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Supplement of

Improved representation of the contemporary Greenland ice sheet firn layer by IMAU-FDM v1.2G

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Table 1: Firn core metadata

Name	Longitude	Latitude	Year	Depth	Citation	Figures	MO550	MO830
NASA-U-1	-49.498	73.842	1995	150.755	Mosley-Thompson et al. (2001)	3a, 3b, 5	yes	yes
GITS-Core1	-61.095	77.143	1996	20.485	Mosley-Thompson et al. (2001)	3a, 5	yes	no
South_Dome_1	-44.187	63	1997	23.085	Mosley-Thompson et al. (2001)	5	no	no
North_Dye_3	-44.501	66	1997	18.635	Mosley-Thompson et al. (2001)	5	no	no
Tunu_S_1	-34.5	69.5	1997	20.310	Mosley-Thompson et al. (2001)	3a, 5	yes	no
NASA_E_1	-30	75	1997	19.935	Mosley-Thompson et al. (2001)	3a, 5	yes	no
7147	-47.23	71.05	1997	19.450	Mosley-Thompson et al. (2001)	5	no	no
7247	-47.487	71.926	1997	19.588	Mosley-Thompson et al. (2001)	3a, 5	yes	no
7551	-51.0	75.0	1997	20.650	Mosley-Thompson et al. (2001)	3a, 5	yes	no
7653-1	-53.0	76.0	1997	13.475	Mosley-Thompson et al. (2001)	5	no	no
6945-1	-45.0	69.0	1998	18.020	Mosley-Thompson et al. (2001)	3a, 5	yes	no
6943	-43.0	69.2	1998	17.268	Mosley-Thompson et al. (2001)	5	no	no
6941	-41.0	69.4	1998	11.307	Mosley-Thompson et al. (2001)	5	no	no
6939	-39.0	69.6	1998	12.130	Mosley-Thompson et al. (2001)	5	no	no
6841	-41.0	68.0	1998	11.740	Mosley-Thompson et al. (2001)	5	no	no
6745	-45.0	67.5	1998	12.105	Mosley-Thompson et al. (2001)	5	no	no
6839	-39.5	68.5	1998	11.440	Mosley-Thompson et al. (2001)	5	no	no
6938	-38.0	69.0	1998	11.740	Mosley-Thompson et al. (2001)	5	no	no
6642-2	-42.5	66.5	1998	20.125	Mosley-Thompson et al. (2001)	5	no	no
6345	-45.0	63.8	1998	14.325	Mosley-Thompson et al. (2001)	5	no	no
6348	-45.0	63.8	1998	14.500	Mosley-Thompson et al. (2001)	5	no	no
7249	-49.4	72.2	1998	14.785	Mosley-Thompson et al. (2001)	3a, 5	yes	no
7347	-47.2	73.6	1998	12.100	Mosley-Thompson et al. (2001)	5	no	no
7345	-45.0	73.0	1998	14.065	Mosley-Thompson et al. (2001)	5	no	no
7145	-45.0	71.5	1998	11.540	Mosley-Thompson et al. (2001)	5	no	no
7245	-45.0	72.25	1998	12.233	Mosley-Thompson et al. (2001)	3a, 5	yes	no
Basin1	-42.4419	71.8	2003	19.770	Hanna et al. (2006)	5	no	no
Basin2	-44.8278	68	2003	16.577	Hanna et al. (2006)	5	no	no
Basin4	-46.34	62	2003	23.280	Hanna et al. (2006)	5	no	no
Basin5	-46.3539	63.93	2003	23.460	Hanna et al. (2006)	5	no	no
Basin6	-41.7489	67	2003	24.145	Hanna et al. (2006)	3a, 5	yes	no
Basin7	-40.4061	67.52	2003	24.130	Hanna et al. (2006)	3a, 5	yes	no
Basin8	-36.4	70	2003	29.840	Hanna et al. (2006)	3a, 5	yes	no
Basin9	-44.87	65.01	2003	29.810	Hanna et al. (2006)	5	no	no
Sandy	-38.3167	72.55	2003	79.81	Hanna et al. (2006)	3a, 3b, 5	yes	yes
D1	-43.5	64.5	2003	94.96	Mosley-Thompson et al. (2001)	5	no	no
D2	-46.2	71.8	2003	101.305	Mosley-Thompson et al. (2001)	3a, 3b, 5	yes	yes
D3	-44	69.8	2003	98.805	Mosley-Thompson et al. (2001)	3a, 3b, 5	yes	yes
D4	-44.0333	71	2003	143.89	Hanna et al. (2006)	3a, 3b, 5	yes	yes
D5	-42.9	68.5	2003	147.355	Hanna et al. (2006)	3a, 3b, 5	yes	yes
ACT_1	-46.5511	66	2004	28.575	Box et al. (2013)	5	no	no
ACT_2	-45.1581	66	2004	92.63	Box et al. (2013)	5	no	no
ACT_3	-43.6069	66	2004	144.840	Box et al. (2013)	5	no	no
G1	-47.0102	70	2007	9.580	Harper et al. (2012)	5	no	no
GGU163	-48.1932	70	2008	10.220	Harper et al. (2012)	5	no	no
GGU165	-48.2674	70	2008	10.195	Harper et al. (2012)	5	no	no
H1-1	-48.2403	70	2008	10.980	Harper et al. (2012)	5	no	no
H2-1	-48.344967	70	2008	10.050	Harper et al. (2012)	5	no	no
H3-1	-48.499667	70	2008	10.255	Harper et al. (2012)	5	no	no
H4-1	-48.68945	70	2008	9.860	Harper et al. (2012)	5	no	no
H5-1	-48.81594	70	2008	7.940	Harper et al. (2012)	5	no	no
T1-1	-48.060967	70	2007	10.340	Harper et al. (2012)	5	no	no
T2-1	-47.880203	70	2007	10.425	Harper et al. (2012)	5	no	no
T3-1	-47.670183	70	2007	9.925	Harper et al. (2012)	5	no	no
T4-1	-47.4505	70	2007	10.335	Harper et al. (2012)	5	no	no

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Table 1 – continued from previous page

Name	Longitude	Latitude	Year	Depth	Citation	Figures	MO550	MO830
Das1	-43.9878	66	2003	83.065	Hanna et al. (2006)	5	no	no
Das2	-36.0614	68	2003	83.265	Hanna et al. (2006)	3a, 3b, 5, 6	yes	yes
ACT10_A	-41.4667	66	2010	45.966	Box et al. (2013)	5	no	no
ACT10_B	-41.8667	66	2010	50.164	Box et al. (2013)	5	no	no
ACT10_C	-42.7667	66	2010	48.173	Box et al. (2013)	5	no	no
Humboldt-M	-56.83	79	1995	141.936	Mosley-Thompson et al. (2001)	5	no	no
Tunu_1	-33.994	78	1996	67.58	Mosley-Thompson et al. (2001)	5	no	no
EKT	-44.3936 66.9853		2017	22.24	Macferrin et al. (2022)	5	no	no
ngt14C93.2	-36.4033	76.617	1993	143.162	Wilhelms (2000a)	3a, 3b, 5	yes	yes
ngt03C93.2	-37.6299	73.9402	1993	102.356	Wilhelms (2000b)	3a, 3b, 5	yes	yes
FA16_4	-39.2874	66.3604	2016	40.59	Miller et al. (2018)	5	no	no
NEEM	-51.06	77.45	2009	75.03	Baker (2012)	3a, 5	yes	no
Saddle	-44.5025	65.9994	2017	22.7	Macferrin et al. (2022)	5	no	no
FA16_6	-39.1348	66.3529	2016	49.42	Miller et al. (2018)	5	no	no
6642-2		-42.5 66.5	1998	20.125	Mosley-Thompson et al. (2001)	5	no	no
ngt37C95.2	-49.2167	77.2533	1995	119.66	Schwager and Miller (2000a)	3a, 3b, 5	yes	yes
NASA-SE	-42.4963	66.4777	2017	22.54	Macferrin et al. (2022)	5	no	no
Summit	-38.4691	72.5776	2017	22.17	Macferrin et al. (2022)	3a, 5	yes	no
FA16	-39.3119	66.3622	2015	50.025	Miller et al. (2018)	5	no	no
ACT10_A	-41.4807	65.9671	2010	46.451	Box et al. (2013)	5	no	no
ngt27C94.2 -41.1374		80	1994	96	Wilhelms (2000d)	5	no	no
EastGrip	-35.978	75.6256	2017	20.13	Macferrin et al. (2022)	3a, 5	yes	no
FA16	-39.1788	66.3548	2015	50.05	Miller et al. (2018)	5	no	no
-	-48.2667	69.7	1959	40	Renaud (1969)	5	no	no
South Dome-1	-44.817	63.149	1997	24.15	Mosley-Thompson et al. (2001)	5	no	no
-	-40.64	70.909	1959	30.85	Renaud (1969)	3a, 5	yes	no
FA13B	-39.0435	66.1812	2013	31.675	Hanna et al. (2006)	5, 6	no	no
KAN-U	-47.0226	67.0003	2017	23.27	MacFerrin et al. (2019)	5	no	no
-	-47.0311	69.8762	2017	22.28	Macferrin et al. (2022)	5	no	no
ACT10_C	-41.8672	65.7751	2010	50.649	Box et al. (2013)	5	no	no
ngt42C95.2	-43.492	76.0039	1995	109.834	Schwager and Miller (2000b)	3a, 3b, 5	yes	yes
-	-44.87	65.1	1984	104.135	Mayewski and Whitlow (2016)	5	no	no
FA16	-39.2391	66.358	2016	38.38	Miller et al. (2018)	5	no	no
ACT10_B	-42.7831	65.9997	2010	48.772	Box et al. (2013)	5	no	no
-	-33.4833	71.35	1959	27	Renaud (1969)	3a, 5	yes	no
ngt06C93.2	-37.6248	75.2504	1993	100.807	Wilhelms (2000c)	3a, 5	yes	no
Tunu South-1	-34.5	69.5	1997	20.31	Mosley-Thompson et al. (2001)	3a, 3b, 5	yes	yes

Table 2: Firn temperature observations metadata

Name	Longitude	Latitude	Year	Depth	Citation	Figures
KAN-U	-66.48	67	1840	2012 - 2016	Charalampidis et al. (2015)	7
Dye-2	-46.28	66.48	2165	1998 - 2015	Steffen et al. (1996), **?**	7, 8
Summit	-38.5	72.58	3254	2000 - 2015	Steffen et al. (1996), **?**	7, 8
FA-13	-39.32	66.37	1663	2014	Koenig et al. (2014)	7
GGU-163	-48.1932	70	1660	2008	Harper et al. (2011)	7
GGU-165	-48.2674	70	1644	2008	Harper et al. (2011)	7
H1-1	-48.2403	70	1680	2008	Harper et al. (2012)	7
H2-1	-48.344967	70	1555	2008	Harper et al. (2012)	7
H3-1	-48.499667	70	1540	2008	Harper et al. (2012)	7
H4-1	-48.68945	70	1401	2008	Harper et al. (2012)	7
H5-1	-48.81594	70	1333	2008	Harper et al. (2012)	7
T1_new	-48.060967	70	1710	2008	Harper et al. (2012)	7
T1_old	-48.060967	70	1710	2007	Harper et al. (2012)	7
T2_08	-47.880203	70	1750	2008	Harper et al. (2012)	7
T2_09	-47.880203	70	1750	2009	Harper et al. (2012)	7
T3-1	-47.670183	70	1819	2007	Harper et al. (2012)	7
T4-1	-47.4505	70	1877	2007	Harper et al. (2012)	7
B4-275	-41.100	73.167	3071.4	2013	Polashenski et al. (2014)	7
B4-225	-41.800	73.873	2996.2	2013	Polashenski et al. (2014)	7
B4-175	-42.550	74.590	2949.3	2013	Polashenski et al. (2014)	7
B4-100	-43.950	75.637	2860.4	2013	Polashenski et al. (2014)	7
B4-050	-45.100	76.317	2781.3	2013	Polashenski et al. (2014)	7
B4-000	-46.983	76.965	2664.2	2013	Polashenski et al. (2014)	7
B2-200	-49.600	77.058	2540.7	2013	Polashenski et al. (2014)	7
B2-175	-51.333	77.057	2445.6	2013	Polashenski et al. (2014)	7
B2-125	-54.517	77.042	2198.7	2013	Polashenski et al. (2014)	7
B2-070	-57.818	77.093	1971.3	2013	Polashenski et al. (2014)	7
B2-020	-61.022	77.217	1905.8	2013	Polashenski et al. (2014)	7
B1-050	-62.900	77.150	1671.7	2013	Polashenski et al. (2014)	7
B1-010	-64.890	76.803	1466.2	2013	Polashenski et al. (2014)	7
B1A-20	-62.000	76.920	1688.5	2013	Polashenski et al. (2014)	7

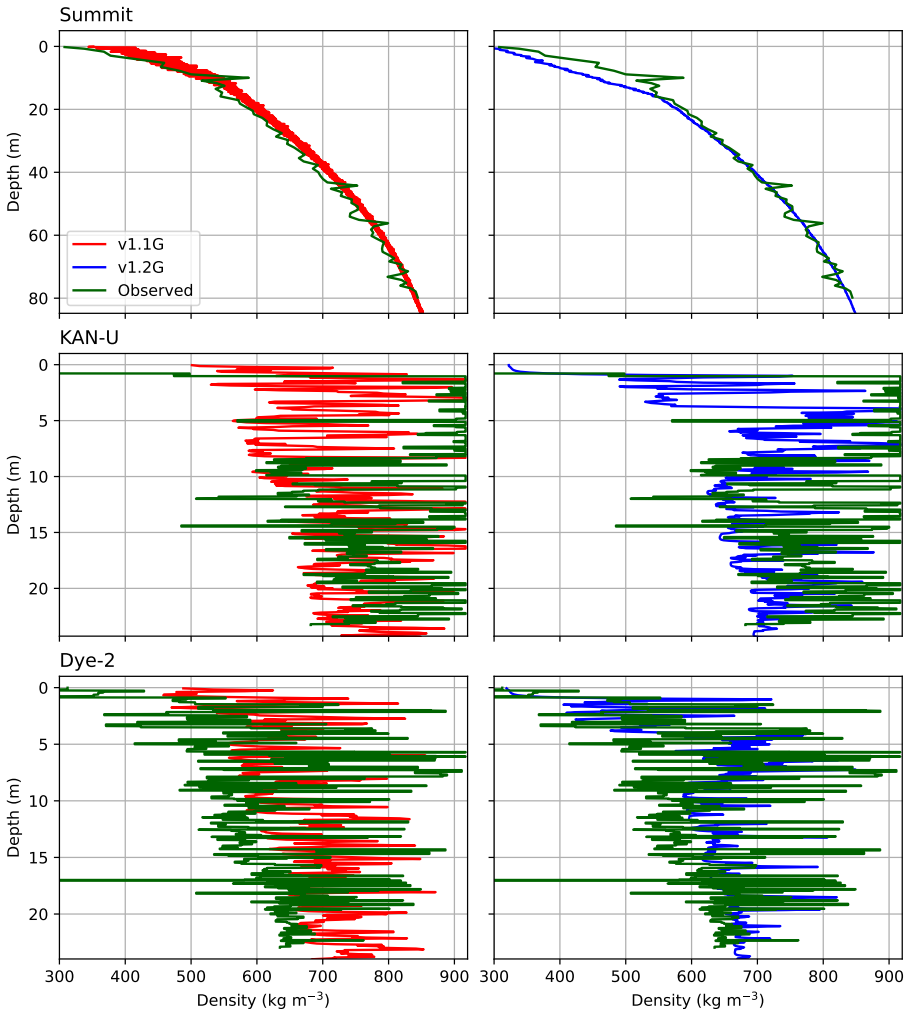

Figure 1. Density profiles for v1.2G (left) and v1.1G (right) model settings at Summit (top), KAN-U (middle) and Dye-2 (bottom).

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