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Version: Supplemental Material

Article:

Quincey, DJ, Smith, MW orcid.org/0000-0003-4361-9527, Rounce, DR et al. (3 more authors) (2017) Evaluating morphological estimates of the aerodynamic roughness of debris covered glacier ice. *Earth Surface Processes and Landforms*, 42 (15). pp. 2541-2553. ISSN 0197-9337

<https://doi.org/10.1002/esp.4198>

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1 **Supplementary information**

2 Full results dataset (m): Site 1 day

Patch size (m)	Profile method			Raster method			Cloud method
	1 cm	5 cm	10 cm	1 cm	5 cm	10 cm	Full res.
1 x 1	0.000423	0.000284	0.000249	0.000454	0.000282	0.000254	0.000459
2 x 2	0.001160	0.000694	0.000635	0.001087	0.000400	0.000346	0.001180
3 x 3	0.000939	0.000565	0.000543	0.001323	0.000465	0.000371	0.001366
4 x 4	0.001992	0.001452	0.001412	0.001530	0.000633	0.000525	0.001939
5 x 5	0.005323	0.004544	0.004377	0.003315	0.001555	0.001311	0.003493
6 x 6	0.006508	0.005349	0.005236	0.005445	0.002486	0.002048	0.005439
7 x 7	0.007397	0.006402	0.006282	0.006849	0.003099	0.002543	0.007273
8 x 8	0.008333	0.006638	0.006498	0.007479	0.003339	0.002729	0.008196
9 x 9	0.008591	0.007118	0.007143	0.007950	0.003633	0.002979	0.008871
10 x 10	0.010964	0.008790	0.008729	0.008535	0.004050	0.003399	0.009458
11 x 11	0.013742	0.010822	0.010580	0.009511	0.004496	0.003734	0.010155
12 x 12	0.013821	0.010806	0.010611	0.009646	0.004564	0.003796	0.010374
13 x 13	0.015481	0.012070	0.011538	0.009860	0.004654	0.003852	0.010510
14 x 14	0.018305	0.011921	0.011598	0.010510	0.004953	0.004069	0.010949
15 x 15	0.015725	0.012009	0.011597	0.011571	0.005536	0.004573	0.011272
5 x 10	0.006513	0.005098	0.005068	0.004196	0.001823	0.001526	0.005024
5 x 15	0.008817	0.007182	0.007024	0.005720	0.002699	0.002269	0.008081
5 x 20	0.008364	0.006896	0.006856	0.008671	0.004556	0.003990	0.010690
5 x 25	0.007323	0.006071	0.005964	0.008434	0.004565	0.004066	0.011305
5 x 30	0.006215	0.005183	0.005037	0.009072	0.005067	0.004535	0.011809

3 Full results dataset (m): Site 1 night

Patch size (m)	Profile method			Raster method			Cloud method
	1 cm	5 cm	10 cm	1 cm	5 cm	10 cm	Full res.
1 x 1	0.000199	0.000105	0.000066	0.000119	0.000049	0.000034	0.000188
2 x 2	0.001084	0.000809	0.000752	0.001021	0.000408	0.000371	0.001265
3 x 3	0.002225	0.001194	0.001131	0.002684	0.001085	0.000933	0.002335
4 x 4	0.003889	0.002257	0.002035	0.004090	0.001914	0.001601	0.003317
5 x 5	0.004917	0.003156	0.002888	0.005057	0.002409	0.001986	0.004211
6 x 6	0.004714	0.003460	0.003266	0.005682	0.002762	0.002380	0.005309
7 x 7	0.004895	0.003442	0.003053	0.006838	0.003241	0.002682	0.006316
8 x 8	0.005450	0.003627	0.003471	0.007768	0.003621	0.003028	0.006791
9 x 9	0.006806	0.004163	0.003883	0.008447	0.003867	0.003258	0.007745
10 x 10	0.007687	0.004912	0.004719	0.008758	0.004084	0.003473	0.008759
11 x 11	0.008824	0.006098	0.005877	0.009272	0.004414	0.003709	0.009433
12 x 12	0.012173	0.008023	0.007627	0.009825	0.004730	0.004002	0.010097
13 x 13	0.014816	0.010591	0.010244	0.010724	0.005272	0.004452	0.011052
14 x 14	0.017020	0.011726	0.011472	0.012101	0.005985	0.005095	0.011892
15 x 15	0.020392	0.013272	0.012843	0.012973	0.006449	0.005537	0.012736
5 x 10	0.004587	0.002869	0.002713	0.007395	0.003309	0.002750	0.006520
5 x 15	0.006312	0.003536	0.003532	0.008847	0.004085	0.003529	0.007154
5 x 20	0.005850	0.003812	0.003783	0.007701	0.003240	0.002526	0.006620
5 x 25	0.005786	0.003781	0.003816	0.006809	0.002786	0.002141	0.006042
5 x 30	0.005189	0.003505	0.003526	0.007470	0.003184	0.002494	0.007006

5 Full results dataset (m): Site 2 no snow

Patch size (m)	Profile method			Raster method			Cloud method
	1 cm	5 cm	10 cm	1 cm	5 cm	10 cm	Full res.
1 x 1	no data	no data	no data	no data	no data	no data	no data
2 x 2	no data	no data	no data	no data	no data	no data	no data
3 x 3	no data	no data	no data	no data	no data	no data	no data
4 x 4	0.009122	0.004042	0.002795	0.014861	0.004131	0.002853	0.003668
5 x 5	0.012884	0.005812	0.004498	0.020130	0.005195	0.003631	0.006039
6 x 6	0.015213	0.007194	0.005803	0.017288	0.004848	0.003658	0.006326
7 x 7	0.022342	0.009618	0.007577	0.016120	0.005024	0.003831	0.008728
8 x 8	0.029095	0.013237	0.011056	0.021572	0.006899	0.005315	0.012823
9 x 9	0.029763	0.015519	0.013547	0.030480	0.009736	0.007343	0.015944
10 x 10	0.028296	0.017658	0.016516	0.038921	0.012511	0.009591	0.018642
11 x 11	0.029001	0.021095	0.020544	0.045208	0.015465	0.012006	0.020695
12 x 12	0.031654	0.021748	0.021621	0.049330	0.017959	0.014138	0.022036
13 x 13	0.037478	0.024665	0.023451	0.052349	0.019810	0.015611	0.022874
14 x 14	0.038670	0.027498	0.026094	0.055112	0.021348	0.016698	0.023430
15 x 15	0.042679	0.028489	0.025925	0.055707	0.021822	0.017081	0.023688
5 x 10	0.011999	0.004913	0.004048	0.011976	0.003389	0.002589	0.005447
5 x 15	0.013305	0.005518	0.004487	0.015269	0.004716	0.003614	0.006738
5 x 20	0.014922	0.005555	0.004224	0.020597	0.006268	0.004989	0.008424
5 x 25	0.017602	0.006173	0.004853	0.034792	0.009174	0.006602	0.012450
5 x 30	0.016592	0.006393	0.005198	0.028683	0.007737	0.005564	0.010839

7 Full results dataset (m): Site 2 full snow

Patch size (m)	Profile method			Raster method			Cloud method
	1 cm	5 cm	10 cm	1 cm	5 cm	10 cm	Full res.
1 x 1	no data	no data	no data	no data	no data	no data	no data
2 x 2	no data	no data	no data	no data	no data	no data	no data
3 x 3	no data	no data	no data	no data	no data	no data	no data
4 x 4	0.003667	0.001821	0.001305	0.006746	0.001386	0.000899	0.001966
5 x 5	0.006662	0.004010	0.003146	0.011487	0.002708	0.001937	0.004929
6 x 6	0.010747	0.004937	0.003638	0.012060	0.002945	0.002226	0.003983
7 x 7	0.013593	0.006613	0.005437	0.011373	0.003023	0.002281	0.004900
8 x 8	0.022541	0.012174	0.010061	0.016573	0.004818	0.003593	0.006030
9 x 9	0.036533	0.014097	0.011315	0.023473	0.006991	0.005062	0.006992
10 x 10	0.042197	0.017670	0.015397	0.030454	0.008936	0.006342	0.008502
11 x 11	0.038584	0.020482	0.018844	0.036174	0.011296	0.007896	0.009253
12 x 12	0.036339	0.021494	0.020422	0.040380	0.014449	0.010173	0.009620
13 x 13	0.034643	0.023321	0.022224	0.046047	0.016468	0.011268	0.010003
14 x 14	0.035380	0.024300	0.023778	0.051597	0.017956	0.012103	0.010485
15 x 15	0.035785	0.028325	0.027252	0.056248	0.018708	0.012764	0.010959
5 x 10	0.007033	0.003479	0.002841	0.006919	0.002119	0.001656	0.004334
5 x 15	0.009322	0.004578	0.003701	0.010427	0.003361	0.002716	0.006012
5 x 20	0.008615	0.004332	0.003592	0.010806	0.004277	0.003610	0.008513
5 x 25	0.009242	0.004800	0.003949	0.015659	0.005790	0.004716	0.011105
5 x 30	0.012577	0.005129	0.004344	0.016538	0.004930	0.003830	0.010514

9 Full results dataset (m): Site 2 part snow

Patch size (m)	Profile method			Raster method			Cloud method
	1 cm	5 cm	10 cm	1 cm	5 cm	10 cm	Full res.
1 x 1	no data	no data	no data	no data	no data	no data	no data
2 x 2	no data	no data	no data	no data	no data	no data	no data
3 x 3	no data	no data	no data	no data	no data	no data	no data
4 x 4	no data	no data	no data	no data	no data	no data	no data
5 x 5	0.009160	0.004959	0.004243	0.016798	0.004986	0.002993	0.005304
6 x 6	0.008968	0.005861	0.005218	0.012338	0.004435	0.002902	0.004002
7 x 7	0.011034	0.008102	0.007598	0.012298	0.005699	0.004057	0.004029
8 x 8	0.014750	0.011982	0.010058	0.014013	0.007462	0.005383	0.004980
9 x 9	0.022694	0.013699	0.012478	0.017860	0.009147	0.006504	0.006459
10 x 10	0.028258	0.014215	0.012677	0.024366	0.010602	0.007384	0.008054
11 x 11	0.024188	0.015617	0.014173	0.028957	0.011547	0.008323	0.009796
12 x 12	0.027873	0.022858	0.021005	0.032578	0.012304	0.008793	0.011704
13 x 13	0.037326	0.033480	0.031697	0.038604	0.013971	0.009740	0.012969
14 x 14	0.046483	0.034110	0.033074	0.047153	0.015803	0.011007	0.013925
15 x 15	0.047825	0.037041	0.035246	0.049614	0.016504	0.011644	0.014059
5 x 10	0.008324	0.005333	0.004706	0.008911	0.004352	0.003160	0.004339
5 x 15	0.010932	0.006505	0.005730	0.011933	0.005087	0.003787	0.004712
5 x 20	0.008925	0.005294	0.004749	0.012094	0.005116	0.004188	0.005781
5 x 25	0.009195	0.005335	0.004413	0.019640	0.007422	0.005782	0.009718
5 x 30	0.010240	0.005776	0.005057	0.020174	0.007835	0.006234	0.009468