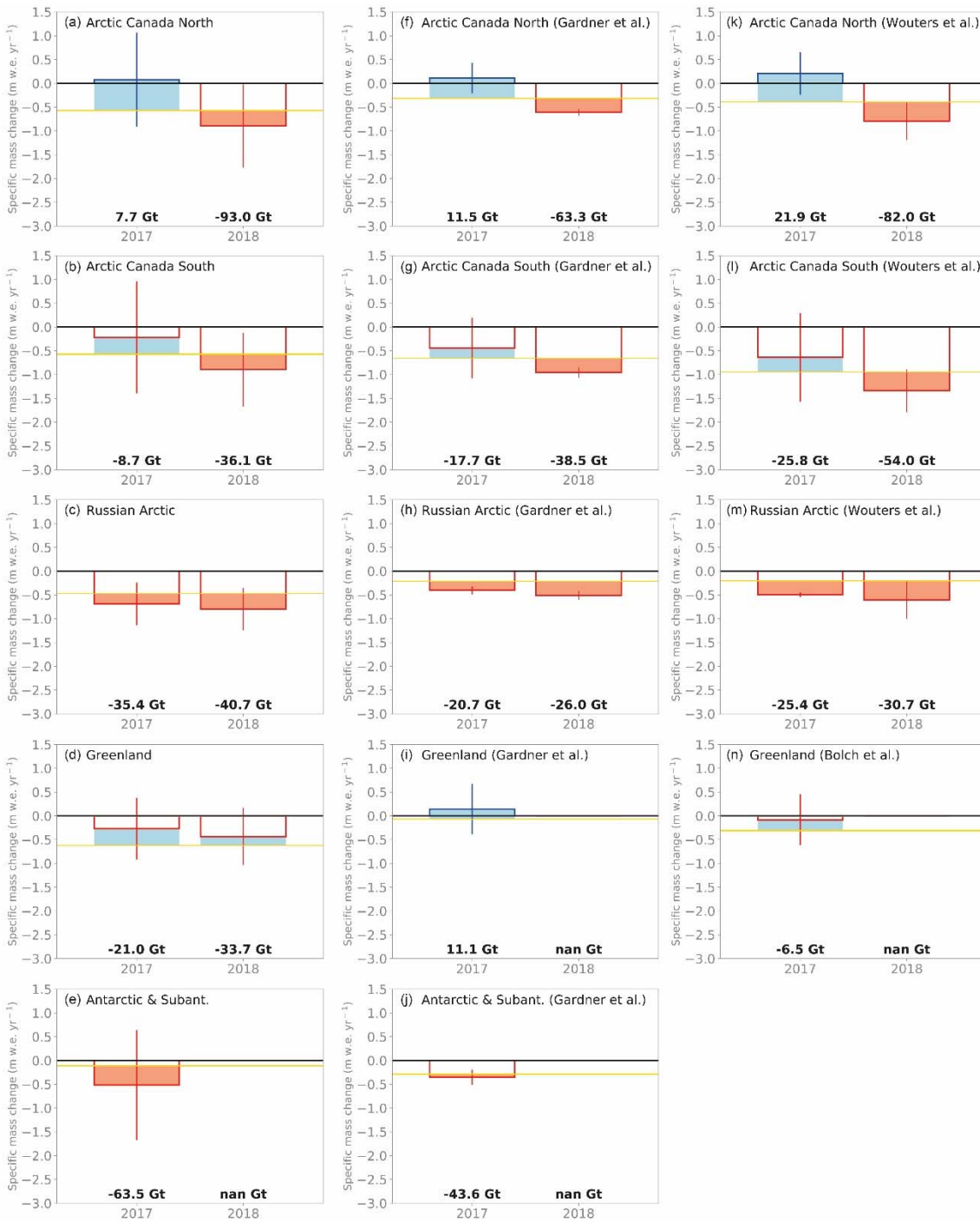


**Supplement to Zemp et al. (2019, subm.): Brief communication: *Ad hoc* estimation of glacier contributions to sea-level rise from latest glaciological observations.**

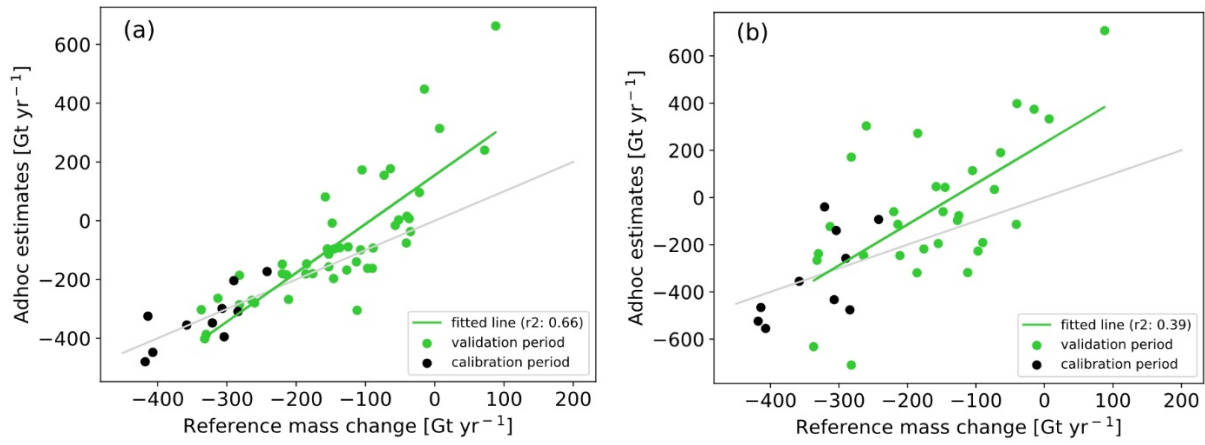
**Table S1** Overview on regional data availability and complementary data series from neighbouring regions. The table shows the overall number of glaciers with glaciological (glac) and geodetic (geod) observations as available in the reference dataset by Zemp et al. (2019, based on the FoG database version 2018-11-03) as well as available updates of the glaciological sample (all) and corresponding WGMS reference glacier sub-samples (ref) for 2016/17 and 2017/18 (based on the FoG database version 2019-07-26). Complementary mass-balance series from neighbouring regions were used for regional mass-change estimations in *ad hoc* years without glaciological observations. For the present study, we excluded the glaciological data of Hamaguri Yuki, a perennial snow patch in Japan, region 10.

Region	Complementary mass-balance series	Zemp et al. (2019) glac / geod	2017 all glac	2017 ref glac	2018 all glac	2018 ref glac
01 Alaska	Place, Helm, Peyto, Columbia 2057, Rainbow, South Cascade (all 02)	26 / 1,220	4	3	2	1
02 Western Canada & USA	Gulkana, Wolverine, Lemon Creek (all 01)	55 / 95	14	6	9	2
03 Arctic Canada North	Midtre Lovenbreen, Austre Broeggerbreen (all 07)	17 / 6	4	4	0	0
04 Arctic Canada South	White Glacier (03), Meighen Ice Cap (03), Devon Ice Cap NW (03), Melville South Ice Cap (03), Midtre Lovenbreen (07), Austre Broeggerbreen (07)	9 / 11	0	0	0	0
05 Greenland	Storglaciaeren (08), Storbreen (08), White (03)	13 / 1,206	3	0	1	0
06 Iceland	Storglaciaeren, Storbreen (08)	16 / 283	9	0	0	0
07 Svalbard & Jan Mayen	Storglaciären, Engabreen, Langfjordjock. (all 08)	21 / 1,110	7	2	3	2
08 Scandinavia	none	57 / 1,047	17	8	8	8
09 Russian Arctic	Midtre Lovenbreen, Austre Broeggerbreen (all 07)	3 / 373	0	0	0	0
10 North Asia	Ts. Tuyuksu (13), Urumqi No. 1 (13)	19 / 11	1	0	1	0
11 Central Europe	none	77 / 1,451	50	11	18	9
12 Caucasus & Middle East	Argentiere, Saint Sorlin, Sarennes, Gries, Gietro, Allalin, Silvretta, Vernagt, Hintereis, Kesselwand, Careser (all 11)	12 / 362	2	1	2	1
13 Central Asia	Leviy Aktru (10), Maliy Aktru (10), Vodopadny No. 125 (10), Chhota Shigri (14), Hamtah (14), Parlung No. 94 (15), Mera (15)	42 / 4,314	12	2	11	2
14 South Asia West	Ts. Tuyuksu, Urumqi No. 1 (all 13)	11 / 3,631	0	0	0	0
15 South Asia East	Ts. Tuyuksu, Urumqi No. 1 (all 13)	21 / 1,182	6	0	3	0
16 Low Latitudes	Echauren Norte, Martial Este (all 17)	14 / 49	7	0	5	0
17 Southern Andes	Yanamarey, Artesonraju, Zongo, Charquini Sur, Antizana 15 $\alpha$ , Conejeras (all 16)	14 / 2,331	9	1	5	0
18 New Zealand	Echauren Norte, Martial Este (all 17)	5 / 439	2	0	2	0
19 Antarctic & Subantarctic	Echauren Norte, Martial Este (all 17)	20 / 6	3	0	0	0
Global total		452 / 19,127	150	38	70	25



**Figure S1** *Ad hoc* estimates of selected regional mass changes in 2016/17 and 2017/18 based on different reference datasets. The plots (a–e) in the left column are identical with corresponding plots in Fig. 1 and use Zemp et al. (2019, 2006/07–2015/16) as reference dataset. The plots in the middle column (f–j) use Gardner et al. (2013, 2003/04–2008/09) as reference dataset. The plots in the right column (k–n) are using Wouters et al. (2019, 2005/06–2014/15) or (2013, 2003/04–2007/08) as reference dataset.

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**Figure S2** Global mass change rates in comparison between the *ad hoc* estimates of this study and the reference dataset by Zemp et al. (2019). The comparison is shown for the *ad hoc* estimates as based on the full glaciological sample of corresponding years (a) and for the WGMS *reference* glaciers only (b). The linear regression refers to the fit between the values (green) over the validation period (2006/07–2015/16, cf. Figure 1).