

	Station (Period)	Season	Number of pairs	Bias (kg m ²)	Bias (%)	RMSE (%)	R (%)
GNSS vs. MODIS	Ny-Ålesund (2001–2014)	Monthly	168	0.4	3	18	96
		DJF	13	0.4	9	14	77
		MAM	14	0.0	−0.6	14	58
		JJA	14	0.6	4	7	10
		SON	14	0.8	12	13	56
	Thule (2004–2014)	Monthly	132	0.6	10	16	98
		DJF	10	0.3	13	17	83
		MAM	11	0.4	10	13	71
		JJA	11	1.1	10	14	15
		SON	11	0.6	13	14	83
	Sodankylä (2001–2014)	Monthly	166	1.7	24	33	96
		DJF	13	2.8	47	48	30
		MAM	14	1.5	18	19	74
		JJA	14	−1.1	−6	9	41
		SON	14	3.5	32	32	76
GNSS vs. SCIAMACHY	Ny-Ålesund (2003–2011)	Monthly	81	1.5	22	27	97
		DJF	–	–	–	–	–
		MAM	9	1.1	22	23	81
		JJA	9	1.7	14	14	76
		SON	9	1.9	24	25	76
	Thule (2004–2011)	Monthly	72	0.6	6	24	96
		DJF	–	–	–	–	–
		MAM	8	−0.2	−5	9	88
		JJA	8	1.1	10	11	69
		SON	8	1.4	25	26	90
	Sodankylä (2003–2011)	Monthly	98	2.4	19	25	90
		DJF	8	1.1	21	27	26
		MAM	9	1.4	17	18	71
		JJA	9	4.9	27	29	19
		SON	9	1.8	16	18	48
GNSS vs. AIRS	Ny-Ålesund (2003–2014)	Monthly	144	−0.1	−8	19	98
		DJF	11	−0.8	−22	26	83
		MAM	12	−0	−2	4	97
		JJA	12	1	9	9	94
		SON	12	−0.6	−8	9	96
	Thule (2004–2014)	Monthly	132	−0.3	−18	31	99
		DJF	11	−0.8	−41	44	97
		MAM	11	−0.3	−9	14	85
		JJA	11	0.5	4	5	82
		SON	11	−0.5	−11	12	92
	Sodankylä (2003–2014)	Monthly	142	1	9	14	98
		DJF	11	0.8	13	17	50
		MAM	12	0.7	9	9	90
		JJA	12	1.5	8	10	64
		SON	12	1	8	11	58