

Study	Location	Temperature range	Temperature measurement	MODIS product	MODIS collection	Sample number	RMSE	Bias
Hall et al. (2004)	South Pole	-70 to -20 °C	2 m air	29	4	255	1.7 °C	-1.2 °C
Hall et al. (2008)	Greenland AWS	-40 to 0 °C	2 m air	11	4	48	2.1 °C	-0.3 °C
Koenig and Hall (2008)	Summit, Greenland	-41 to -20 °C	Thermochron skin	11	5	62	3.1 °C	-3.4 °C
		-60 to -20 °C	2 m air	11	5	259	4.1 °C	-5.5 °C
Westermann et al. (2012)	Svalbard	-40 to 0 °C	IRskin	11	5			~ -3 °C
Shuman et al. (2014)	Summit, Greenland	-60 to 0 °C	2 m air	29	5	2536 2270	All: 5.3 °C Filtered: 3.5 °C	~ -3 °C
Østby et al. (2014)	Svalbard	-45 to 0 °C	IR skin	11	5	3941 1065	All: 5.3 °C Filtered: 3.0 °C	All: -3.3 °C Filtered: -0.3 °C
Hall et al. (2014)	Barrow, Alaska	-42 to -20 °C	Thermochron skin	11	5	69		-2.3 ± 3.9 °C
				11	5	84		0.6 ± 2.0 °C
This study	Summit, Greenland	-30 to 0 °C	IR skin	11	6	374 288	All: 1.6 °C	All: -0.7 ± 1.4 °C
							Cloud filter: 1.0 °C	Cloud filter: -0.4 ± 0.9 °C
				MOD11	6	207	1.8 °C	-0.8 ± 1.6 °C
				MYD11	6	167	1.4 °C	-0.6 ± 1.3 °C