

Table S1: Meta-data and characteristics of selected IMIS snow stations:

The values for MAT (mean air temperature), MGST (mean GST), MGST_{DJF} (mean GST for Dec-Feb) and snow depth (mean Dec-Feb) are calculated based on the available data in the hydrological years 2004-2013 (aggregates with more than 5% missing data are indicated with *).

ID	Name	Since	Altitude [m asl]	MAT [°C]	MGST [°C]	MGST _{DJF} [°C]	Snow _{DJF} [cm]
ANV-2	Anniviers - Orzival	1997	2630	-0.34	2.04	-0.69	128
ANV-3	Anniviers - Tracuit	1997	2590	0.1	3.68	-0.39	77
ATT-2	Les Attelas	1993	2545	-0.59	3.36	-0.24	121
BED-2	Bedretto - Cavanna	1996	2450	-0.03	2.1	-0.1	200
BER-3	Bernina - Puoz Bass	2000	2620	-0.42	3.14	-0.63	64
BEV-2	Bever - Valetta	1997	2510	-0.26	3.69	0.43*	98
BOV-2	Boveire - Pointe de Toules	2001	2700	-0.58	2.45	-1.1	86
CMA-2	Crap Masean	1993	2330	0.31	3.22	-0.18	127
DAV-2	Davos - Baerentaelli	1998	2560	-0.48	2.79	0.23	105
DIA-2	Les Diablerets	1992	2575	-1.44	2.38	-0.86	184
EGH-2	Eqaishorn	1993	2495	-0.5	2.91	-0.24*	116
FUL-2	Fully - Grand Cor	1999	2610	-0.85	1.84	-0.13	185
GAN-2	Gandegg	1996	2717	-1.05	1.8	-0.48	204
GOM-2	Goms - Ernergaalen	1999	2450	0.01	3.05	-0.15	111
GOR-2	Gornergrat	1993	2950	-2.3	1.81	-1.34	116
GUT-2	Guttannen - Homad	1999	2110	2.19	3.85	-0.11	88
ILI-2	Val d'Illeiez - Les Collines	2000	2020	3.26	4.3	-0.21	79
JUL-2	Julier - Vairana	1998	2430	-0.16	2.85	0.12	98
MES-2	Mesocco - Pian Grand	2002	2380	0.37	2.66	-0.65	113
NEN-2	Nendaz - Essertse	1999	2325	1.68	3.97	-0.43	61
PMA-2	Piz Martegnas	1993	2430	0.22	4.23	0.88	79
PUZ-2	Puzzetta	1996	2195	0.78	3.71	-0.08	76
SAA-2	Saas - Seetal	1997	2480	0.57	3.55	-1.27	52
SAA-3	Saas - Schwarzmies	1997	2810	-1.24	-0.13	-8.53	37
SCA-3	Schaechental - Alppler Tor	1999	2330	0.64	2.26	-0.19	185
SCH-2	Schilthorn	1996	2360	1.57	2.6	0	154
SPN-2	Simplon - Alpier	1996	2620	-0.5	1.25	-4.09	42
STN-2	St. Niklaus – Ob. Stellialetscher	1998	2910	-1.79	1.01	-1.24	82
TIT-2	Titlis	1993	2140	2.18	3	-0.7	135
URS-2	Urseren - Giltnasen	1997	2170	1.42	3.58	-0.08	75
VDS-2	Val. de la Sionne - Donin du Jour	1998	2390	1.02	2.66	-0.18	174
VIN-2	Vinadi - Alpetta	1998	2730	-1.97	-0.25	-4.5	84
WFJ-2	Weissfluhloch	1992	2540	-0.71	2.54	-0.42	129

