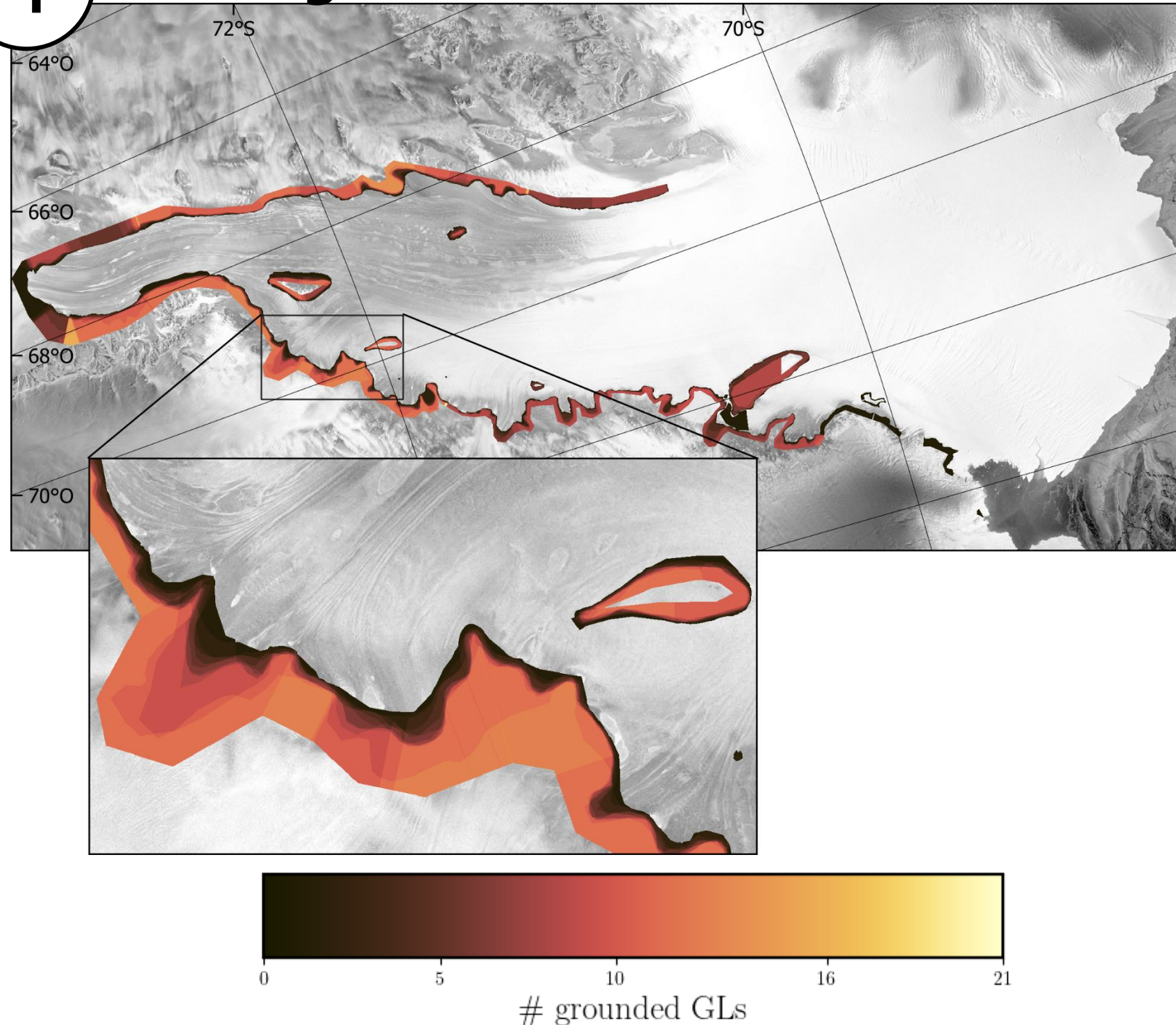
2 Landward side of GL



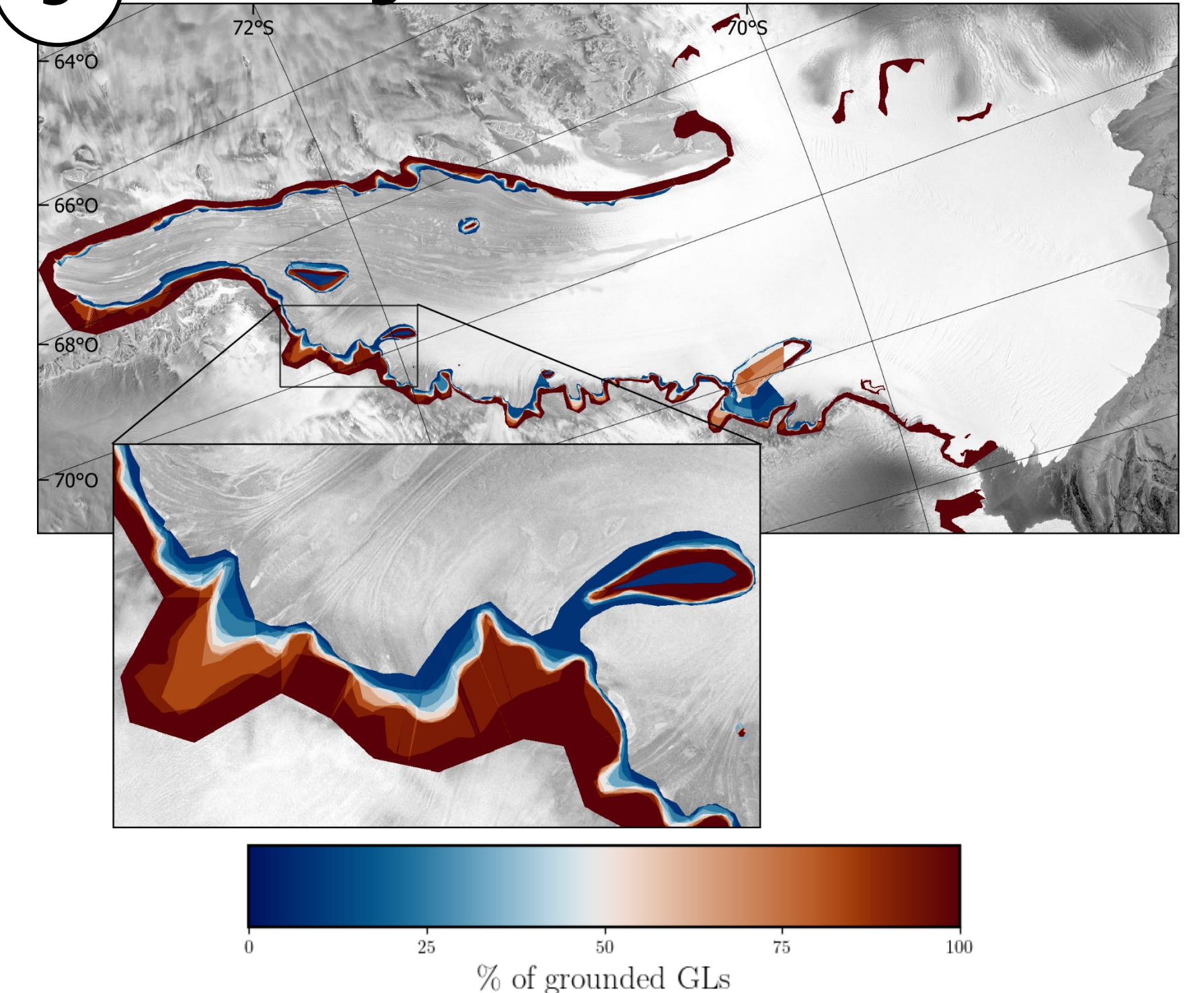
3 Count available GLs



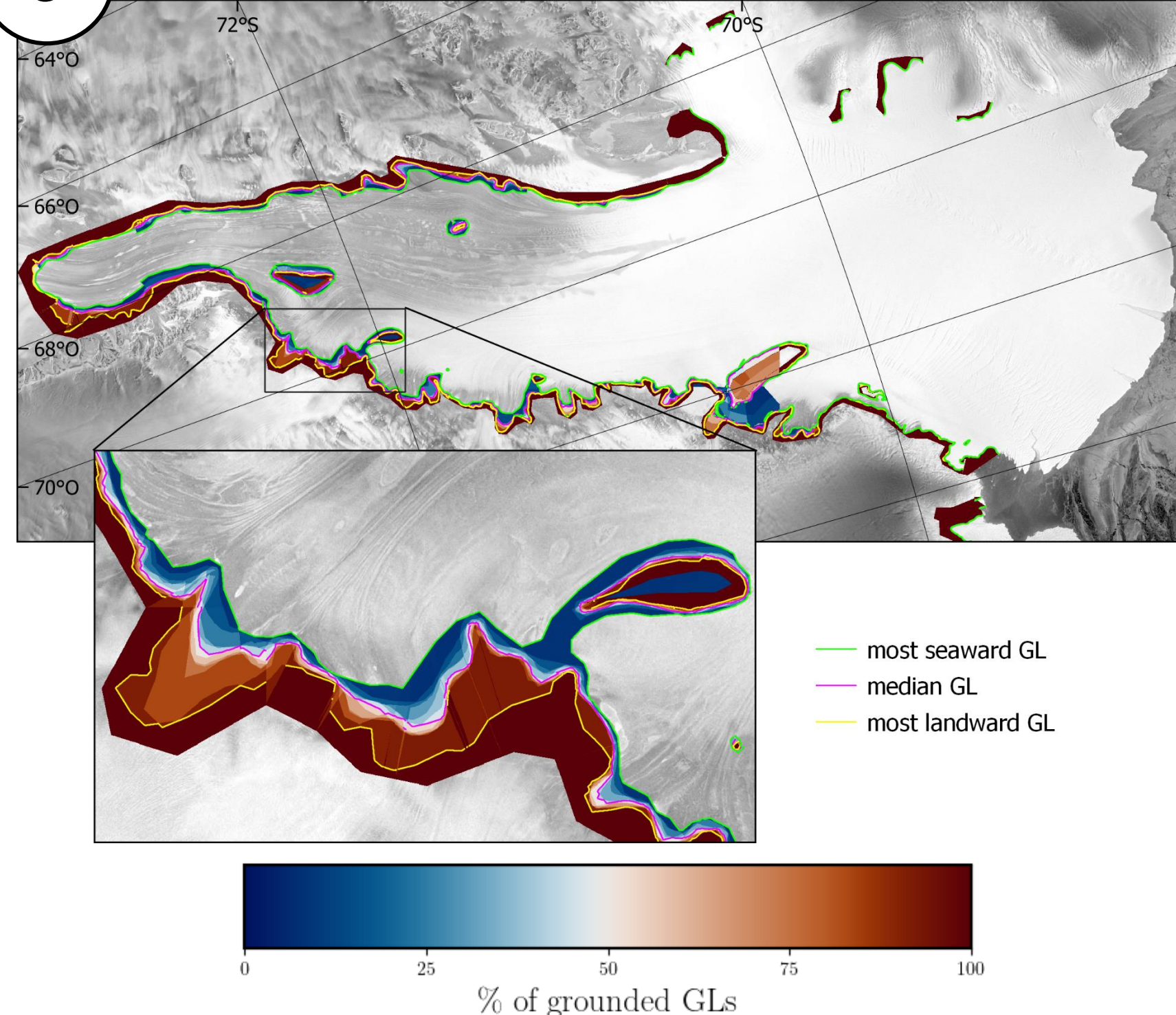
4 Count grounded side of GLs



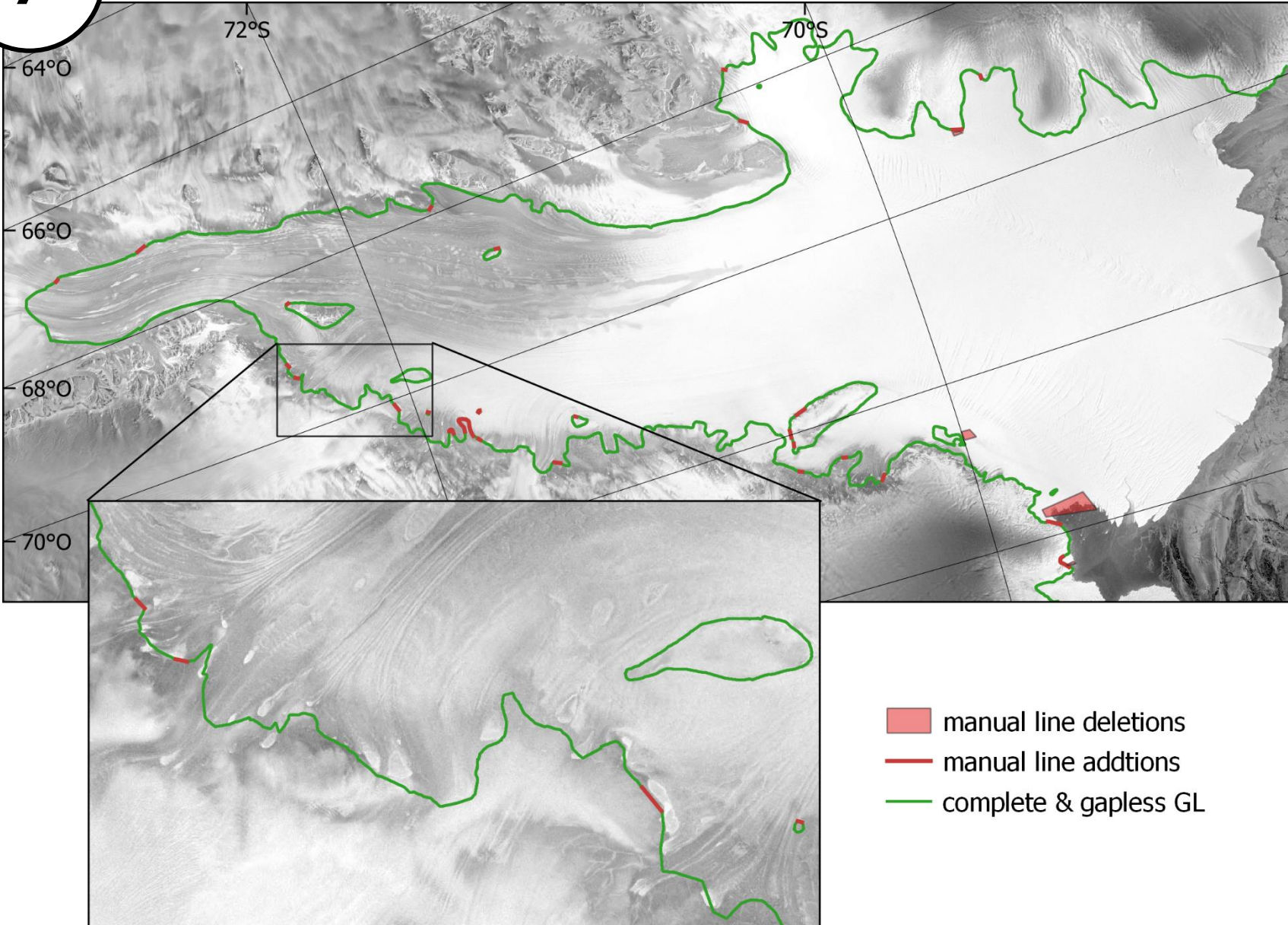
5 Ratio of grounded to total GLs



6 Median GL



7 Manual corrections



8 Final products

