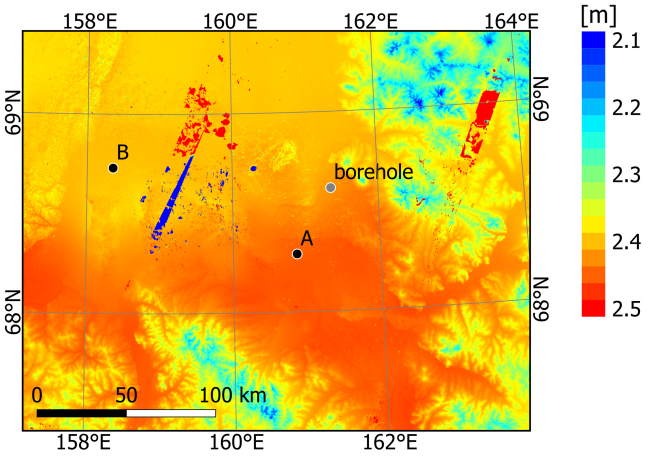
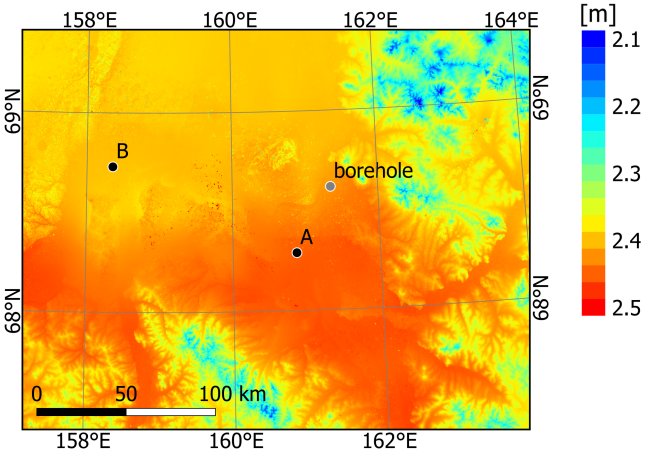


(a)



(b)

Figure S 1. GACOS tropospheric delay map (Yu et al., 2018) for the Chersky region (10.08.2017). (a) artefacts stemming from ASTER DEM, (b) applied artefact correction

References

Yu, C., Li, Z., Penna, N. T., and Crippa, P.: Generic Atmospheric Correction Model for Interferometric Synthetic Aperture Radar Observations, Journal of Geophysical Research: Solid Earth, 123, 9202–9222, https://doi.org/https://doi.org/10.1029/2017JB015305, 2018.

Table S 1. Acquisition dates of the Sentinel-1 images per study region used in this study.

Chersky	Inuvik	Yamal	Tazovsky
		07/07/2016	
		19/07/2016	
		12/08/2016	
		24/08/2016	
		05/09/2016	
		17/09/2016	
		05/10/2016	
23/06/2017		14/06/2017	
05/07/2017		26/06/2017	
17/07/2017		08/07/2017	
29/07/2017		20/07/2017	
10/08/2017		01/08/2017	
22/08/2017		25/08/2017	
03/09/2017		06/09/2017	
		18/09/2017	
12/07/2018	30/06/2018	21/06/2018	
24/07/2018	12/07/2018	03/07/2018	
05/08/2018	24/07/2018	15/07/2018	
17/08/2018	05/08/2018	08/08/2018	
29/08/2018		20/08/2018	
10/09/2018		01/09/2018	
22/09/2018		07/10/2018	
19/07/2019	13/06/2019		10/06/2019
31/07/2019	25/06/2019		22/06/2019
12/08/2019	07/07/2019		04/07/2019
24/08/2019	19/07/2019		16/07/2019
05/09/2019	31/07/2019		28/07/2019
17/09/2019	12/08/2019		02/09/2019
	24/08/2019		14/09/2019
	05/09/2019		
	17/09/2019		
19/06/2020	26/05/2020		23/05/2020
01/07/2020	07/06/2020		04/06/2020
13/07/2020	19/06/2020		16/06/2020
25/07/2020	01/07/2020		28/06/2020
06/08/2020	13/07/2020		10/07/2020
18/08/2020	25/07/2020		15/08/2020
30/08/2020	06/08/2020		08/09/2020
11/09/2020	18/08/2020		20/09/2020
23/09/2020	30/08/2020		
	11/09/2020		
	23/09/2020		
14/06/2021	21/05/2021	24/05/2021	
26/06/2021	14/06/2021	05/06/2021	
08/07/2021	26/06/2021	17/06/2021	
20/07/2021	08/07/2021	29/06/2021	
01/08/2021	20/07/2021	11/07/2021	
13/08/2021	01/08/2021	23/07/2021	
25/08/2021	13/08/2021	04/08/2021	
	25/08/2021	09/09/2021	
	06/09/2021	21/09/2021	
	18/09/2021		
	28/05/2022		
	09/06/2022		
	21/06/2022		
	03/07/2022		
	15/07/2022		
	08/08/2022		
	20/08/2022		
	01/09/2022		
	13/09/2022		
	23/05/2023		
	04/06/2023		
	16/06/2023		
	28/06/2023		
	10/07/2023		
	22/07/2023		
	15/08/2023		
	08/09/2023		
	20/09/2023		

Table S 2. Sentinel-1 paths and frames per study region used in this study (see Table S 1)

	Chersky	Inuvik	Yamal	Tazovsky
Path	31	108	64	151
Frame	363	221	358	366

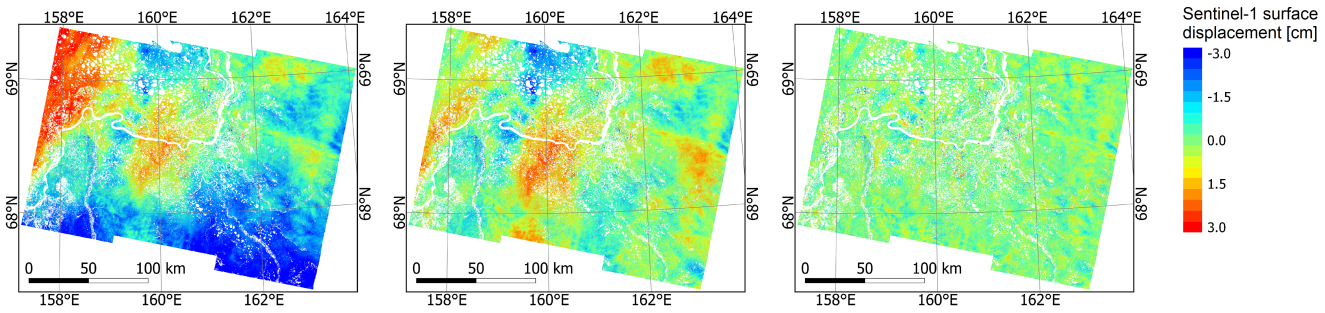


Figure S 2. Comparison of spatial filter radius size for the Chersky region (maps of interferometric phase expressed as displacement for 23.06.2017 - 05.07.2017). Left: no filter, middle: filter radius about 60km, right filter radius about 6km