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Quality control and calibration of Faroe Bank Channel bottom temperature

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The photo on the front cover shows an ADCP mooring ready to be deployed in the Faroe Bank Channel. An SBE39 is attached to the buoy frame for high-precision temperature measurement.

Abstract

This report documents quality control and calibration of temperature measurements made with moored instruments close to the bottom over the sill of the Faroe Bank Channel. This task is especially important for the early part of the period, before Microcats or similar high-precision instruments were in regular use for temperature measurement or for later periods when these instruments for some reason were not in operation. A preliminary version of the bottom temperature data was presented in Hansen et al. (2016), but new information and a more dedicated approach has allowed revisions of the data that reduce the uncertainties. Havstovan maintains two ADCP moorings, termed FB and FC, over the sill of the channel. Most of the temperature measurements are from mooring FB, but there is also a considerable amount of data from FC and that mooring is somewhat deeper and monitors slightly colder water. We discuss the difference between the two data sets and how the FB data may be adjusted to be more representative for the coldest bottom water of the channel, which at the same time is the densest water entering the North Atlantic.

1 Introduction

The bottom water in the Faroe Bank Channel is the coldest water passing from the Arctic Mediterranean across the Greenland-Scotland Ridge into the depths of the Atlantic Ocean and it is the densest source for the deep limb of the AMOC, although its density is later reduced by entrainment of ambient waters. Monitoring the temperature of this water is therefore an important task. This has been done since November 1995 when Havstovan initiated a programme with regular deployment of ADCPs at a specific location: "Site FB" (Table 1a) over the sill of the channel. Later, regular ADCP deployments were also initiated at an additional location over the sill: "Site FC" (Table 1b). Deployments at FB are identified by an 8-character name: NWFByymm, where yy indicates the year and mm the month. Similarly for FC.

Table 1a. ADCP deployments at site FB. "ADCP" is ADCP serial number. The last column indicates whether there was an additional temperature logger and its type.

Deplment	ADCP	Position		Botm	Period	Dur.	Addit.
		Lat.	Long.	(m)	yyyymmdd-yyyymmdd	Days	sensor
NWFB9511	1292	61.4175	-8.2868	813	19951113-19960524	194	
NWFB9606	1292	61.4173	-8.2894	817	19960616-19970524	343	
NWFB9706	1292	61.4163	-8.2830	816	19970617-19980613	362	
NWFB9807	1292	61.4155	-8.2890	818	19980704-19980911	70	
NWFB9809	1578	61.4158	-8.2855	815	19980913-19990612	273	
NWFB9907	1285	61.4162	-8.2810	812	19990705-20000618	350	
NWFB0007	1642	61.4163	-8.2817	814	20000710-20010615	341	
NWFB0107	1642	61.4154	-8.2828	814	20010709-20020615	342	SBE37
NWFB0207	1642	61.4157	-8.2812	812	20020708-20030615	343	SBE37
NWFB0307	1642	61.4148	-8.2822	813	20030706-20040611	342	SBE37
NWFB0407	1642	61.4162	-8.2818	812	20040704-20050522	323	SBE37
NWFB0506	1642	61.4150	-8.2850	817	20050612-20060523	346	SBE37
NWFB0606	1642	61.4175	-8.2874	812	20060613-20070518	340	SBE37
NWFB0706	1642	61.4173	-8.2830	812	20070610-20080515	341	SBE37
NWFB0806	1642	61.4167	-8.2811	812	20080607-20090604	363	SBE37
NWFB0906	1642	61.4167	-8.2800	812	20090608-20100514	341	SBE37
NWFB1006	1642	61.4167	-8.2833	814	20100606-20110522	351	SBE37
NWFB1106	1642	61.4165	-8.2829	808	20110613-20120521	344	SBE37
NWFB1206	1642	61.4167	-8.2800	816	20120611-20140310	638	
NWFB1209	3486	61.4145	-8.2873	822	20121001-20130515	227	SBE37
NWFB1306	1577	61.4159	-8.2831	814	20130608-20140515	342	SBE37
NWFB1406	1577	61.4159	-8.2833	809	20140610-20150523	348	SBE37
NWFB1506	1285	61.4167	-8.2817	812	20150614-20160520	342	SBE37
NWFB1606	1577	61.4174	-8.2823	811	20160611-20170517	341	SBE37
NWFB1706	1642	61.4174	-8.2828	808	20170614-20180520	341	SBE37
NWFB1806	1642	61.4177	-8.2842	811	20180618-20190516	333	SBE37
NWFB1906	1642	61.4152	-8.2817	810	20190610-20200521	347	SBE37
NWFB2006	1642	61.4170	-8.2845	811	20200613-20210524	346	SBE37
NWFB2106	1642	61.4173	-8.2835	803	20210613-20220513	335	SBE37

The primary objective of this programme was to monitor the volume transport of cold-water overflow through the channel, but information on bottom temperature has also been obtained. During the first years, this information came from the temperature sensor of the ADCP, but since summer 2001, additional temperature measurements were made by a high-quality temperature logger attached to the ADCP at site FB (Table 1a) and later also at site FC (Table 1b).

Two types of high-quality temperature loggers have been used, both of them produced by Sea-Bird and regularly calibrated: SBE37 and SBE39. The SBE37 is also called a "Microcat" and we will use that name for both the SBE37 and the SBE39 since both of them have a high accuracy of 0.001°C, or better.

The ADCP temperature sensor is less accurate. The primary objective of this report is to calibrate the ADCP-temperature data, especially with regard to deployments in the Faroe Bank Channel. The main focus will be on observations at site FB since they provide the longest and most complete time series. The calibration will be done by comparing ADCP-temperatures with simultaneous CTD observations close by and by comparing ADCP-temperatures and Microcat-temperatures from deployments where a Microcat has been attached to an ADCP.

Table 1b. ADCP deployments at site FC. "ADCP" is ADCP serial number. The last column indicates whether there was an additional temperature logger and its type.

Deplment	ADCP	Position		Botm	Period	Dur.	Addit.
		Lat.	Long.	(m)	yyyymmdd-yyyymmdd	Days	sensor
NWFC9807	1285	61.3935	-8.3160	836	19980704-19980911	70	
NWFC0107	603	61.3950	-8.3198	834	20010710-20010909	62	SBE37
NWFC0207	1285	61.3898	-8.3110	841	20020708-20020907	62	
NWFC0209	1285	61.3947	-8.3117	826	20020914-20030615	275	
NWFC0307	1285	61.3911	-8.3174	835	20030706-20031031	118	
NWFC0311	1285	61.3928	-8.3146	836	20031108-20040611	217	
NWFC0407	1285	61.3907	-8.3167	829	20040704-20050522	323	
NWFC0506	1285	61.3894	-8.3182	815	20050612-20060523	346	
NWFC0606	1285	61.3904	-8.3157	834	20060613-20070518	340	
NWFC0706	1285	61.3915	-8.3162	847	20070610-20080516	342	
NWFC0806	1285	61.3917	-8.3163	846	20080607-20090515	343	
NWFC0906	1285	61.3925	-8.3168	841	20090608-20100514	341	
NWFC1006	1285	61.3928	-8.3167	839	20100606-20110522	351	
NWFC1106	1285	61.3923	-8.3174	842	20110613-20120521	344	
NWFC1306	1285	61.3908	-8.3150	835	20130608-20140515	342	
NWFC1408	1285	61.3850	-8.3183	818	20140830-20150523	267	
NWFC1506	1642	61.3900	-8.3150	841	20150614-20160520	342	SBE37
NWFC1606	1285	61.3901	-8.3157	832	20160611-20170517	341	SBE39
NWFC1706	1285	61.3925	-8.3155	838	20170614-20180902	446	SBE39
NWFC1809	1285	61.3900	-8.3150	861	20180920-20190516	239	SBE39
NWFC1906	1285	61.3917	-8.3171	842	20190610-20200521	347	SBE39
NWFC2006	1285	61.3913	-8.3153	845	20200613-20210524	346	SBE39
NWFC2106	1285	61.3926	-8.3117	829	20210613-20220513	335	SBE39

2 Calibration of ADCP temperature sensors by comparison with CTD data

In July 2003, a number of ADCP temperature sensors were calibrated by comparing ADCP temperature to synchronous CTD temperature at the same depth and no more than 1.5 miles distant. The ADCP deployments and the associated CTD profiles are listed in Appendix A. Results from the comparisons are listed in Table 2. As expected, the deployments in cold (deep), fairly stable, water have the highest quality (lowest standard error), but the standard error still exceeds 0.01°C.

Table 2. Comparison between ADCP-temperature, T_A, and simultaneous CTD-temperature,T_C, at the same depth and close by. "N" is the number of values. The last four columns list the average (Avg.), the standard error (St.err.), minimum (Min.), and maximum (Max.) of the difference between the ADCP and the CTD temperatures. All temperatures are in °C.

			ADCP-temp.		Temperature difference (T_A-T_C)			
ADCP	N	Period	Min.	Max.	Avg.	St.err.	Min.	Max.
1244	33	1996-2001	1.97	8.24	1.066	0.315	-1.27	6.39
1245	36	1995-2001	-0.67	2.69	-0.035	0.062	-0.48	1.82
1278	6	1996-1997	6.59	8.20	-0.088	0.040	-0.18	0.05
1279	12	1999-2001	5.45	8.42	0.497	0.188	-0.54	1.80
1283	4	1996-1996	2.47	5.50	2.438	1.147	-0.75	4.57
1284	23	1995-1998	-0.41	0.58	0.102	0.056	-0.97	0.34
1285	32	1995-2001	-0.83	0.44	0.006	0.024	-0.29	0.31
1292	34	1994-2001	-0.64	0.22	-0.116	0.021	-0.43	0.16
1295	2	1996-1996	8.99	10.04	0.410	0.370	0.04	0.78
1577	33	1997-2001	-0.81	0.10	-0.218	0.025	-0.57	0.22
1578	17	1997-2000	-0.88	-0.17	-0.208	0.035	-0.39	0.17
1642	7	1999-2001	-0.84	-0.49	-0.304	0.031	-0.37	-0.17
1644	20	1999-2001	-0.99	-0.53	-0.415	0.018	-0.56	-0.24

3 Calibration of ADCP temperature sensors by comparison with Microcat data

From Table 1, it is seen that mainly four different ADCPs have been in use in periods when there was no Microcat. These ADCPs are 1285, 1292, 1578, and 1642 and they are the ones that need to be calibrated. For 1578, we don't have additional information to complement the original calibration based on CTD comparison. For the other three ADCPs, there are, however, periods when they have been moored together with Microcats. In the following, the two temperature series are compared. For every ADCP deployment with attached Microcat, the two temperature series are correlated and regressed and the average, minimum, and maximum difference determined.

3.1 Temperature calibration of ADCP 1285

Six deployments in the period 2015 – 2022 are used to calibrate ADCP 1285 (Table 3).

Table 3. Comparison between daily averaged temperature measured by the ADCP 1285, T_A, and by Microcat, T_M. The regression coefficients are for the regression: $T_M = a \cdot T_A + b$. The last three columns list the average, minimum, and maximum values for the difference.

		Correl. coeff.		Regr. coeff.		Difference ($T_A - T_M$)		
Deplment	Days	R	p	a	b	Avg	Min	Max
NWFB1506	342	0.9996	$< 10^{-6}$	1.011	-0.016°C	0.020°C	0.006°C	0.030°C
NWFC1606	341	0.9996	$< 10^{-6}$	1.012	-0.015°C	0.019°C	0.009°C	0.028°C
NWFC1809	239	0.9997	$< 10^{-6}$	1.011	-0.015°C	0.018°C	0.010°C	0.027°C
NWFC1906	347	0.9996	$< 10^{-6}$	1.009	-0.016°C	0.019°C	0.009°C	0.027°C
NWFC2006	346	0.9995	$< 10^{-6}$	1.012	-0.015°C	0.018°C	0.009°C	0.028°C
NWFC2106	335	0.9996	$< 10^{-6}$	1.011	-0.015°C	0.018°C	0.008°C	0.026°C
Total	1950	0.9997	$< 10^{-6}$	1.011	-0.015°C			

The results in Table 3 indicate a high quality for the 1285 temperature sensor with little indication of a drift, at most 0.002°C, over the six-year period. From the bottom row of the table, the calibrated ADCP-temperature, T_{Cal}, is related to the raw ADCP-temperature, T_{ADCP}, by the regression:

$$T_{Cal} = 1.011 \cdot T_{ADCP} - 0.015°C$$

For 30-day averages, the difference between T_{Cal} and $T_{Microcat}$ is at most 0.003°C (Figure 1b).

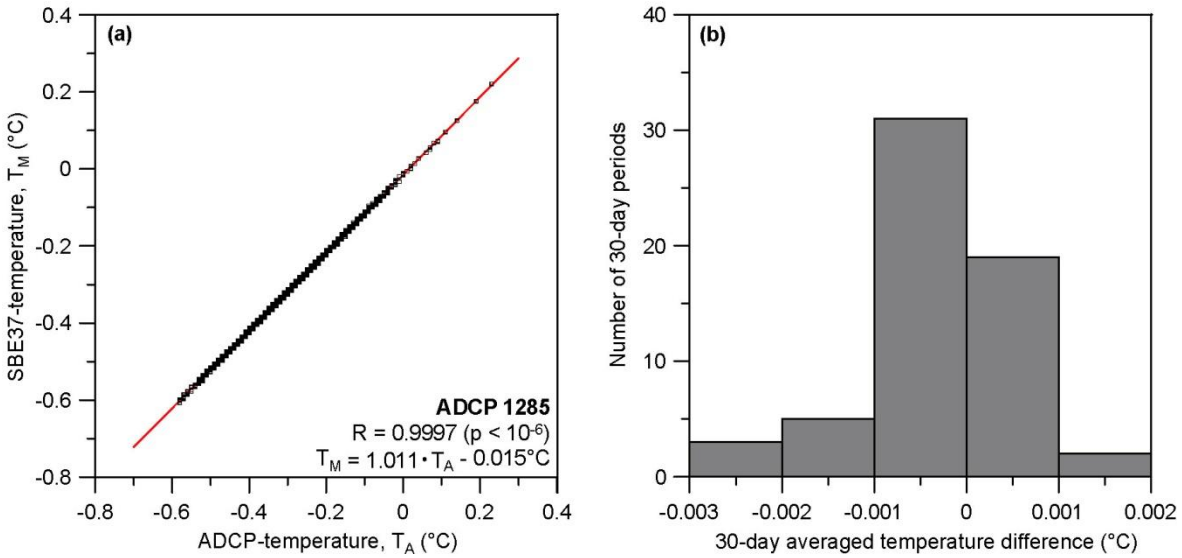

Figure 1. (a) Temperature measured by Microcat (SBE37/39) plotted against temperature measured by ADCP 1285 for six deployments in the period 2015 to 2022. The red line is a linear fit to all the data and the bottom right-hand corner lists the details of the fit. **(b)** Histogram showing the distribution of the difference between Microcat-temperature and calibrated ADCP-temperature, averaged over consecutive 30-day periods.

From Table 2, we see that the offset from the comparison with CTD data for 1285 was (-0.006 ± 0.024) °C, which is quite consistent with the above results and supports the lack of high temporal drift in the calibration coefficients.

3.2 Temperature calibration of ADCP 1292

For ADCP 1292, we only have one ADCP deployment with attached Microcat and it was around 20 years after the deployment of this ADCP at site FB (Table 4)

Table 4. Comparison between daily averaged temperature measured by the ADCP 1292, T_A, and by Microcat, T_M. The regression coefficients are for the regression: $T_M = a \cdot T_A + b$. The last three columns list the average, minimum, and maximum values for the difference.

		Correl. coeff.		Regr. coeff.		Difference ($T_A - T_M$)		
Deplment	Days	R	p	a	b	Avg	Min	Max
TNGY1706	343	0.9998	< 10^{-6}	1.000	0.118°C	-0.119°C	-0.127°C	-0.108°C
Total	343	0.9998	< 10^{-6}	1.000	0.118°C			

Also this ADCP seems to have had a high-quality temperature sensor, which may be calibrated as:

$$T_{Cal} = 1.000 \cdot T_{ADCP} + 0.118°C$$

For 30-day averages, the difference between T_{Cal} and $T_{Microcat}$ is again at most 0.003°C (Figure 2b).

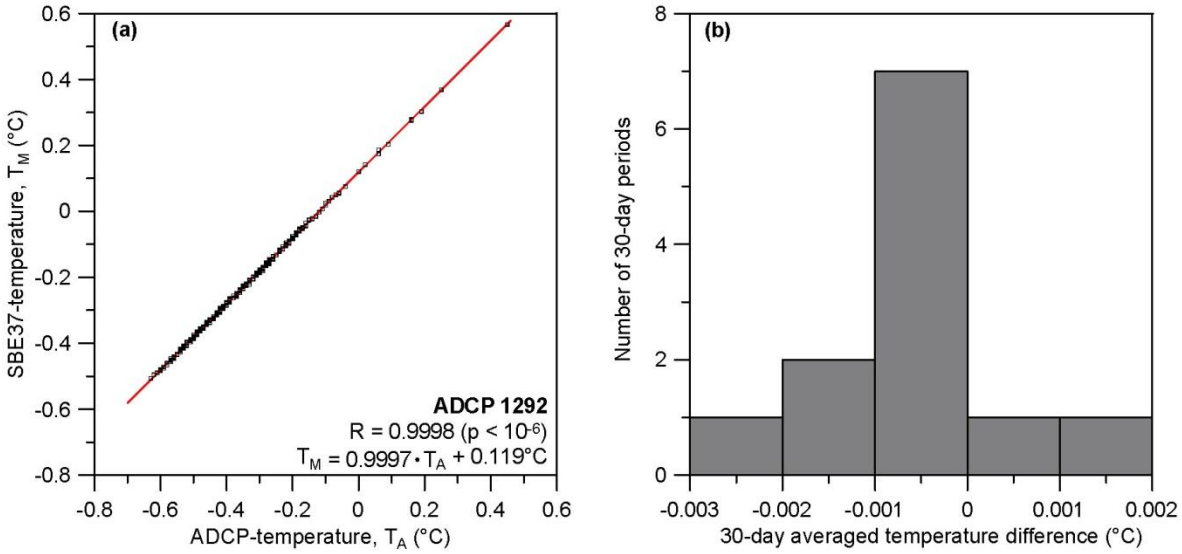

Figure 2. (a) Temperature measured by Microcat plotted against temperature measured by ADCP 1292 for one deployment in the period 2017 to 2018. The red line is a linear fit to all the data and the bottom right-hand corner lists the details of the fit. **(b)** Histogram showing the distribution of the difference between Microcat-temperature and calibrated ADCP-temperature, averaged over consecutive 30-day periods.

The data do not show any significant drift of the calibration offset during the period. The calibration period is, however, less than one year in duration and more than twenty years after the period when we want to use it. Fortunately, the results from this ADCP-Microcat comparison are quite consistent with the ADCP-CTD comparisons reported in Table 2. That intercalibration involved data from 34 CTD casts in the 1994 – 2001 period. The calculated offset was found to be 0.116°C with a standard error of 0.021°C. This value is so close to the offset derived from Table 4 that we feel justified in using the established calibration also in the period before 2000.

3.3 Temperature calibration of ADCP 1642

Five deployments in the period 2001 – 2016 are used to calibrate ADCP 1642 (Table 5).

Table 5. Comparison between daily averaged temperature measured by the ADCP 1642, T_A, and by Microcat, T_M. The regression coefficients are for the regression: $T_M = a \cdot T_A + b$. The last three columns list the average, minimum, and maximum values for the difference.

		Correl. coeff.		Regr. coeff.		Difference ($T_A - T_M$)		
Deplment	Days	R	p	a	b	Avg	Min	Max
NWFB0107	342	0.9779	< 10^{-6}	0.910	0.198°C	-0.263°C	-0.331°C	-0.192°C
NWFB0906	341	0.9805	< 10^{-6}	1.030	0.280°C	-0.261°C	-0.340°C	-0.193°C
NWFB1006	351	0.9766	< 10^{-6}	0.998	0.257°C	-0.259°C	-0.320°C	-0.195°C
NWFB1106	344	0.9864	< 10^{-6}	1.041	0.294°C	-0.269°C	-0.340°C	-0.196°C
NWFC1506	342	0.9708	< 10^{-6}	0.968	0.237°C	-0.259°C	-0.328°C	-0.199°C
Total	1720	0.9803	< 10^{-6}	0.998	0.261°C			

The correlation coefficients in Table 5 are much lower than in Table 3 and Table 4 indicating lower quality for ADCP 1642 than the others. Figure 3a indicates that the reason may be non-linearity in the ADCP temperature sensor. This may be ameliorated by dividing the temperature range into six intervals and generate linear fits for each interval (continuous red line in Figure 3a):

In the interval $T_j - T_{j+1}$: $T_{Cal} = a_j \cdot T_{ADCP} + b_j$

where the parameters are listed in Table 6. For 30-day averages, the difference between T_{Cal} and $T_{Microcat}$ is higher than for 1285 and 1292, but still less than 0.01°C (Figure 3b).

Table 6. Intervals and regression coefficients for piecewise linear fits for ADCP 1642.

T_j (°C):	< -0.894	-0.776	-0.634	-0.600	-0.471 <
a_j:	0.6715	0.8356	0.6560	2.1108	1.3645	0.8256
b_j (°C):	-0.0048	0.1419	0.0026	0.9248	0.4772	0.2236

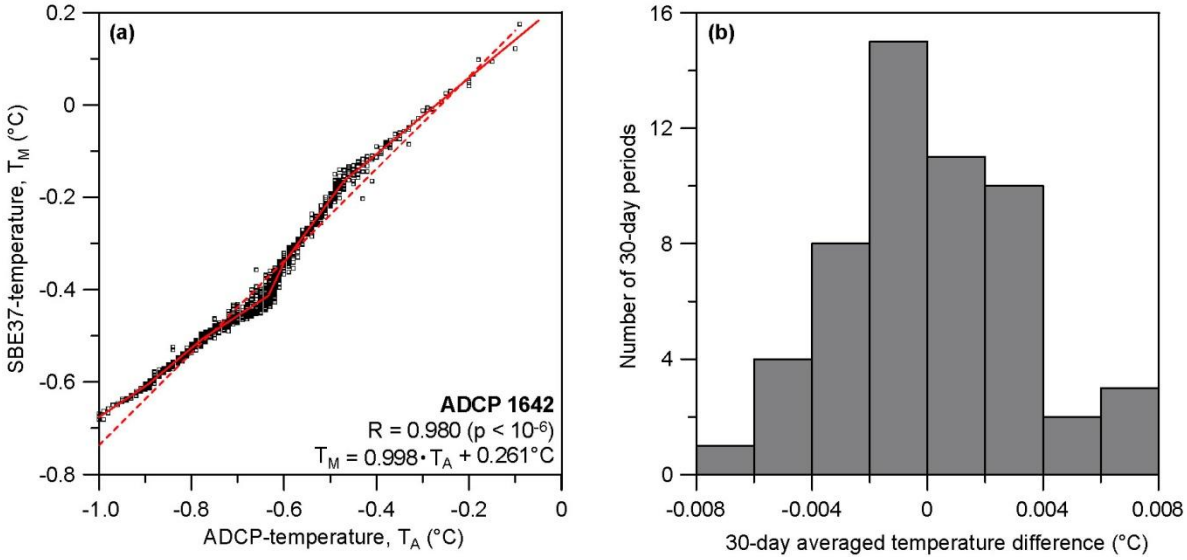

Figure 3. (a) Temperature measured by Microcat (SBE37) plotted against temperature measured by ADCP 1642 for five deployments in the period 2001 to 2016. The dashed red line is a linear fit to all the data and the bottom right-hand corner lists the details of the fit. The continuous red line is a fit consisting of six piecewise linear fits. **(b)** Histogram showing the distribution of the difference between Microcat-temperature and calibrated ADCP-temperature, averaged over consecutive 30-day periods.

3.4 The accuracy of calibrated ADCP-temperature

The ADCP-temperatures from 1285, 1292, and 1642 have all been calibrated. Comparison with the associated Microcat-temperatures shows good correspondence, even for 1642 (Table 7). For daily averages, there are a number of values with differences exceeding 0.01°C (Figure 4a) but, for 30-day averaged differences, only two out of 69 of the 30-day periods had differences higher than 0.01°C, and not much higher (Figure 4b).

Table 7. Comparison between Microcat temperature and calibrated ADCP-temperature

ADCP	Days	R	p	a	Δa	b	Δb
1285	1950	0.9997	< 10^{-6}	1.0005	0.0012	-0.0001°C	0.0004°C
1292	343	0.9998	< 10^{-6}	0.9999	0.0023	-0.0005°C	0.0007°C
1642	1720	0.9963	< 10^{-6}	1.0008	0.0041	0.0003°C	0.0017°C

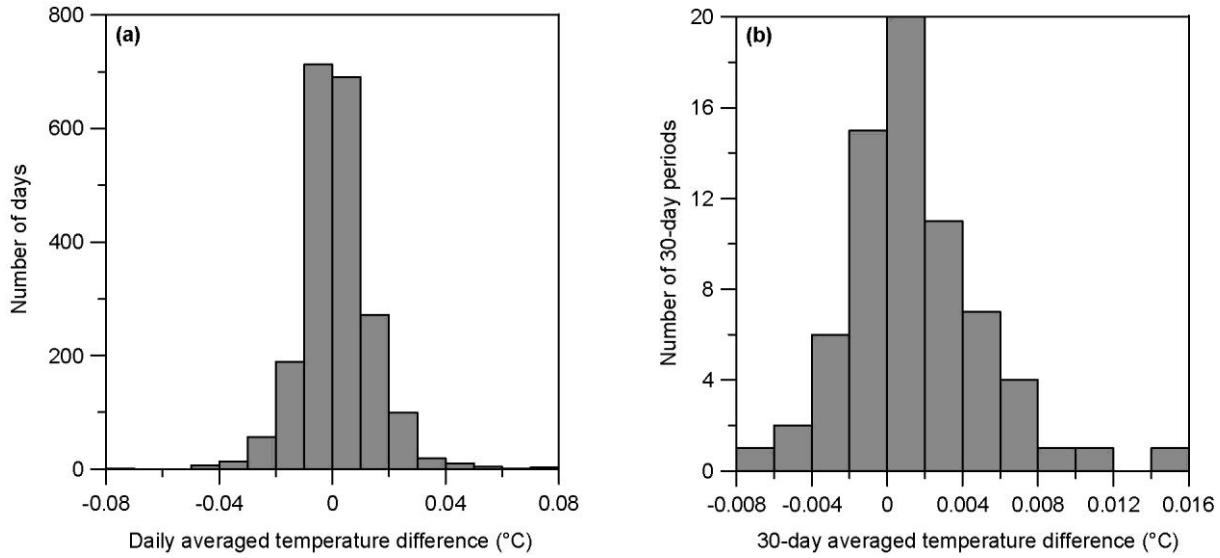

Figure 4. Histograms showing the difference between Microcat-temperature and calibrated ADCP-temperature. (a) Distribution of daily averaged temperature difference for all days with both Microcat and ADCP measurements. (b) Distribution for temperature difference after averaging over 30 days.

4 Time series of bottom temperature at site FB

Using the calibrated ADCP-temperatures in periods without Microcat data, a time series for bottom temperature at FB has been constructed for the period November 1995 to May 2022. This time series has gaps almost all of the years. Typically, the gaps are between 3 to 4 weeks (Table 8). In 2009, the gap was only 3 days and in 2013, there was no gap. In 2004, on the other hand, the gap was more than 40 days, and both 1998 and 1999 had gaps exceeding 100 days.

Table 8. Periods of bottom temperature observations at site FB from November 1995 to May 2022. "A" means that the values are based on calibrated ADCP-temperatures from the period. "M" means that the values are based on Microcat-temperatures from the period. "G" (Gap) means that there are no acceptable temperature data from the period.

	YYYY_DNR-YYYY_DNR	Days		YYYY_DNR-YYYY_DNR	Days		YYYY_DNR-YYYY_DNR	Days
A:	1995_317-1996_145	194	G:	2004_299-2004_301	3	A:	2013_136-2013_163	28
G:	1996_146-1996_167	22	M:	2004_302-2005_142	207	M:	2013_164-2014_135	337
A:	1996_168-1997_144	343	G:	2005_143-2005_162	20	G:	2014_136-2014_160	25
G:	1997_145-1997_167	23	M:	2005_163-2006_143	346	M:	2014_161-2015_143	348
A:	1997_168-1998_164	362	G:	2006_144-2006_163	20	G:	2015_144-2015_164	21
G:	1998_165-1998_184	20	M:	2006_164-2007_138	340	M:	2015_165-2016_141	342
A:	1998_185-1998_254	70	G:	2007_139-2007_160	22	G:	2016_142-2016_162	21
G:	1998_255-1999_185	296	M:	2007_161-2008_136	341	M:	2016_163-2017_137	341
A:	1999_186-2000_170	350	G:	2008_137-2008_158	22	G:	2017_138-2017_164	27
G:	2000_171-2000_191	21	M:	2008_159-2009_155	363	M:	2017_165-2018_140	341
A:	2000_192-2001_166	341	G:	2009_156-2009_158	3	G:	2018_141-2018_168	28
G:	2001_167-2001_189	23	M:	2009_159-2010_134	341	M:	2018_169-2019_136	333
M:	2001_190-2002_166	342	G:	2010_135-2010_156	22	G:	2019_137-2019_160	24
G:	2002_167-2002_188	22	M:	2010_157-2011_142	351	M:	2019_161-2020_142	347
M:	2002_189-2003_166	343	G:	2011_143-2011_163	21	G:	2020_143-2020_164	22
G:	2003_167-2003_186	20	M:	2011_164-2012_142	344	M:	2020_165-2021_144	346
M:	2003_187-2004_146	325	G:	2012_143-2012_162	20	G:	2021_145-2021_163	19
G:	2004_147-2004_185	39	A:	2012_163-2012_274	112	M:	2021_164-2022_133	335
M:	2004_186-2004_298	113	M:	2012_275-2013_135	227			

Most of the data gaps are from the annual servicing period in early summer. Over the years, this has varied somewhat, which complicates comparison between years. One way to bypass this is to chose a common period, which includes all days of the year except for the interval from day number 136 to 195. For 23 out of the 26 years with observations throughout the year (1996 – 2021), there are more than 300 days (between 303 and 306 days) with data in this common period, and we may calculate the average "common temperature", T_{Comm}, for each of these years.

Another method, the "Gap-filling method", is based on the fact that the bottom temperature of the Faroe Bank Channel has a consistent seasonal variation (Hansen et al., 2016). To utilize this, we first derive the seasonal anomaly, ΔT_{Anom}(day number), which has a value for each day of the year (Figure 5). The gaps each year are then filled by adding ΔT_{Anom} for the day number to T_{Comm} for the year where we use the 61-day running mean (thick red curve in Figure 5) for ΔT_{Anom}.

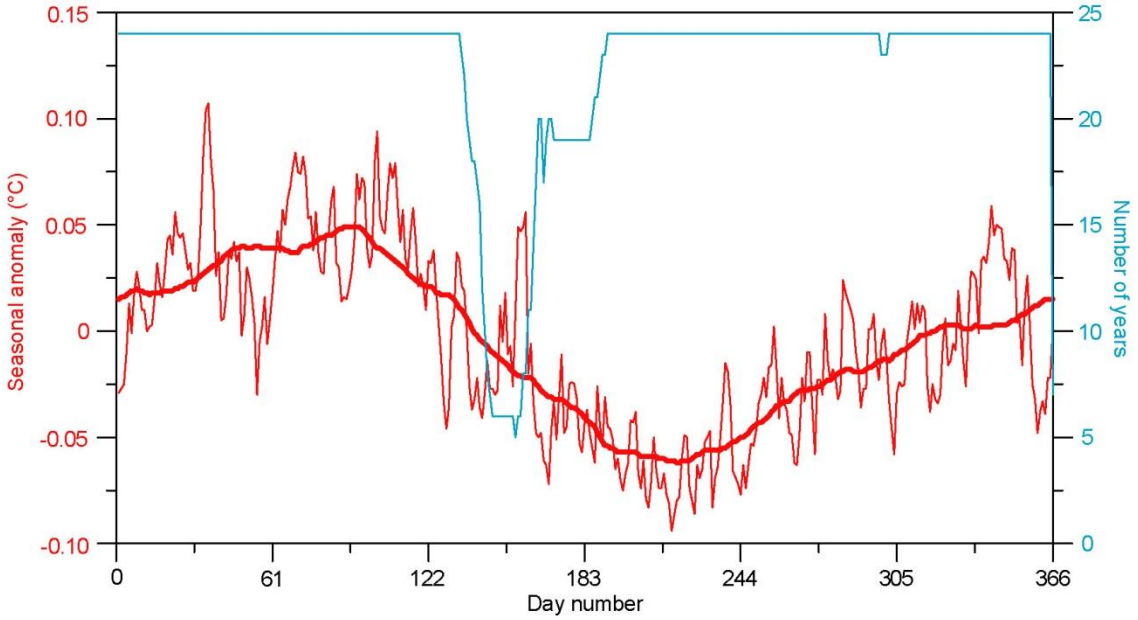

Figure 5. The seasonal anomaly of the bottom temperature at FB. The thin red curve shows the anomaly, calculated as the average of the temperature each day minus the common temperature for that year, where the average is over all years with data for that day (cyan curve).The thick red curve is a 61-day running mean of the thin red curve (cyclical around 31 December).

With the Gap-filling method, we use all the available data and get an average temperature for the whole year; not only for the common period each year. The gap-filling does, however, introduce additional uncertainty. From Figure 5, the typical difference between the thin red curve and the thick red curve is less than 0.05°C. For gaps shorter than two months, the effect on the annual average should be less than one sixth of this, i.e. less than 0.01°C. For the years since 2001 with Microcat measurements, a total uncertainty of 0.01°C therefore seems appropriate. Prior to this, the use of ADCP-temperatures implies a higher uncertainty, estimated at 0.02°C. The two methods for estimating annual averages give only slightly different results (Table 9). The data on O:\UMHVDATA\TIMESER\FBC_Temp\ have been modified accordingly.

Table 9. Comparison between annually averaged temperature at FB calculated for the Common period (T_{Comm}) and using the Gap-filling method (T_{Gapf}).

Difference T_{Gapf} – T_{Comm}				Correlation
Average	Std.dev.	Minimum	Maximum	R
-0.005°C	0.005°C	-0.017°C	0.003°C	0.988 $p<10^{-5}$

5 Time series of bottom temperature at site FC

The ADCP deployments at site FC started later than at site FB and high-quality temperature measurements started even later (Table 1b). Also, there are larger gaps in the data set, but most of the time, the ADCP used at site FC has been 1285, which has already been calibrated. We can therefore generate a time series for bottom temperature at FC, although with large gaps. Using the same common period as for site FB (all days of the year except for the interval from day number 136 to 195), we can calculate annual averages starting in 2003. Large data gaps prevent estimates for 2012, 2013, and 2014 and also for 2017 and 2018, but the remaining years document that FC has had the same overall temperature change as FB, although with FC being consistently colder than FB (Table 10).

From 2015 to 2021, the ADCP deployments at FC as well as at FB included a Microcat (SBE37 or SBE39) and the high-quality temperatures at both sites may be compared. For daily averaged values, the two temperatures are positively correlated, but the correlation coefficient is only 0.86 (Table 10) and, when plotted against each other they exhibit considerable scatter (Figure 6a).

Table 10. Comparison between the temperatures at FB and FC illustrated by the correlation coefficient, R, with statistical significance, p, and by the characteristics of the difference, $\Delta T = T_{FC} - T_{FB}$, (last four columns) for daily and 30-day averaged temperatures. "N" is the number of values.

	N	R	p	Avg.ΔT (°C)	Std.ΔT (°C)	Min.ΔT (°C)	Max.ΔT (°C)
Daily average:	2083	0.86	$p < 10^{-6}$	-0.067	0.074	-0.447	0.107
30-day average:	69	0.97	$p < 10^{-6}$	-0.067	0.024	-0.121	-0.016

When averaging over 30 days, rather than one, the scatter is much reduced (Figure 6b) and the correlation coefficient increases to 0.97 at the same time as the standard deviation of the temperature difference is reduced by a factor of 3 (Table 10).

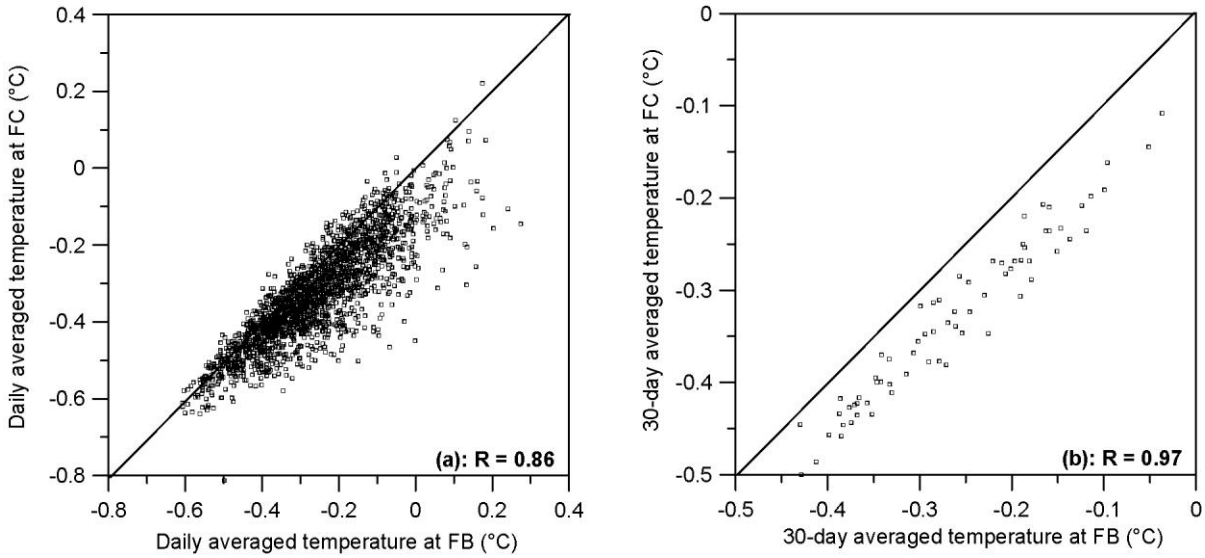

Figure 6. Comparison between bottom temperature at site FB and FC simultaneously. **(a)** Daily averaged temperatures. **(b)** Temperatures averaged over 30-day periods.

The characteristics of the 30-day averaged temperatures (Table 10 and Figure 6b) indicate that over periods of a month or longer, there is a fairly constant temperature difference. This is confirmed in Table 11, which shows averages of whole deployments.

Table 11. The difference, $\Delta T = T_{FC} - T_{FB}$, between temperatures measured by high-quality sensors at site FB and FC for each deployment (identified by the year and month of deployment) separately.

Depl. (YYMM):	1506	1606	1706	1809	1906	2006	2106	All
Days :	342	341	133	239	347	346	335	2083
Avg. ΔT (°C):	-0.057	-0.083	-0.076	-0.065	-0.058	-0.069	-0.068	-0.067
Std. ΔT (°C):	0.065	0.090	0.074	0.079	0.061	0.071	0.075	0.074

6 Depth variation of the temperature over the sill of the Faroe Bank Channel

Although the bottom depth at a site may vary from one deployment to another (due to somewhat different location), the typical bottom depth at site FB is around 810 m (Table 1a), whereas the bottom depth at FC (Table 1b) is around 840 m, which is also generally quoted as the sill depth of the Faroe Bank Channel. At both sites, the ADCP (and Microcat) is moored ≈6 m above the bottom, but there is still a depth difference of ≈30 m between the temperature sensors at both sites. One might guess that this depth difference was the reason for the average temperature difference between the two sites but close to the sill, the temperature changes much more slowly with depth than this (Figure 7).

The temperature difference between FB and FC is therefore due to a horizontal rather than a vertical temperature variation. In a channel like this, isopycnals and isotherms might be expected to slope up towards the right, when following the flow. That is indeed the case farther up in the water column at the interface between the overflow water and the warmer and less dense water above (Hansen et al., 2016), but near the bottom, the slope is clearly in the opposite direction, which is consistent with the thermal wind equation since the overflow velocity increases upwards close to the bottom.

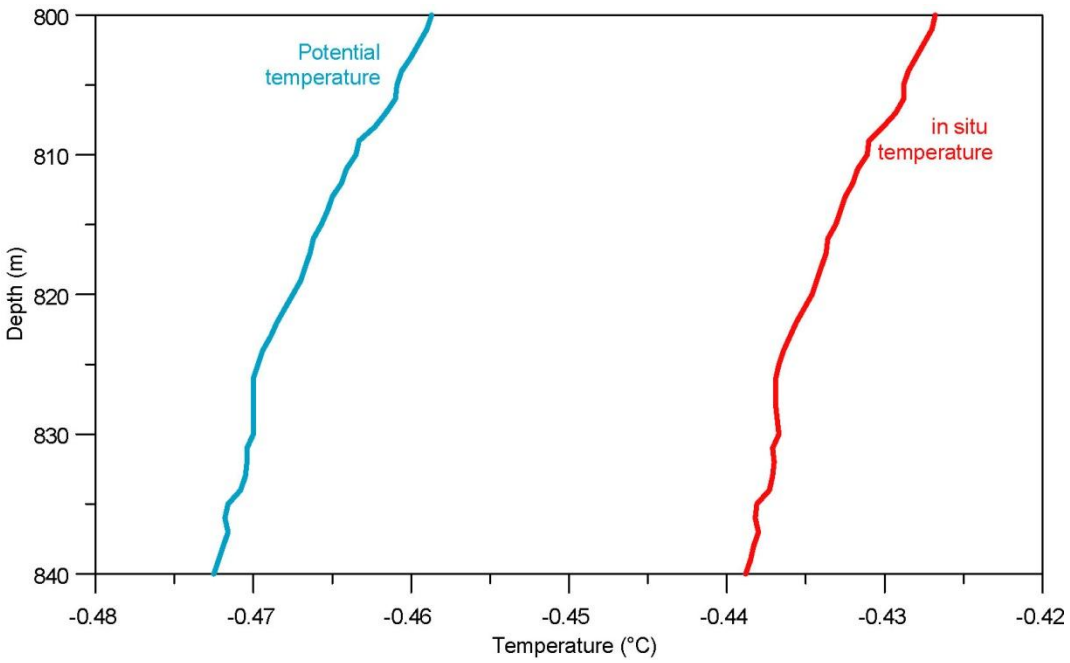

Figure 7. Average depth variation of the in situ (red) and potential (cyan) temperature between 800 and 840 m depth at station V06, located ≈ 15 nautical miles southeast of the sill, based on 92 CTD profiles acquired in the 1988 – 2022 period.

7 Revised time series

The revisions to the FB temperature, discussed in this report, have been used to update the time series for the FB temperature in directory O:\UMHVDATA\TIMESER\FBC_Temp\, which especially affects some of the values before 2013. As argued in Sect. 4, we can assign an uncertainty of 0.01°C to annual averages in 2002 and following years. Before that, there were four years (1996, 1997, 2000, and 2001) with sufficient observations to allow annual averages, but they are assigned a higher uncertainty of 0.02°C.

Since the temperature data at site FB provide the longest and most complete time series of overflow temperature in the Faroe Bank Channel, they are considered the basic data set although colder water may be found both deeper and further west over the sill. Site FC is, however, very close to the actual sill and the bottom temperature at FC ought to represent the deepest and coldest water exiting the channel.

The temperature sensors at both FB and FC are located ≈6 m above the bottom but from Figure 7, it is seen that the temperature change from the instrument down to the bottom is less than 0.002°C and maybe much less than that due to enhanced bottom mixing directly over the sill. The results in Sect. 5 furthermore indicate a close link between temperatures measured at FB and FC on long time scales. From the seven deployment-averages in Table 11, we conclude that the annually (deployment) averaged temperature at FC is colder than at FB by 0.068°C, on average, with a standard error of 0.003°C.

The main conclusion to be drawn is that ***annual averages of the coldest water exiting the Faroe Bank Channel are well estimated by subracting 0.07°C from the annual FB averages***. The potential temperature at the FB ADCP is furthermore 0.032°C colder than the in situ temperature (Figure 7). Thus, ***annual averages of the potential temperature of the coldest overflow water may be estimated by subtracting 0.10°C from the in situ temperature measured at FB***.

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References

Hansen, B., Húsgarð Larsen, K. M., Hátún, H., and Østerhus, S.: A stable Faroe Bank Channel overflow 1995–2015, Ocean Sci., 12, 1205–1220, https://doi.org/10.5194/os-12-1205-2016, 2016.

Appendix A: ADCP deployments and nearby CTD stations used to calibrate ADCP-temperature

```
FGEB9902 | Dp | 61°35.450'N 04°21.880'W |  779 |  671 |  15760 |  10 | 99/02/21 21:50 | 99/06/11 08:20 | 109 | 1642
  9908 99020008 1999 02 21 22 14 00   61°35.000N 004°15.000W   976m
  9932 99050059 1999 05 05 10 35 00   61°35.000N 004°15.000W   990m
  9932 99050060 1999 05 05 13 50 00   61°36.000N 004°33.000W   569m
  9940 99060043 1999 06 11 07 20 00   61°38.000N 004°33.000W   539m
FGEB9907 | Dp | 61°36.201'N 04°20.193'W |  787 |  679 |  25085 |  20 | 99/07/05 04:40 | 00/06/17 14:00 | 348 | 1642
  9964 99090045 1999 09 12 07 14 00   61°38.000N 004°33.000W   540m
  9964 99090046 1999 09 12 08 24 00   61°35.000N 004°15.000W   984m
  9988 99110054 1999 11 07 12 04 00   61°35.000N 004°15.000W   981m
  9988 99110055 1999 11 07 13 26 00   61°38.000N 004°33.000W   539m
  0008 00080042 2000 02 29 22 36 00   61°35.000N 004°15.000W   996m
  0008 00080043 2000 03 01 00 27 00   61°38.000N 004°33.000W   550m
  0032 00320062 2000 05 11 09 57 00   61°35.000N 004°15.000W   958m
  0032 00320063 2000 05 11 11 34 00   61°36.000N 004°33.000W   569m
FGEC9902 | Dp | 61°32.540'N 03°59.830'W | 1195 |  682 |  15757 |  10 | 99/02/22 00:30 | 99/06/11 10:30 | 109 | 1644
  9932 99050054 1999 05 05 00 47 00   61°25.000N 004°06.000W  1172m
  9932 99050056 1999 05 05 04 17 00   61°32.000N 003°51.000W  1238m
  9932 99050059 1999 05 05 10 35 00   61°35.000N 004°15.000W   990m
  9940 99060045 1999 06 11 09 08 00   61°35.000N 004°15.000W   982m
FGEC9907 | Dp | 61°29.387'N 03°45.463'W | 1221 |  708 |  25100 |  20 | 99/07/05 02:20 | 00/06/17 16:40 | 348 | 1644
  9964 99090047 1999 09 12 09 46 00   61°32.000N 003°57.000W  1222m
  9964 99090048 1999 09 12 11 07 00   61°28.000N 003°42.000W  1232m
  9988 99110052 1999 11 07 09 12 00   61°28.000N 003°42.000W  1232m
  9988 99110053 1999 11 07 10 36 00   61°32.000N 003°57.000W  1220m
  0008 00080040 2000 02 29 19 05 00   61°28.000N 003°42.000W  1234m
  0008 00080041 2000 02 29 20 45 00   61°32.000N 003°57.000W  1225m
  0032 00320059 2000 05 11 03 35 00   61°28.000N 003°42.000W  1232m
  0032 00320060 2000 05 11 05 05 00   61°32.000N 003°51.000W  1237m
NWFA0107 | Dp | 61°26.527'N 08°14.434'W |  703 |  696 |   4588 |  20 | 01/07/08 22:40 | 01/09/10 15:40 |  63 |    0
NWFA9807 | Dp | 61°26.409'N 08°14.560'W |  718 |  712 |   5138 |  20 | 98/07/03 08:20 | 98/09/12 17:20 |  71 | 1284
  9848 98070005 1998 07 03 08 55 00   61°26.000N 008°15.000W   750m
  9848 98070006 1998 07 03 09 30 00   61°25.000N 008°17.000W   824m
  9848 98070007 1998 07 03 10 20 00   61°24.000N 008°19.000W   846m
  9848 98070008 1998 07 03 11 00 00   61°22.000N 008°21.000W   576m
  9864 98090058 1998 09 12 13 00 00   61°22.000N 008°21.000W   576m
  9864 98090059 1998 09 12 13 57 00   61°24.000N 008°19.000W   837m
  9864 98090061 1998 09 12 15 15 00   61°25.000N 008°17.000W   822m
  9864 98090064 1998 09 12 16 50 00   61°26.000N 008°15.000W   755m
NWFB0007 | Dp | 61°24.980'N 08°16.900'W |  814 |  807 |  24662 |  20 | 00/07/09 07:40 | 01/06/16 20:00 | 342 | 1642
  0108 01080021 2001 02 25 01 10 00   61°24.980N 008°16.900W   821m
NWFB0107 | Dp | 61°24.923'N 08°16.965'W |  814 |  808 |  24680 |  20 | 01/07/08 22:00 | 02/06/16 16:20 | 342 | 1642
  0148 01480035 2001 07 08 22 25 00   61°28.000N 008°13.000W   573m
NWFB9410 | Dp | 61°22.539'N 07°49.079'W |  689 |  676 |    750 |   5 | 94/10/24 21:00 | 94/10/27 11:25 |   2 | 1292
  9484 94100115 1994 10 24 21 12 00   61°20.000N 007°53.000W   810m
  9484 94100116 1994 10 24 23 00 00   61°16.000N 008°00.000W   879m
NWFB9511 | Dp | 61°25.051'N 08°17.207'W |  813 |  805 |  18735 |  15 | 95/11/12 02:00 | 96/05/25 05:30 | 195 | 1292
NWFB9606 | Dp | 61°25.038'N 08°17.366'W |  817 |  809 |  24738 |  20 | 96/06/15 22:00 | 97/05/25 11:40 | 343 | 1292
  9736 97050005 1997 05 02 23 27 00   61°20.000N 008°05.000W   841m
NWFB9706 | Dp | 61°24.980'N 08°16.980'W |  816 |  810 |  26130 |  20 | 97/06/16 15:40 | 98/06/14 13:20 | 362 | 1292
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  9840 98060070 1998 06 14 11 10 00   61°24.000N 008°19.000W   837m
  9840 98060071 1998 06 14 12 00 00   61°26.900N 008°15.100W   708m
  9840 98060072 1998 06 14 12 45 00   61°29.500N 008°11.300W   363m
NWFB9807 | Dp | 61°24.930'N 08°17.340'W |  818 |  812 |   5135 |  20 | 98/07/03 08:20 | 98/09/12 15:40 |  71 | 1292
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  9848 98070006 1998 07 03 09 30 00   61°25.000N 008°17.000W   824m
  9848 98070007 1998 07 03 10 20 00   61°24.000N 008°19.000W   846m
  9848 98070008 1998 07 03 11 00 00   61°22.000N 008°21.000W   576m
  9864 98090058 1998 09 12 13 00 00   61°22.000N 008°21.000W   576m
  9864 98090059 1998 09 12 13 57 00   61°24.000N 008°19.000W   837m
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NWFB9907 | Dp | 61°24.975'N 08°16.860'W |  812 |  806 |  25290 |  20 | 99/07/04 10:20 | 00/06/19 16:00 | 351 | 1285
NWFC0107 | Sh | 61°23.698'N 08°19.187'W |  834 |  824 |   9036 |  10 | 01/07/09 22:50 | 01/09/10 16:40 |  62 |  603
NWFC9807 | Dp | 61°23.609'N 08°18.957'W |  836 |  830 |   5133 |  20 | 98/07/03 07:40 | 98/09/12 14:20 |  71 | 1285
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  9848 98070005 1998 07 03 08 55 00   61°26.000N 008°15.000W   750m
  9848 98070006 1998 07 03 09 30 00   61°25.000N 008°17.000W   824m
  9848 98070007 1998 07 03 10 20 00   61°24.000N 008°19.000W   846m
  9848 98070008 1998 07 03 11 00 00   61°22.000N 008°21.000W   576m
  9864 98090058 1998 09 12 13 00 00   61°22.000N 008°21.000W   576m
  9864 98090059 1998 09 12 13 57 00   61°24.000N 008°19.000W   837m
```

NWNA0007 | Sh | 62°42.048'N 06°04.456'W | 297 | 296 | 24752 | 20 | 00/07/07 14:20 | 01/06/16 08:40 | 343 | 1279
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0060 00600004 2000 09 08 13 55 00 62°50.000N 006°05.000W 550m
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0084 00840046 2000 11 06 16 18 00 62°50.000N 006°05.000W 554m
0108 01080041 2001 02 27 05 22 00 62°40.000N 006°05.000W 195m
0108 01080042 2001 02 27 07 14 00 62°50.000N 006°05.000W 551m
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0128 01280025 2001 04 21 06 36 28 62°34.929N 006°04.921W 153m
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0132 01320113 2001 05 16 09 34 00 62°50.000N 006°05.000W 550m
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0140 01400004 2001 06 15 06 18 00 62°50.000N 006°05.000W 553m
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0184 01840021 2001 11 04 20 39 00 62°50.000N 006°05.000W 551m
0208 02080003 2002 02 21 06 29 32 62°39.868N 006°04.903W 185m
0208 02080004 2002 02 21 07 58 08 62°50.017N 006°05.033W 555m
0232 02320013 2002 05 18 03 13 06 62°40.066N 006°05.054W 211m
0232 02320014 2002 05 18 04 53 06 62°49.983N 006°04.894W 552m
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9607 96020070 1996 02 16 05 20 00 62°40.050N 006°04.930W 220m
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9608 96020078 1996 02 17 05 45 00 62°40.000N 006°04.940W 205m
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9628 96040078 1996 04 28 08 05 00 62°35.000N 006°05.000W 154m
9628 96040079 1996 04 28 09 06 00 62°40.000N 006°05.000W 240m
9628 96040080 1996 04 28 10 01 00 62°45.000N 006°05.000W 398m
9628 96040081 1996 04 28 10 58 00 62°50.000N 006°05.000W 577m
9632 96050170 1996 05 20 05 15 00 62°41.000N 005°58.000W 305m
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9660 96080234 1996 08 30 03 11 00 62°40.000N 006°05.000W 195m
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9724 97040029 1997 04 03 22 35 00 62°35.000N 006°05.000W 148m
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9724 97040033 1997 04 04 01 20 00 62°45.000N 006°05.000W 394m
9724 97040035 1997 04 04 02 40 00 62°50.000N 006°05.100W 550m
9732 97040199 1997 04 26 14 40 00 62°35.000N 006°05.000W 149m
9732 97040201 1997 04 26 15 35 00 62°40.000N 006°05.000W 223m
9732 97040203 1997 04 26 16 25 00 62°45.000N 006°05.000W 393m
9736 97050152 1997 05 20 06 45 00 62°50.000N 006°05.000W 550m
9736 97050153 1997 05 20 08 20 00 62°40.000N 006°05.000W 390m
NWNA9706 | Sh | 62°42.315'N 06°05.170'W | 300 | 299 | 25893 | 20 | 97/06/14 12:40 | 98/06/09 03:20 | 359 | 1244
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9764 97080233 1997 08 29 07 30 00 62°50.000N 006°05.000W 543m
9792 97110053 1997 11 09 10 05 00 62°40.000N 006°05.000W 215m
9792 97110054 1997 11 09 11 15 00 62°50.000N 006°05.000W 555m
9808 98020004 1998 02 12 10 42 00 62°40.000N 006°05.000W 195m
9808 98020006 1998 02 12 12 35 00 62°50.000N 006°05.000W 550m
9828 98040101 1998 04 20 14 12 00 62°35.000N 006°05.000W 149m
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9828 98040105 1998 04 20 16 00 00 62°45.000N 006°05.000W 395m
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9832 98050151 1998 05 19 10 46 00 62°40.000N 006°05.000W 182m
NWNA9807 | Sh | 62°42.178'N 06°05.043'W | 297 | 296 | 25969 | 20 | 98/07/07 06:20 | 99/07/02 22:20 | 360 | 1244
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9864 98090090 1998 09 15 05 35 00 62°50.000N 006°05.000W 556m
9888 98110037 1998 11 08 19 40 00 62°40.000N 006°05.000W 208m
9888 98110038 1998 11 08 20 47 00 62°50.000N 006°05.000W 547m
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NWNA9907 | Sh | 62°41.947'N 06°03.887'W |  295 |  294 |  25194 |  20 | 99/07/02 04:40 | 00/06/16 02:20 | 349 | 1279
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  0028 00280021 2000 04 29 06 30 00   62°35.000N 006°05.000W   150m
  0032 00320155 2000 05 25 11 34 00   62°40.000N 006°05.000W   199m
  0032 00320156 2000 05 25 12 15 00   62°50.000N 006°05.000W   550m
NWNB0007 | Dp | 62°55.106'N 06°05.024'W |  954 |  712 |  24738 |  20 | 00/07/07 16:20 | 01/06/16 06:00 | 343 | 1577
  0048 00480031 2000 07 11 03 19 00   62°55.200N 006°05.800W   991m
  0060 00600004 2000 09 08 13 55 00   62°50.000N 006°05.000W   550m
  0060 00600005 2000 09 08 15 50 00   63°00.000N 006°05.000W  1700m
  0060 00600006 2000 09 08 17 56 00   63°00.000N 006°05.000W  1700m
  0084 00840046 2000 11 06 16 18 00   62°50.000N 006°05.000W   554m
  0084 00840047 2000 11 06 17 45 00   63°00.000N 006°05.000W  1622m
  0108 01080042 2001 02 27 07 14 00   62°50.000N 006°05.000W   551m
  0108 01080043 2001 02 27 09 29 00   63°00.000N 006°05.000W  1700m
  0132 01320113 2001 05 16 09 34 00   62°50.000N 006°05.000W   550m
  0132 01320115 2001 05 16 13 31 00   63°00.000N 006°05.000W  1680m
  0132 01320150 2001 05 26 19 36 00   62°55.100N 006°05.024W   974m
  0132 01320151 2001 05 26 20 38 00   62°52.700N 006°05.031W   700m
  0140 01400004 2001 06 15 06 18 00   62°50.000N 006°05.000W   553m
  0140 01400005 2001 06 15 08 38 00   63°00.000N 006°05.000W  1700m
NWNB0107 | Dp | 62°55.260'N 06°05.115'W |  980 |  732 |  24768 |  20 | 01/07/06 03:20 | 02/06/15 03:00 | 344 | 1577
  0160 01600004 2001 09 06 19 45 00   62°50.000N 006°05.000W   550m
  0160 01600005 2001 09 06 21 38 00   63°00.000N 006°05.000W  1700m
  0184 01840021 2001 11 04 20 39 00   62°50.000N 006°05.000W   551m
  0184 01840022 2001 11 04 22 43 00   63°00.000N 006°05.000W  1700m
  0208 02080004 2002 02 21 07 58 08   62°50.017N 006°05.033W   555m
  0208 02080005 2002 02 21 09 28 42   62°59.978N 006°05.100W  1516m
  0232 02320014 2002 05 18 04 53 06   62°49.983N 006°04.894W   552m
  0232 02320015 2002 05 18 06 46 11   63°00.152N 006°05.237W  1700m
NWNB0207 | Dp | 62°55.268'N 06°05.120'W |  981 |  733 |  24811 |  20 | 02/07/05 04:00 | 03/06/14 18:00 | 344 | 1577
  0264 02640004 2002 09 05 23 34 16   62°50.035N 006°05.038W   553m
  0264 02640005 2002 09 06 00 56 42   63°00.055N 006°05.017W  1767m
  0280 02800005 2002 10 19 15 33 46   62°50.174N 006°05.053W   559m
  0280 02800006 2002 10 19 17 54 50   63°00.257N 006°05.437W  1428m
  0284 02840004 2002 11 01 06 54 18   62°50.082N 006°04.933W   560m
  0284 02840005 2002 11 01 08 15 25   63°00.073N 006°05.237W  1705m
NWNB9410 | Dp | 62°55.088'N 06°04.630'W |  962 |  654 |  34028 |   5 | 94/10/22 06:25 | 95/02/17 10:00 | 118 | 1287
  9484 94100081 1994 10 22 06 51 00   62°50.000N 006°05.000W   557m
  9508 95020044 1995 02 17 09 10 00   62°50.000N 006°05.000W   558m
NWNB9706 | Dp | 62°54.818'N 06°04.957'W |  907 |  659 |  26281 |  20 | 97/06/13 08:40 | 98/06/13 08:40 | 365 | 1284
  9748 97060048 1997 06 13 09 00 00   63°00.000N 006°05.000W  1691m
  9764 97080233 1997 08 29 07 30 00   62°50.000N 006°05.000W   543m
  9764 97080234 1997 08 29 09 00 00   63°00.000N 006°05.000W  1700m
  9792 97110054 1997 11 09 11 15 00   62°50.000N 006°05.000W   555m
  9792 97110056 1997 11 09 13 10 00   63°00.000N 006°05.000W  1700m
  9808 98020006 1998 02 12 12 35 00   62°50.000N 006°05.000W   550m
  9808 98020007 1998 02 12 14 05 00   63°00.000N 006°05.000W  1695m
  9828 98040105 1998 04 20 16 00 00   62°45.000N 006°05.000W   395m
  9832 98050148 1998 05 19 05 35 00   63°00.000N 006°05.000W  1700m
  9832 98050149 1998 05 19 07 26 00   62°50.000N 006°05.000W   550m
  9840 98060045 1998 06 12 08 10 00   62°50.000N 006°05.000W   553m
  9840 98060046 1998 06 12 09 40 00   63°00.000N 006°05.000W  1700m
NWNB9807 | Dp | 62°55.158'N 06°04.844'W |  961 |  708 |  25186 |  20 | 98/07/04 23:20 | 99/06/19 18:20 | 349 | 1245
  9848 98070037 1998 07 06 00 30 00   63°00.000N 006°05.000W  1700m
  9848 98070038 1998 07 06 02 15 00   62°50.000N 006°05.000W   551m
  9864 98090090 1998 09 15 05 35 00   62°50.000N 006°05.000W   556m
  9864 98090091 1998 09 15 08 00 00   63°00.000N 006°05.000W  1700m
  9888 98110038 1998 11 08 20 47 00   62°50.000N 006°05.000W   547m
  9888 98110039 1998 11 08 22 06 00   63°00.000N 006°05.000W  1686m
  9908 99020015 1999 02 23 10 55 00   62°50.000N 006°05.000W   552m
  9908 99020016 1999 02 23 12 22 00   63°00.000N 006°05.000W  1700m
  9932 99050179 1999 05 25 06 48 00   63°00.000N 006°05.000W  1700m
  9932 99050180 1999 05 25 08 32 00   62°50.000N 006°05.000W   556m
  9940 99060086 1999 06 14 13 58 00   63°00.000N 006°05.000W  1737m
  9940 99060087 1999 06 14 15 40 00   62°50.000N 006°05.000W   546m
NWNB9907 | Dp | 62°55.012'N 06°05.250'W |  947 |  705 |    349 |  20 | 99/07/02 07:40 | 99/07/07 03:40 |   4 | 1577
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NWNB9908 | Dp | 62°55.133'N 06°05.052'W | 957 | 715 | 21675 | 20 | 99/08/20 04:00 | 00/06/16 04:40 | 301 | 1577
9964 99090030 1999 09 10 15 30 00 62°50.000N 006°05.000W 568m
9964 99090031 1999 09 10 16 40 00 63°00.000N 006°05.000W 1700m
9988 99110063 1999 11 08 00 22 00 62°50.000N 006°05.000W 554m
9988 99110064 1999 11 08 01 40 00 63°00.000N 006°05.000W 1700m
0012 00120018 2000 03 04 22 30 00 62°50.000N 006°05.000W 550m
0012 00120019 2000 03 04 23 50 00 63°00.000N 006°05.000W 1694m
0032 00320156 2000 05 25 12 15 00 62°50.000N 006°05.000W 550m
0032 00320157 2000 05 25 14 05 00 63°00.000N 006°05.000W 1700m
NWNC9410 | Dp | 63°16.350'N 06°06.300'W | 1730 | 616 | 34133 | 5 | 94/10/22 02:35 | 95/02/17 14:55 | 118 | 1285
9484 94100078 1994 10 22 03 00 00 63°10.000N 006°05.000W 1600m
9508 95020047 1995 02 17 13 30 00 63°10.000N 006°05.000W 1939m
NWNC9606 | Dp | 63°16.082'N 06°06.509'W | 1731 | 640 | 24467 | 20 | 96/06/16 22:00 | 97/05/22 17:20 | 339 | 1285
9660 96080237 1996 08 30 07 30 00 63°10.070N 006°05.100W 1936m
9660 96080238 1996 08 30 09 10 00 63°20.116N 006°05.370W 1729m
9688 96110061 1996 11 10 21 40 00 63°10.000N 006°05.000W 1936m
9688 96110063 1996 11 10 23 45 00 63°20.000N 006°05.000W 1731m
9708 97020086 1997 02 16 16 24 00 63°10.000N 006°05.000W 1600m
9708 97020087 1997 02 16 18 03 00 63°20.000N 006°05.000W 1750m
9736 97050149 1997 05 20 01 25 00 63°20.000N 006°05.000W 1700m
9736 97050150 1997 05 20 02 10 00 63°10.000N 006°05.000W 1600m
NWNC9706 | Dp | 63°16.425'N 06°06.600'W | 1733 | 659 | 26254 | 20 | 97/06/13 13:40 | 98/06/13 04:40 | 364 | 1285
9764 97080235 1997 08 29 10 45 00 63°10.000N 006°05.000W 1930m
9764 97080236 1997 08 29 12 58 00 63°20.000N 006°05.000W 1794m
9792 97110058 1997 11 09 15 16 00 63°10.000N 006°05.000W 1941m
9792 97110060 1997 11 09 17 25 00 63°20.000N 006°05.000W 1700m
9808 98020008 1998 02 12 15 55 00 63°10.000N 006°05.000W 1936m
9808 98020009 1998 02 12 17 55 00 63°20.000N 006°05.000W 1731m
9832 98050146 1998 05 19 01 56 00 63°20.000N 006°05.000W 1700m
9832 98050147 1998 05 19 03 46 00 63°10.000N 006°05.000W 1900m
9840 98060047 1998 06 12 11 25 00 63°10.000N 006°05.000W 1900m
9840 98060048 1998 06 12 13 18 00 63°20.000N 006°05.000W 1700m
NWNC9807 | Dp | 63°15.944'N 06°06.299'W | 1728 | 655 | 25187 | 20 | 98/07/05 01:40 | 99/06/19 21:00 | 349 | 1577
9848 98070035 1998 07 05 21 02 00 63°20.000N 006°05.000W 2000m
9848 98070036 1998 07 05 22 50 00 63°10.000N 006°05.000W 2080m
9864 98090092 1998 09 15 11 15 00 63°10.000N 006°05.000W 1900m
9888 98110040 1998 11 08 23 50 00 63°10.000N 006°05.000W 1935m
9888 98110041 1998 11 09 01 35 00 63°20.000N 006°05.000W 1730m
9908 99020017 1999 02 23 14 13 00 63°10.000N 006°05.000W 1900m
9908 99020018 1999 02 23 16 00 00 63°20.000N 006°05.000W 1700m
9932 99050177 1999 05 25 02 56 00 63°20.000N 006°05.000W 1700m
9932 99050178 1999 05 25 04 55 00 63°10.000N 006°05.000W 1900m
9940 99060084 1999 06 14 10 05 00 63°20.000N 006°05.000W 1734m
9940 99060085 1999 06 14 12 00 00 63°10.000N 006°05.000W 1934m
NWNC9907 | Dp | 63°15.920'N 06°06.390'W | 1740 | 667 | 25192 | 20 | 99/07/02 10:20 | 00/06/16 07:20 | 349 | 1292
9964 99090032 1999 09 10 18 22 00 63°10.000N 006°05.000W 1900m
9964 99090033 1999 09 10 20 00 00 63°20.000N 006°05.000W 1700m
9988 99110065 1999 11 08 03 26 00 63°10.000N 006°05.000W 1900m
9988 99110066 1999 11 08 05 10 00 63°20.000N 006°05.000W 1700m
0012 00120020 2000 03 05 01 40 00 63°10.000N 006°05.000W 1939m
0012 00120021 2000 03 05 03 25 00 63°20.000N 006°05.000W 1731m
0032 00320158 2000 05 25 15 50 00 63°10.000N 006°05.000W 1900m
0032 00320159 2000 05 25 17 17 00 63°20.000N 006°05.000W 1700m
NWND9711 | Dp | 62°57.540'N 06°05.600'W | 1283 | 670 | 15410 | 20 | 97/11/11 07:20 | 98/06/13 07:40 | 214 | 1245
9808 98020006 1998 02 12 12 35 00 62°50.000N 006°05.000W 550m
9808 98020007 1998 02 12 14 05 00 63°00.000N 006°05.000W 1695m
9832 98050148 1998 05 19 05 35 00 63°00.000N 006°05.000W 1700m
9832 98050149 1998 05 19 07 26 00 62°50.000N 006°05.000W 550m
9840 98060045 1998 06 12 08 10 00 62°50.000N 006°05.000W 553m
9840 98060046 1998 06 12 09 40 00 63°00.000N 006°05.000W 1700m
NWNE0007 | Sh | 62°47.490'N 06°05.100'W | 456 | 455 | 24795 | 20 | 00/07/06 23:00 | 01/06/16 07:40 | 344 | 1244
0048 00480031 2000 07 11 03 19 00 62°55.200N 006°05.800W 991m
0060 00600003 2000 09 08 12 00 00 62°40.000N 006°05.000W 189m
0060 00600004 2000 09 08 13 55 00 62°50.000N 006°05.000W 550m
0084 00840045 2000 11 06 15 00 00 62°40.000N 006°05.000W 195m
0084 00840046 2000 11 06 16 18 00 62°50.000N 006°05.000W 554m
0108 01080041 2001 02 27 05 22 00 62°40.000N 006°05.000W 195m
0108 01080042 2001 02 27 07 14 00 62°50.000N 006°05.000W 551m
0128 01280023 2001 04 21 05 34 17 62°40.176N 006°04.825W 234m
0132 01320112 2001 05 16 08 13 00 62°40.000N 006°05.000W 193m
0132 01320113 2001 05 16 09 34 00 62°50.000N 006°05.000W 550m
0132 01320150 2001 05 26 19 36 00 62°55.100N 006°05.024W 974m
0132 01320151 2001 05 26 20 38 00 62°52.700N 006°05.031W 700m
0140 01400003 2001 06 15 04 58 00 62°40.000N 006°05.000W 192m
0140 01400004 2001 06 15 06 18 00 62°50.000N 006°05.000W 553m

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NWNF0007 | Dp | 62°52.700'N 06°05.031'W |  697 |  689 |  24788 |  20 | 00/07/07 00:40 | 01/06/16 07:00 | 344 | 1285
  0048 00480031 2000 07 11 03 19 00   62°55.200N 006°05.800W   991m
  0060 00600004 2000 09 08 13 55 00   62°50.000N 006°05.000W   550m
  0060 00600005 2000 09 08 15 50 00   63°00.000N 006°05.000W  1700m
  0060 00600006 2000 09 08 17 56 00   63°00.000N 006°05.000W  1700m
  0084 00840046 2000 11 06 16 18 00   62°50.000N 006°05.000W   554m
  0084 00840047 2000 11 06 17 45 00   63°00.000N 006°05.000W  1622m
  0108 01080042 2001 02 27 07 14 00   62°50.000N 006°05.000W   551m
  0108 01080043 2001 02 27 09 29 00   63°00.000N 006°05.000W  1700m
  0132 01320113 2001 05 16 09 34 00   62°50.000N 006°05.000W   550m
  0132 01320115 2001 05 16 13 31 00   63°00.000N 006°05.000W  1680m
  0132 01320150 2001 05 26 19 36 00   62°55.100N 006°05.024W   974m
  0132 01320151 2001 05 26 20 38 00   62°52.700N 006°05.031W   700m
  0140 01400004 2001 06 15 06 18 00   62°50.000N 006°05.000W   553m
  0140 01400005 2001 06 15 08 38 00   63°00.000N 006°05.000W  1700m
NWNG0007 | Dp | 63°05.955'N 06°05.015'W | 1816 |  643 |  24723 |  20 | 00/07/07 18:00 | 01/06/16 02:40 | 343 | 1292
  0060 00600005 2000 09 08 15 50 00   63°00.000N 006°05.000W  1700m
  0060 00600006 2000 09 08 17 56 00   63°00.000N 006°05.000W  1700m
  0060 00600007 2000 09 08 20 10 00   63°10.000N 006°05.000W  1900m
  0084 00840047 2000 11 06 17 45 00   63°00.000N 006°05.000W  1622m
  0084 00840048 2000 11 06 19 41 00   63°10.000N 006°05.000W  1900m
  0108 01080043 2001 02 27 09 29 00   63°00.000N 006°05.000W  1700m
  0108 01080044 2001 02 27 11 27 00   63°10.000N 006°05.000W  1737m
  0132 01320115 2001 05 16 13 31 00   63°00.000N 006°05.000W  1680m
  0132 01320116 2001 05 16 15 43 00   63°10.000N 006°05.000W  1942m
  0140 01400005 2001 06 15 08 38 00   63°00.000N 006°05.000W  1700m
  0140 01400006 2001 06 15 10 48 00   63°10.000N 006°05.000W  1900m
NWNG0107 | Dp | 63°06.340'N 06°04.900'W | 1811 |  638 |  24745 |  20 | 01/07/06 05:00 | 02/06/14 21:00 | 343 | 1292
  0160 01600005 2001 09 06 21 38 00   63°00.000N 006°05.000W  1700m
  0160 01600006 2001 09 07 00 28 00   63°10.000N 006°05.000W  1900m
  0184 01840022 2001 11 04 22 43 00   63°00.000N 006°05.000W  1700m
  0184 01840023 2001 11 05 00 08 00   63°10.000N 006°05.000W  1920m
  0208 02080005 2002 02 21 09 28 42   62°59.978N 006°05.100W  1516m
  0208 02080006 2002 02 21 11 24 32   63°10.012N 006°04.955W  1920m
  0232 02320015 2002 05 18 06 46 11   63°00.152N 006°05.237W  1700m
  0232 02320018 2002 05 18 12 57 46   63°10.084N 006°05.269W  1733m
NWSA9511 | Sh | 61°00.069'N 05°50.027'W |  298 |  297 |  19139 |  15 | 95/11/10 09:00 | 96/05/27 17:30 | 199 | 1278
  9608 96020107 1996 02 19 14 15 00   61°02.000N 005°57.000W   272m
  9632 96050065 1996 05 09 01 10 00   61°00.000N 005°57.000W   272m
NWSA9606 | Sh | 60°59.818'N 05°50.459'W |  295 |  294 |  24707 |  20 | 96/06/14 07:20 | 97/05/23 10:40 | 343 | 1278
  9644 96060055 1996 06 14 13 55 00   61°02.000N 005°57.000W   270m
  9660 96090005 1996 09 01 12 05 00   61°02.000N 005°57.000W   270m
  9688 96110037 1996 11 09 08 45 00   61°02.000N 005°57.000W   274m
  9708 97020062 1997 02 15 00 44 00   61°02.000N 005°57.000W   278m
NWSA9811 | Sh | 61°00.137'N 05°50.612'W |  295 |  294 |  15722 |  20 | 98/11/06 08:40 | 99/06/12 17:00 | 218 | 1279
  9940 99060062 1999 06 12 11 50 00   61°02.000N 005°57.000W   273m
NWSA9907 | Sh | 61°00.000'N 05°51.400'W |  293 |  292 |  25140 |  20 | 99/07/06 22:20 | 00/06/20 02:00 | 349 | 1244
  9964 99090059 1999 09 13 06 50 00   61°02.000N 005°57.000W   273m
  9988 99110041 1999 11 06 14 02 00   61°02.000N 005°57.000W   271m
  0008 00080029 2000 02 28 22 20 00   61°02.000N 005°57.000W   273m
NWSB0007 | Dp | 60°47.000'N 05°18.200'W |  786 |  678 |  24758 |  20 | 00/07/08 21:20 | 01/06/17 17:40 | 343 | 1644
  0060 00600031 2000 09 11 07 55 00   60°43.000N 005°06.000W   910m
  0060 00600032 2000 09 11 09 05 00   60°47.000N 005°16.000W   824m
  0060 00600033 2000 09 11 10 17 00   60°51.000N 005°29.000W   592m
  0084 00840025 2000 11 05 04 15 00   60°51.000N 005°29.000W   586m
  0084 00840026 2000 11 05 05 17 00   60°47.000N 005°16.000W   825m
  0084 00840027 2000 11 05 06 20 00   60°43.000N 005°06.000W   910m
  0108 01080029 2001 02 25 13 40 00   60°51.000N 005°29.000W   584m
  0108 01080030 2001 02 25 14 50 00   60°47.000N 005°16.000W   821m
  0108 01080031 2001 02 25 15 55 00   60°43.000N 005°06.000W   909m
  0132 01320053 2001 05 10 04 20 00   60°44.000N 005°04.000W   921m
NWSB0107 | Dp | 60°47.100'N 05°18.800'W |  775 |  667 |  24688 |  20 | 01/07/08 00:40 | 02/06/15 21:40 | 342 | 1644
  0160 01600044 2001 09 10 04 28 00   60°43.000N 005°06.000W   908m
  0160 01600045 2001 09 10 05 35 00   60°47.000N 005°16.000W   820m
  0160 01600046 2001 09 10 06 46 00   60°51.000N 005°29.000W   578m
  0208 02080035 2002 02 24 06 55 06   60°51.087N 005°29.005W   590m
  0208 02080036 2002 02 24 08 02 26   60°47.056N 005°16.025W   830m
  0208 02080037 2002 02 24 09 12 10   60°43.009N 005°05.863W   912m
NWSB9410 | Dp | 60°47.330'N 05°17.877'W |  783 |  680 |  34541 |   5 | 94/10/23 09:35 | 95/02/20 07:55 | 119 | 1245
  9484 94100092 1994 10 23 10 12 00   60°43.000N 005°06.000W   910m
  9508 95020072 1995 02 20 01 00 00   60°51.000N 005°29.000W   600m
  9508 95020073 1995 02 20 02 20 00   60°47.000N 005°16.000W   828m
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NWSB9511 | Dp | 60°47.206'N 05°17.911'W | 785 | 682 | 18839 | 15 | 95/11/10 14:45 | 96/05/24 20:15 | 196 | 1245
  9568 95110008 1995 11 10 14 45 00   60°47.000N 005°16.000W   826m
  9568 95110009 1995 11 10 15 40 00   60°43.000N 005°06.000W   909m
  9608 96020108 1996 02 19 16 21 00   60°51.000N 005°29.000W   580m
  9608 96020109 1996 02 19 17 30 00   60°47.000N 005°16.000W   825m
  9608 96020110 1996 02 19 18 32 00   60°43.000N 005°05.800W   914m
  9632 96050061 1996 05 08 18 00 00   60°43.000N 005°06.000W   909m
  9632 96050063 1996 05 08 21 56 00   60°47.000N 005°16.000W   824m
  9632 96050064 1996 05 08 23 05 00   60°51.000N 005°29.000W   590m
NWSB9708 | Dp | 60°47.028'N 05°17.960'W | 790 | 682 | 22905 | 20 | 97/08/01 15:00 | 98/06/15 17:40 | 318 | 1578
  9764 97080259 1997 08 31 17 48 00   60°43.000N 005°06.000W   913m
  9764 97080260 1997 08 31 18 55 00   60°47.000N 005°16.000W   826m
  9764 97080261 1997 08 31 20 02 00   60°51.000N 005°29.000W   590m
  9792 97110033 1997 11 08 02 00 00   60°51.000N 005°29.000W   590m
  9792 97110034 1997 11 08 03 00 00   60°47.000N 005°16.000W   825m
  9792 97110035 1997 11 08 04 00 00   60°43.000N 005°06.000W   908m
  9808 98020032 1998 02 15 04 15 00   60°43.000N 005°06.000W   909m
  9808 98020033 1998 02 15 05 35 00   60°47.000N 005°16.000W   824m
  9808 98020034 1998 02 15 06 46 00   60°51.000N 005°29.000W   591m
  9832 98050048 1998 05 04 20 20 00   60°44.000N 005°04.000W   924m
  9832 98050049 1998 05 04 22 20 00   60°54.000N 005°15.000W   738m
  9840 98060078 1998 06 15 00 02 00   60°51.000N 005°29.000W   598m
  9840 98060079 1998 06 15 01 12 00   60°47.000N 005°16.000W   827m
  9840 98060080 1998 06 15 02 30 00   60°43.000N 005°06.000W   911m
NWSB9809 | Dp | 60°46.935'N 05°18.483'W | 782 | 674 | 19546 | 20 | 98/09/13 21:00 | 99/06/12 08:00 | 271 | 1292
  9864 98090078 1998 09 13 21 30 00   60°43.000N 005°06.000W   912m
  9888 98110010 1998 11 06 10 10 00   60°51.000N 005°29.000W   587m
  9888 98110011 1998 11 06 11 15 00   60°47.000N 005°15.000W   831m
  9888 98110012 1998 11 06 12 15 00   60°43.000N 005°06.000W   908m
  9932 99050047 1999 05 04 09 17 00   60°44.000N 005°04.000W   925m
  9932 99050049 1999 05 04 15 10 00   60°54.000N 005°15.000W   739m
  9940 99060057 1999 06 12 06 18 00   60°43.000N 005°06.000W   907m
  9940 99060058 1999 06 12 07 35 00   60°47.000N 005°16.000W   824m
NWSB9907 | Dp | 60°46.980'N 05°18.000'W | 786 | 678 | 25303 | 20 | 99/07/04 18:40 | 00/06/20 04:40 | 351 | 1245
  9964 99090056 1999 09 13 02 47 00   60°43.000N 005°06.000W   909m
  9964 99090057 1999 09 13 03 53 00   60°47.000N 005°16.000W   822m
  9964 99090058 1999 09 13 05 00 00   60°51.000N 005°29.000W   584m
  9988 99110042 1999 11 06 15 55 00   60°51.000N 005°29.000W   591m
  9988 99110043 1999 11 06 17 00 00   60°47.000N 005°16.000W   823m
  9988 99110044 1999 11 06 18 00 00   60°43.000N 005°06.000W   913m
  0008 00080030 2000 02 29 00 30 00   60°51.000N 005°29.000W   585m
  0008 00080031 2000 02 29 01 45 00   60°47.000N 005°16.000W   829m
  0008 00080032 2000 02 29 02 50 00   60°43.000N 005°06.000W   913m
  0032 00320052 2000 05 10 10 21 00   60°44.000N 005°04.000W   910m
NWSC0007 | Dp | 60°34.023'N 04°46.040'W | 1075 | 661 | 24799 | 20 | 00/07/08 17:00 | 01/06/18 03:00 | 344 | 1245
  0048 00480013 2000 07 08 17 35 00   60°38.000N 004°54.000W 1020m
  0060 00600029 2000 09 11 05 30 00   60°35.000N 004°45.000W 1087m
  0060 00600030 2000 09 11 06 37 00   60°38.000N 004°54.000W 1021m
  0084 00840028 2000 11 05 07 38 00   60°38.000N 004°54.000W 1022m
  0084 00840029 2000 11 05 08 36 00   60°35.000N 004°45.000W 1087m
  0108 01080032 2001 02 25 17 15 00   60°38.000N 004°54.000W 1016m
  0108 01080033 2001 02 25 18 25 00   60°35.000N 004°45.000W 1084m
  0132 01320052 2001 05 10 02 15 00   60°34.000N 004°50.000W 1071m
NWSC0107 | Dp | 60°34.150'N 04°46.772'W | 1073 | 659 | 24726 | 20 | 01/07/07 19:00 | 02/06/16 04:40 | 343 | 1245
  0160 01600032 2001 09 09 12 42 00   60°34.500N 004°47.000W 1078m
  0160 01600042 2001 09 10 02 04 00   60°35.000N 004°45.000W 1083m
  0160 01600043 2001 09 10 03 10 00   60°38.000N 004°54.000W 1020m
  0208 02080038 2002 02 24 10 23 59   60°37.985N 004°53.977W 1020m
  0208 02080039 2002 02 24 12 28 40   60°34.994N 004°45.007W 1085m
NWSC9410 | Dp | 60°34.072'N 04°45.896'W | 1063 | 654 | 34540 | 5 | 94/10/23 13:35 | 95/02/20 11:50 | 119 | 1284
  9508 95020076 1995 02 20 10 45 00   60°38.000N 004°54.000W 1030m
NWSC9511 | Dp | 60°33.689'N 04°45.308'W | 1063 | 649 | 18792 | 15 | 95/11/10 19:00 | 96/05/24 12:45 | 195 | 1284
  9608 96020111 1996 02 19 19 46 00   60°38.040N 004°53.800W 1025m
  9608 96020112 1996 02 19 20 50 00   60°35.050N 004°44.850W 1088m
  9632 96050059 1996 05 08 15 10 00   60°35.000N 004°45.000W 1086m
  9632 96050060 1996 05 08 16 30 00   60°38.000N 004°54.000W 1018m
NWSC9606 | Dp | 60°33.666'N 04°45.580'W | 1066 | 652 | 24641 | 20 | 96/06/15 11:20 | 97/05/23 16:40 | 342 | 1284
  9660 96090009 1996 09 01 17 04 00   60°38.000N 004°54.000W 1016m
  9660 96090010 1996 09 01 18 04 00   60°35.000N 004°45.000W 1088m
  9688 96110032 1996 11 09 01 20 00   60°35.000N 004°45.000W 1082m
  9688 96110033 1996 11 09 02 35 00   60°38.000N 004°54.000W 1015m
  9708 97020066 1997 02 15 06 12 00   60°38.000N 004°54.000W 1022m
  9708 97020067 1997 02 15 07 20 00   60°35.120N 004°44.830W 1087m
  9736 97050041 1997 05 06 19 15 00   60°34.000N 004°50.000W 1071m

NWSC9708 | Dp | 60°34.030'N 04°46.100'W | 1068 | 658 | 22905 | 20 | 97/08/01 12:20 | 98/06/15 15:00 | 318 | 1577
  9764 97080257 1997 08 31 15 25 00   60°35.000N 004°45.000W 1088m
  9764 97080258 1997 08 31 16 31 00   60°38.000N 004°54.000W 1022m
  9792 97110036 1997 11 08 05 15 00   60°38.000N 004°54.000W   900m
  9792 97110037 1997 11 08 06 25 00   60°35.000N 004°45.000W 1084m
  9808 98020030 1998 02 15 01 50 00   60°35.000N 004°45.000W 1085m
  9808 98020031 1998 02 15 02 55 00   60°38.000N 004°54.000W 1018m
  9832 98050047 1998 05 04 17 48 00   60°34.000N 004°50.000W 1075m
  9840 98060081 1998 06 15 03 55 00   60°38.000N 004°54.000W 1025m
  9840 98060082 1998 06 15 05 05 00   60°35.000N 004°45.000W 1086m
NWSC9809 | Dp | 60°33.980'N 04°46.100'W | 1076 | 662 | 19517 | 20 | 98/09/14 01:40 | 99/06/12 03:00 | 271 | 1285
  9888 98110013 1998 11 06 13 27 00   60°38.000N 004°54.000W 1020m
  9888 98110014 1998 11 06 14 30 00   60°35.000N 004°45.000W 1084m
  9932 99050045 1999 05 04 06 00 00   60°34.000N 004°50.000W 1077m
  9940 99060054 1999 06 12 02 30 00   60°35.000N 004°45.000W 1086m
NWSC9907 | Dp | 60°33.960'N 04°45.981'W | 1071 | 657 | 25305 | 20 | 99/07/04 20:20 | 00/06/20 07:00 | 351 | 1578
  9964 99090054 1999 09 13 00 30 00   60°35.000N 004°45.000W 1088m
  9964 99090055 1999 09 13 01 35 00   60°38.000N 004°54.000W 1021m
  9988 99110045 1999 11 06 19 10 00   60°38.000N 004°54.000W 1022m
  9988 99110046 1999 11 06 20 11 00   60°35.000N 004°45.000W 1088m
  0008 00080033 2000 02 29 04 10 00   60°38.000N 004°54.000W 1025m
  0008 00080034 2000 02 29 05 17 00   60°35.000N 004°45.000W 1088m
  0032 00320050 2000 05 10 06 01 00   60°34.000N 004°50.000W 1074m
NWSD9410 | Dp | 60°24.630'N 04°21.300'W | 689 | 681 | 8280 | 5 | 94/10/23 15:50 | 94/11/21 09:45 | 28 | 1283
  9484 94100098 1994 10 23 15 50 00   60°25.000N 004°19.000W   655m
  9484 94100099 1994 10 23 16 55 00   60°20.000N 004°10.000W   409m
NWSD9511 | Dp | 60°24.649'N 04°21.093'W | 695 | 687 | 20345 | 15 | 96/04/29 06:45 | 96/11/27 04:45 | 211 | 1283
  9644 96060062 1996 06 14 21 48 00   60°29.000N 004°26.000W   990m
  9644 96060063 1996 06 14 22 45 00   60°25.000N 004°19.000W   655m
  9644 96060064 1996 06 14 23 45 00   60°20.800N 004°10.000W   424m
  9660 96090011 1996 09 01 19 42 00   60°29.000N 004°26.000W   987m
  9660 96090012 1996 09 01 20 42 00   60°25.000N 004°19.000W   651m
  9660 96090013 1996 09 01 21 40 00   60°20.000N 004°10.000W   401m
  9688 96110029 1996 11 08 21 38 00   60°20.000N 004°10.000W   402m
  9688 96110030 1996 11 08 22 38 00   60°25.000N 004°20.000W   665m
  9688 96110031 1996 11 08 23 37 00   60°29.000N 004°26.000W   980m
NWSD9606 | Dp | 60°25.809'N 04°19.161'W | 696 | 688 | 11705 | 20 | 96/06/15 10:00 | 96/11/24 23:20 | 162 | 1245
  9660 96090011 1996 09 01 19 42 00   60°29.000N 004°26.000W   987m
  9660 96090012 1996 09 01 20 42 00   60°25.000N 004°19.000W   651m
  9660 96090013 1996 09 01 21 40 00   60°20.000N 004°10.000W   401m
  9688 96110029 1996 11 08 21 38 00   60°20.000N 004°10.000W   402m
  9688 96110030 1996 11 08 22 38 00   60°25.000N 004°20.000W   665m
  9688 96110031 1996 11 08 23 37 00   60°29.000N 004°26.000W   980m
NWSE9511 | Sh | 60°18.470'N 04°02.070'W | 324 | 307 | 18734 | 15 | 95/11/28 13:45 | 96/06/10 17:00 | 195 | 1295
  9608 96020115 1996 02 20 00 25 00   60°19.930N 004°10.170W   400m
  9608 96020116 1996 02 20 01 19 00   60°16.000N 003°58.950W   191m
NWSE9606 | Sh | 60°20.830'N 03°53.460'W | 324 | 307 | 3609 | 15 | 96/10/24 00:15 | 96/11/30 14:15 | 37 | 1295
  9688 96110028 1996 11 08 20 42 00   60°16.000N 003°59.000W   191m
  9688 96110029 1996 11 08 21 38 00   60°20.000N 004°10.000W   402m

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