Supplementary Materials for

A Decade of Synchronous Ice Speed Change Across Central & Southeast Greenland

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Figs. S1 to S4

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Figure S1 | Mean speed and ice velocity timeseries for each glacier in study. a) Map shows mean speed in region on and around glacier. Black box shows area of velocity extracted for timeseries. Inset map shows location of glacier in Greenland as a whole. **b)** Ice velocity timeseries for each glacier, between January 2015 and September 2025. Dark grey points are the filtered points. Black line is the Kalman smoothed timeseries. Light Grey shading shows the error on the Kalman smoothed timeseries.

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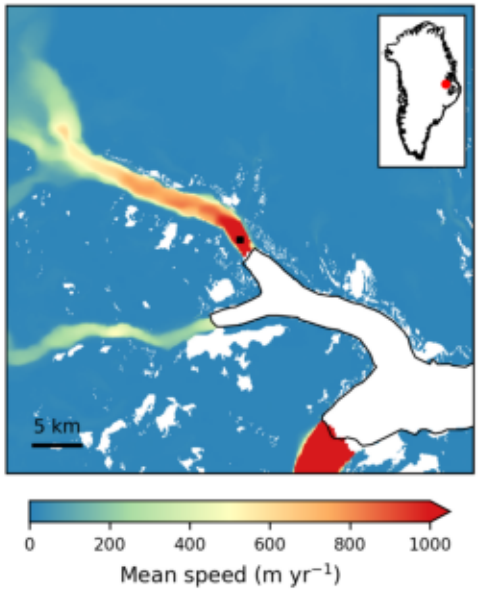

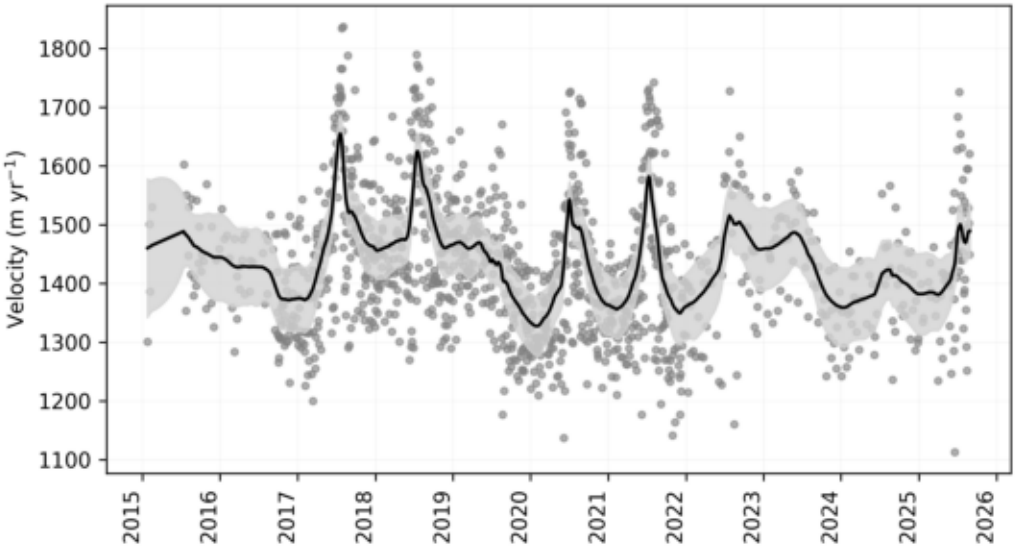

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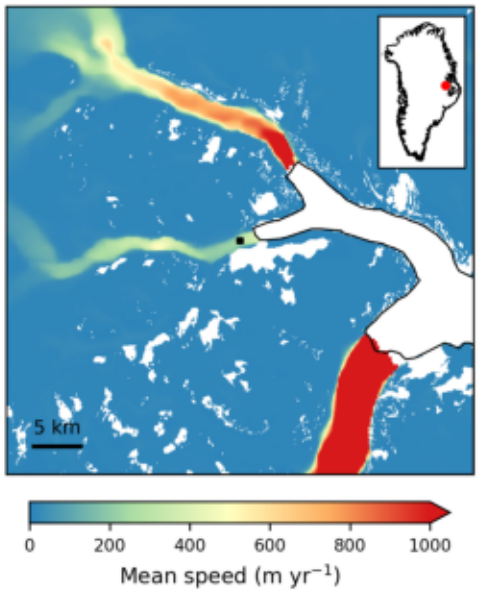

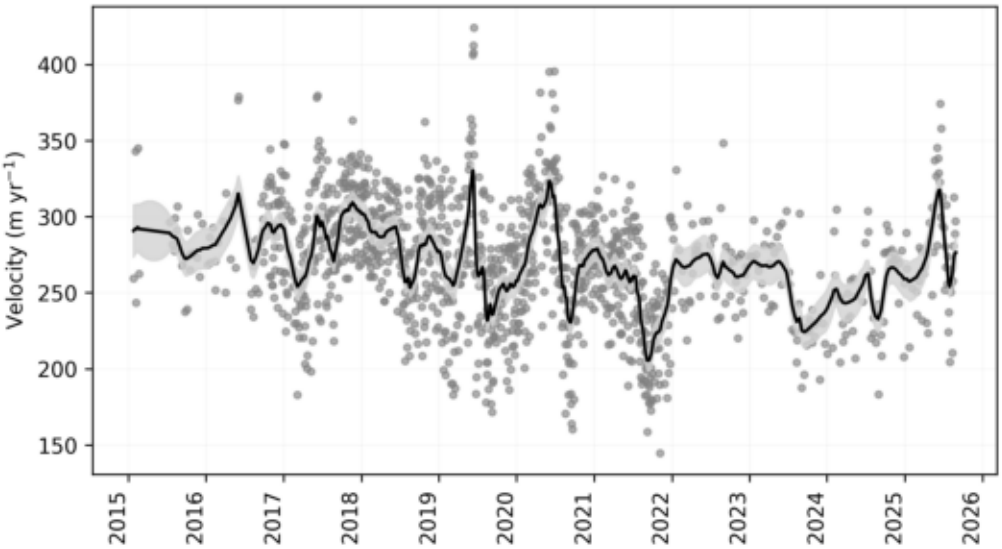

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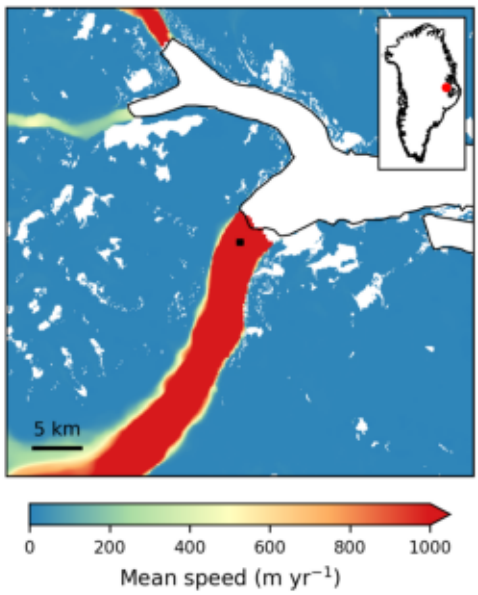

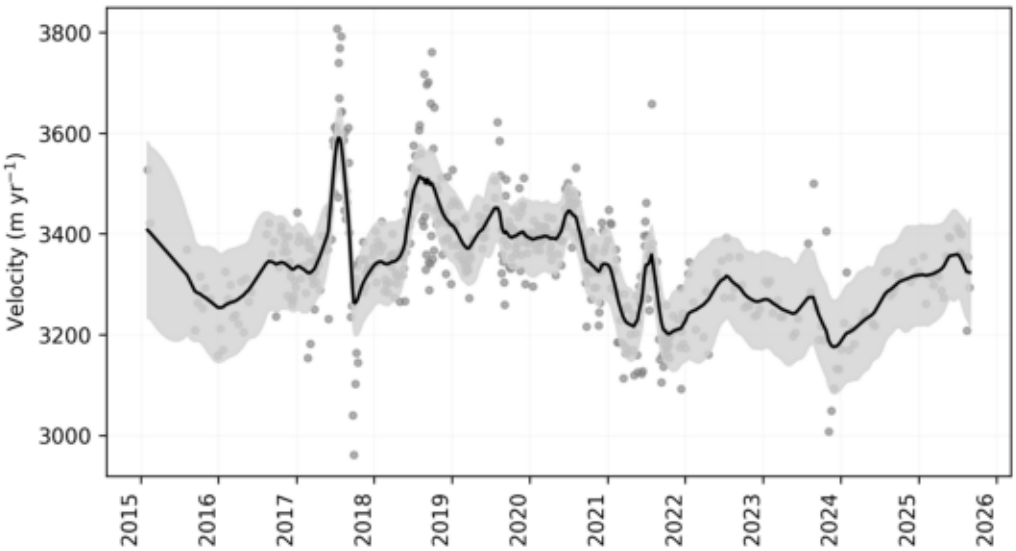

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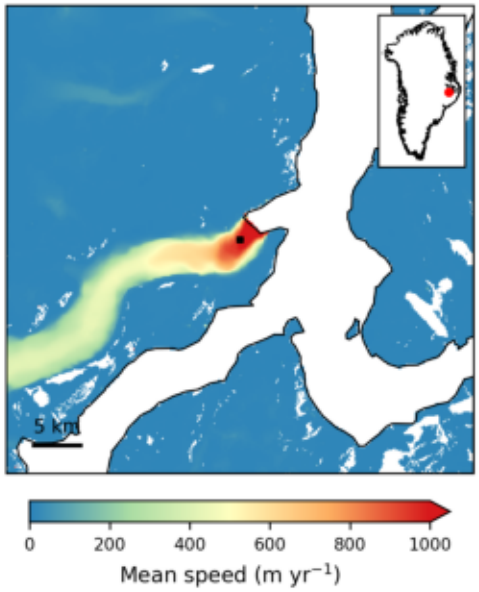

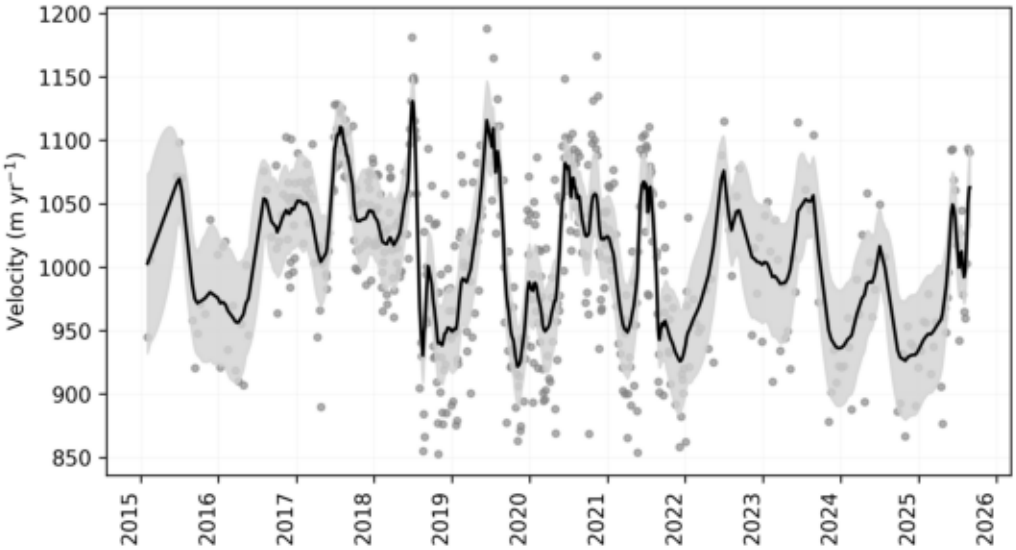

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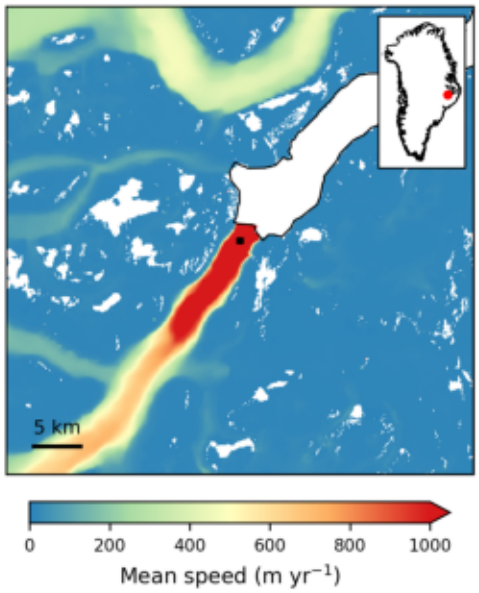

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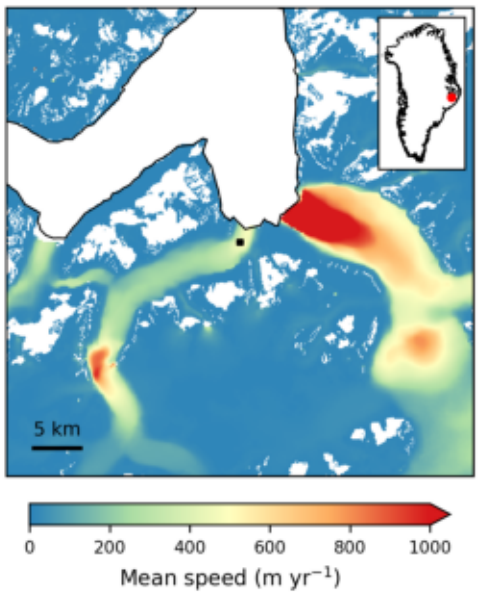

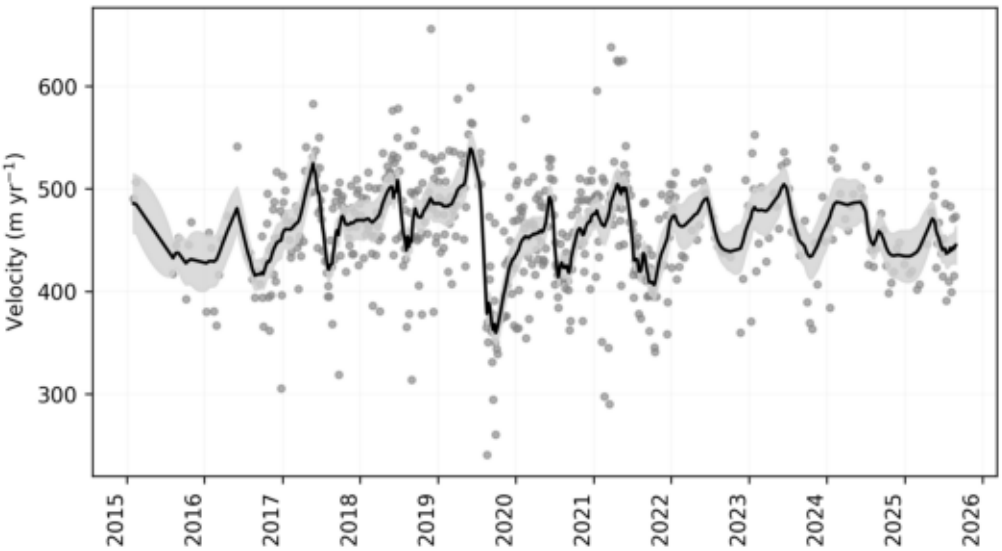

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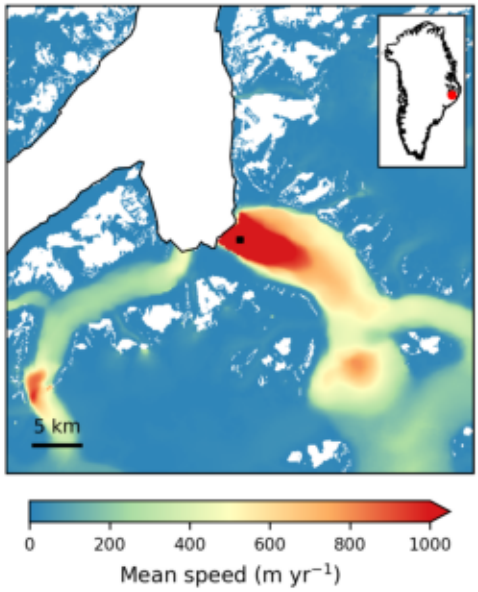

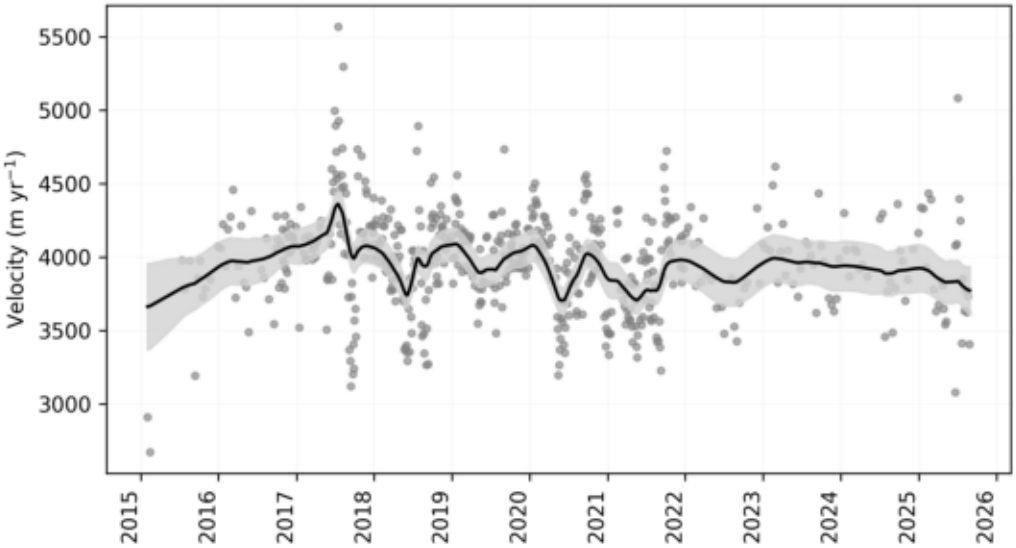

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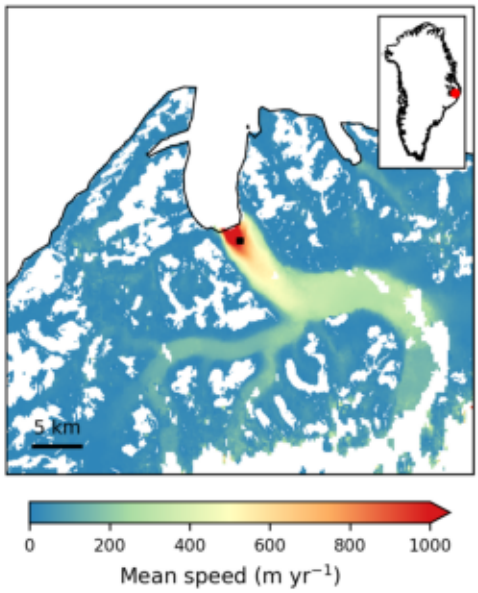

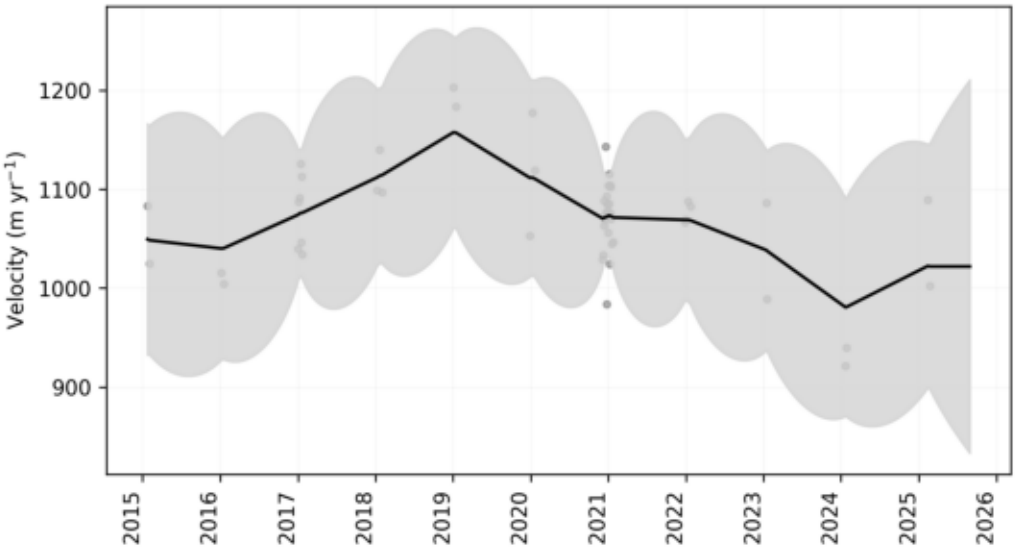

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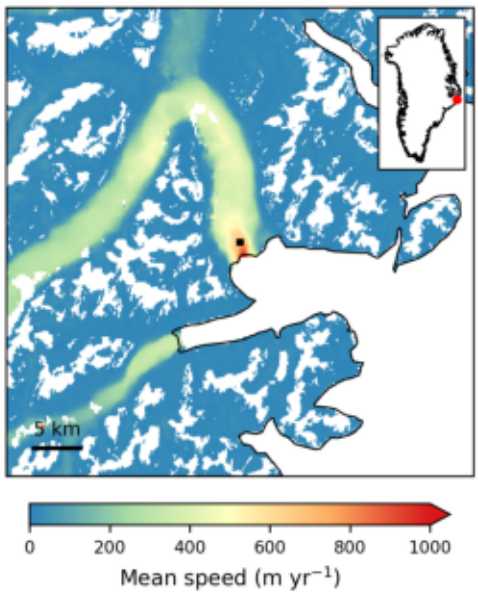

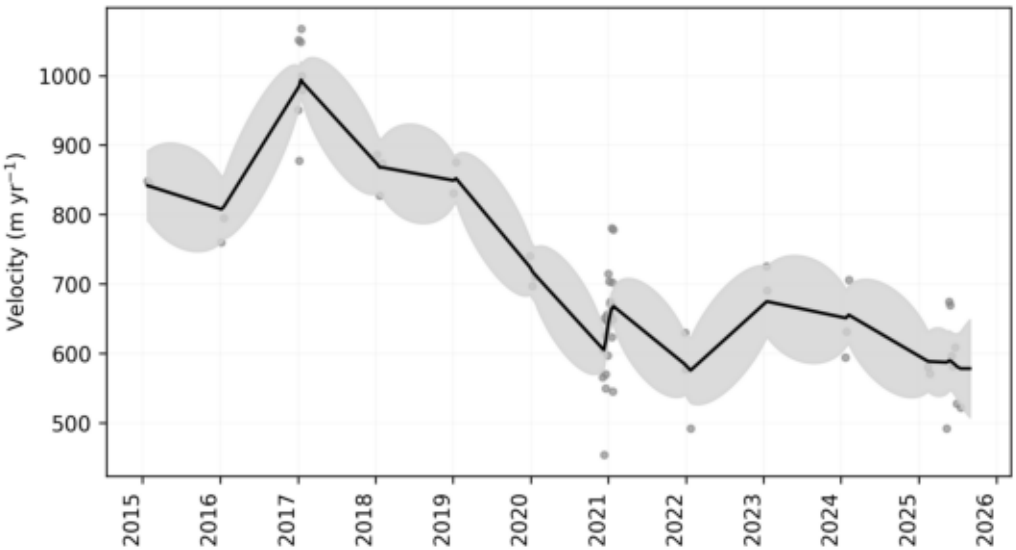

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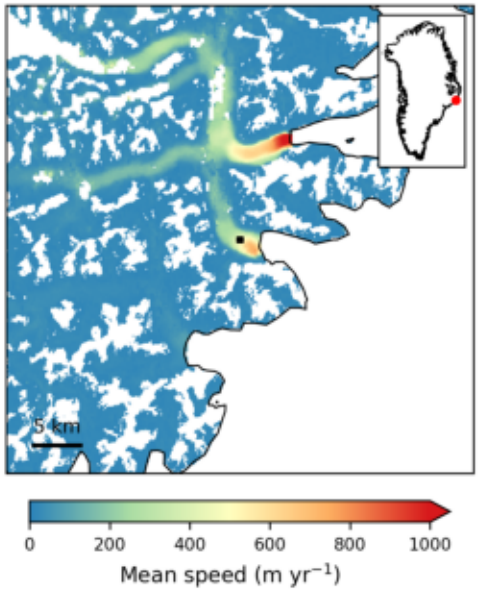

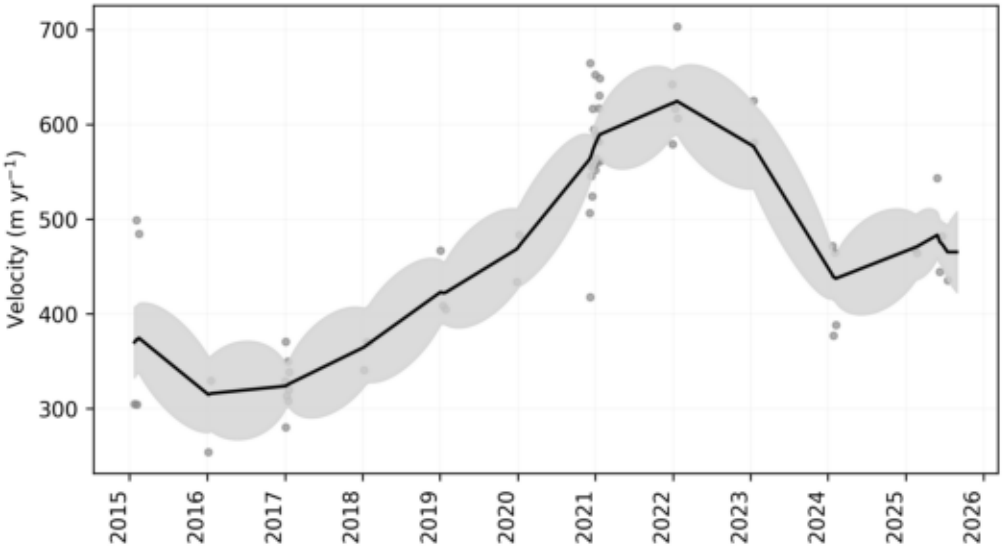

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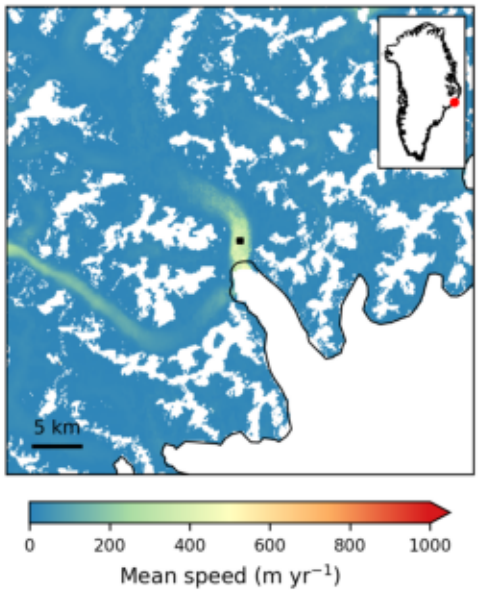

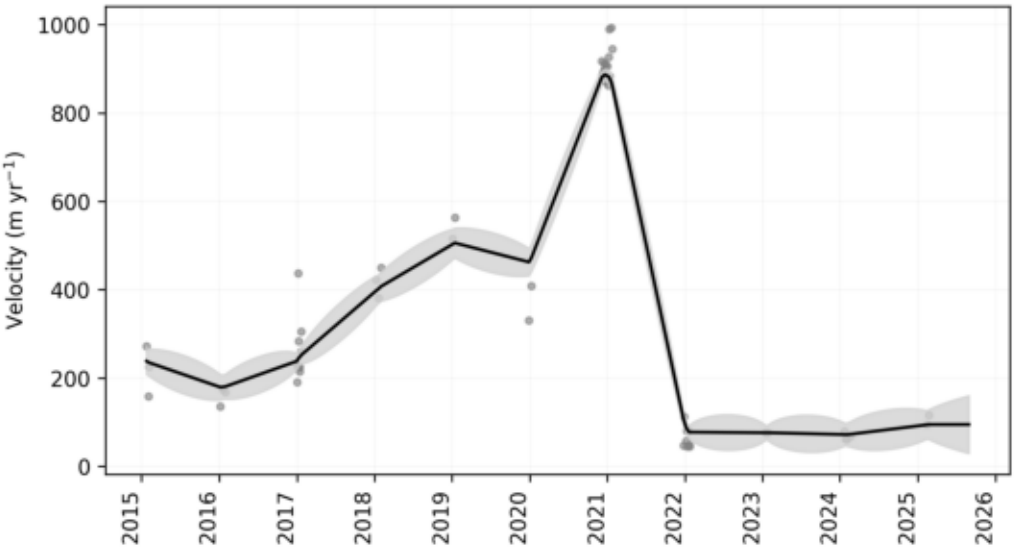

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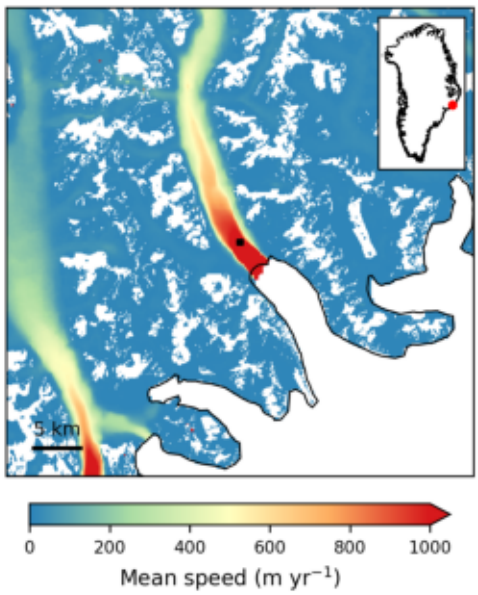

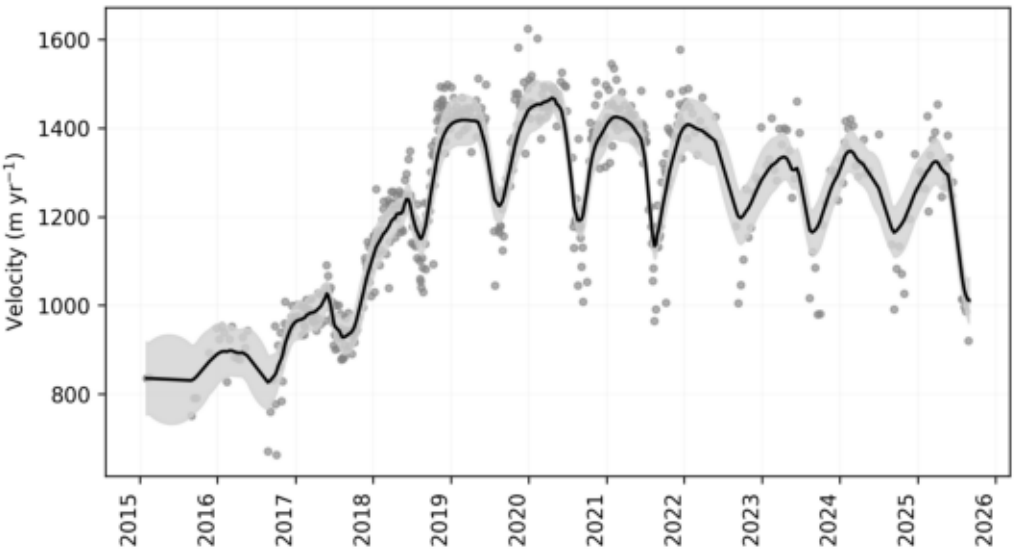

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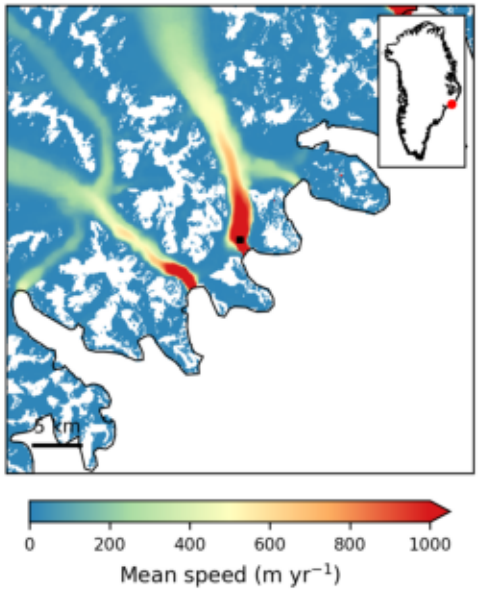

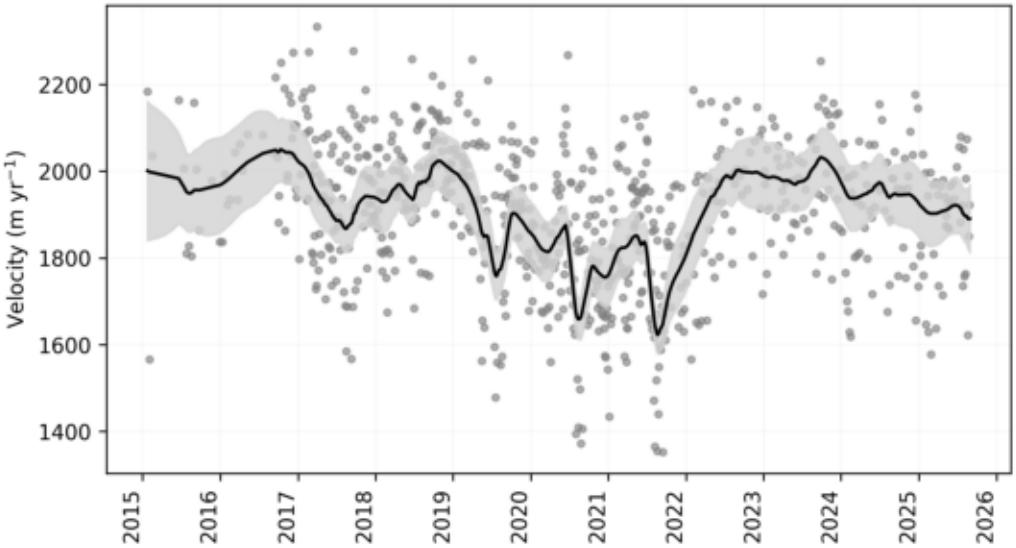

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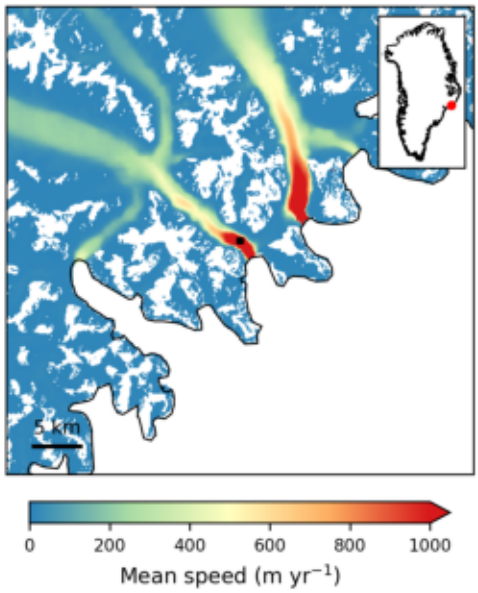

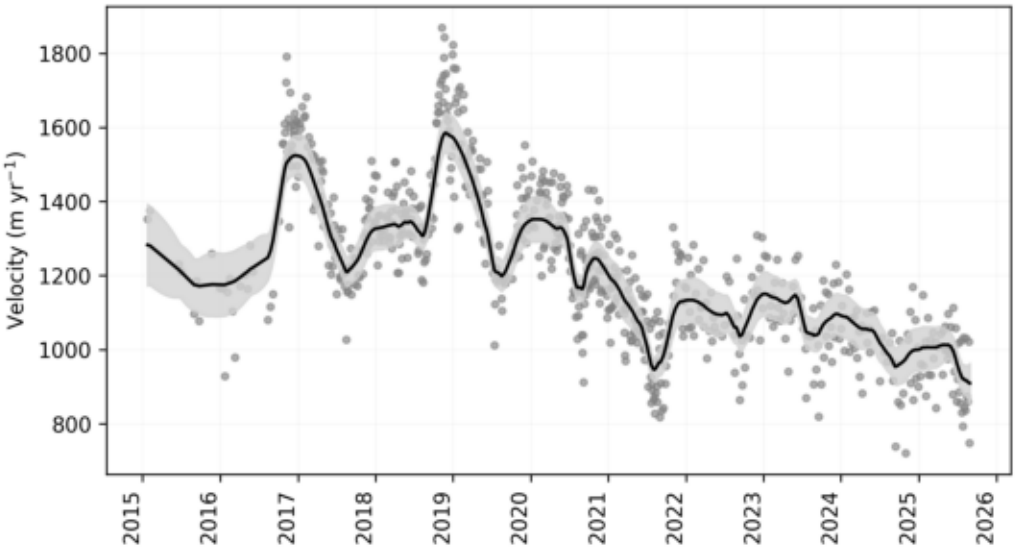

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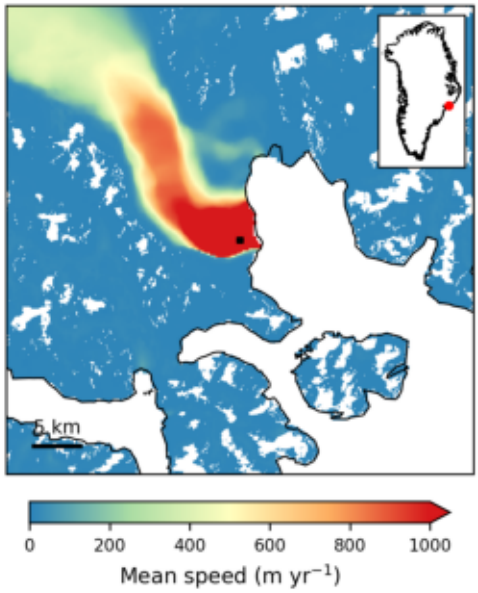

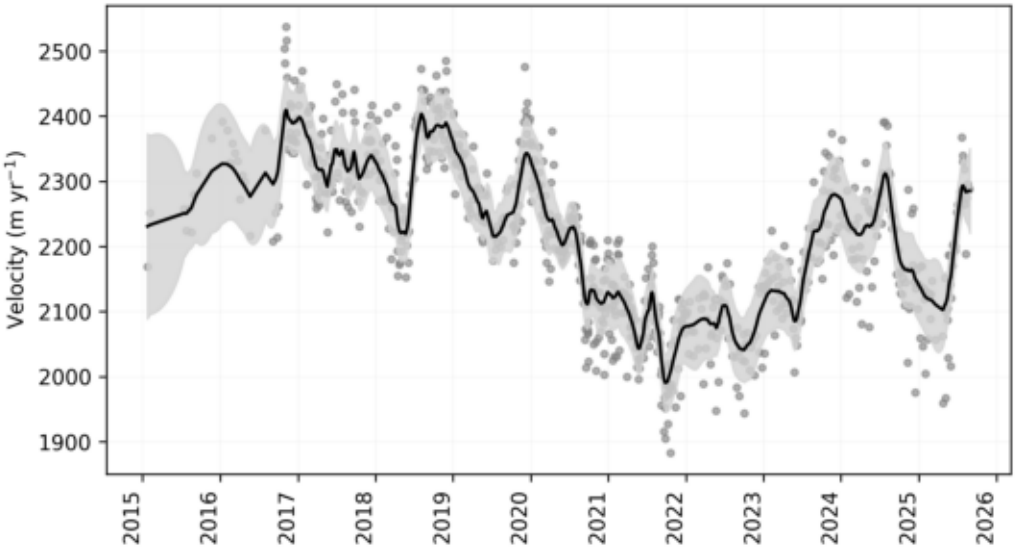

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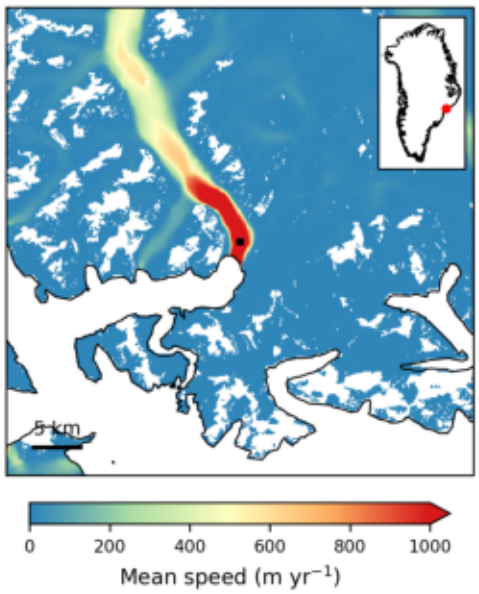

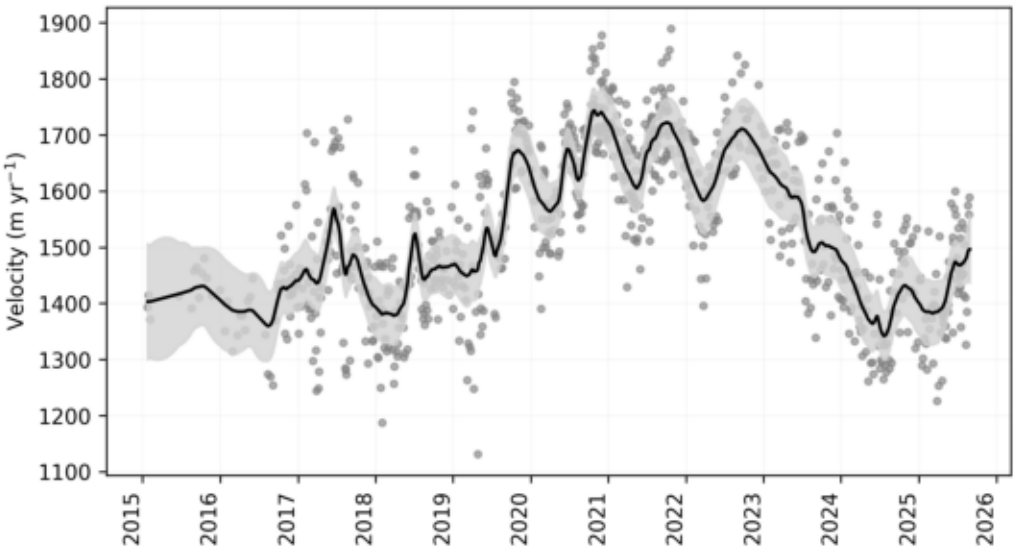

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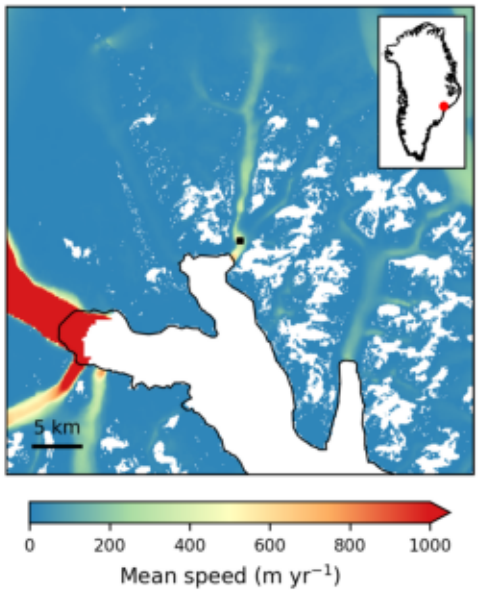

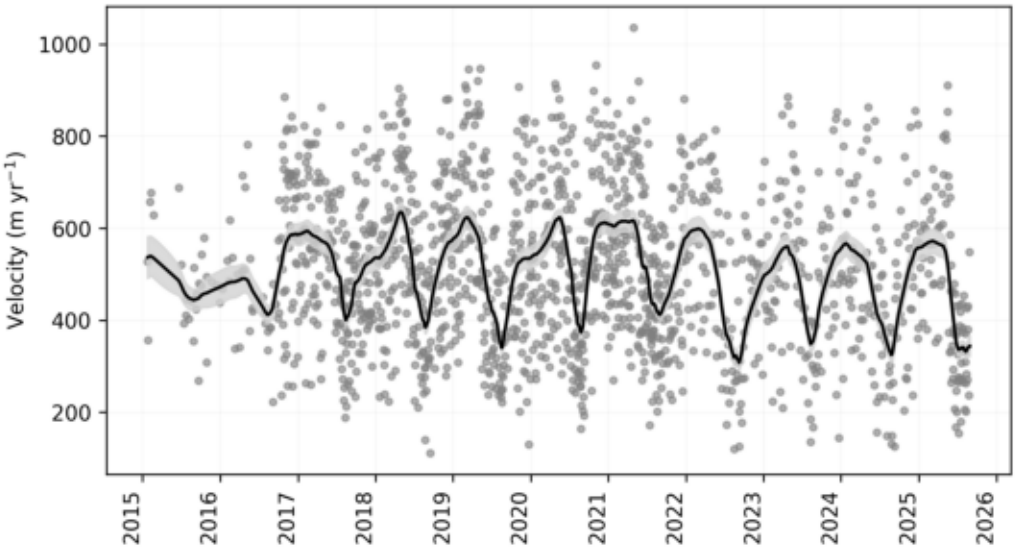

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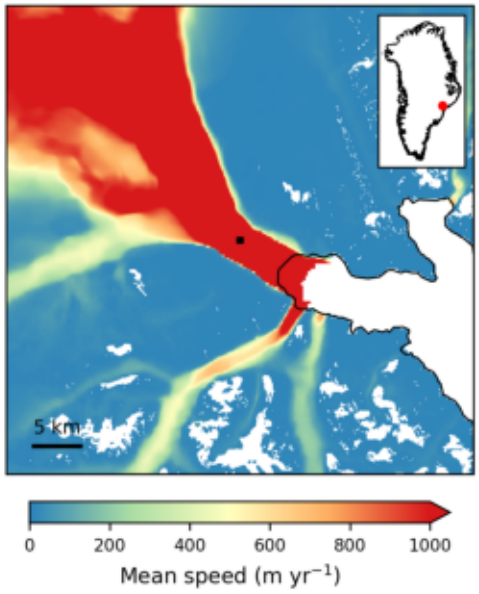

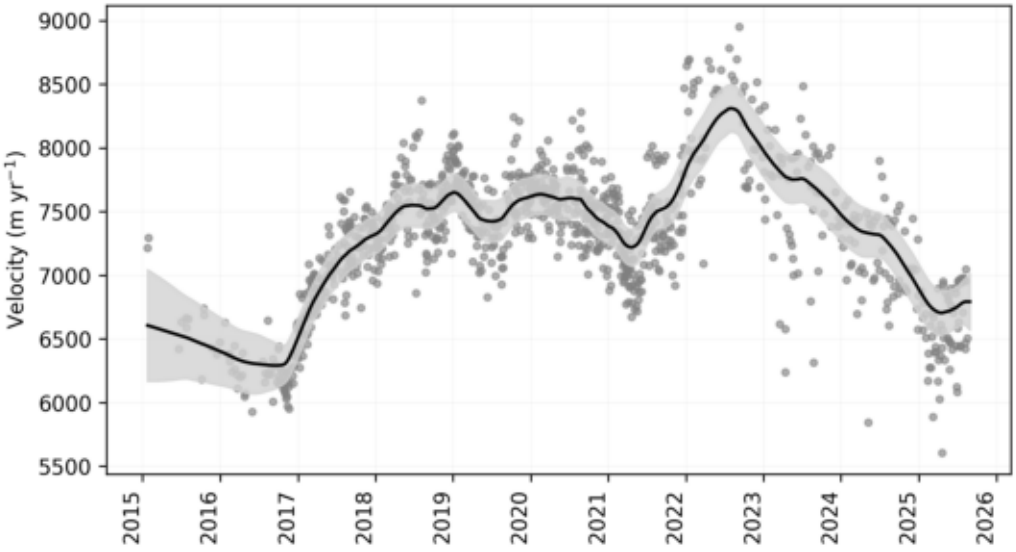

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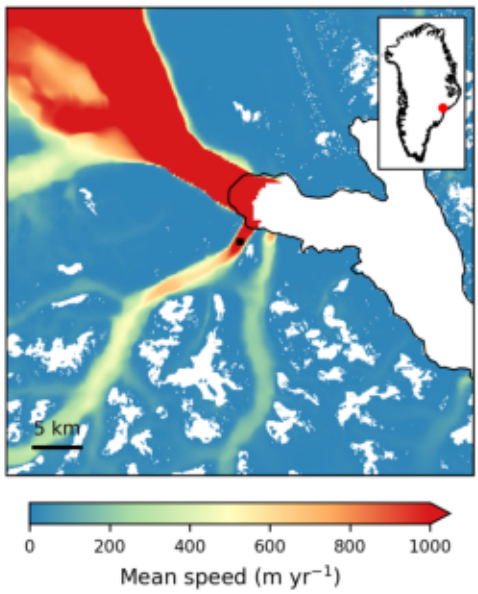

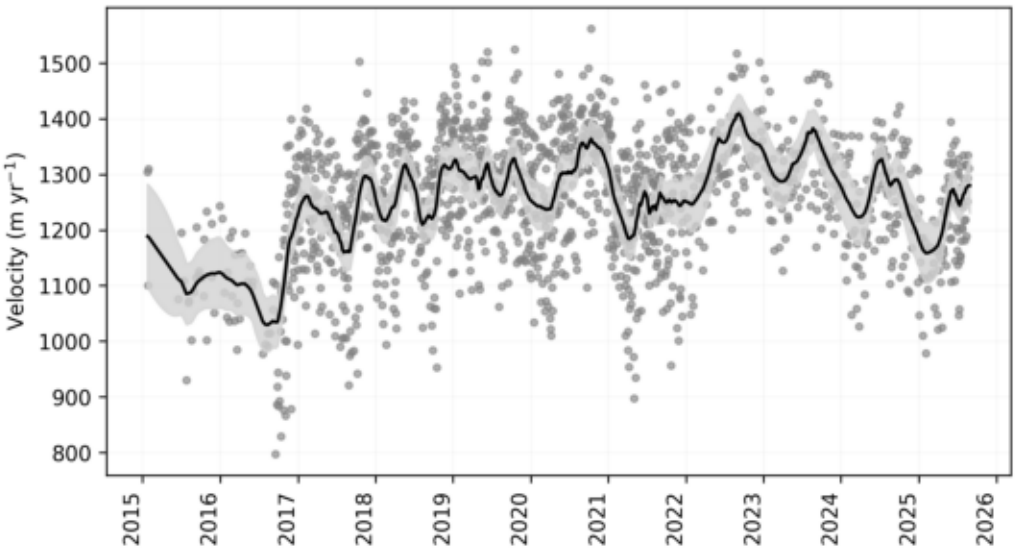

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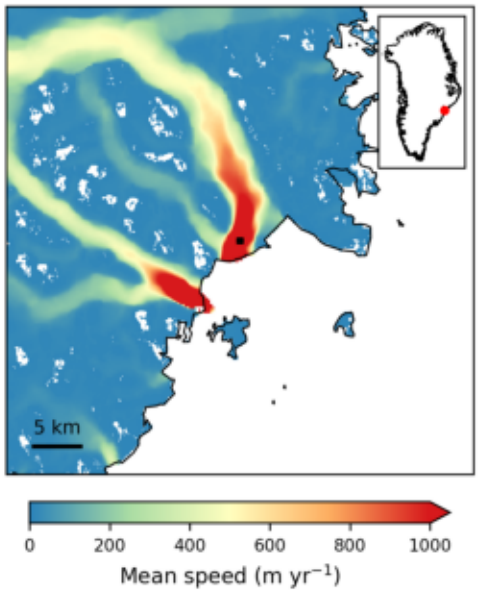

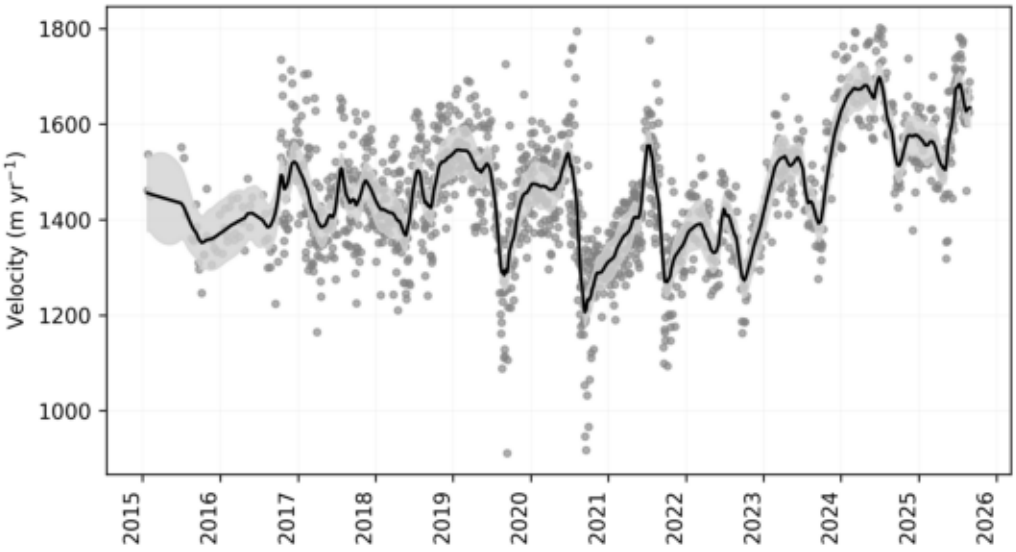

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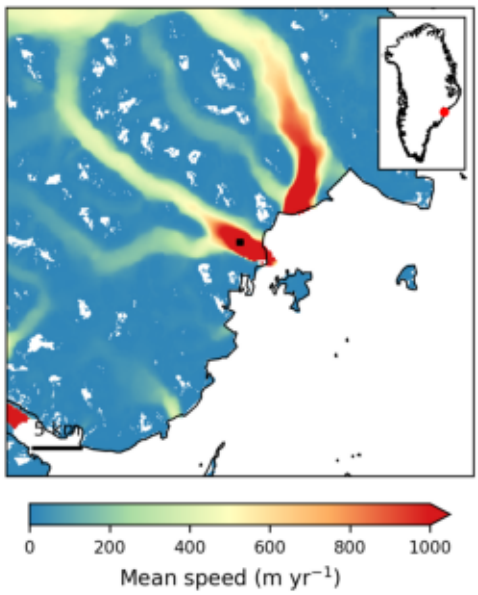

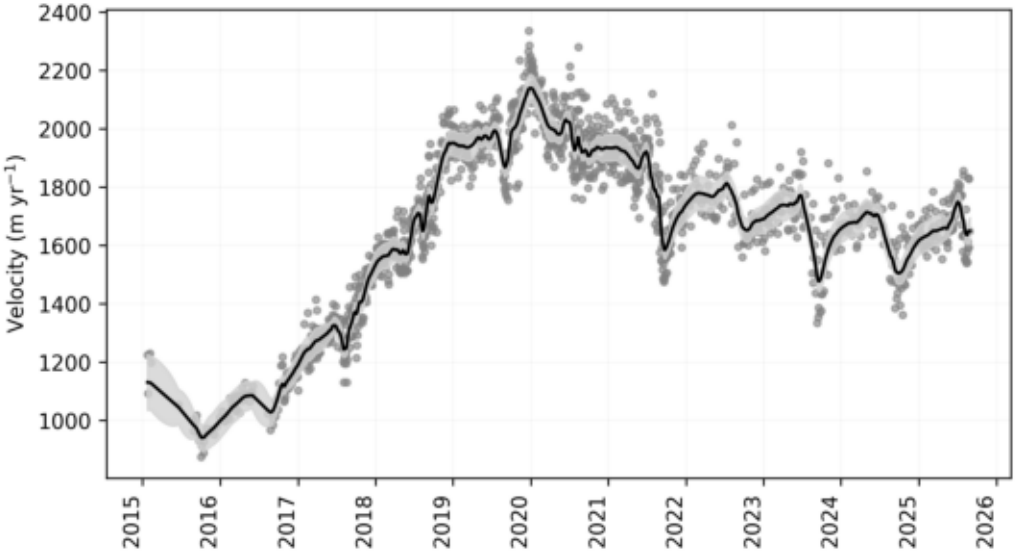

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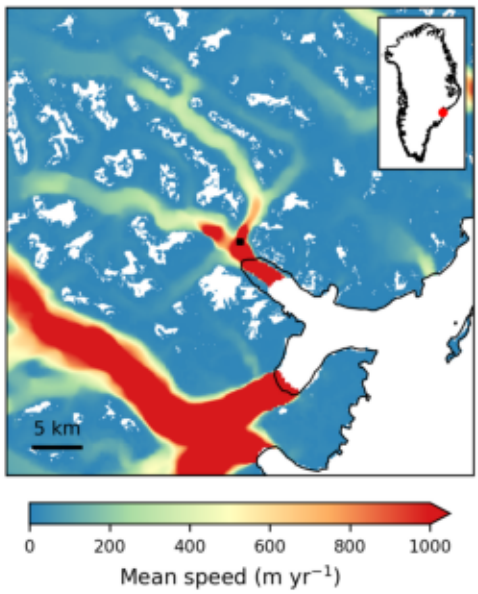

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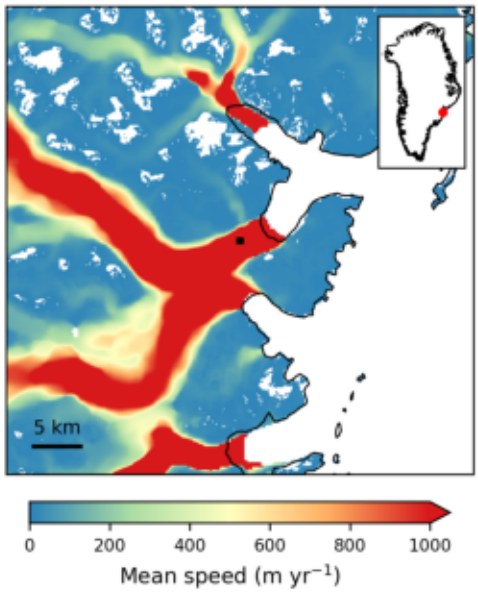

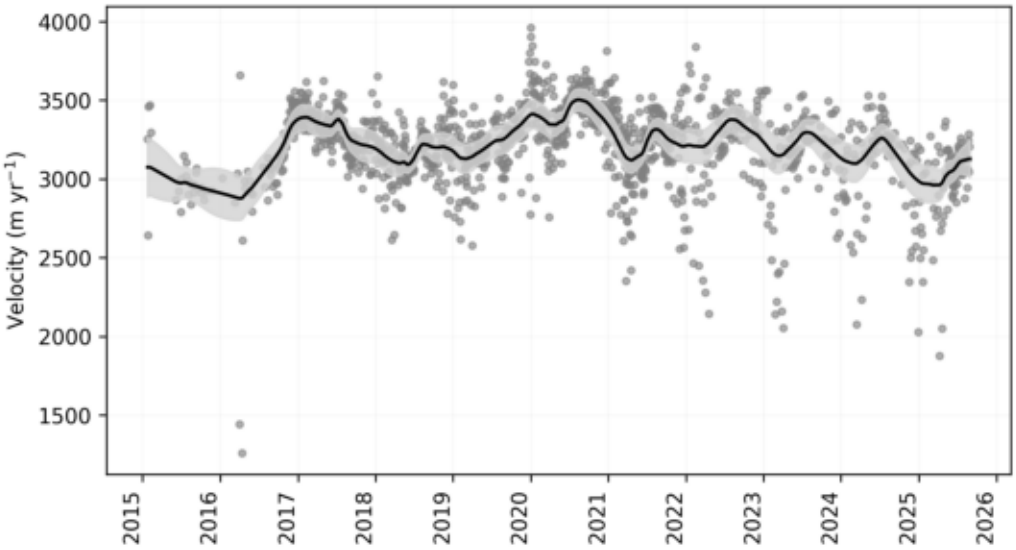

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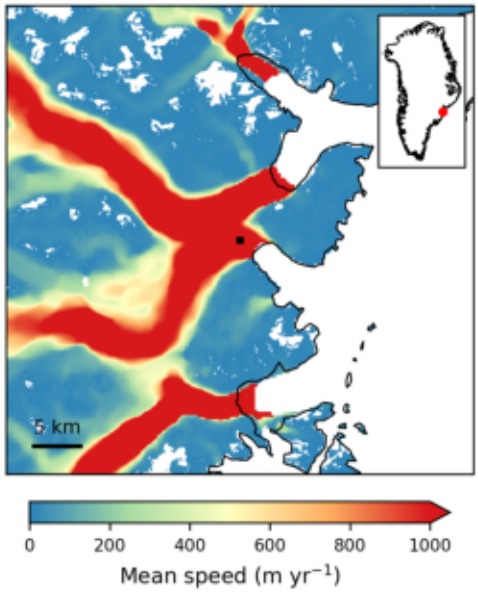

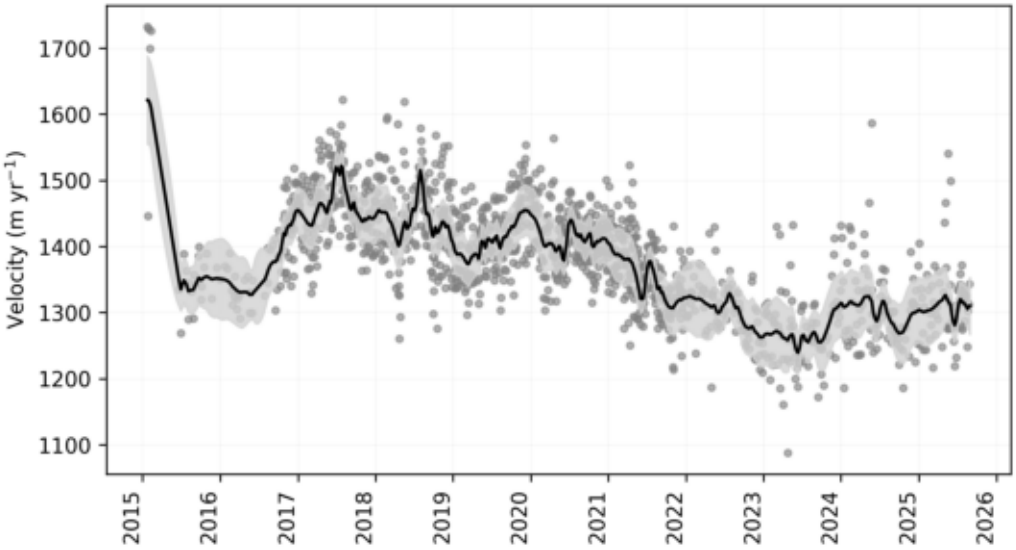

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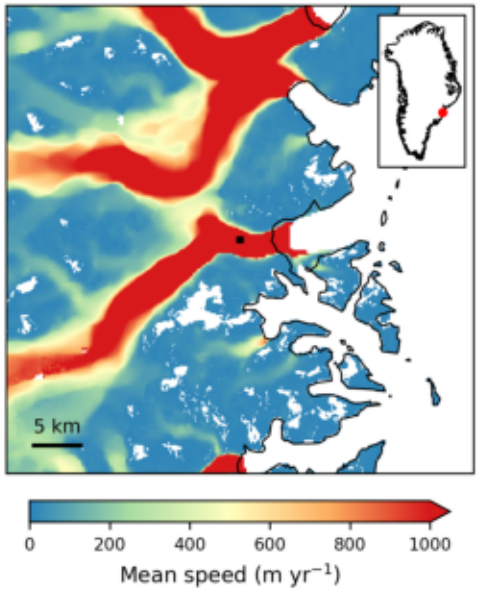

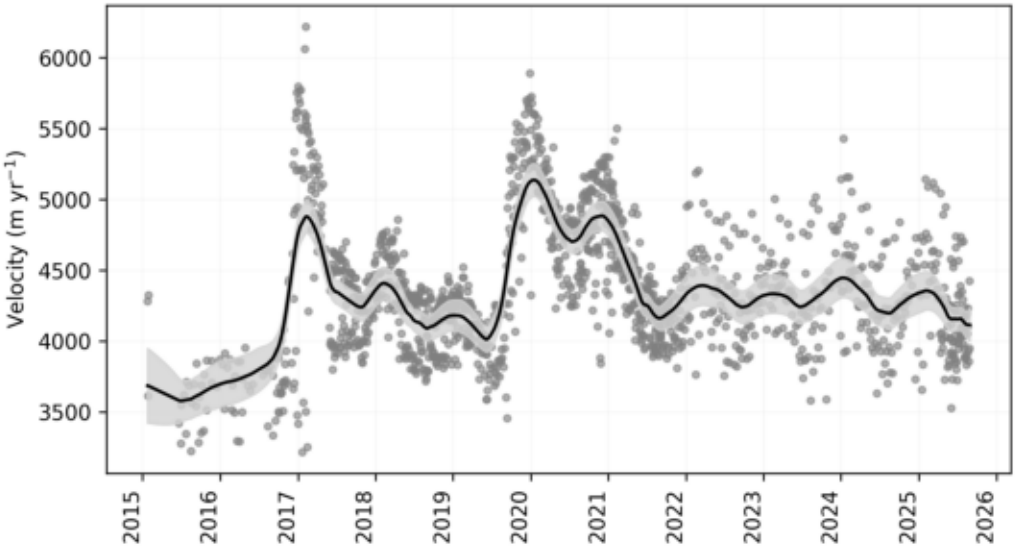

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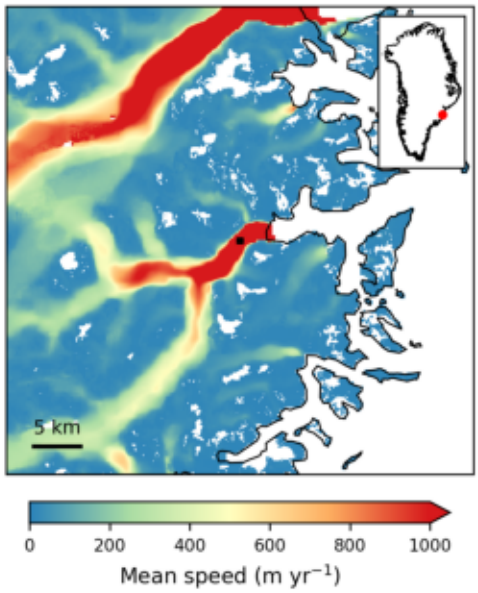

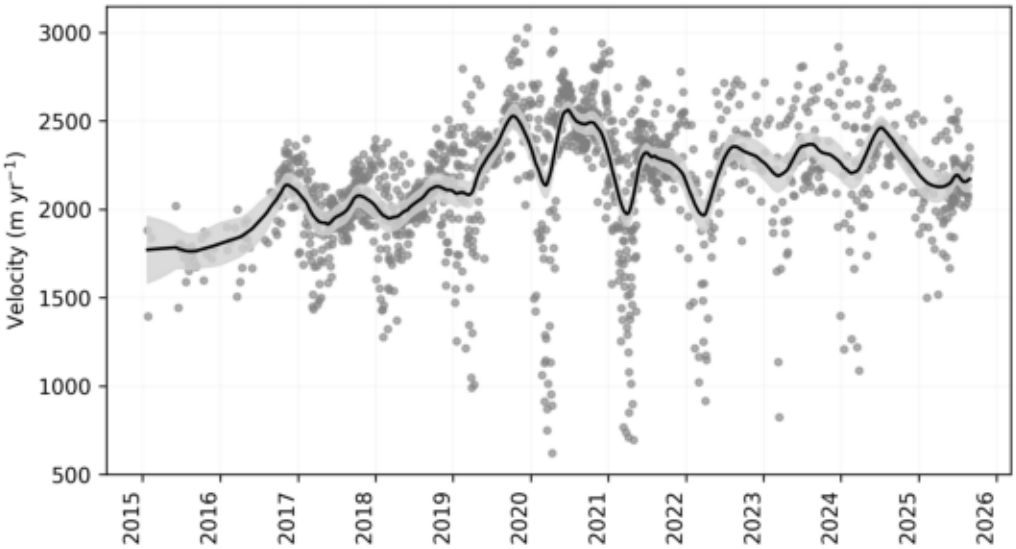

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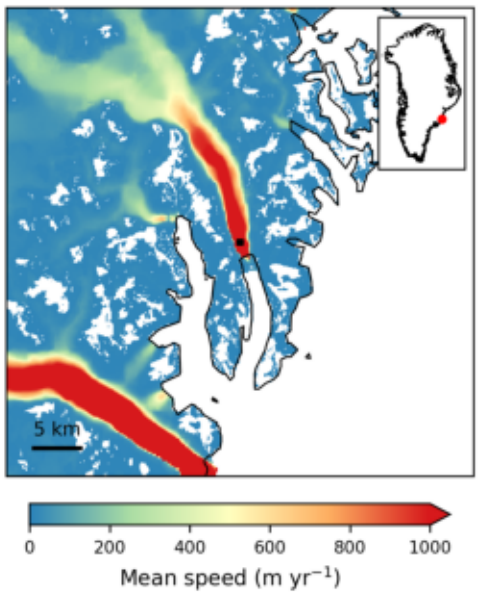

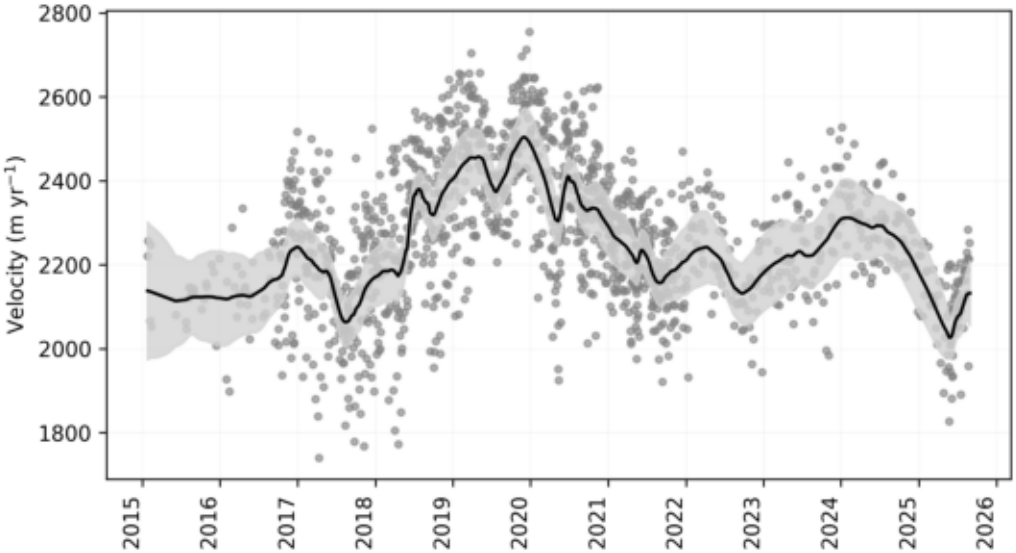

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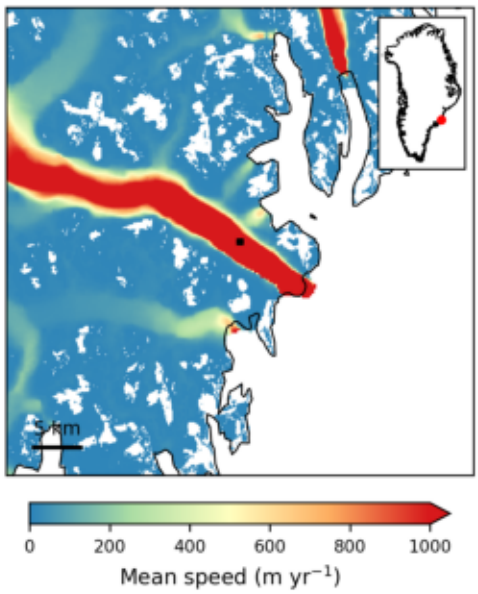

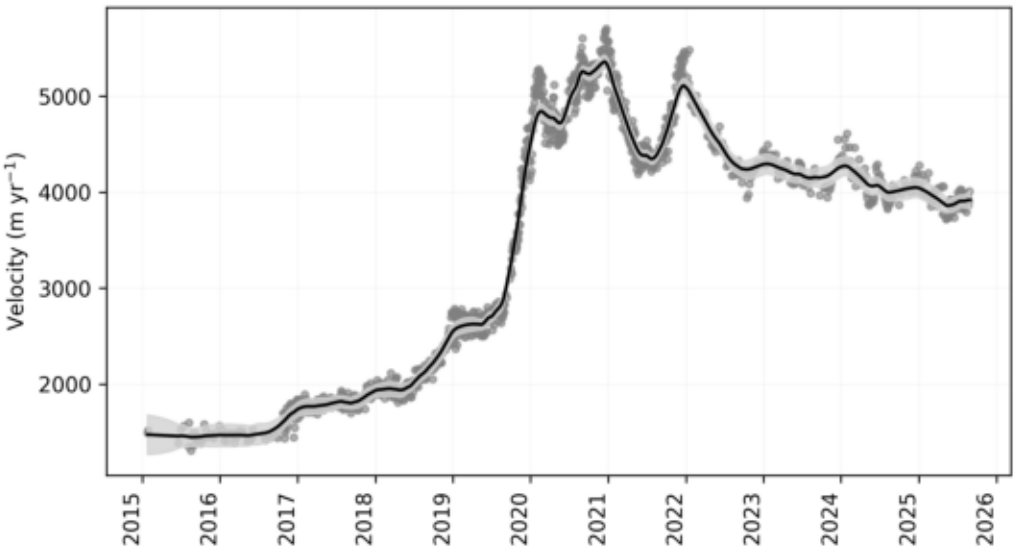

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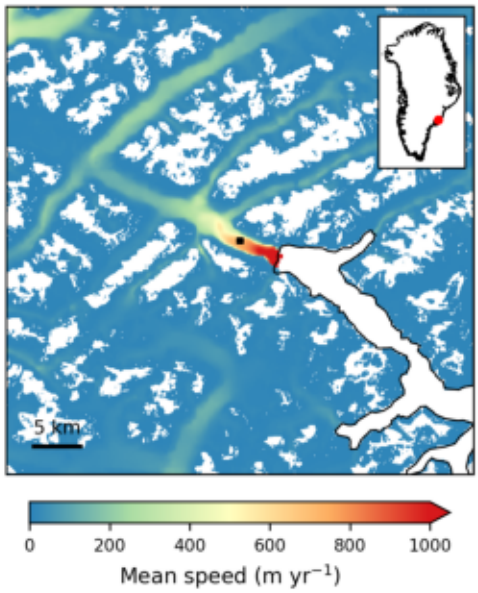

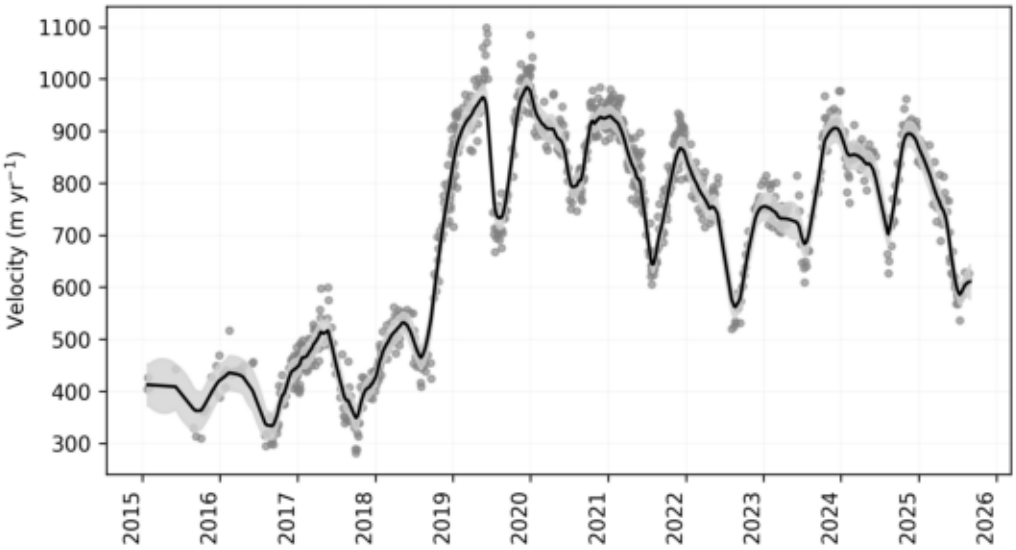

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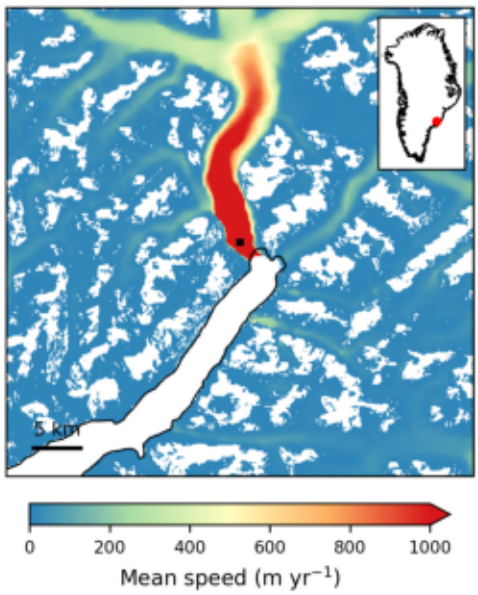

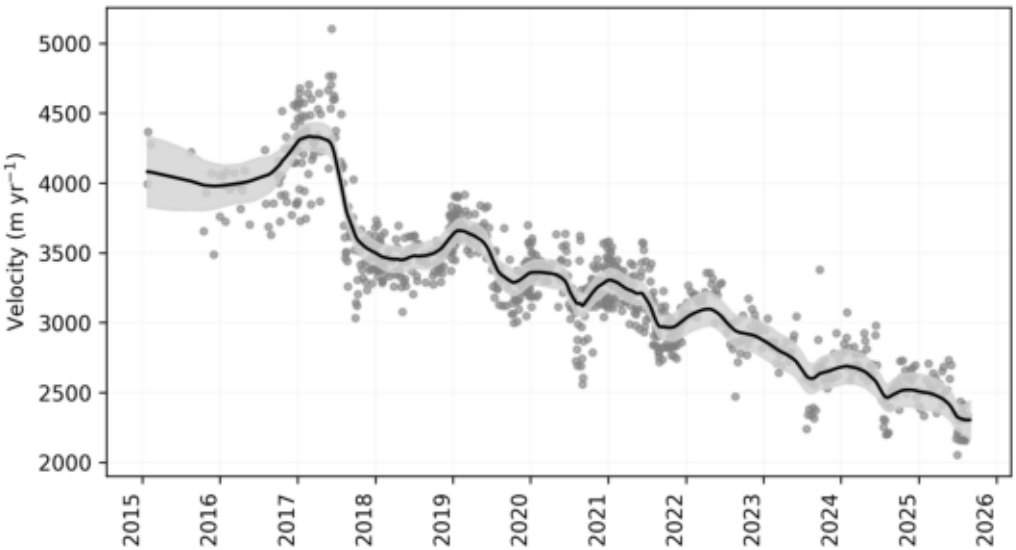

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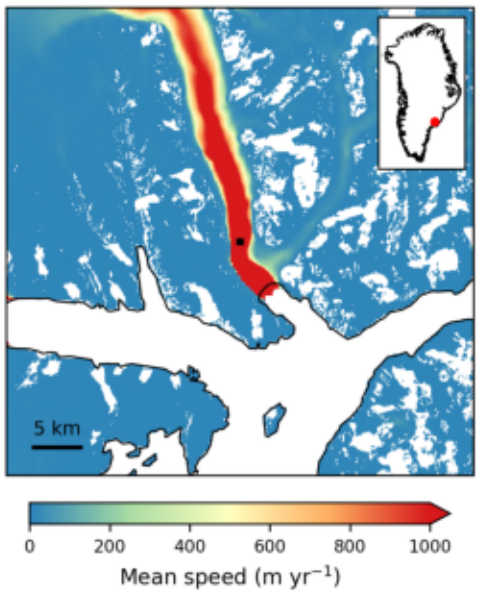
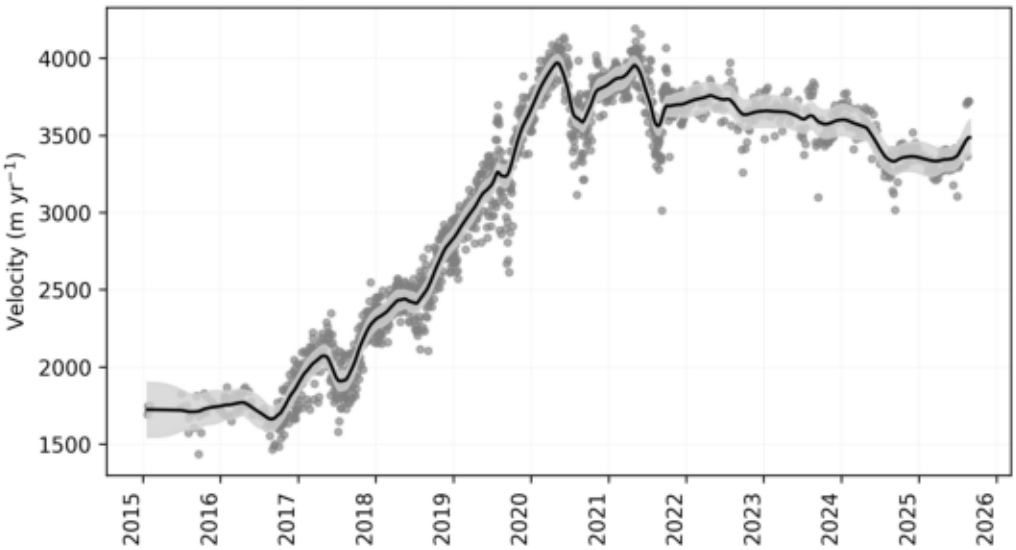
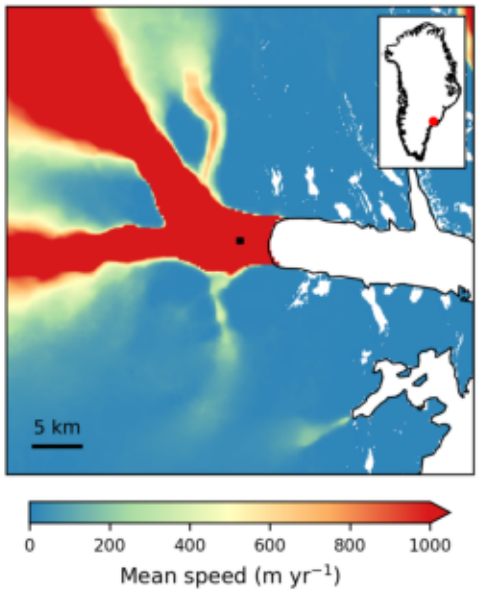
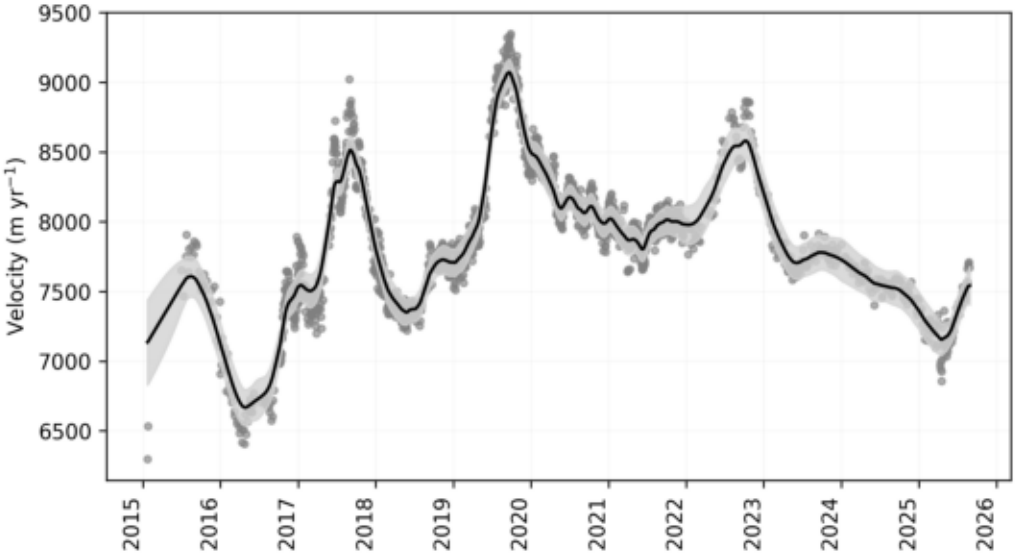




Helheim (ID: 32)





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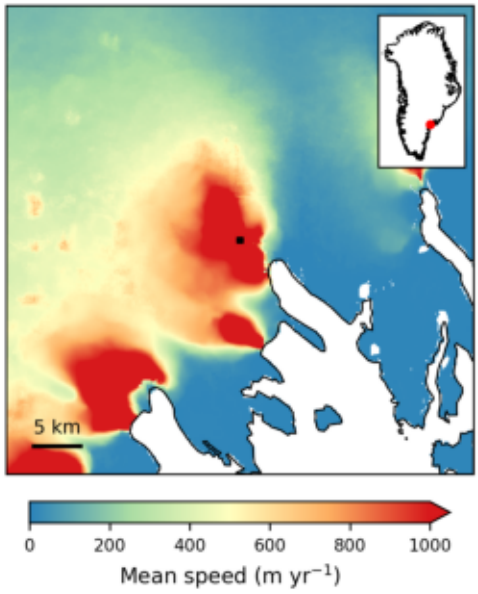

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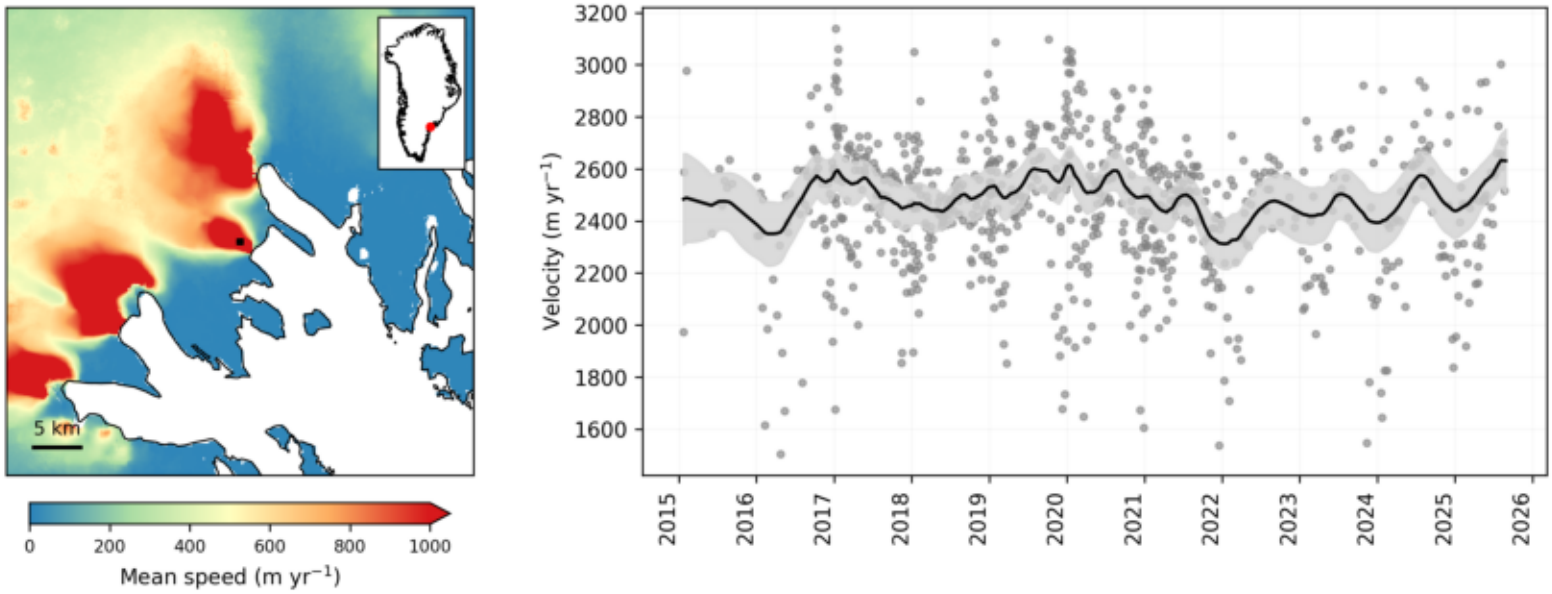

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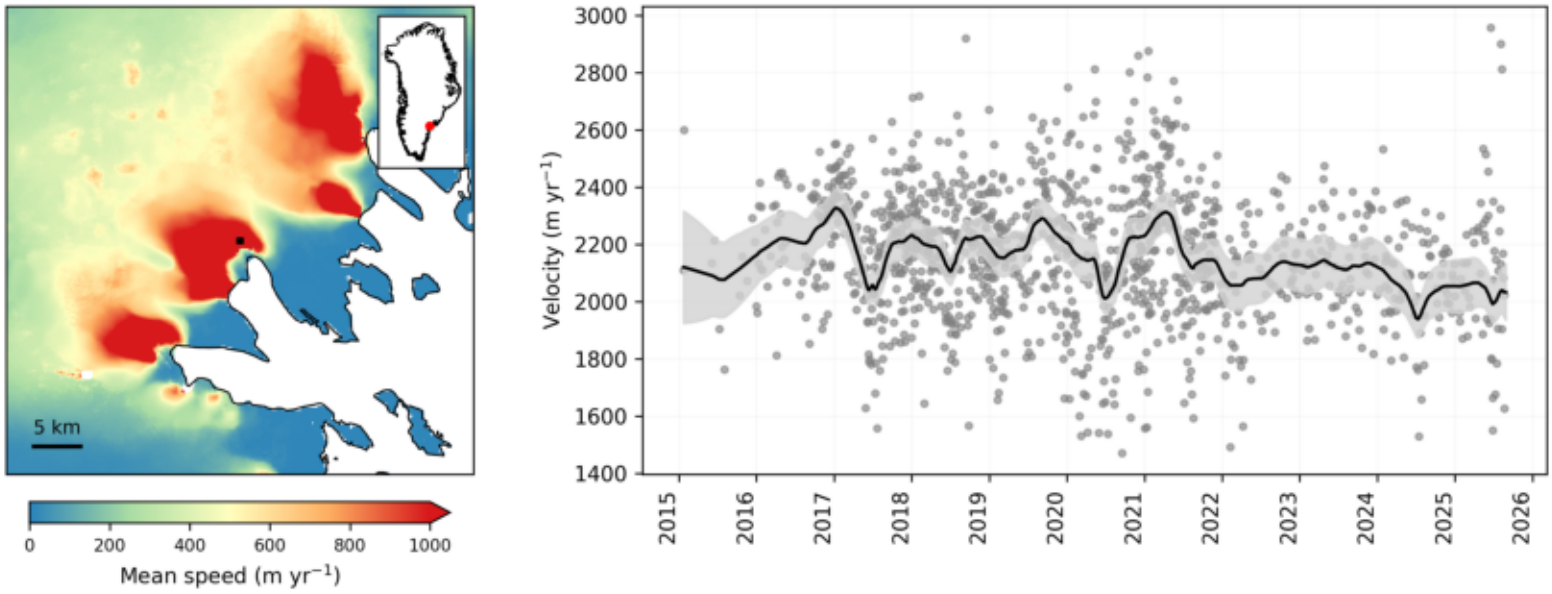
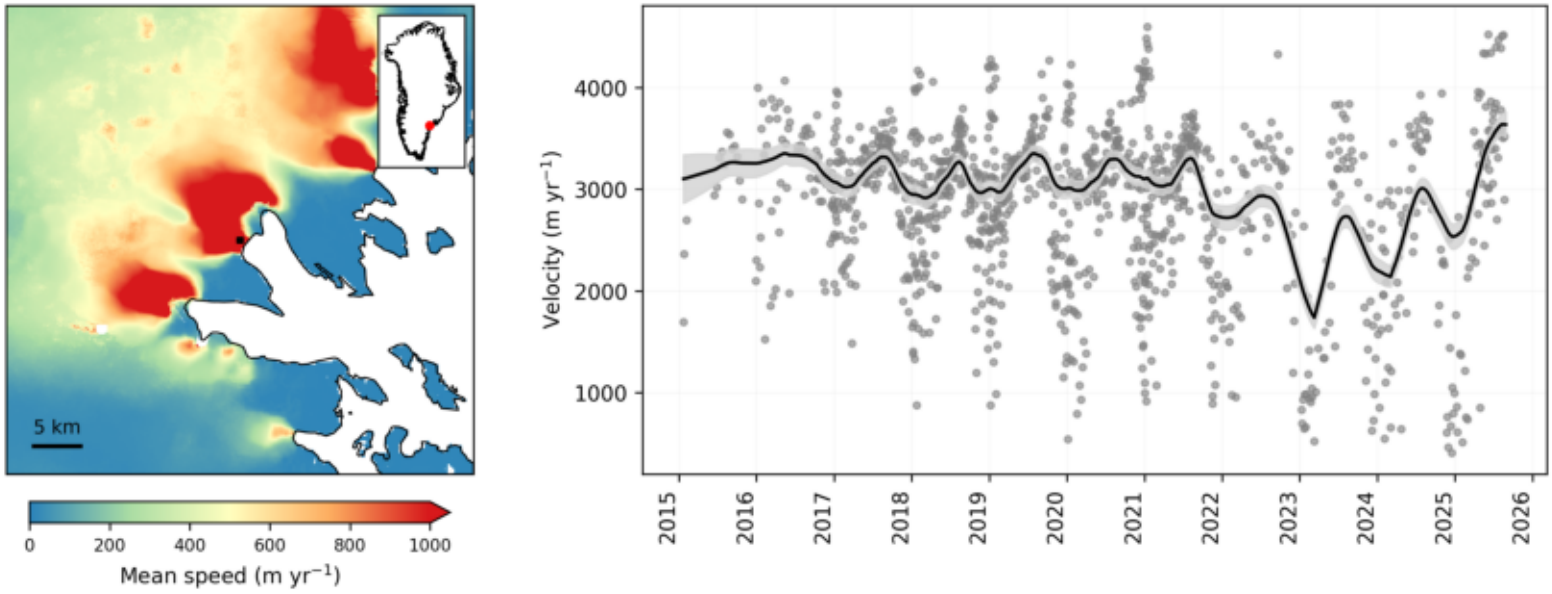


Ikertivaq CS (ID: 36)



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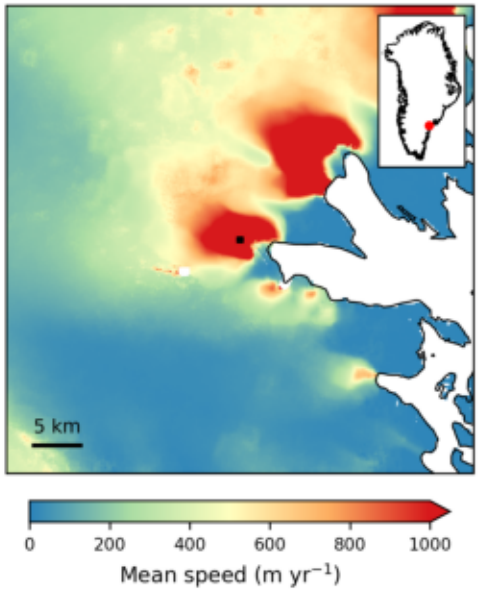

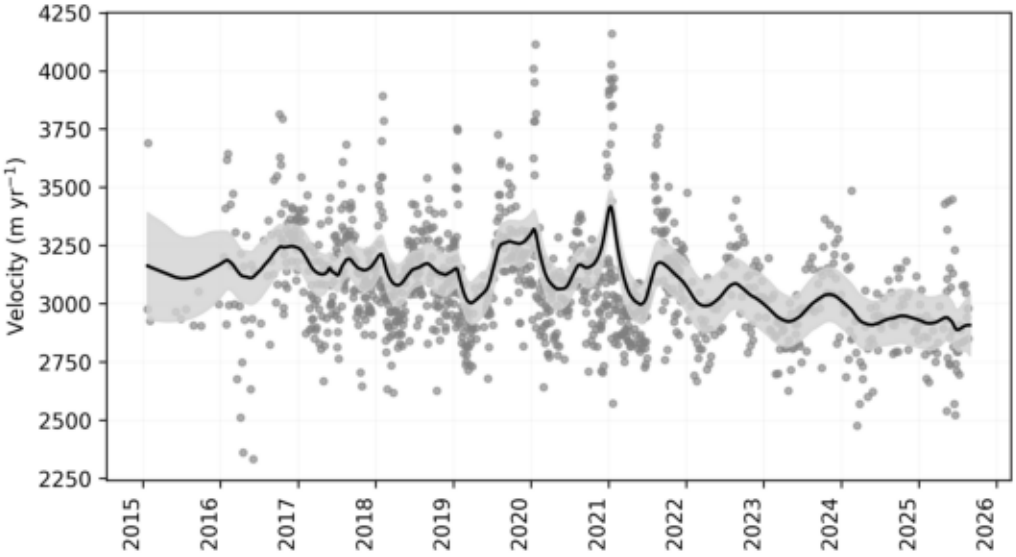

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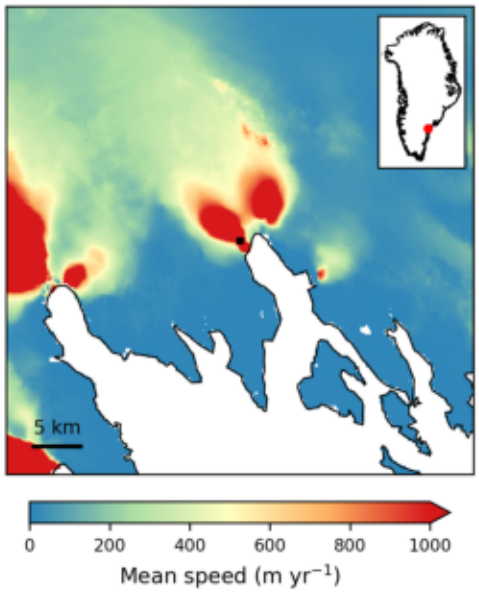

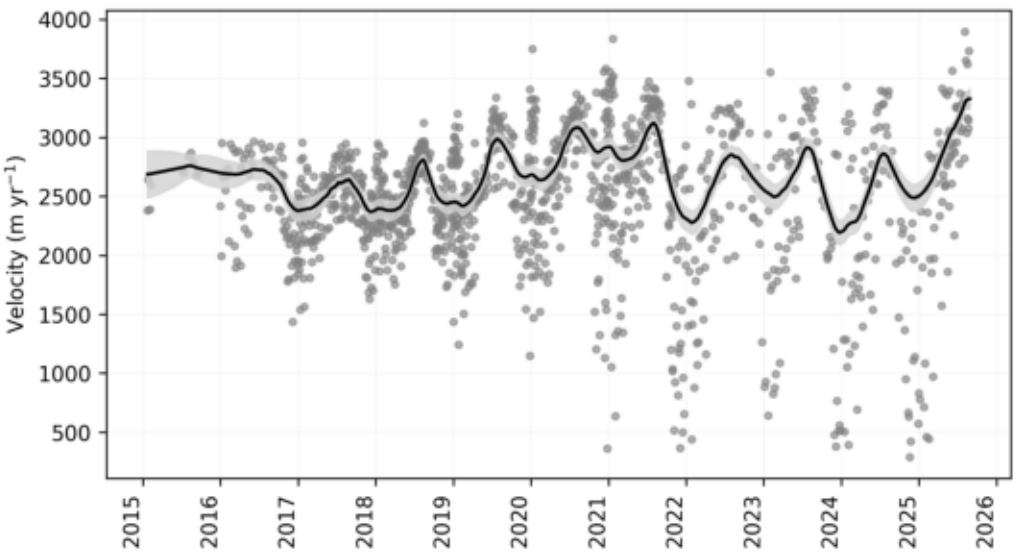

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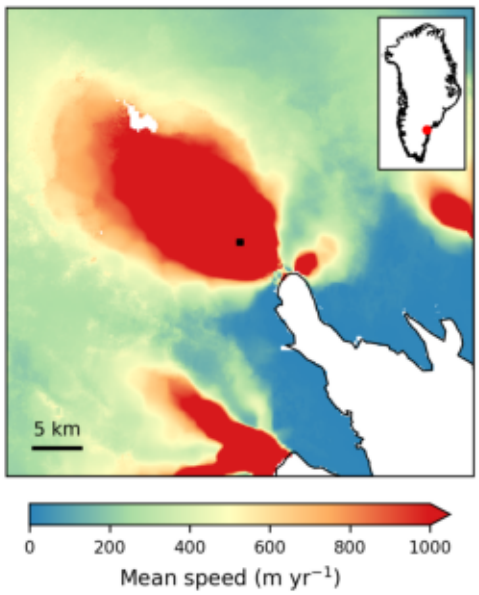

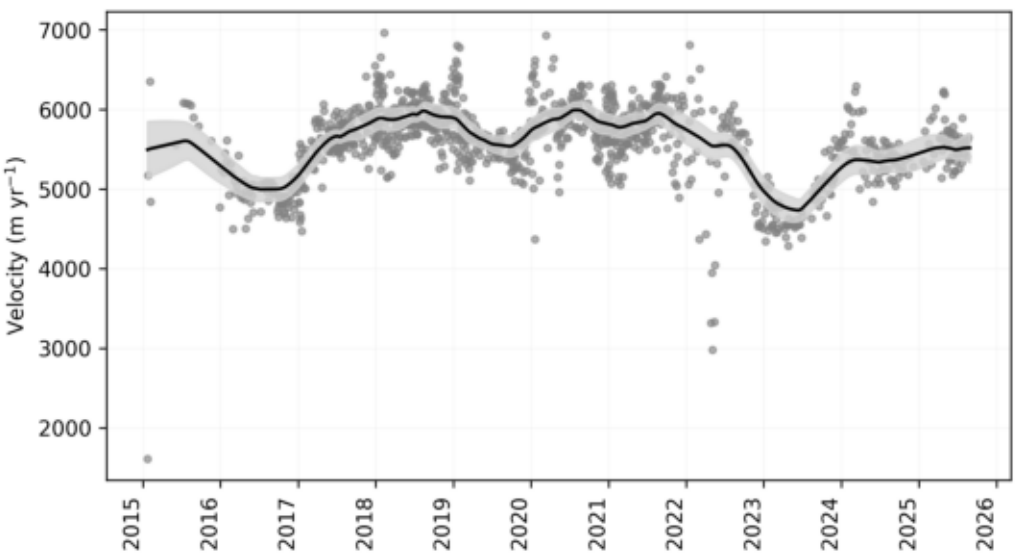

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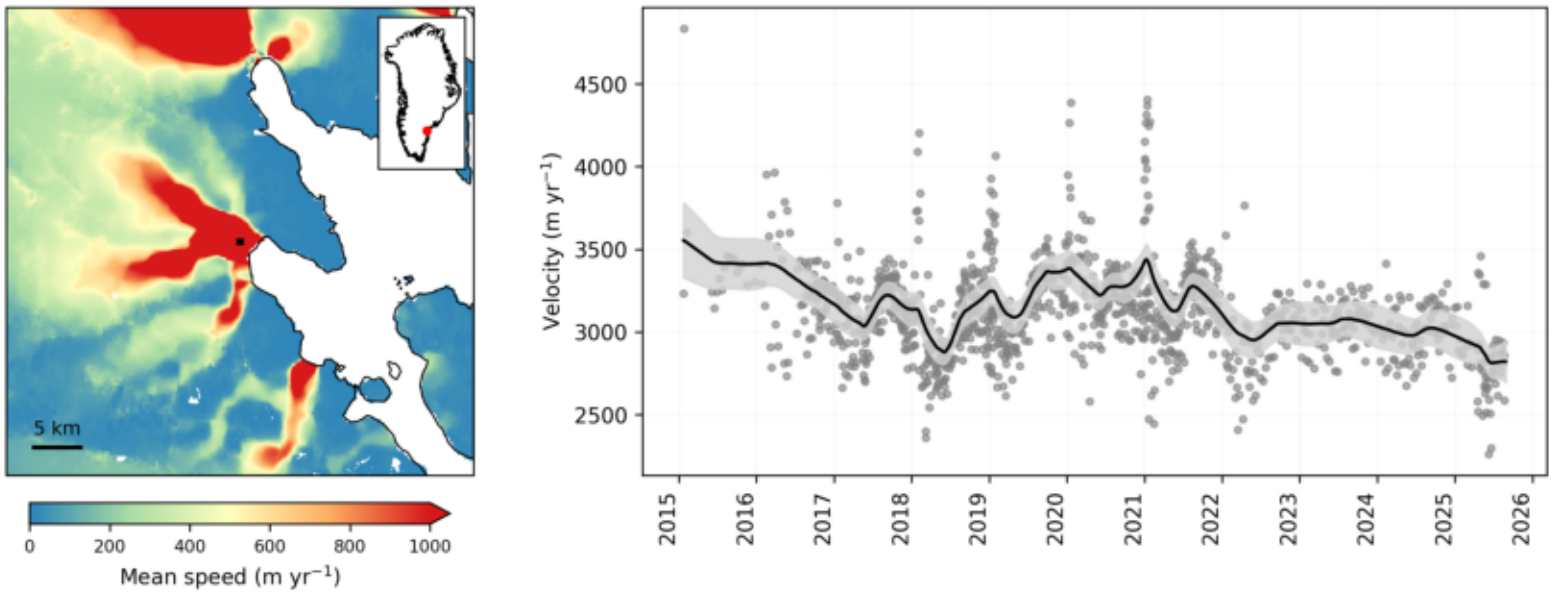

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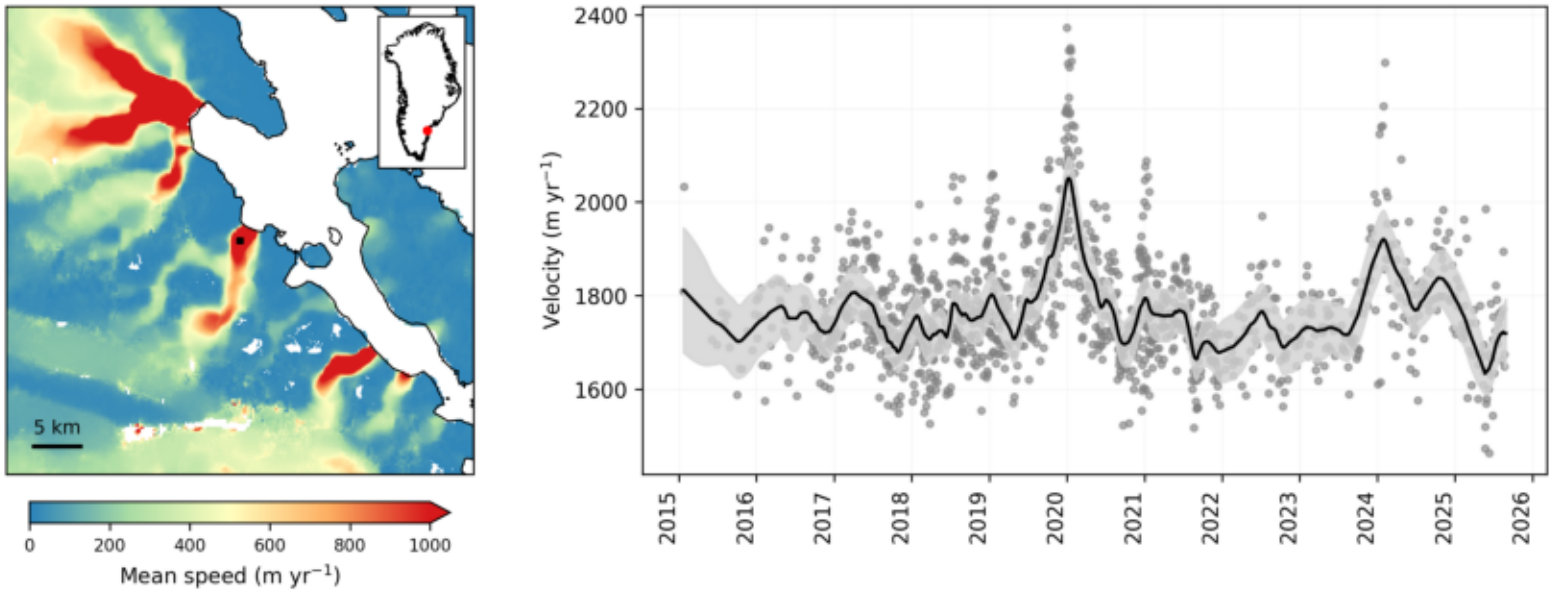
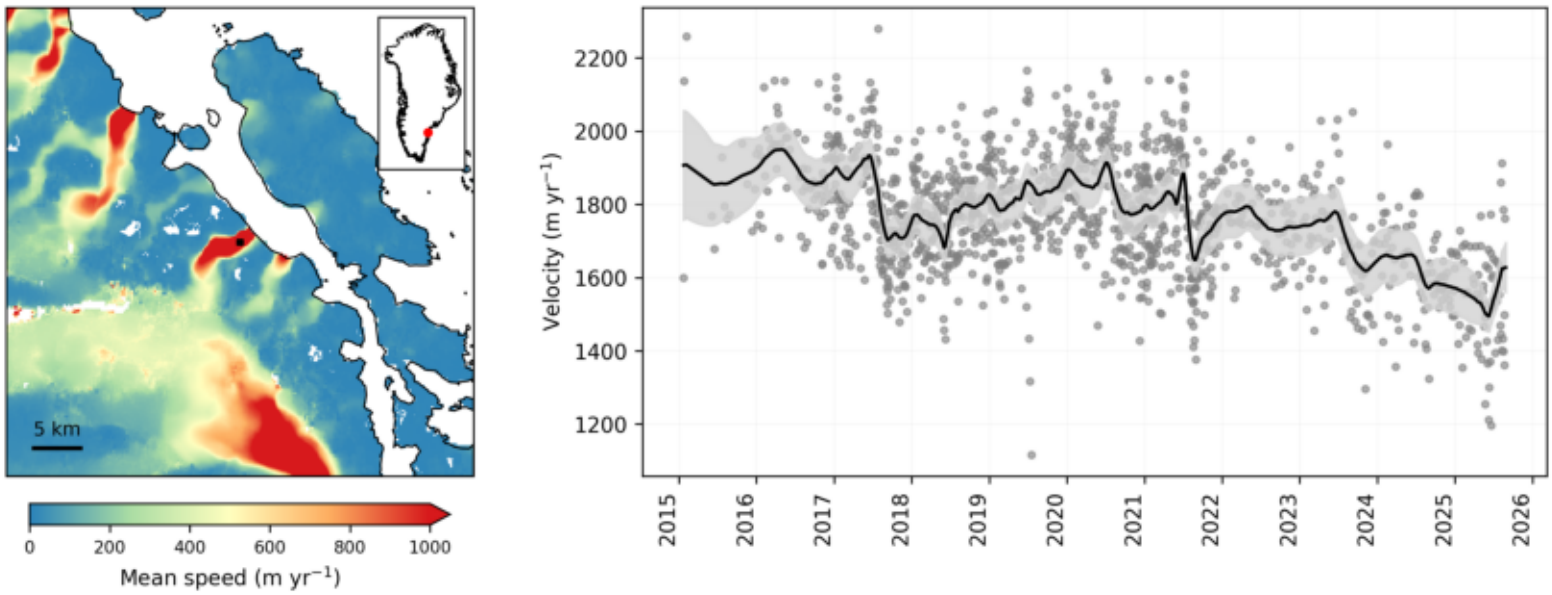


Umiivik Fjord N (ID: 42)



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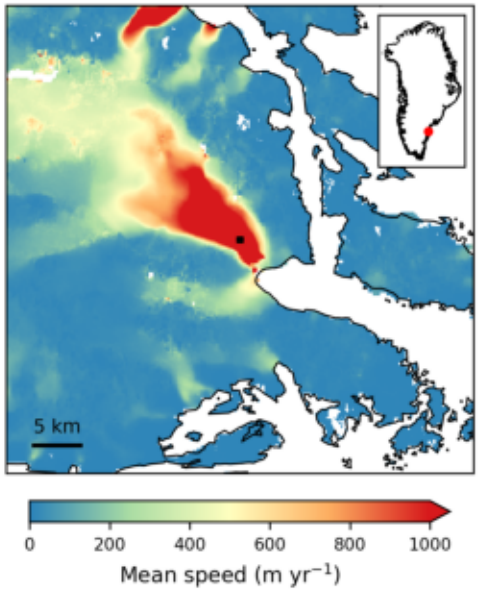
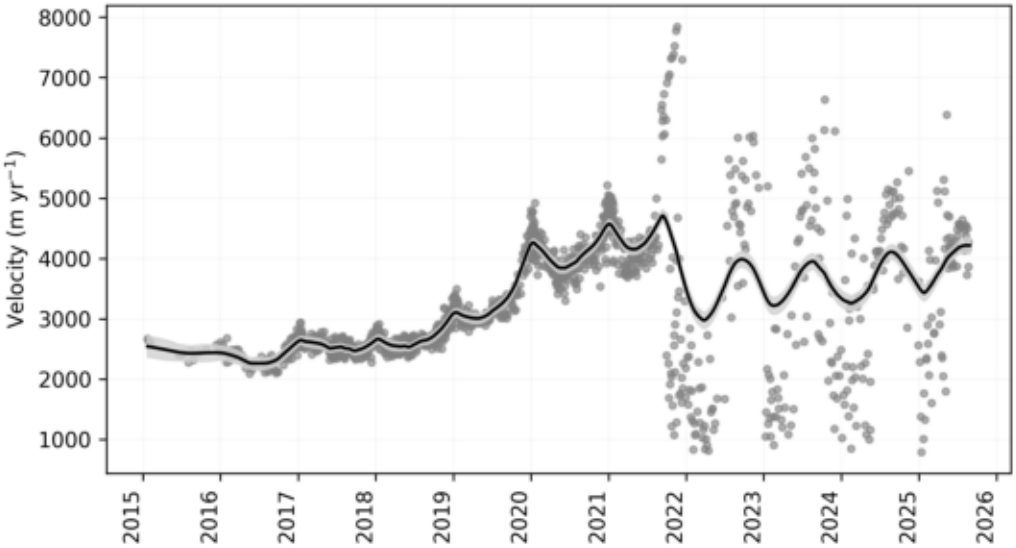
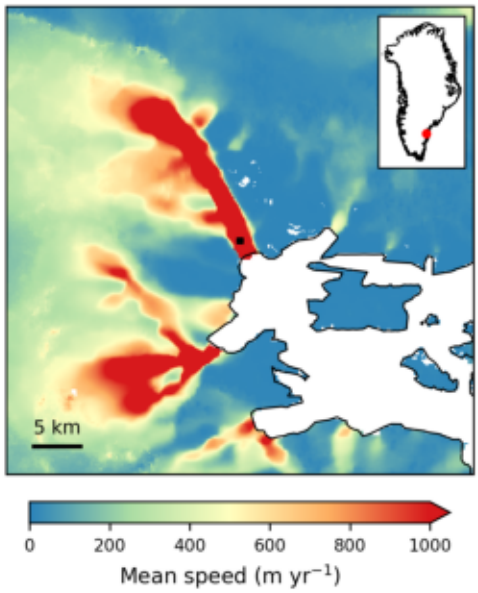
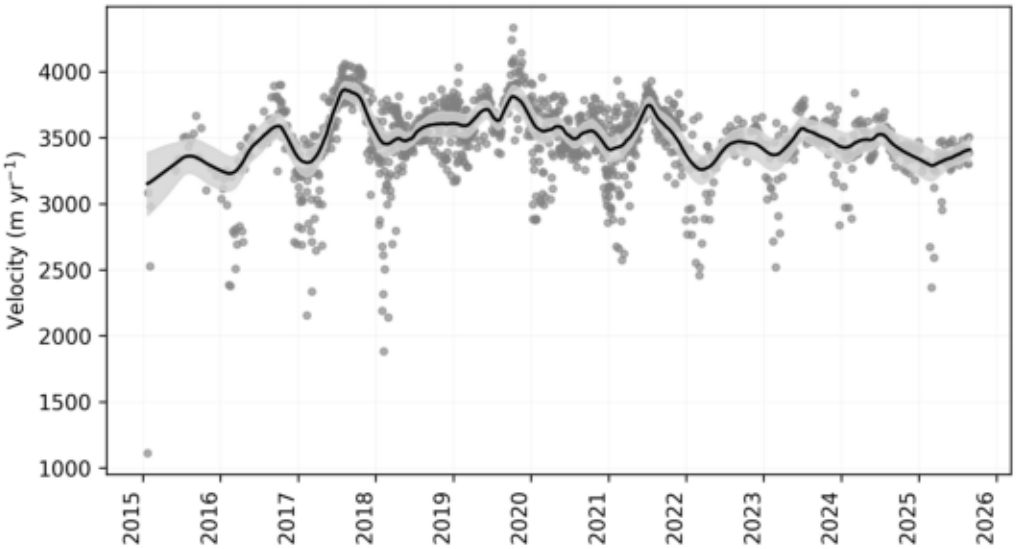


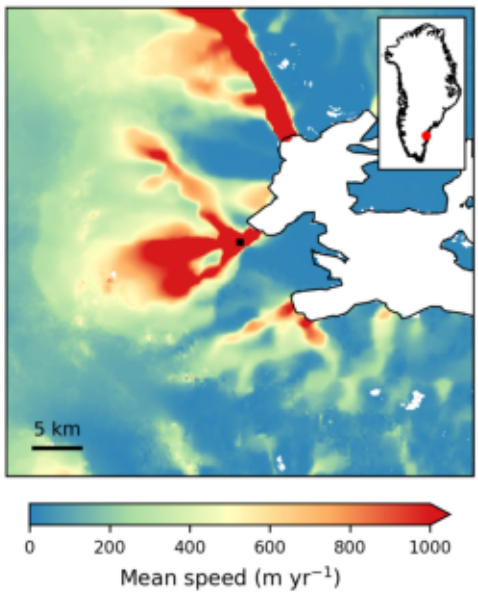


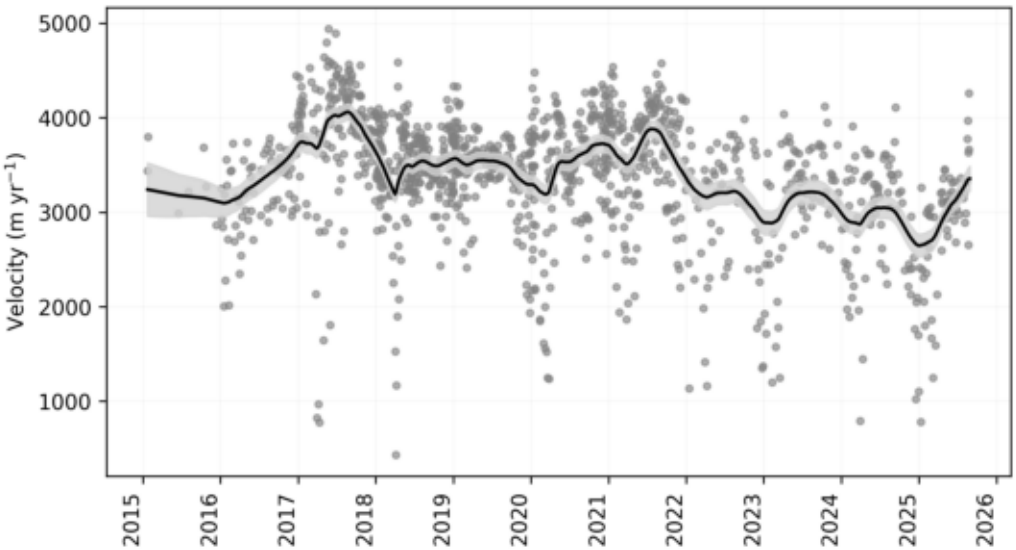
Gråulv (ID: 44)



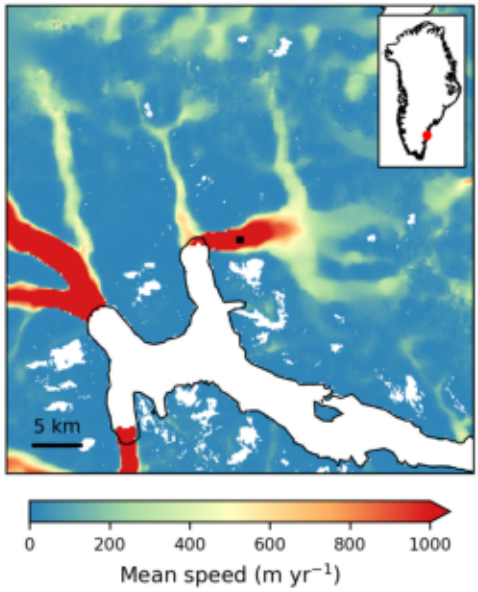


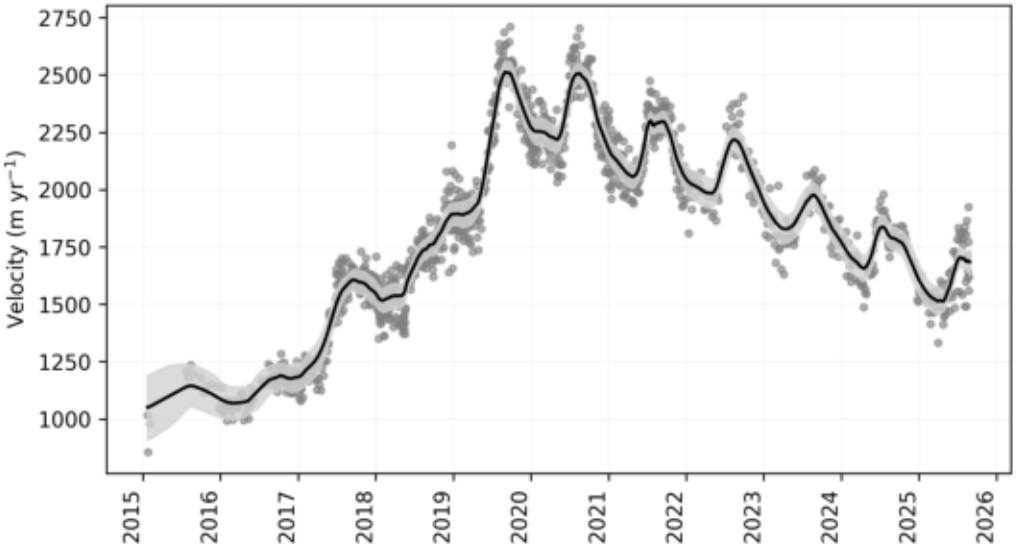
Gyldenlove (ID: 45)



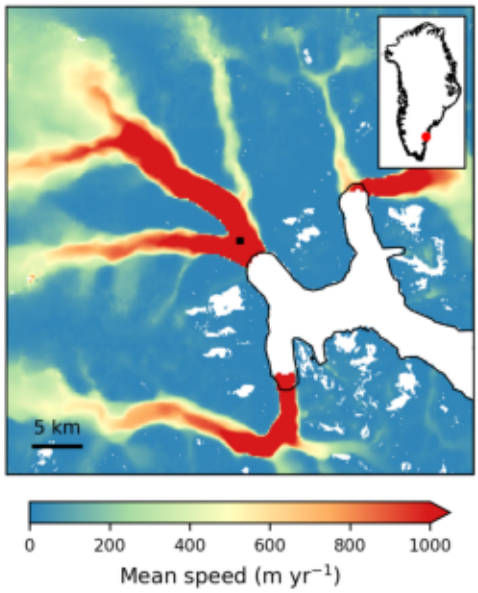


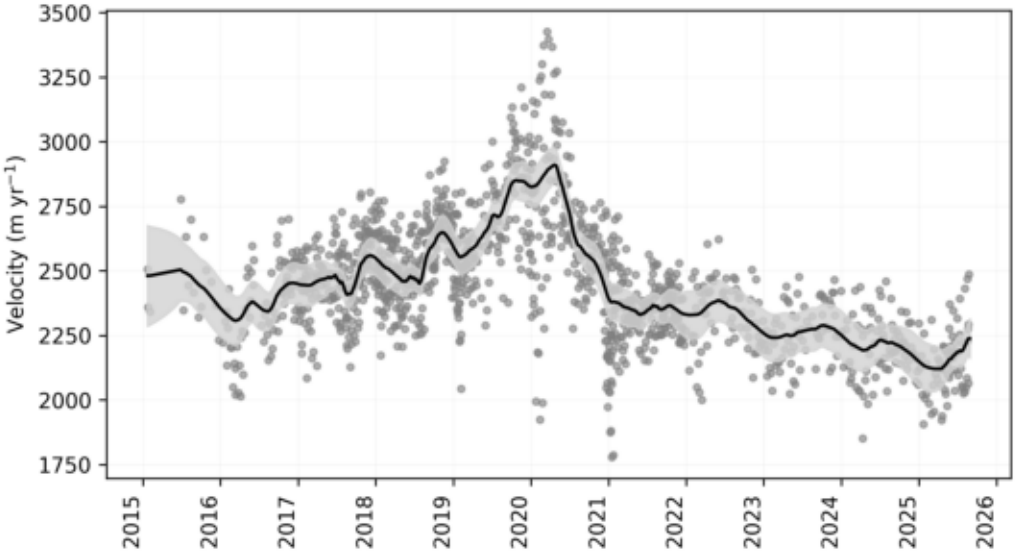
Sleipner (ID: 46)



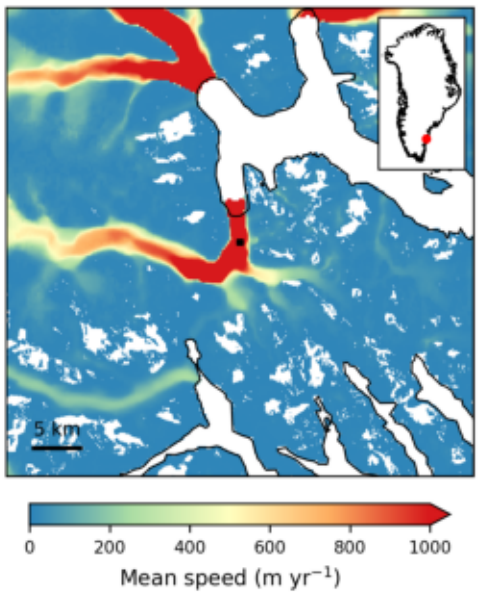


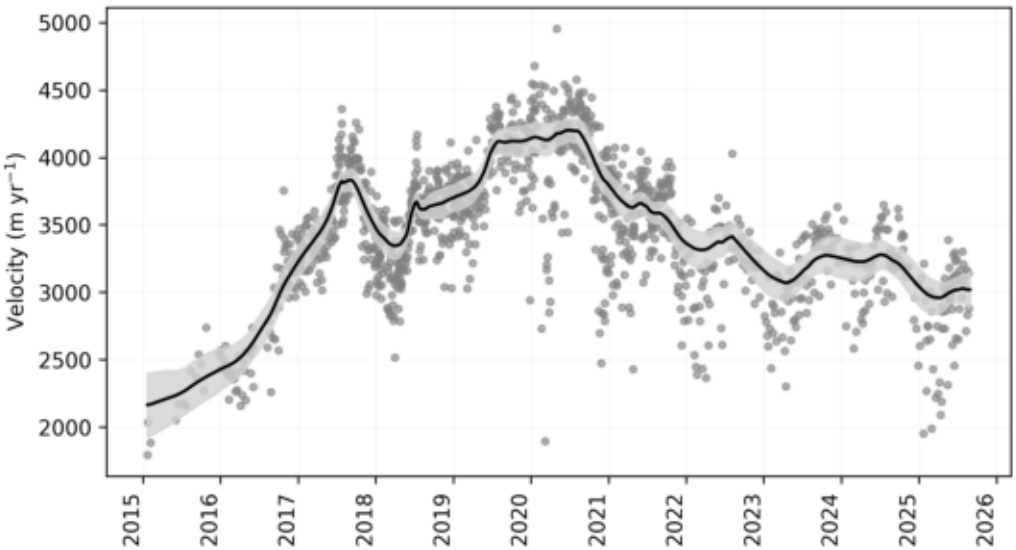
A.P. Bernstorff (ID: 47)



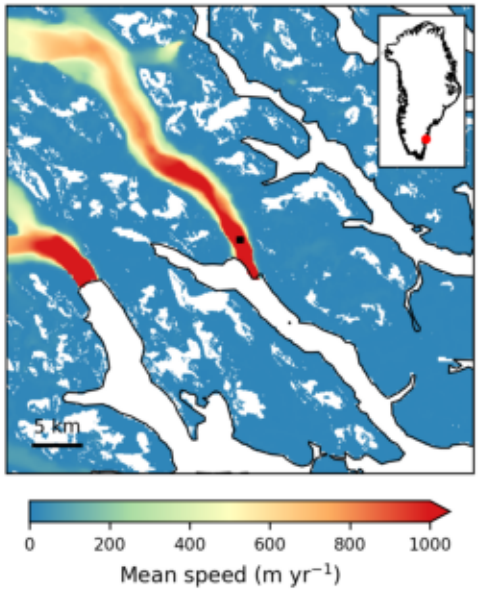


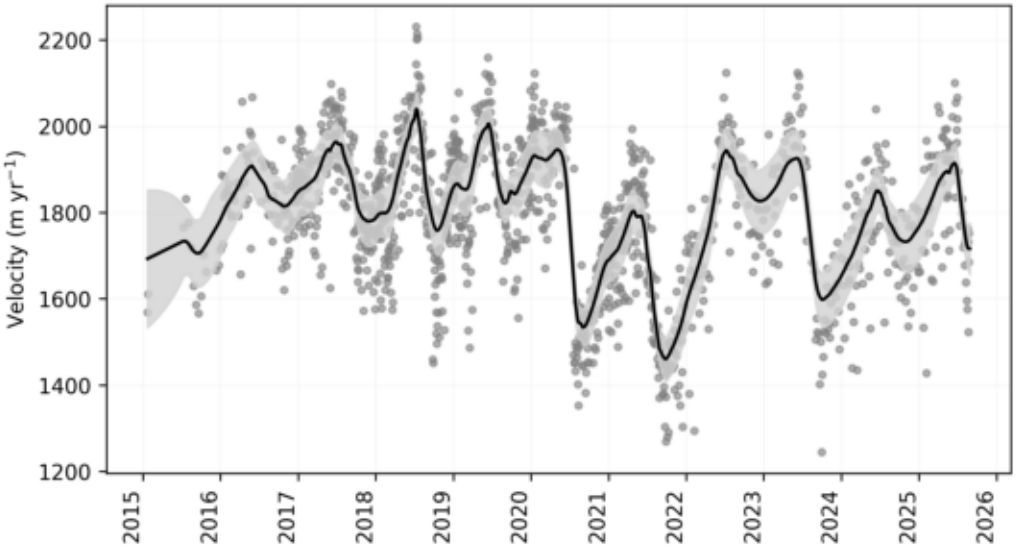
Storebjørn (ID: 48)



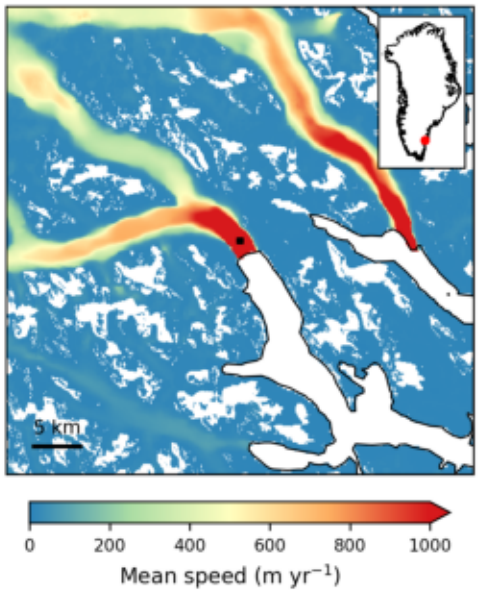


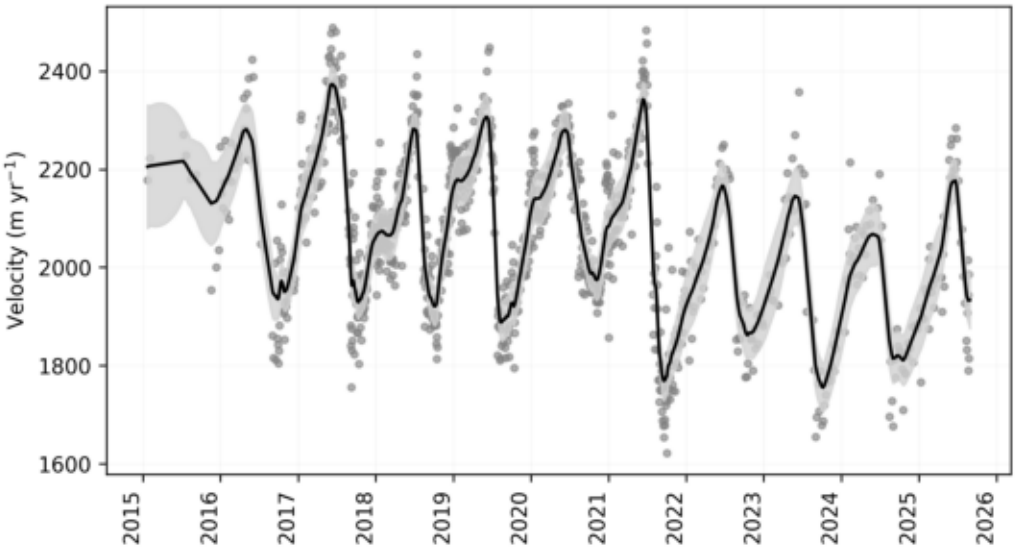
Apusiigajik (ID: 49)



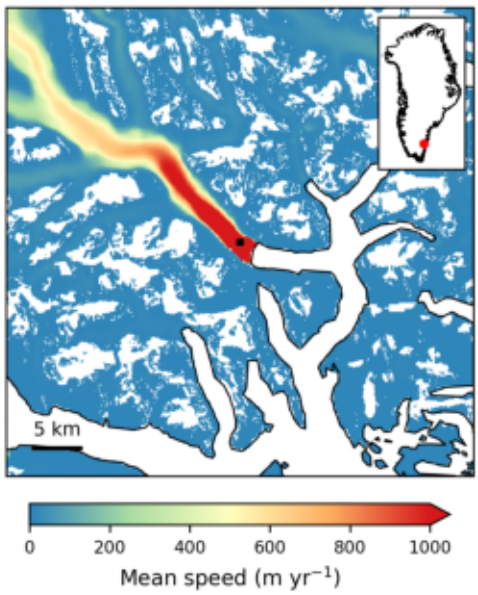


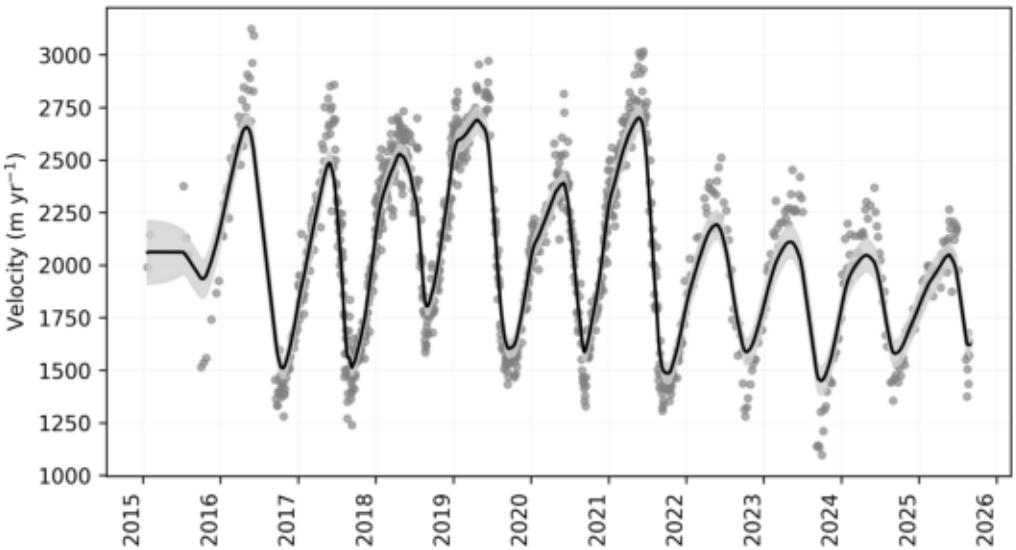
Rimfaxe (ID: 50)



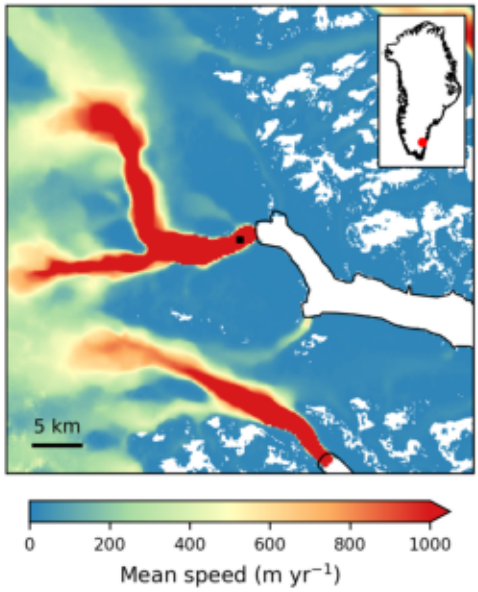


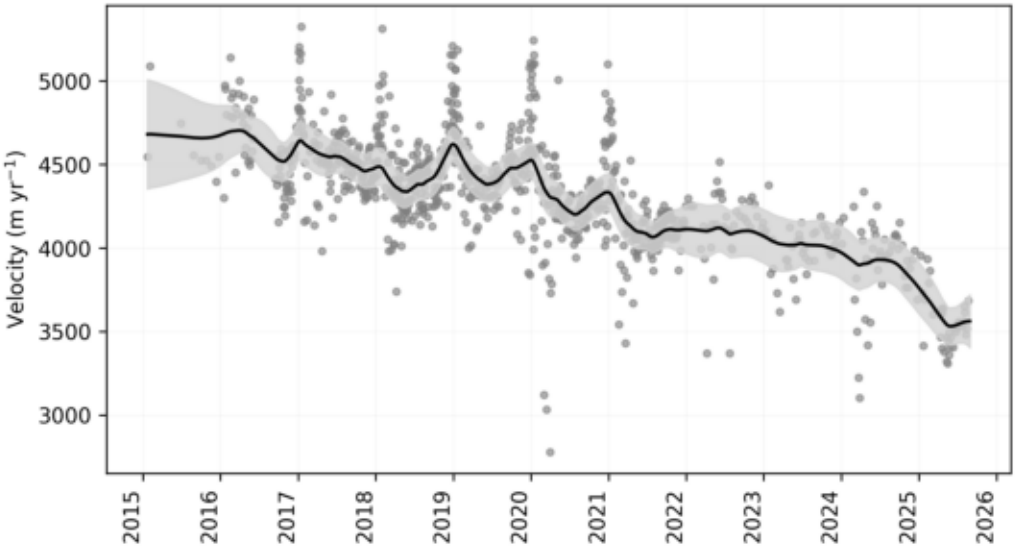
Heimdal (ID: 51)



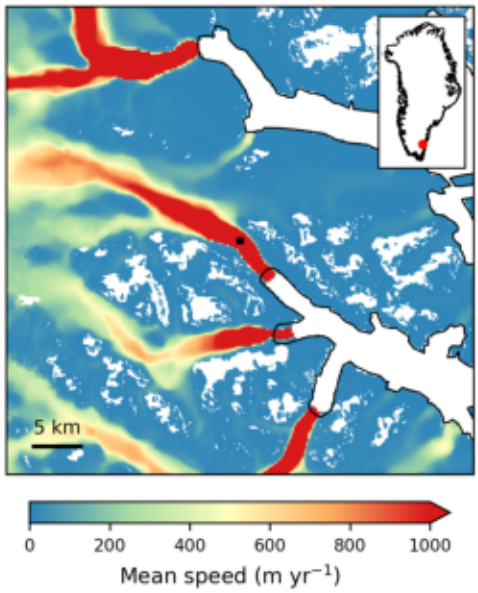


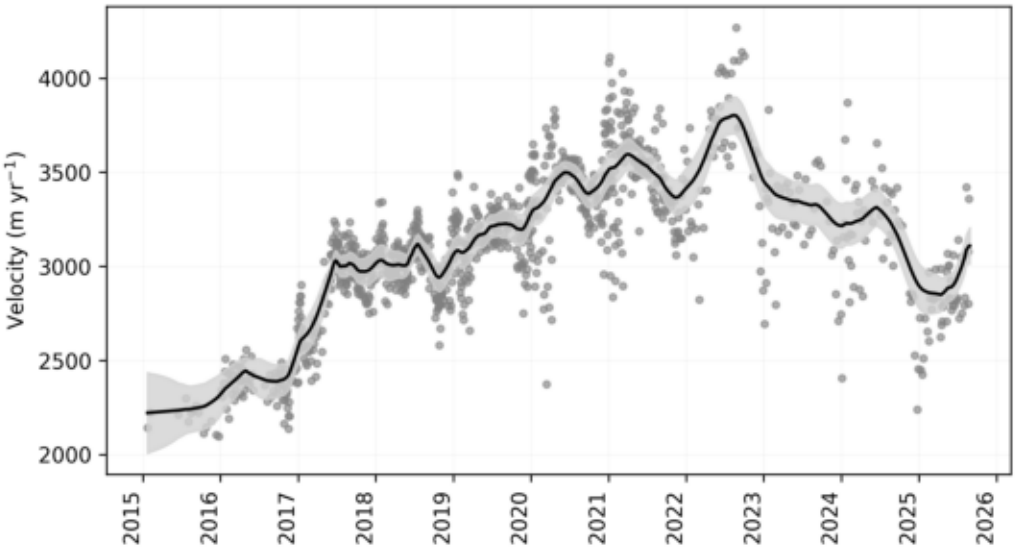
Timmiarmiut (ID: 52)



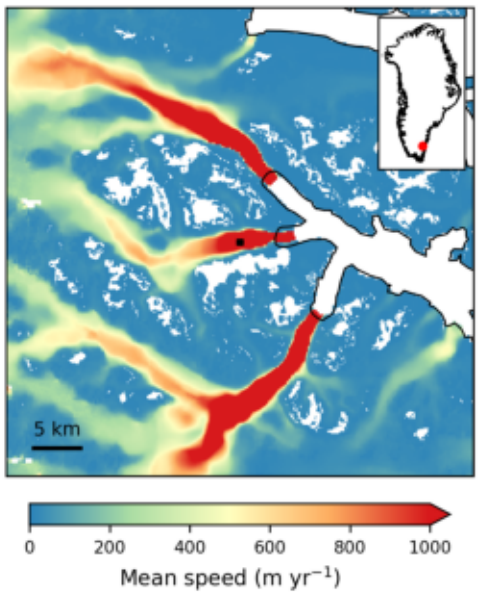


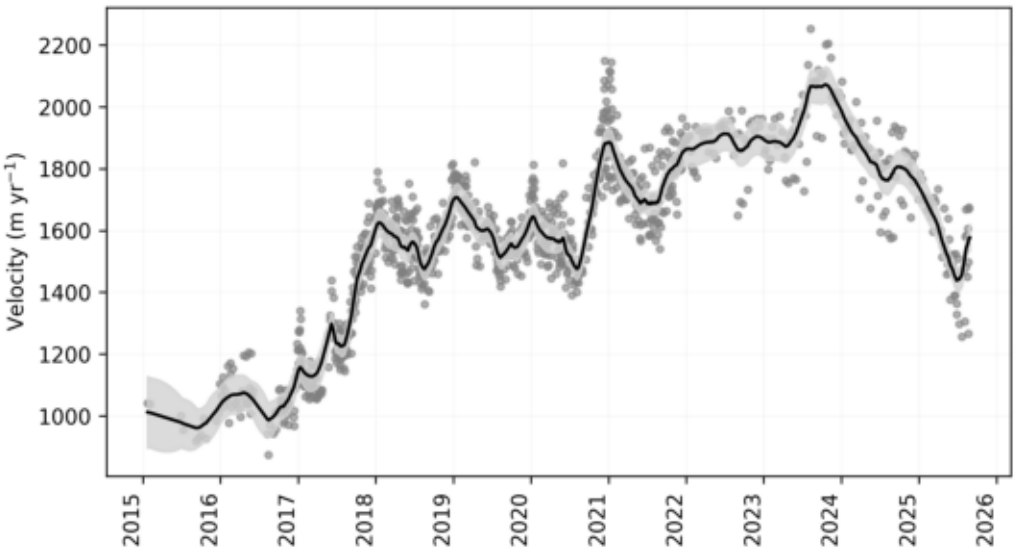
Mogens Heinesen N (ID: 53)



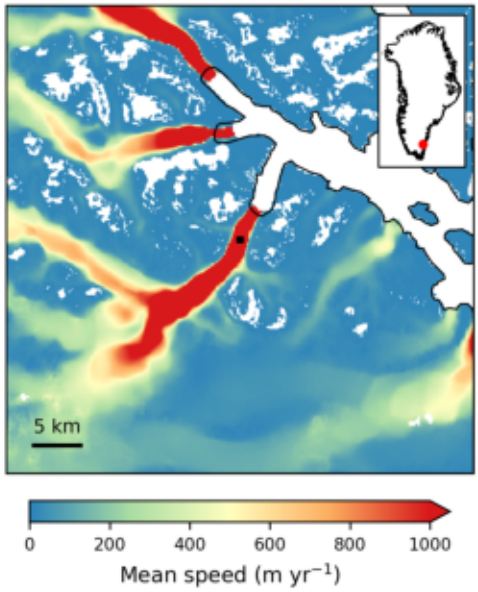


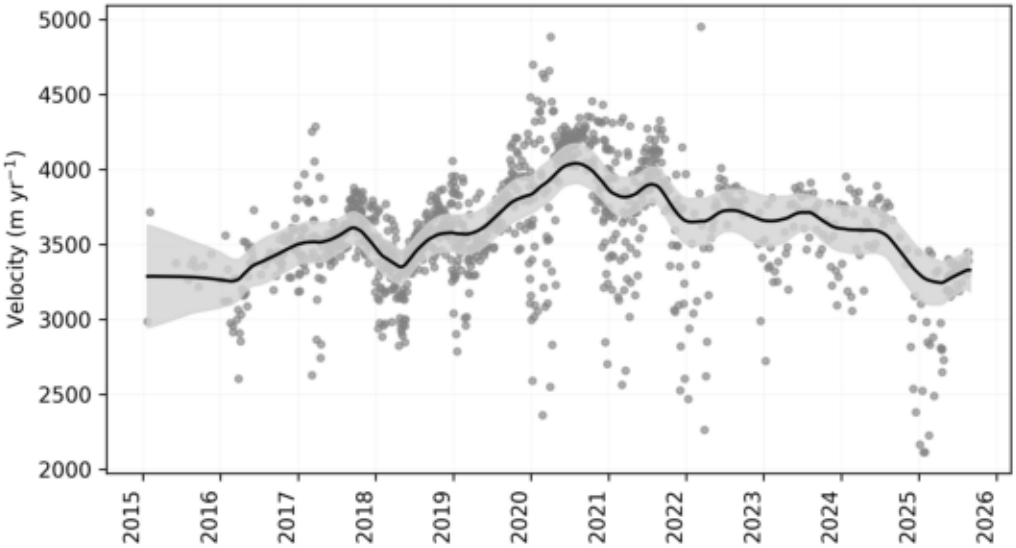
Mogens Heinesen C (ID: 54)



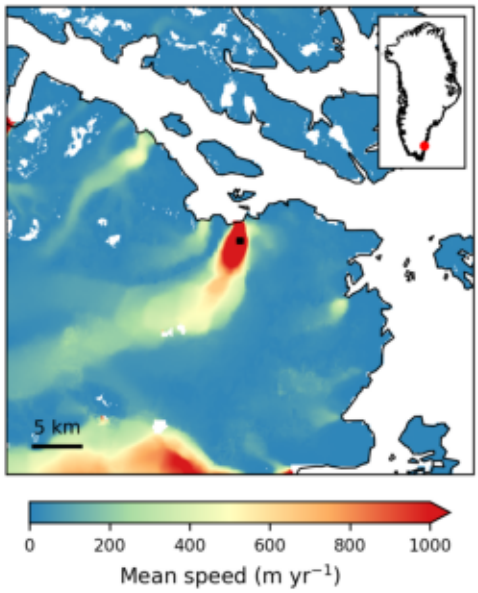


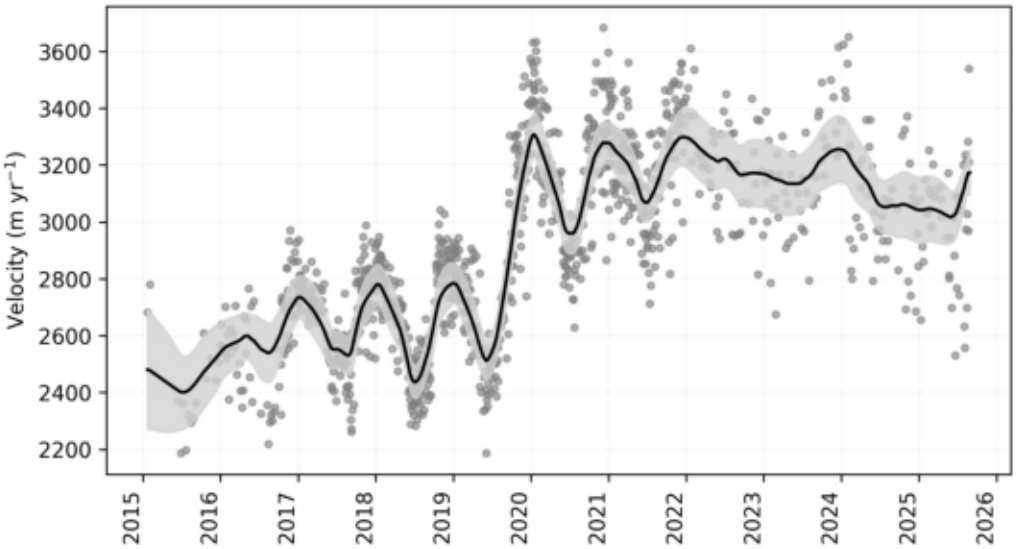
Mogens Heinsen S (ID: 55)



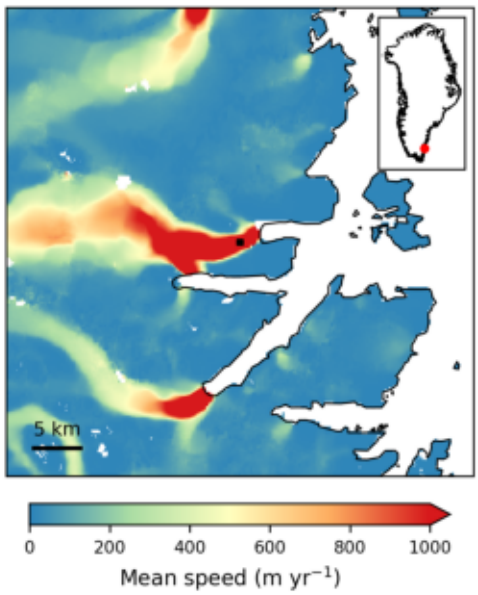


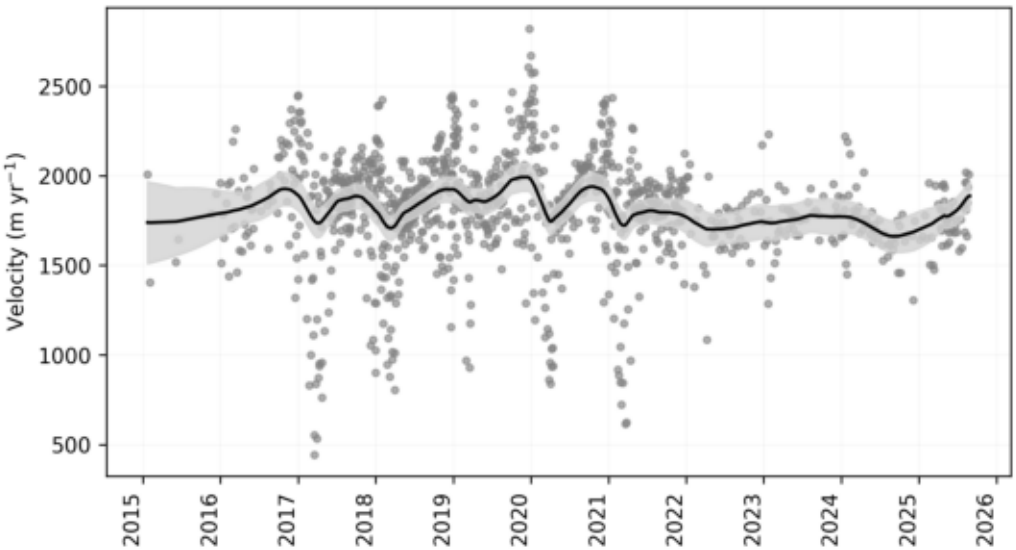
Mogens Heinesen SS (ID: 56)





Puisortuq N (ID: 57)





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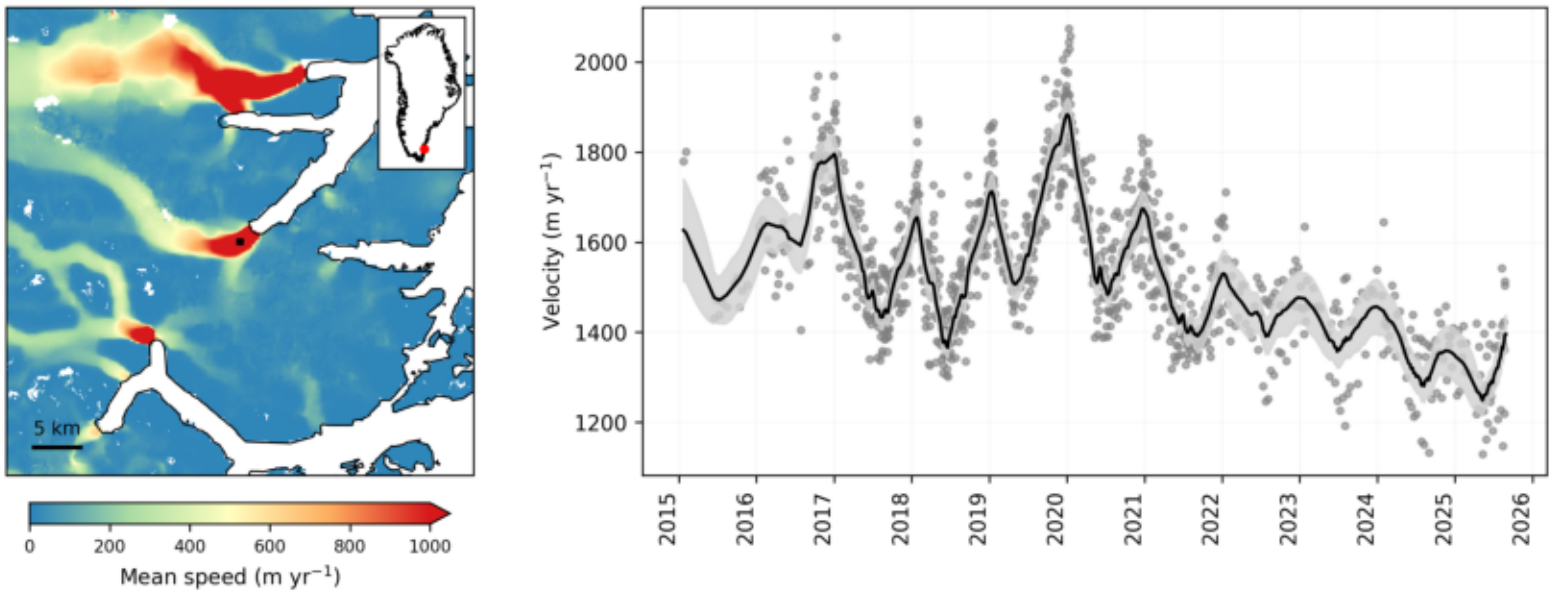

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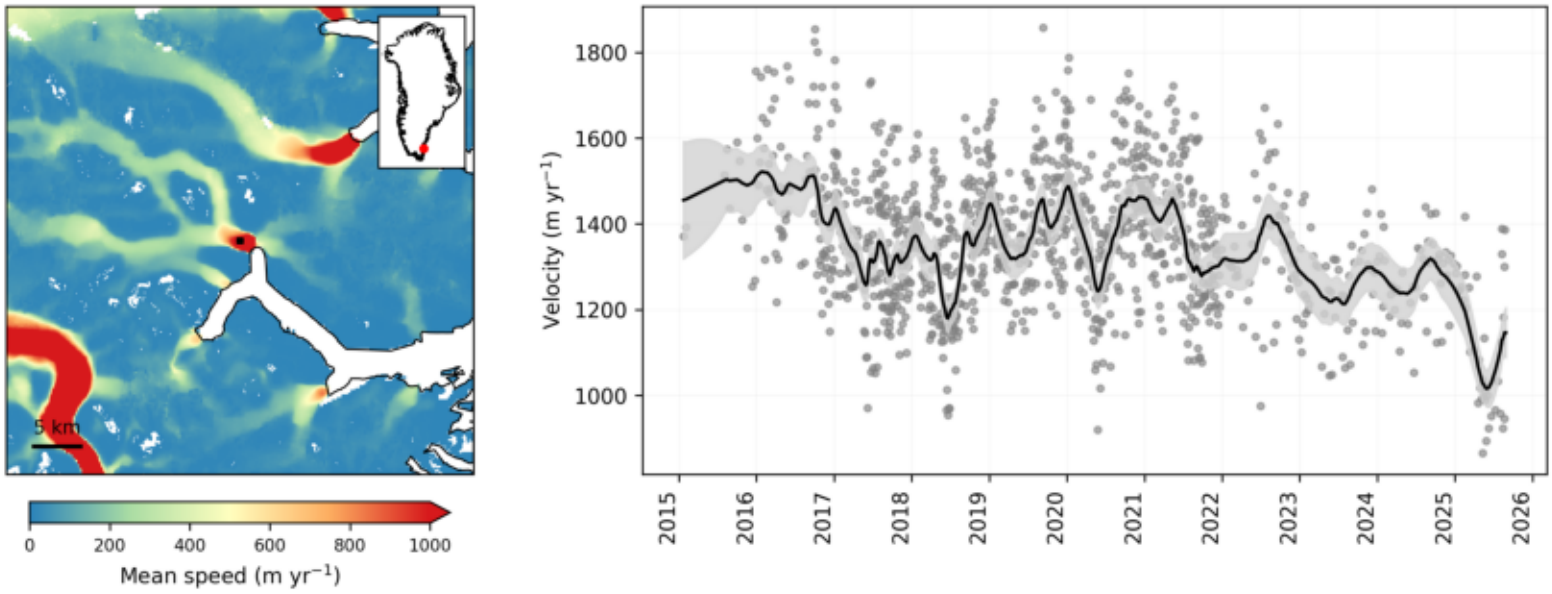
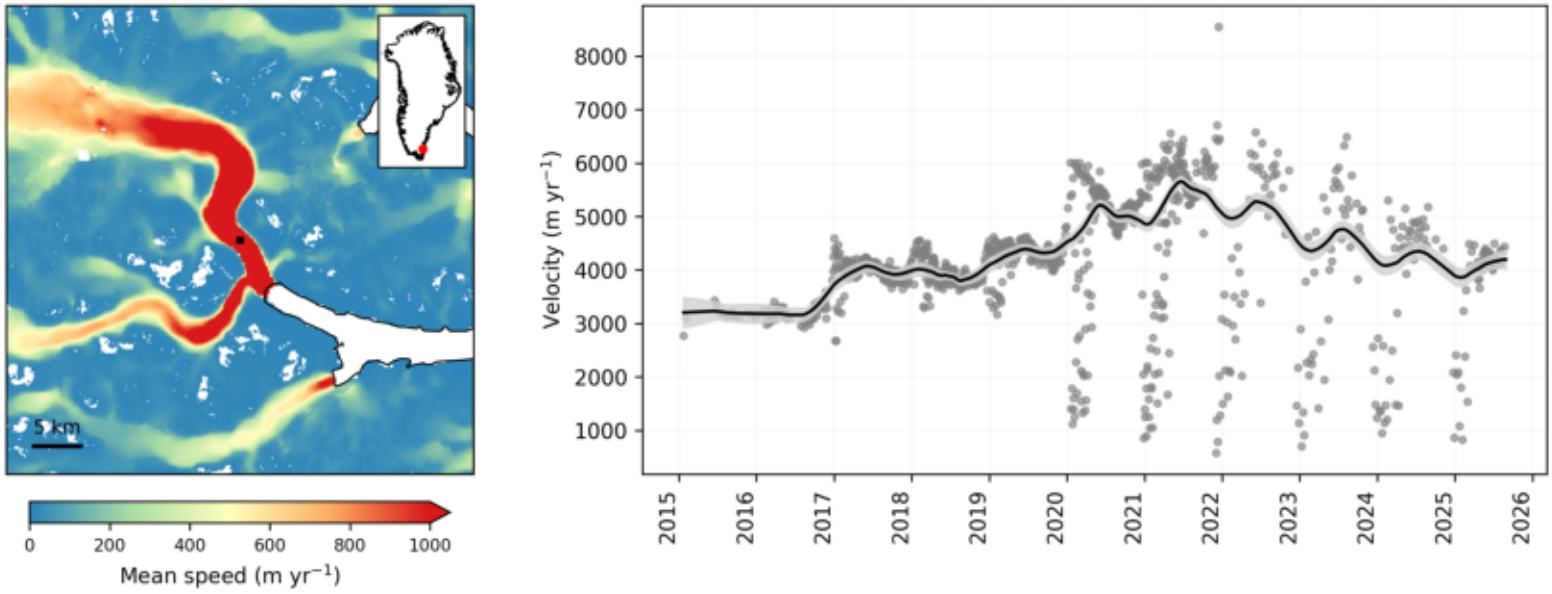


Anorituup Kangerlua CN (ID: 60)



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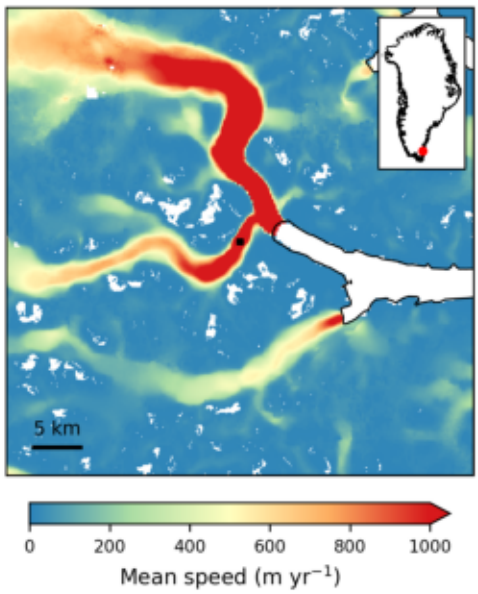
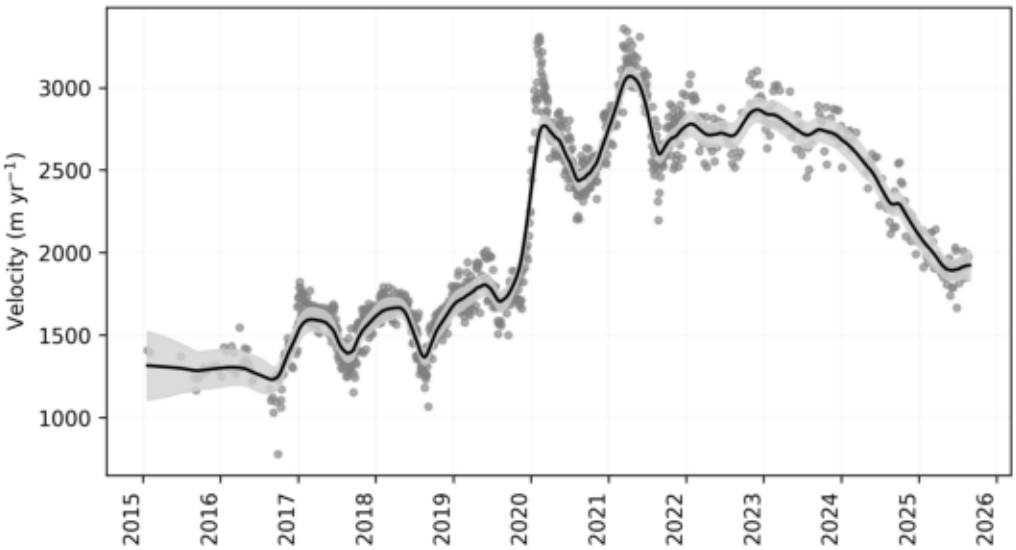
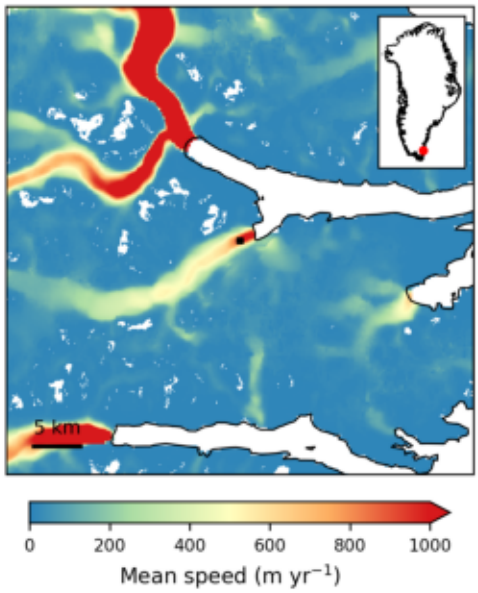
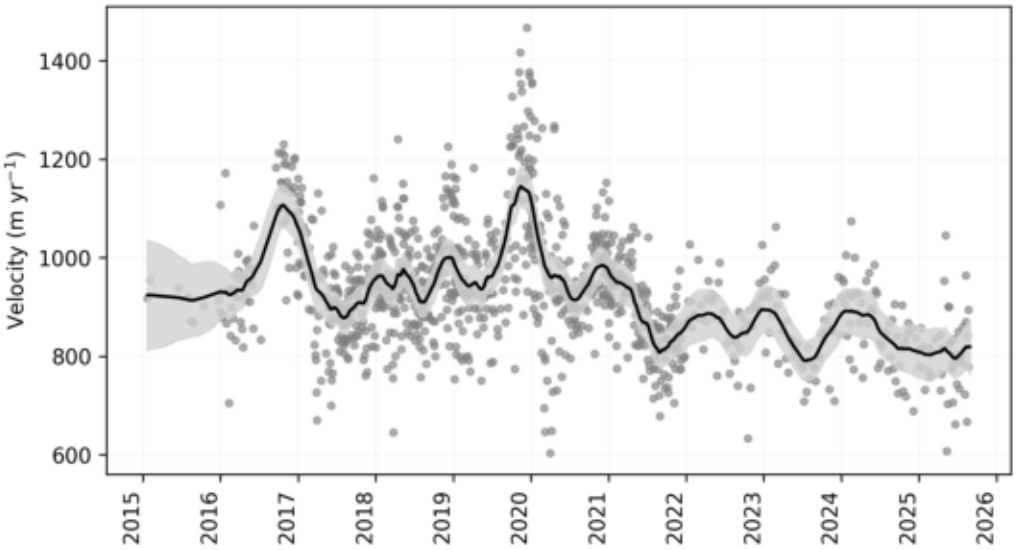


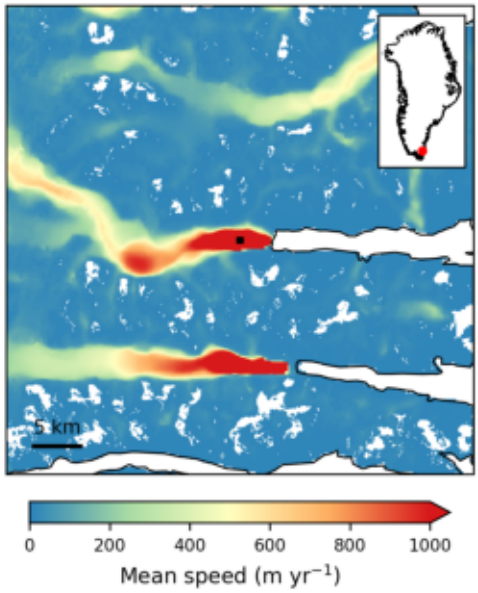


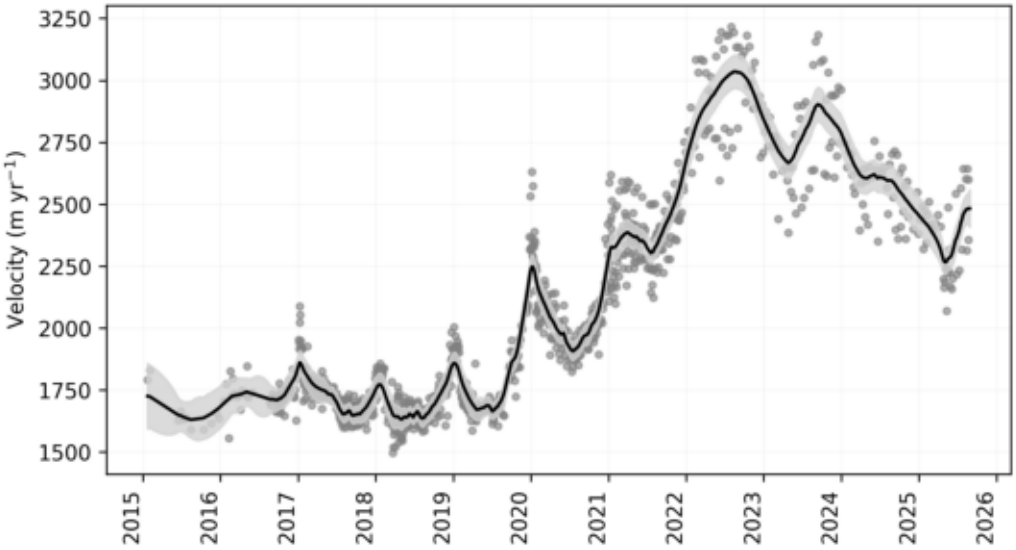
Anorituup Kangerlua S (ID: 62)



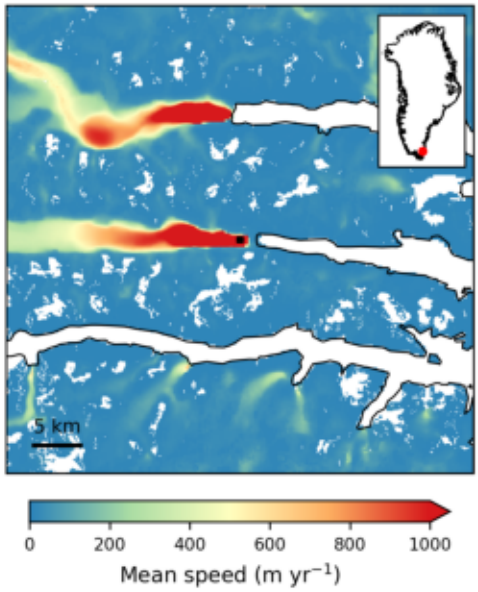


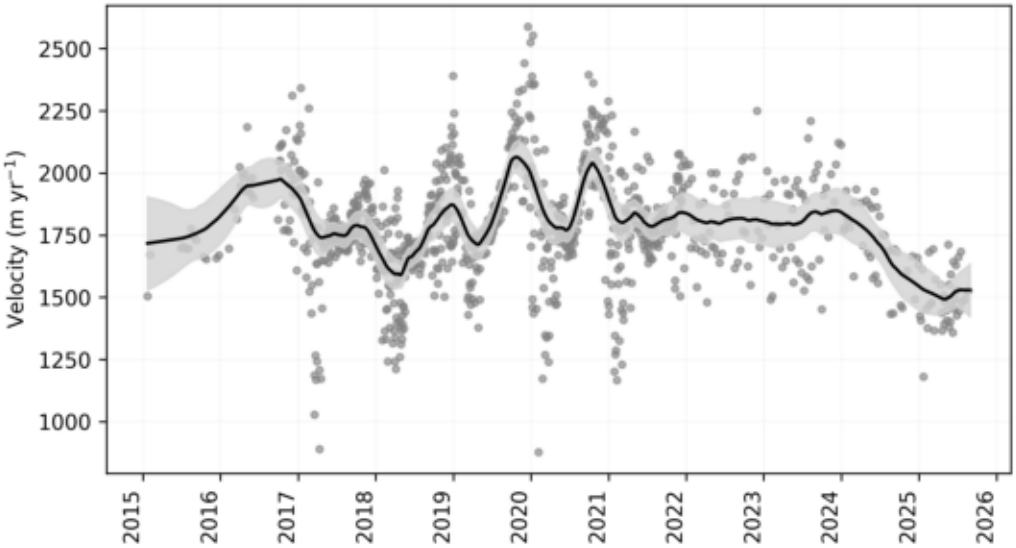
Avaqqat Kangerluat (ID: 63)



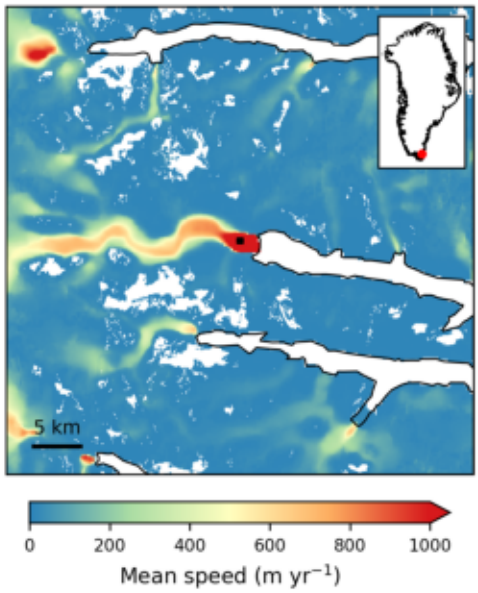


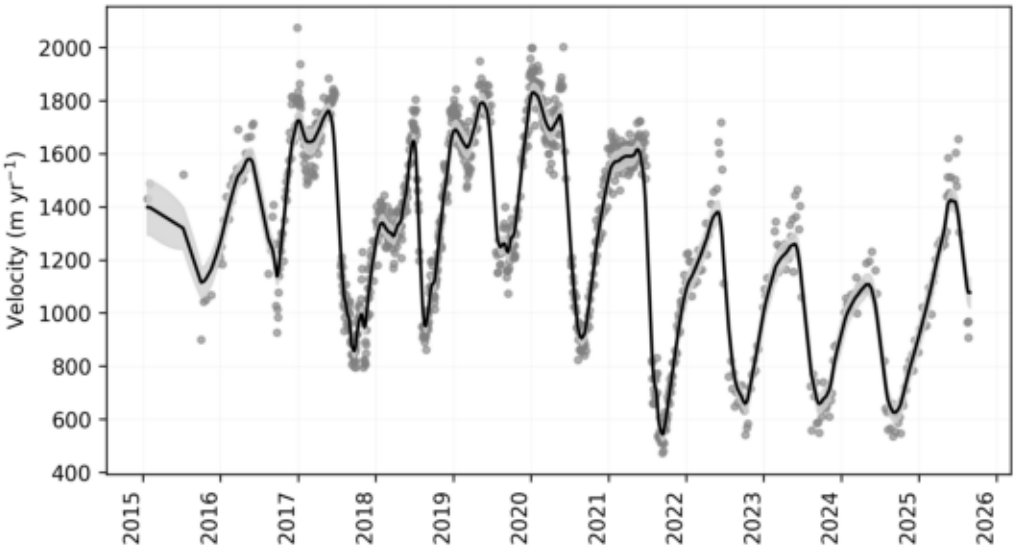
Igutsait Fjord (ID: 64)



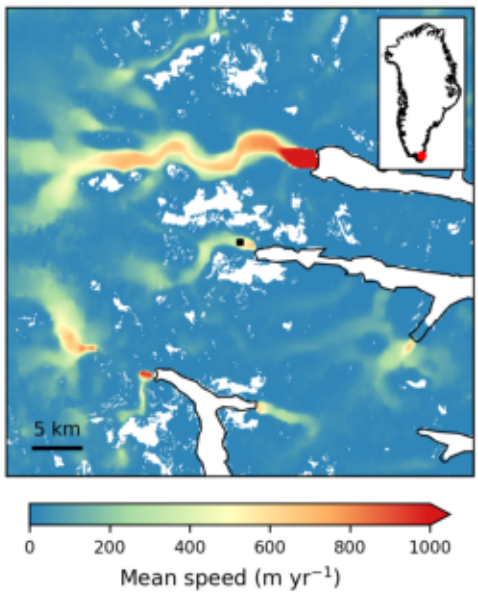


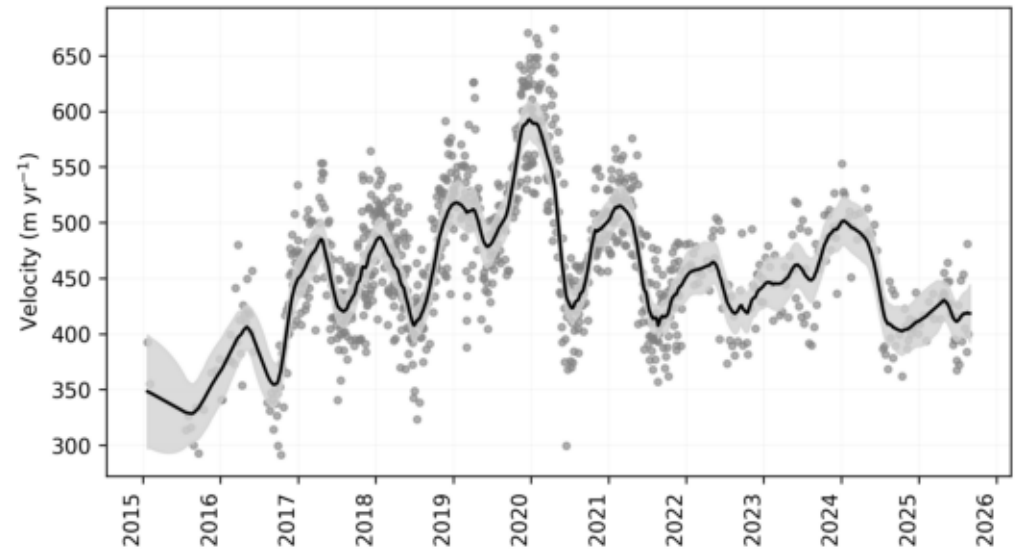
Danell Fjord (ID: 65)





Paatusoq (ID: 66)





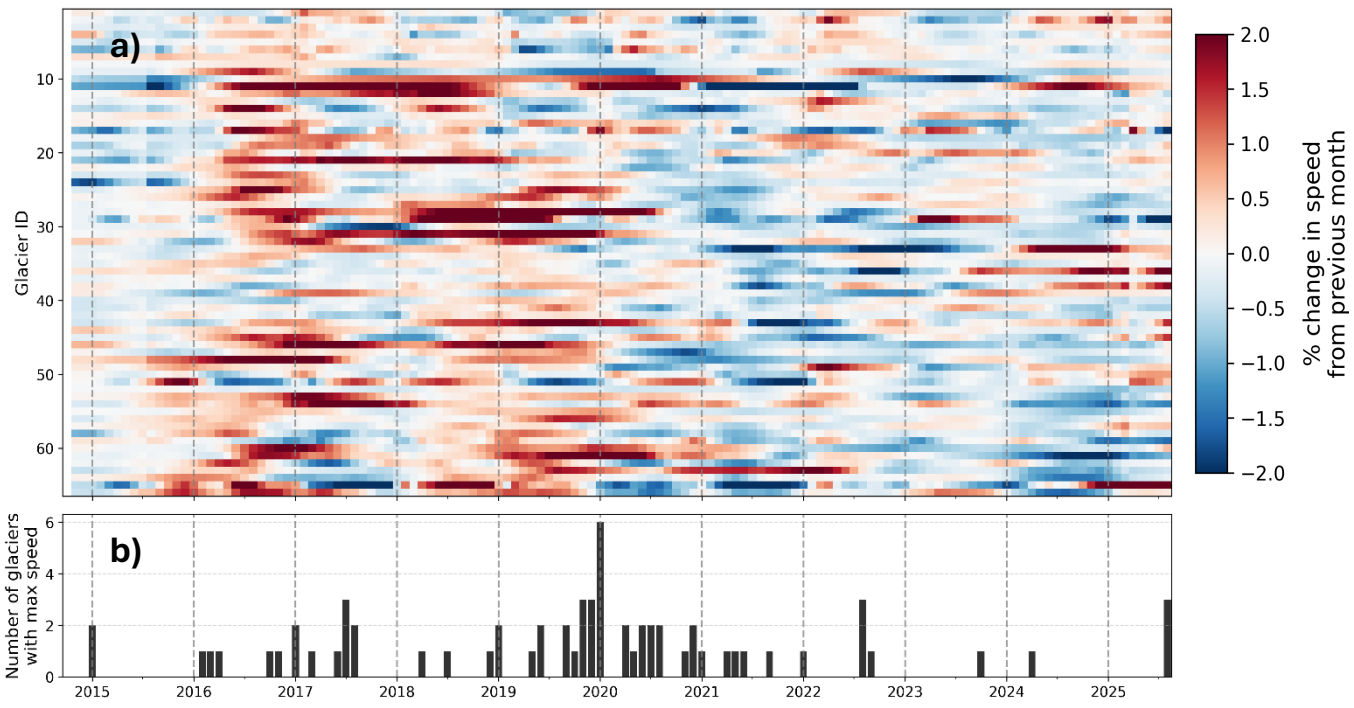


Figure S2 | Month-to-month glacier ice speed change and timing of peak ice speeds. a) Month-to-month percent change in ice speed for each glacier (IDs 1–66, north to south). **b)** Histogram shows the number of glaciers reaching their maximum speed over the period October 2014 to August 2025. Bars indicate how many glaciers attain their maximum speed in that month. Grey dashed lines mark January of each year.

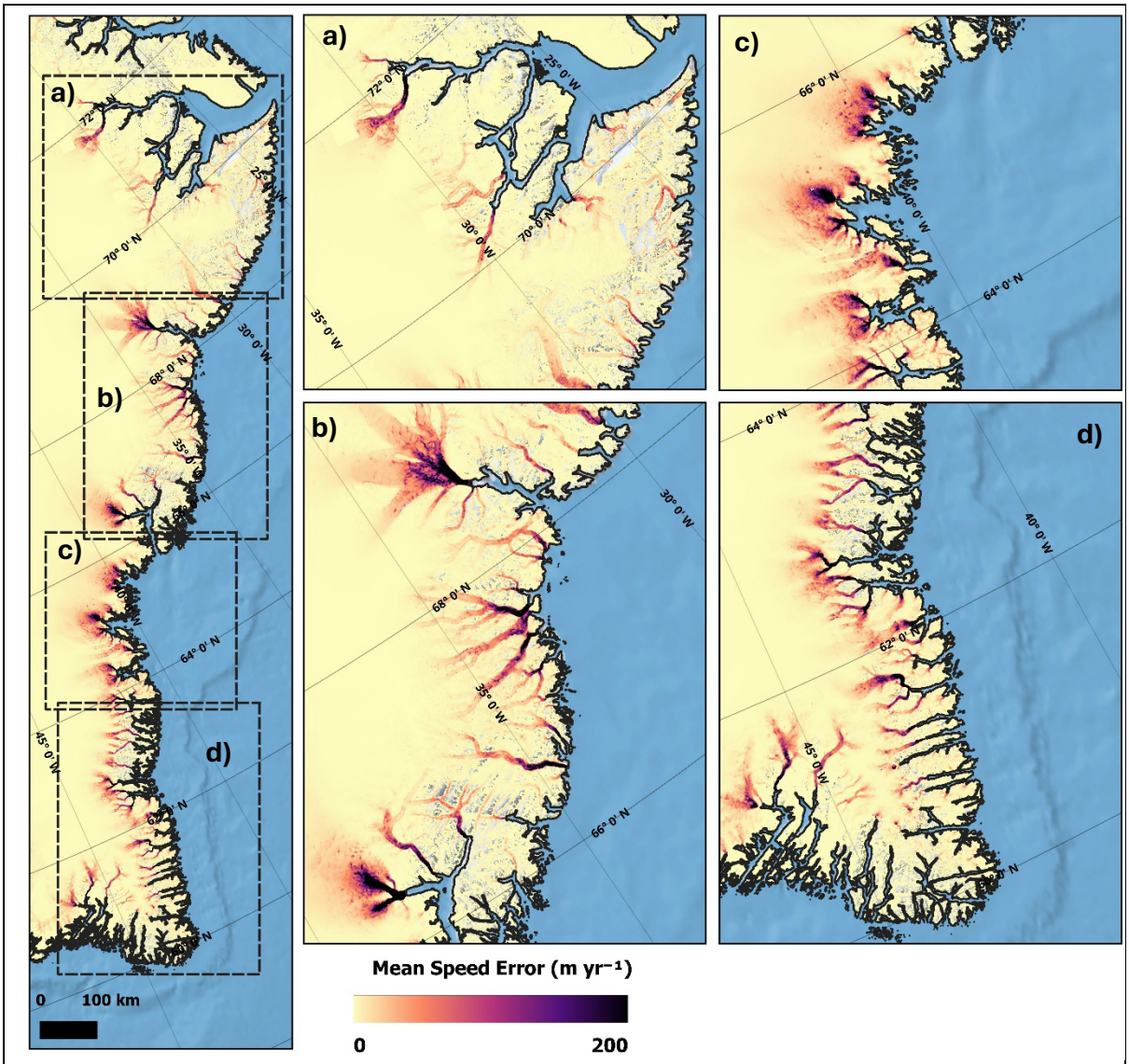


Figure S3 | Ice velocity error. Mean ice velocity error over study region. Obtained by scaling the signal-to-noise ratio (SNR) of the cross-correlation peak with the ice speed

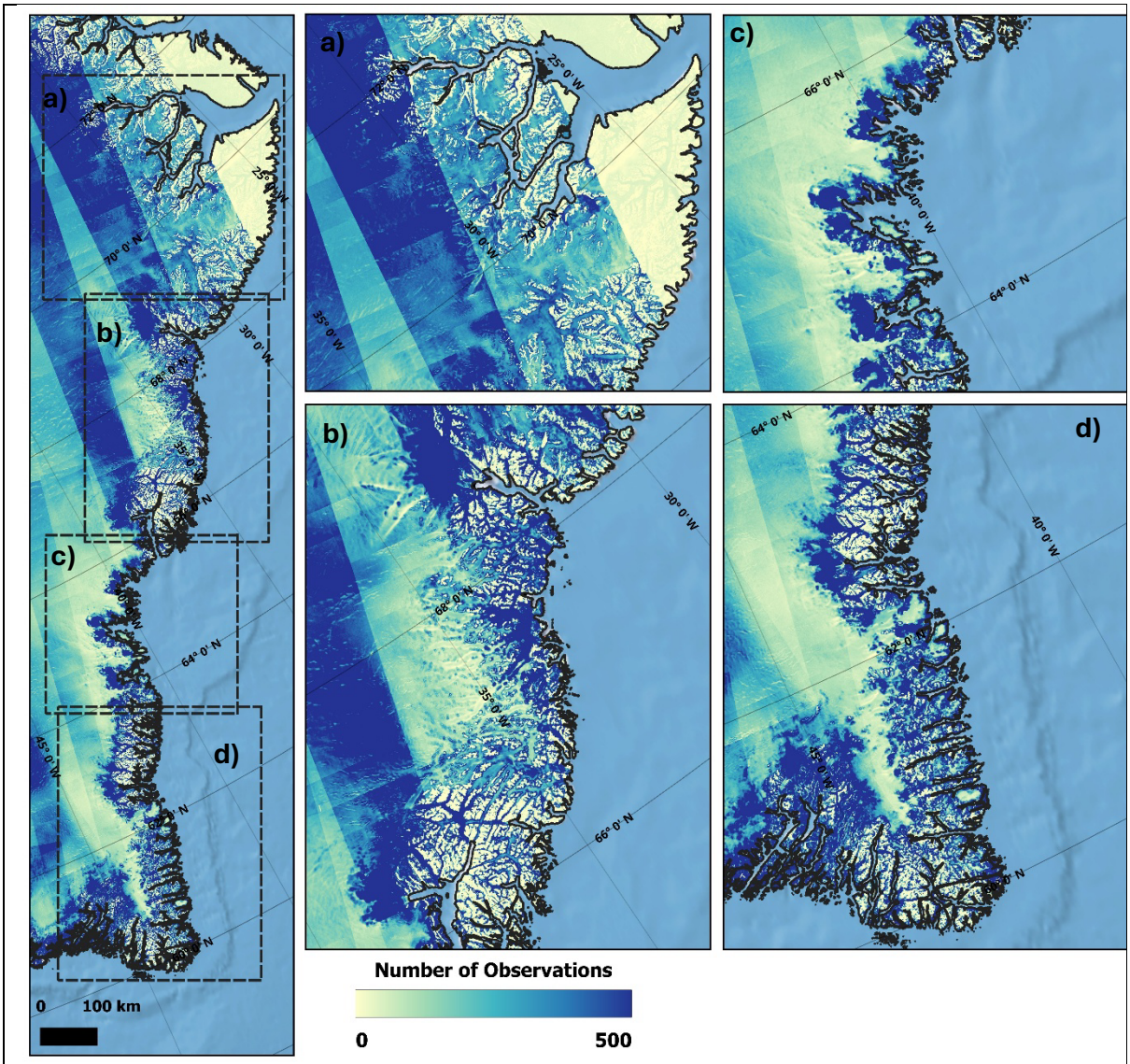


Figure S4 | Number of Observations. Number of successful velocity measurements at each pixel across the study region between October 2014 and August 2025.

Table S1 | Glacier Names and IDs. Glacier ID is the ID for each glacier used in this study. Black and Joughin ID is the ID of the glacier that was used in Black and Joughin (2023) (*1*) which we used to extract calving fronts between 2014 and 2021. This is blank where the glacier is not in that dataset. Name is the official name of the glacier from Bjørk et al (2015) (*2*), this is in bold where it exists. If it doesn't exist, we use either the common name from Bjørk et al (2015) or the name of the fjord the glacier terminates in. Where the glacier has an official and a common name the common name is in brackets.

Glacier ID	Black and Joughin (2022) ID	Name	Point Coordinate (lon, lat)
1	118	**F. Graae Gletsjer**	POINT (-28.71 72.12)
2	119	**Charcot Gletscher**	POINT (-28.92 72.05)
3	120	**Daugaard-Jensen Gletsjer**	POINT (-28.65 71.9)
4	122	**Rolige Bræ**	POINT (-28.32 70.58)
5	124	**Vestfjord Gletsjer**	POINT (-29.14 70.38)
6	126	**Kista Dan Gletsjer**	POINT (-27.45 69.95)
7	127	**Magga Dan Gletsjer**	POINT (-27.26 69.96)
8		**Bredegletsjer**	POINT (-25.22 70.25)
9		**Dendritgletsjer**	POINT (-25.19 69.31)
10		**Apuseeq Anittangasikkaajuk** (Apuseeq An.)	POINT (-26.17 68.88)
11		**Sortebræ**	POINT (-27.02 68.81)
12	142	**Borggraven**	POINT (-28.1 68.64)
13	144	**Kronborg Gletsjer**	POINT (-28.66 68.45)
14	145	**Rosenborg Gletsjer**	POINT (-28.83 68.44)
15	147	**Christian IV Gletsjer**	POINT (-30.09 68.37)

16	149	**Frederiksborg Gletsjer**	POINT (-31.51 68.29)
17	151	**Styrtegletscher**	POINT (-32.41 68.64)
18	153	**Kangerlussuaq Gletsjer**	POINT (-33.01 68.63)
19	216	Kangerlussuaq Gletsjer S	POINT (-32.93 68.55)
20	155	**Apuliliip Apusiia** (Polaric Gletsjer)	POINT (-32.48 67.89)
21	156	Apuliliip Apusiia S	POINT (-32.66 67.85)
22	158	**Søndre Parallelgletsjer**	POINT (-33.37 67.77)
23	159	Deception Ø N	POINT (-33.41 67.63)
24	160	Deception Ø S	POINT (-33.46 67.58)
25	161	Unartit	POINT (-33.63 67.44)
26	162	Kruuse Fjord	POINT (-33.81 67.22)
27	217	Laube Gletsjer S	POINT (-34.31 66.71)
28	165	**K.J.V. Steenstrup Nordre Bræ** (K.I.V. Steenstrups Nordre Bræ)	POINT (-34.62 66.56)
29	169	**Kattilersorpia** (Glacier de France)	POINT (-36.03 66.46)
30	173	**Nigertiip Apusiia** (Midgård Gletsjer)	POINT (-36.75 66.49)
31	174	**Apuseerajik** (Fenris Gletsjer)	POINT (-37.6 66.41)
32	175	**Helheim Gletsjer**	POINT (-38.26 66.37)
33	176	Ikertivaq NN	POINT (-39.7 65.72)
34	177	Ikertivaq N	POINT (-39.7 65.63)

35	178	Ikertivaq CN	POINT (-39.95 65.61)
36	179	Ikertivaq CS	POINT (-40 65.56)
37	180	Ikertivaq	POINT (-40.2 65.52)
38	181	Koge Bugt N	POINT (-40.7 65.2)
39	182	Koge Bugt	POINT (-41.23 65.2)
40	183	Koge Bugt S	POINT (-41.2 64.99)
41	184	Koge Bugt SS	POINT (-41.09 64.86)
42	185	Umiivik Fjord N	POINT (-40.84 64.74)
43	186	Umiivik Fjord S	POINT (-40.71 64.52)
44	187	**Gråulv**	POINT (-41.53 64.34)
45	188	Gyldenlove Fjord	POINT (-41.63 64.23)
46	189	**Sleipner**	POINT (-41.39 63.89)
47	190	**A.P. Bernstorff Gletsjer**	POINT (-41.74 63.85)
48	191	**Storebjørn**	POINT (-41.65 63.68)
49	192	**Apusiigajik** (Skinfaxe)	POINT (-41.85 63.24)
50	193	**Rimfaxe**	POINT (-42.19 63.22)
51	194	**Heimdal Gletsjer**	POINT (-42.61 62.87)
52	195	Timmiarmiut Fjord	POINT (-43.25 62.76)
53	226	Mogens Heinesen Fjord N	POINT (-43.14 62.58)

54	227	Mogens Heinesen Fjord C	POINT (-43.15 62.49)
55	228	Mogens Heinesen Fjord S	POINT (-43.03 62.39)
56	229	Mogens Heinesen Fjord SS	POINT (-42.54 62.3)
57	196	Puisortuq Fjord N	POINT (-42.49 62.06)
58	230	Puisortuq Fjord S	POINT (-42.6 61.91)
59	231	Naparsuaq Fjord	POINT (-42.8 61.83)
60	199	Anorituup Kangerlua CN	POINT (-43.14 61.64)
61	199	Anorituup Kangerlua CS	POINT (-43.16 61.59)
62	233	Anorituup Kangerlua S	POINT (-42.99 61.5)
63	201	Avaqqat Kangerluat	POINT (-43.32 61.33)
64	234	Igutsait Fjord	POINT (-43.25 61.21)
65	202	Danell Fjord	POINT (-43.5 60.93)
66	235	Paatusoq	POINT (-43.62 60.85)

References

1. T. E. Black, I. Joughin, Weekly to monthly terminus variability of Greenland's marine-terminating outlet glaciers. *The Cryosphere* **17**, 1–13 (2023).

2. A. A. Bjørk, L. M. Kruse, P. B. Michaelsen, Brief communication: Getting Greenland's glaciers right – a new data set of all official Greenlandic glacier names. *The Cryosphere* **9**, 2215–2218 (2015).