Supplementary Material

Article title: **Snow accumulation rates at Concordia Station, Antarctica, observed by stake farms**

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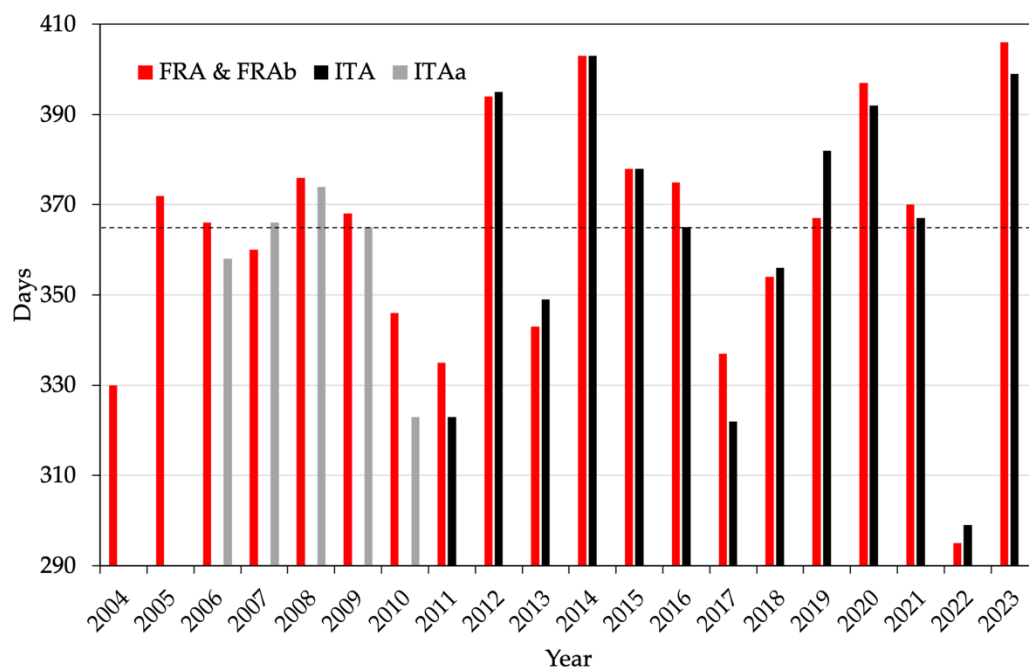
Figure S1. Number of days used in the calculation of yearly SMB in Figure 5. Red bars refer both to FRA and FRAb. The dashed black line is the 365-day threshold.
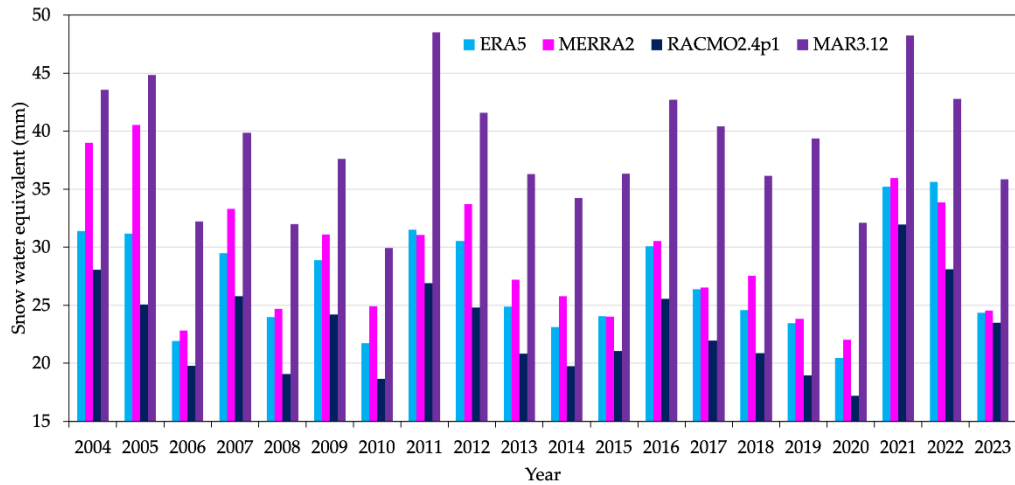
Figure S2. Yearly SMB (as s.w.e.) from the reanalysis and RCMs near Concordia Station.

Year	Mean	St. dev.	Min	Max	ΔERA5	ΔMERRA2
	mm	mm	mm	mm	%	%
2004	35.5	7.1	28.1	43.6	+3.8	+14.5
2005	35.4	8.9	25.0	44.8	+2.0	+3.1
2006	24.2	5.5	19.8	32.2	−4.0	−6.9
2007	32.1	6.0	25.8	39.8	+1.1	+1.5
2008	24.9	5.3	19.1	32.0	−2.0	−4.6
2009	30.4	5.6	24.2	37.6	−0.2	+0.4
2010	23.8	4.8	18.7	29.9	+1.2	+4.8
2011	34.5	9.6	26.9	48.5	+9.2	+15.1
2012	32.7	7.0	24.8	41.6	−7.6	−6.9
2013	27.3	6.6	20.8	36.3	+3.2	+6.5
2014	25.7	6.2	19.8	34.3	−5.2	−13.7
2015	26.4	6.8	21.1	36.3	−2.5	−3.9
2016	32.2	7.3	25.6	42.7	+0.4	−2.2
2017	28.8	8.0	22.0	40.4	+2.3	+9.0
2018	27.3	6.5	20.9	36.1	+3.1	+5.9
2019	26.4	8.9	18.9	39.4	−2.1	−3.8
2020	22.9	6.4	17.2	32.1	−5.9	−8.7
2021	37.8	7.1	32.0	48.2	−1.0	−1.5
2022	35.1	6.1	28.1	42.8	+19.0	+26.6
2023	27.1	5.9	23.5	35.9	−16.2	−16.9

Table S1. Yearly mean, standard deviation, minimum and maximum of the data shown in Figure 6a; the columns ΔERA and ΔMERRA2 show the difference, in %, of the estimates of ERA5 and MERRA2, respectively, between the calculation of the yearly sum using the calendar year (as in Figure S2) and the dates of the observations of the FRA stakes.
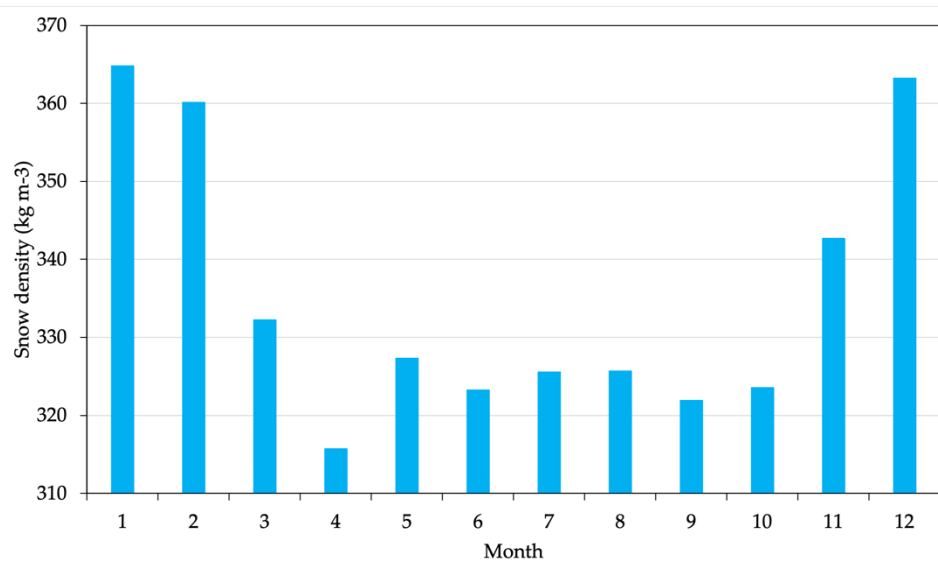
Figure S3. Mean monthly snow density in the upper 10 cm of the snowpack near Concordia Station, 2016-2024.