Data Report

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Introduction

In 2004 the Norwegian Polar Institute (NPI) made one cruise into the Fram Strait as part of ASOF-N. During this cruise a total of 79 CTD stations were taken (station list in appendix 1). From the seven mooring deployed in 2003, six moorings could be recovered. Seven moorings were deployed as part of ASOF.

This report describes into more detail the CTD data from this cruise and the data from the recovered moorings. It does not goes much into the scientific interpretation of the data but gives an overview of the applied data processing, the data quality and some statistical information. Some data referenced in this report is still not in final form.

CTD data

A total of 79 casts were taken with a Seabird 911 CTD. A standard processing was done with the data, consisting of the following steps:

* conversion into physical units using the pre-cruise calibration coefficients.
* removing first cycles in air or when the pump was not running by manual inspection of each single profile
* remove upcast data
* median filter to remove spikes in pressure (11cycles, 1dbar), temperature (11cycles, 0.02ºC) and conductivity (11cycles, 0.02 mS/cm)
* correction of time mismatch between temperature and conductivity
* cell thermal mass correction
* monotonize in pressure
* apply additional calibration (none for now)
* calculate salinity and remove spikes using a median filter (11cycles, 0.01)
* calculate mean values at 1dbar intervals

During the processing no major problems were noticed.

The temperature and conductivity sensors of the CTD are routinely calibrated (Table 1). During data processing the pre-cruise calibration was used. The change between pre- and post-cruise calibration in temperature were larger then 0.6ºC and for conductivity larger then 0.8 ms/cm (Figure 1) . As this changes are not within the regular sensor behavior, the sensors must have been damaged considerably or the calibration of January 25 was wrong.

A total of 74 salinity samples were taken on the cruise and latter processed on land. From these value 70 had a difference smaller then 0.02 when compared to the CTD values. The distribution (Figure 2)is skewed towards lower values, the mean (-0.0006) therefore being smaller then the median (+0.0007). The maximum in the distribution is found at +0.002 (using 0.001 intervals) in the salinity and +0.001 ms/cm in the conductivity. This value was used to correct the conductivity and the salinity was then recalculated. Taking the standard deviation of the differences as a proxy for the accuracy, the final salinity values have an expected error of 0.004.

Table 1: Calibration data for the CTD sensors.

Parameter	Serialno.	date	g	h	i	j
Temperature	2400	20.11.2003	4.36752052E-3	6.47648898E-4	2.44000942E-5	2.36841377E-6
		25.01.2005	4.36454328E-3	6.41123977E-4	1.95223473E-5	1.14329316E-6
Conductivity	2063	21.03.2003	-1.01165400E+1	1.40686609E+0	-4.17922238E-3	3.80853515E-4
		20.11.2003	-1.01139822E+1	1.40611556E+0	-3.86867383E-3	3.54596960E-4
		25.01.2005	-7.18484924E+0	9.18637137E-1	1.14217129E-1	-7.01578693E-3

Figure 1: Conductivity difference between pre- and post cruise calibration of the CTD.
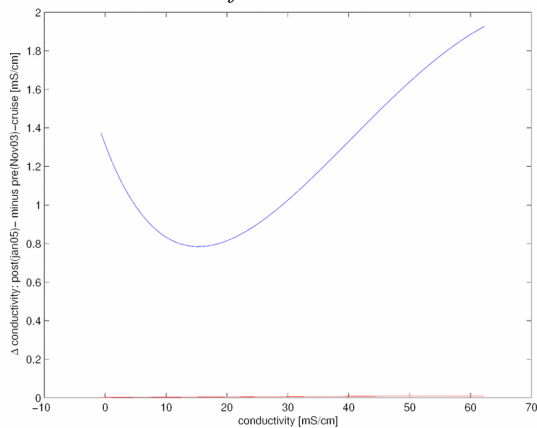
Figure 2:Histogram of the salinity difference between CTD and salinometer values.
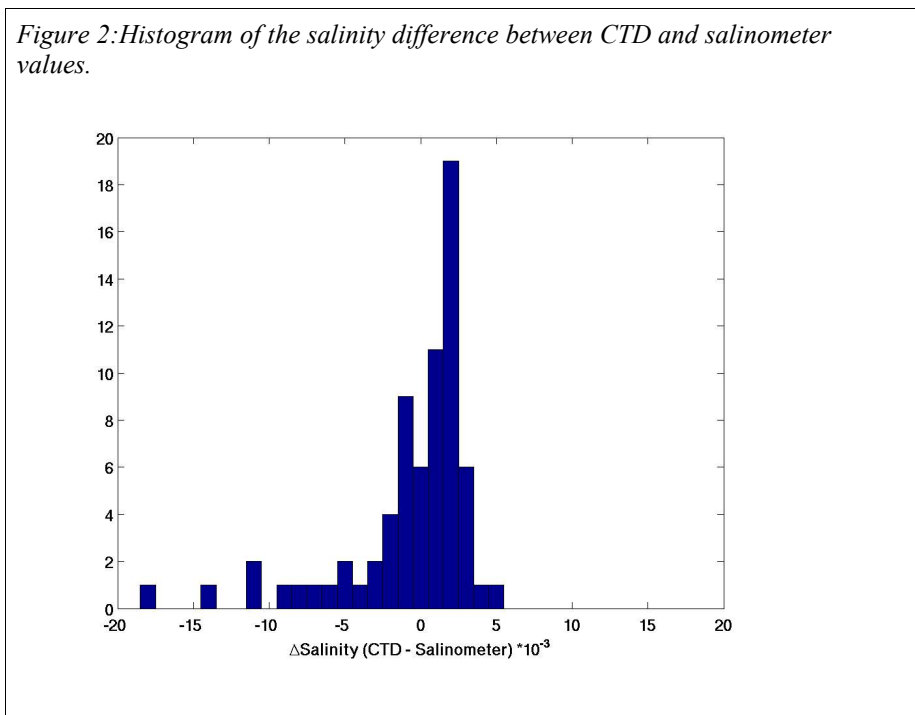
Sections of temperature difference (Figure 3) and salinity difference (Figure 4) across Fram Strait at 79ºN show an increased temperature (and salinity) in the Atlantic Water as compared to 2003. The Atlantic Water is found in the eastern region of Fram Strait at depths of approximately 0m to 600m. A paper is in preparation (lead author: Igor Polyakov) which puts this observed warming into a larger geographical and temporal context.

Figure 3: Section of the difference in temperature between 2004 and 2003 along the 79°N section.
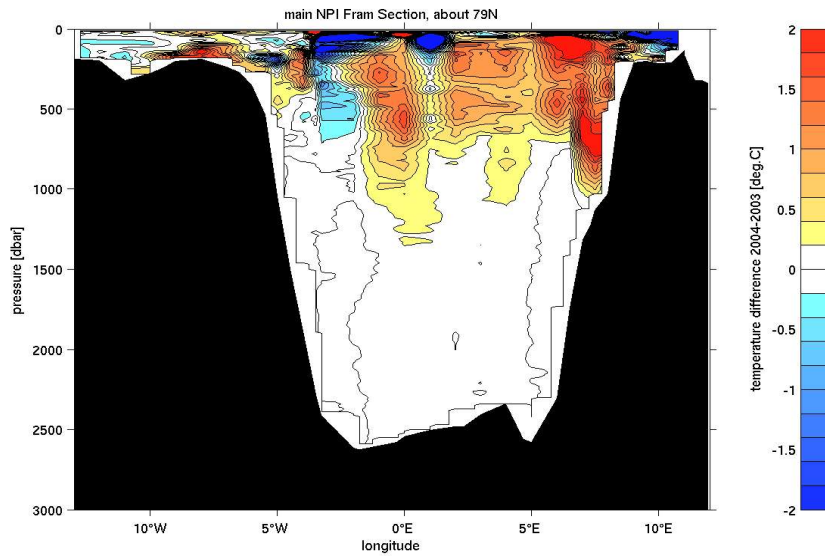
Figure 4: Section of the difference in salinity between 2004 and 2003 along the 79°N section. Only the upper 800m are shown.
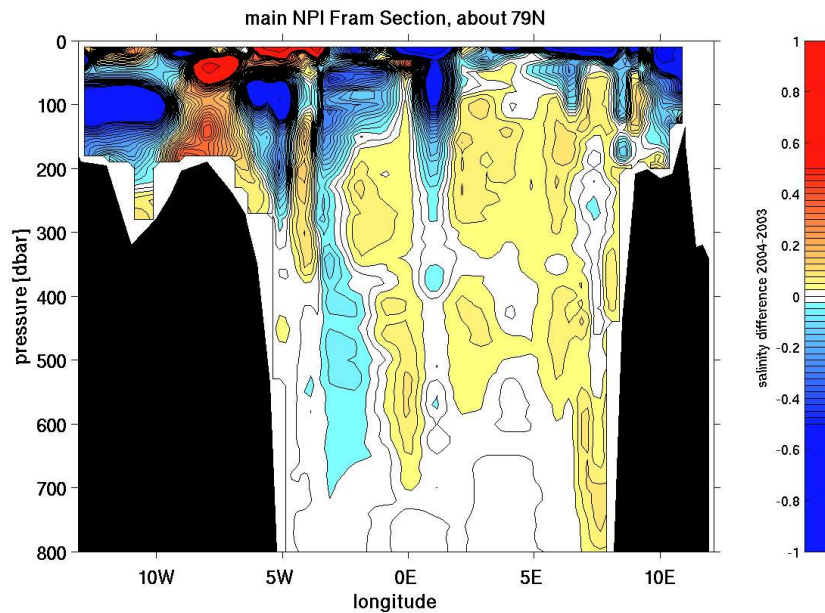
Mooring data

From the seven moorings deployed in 2003 only five could be fully recovered (see Appendix 2). Mooring FnyB was a total loss and from F12 only the lowermost instrument could be recovered. The data has undergone standard processing, which now includes also the problems discussed in last years data report (e.G. ES300 pressure problems).

A simple tidal analysis was performed on the velocity data from the moorings. For most of the instruments the largest amplitudes was found in the M2 tide. Further results are given, together with the basic statistic information (mean values, eddy kinetic energy etc.) in appendix 3.

We used the near surface temperature and salinity data from these moorings together with the previous ones at 79ºN to infer the mean seasonal cycle. We also compared the time series with some climatologies. This comparison revealed, that the climatologies in this region do not represent well the observed temperature and salinity (Figure 5). A manuscript as been submitted to Geophysical Research Letters (J. Holfort and E. Hansen; Timeseries of Polar Water Properties in Fram Strait).

Figure 5: The long term mean temperature (left) and salinity (right) as a function of longitude. Stars are the measurements from the moorings. Lines show annual mean values from different climatologies (thick solid lines is the WOA 1/4º, dash-dotted the 1ºWOA, dashed the PHC and a thin gray line the WGHC.
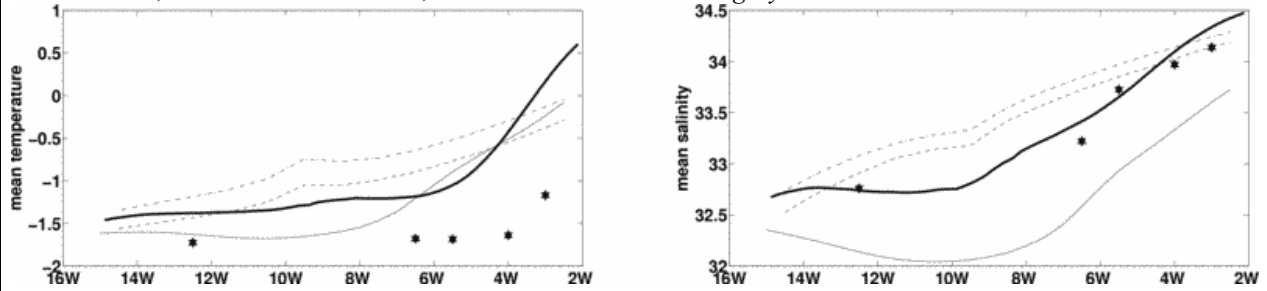
Appendix 1: List of CTD stations

latitude	longitude	date(year)	waterdepth	min/max	pressure	cycles
78.832,	356.732,	2004.66949,	2348,	1.0,	2410.0,	2410
79.169,	358.001,	2004.66995,	2516,	1.0,	2487.0,	2487
79.168,	357.001,	2004.67033,	2282,	9.0,	2253.0,	2245
79.167,	356.500,	2004.67057,	2124,	1.0,	2161.0,	2161
79.167,	356.000,	2004.67082,	1920,	1.0,	1957.0,	1957
79.167,	355.500,	2004.67104,	1681,	1.0,	1717.0,	1717
78.845,	354.983,	2004.67191,	1016,	1.0,	1043.0,	1043
78.815,	353.555,	2004.67233,	284,	1.0,	276.0,	276
78.833,	353.000,	2004.67245,	250,	1.0,	236.0,	236
78.832,	351.995,	2004.67265,	191,	3.0,	179.0,	177
78.828,	351.000,	2004.67331,	213,	1.0,	204.0,	204
78.833,	350.000,	2004.67348,	278,	1.0,	279.0,	279
78.833,	349.000,	2004.67379,	320,	1.0,	317.0,	317
78.830,	348.003,	2004.67422,	207,	2.0,	201.0,	200
78.830,	347.502,	2004.67709,	197,	2.0,	184.0,	183
78.833,	347.008,	2004.68071,	201,	3.0,	188.0,	186
78.837,	353.992,	2004.68657,	348,	3.0,	331.0,	329
79.168,	351.997,	2004.68695,	210,	3.0,	201.0,	199
79.167,	352.500,	2004.68706,	216,	1.0,	214.0,	214
79.167,	353.000,	2004.68716,	246,	1.0,	238.0,	238
79.167,	353.500,	2004.68726,	328,	1.0,	322.0,	322
79.167,	354.000,	2004.68738,	754,	1.0,	764.0,	764
79.167,	354.500,	2004.68753,	1100,	1.0,	1130.0,	1130
79.167,	354.997,	2004.68771,	1420,	2.0,	1401.0,	1400
78.835,	354.503,	2004.68803,	537,	3.0,	524.0,	522
78.835,	355.503,	2004.68957,	1500,	2.0,	1460.0,	1459
78.833,	356.000,	2004.68977,	1877,	1.0,	1888.0,	1888
78.833,	356.500,	2004.69000,	2244,	1.0,	2280.0,	2280
78.917,	358.000,	2004.69038,	2616,	1.0,	2597.0,	2597
78.915,	358.978,	2004.69242,	2618,	4.0,	2661.0,	2658
78.917,	0.000,	2004.69275,	2487,	1.0,	2545.0,	2545
78.917,	1.000,	2004.69309,	2506,	1.0,	2498.0,	2498
78.917,	1.998,	2004.69346,	2481,	3.0,	2470.0,	2468
78.917,	3.002,	2004.69378,	2481,	3.0,	2364.0,	2362
78.917,	4.000,	2004.69409,	2475,	1.0,	2520.0,	2520
78.917,	5.000,	2004.69440,	2578,	1.0,	2563.0,	2563
78.918,	5.997,	2004.69475,	2306,	6.0,	2295.0,	2290
78.918,	6.505,	2004.69501,	1741,	6.0,	1723.0,	1718
78.917,	7.000,	2004.69520,	1319,	1.0,	1312.0,	1312
78.917,	7.500,	2004.69537,	1166,	1.0,	1177.0,	1177
78.917,	8.000,	2004.69554,	1029,	1.0,	1039.0,	1039
78.917,	8.500,	2004.69570,	437,	1.0,	439.0,	439
78.917,	9.000,	2004.69582,	221,	1.0,	221.0,	221
78.918,	9.503,	2004.69594,	202,	6.0,	196.0,	191
78.948,	10.005,	2004.69606,	220,	4.0,	214.0,	211
78.972,	10.507,	2004.69616,	229,	2.0,	223.0,	222
78.987,	10.988,	2004.69626,	164,	3.0,	159.0,	157
79.017,	11.430,	2004.69636,	323,	2.0,	324.0,	323
78.982,	11.698,	2004.69644,	320,	3.0,	315.0,	313
78.960,	11.932,	2004.69652,	341,	2.0,	337.0,	336
81.373,	30.963,	2004.70046,	184,	8.0,	173.0,	166
81.428,	31.003,	2004.70058,	300,	10.0,	280.0,	271
81.445,	31.000,	2004.70074,	400,	1.0,	405.0,	405
81.455,	31.000,	2004.70082,	501,	1.0,	510.0,	510
81.535,	31.000,	2004.70093,	809,	1.0,	805.0,	805
81.562,	31.000,	2004.70104,	1000,	1.0,	1025.0,	1025
81.617,	31.000,	2004.70116,	2038,	1.0,	2088.0,	2088
81.663,	31.000,	2004.70138,	2500,	12.0,	2493.0,	2482
79.753,	10.337,	2004.70548,	122,	8.0,	116.0,	109
79.850,	9.577,	2004.70564,	459,	10.0,	448.0,	439
79.950,	8.830,	2004.70583,	484,	10.0,	472.0,	463
80.057,	8.098,	2004.70602,	511,	10.0,	499.0,	490
80.157,	7.342,	2004.70621,	550,	1.0,	540.0,	540
80.257,	6.558,	2004.70639,	566,	1.0,	563.0,	563
80.340,	5.875,	2004.70656,	566,	1.0,	557.0,	557
80.217,	5.050,	2004.70675,	846,	1.0,	836.0,	836
80.140,	4.218,	2004.70695,	1269,	17.0,	1263.0,	1247
80.088,	3.277,	2004.70717,	2210,	20.0,	2260.0,	2241
80.027,	2.560,	2004.70747,	2577,	14.0,	2643.0,	2630
79.970,	1.772,	2004.70778,	3013,	1.0,	3091.0,	3091
79.893,	0.620,	2004.70815,	2446,	3.0,	2481.0,	2479
79.843,	359.953,	2004.70848,	2713,	6.0,	2705.0,	2700
79.500,	0.000,	2004.70890,	2763,	1.0,	2771.0,	2771
79.333,	0.000,	2004.70921,	2853,	1.0,	2902.0,	2902
79.167,	0.000,	2004.70950,	2670,	1.0,	2663.0,	2663
79.167,	358.995,	2004.70985,	2251,	4.0,	2247.0,	2244
78.988,	359.995,	2004.71050,	2534,	2.0,	2584.0,	2583
78.667,	0.002,	2004.71093,	1755,	5.0,	1756.0,	1752
78.498,	0.007,	2004.71117,	2720,	7.0,	2717.0,	2711

Appendix 2: Table showing the serial numbers, nominal depth, working days and some notes for instruments on moorings from the 2003--2004 deployment. The information under PICS gives some information which parameters has been plotted (P=pressure, T=temperature, S=salinity, D=direction, V=velocity, 1,2,3,4=ES300 travel times), grey parameters are not available. This table is a copy of a HTML table accompanying the data.

Serial numbers, nominal depth, working days links to plots and some notes for instruments on moorings from the 2003--2004 deployment.

Instr.	*Ser.No.*	*Depth [m]*	*Days*	*PICS*	*Notes*
F11, 78°49.921N 03°16.077					
es300	19	65	353	P 1 2 3 4 T 1 2 3 4	
dcm12	190	65	OK	0 P V D F 1 P V D F 2 P V D F 3 P V D F 4 P V D F 5 P V D F	U=-12.84±26.23 V=-35.36±36.32 PRES:0.0 U=-8.71±23.41 V=-28.19±25.56 PRES:6.0 U=-15.87±24.04 V=-20.34±23.71 PRES:12.0 U=-12.15±14.98 V=-18.52±16.60 PRES:18.1 U=-9.17±10.05 V=-17.05±12.51 PRES:24.1 U=-7.75± 8.14 V=-15.96±11.32 PRES:30.1
sbe16	4321	73	OK	P T S DV	Comparison with nearby DCM revealed a temporal linear trend in pressure which was corrected.
rcm9	1046	74	OK	P T S DV	PRES-Median 57.1; dips till 170 dbar; S big spike 7.2-11.2, low S (till 33) intrusions after 1.6 which are also seen in sbe; mean Velocity U=-7.7; V=-15.3
rcm7	11475	259	till 31.5	P T S DV	Good data only until about 30 or 31.5
rcm11	228	1462	OK	P T S DV	PRES: from 8.9-14.9 = 194dbar; median=1660, therefore correction of -194 seems to be adequate, this increases S from about 34.9 to about 35.0 S: ok but drift?
rcm8	10071	2365	OK	P T S DV	S to high and drift?
F12 78°49.770N 04°02.868W					
es300	52	70	**NO!**	-.-	
rcm7	11854	91	**NO!**		
rcm7	10349	325	**NO!**		
rcm11	234	1528	**NO!**	-.-	
rcm8s	11625	1831	OK	P T S DV	S with large upward drift 34.7-34.8
F13 78°50.728N 05°00.994W 13 SEP 2003, 16:04; Wdept=1022					
es300	51	47	258	P 1 2 3 4x T 1 2 3 4	
dcm12	17	47	OK	0 P V D F 1 P V D F 2 P V D F 3 P V D F 4 P V D F 5 P V D F	0:U=-5.58±19.49 V=-10.13±30.01 PRES:0.0 1:U=-4.16±10.39 V=-7.29±13.86 PRES:3.9 2:U=-7.15±17.65 V=-1.96±18.61 PRES:7.9 3:U=-4.15±14.18 V=-3.47±16.82 PRES:11.8 4:U=-2.99±12.61 V=-3.69±15.78 PRES:15.8 5:U=-2.21±11.88 V=-3.20±15.22 PRES:19.7

sbe16	2962	47	OK	P T S DV	
rcm7	7718	57	OK	P T S DV	COND/S wrong after 30.5, (if needed there seems to be some short times after that date, were data is also OK)
rcm11	235	227	OK	P T S DV	S to high (35.4-35.2); mean TEMP = 1.27±0.93°C; mean velocity U=0.45±4.5; V=-0.38±6.9
rcm8	12733	1014	OK	P T S DV	mean TEMP = -0.17±0.05°C; mean velocity U=1.76±2.7; V=-3.2±4.4
F14, 78°48.996N , 06°26.915W					
es300	37	88	257	P 1 2 3 4x T 1 2 3 4	
sbe16	4322	98	OK	P T S DV	A linear trend of pressure against time was calculated from the data and subtracted.
rcm9	834	99	OK	P T S DV	PRES sensor was probably closed, as always around deck value; COND had two single spikes which were corrected; between 3.6 and 8.6 TEMP goes up to 2.5C and S up to 35.2, but it looks fine in density
rcm7	12644	273	OK	P T S DV	high TEMP at 27.4 is real if looking at rho mean TEMP = +0.74±0.31°C; mean velocity U=0.67±3.5; V=-2.3±6.0
FNYA, F17,78°49.818N ,08°59.251W					
ADCP	727	122	OK	P U V BR	
fnyB: 78°49.953N 08°54.146W; 11 SEP 2003 14:40; Wdept=240					
sbe32	2814	14	lost	-.-	
sbe32	2813	29	lost	-.-	
F19, Rohr 78°49.821N 12°29.876W Wdept:190m					
sbe32	2967	20	OK	P T S DV	
sbe32	2942	60	OK	P T S DV	

Appendix 3: Some statistics of the mooring data.

```
 FILE: fs2004/dcm17_0.nc
Start date:  08-Sep-2003 13:58:08   Stop date:    01-Sep-2004 11:51:34
No. of cycles:     8615    Sampling interval:     60 minutes
Pressure:   Median=     0, Mean=     0+-   0.0, Range=     0 to     0   missing values:    100
Velocity:   Median= 27.00, Mean= 31.25+- 20.92, Range=   0.0 to 118.0   missing values:    101
U-Velocity: Median= -5.13, Mean= -5.58+- 19.49, Range= -94.5 to   93.7   MKE:     31.2   EKE:    379.9
V-Velocity: Median=-14.28, Mean=-10.13+- 30.01, Range=-116.2 to 109.0   MKE:    102.7   EKE:    900.3
Tides (snr>2):
No. tide   Period    major    emaj     minor     emin     inc      pha
 3  K1      23.93     1.60     0.82      0.36     0.76    105.2    267.6
 4  N2      12.66     1.30     0.85     -0.53     0.72     71.0    107.2
 1  M2      12.42     6.26     0.84     -2.86     0.65     65.4     94.1
 2  S2      12.00     1.90     0.86     -0.20     0.70     58.6    104.5
 5  M4       6.21     0.55     0.35     -0.10     0.36     91.8     64.3
 6  2MK5     4.93     0.37     0.26     -0.09     0.25    117.7    343.6
after 30h low pass filter:
U-Velocity: Median= -5.08, Mean= -5.58+- 16.82, Range= -68.9 to   79.0   MKE:     31.1   EKE:    282.8
V-Velocity: Median=-14.62, Mean=-10.13+- 27.47, Range= -96.0 to   92.2   MKE:    102.6   EKE:    754.5

 FILE: fs2004/dcm17_1.nc
Start date:  08-Sep-2003 13:58:08   Stop date:    01-Sep-2004 11:51:34
No. of cycles:     8615    Sampling interval:     60 minutes
Pressure:   Median=     4, Mean=     4+-   0.1, Range=     2 to     6   missing values:    100
Velocity:   Median= 14.00, Mean= 15.93+- 10.80, Range=   0.0 to  67.0   missing values:    101
U-Velocity: Median= -3.25, Mean= -4.16+- 10.39, Range= -56.0 to   38.4   MKE:     17.3   EKE:    107.8
V-Velocity: Median= -6.75, Mean= -7.29+- 13.86, Range= -63.4 to   55.8   MKE:     53.2   EKE:    192.0
Tides (snr>2):
No. tide   Period    major    emaj     minor     emin     inc      pha
 4  N2      12.66     0.90     0.60     -0.30     0.63     56.8    102.9
 1  M2      12.42     3.65     0.62     -1.63     0.63     62.4     88.7
 3  LDA2    12.22     0.98     0.53     -0.49     0.52     51.5    300.8
 5  L2      12.19     0.59     0.34     -0.25     0.40     60.8    138.5
 2  S2      12.00     1.25     0.52     -0.61     0.55     62.5    105.5
 6  K2      11.97     0.59     0.41     -0.35     0.39     45.7     67.2
after 30h low pass filter:
U-Velocity: Median= -3.49, Mean= -4.16+-  7.73, Range= -38.6 to   18.3   MKE:     17.3   EKE:     59.8
V-Velocity: Median= -7.84, Mean= -7.29+- 11.10, Range= -42.1 to   38.8   MKE:     53.1   EKE:    123.1

 FILE: fs2004/dcm17_2.nc
Start date:  08-Sep-2003 13:58:08   Stop date:    01-Sep-2004 11:51:34
No. of cycles:     8615    Sampling interval:     60 minutes
Pressure:   Median=     8, Mean=     8+-   0.2, Range=     4 to    11   missing values:    100
Velocity:   Median= 18.00, Mean= 21.50+- 15.82, Range=   0.0 to 170.0   missing values:    101
U-Velocity: Median= -5.04, Mean= -7.15+- 17.65, Range=-164.0 to   93.7   MKE:     51.1   EKE:    311.4
V-Velocity: Median= -3.98, Mean= -1.96+- 18.61, Range=-151.0 to 110.8   MKE:      3.8   EKE:    346.4
Tides (snr>2):
No. tide   Period    major    emaj     minor     emin     inc      pha
 2  K1      23.93     2.01     0.94      0.28     1.11    113.9    245.7
 1  M2      12.42     5.05     1.33     -3.16     1.39     20.2     95.6
 3  MKS2    12.39     1.80     1.02     -0.89     1.17    119.3    280.1
 4  S2      12.00     1.75     1.12     -1.26     1.37     21.9    125.6
after 30h low pass filter:
U-Velocity: Median= -5.74, Mean= -7.14+- 12.83, Range= -81.1 to   38.9   MKE:     51.0   EKE:    164.6
V-Velocity: Median= -5.22, Mean= -1.96+- 14.42, Range= -59.5 to   48.2   MKE:      3.8   EKE:    208.0

 FILE: fs2004/dcm17_3.nc
Start date:  08-Sep-2003 13:58:08   Stop date:    01-Sep-2004 11:51:34
No. of cycles:     8615    Sampling interval:     60 minutes
Pressure:   Median=    12, Mean=    12+-   0.3, Range=     6 to    17   missing values:    100
Velocity:   Median= 16.00, Mean= 18.74+- 12.73, Range=   0.0 to  92.0   missing values:    101
U-Velocity: Median= -2.36, Mean= -4.15+- 14.18, Range= -84.1 to   55.4   MKE:     17.2   EKE:    201.0
V-Velocity: Median= -5.53, Mean= -3.47+- 16.82, Range= -68.5 to   59.7   MKE:     12.1   EKE:    283.0
Tides (snr>2):
No. tide   Period    major    emaj     minor     emin     inc      pha
 4  K1      23.93     1.11     0.38      0.22     0.48    129.0    255.0
 3  N2      12.66     1.34     0.68     -0.94     0.62     40.8    121.6
 1  M2      12.42     5.70     0.71     -2.85     0.61     50.2    111.6
 5  MKS2    12.39     0.69     0.48     -0.30     0.51    141.3    280.1
 2  S2      12.00     1.53     0.53     -0.80     0.65     57.3    122.5
after 30h low pass filter:
U-Velocity: Median= -3.04, Mean= -4.15+- 11.70, Range= -62.3 to   38.9   MKE:     17.2   EKE:    136.8
V-Velocity: Median= -6.53, Mean= -3.47+- 14.68, Range= -61.5 to   44.6   MKE:     12.1   EKE:    215.5

 FILE: fs2004/dcm17_4.nc
Start date:  08-Sep-2003 13:58:08   Stop date:    01-Sep-2004 11:51:34
No. of cycles:     8615    Sampling interval:     60 minutes
Pressure:   Median=    16, Mean=    16+-   0.4, Range=     8 to    23   missing values:    100
Velocity:   Median= 14.00, Mean= 16.99+- 11.92, Range=   0.0 to  74.0   missing values:    101
U-Velocity: Median= -1.53, Mean= -2.99+- 12.61, Range= -68.8 to   45.4   MKE:      9.0   EKE:    159.1
V-Velocity: Median= -6.17, Mean= -3.69+- 15.78, Range= -65.7 to   54.4   MKE:     13.6   EKE:    249.1
Tides (snr>2):
No. tide   Period    major    emaj     minor     emin     inc      pha
 6  O1      25.82     0.65     0.28      0.37     0.26    134.7    252.6
 9  TAU1    25.67     0.51     0.32      0.00     0.35      4.8    268.3
 8  P1      24.07     0.52     0.31      0.13     0.32    132.8    249.0
 3  K1      23.93     1.21     0.33      0.46     0.30    127.3    256.9
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   4  N2      12.66    1.03    0.48   -0.63    0.53    50.3     99.4
   1  M2      12.42    6.35    0.57   -3.35    0.51    64.1     99.2
   5  LDA2    12.22    0.83    0.49   -0.50    0.57   138.0    170.0
   2  S2      12.00    1.57    0.58   -0.77    0.50    79.6    110.8
   7  K2      11.97    0.55    0.38    0.06    0.40    70.7     93.4
  10  M4       6.21    0.26    0.18   -0.13    0.20    65.8    104.0
after 30h low pass filter:
U-Velocity: Median= -1.80,  Mean= -3.00+- 11.29,  Range= -63.3 to  35.7   MKE:    9.0   EKE:   127.5
V-Velocity: Median= -6.95,  Mean= -3.69+- 14.39,  Range= -58.8 to  45.1   MKE:   13.6   EKE:   207.2

   FILE: fs2004/dcm17_5.nc
Start date: 08-Sep-2003 13:58:08   Stop date:   01-Sep-2004 11:51:34
No. of cycles:    8615    Sampling interval:    60 minutes
Pressure:   Median=     20,  Mean=     20+-   0.5,  Range=     10 to     28   missing values:    100
Velocity:   Median= 13.00,  Mean= 15.90+- 11.63,  Range=    0.0 to   73.0   missing values:    101
U-Velocity: Median= -0.91,  Mean= -2.21+- 11.88,  Range= -68.7 to  43.7   MKE:    4.9   EKE:   141.0
V-Velocity: Median= -5.47,  Mean= -3.20+- 15.22,  Range= -61.0 to  58.3   MKE:   10.2   EKE:   231.7
Tides (snr>2):
No. tide   Period    major    emaj    minor    emin     inc     pha
   1  SSA   4382.91    6.52    4.60    0.27    2.87   102.2    209.0
   6  O1      25.82    0.68    0.29    0.28    0.26   134.6    247.5
  10  BET1    24.97    0.36    0.22    0.08    0.24   107.7    180.6
   9  P1      24.07    0.44    0.31    0.13    0.29   132.9    266.8
   4  K1      23.93    1.15    0.26    0.54    0.28   122.7    252.3
   5  N2      12.66    0.85    0.45   -0.45    0.46    39.4    103.7
   2  M2      12.42    6.20    0.50   -3.44    0.45    67.0     97.4
   8  LDA2    12.22    0.60    0.42   -0.42    0.37   132.8    172.4
   3  S2      12.00    1.72    0.44   -0.86    0.40    82.0    115.9
   7  K2      11.97    0.63    0.39   -0.03    0.38    72.7     91.6
after 30h low pass filter:
U-Velocity: Median= -1.11,  Mean= -2.21+- 10.73,  Range= -63.9 to  36.5   MKE:    4.9   EKE:   115.2
V-Velocity: Median= -6.28,  Mean= -3.20+- 13.98,  Range= -54.3 to  47.3   MKE:   10.2   EKE:   195.3

   FILE: fs2004/dcm190_0.nc
Start date: 05-Sep-2003 15:00:00   Stop date:   24-Mar-2004 21:59:04
No. of cycles:    4816    Sampling interval:    60 minutes
Pressure:   Median=      0,  Mean=      1+-   2.3,  Range=      0 to     12   missing values:    167
Velocity:   Median= 35.00,  Mean= 44.92+- 37.48,  Range=    0.0 to  519.0   missing values:    199
U-Velocity: Median=-11.45,  Mean=-12.84+- 26.23,  Range=-299.9 to 224.3   MKE:  164.8   EKE:   687.8
V-Velocity: Median=-28.60,  Mean=-35.36+- 36.32,  Range=-515.3 to 210.4   MKE: 1250.6   EKE:  1318.9
Tides (snr>2):
No. tide   Period    major    emaj    minor    emin     inc     pha
   1  M2      12.42    5.13    2.01   -2.36    1.92    50.4    123.5
   2  S2      12.00    2.78    1.78    1.68    1.50   121.2    250.8
   3  K2      11.97    2.32    1.45   -0.08    1.38   130.5    228.2
   4  MS4      6.10    1.48    0.97   -0.49    0.91    50.0    301.0
after 30h low pass filter:
U-Velocity: Median=-12.23,  Mean=-13.03+- 14.65,  Range= -71.1 to  28.9   MKE:  169.8   EKE:   214.7
V-Velocity: Median=-29.19,  Mean=-35.24+- 24.25,  Range=-142.3 to  21.2   MKE: 1241.9   EKE:   587.7

   FILE: fs2004/dcm190_1.nc
Start date: 05-Sep-2003 15:00:00   Stop date:   24-Mar-2004 21:59:04
No. of cycles:    4816    Sampling interval:    60 minutes
Pressure:   Median=      6,  Mean=      7+-   2.8,  Range=      6 to     19   missing values:    167
Velocity:   Median= 31.00,  Mean= 37.01+- 26.51,  Range=    0.0 to  229.0   missing values:    199
U-Velocity: Median= -8.65,  Mean= -8.71+- 23.41,  Range=-181.8 to 177.0   MKE:   75.9   EKE:   548.1
V-Velocity: Median=-24.76,  Mean=-28.19+- 25.56,  Range=-204.9 to 117.7   MKE:  794.8   EKE:   653.4
Tides (snr>2):
No. tide   Period    major    emaj    minor    emin     inc     pha
   4  K1      23.93    2.09    1.18    0.50    1.13    82.1    240.0
   6  PHI1    23.80    1.86    1.31   -0.20    1.19   155.1      5.5
   5  EPS2    13.13    1.97    1.33    0.69    1.34   117.7      9.8
   3  N2      12.66    2.13    1.34   -1.03    1.30    74.9     72.2
   1  M2      12.42    5.25    1.39   -1.84    1.44    51.2    110.9
  10  MKS2    12.39    1.36    0.96   -0.94    0.94   160.4    229.8
   2  K2      11.97    2.14    1.12   -0.70    1.06   128.6    221.2
  12  MO3      8.39    1.08    0.72    0.11    0.71   133.4     86.7
   7  MK3      8.18    1.74    0.78   -0.64    0.75   131.8    155.2
   8  M4       6.21    1.53    0.90    0.21    0.94   112.8    261.7
   9  2MK5     4.93    1.46    0.84   -0.90    0.72   119.6    221.1
  11  2MK6     4.09    1.20    0.78    0.19    0.66    62.4    299.8
after 30h low pass filter:
U-Velocity: Median= -8.48,  Mean= -8.94+- 11.70,  Range= -55.2 to  47.6   MKE:   79.9   EKE:   136.8
V-Velocity: Median=-26.13,  Mean=-28.29+- 14.41,  Range= -88.0 to   9.6   MKE:  800.1   EKE:   207.6

   FILE: fs2004/dcm190_2.nc
Start date: 05-Sep-2003 15:00:00   Stop date:   24-Mar-2004 21:59:04
No. of cycles:    4816    Sampling interval:    60 minutes
Pressure:   Median=     12,  Mean=     13+-   3.4,  Range=     11 to     27   missing values:    167
Velocity:   Median= 30.00,  Mean= 34.94+- 24.18,  Range=    0.0 to  292.0   missing values:    199
U-Velocity: Median=-12.99,  Mean=-15.87+- 24.04,  Range=-288.3 to 160.5   MKE:  251.7   EKE:   577.9
V-Velocity: Median=-19.62,  Mean=-20.34+- 23.71,  Range=-229.1 to 190.1   MKE:  413.9   EKE:   562.1
Tides (snr>2):
No. tide   Period    major    emaj    minor    emin     inc     pha
   1  SSA   4382.91    6.41    3.53   -1.72    4.02    28.1    104.0
   8  NO1     24.83    1.18    0.76   -0.63    0.74   147.8    212.6
   5  P1      24.07    1.51    0.97   -0.92    0.98    83.0    272.3
   6  SO1     22.42    1.31    0.84    0.19    0.89    58.0    171.5
   3  N2      12.66    1.90    1.03   -0.76    0.97    99.0     65.1
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 2  M2      12.42     3.92     1.15    -0.91    1.12     51.8     113.5
 7  M3       8.28     1.21     0.81    -0.10    0.89    161.7     170.0
 9  MK3      8.18     1.06     0.70    -0.54    0.70     39.6     229.9
 4  M4       6.21     1.86     0.94    -0.10    0.71    156.7      13.4
10  3MK7     3.53     0.91     0.58    -0.47    0.70     95.8      35.8
after 30h low pass filter:
U-Velocity: Median=-14.83, Mean=-15.91+- 10.96, Range= -67.5 to  16.7  MKE:   253.2  EKE:  120.0
V-Velocity: Median=-19.47, Mean=-20.39+- 12.31, Range= -61.8 to  23.2  MKE:   415.6  EKE:  151.5

  FILE: fs2004/dcm190_3.nc
Start date:  05-Sep-2003 15:00:00   Stop date:   24-Mar-2004 21:59:04
No. of cycles:    4816   Sampling interval:    60 minutes
Pressure:     Median=     18, Mean=     20+-   4.0, Range=    17 to    35  missing values:   167
Velocity:     Median= 24.00, Mean= 26.95+- 16.26, Range=   0.0 to 229.0  missing values:   199
U-Velocity:   Median=-10.68, Mean=-12.15+- 14.98, Range=-198.6 to 163.0  MKE:   147.7  EKE:  224.2
V-Velocity:   Median=-17.59, Mean=-18.52+- 16.60, Range=-110.5 to 163.1  MKE:   343.2  EKE:  275.4
Tides (snr>2):
No. tide   Period    major    emaj    minor    emin     inc      pha
 1  SSA   4382.91     4.84     2.98    -0.31    3.80     34.3      96.3
 6  O1      25.82     1.07     0.67    -0.10    0.56    100.0     252.0
 5  P1      24.07     1.28     0.76    -0.01    0.68     89.9     294.8
 7  K1      23.93     0.90     0.61     0.30    0.67    127.7     245.6
10  UPS1    21.58     0.67     0.45    -0.02    0.45    150.7     327.0
 4  N2      12.66     1.38     0.79    -0.51    0.80     78.6      91.3
 2  M2      12.42     3.48     0.95    -0.93    0.80     74.8     100.9
 3  S2      12.00     1.42     0.86    -0.37    0.86    103.4     156.2
 9  M3       8.28     0.75     0.41    -0.26    0.39    154.1     214.8
 8  M4       6.21     0.79     0.41     0.65    0.39     46.3     247.6
12  2MK6     4.09     0.44     0.24    -0.20    0.32    119.8      99.5
11  MSK6     4.04     0.56     0.29    -0.39    0.30    139.9     125.9
after 30h low pass filter:
U-Velocity: Median=-11.05, Mean=-12.19+-  8.19, Range= -43.9 to  12.3  MKE:   148.7  EKE:   67.1
V-Velocity: Median=-17.59, Mean=-18.63+- 10.89, Range= -49.2 to  22.0  MKE:   347.2  EKE:  118.6

  FILE: fs2004/dcm190_4.nc
Start date:  05-Sep-2003 15:00:00   Stop date:   24-Mar-2004 21:59:04
No. of cycles:    4816   Sampling interval:    60 minutes
Pressure:     Median=     24, Mean=     26+-   4.6, Range=    23 to    43  missing values:   167
Velocity:     Median= 21.00, Mean= 22.16+- 11.89, Range=   0.0 to 168.0  missing values:   199
U-Velocity:   Median= -8.40, Mean= -9.17+- 10.05, Range=-164.2 to  75.7  MKE:    84.1  EKE:  101.1
V-Velocity:   Median=-16.31, Mean=-17.05+- 12.51, Range= -74.8 to  56.3  MKE:   290.8  EKE:  156.6
Tides (snr>2):
No. tide   Period    major    emaj    minor    emin     inc      pha
 4  O1      25.82     1.21     0.48    -0.10    0.44     88.2     256.8
 5  P1      24.07     0.97     0.55     0.18    0.49     95.2     271.4
 3  K1      23.93     1.33     0.56     0.17    0.51    105.6     237.7
 6  N2      12.66     0.96     0.61    -0.21    0.65     53.7      96.0
 1  M2      12.42     3.69     0.69    -1.27    0.75     72.8     104.2
 7  L2      12.19     0.82     0.43    -0.49    0.47     81.0     128.5
 2  S2      12.00     1.59     0.52    -0.39    0.62    106.1     164.7
 8  SO3      8.19     0.36     0.25    -0.06    0.23    144.2     236.9
 9  M4       6.21     0.34     0.23     0.07    0.26    175.4      17.8
10  MK4      6.09     0.31     0.21     0.15    0.19    117.9      22.3
after 30h low pass filter:
U-Velocity: Median= -8.15, Mean= -9.15+-  6.98, Range= -37.3 to  14.2  MKE:    83.8  EKE:   48.7
V-Velocity: Median=-15.91, Mean=-17.18+- 10.00, Range= -52.2 to  11.2  MKE:   295.2  EKE:  100.0

  FILE: fs2004/dcm190_5.nc
Start date:  05-Sep-2003 15:00:00   Stop date:   24-Mar-2004 21:59:04
No. of cycles:    4816   Sampling interval:    60 minutes
Pressure:     Median=     30, Mean=     32+-   5.3, Range=    28 to    50  missing values:   167
Velocity:     Median= 19.00, Mean= 19.86+- 10.71, Range=   0.0 to  60.0  missing values:   199
U-Velocity:   Median= -6.87, Mean= -7.75+-  8.14, Range= -44.7 to  26.9  MKE:    60.1  EKE:   66.3
V-Velocity:   Median=-15.10, Mean=-15.96+- 11.32, Range= -58.4 to  28.2  MKE:   254.8  EKE:  128.1
Tides (snr>2):
No. tide   Period    major    emaj    minor    emin     inc      pha
 5  O1      25.82     0.99     0.45    -0.08    0.38     90.8     249.0
 4  P1      24.07     1.03     0.46     0.09    0.53     92.5     254.8
 3  K1      23.93     1.36     0.48     0.16    0.46    101.9     238.9
 6  N2      12.66     0.84     0.48    -0.23    0.48     62.1      81.9
 1  M2      12.42     3.52     0.52    -1.26    0.54     71.6     111.4
 2  S2      12.00     1.57     0.55    -0.42    0.52    112.4     168.5
 7  M3       8.28     0.34     0.22    -0.04    0.24    140.6     222.7
 8  M6       4.14     0.33     0.16    -0.03    0.23      9.2      53.6
 9  2SM6     4.05     0.26     0.18     0.09    0.22     22.2     330.2
after 30h low pass filter:
U-Velocity: Median= -6.75, Mean= -7.76+-  6.20, Range= -28.5 to  13.0  MKE:    60.3  EKE:   38.4
V-Velocity: Median=-14.36, Mean=-16.10+-  9.56, Range= -47.4 to   7.5  MKE:   259.1  EKE:   91.4

  FILE: fs2004/rcm10071.nc
Start date:  12-Sep-2003 13:58:08   Stop date:   30-Aug-2004 09:50:38
No. of cycles:    8469   Sampling interval:    60 minutes
Pressure:     Median=  2365, Mean=  2365+-   0.0, Range=  2365 to   2365
Temperature:  Median=-0.785, Mean=-0.790+- 0.021, Range=-0.877 to -0.730
Salinity:     Median=35.059, Mean=35.060+- 0.028, Range=34.978 to 35.141
Velocity:     Median=  7.80, Mean=  8.57+-  5.20, Range=   1.5 to  30.9
U-Velocity:   Median=  0.08, Mean=  0.08+-  3.71, Range= -17.6 to  15.5  MKE:     0.0  EKE:   13.8
V-Velocity:   Median= -1.50, Mean= -0.85+-  9.27, Range= -29.4 to  23.4  MKE:     0.7  EKE:   86.0
Tides (snr>2):
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No. tide    Period     major      emaj       minor      emin       inc        pha
 3  O1       25.82      0.73       0.16       0.12       0.15       109.7      259.0
 5  P1       24.07      0.37       0.17       0.05       0.17        95.9      253.7
 2  K1       23.93      1.37       0.17       0.36       0.16       104.1      258.4
 6  N2       12.66      0.34       0.15       0.06       0.12        87.3      149.9
 1  M2       12.42      1.46       0.15       0.45       0.13        85.4      135.8
 4  S2       12.00      0.59       0.13       0.03       0.15        56.3       95.4
 7  K2       11.97      0.22       0.13      -0.01       0.10        61.1      102.2
after 30h low pass filter:
U-Velocity: Median=  0.13,  Mean=  0.08+-  3.46,  Range= -13.0 to   14.3   MKE:     0.0   EKE:    12.0
V-Velocity: Median= -2.09,  Mean= -0.85+-  9.01,  Range= -28.2 to   20.5   MKE:     0.7   EKE:    81.2

   FILE: fs2004/rcm1046.nc
Start date:  12-Sep-2003 14:00:56   Stop date:   30-Aug-2004 10:01:53
No. of cycles:     8469   Sampling interval:     60 minutes
Pressure:    Median=    57,  Mean=    61+-   9.2,  Range=    55 to    174
Temperature: Median=-1.596,  Mean=-1.023+-  1.312,  Range=-1.883 to   5.520
Salinity:    Median=34.378,  Mean=34.349+-  0.984,  Range=29.768 to 49.318
Velocity:    Median= 18.48,  Mean= 20.62+- 11.70,  Range=   0.3 to   68.0
U-Velocity:  Median= -6.47,  Mean= -7.72+- 10.49,  Range= -49.2 to   22.6   MKE:    59.6   EKE:   110.1
V-Velocity:  Median=-14.03,  Mean=-15.25+- 12.63,  Range= -67.9 to   36.6   MKE:   232.6   EKE:   159.6
Tides (snr>2):
No. tide    Period     major      emaj       minor      emin       inc        pha
 1  MSM     763.49      4.35       2.29       0.29       2.62        86.9      348.7
 5  O1       25.82      0.75       0.34      -0.05       0.32       105.3      256.1
 6  P1       24.07      0.69       0.37       0.15       0.30        95.0      274.5
 4  K1       23.93      1.71       0.38       0.19       0.37       100.9      255.4
 2  M2       12.42      4.13       0.50      -1.72       0.61        71.6      124.6
 3  S2       12.00      1.95       0.53      -0.95       0.54       110.4      163.2
after 30h low pass filter:
U-Velocity:  Median= -6.53,  Mean= -7.72+-  9.75,  Range= -43.3 to   17.0   MKE:    59.7   EKE:    95.1
V-Velocity:  Median=-13.63,  Mean=-15.25+- 11.66,  Range= -52.9 to   29.2   MKE:   232.7   EKE:   135.8

   FILE: fs2004/rcm11475.nc
Start date:  12-Sep-2003 14:00:56   Stop date:   28-May-2004 22:35:38
No. of cycles:     5891   Sampling interval:     60 minutes
Pressure:    Median=   259,  Mean=   259+-   0.0,  Range=   259 to    259
Temperature: Median= 2.224,  Mean= 2.182+- 0.579,  Range= 0.355 to  3.384
Salinity:    Median=34.956,  Mean=34.947+- 0.070,  Range=34.623 to 35.176
Velocity:    Median=  9.70,  Mean= 10.29+-  6.94,  Range=   1.1 to   41.7
U-Velocity:  Median= -3.30,  Mean= -4.14+-  5.15,  Range= -29.1 to   13.1   MKE:    17.1   EKE:    26.5
V-Velocity:  Median= -7.12,  Mean= -7.71+-  7.13,  Range= -41.2 to   13.2   MKE:    59.5   EKE:    50.9
Tides (snr>2):
No. tide    Period     major      emaj       minor      emin       inc        pha
 3  P1       24.07      0.54       0.30       0.05       0.35        95.4      112.1
 1  PHI1     23.80      1.03       0.41       0.13       0.33       103.3      237.5
 2  M2       12.42      0.80       0.47      -0.36       0.35        60.3      125.5
after 30h low pass filter:
U-Velocity:  Median= -3.31,  Mean= -4.14+-  4.72,  Range= -26.3 to    9.4   MKE:    17.2   EKE:    22.2
V-Velocity:  Median= -7.22,  Mean= -7.71+-  6.36,  Range= -37.8 to    5.5   MKE:    59.5   EKE:    40.4

   FILE: fs2004/rcm11625.nc
Start date:  12-Sep-2003 12:00:00   Stop date:   31-Aug-2004 05:54:23
No. of cycles:     8491   Sampling interval:     60 minutes
Pressure:    Median=  1831,  Mean=  1831+-   0.0,  Range=  1831 to   1831
Temperature: Median=-0.611,  Mean=-0.617+- 0.060,  Range=-0.802 to -0.437
Salinity:    Median=34.767,  Mean=34.762+- 0.033,  Range=34.655 to 34.837
Velocity:    Median=  5.96,  Mean=  6.71+-  3.68,  Range=   1.5 to   25.4
U-Velocity:  Median=  1.25,  Mean=  1.37+-  2.03,  Range=  -8.4 to   14.3   MKE:     1.9   EKE:     4.1
V-Velocity:  Median= -5.11,  Mean= -4.64+-  5.57,  Range= -24.2 to   16.9   MKE:    21.5   EKE:    31.0
Tides (snr>2):
No. tide    Period     major      emaj       minor      emin       inc        pha
 1  MSF     354.37      1.61       1.13      -0.14       0.40       101.2       89.9
 4  O1       25.82      0.66       0.13       0.04       0.12       103.7      259.6
 6  P1       24.07      0.31       0.15      -0.01       0.13       108.4      258.8
 3  K1       23.93      1.27       0.15       0.11       0.11       105.7      263.3
 2  M2       12.42      1.28       0.22       0.27       0.22        89.9      151.5
 5  S2       12.00      0.44       0.17       0.19       0.19       100.1      151.7
after 30h low pass filter:
U-Velocity:  Median=  1.42,  Mean=  1.37+-  1.60,  Range=  -6.7 to   11.4   MKE:     1.9   EKE:     2.6
V-Velocity:  Median= -5.02,  Mean= -4.64+-  5.15,  Range= -20.6 to   14.6   MKE:    21.6   EKE:    26.5

   FILE: fs2004/rcm12644.nc
Start date:  10-Sep-2003 07:58:08   Stop date:   31-Aug-2004 12:00:00
No. of cycles:     8549   Sampling interval:     60 minutes
Pressure:    Median=    20,  Mean=    20+-   0.0,  Range=    20 to     20
Temperature: Median= 0.715,  Mean= 0.739+- 0.307,  Range=-0.232 to  2.176
Salinity:    Median=35.045,  Mean=35.030+- 0.094,  Range=34.716 to 35.243
Velocity:    Median=  5.46,  Mean=  5.90+-  4.40,  Range=   1.1 to   25.8
U-Velocity:  Median=  0.40,  Mean=  0.67+-  3.49,  Range= -16.1 to   13.9   MKE:     0.5   EKE:    12.2
V-Velocity:  Median= -1.10,  Mean= -2.35+-  6.01,  Range= -25.8 to   23.7   MKE:     5.5   EKE:    36.1
Tides (snr>2):
No. tide    Period     major      emaj       minor      emin       inc        pha
 5  O1       25.82      0.67       0.15      -0.16       0.16        16.0      152.4
 6  P1       24.07      0.54       0.18      -0.08       0.17         0.0      141.5
 2  K1       23.93      1.32       0.16      -0.36       0.16       177.8      328.8
 4  N2       12.66      0.99       0.25      -0.36       0.24        73.7      136.9
 1  M2       12.42      3.41       0.28      -1.10       0.21        76.3      128.0
 3  S2       12.00      1.24       0.22      -0.43       0.23        60.5      110.0
```

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   7  K2      11.97     0.26      0.17     -0.06      0.17      59.1      85.1
   9  M6       4.14     0.08      0.05     -0.05      0.05      15.8     108.3
   8  2MS6     4.09     0.08      0.05     -0.04      0.05      33.8      88.2
after 30h low pass filter:
U-Velocity:  Median=  0.63,  Mean=  0.67+- 2.56,  Range= -10.2 to  11.0    MKE:     0.5   EKE:     6.6
V-Velocity:  Median= -2.24,  Mean= -2.35+- 5.08,  Range= -17.2 to  19.5    MKE:     5.5   EKE:    25.8


  FILE: fs2004/rcm12733.nc
Start date:  11-Sep-2003 15:00:00   Stop date:    31-Aug-2004 06:50:38
No. of cycles:     8513    Sampling interval:     60 minutes
Pressure:    Median=  1014,  Mean=  1014+-   0.0,  Range=  1014 to   1014
Temperature: Median=-0.170,  Mean=-0.174+- 0.054,  Range=-0.340 to -0.008
Velocity:    Median=  4.01,  Mean=  5.00+-  3.92,  Range=   1.1 to   20.9
U-Velocity:  Median=  1.10,  Mean=  1.76+-  2.72,  Range=  -8.6 to   15.0    MKE:     3.1   EKE:     7.4
V-Velocity:  Median= -2.17,  Mean= -3.21+-  4.42,  Range= -19.0 to   15.4    MKE:    10.3   EKE:    19.5
Tides (snr>2):
No. tide   Period    major     emaj     minor      emin       inc       pha
   4  O1      25.82     0.88      0.13      0.06      0.15     124.6     255.2
   5  P1      24.07     0.43      0.18      0.19      0.17     120.8     266.1
   2  K1      23.93     1.53      0.14      0.29      0.16     121.7     261.1
   6  N2      12.66     0.40      0.21      0.09      0.20      82.3     151.5
   1  M2      12.42     1.75      0.25      0.23      0.22      96.3     148.1
   3  S2      12.00     1.04      0.22     -0.03      0.22     117.9     171.2
   7  K2      11.97     0.24      0.15     -0.05      0.18      79.7      95.9
  11  SO3      8.19     0.10      0.07     -0.01      0.06     116.4     181.7
   9  MK3      8.18     0.10      0.07      0.06      0.06     106.9     234.2
   8  M4       6.21     0.14      0.07      0.02      0.07     125.5     151.4
  10  MS4      6.10     0.10      0.07      0.01      0.07     106.7     185.0
  12  MSK6     4.04     0.04      0.03      0.01      0.03     166.8     321.3
after 30h low pass filter:
U-Velocity:  Median=  1.62,  Mean=  1.76+-  2.00,  Range=  -4.2 to    9.5    MKE:     3.1   EKE:     4.0
V-Velocity:  Median= -3.15,  Mean= -3.21+-  3.60,  Range= -14.6 to   11.3    MKE:    10.3   EKE:    13.0


  FILE: fs2004/rcm228.nc
Start date:  12-Sep-2003 14:00:56   Stop date:    30-Aug-2004 10:01:53
No. of cycles:     8469    Sampling interval:     60 minutes
Pressure:    Median=  1657,  Mean=  1660+-   5.9,  Range=  1657 to   1726
Temperature: Median=-0.547,  Mean=-0.564+- 0.081,  Range=-0.785 to -0.380
Salinity:    Median=34.898,  Mean=34.896+- 0.016,  Range=34.832 to 34.947
Velocity:    Median=  4.69,  Mean=  5.52+-  3.68,  Range=   0.0 to   27.0
U-Velocity:  Median= -0.88,  Mean= -0.94+-  2.38,  Range= -11.9 to   11.7    MKE:     0.9   EKE:     5.7
V-Velocity:  Median= -2.76,  Mean= -2.56+-  5.56,  Range= -25.9 to   19.8    MKE:     6.5   EKE:    30.9
Tides (snr>2):
No. tide   Period    major     emaj     minor      emin       inc       pha
   9  Q1      26.87     0.13      0.06     -0.02      0.07     108.1     154.6
   4  O1      25.82     0.81      0.05      0.13      0.06     100.7     248.1
  10  NO1     24.83     0.10      0.06      0.05      0.05     105.0     259.0
   6  P1      24.07     0.49      0.07      0.09      0.08      97.2     250.8
   2  K1      23.93     1.61      0.06      0.21      0.06      98.1     253.0
   5  N2      12.66     0.53      0.14     -0.09      0.13      75.0     134.8
   1  M2      12.42     2.43      0.13     -0.16      0.14      84.9     137.5
   8  L2      12.19     0.17      0.10     -0.11      0.09     121.8     181.9
   3  S2      12.00     0.89      0.14     -0.04      0.13      62.7     110.3
   7  K2      11.97     0.33      0.09     -0.08      0.12      64.4     108.6
after 30h low pass filter:
U-Velocity:  Median= -0.87,  Mean= -0.94+-  2.12,  Range= -10.4 to    9.2    MKE:     0.9   EKE:     4.5
V-Velocity:  Median= -2.73,  Mean= -2.56+-  4.97,  Range= -21.1 to   12.4    MKE:     6.5   EKE:    24.7


  FILE: fs2004/rcm235.nc
Start date:  11-Sep-2003 15:00:00   Stop date:    31-Aug-2004 07:58:08
No. of cycles:     8514    Sampling interval:     60 minutes
Pressure:    Median=   232,  Mean=   235+-   3.2,  Range=   232 to    251
Temperature: Median= 1.306,  Mean= 1.274+- 0.932,  Range=-1.699 to  3.829
Salinity:    Median=35.239,  Mean=35.224+- 0.110,  Range=34.836 to 35.495
Velocity:    Median=  5.87,  Mean=  6.79+-  4.64,  Range=   0.0 to   36.7
U-Velocity:  Median=  0.19,  Mean=  0.46+-  4.47,  Range= -20.2 to   19.8    MKE:     0.2   EKE:    20.0
V-Velocity:  Median= -0.92,  Mean= -0.38+-  6.87,  Range= -24.6 to   35.1    MKE:     0.1   EKE:    47.2
Tides (snr>2):
No. tide   Period    major     emaj     minor      emin       inc       pha
  11  Q1      26.87     0.10      0.06      0.06      0.07     102.8     172.5
   4  O1      25.82     0.76      0.07      0.24      0.09     114.0     253.1
  10  NO1     24.83     0.13      0.08      0.04      0.08     126.3     268.2
   7  P1      24.07     0.48      0.08      0.16      0.10     124.8     261.0
   3  K1      23.93     1.40      0.07      0.38      0.08     121.0     263.9
   5  N2      12.66     0.64      0.24     -0.17      0.23      53.1     115.9
   1  M2      12.42     4.42      0.26     -1.99      0.23      59.7     118.0
   9  MKS2    12.39     0.24      0.17     -0.19      0.15      21.2     268.7
   8  L2      12.19     0.31      0.18     -0.19      0.17      56.1     136.1
   2  S2      12.00     2.02      0.26     -1.13      0.25      70.4     125.0
   6  K2      11.97     0.53      0.18     -0.24      0.19      78.1     119.9
after 30h low pass filter:
U-Velocity:  Median=  0.10,  Mean=  0.46+-  3.48,  Range= -16.3 to   11.7    MKE:     0.2   EKE:    12.1
V-Velocity:  Median= -1.09,  Mean= -0.38+-  5.81,  Range= -16.8 to   28.3    MKE:     0.1   EKE:    33.8


  FILE: fs2004/rcm7718.nc
Start date:  11-Sep-2003 15:00:00   Stop date:    31-Aug-2004 07:49:41
No. of cycles:     8514    Sampling interval:     60 minutes
Pressure:    Median=    57,  Mean=    57+-   0.0,  Range=    57 to     57
Temperature: Median=-1.735,  Mean=-1.631+- 0.485,  Range=-1.881 to  4.006
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Salinity:    Median=33.655, Mean=33.598+- 0.358, Range=32.532 to 34.201   missing values:  2297
Velocity:    Median= 13.60, Mean= 15.51+- 9.92, Range=   1.1 to   73.5
U-Velocity:  Median= -1.33, Mean= -2.19+- 11.37, Range= -68.3 to   39.9   MKE:    4.8  EKE:   129.2
V-Velocity:  Median= -5.02, Mean= -2.97+- 14.01, Range= -51.4 to   45.7   MKE:    8.8  EKE:   196.2
Tides (snr>2):
No. tide  Period    major    emaj    minor     emin      inc      pha
 2  SSA  4382.91    5.95     4.13     0.14     3.04    105.3    209.4
 7  O1     25.82    0.73     0.32     0.16     0.27    130.2    250.1
 8  P1     24.07    0.50     0.26     0.27     0.30    130.0    265.1
 4  K1     23.93    1.40     0.31     0.47     0.34    131.8    270.2
 5  N2     12.66    0.97     0.45    -0.45     0.44     53.4    117.3
 1  M2     12.42    6.53     0.47    -4.02     0.42     60.4    114.3
 3  S2     12.00    1.95     0.45    -1.07     0.43     81.5    136.4
 6  K2     11.97    0.77     0.34    -0.31     0.36     73.2    116.2
after 30h low pass filter:
U-Velocity:  Median= -1.17, Mean= -2.19+- 10.29, Range= -57.6 to   32.1   MKE:    4.8  EKE:   105.8
V-Velocity:  Median= -5.51, Mean= -2.96+- 12.86, Range= -38.9 to   40.6   MKE:    8.8  EKE:   165.3

  FILE: fs2004/rcm834.nc
Start date:  10-Sep-2003 07:58:08   Stop date:   31-Aug-2004 11:54:23
No. of cycles:    8549   Sampling interval:   60 minutes
Pressure:    Median=  273, Mean=    273+-   0.0, Range=   273 to    273
Temperature: Median=-1.483, Mean=-1.402+- 0.527, Range=-1.875 to  2.814
Salinity:    Median=34.331, Mean=34.291+- 0.322, Range=33.302 to 35.144   missing values:     2
Velocity:    Median=  9.68, Mean= 10.81+-  6.68, Range=   0.0 to   50.4
U-Velocity:  Median= -0.60, Mean= -0.71+-  7.51, Range= -44.9 to   31.0   MKE:    0.5  EKE:    56.3
V-Velocity:  Median= -3.14, Mean= -3.65+-  9.55, Range= -48.3 to   29.3   MKE:   13.3  EKE:    91.3
Tides (snr>2):
No. tide  Period    major    emaj    minor     emin      inc      pha
 6  O1     25.82    0.70     0.26    -0.19     0.22      0.5    138.3
 7  P1     24.07    0.56     0.32    -0.16     0.28    161.4    314.6
 3  K1     23.93    1.45     0.29    -0.39     0.25    165.4    320.2
 4  N2     12.66    1.40     0.41    -0.91     0.40     53.3     94.9
 1  M2     12.42    7.87     0.46    -5.38     0.42     55.5    102.1
 2  S2     12.00    3.08     0.40    -2.12     0.42     52.3    100.2
 5  K2     11.97    0.75     0.27    -0.55     0.32     60.6    104.3
 9  MN4     6.27    0.16     0.10    -0.12     0.10    115.1    134.4
 8  M4      6.21    0.19     0.11    -0.04     0.12    146.1     97.6
after 30h low pass filter:
U-Velocity:  Median= -0.38, Mean= -0.72+-  4.78, Range= -29.5 to   15.2   MKE:    0.5  EKE:    22.8
V-Velocity:  Median= -3.49, Mean= -3.65+-  7.24, Range= -36.9 to   14.5   MKE:   13.3  EKE:    52.4

  FILE: fs2004/sbe2942.nc
Start date:  09-Sep-2003 05:20:38   Stop date:   02-Sep-2004 06:11:15
No. of cycles:   51702   Sampling interval:   10 minutes
Pressure:    Median=   60, Mean=     60+-   0.0, Range=    60 to     60
Temperature: Median=-1.764, Mean=-1.726+- 0.097, Range=-1.813 to -1.373
Salinity:    Median=32.797, Mean=32.759+- 0.151, Range=32.125 to 33.344

  FILE: fs2004/sbe2962.nc
Start date:  11-Sep-2003 15:00:00   Stop date:   31-Aug-2004 08:00:56
No. of cycles:    8514   Sampling interval:   60 minutes
Pressure:    Median=   48, Mean=     48+-   0.9, Range=    47 to     65
Temperature: Median=-1.723, Mean=-1.621+- 0.464, Range=-1.860 to  3.848
Salinity:    Median=33.433, Mean=33.408+- 0.423, Range=32.256 to 34.900

  FILE: fs2004/sbe2967.nc
Start date:  09-Sep-2003 12:00:00   Stop date:   02-Sep-2004 06:11:15
No. of cycles:   51662   Sampling interval:   10 minutes
Pressure:    Median=   26, Mean=     27+-   3.4, Range=    23 to     87
Temperature: Median=-1.770, Mean=-1.689+- 0.165, Range=-1.815 to -0.842
Salinity:    Median=32.646, Mean=32.537+- 0.319, Range=30.596 to 32.919

  FILE: fs2004/sbe4321.nc
Start date:  12-Sep-2003 14:00:56   Stop date:   30-Aug-2004 09:59:04
No. of cycles:    8367   Sampling interval:   60 minutes
Pressure:    Median=   51, Mean=     54+-   9.3, Range=    47 to    166
Temperature: Median=-1.590, Mean=-1.023+- 1.311, Range=-1.867 to  5.541
Salinity:    Median=34.141, Mean=34.050+- 0.463, Range=32.599 to 35.078

  FILE: fs2004/sbe4322.nc
Start date:  10-Sep-2003 08:00:56   Stop date:   31-Aug-2004 12:00:00
No. of cycles:    8549   Sampling interval:   60 minutes
Pressure:    Median=   95, Mean=     95+-   0.6, Range=    94 to    105
Temperature: Median=-1.482, Mean=-1.393+- 0.525, Range=-1.858 to  2.795
Salinity:    Median=33.929, Mean=33.893+- 0.344, Range=32.872 to 34.955
```