

# Meet & Gletsjerspleet Event



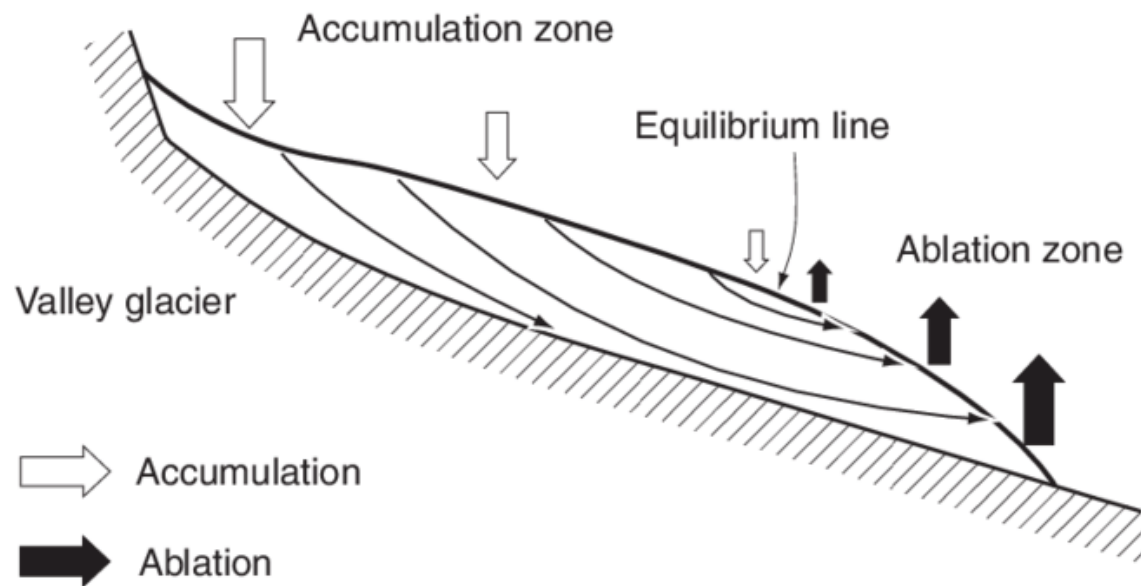
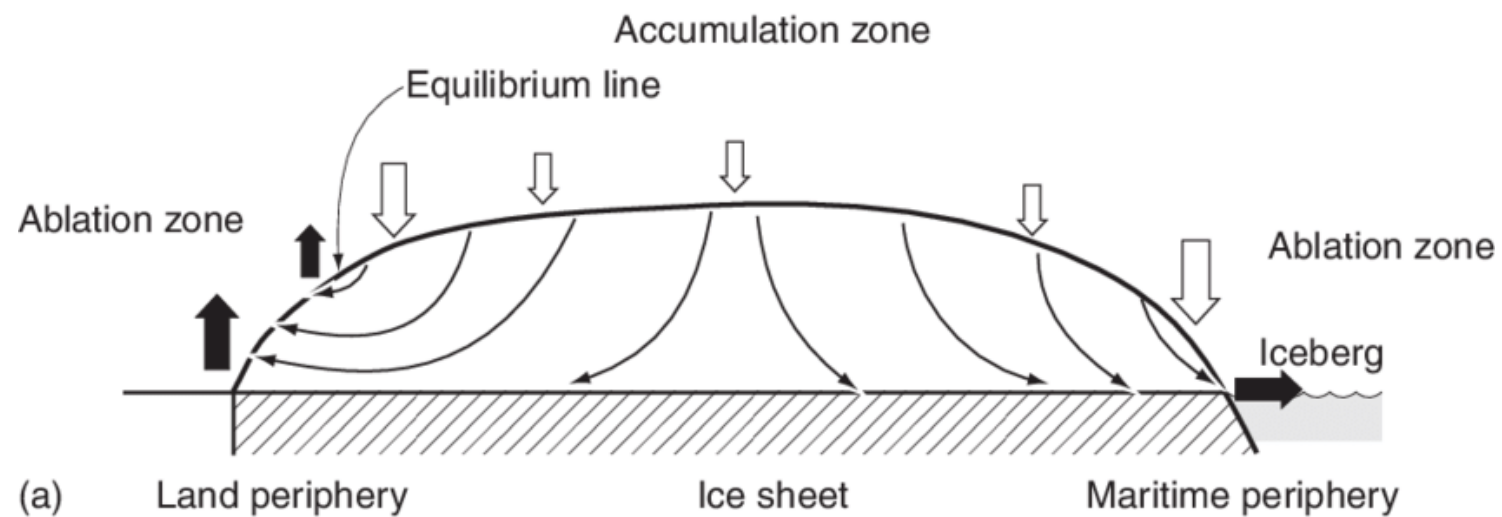
SPACE  
ACCOUNTANTS



**Bas Altena**  
*Space  
Accountants,  
Universiteit  
Utrecht*  
**Jack Kohler**  
*Noors Poolinstituut*

©Elvar Orn  
Kjartansson





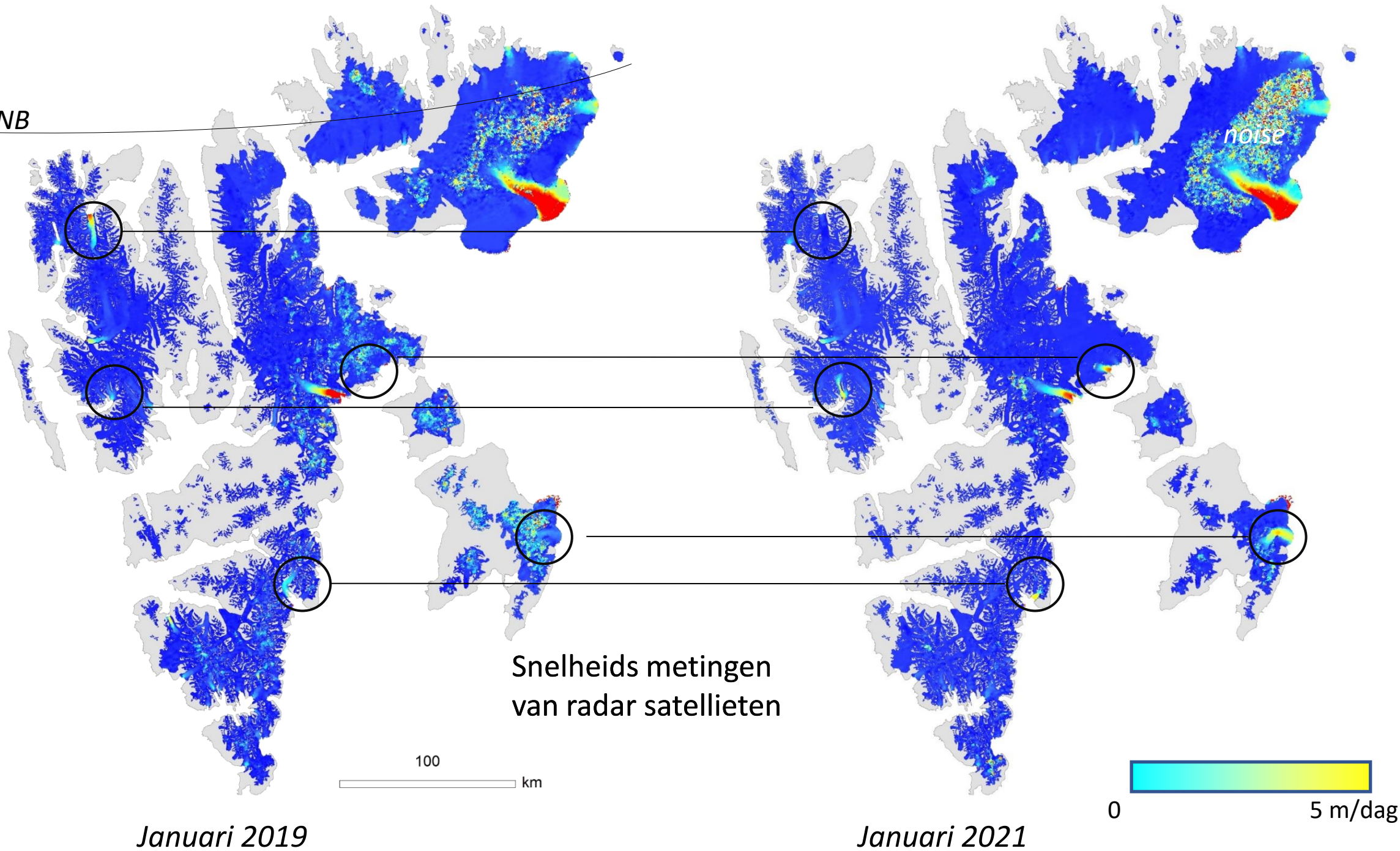
⇨ Accumulation

⇨ Ablation

(b) → Partical trajectory

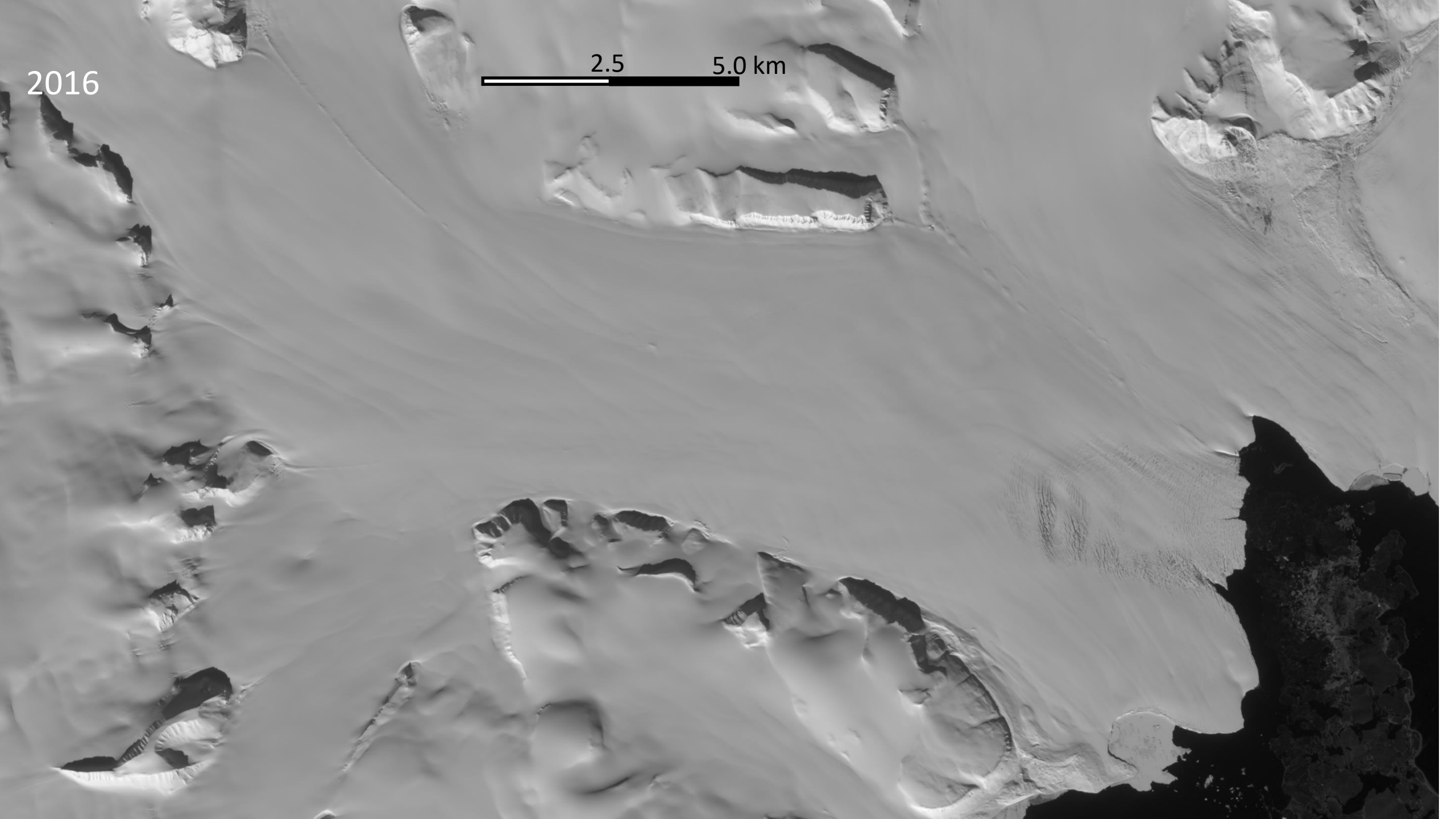


80°NB



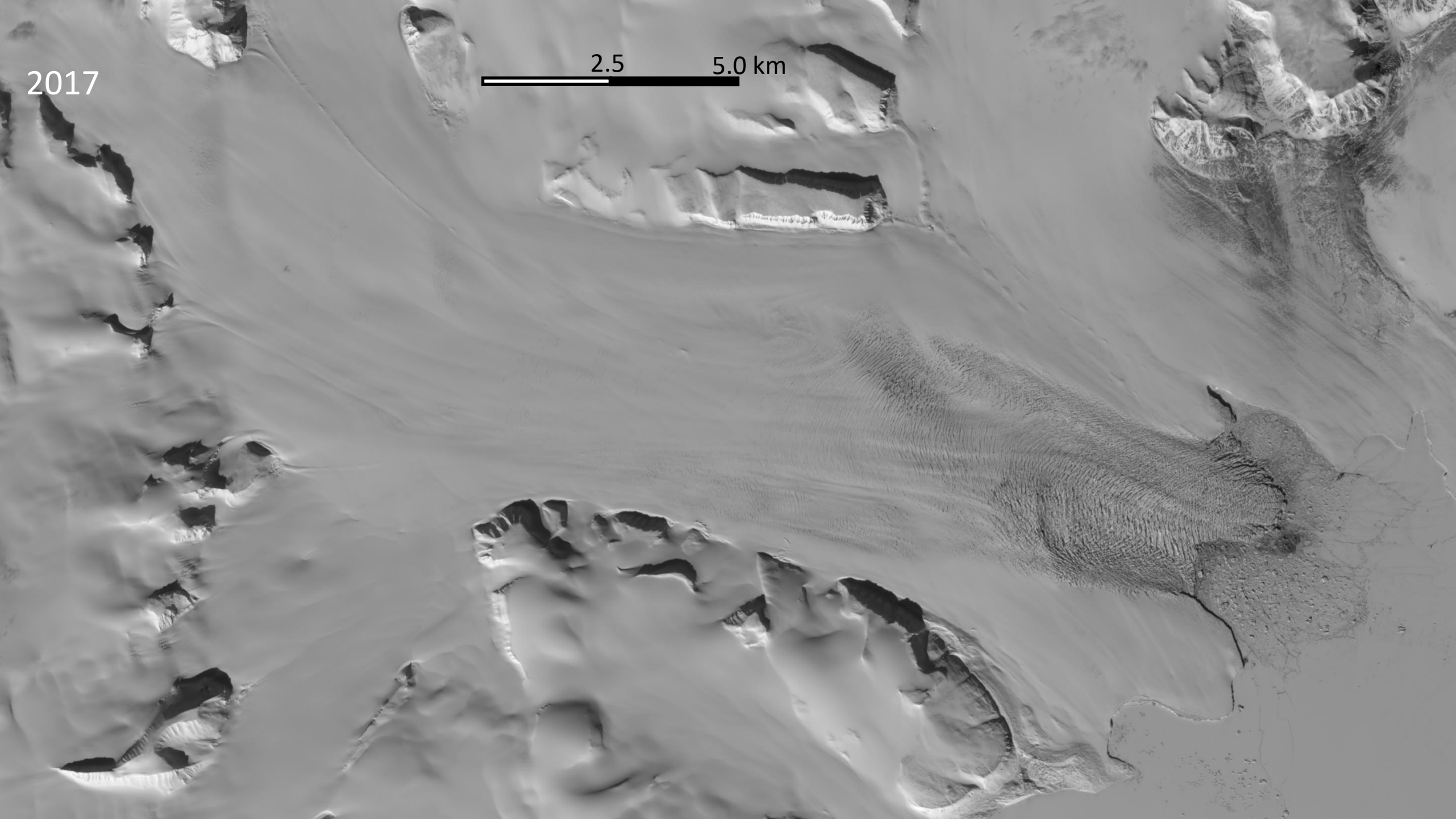
2016

2.5 5.0 km

A grayscale satellite image of a coastal region. The image shows a large body of water in the center, surrounded by land. The land features various topographical features, including ridges, valleys, and a prominent dark, irregularly shaped area in the bottom right corner, possibly a forest or a different land cover type. A scale bar is located in the upper left quadrant, consisting of a horizontal line with a tick mark at the 2.5 km point and the text "2.5 5.0 km" above it. The year "2016" is printed in the top left corner.

2017

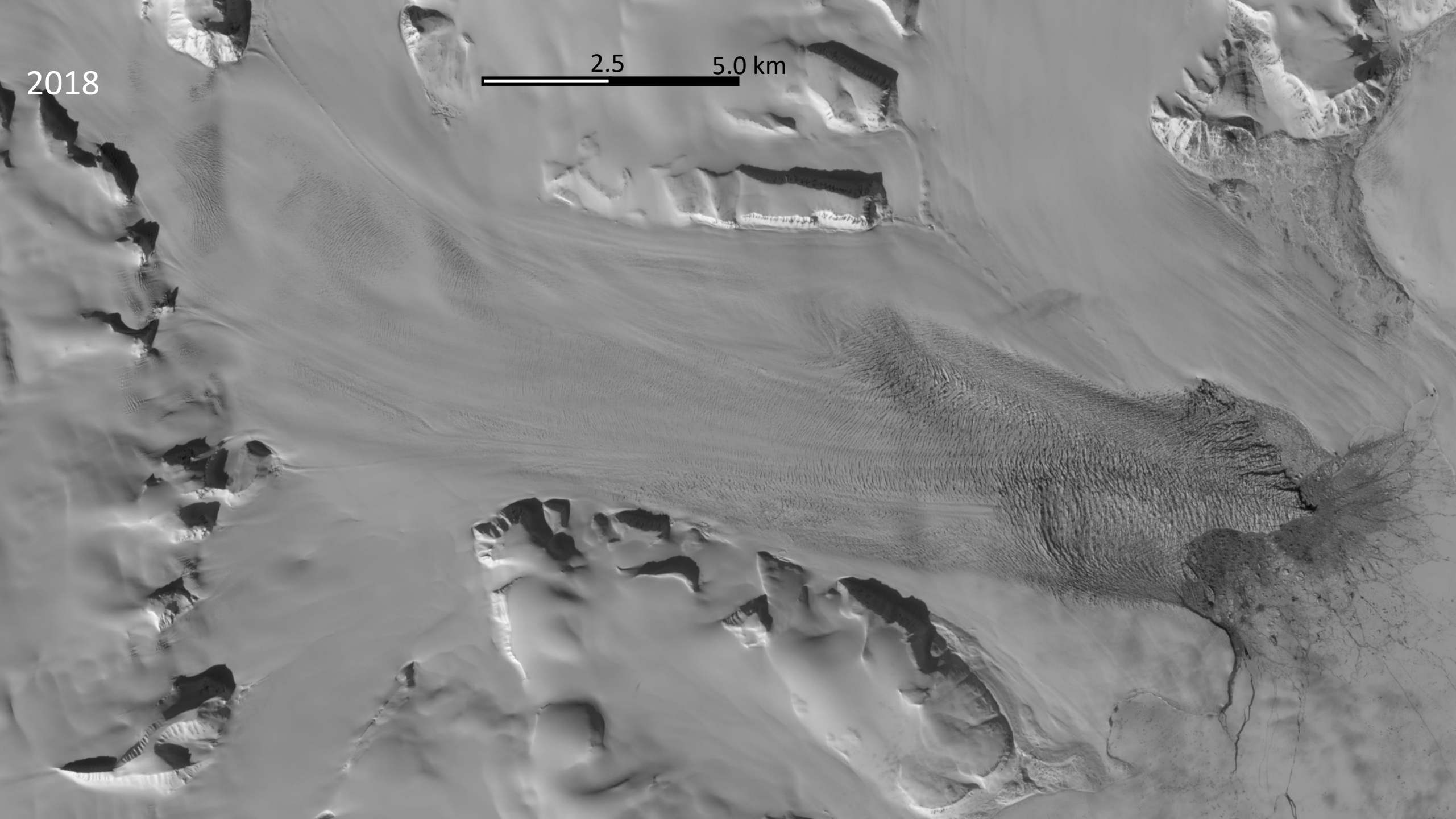
2.5 5.0 km

A grayscale satellite image of a desert landscape. The terrain is characterized by large, light-colored sand dunes and darker, more rugged areas. A scale bar is located in the upper left quadrant, with labels '2.5' and '5.0 km'. The year '2017' is printed in the top left corner. The image shows various geological features, including ridges, valleys, and what appears to be a large, dark, irregularly shaped area in the lower right, possibly a dry lake bed or a different type of desert floor.



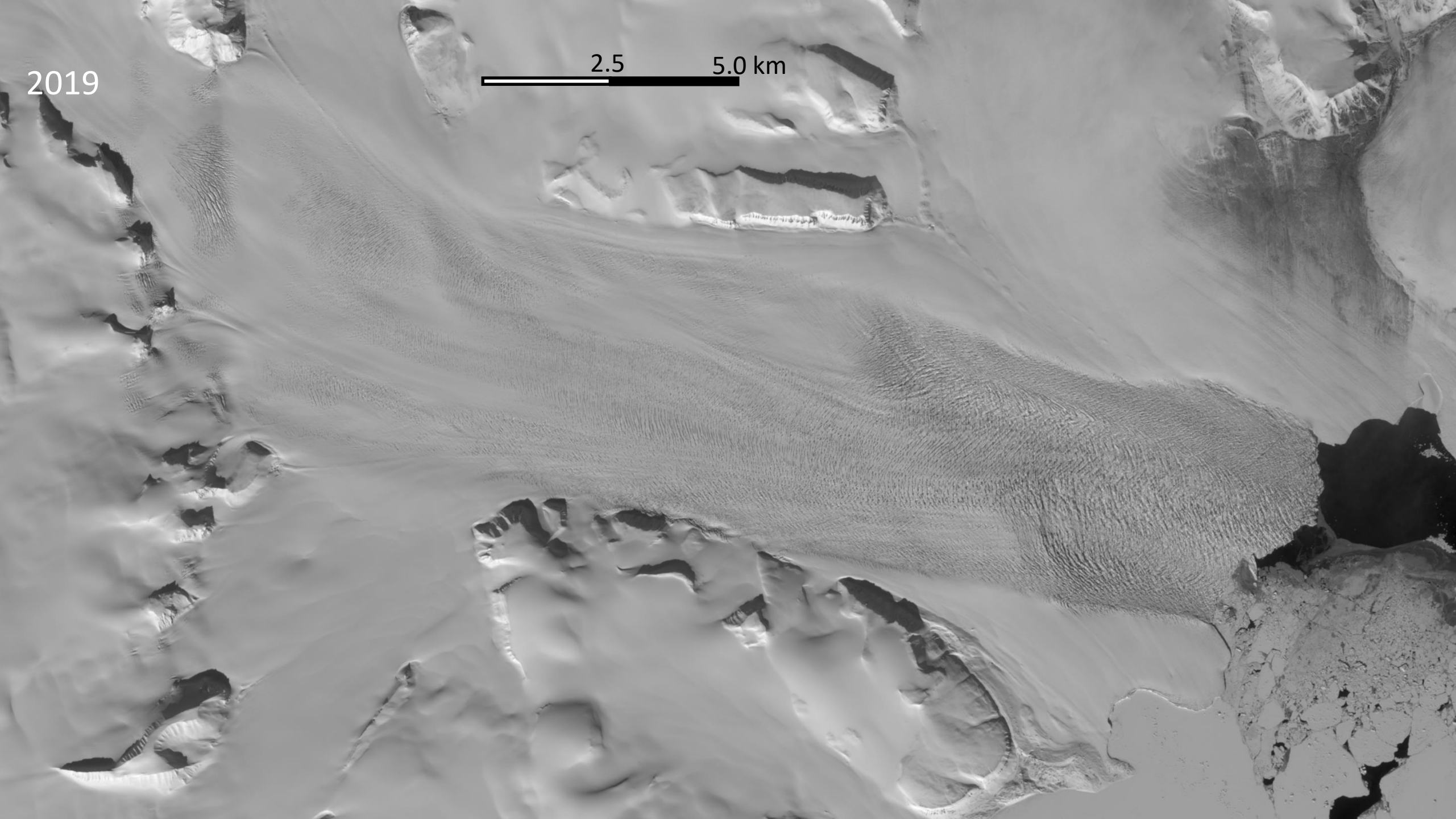
2018

2.5 5.0 km

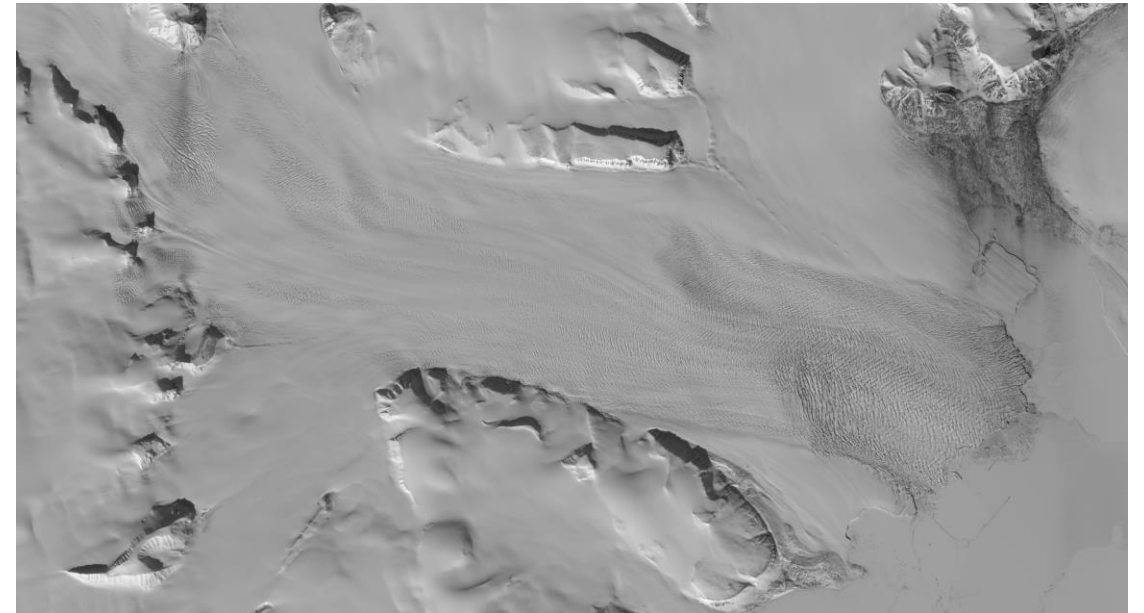
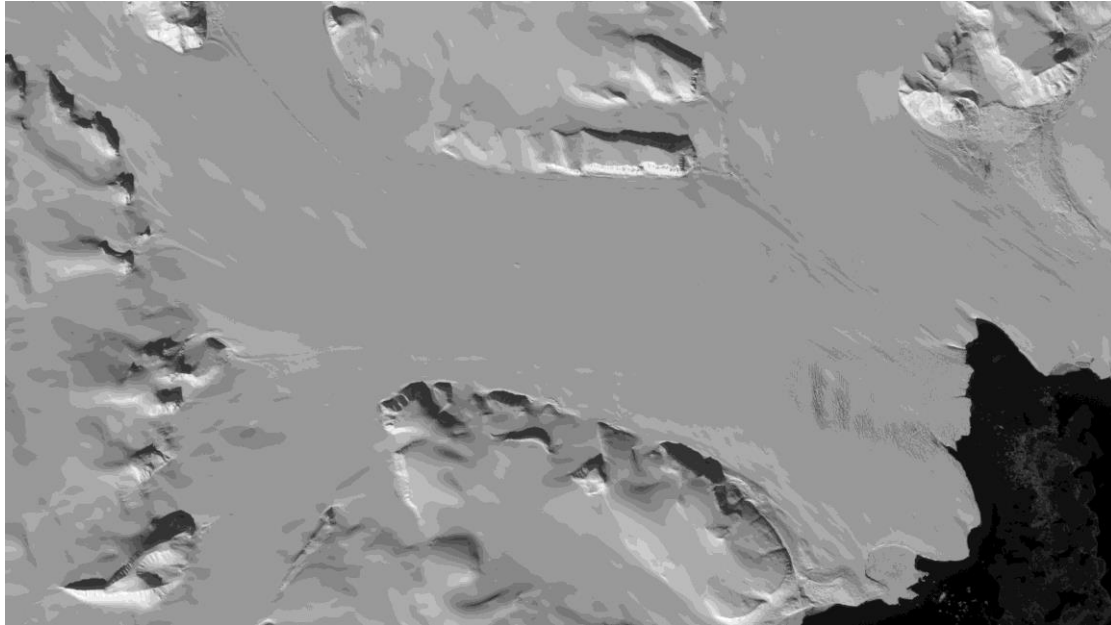


2019

2.5 5.0 km



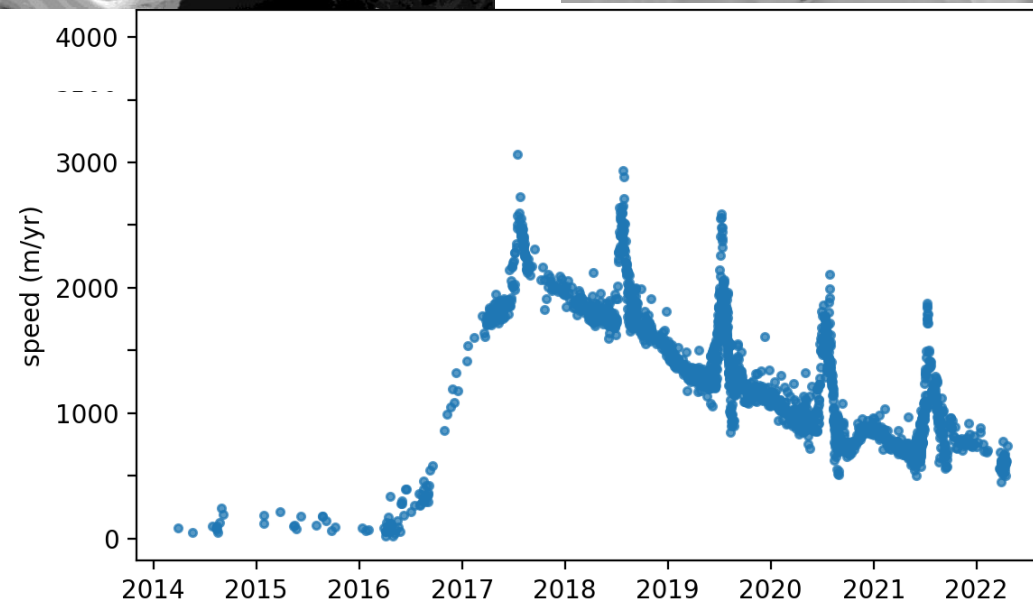
# Negribreen



2016

2021

Snelheden via radar en  
optische satellieten





5 10 km

An aerial photograph of a glacial landscape. The image shows a large body of water on the left, with a small settlement marked by a white dot. The land is covered in ice and snow, with several distinct glacial features labeled. A scale bar in the top right corner indicates distances of 5 and 10 km.

• Ny-Ålesund

**Kronebreen**  
***Kroongletsjer***

**Tre Kroner**  
***Drie Kronen***

**Kongsvegen**  
***Koningsweg***



**Tre Kroner**

**Kronebreen**

**Bas**

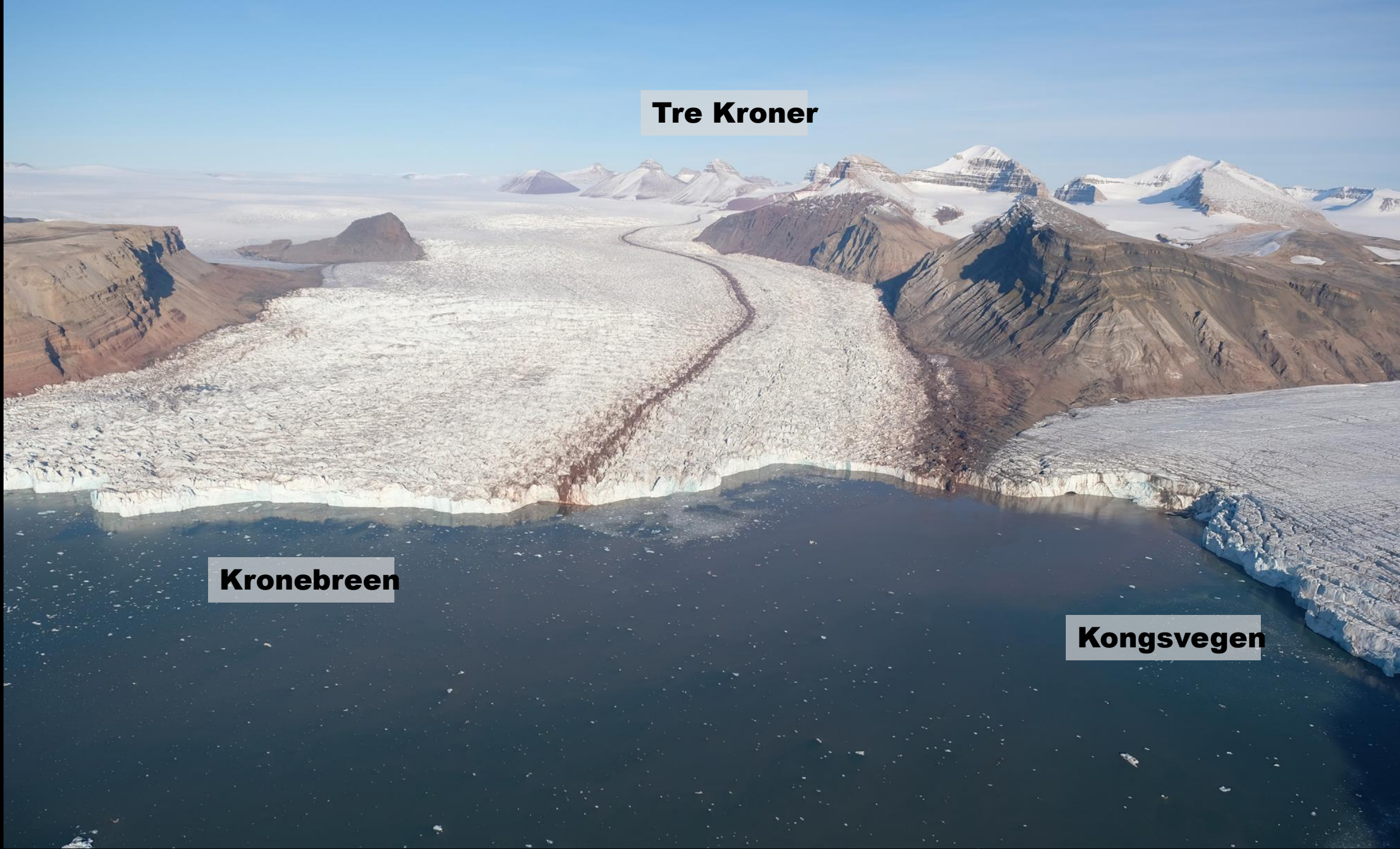




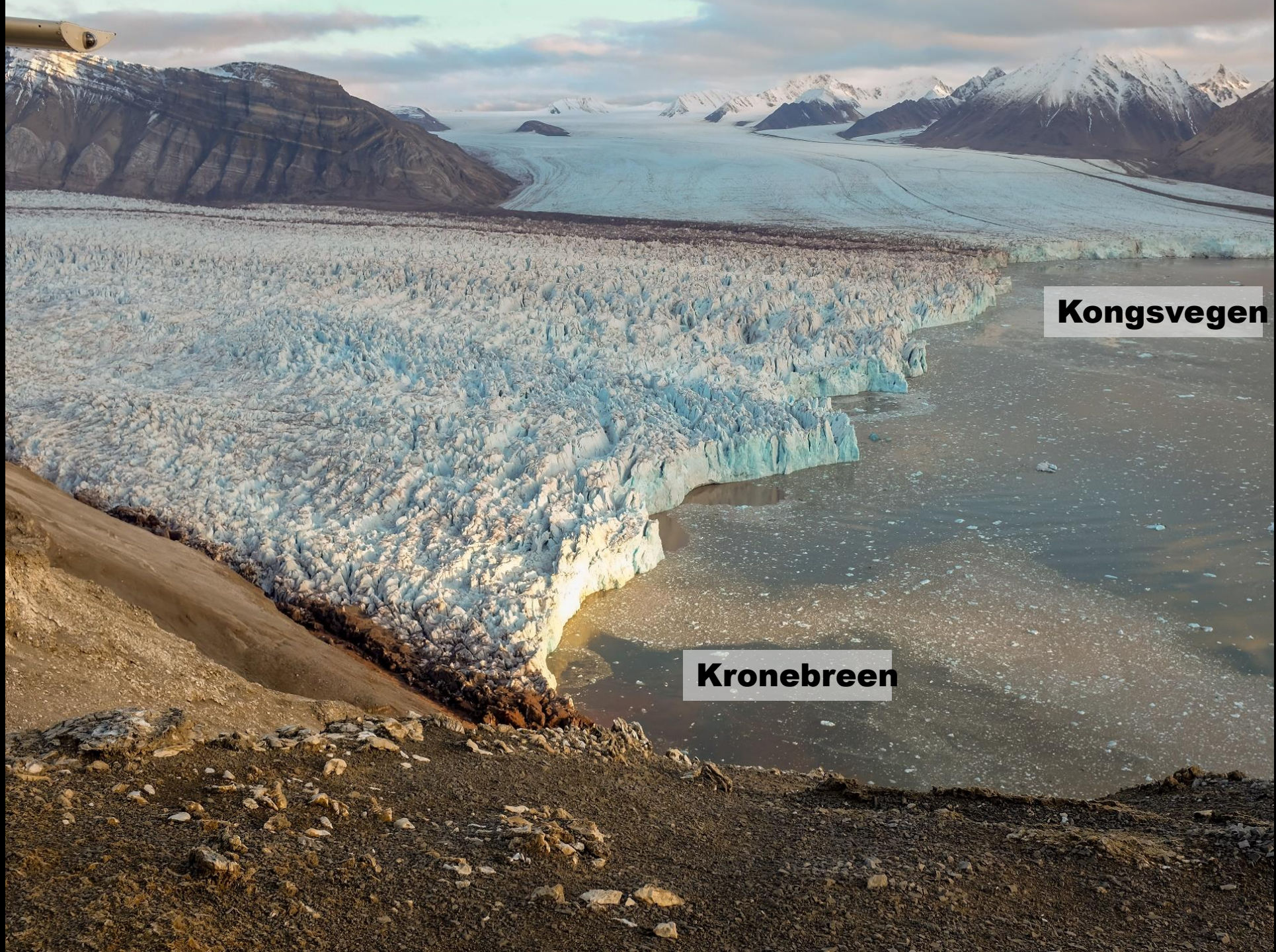
**Tre Kroner**

**Kronebreen**

**Kongsvegen**



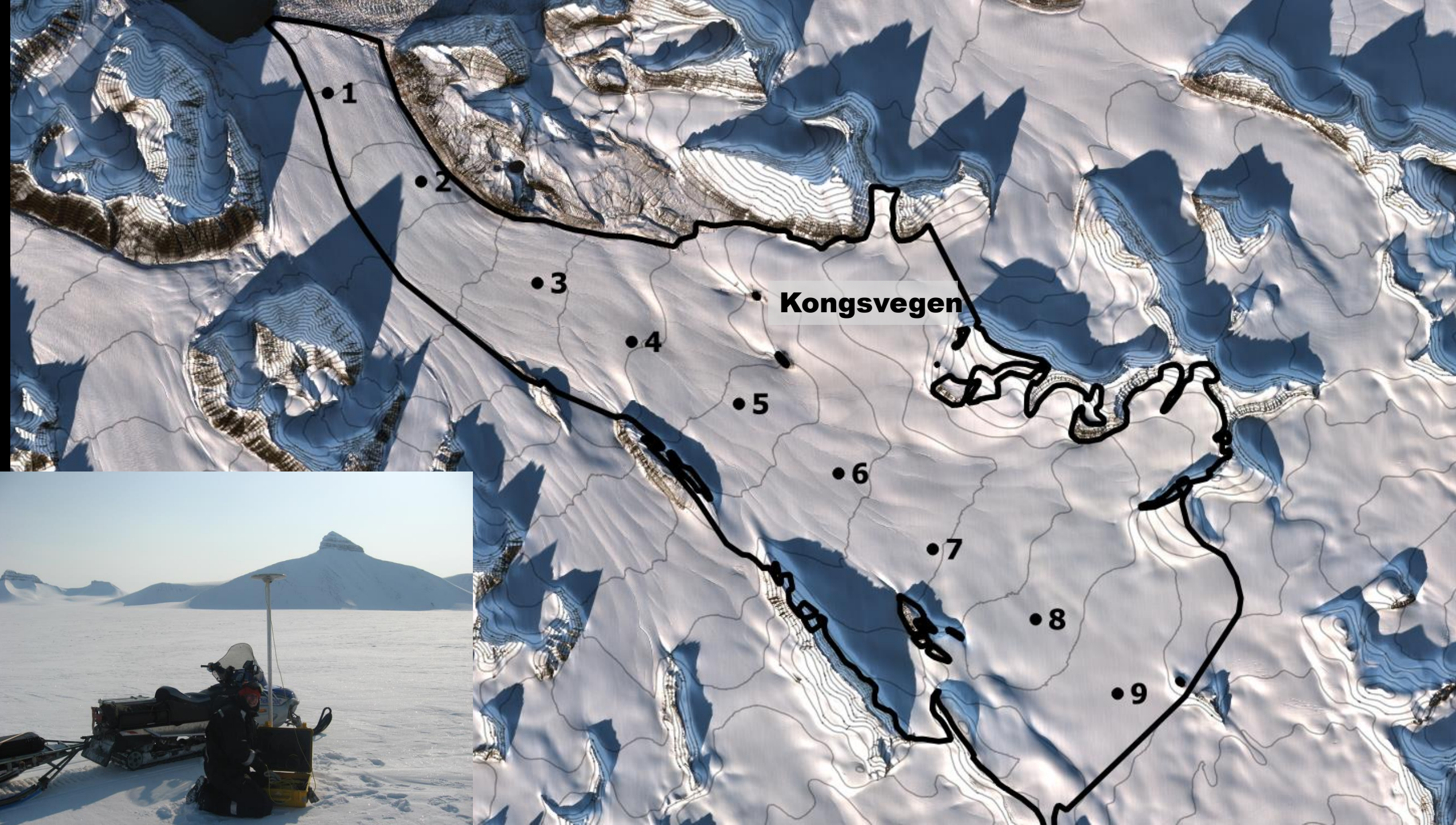




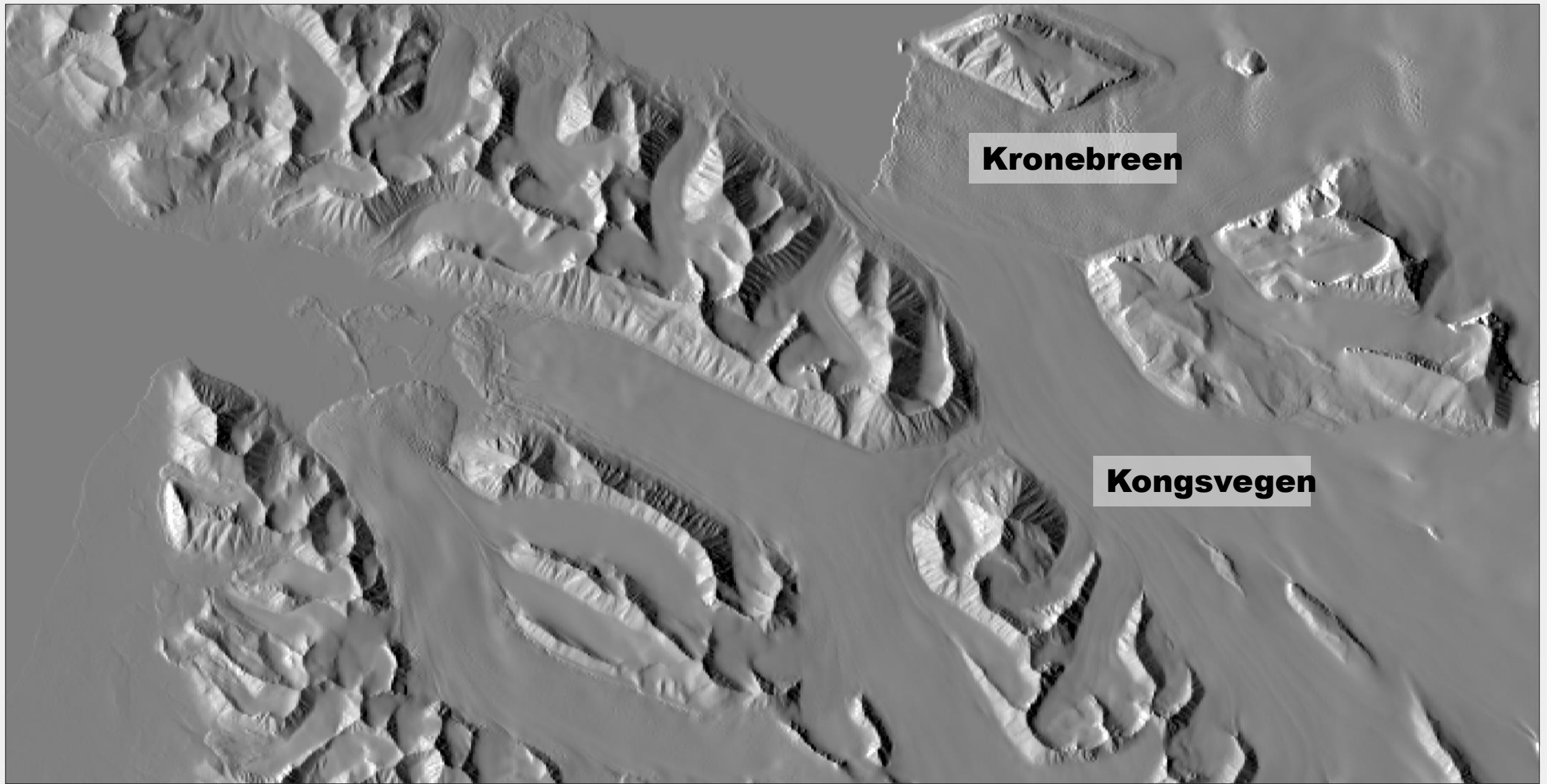
**Kongsvegen**

**Kronebreen**



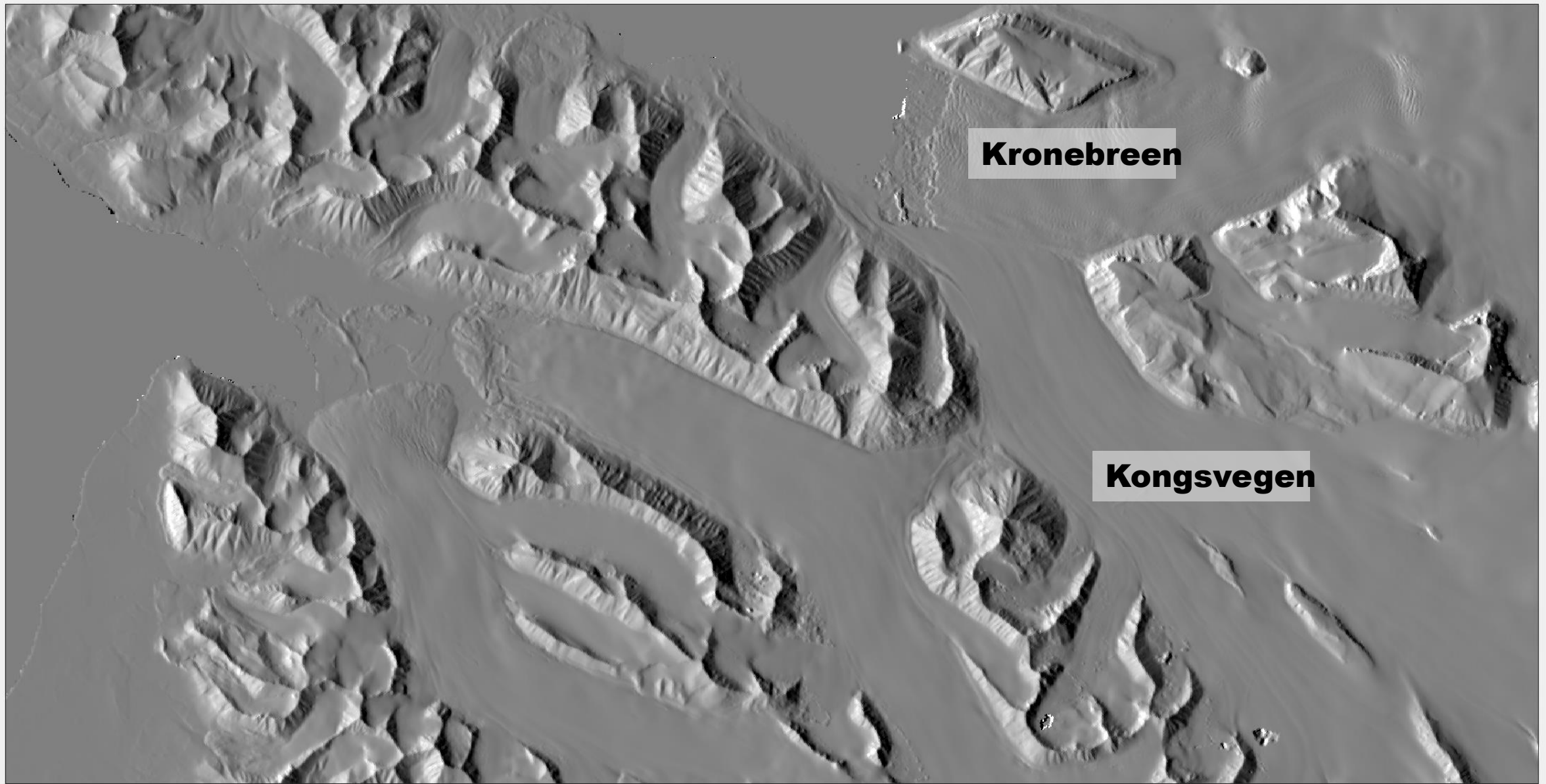






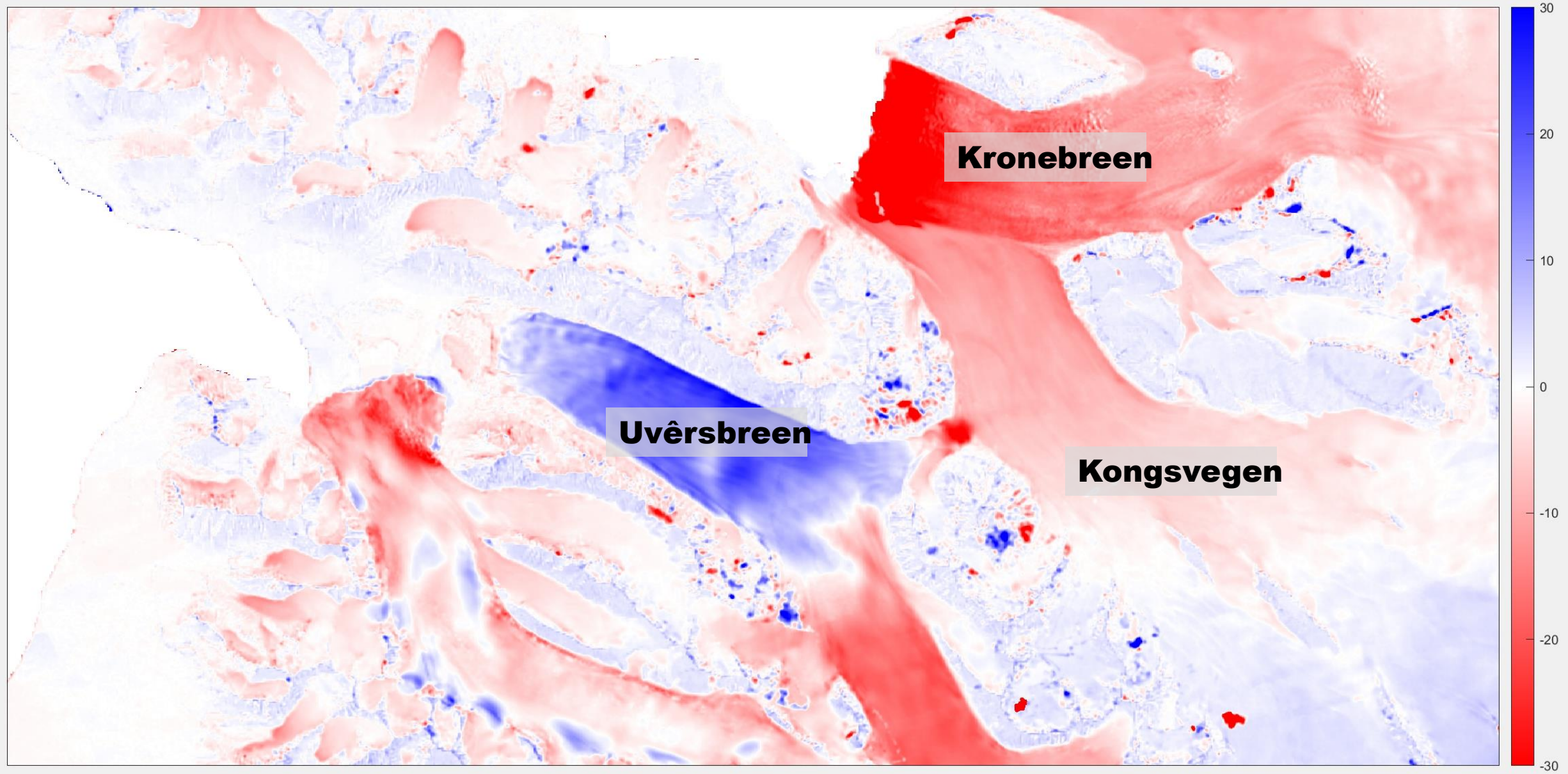
**Noors Poolinstituut hoogtemodel**  
*fotogrammetrische vliegcampagne*  
*met 50 meter resolutie van omstreeks 2009-10*





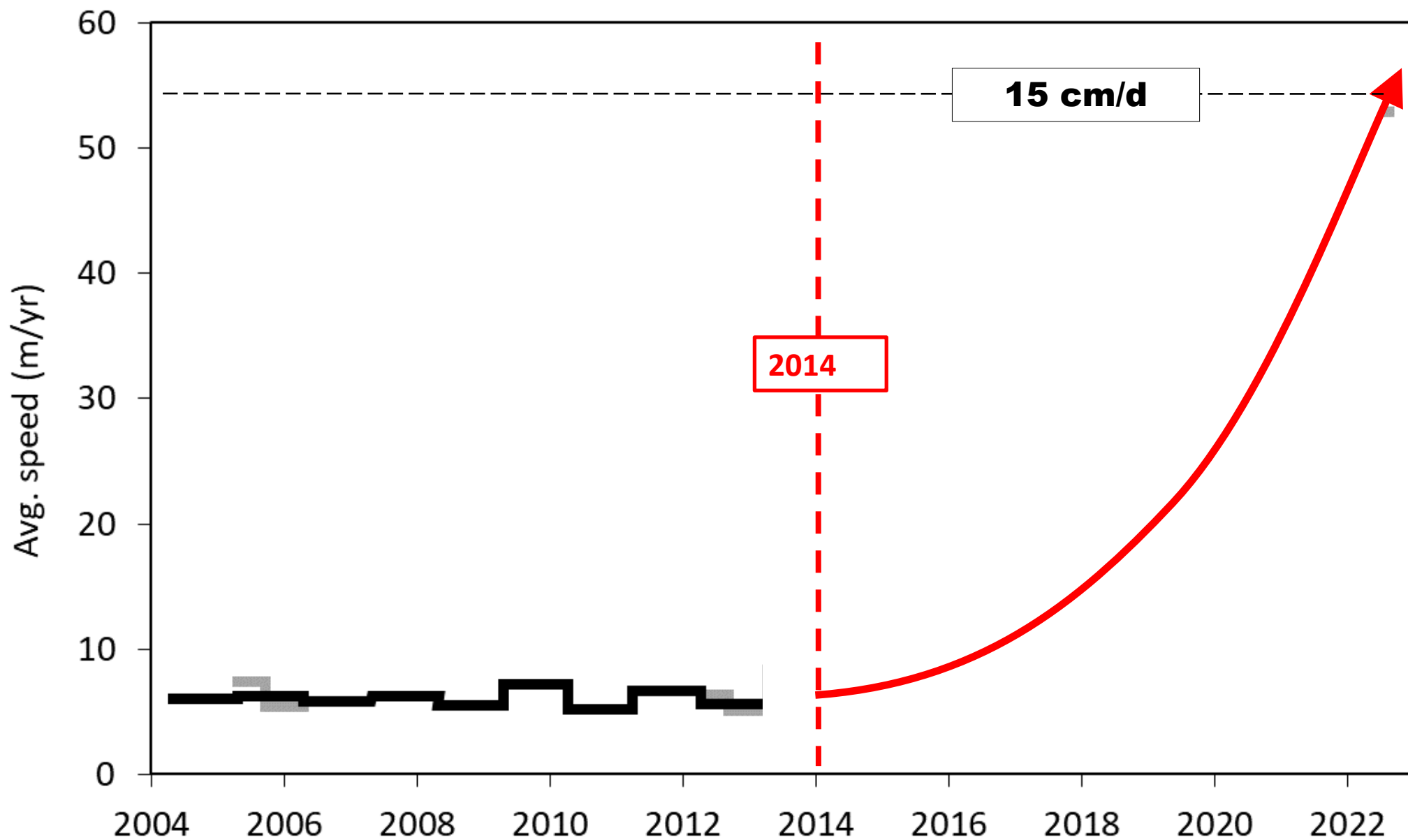
**ArcticDEM mosaic**

***Satelliet fotogrammetrie met Worldview-1,2,3 & GeoEye  
beelden met 32 meter resolutie van omstreeks 2012-17***



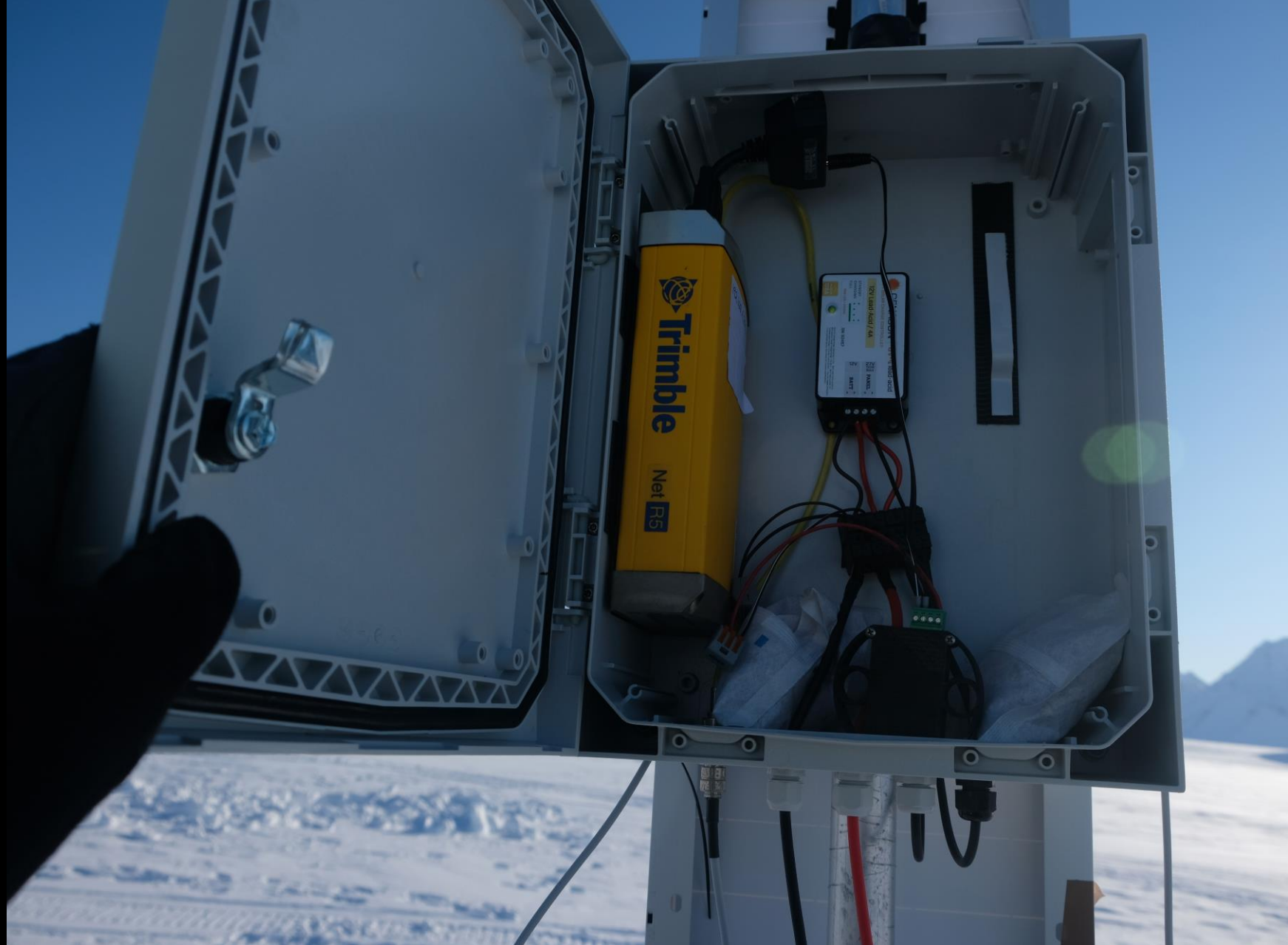
**Hoogteverschil in meters**

# Jaarlijkse gletsjer snelheid bij KNG-6





# Doorlopende GNSS om surge snelheid waar te nemen





**dGNSS**

• **NYA1**

**Baseline 20-25 km**

• **KNG-3**

• **KNG-4**

• **KNG-5**

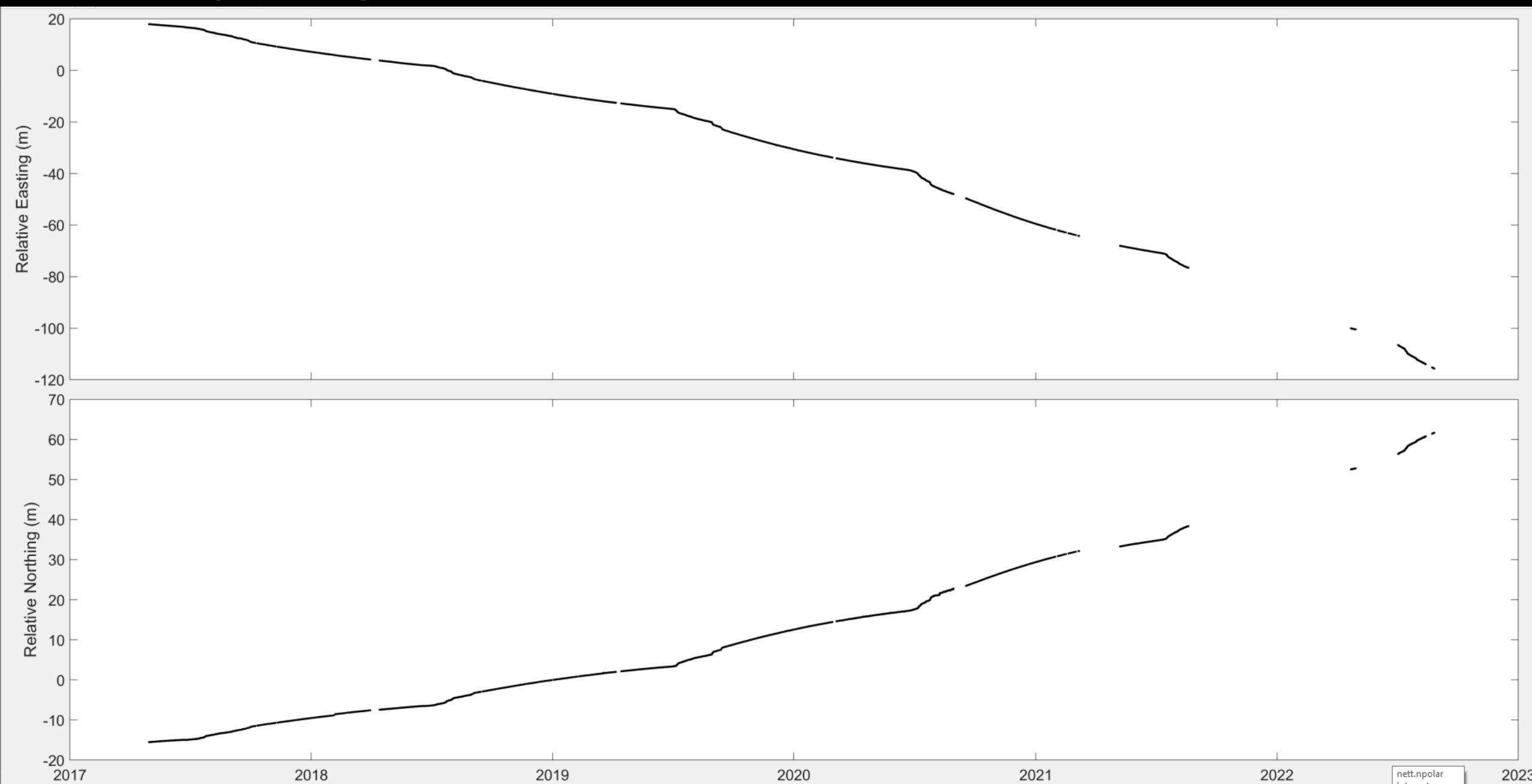
• **KNG-6**

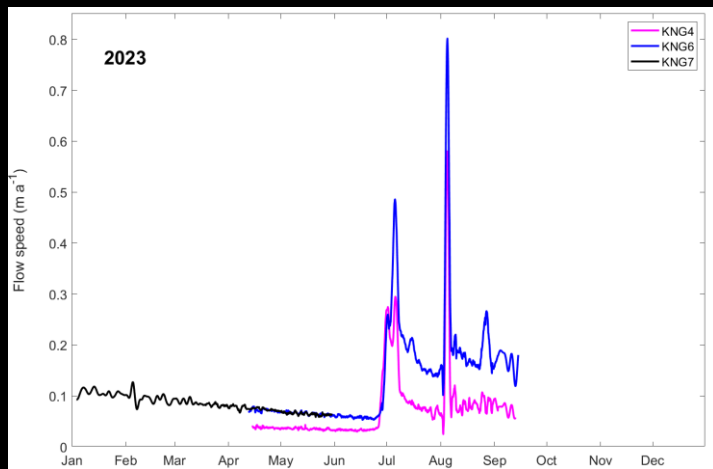
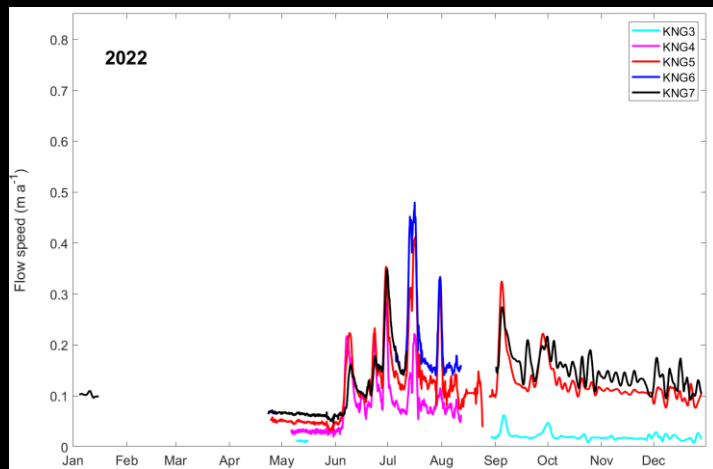
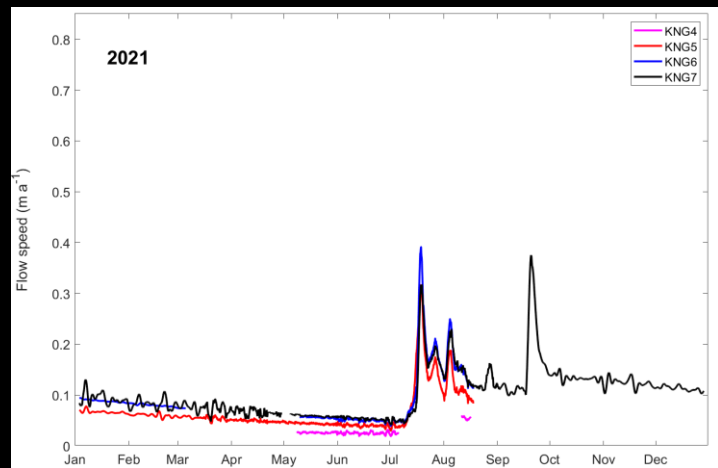
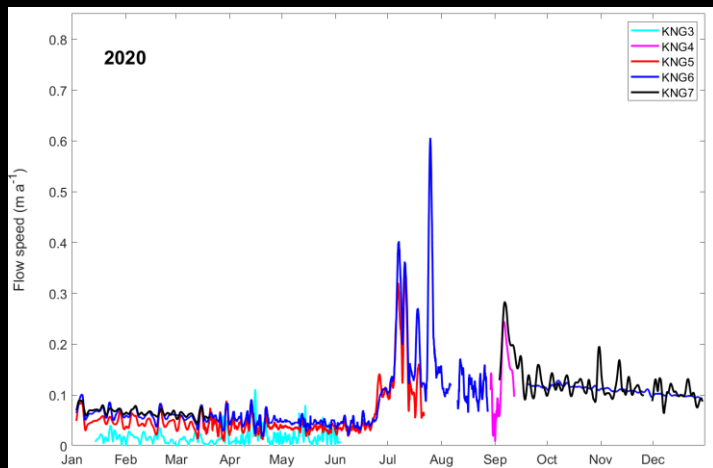
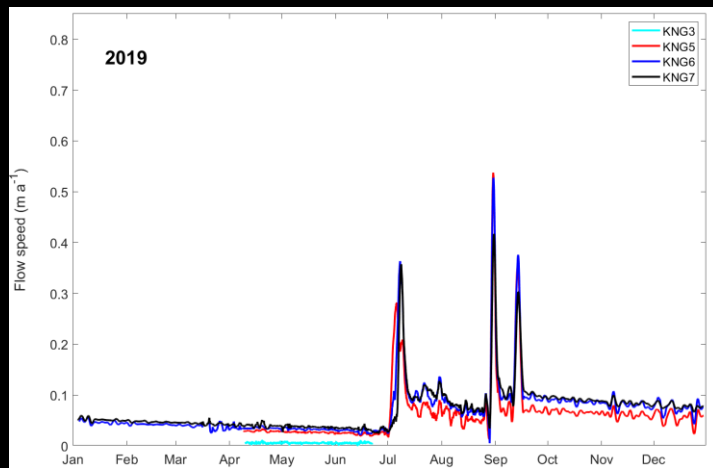
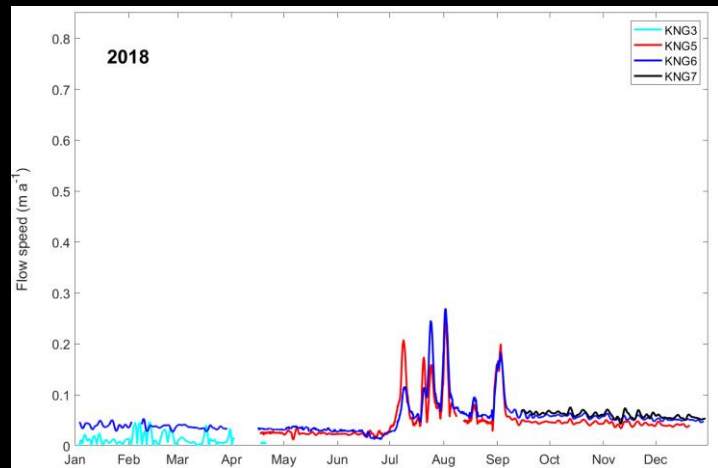
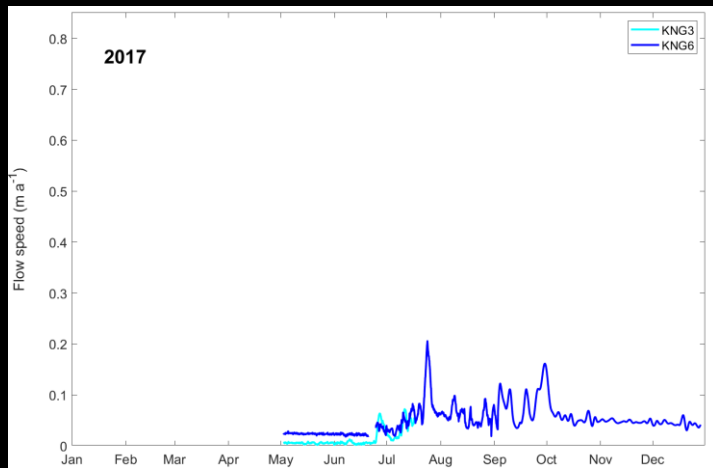
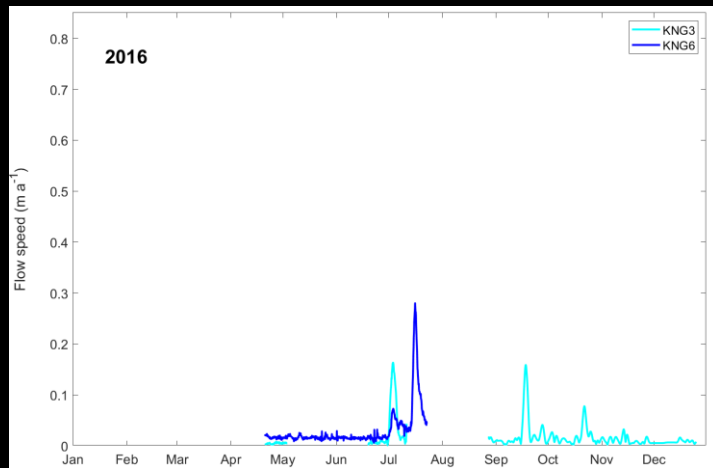
• **KNG-7**





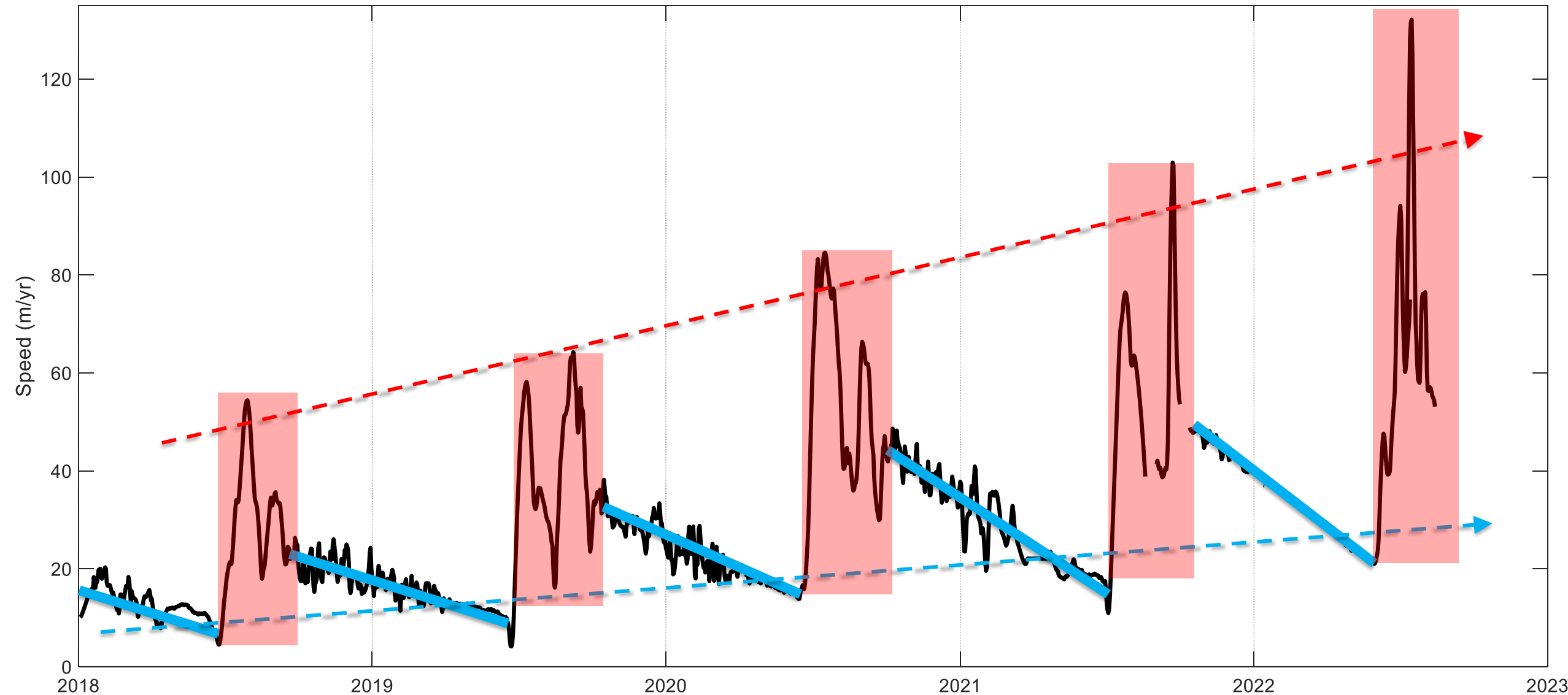
# 3-uurlijkse gemiddelde positie van KNG-6







# Samengevoegde reeks van KNG-6 en KNG-7



**Dank voor uw aandacht maar vooral,  
dank voor het beschikbaar stellen van jullie oude apparatuur!**



### **Conclusies**

**Unieke dataset met hoge precisie en korte interval**

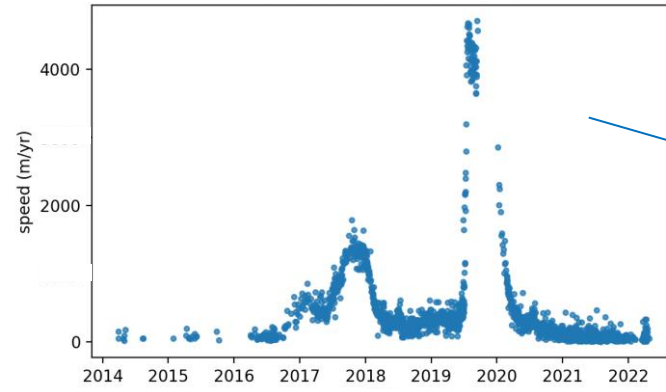
**Opbouw van versnelling (zomer en winter)**

**Onderste deel gletsjer stagneert nog**

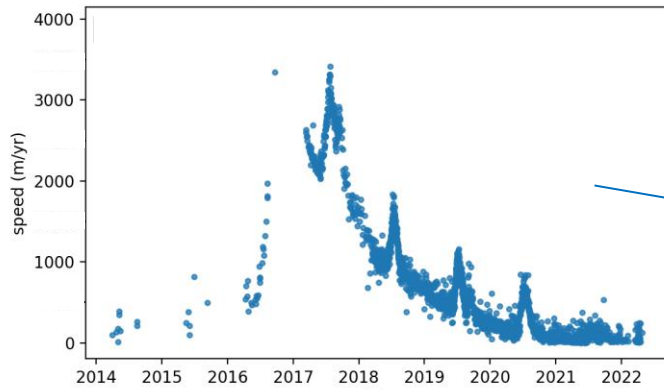
**Avontuur is nog niet afgelopen**



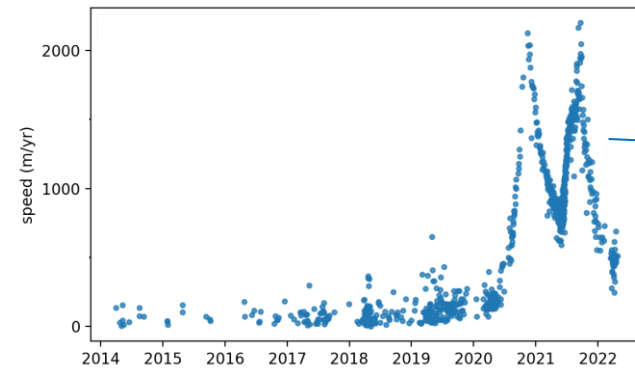
Arnesenbreen



Strongbreen

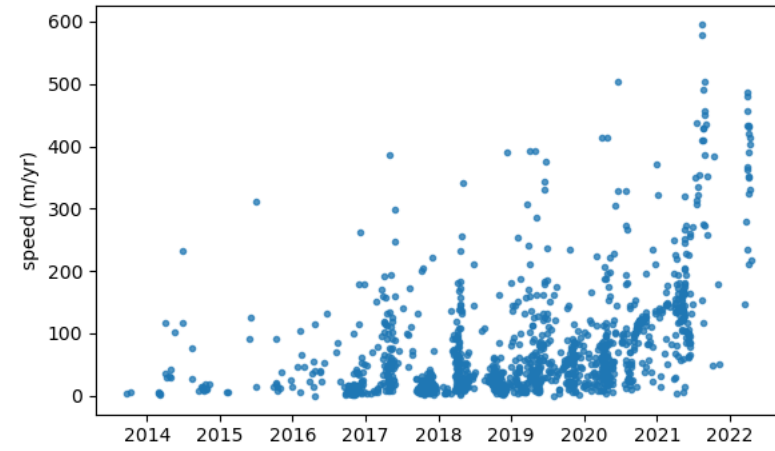


Kvalbreen

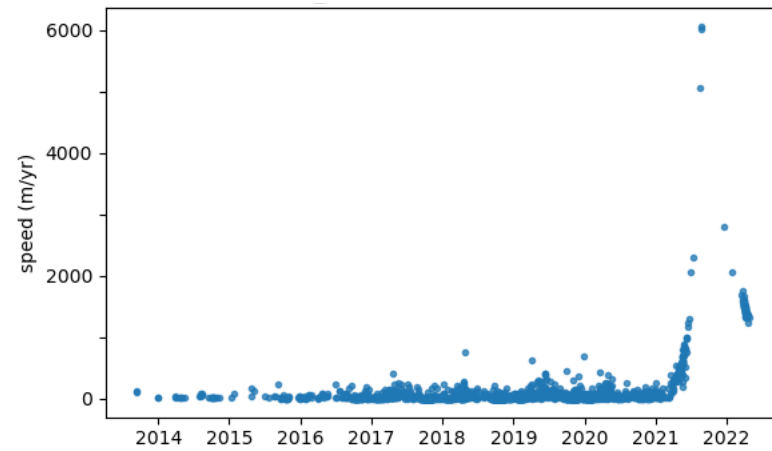




Vallåkrabreen

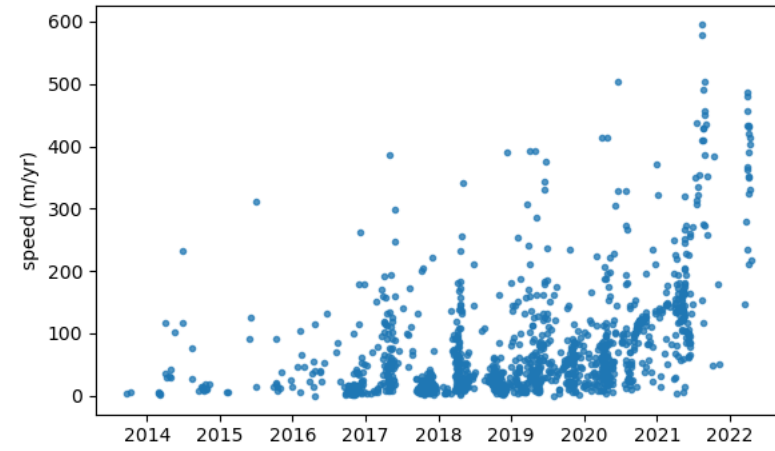


Scheelebreen

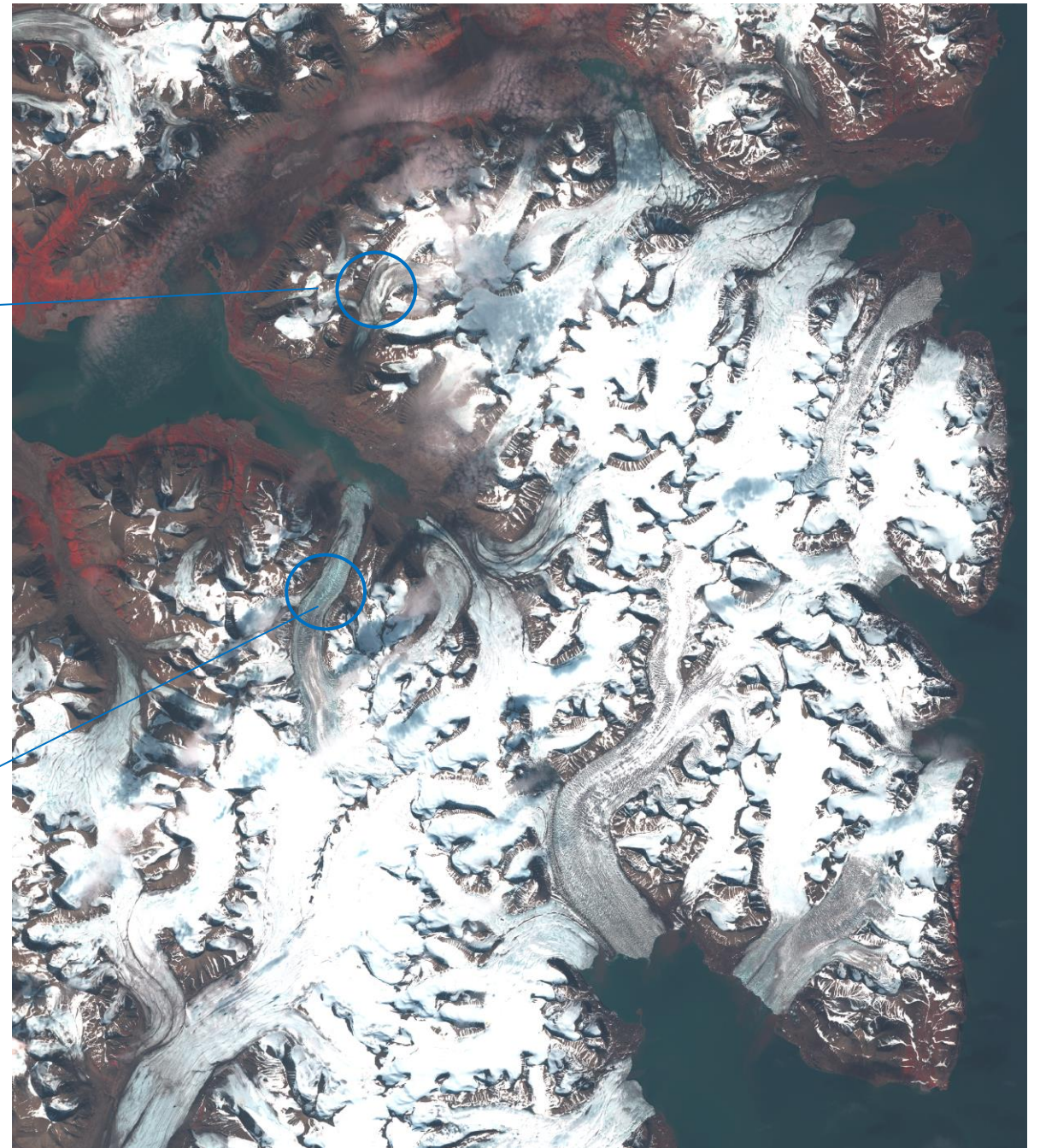
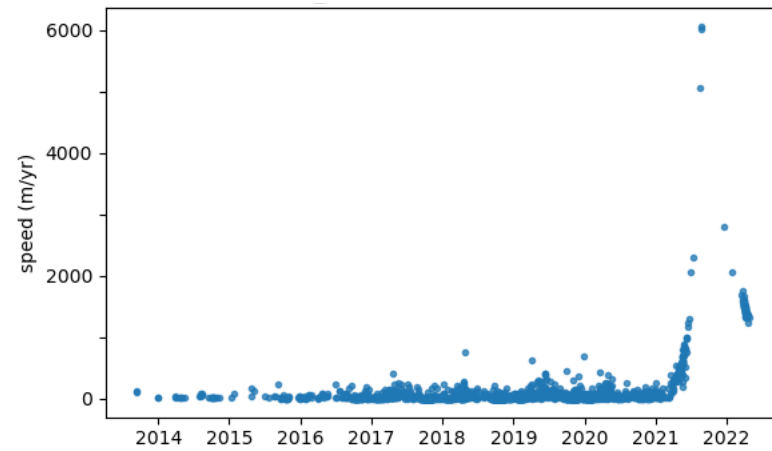




Vallåkrabreen



Scheelebreen







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