

A stylized map of Greenland, colored with a gradient from blue at the bottom to red at the top, with a small horizontal bar above it. The map is oriented vertically, with the top of the island pointing upwards.

NEGIS

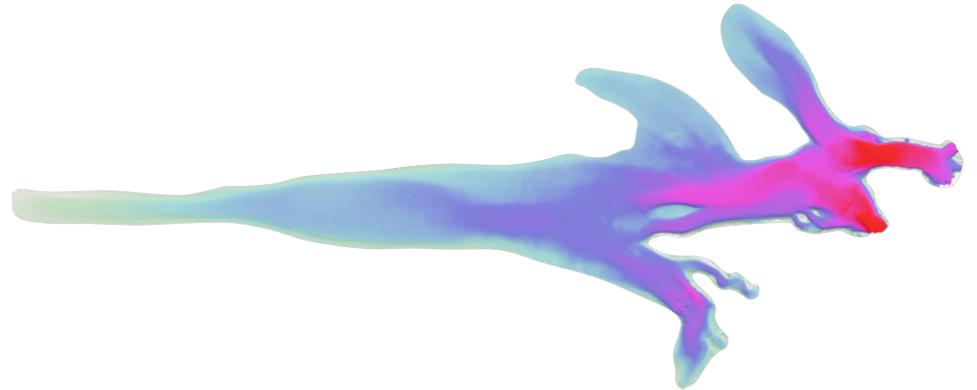
A unique feature in Greenland?

Steven Franke, Paul Bons, Julien Westhoff, Ilka Weikusat, Tobias Binder, Kyra Streng, Daniel Steinhage, Veit Helm, Olaf Eisen, John Paden, Graeme Eagles and Daniela Jansen

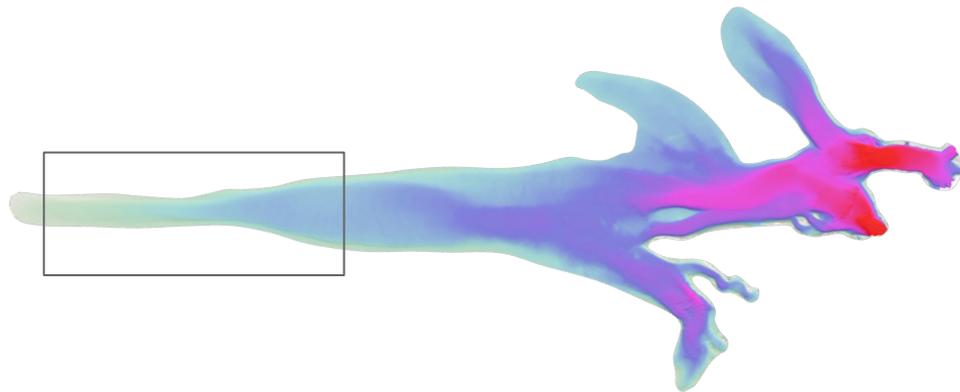
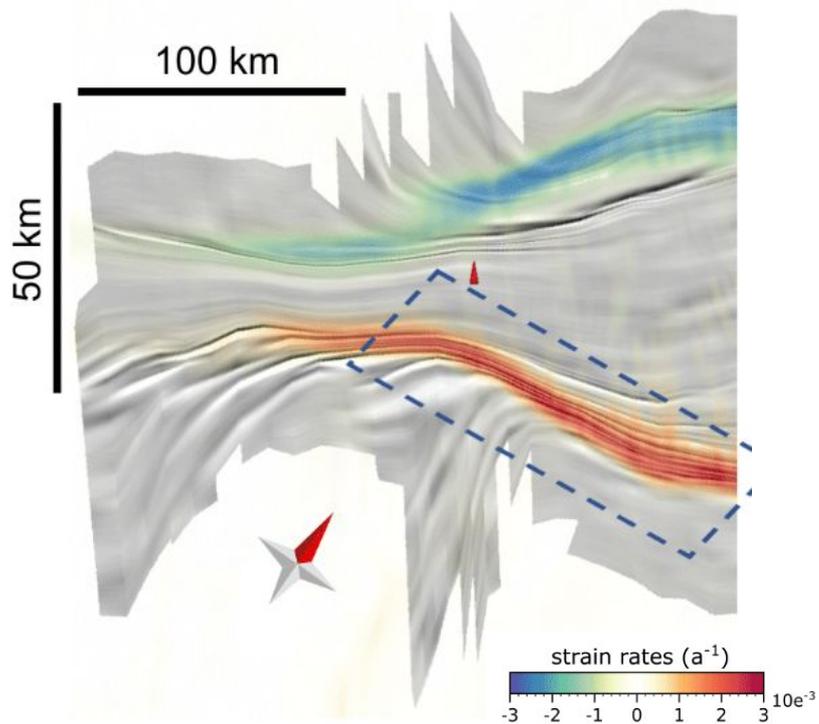


EastGRIP Summer
Seminar Series
March, 29th 2022

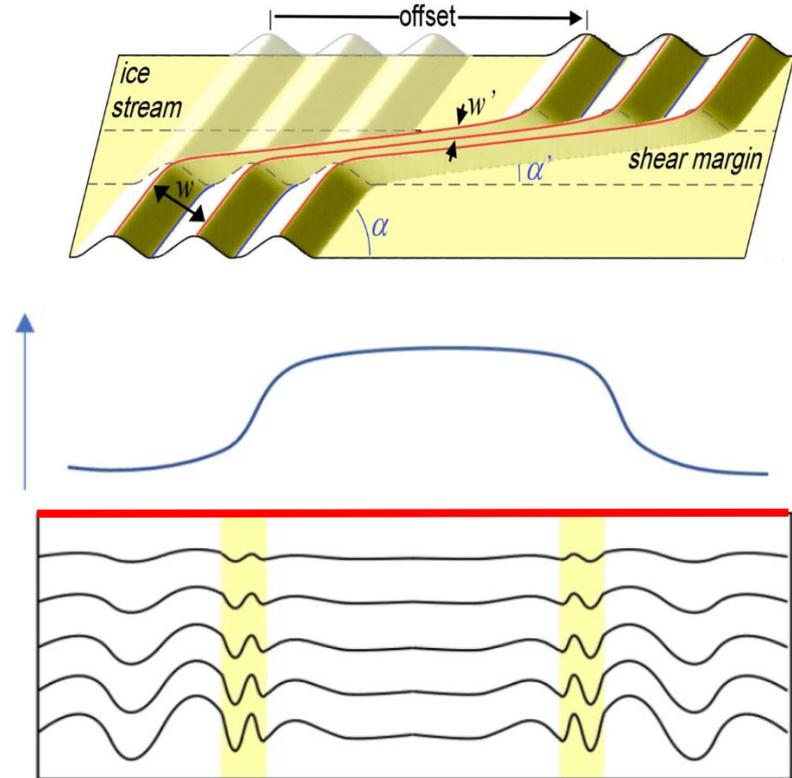
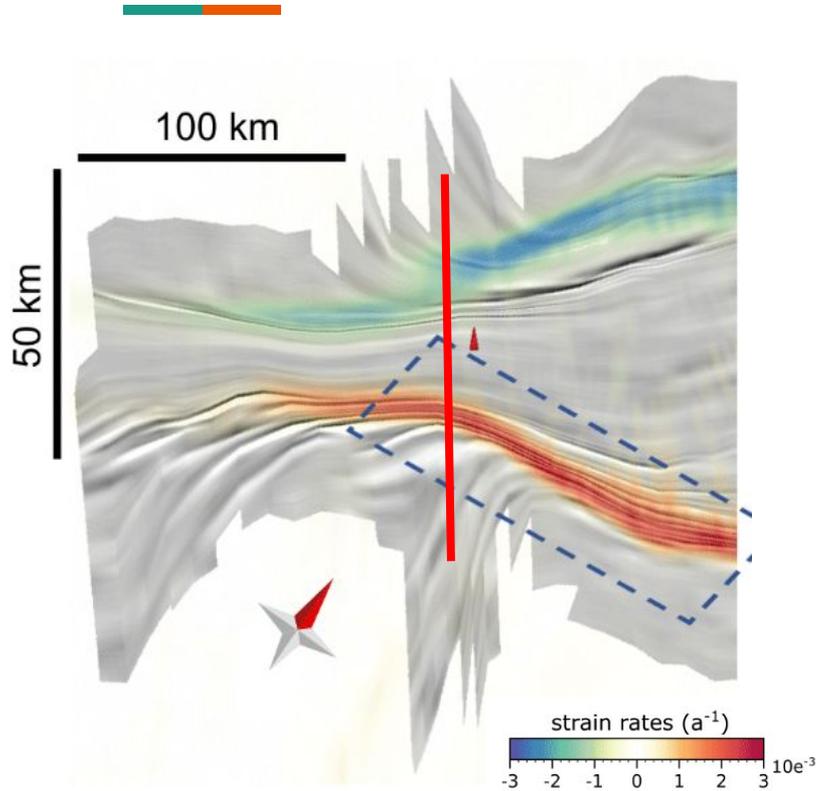
NEGIS shear margin



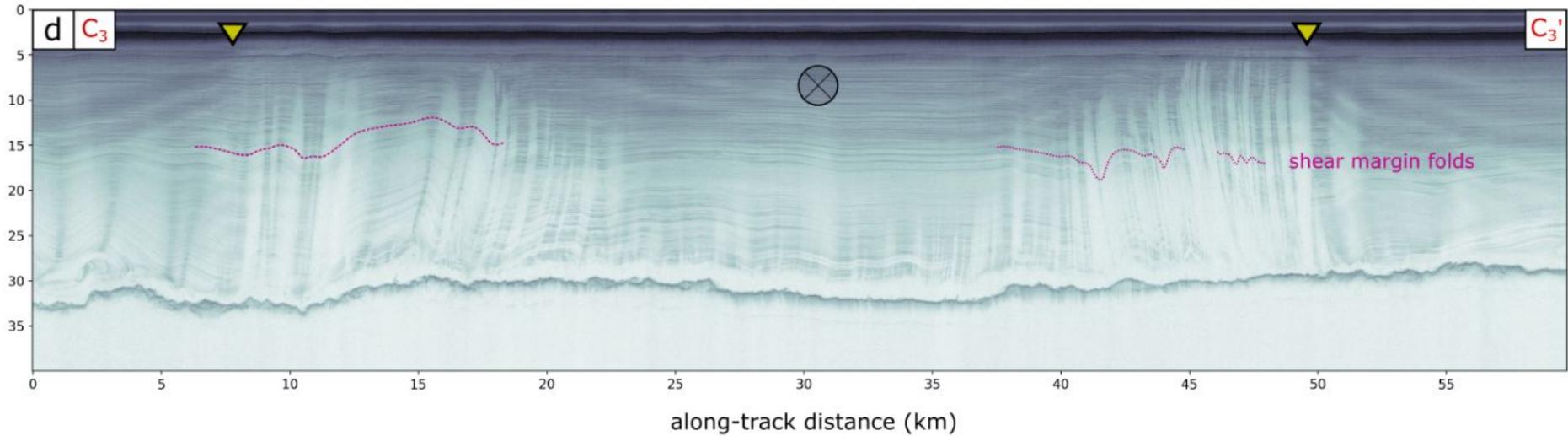
NEGIS shear margin



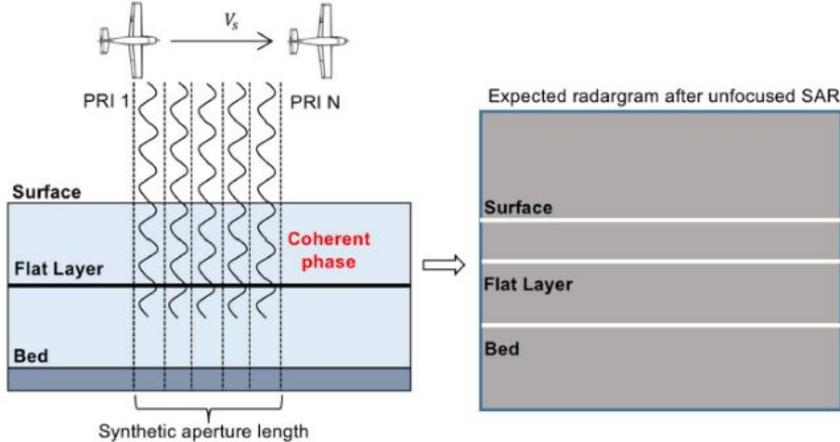
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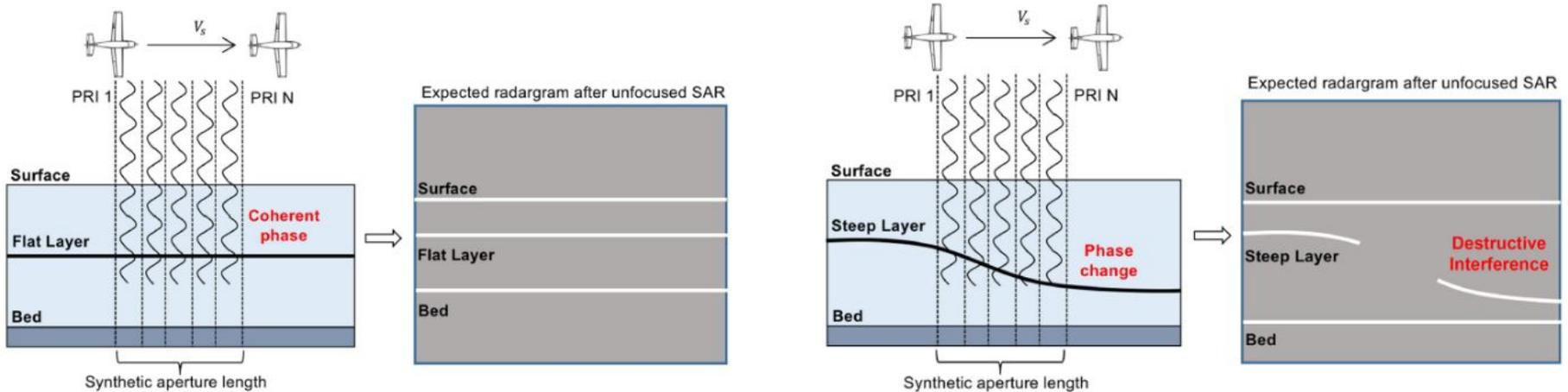
NEGIS shear margin radio-echo sounding signature



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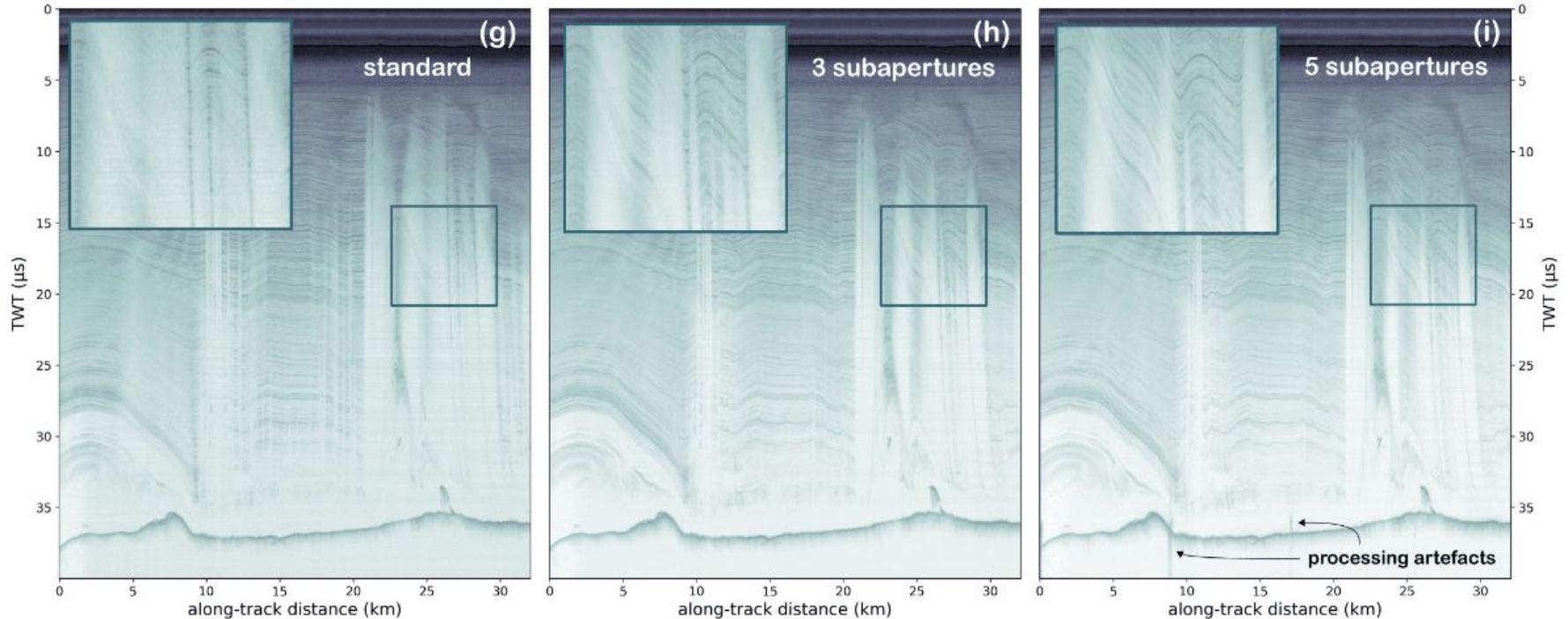


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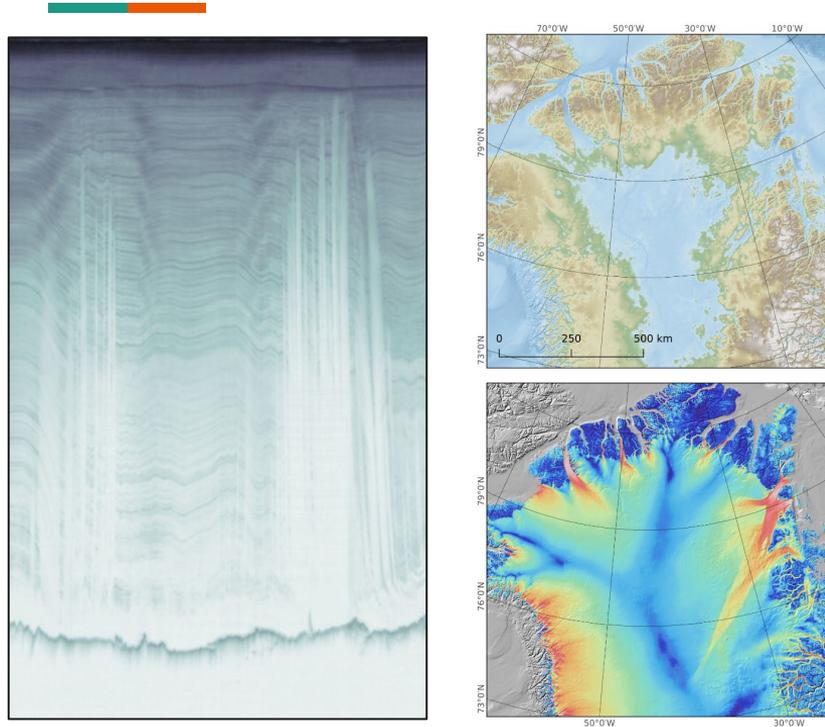


Images from Castelletti et al. (2018),
theory from Holschuh et al. (2014)

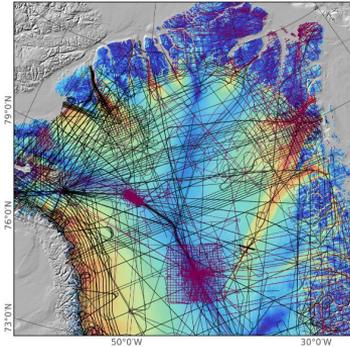
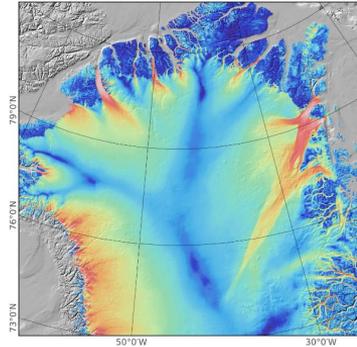
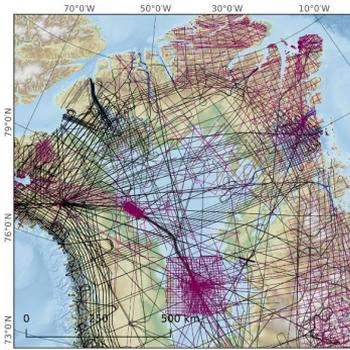
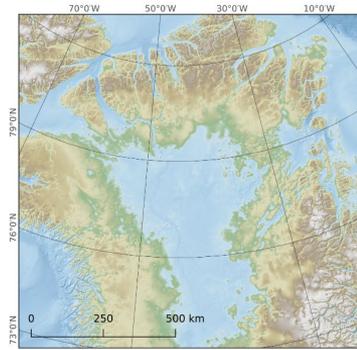
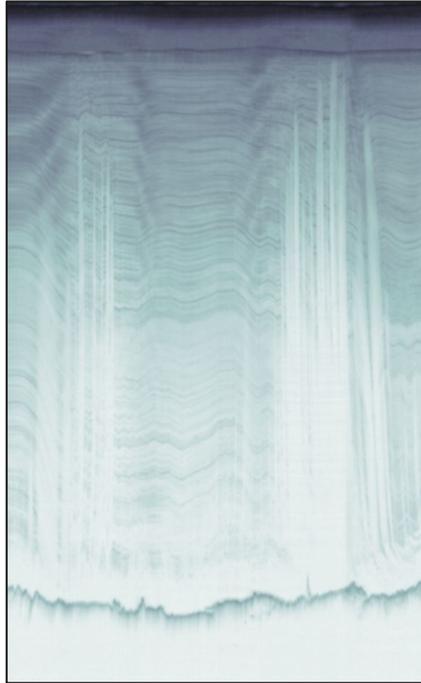
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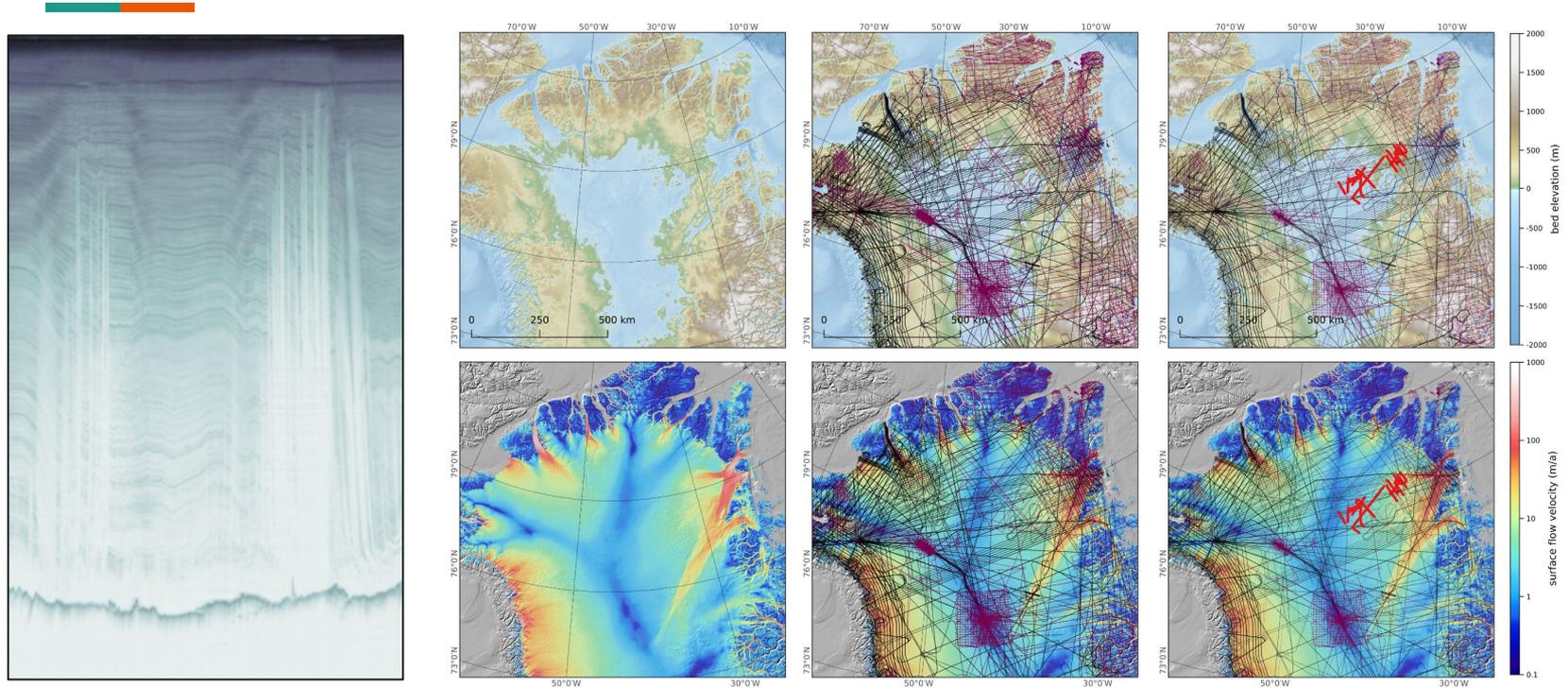
Find the signature - find a shear margin - find an ice stream



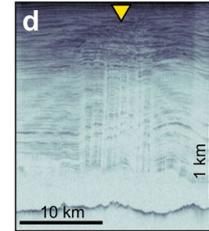
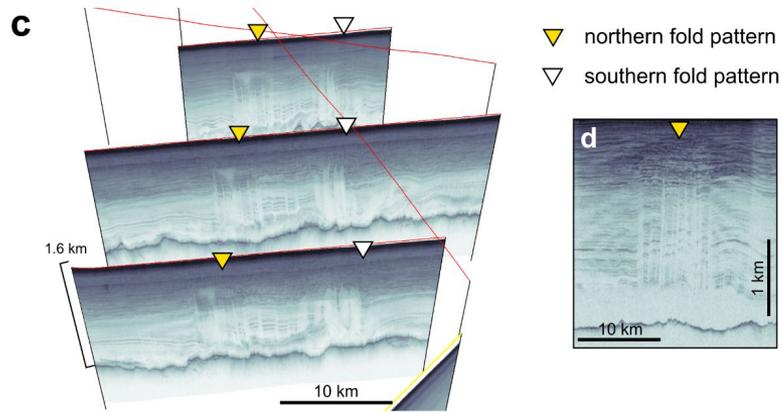
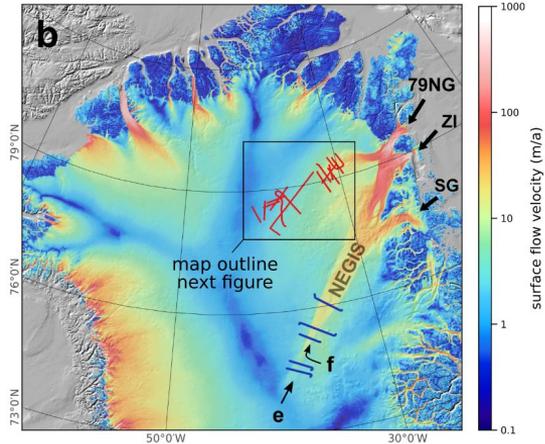
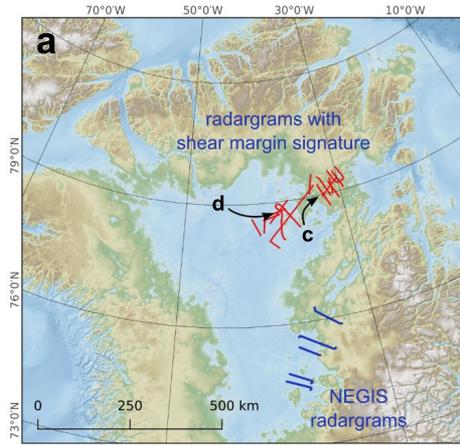
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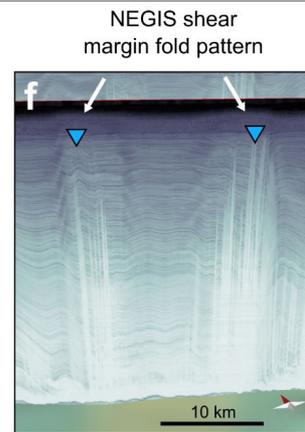
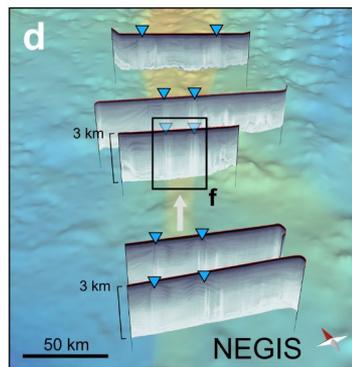
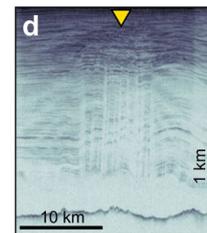
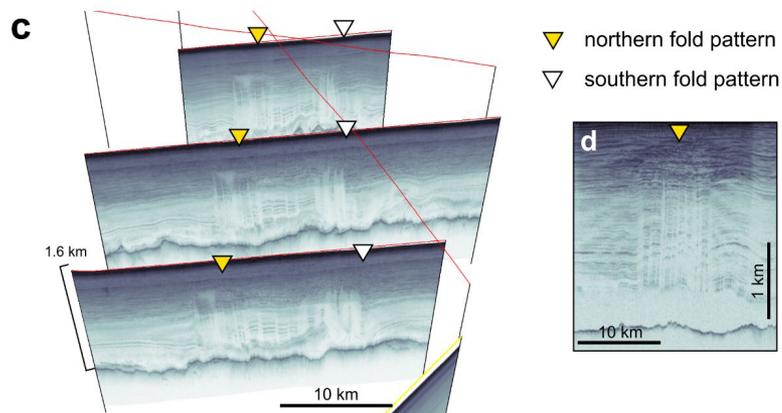
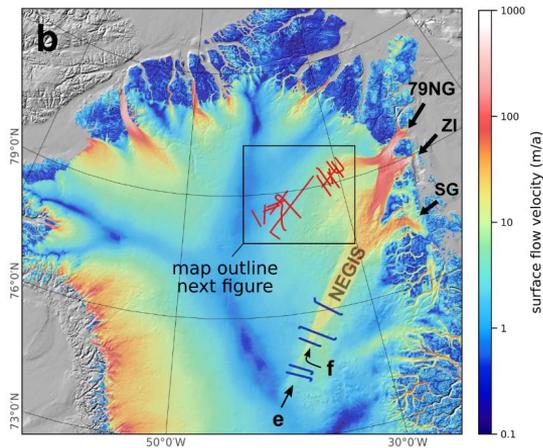
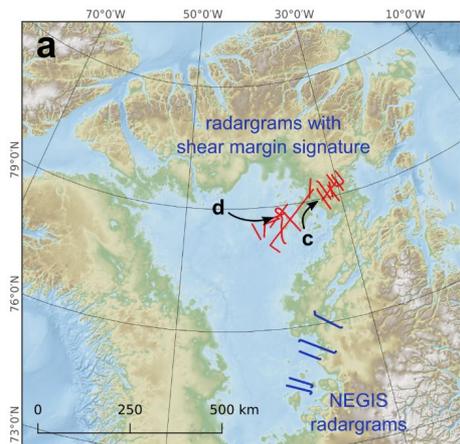
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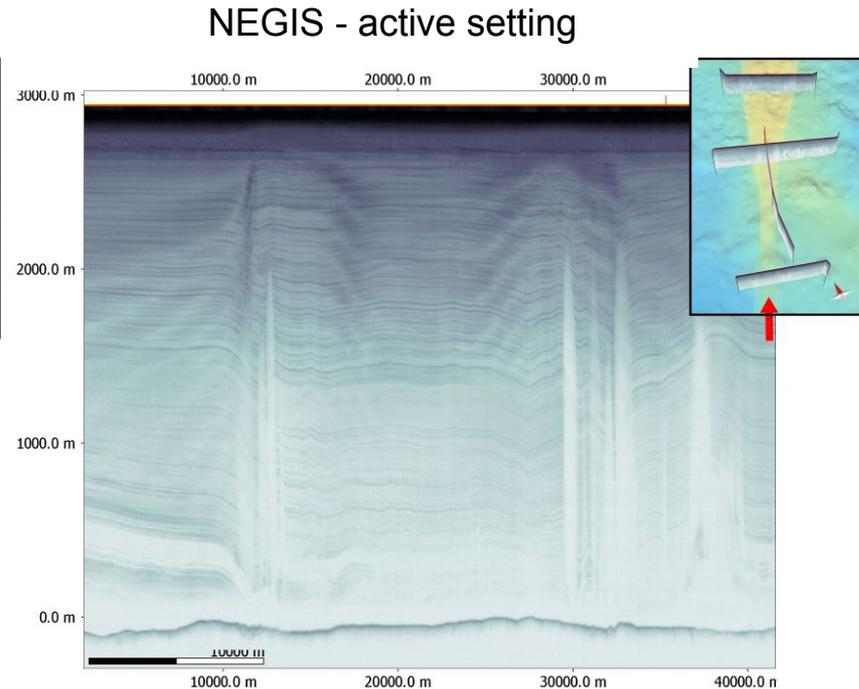
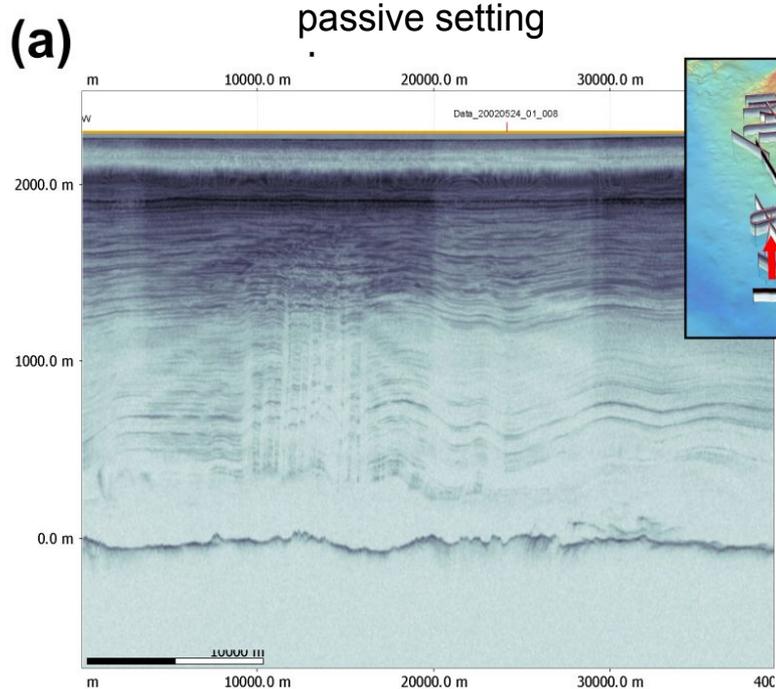
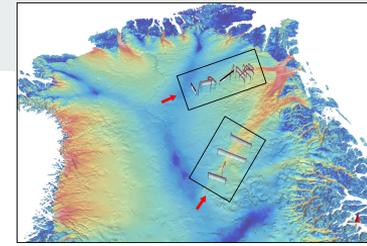
Found the signature - found an ice stream?



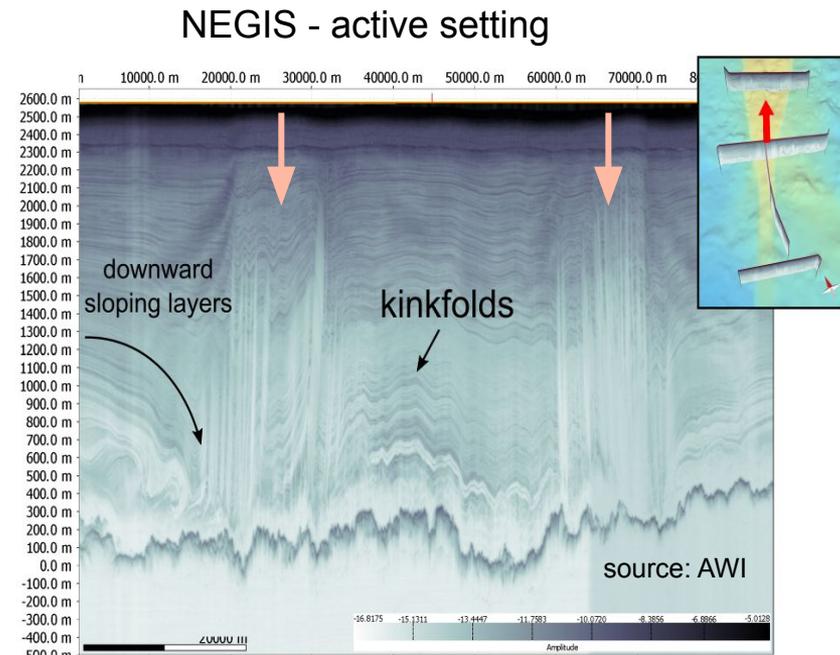
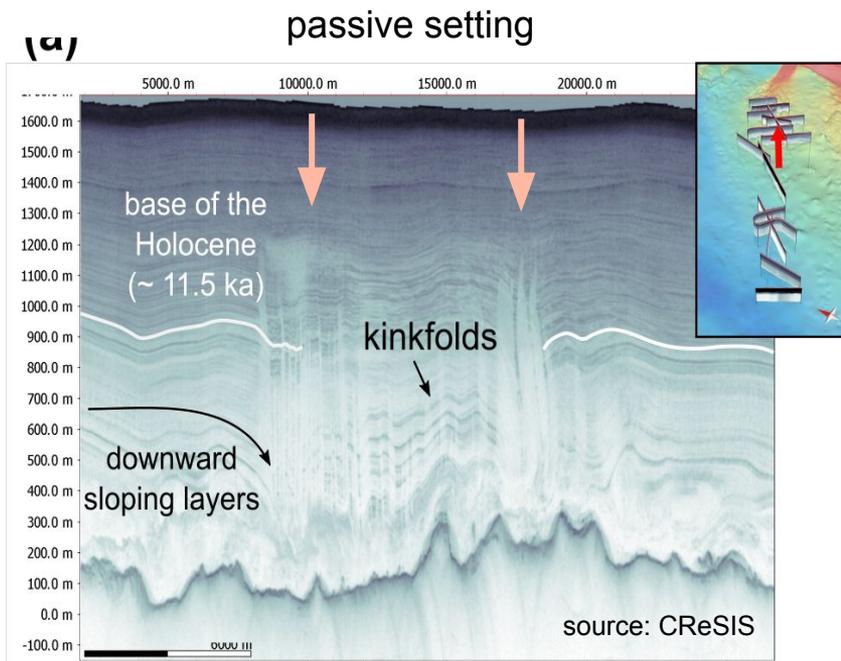
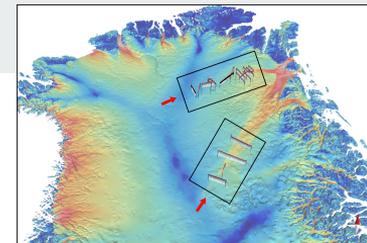
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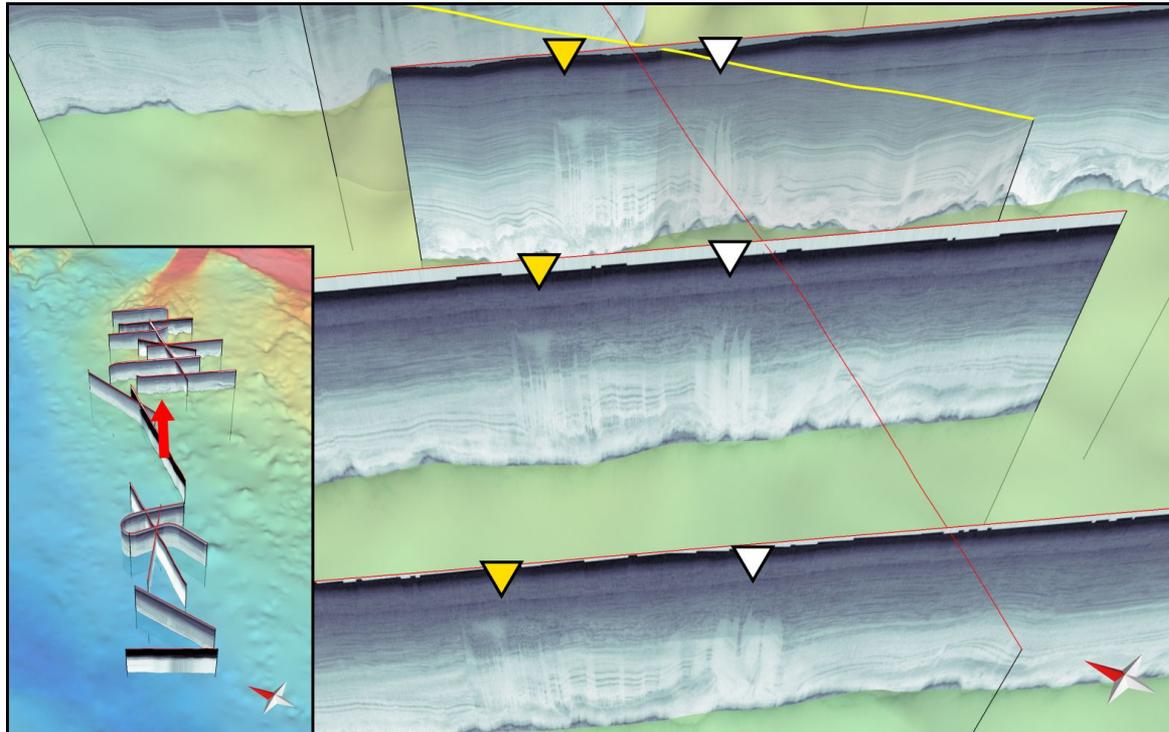
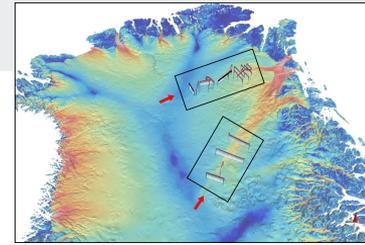
Similarity in the radar signature -upstream



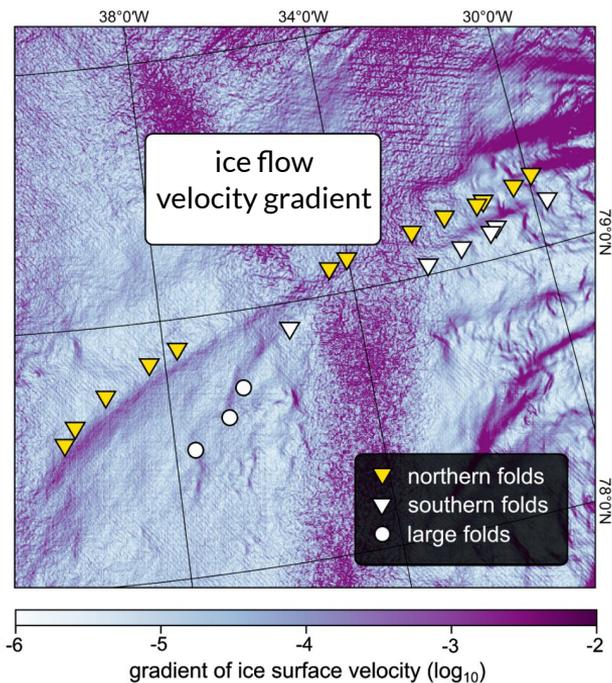
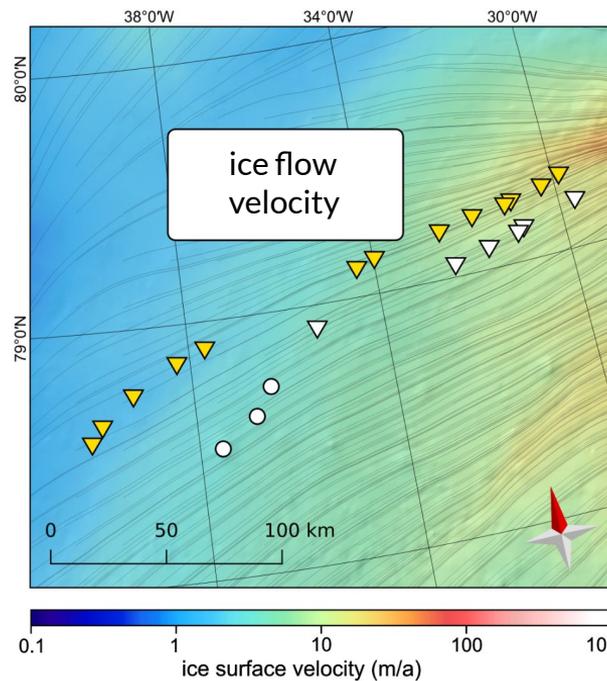
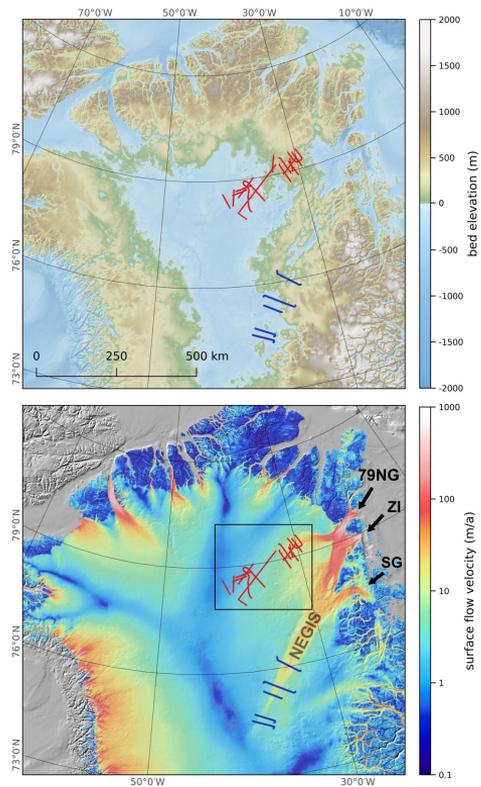
Similarity in the radar signature - downstream

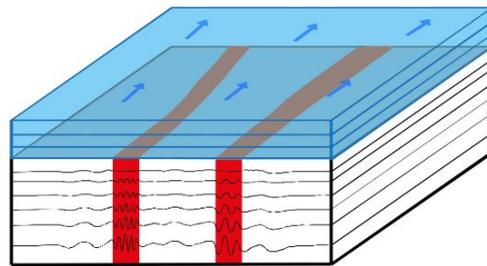
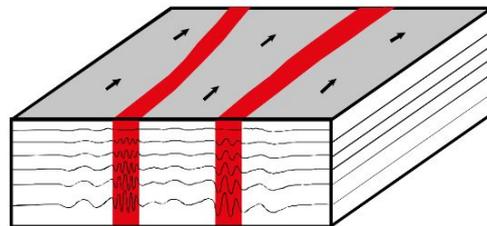
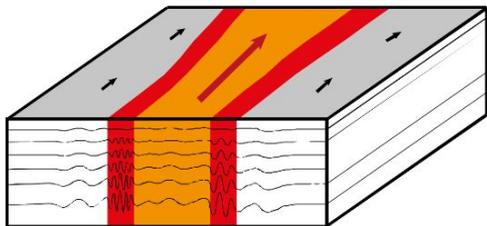


Similarity in the spatial pattern



Ice-stream signature but no ice stream

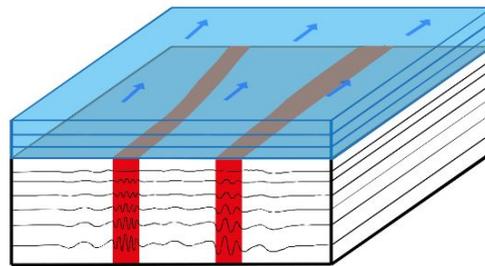
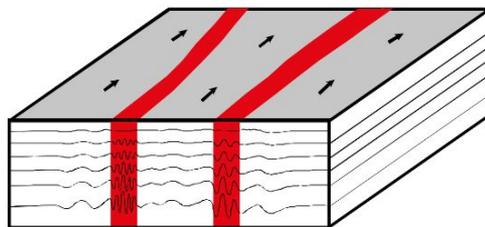
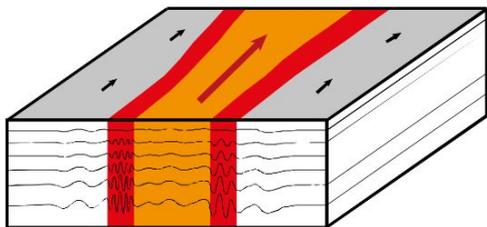
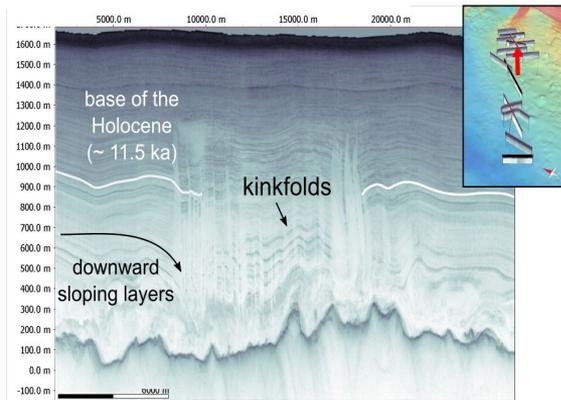




a) Past condition: active ice stream (orange) and shear margins (red)

b) Later: ice stream ceases, shear margins and folds remain

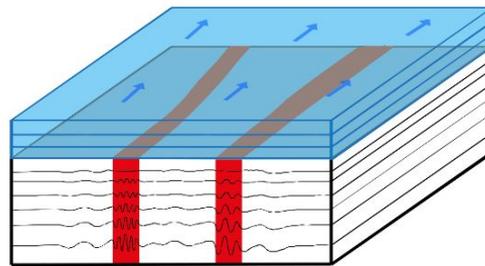
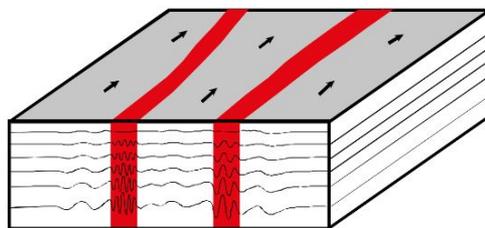
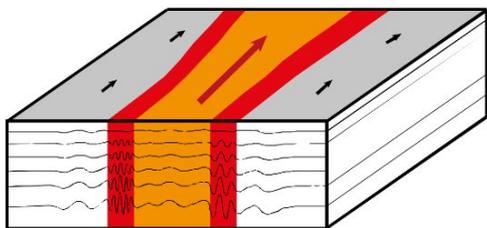
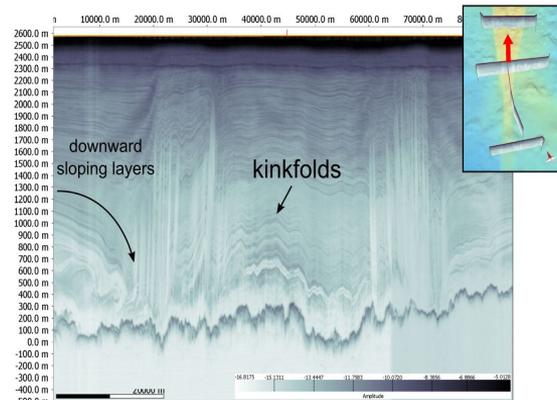
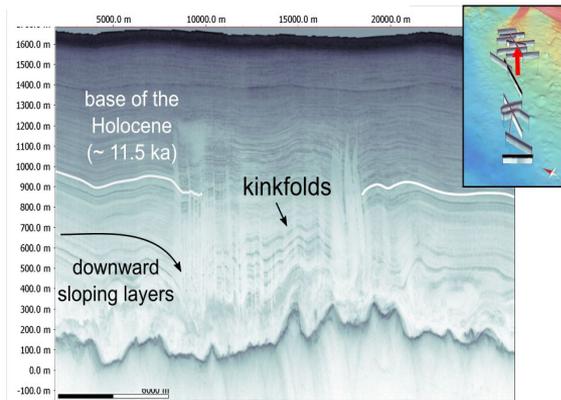
c) Today: past shear margins and velocity field buried by accumulation and new layers (blue)



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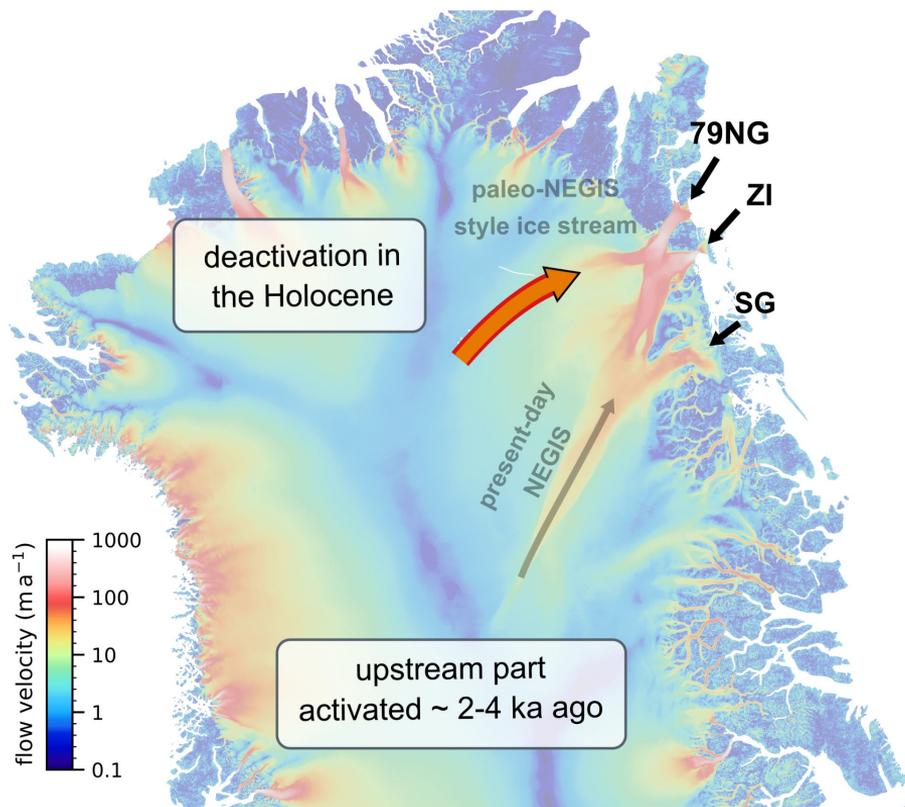
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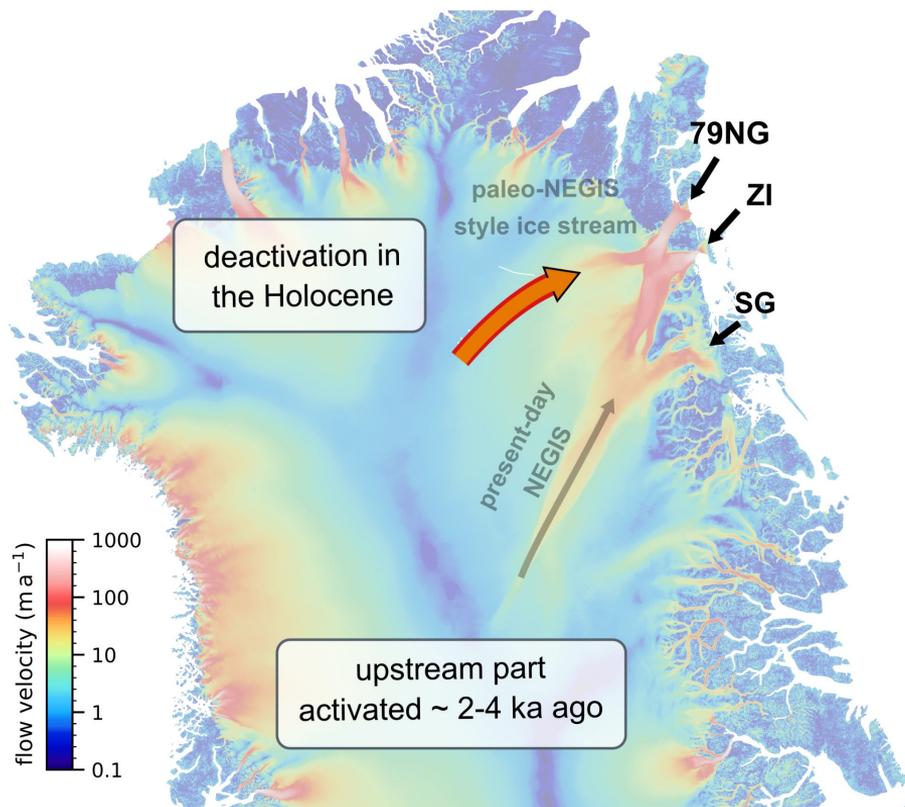


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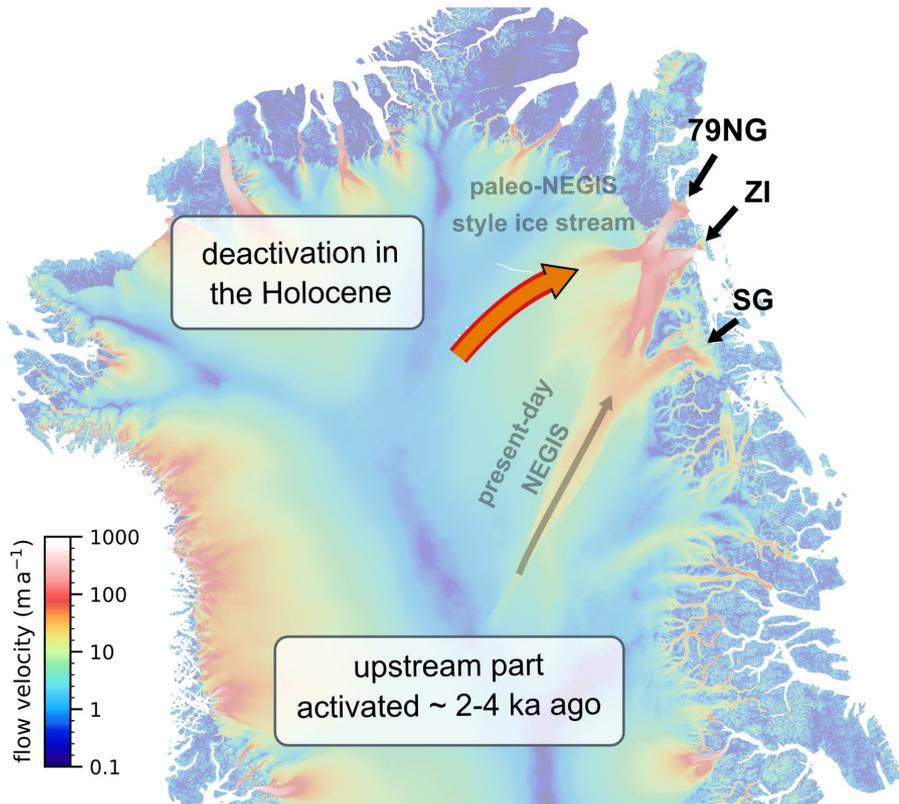
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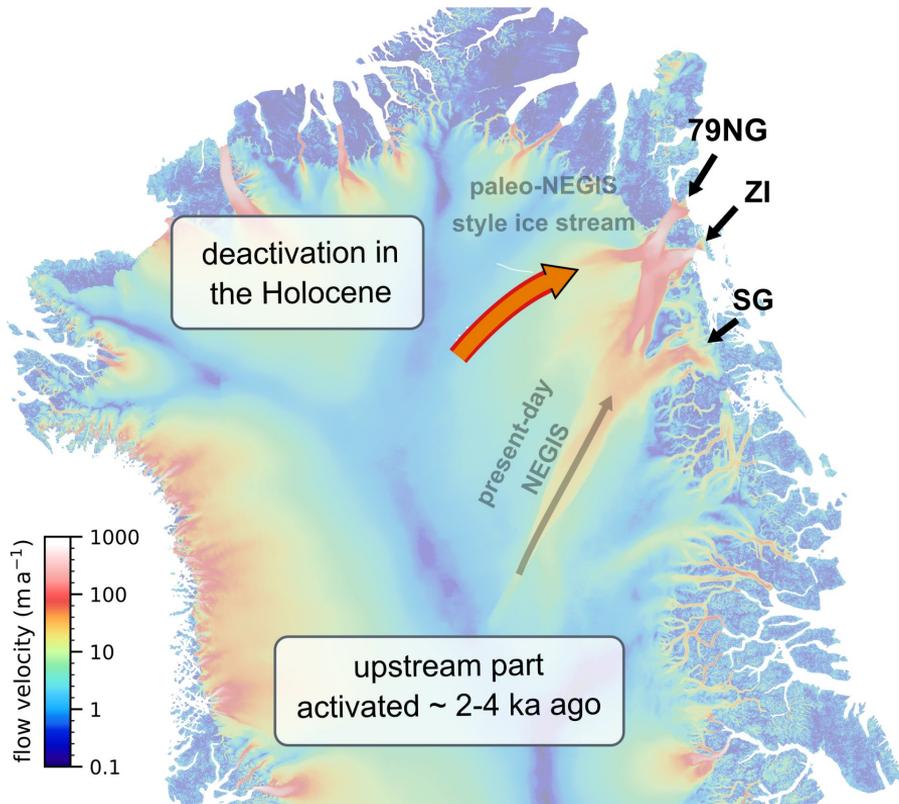




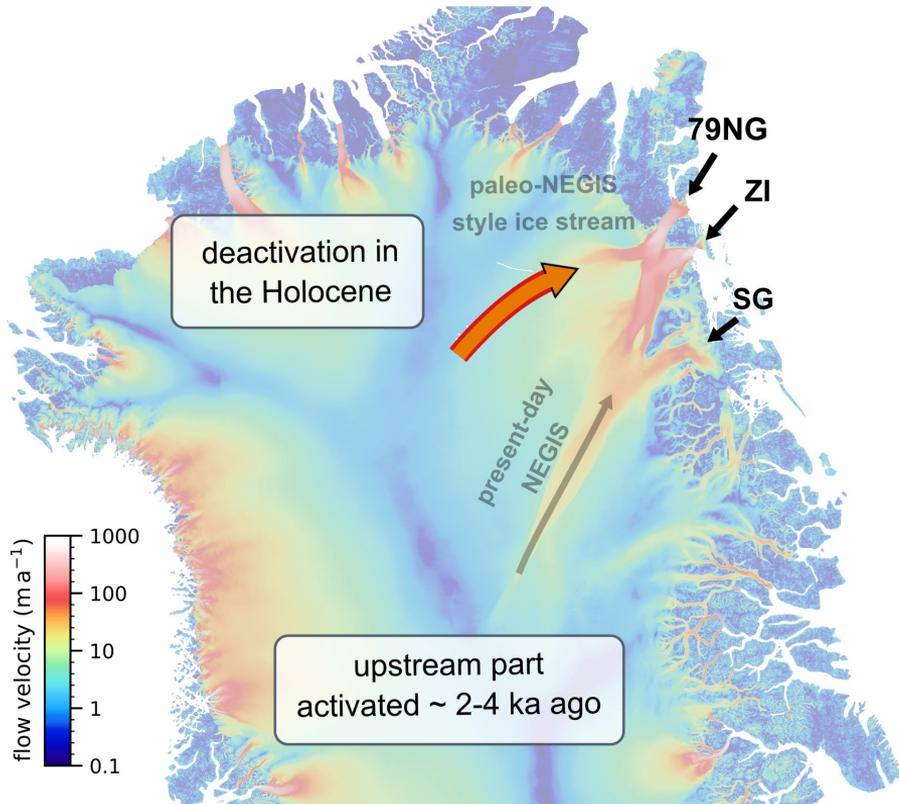
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- **Signature in the velocity gradient**
Deactivated recently or indication of reactivation?

