HAVSTOVAN
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THOR ADCP Deployments in Faroese Waters 2009 - 2010

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Introduction

This report documents nine ADCP deployments in Faroese waters in 2009 – 2010. Aanderaa Current Meters are included in two, and Microcats in two of the deployments. The deployments are listed in Table 1. Each deployment is identified by an 8-character label where the first four characters indicate the site (Fig. 1) while the last characters show year and month of deployment. Most of the moorings were located at standard (Nordic WOCE) sites. There were no ADCP data from the mooring at site NWSX due to battery case failure.

At sites NWFB, NWFC, NWNB, NWNG, NWSC and NWSY, 75 kHz RDI ADCP's were placed in the top of single-point moorings. At sites NWNA, NWNE, and NWSX, "shallow-water" rigs were used, where a RDI ADCP was placed on the bottom inside a protective aluminium frame. At sites NWSX and NWSY the instruments were 75 kHz Long Rangers. The other ADCP's were all 75 kHz Broadband ADCP 's except at sites NWNA and NWNE where the instruments were 150 kHz Broadbands. For each deployment, the ADCP measures the velocity averaged over a number (15 – 62) of depth layers ("bins") which were 25 m for all rigs except for the deployments NWNA and NWSY where the depth layers were 10 m. At 20 minute intervals, the ADCP records the data from all bins into "ensembles". In all deployments, except NWSY, each ensemble is based only upon one ping. In deployment NWSY, each ensemble is based upon 10 pings. At sites NWNG and NWSC, an Aanderaa current meter was on the mooring line below the ADCP. The Aanderaa current meters recorded speed, direction and temperature at 60 minute intervals. At deployments NWFB and NWSX, a Microcat was attached to the ADCP. The Microcat recorded temperature, salinity and pressure every 10 minutes.

At NWFB, the data for the uppermost bins were affected by some instrumental malfunction. Therefore only the deepest 16 bins are included in this record.
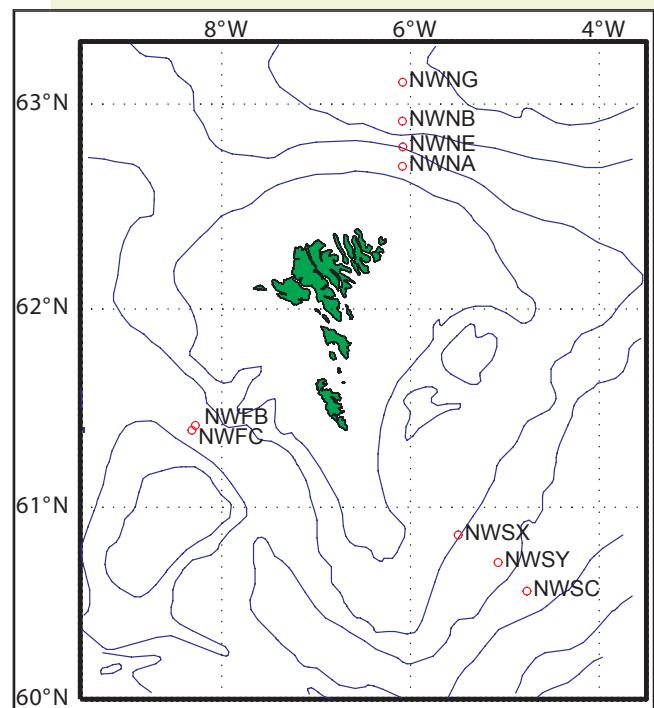
Figure 1. ADCP mooring sites in Faroese waters 2009-2010 superposed on a map with the bottom topography. Each site is indicated by a four-letter label.

Table 1. List of deployments with information on duration and range of valid data. All depths are in meters. The last column indicates whether Aanderaa or Microcat instruments were on the mooring.

```
           |Bottom|Int.|                     | Dur.| No |           |
Deployment| depth|min.|   Valid data period  | days|bins|Depthrange| Comments
------------------------------------------------------------------------------
NWFB0906  |  812 | 20 | 2009 06 07-2010 05 15 | 341 | 16 | 396- 771 | Microcat
NWFC0906  |  841 | 20 | 2009 06 07-2010 05 15 | 341 | 25 | 200- 800 |
NWNA0906  |  301 | 20 | 2009 06 05-2010 05 14 | 343 | 24 |  54- 284 |
NWNB0906  |  959 | 20 | 2009 06 05-2010 05 14 | 343 | 23 | 120- 670 |
NWNE0906  |  455 | 20 | 2009 06 05-2010 05 14 | 343 | 15 |  73- 423 |
NWNG0906  | 1810 | 20 | 2009 06 05-2010 05 14 | 343 | 23 |  57- 607 | Aanderaa
NWSC0906  | 1065 | 20 | 2009 06 07-2010 05 17 | 344 | 22 |  86- 611 | Aanderaa
NWSX0906  |  552 |  - | 2009 06 06-2010 05 17 |  -  |  - |    -     | Microcat
NWSY0908  |  910 | 20 | 2009 08 30-2010 05 17 | 259 | 62 |  69- 679 |
```

Quality control and calibration

The ADCP data have been quality controlled by a standard procedure based upon consideration of ADCP performance (error velocity etc.) and data variation with time in relation to neighbouring bins (spikes). The editing has been done manually using an interactive graphical software package developed by Faroe Marine Research Institute (FAMRI), based upon MATLAB. The editing has been done with a philosophy of minimal interference. Thus, only observations, which were considered clearly erroneous, were flagged. Generally, the series have been edited up to the level where about 50% of the observations were found to be valid. Bins above this level have not been included. The velocity direction has been corrected for magnetic deviation, by adding a constant as indicated in the header of the data file. The instrument depths are found using the data from the surface echo, except for the sites NWFB, NWFC, NWSX, and NWSY. The instrument depth at site NWFC is found from the echo sounding depth (corrected for change in sound velocity) and the length of the mooring line. The instrument depths at sites NWFB and NWSX are found from the Microcat pressure measurements, and the instrument depth at site NWSY is found from the ADCP pressure measurements.

The Aanderaa data have been calibrated using calibration coefficients from the manufacturer. In the Aanderaa current meter, several speed and compass readings are taken during a sampling interval, while the temperature and conductivity readings are taken once at the end of the interval only. At the end of the interval, the instrument stores a vector average of the velocity for the whole sampling interval, as well as the temperature and conductivity readings. In the data file, the time of each record is the middle of the speed-averaging interval. In the calibration procedure the velocity direction has been corrected for magnetic deviation, by adding a constant. The actual correction for each deployment is stored in the header of the data file. The data have been quality controlled by a standard procedure based upon data variation with time in relation to neighbouring values (spikes). The editing has been done manually using an interactive graphical software package developed by FAMRI, based upon MATLAB.

Data from the Microcat instruments have been quality controlled by a standard procedure based upon data variation with time in relation to neighbouring values (spikes). The editing has been done manually using an interactive graphical software package developed by FAMRI, based upon MATLAB. In addition the salinity data have been edited by removing all consequtive salinity pairs, where there is a large jump in the temperature. The data from the MicroCat at site NWSX indicate a drift in salinity.

Report format

For each deployment, the report contains several pages, beginning with a page that has a drawing of the mooring and details of the deployment. After that, there are some pages describing the ADCP data, beginning with a page with detailed error statistics for the deployment, which indicates also how many "long" (i.e. several consecutive ensembles) error gaps are for each bin. On the next page there is for each bin listed the average speed (scalar average) and velocity magnitude and direction (vectorial average) as well as the fraction of "good" ensembles (in parts per thousand). This is followed by a frequency distribution of speeds for each bin, which lists the frequency (in parts per thousand) of speeds (scalar) exceeding specified values. Then there are some pages listing tidal constituents. These pages contain five tables with data for the constituents M_2, S_2, N_2, O_1, and K_1. Each table lists for each bin the amplitude and Greenwich phase lag for the east and north velocity components and lists also major and minor semi-axes of the tidal ellipse for the constituent as well as its inclination (Fig. 2) and sense of rotation (cyclonic = C, anticyclonic = A). The tidal constants were computed by an adapted version of the Foreman FORTRAN package.

The description of the Aanderaa current meter data includes first a text page listing metadata information in the header and showing the list of parameters in the data file with a tally of the number of records flagged and not flagged for error in each parameter. Any comments to the data are then listed. The rest of the text page describes features of the velocity observations in the series. First is shown the residual current, defined as the vectorial average of all non-flagged records. Next are shown the results of tidal analysis on the

series. The number of records interpolated before the analysis is listed as well as the number that could not be interpolated (too large gap). Since both deployments have 60 minutes intervals, all analyses are performed on unfiltered data. 15 of the dominant constituents are listed and for each constituent, amplitude and Greenwich phase lag are shown for the east (E-ampl and E-gpl) and the north (N-ampl and N-gpl) velocity components respectively, followed by the characteristics of the tidal ellipse, its major and minor semi-axes, the inclination (Incl) of the ellipse, its Greenwich phase lag (Grphl), and whether it rotates cyclonically (C) or anticyclonically (A). The definitions of the tidal ellipse parameters are shown in Figure 2. The tidal constants were computed by an adapted version of the Foreman FORTRAN package. Finally, on the Aanderaa text page, is a table listing the directional current distribution as relative numbers of observations in parts per thousand. The table also lists for each direction interval, the relative flux, the average speed and the maximum speed. Then one page shows plots of the listed parameters as a function of time and one page shows the progressive vector diagram.

The Microcat data all include temperature, salinity, pressure and depth. The data are presented on two pages, the first page showing plots of temperature, salinity and depth time series, while the second is a T-S diagram of the recorded data.

On the following pages, the data descriptions from each deployment are presented in the same sequence as Table 1. For each deployment, the ADCP data are presented first, followed by possible Aanderaa or Microcat data. There are, however, no ADCP data from the deployment at site NWSX.
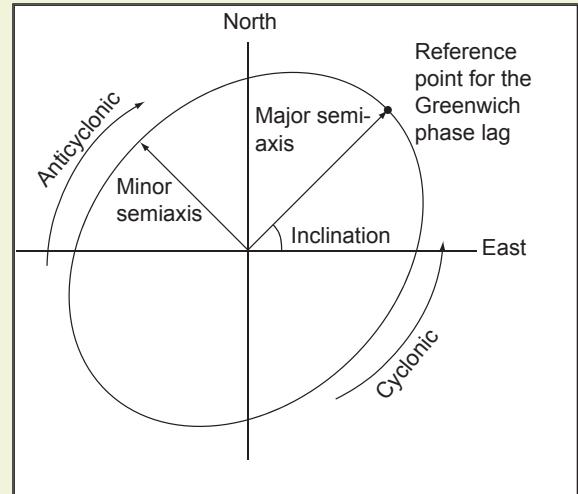
Figure 2. Parameters of the tidal ellipse for a given constituent. The reference point for the Greenwich phase lag is always chosen to be above the east-west axis.

NWFB0906

Latitude: 61°25.000´N

Longitude: 008°16.800´W

Echo sounding depth: 828 m

Bottom depth corr.: 812 m

Time of deployment: 7/6 - 2009 1938 UTC

Time of recovery: 15/5 - 2010 1922 UTC

ADCP:

Instrument no.: RDI ADCP 1642

Instrument frequency: 75 kHz

Height above bottom: 6 m

Depth: 806 m (corr.)

Time of first data: 7/6 - 2009 2000 UTC

Time of last data: 15/05 - 2010 1900 UTC

Sample interval: 20 min

No. of ensembles: 24622

Pings per ens.: 1

Binlength: 25 m

Depth of first bin: 771 m (corr.)

No. of bins: 16
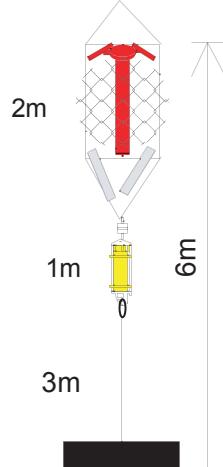
Micro Cat:

Instrument no.: 1993

Height above bottom: 5 m

Time of first data: 07/06 - 2009 1950 UTC

Time of last data: 15/05 - 2010 1920 UTC

Sample interval: 10 min

No. of ensembles: 49246

Instrument depth: 807 m

Data:

The ADCP data for the uppermost bins were affected by some instrumental malfunction.

NWFB0906 ADCP 1642

```
Error statistics for deployment: NWFB0906 updated 2010/11/30
---------------


Surface distance invalid due to range limitation
Heading, pitch and roll not edited
Temperature data edited by EJ in Sep 2010
Velocity edited up to and including bin 16 by EJ in Jun 2010
Intensity edited up to and including bin 16 by EJ in Sep 2010

Total number of  ensembles:        24622
Interval between ensembles:      20 min
Original number of bins:             32
Number of acceptable velocity bins:  16
Number of acceptable intensity bins: 16


Flagged values have been replaced by error codes: -999.99 for temperature, -999
for velocity and intensity. For observations where velocity is flagged, error
codes have been inserted into speed, direction and vertical velocity files


Number of temperature ens. flagged:      7

Below are for each bin listed ensembles flagged for intensity in number and for
velocity in number and % of total ens.number. For velocity is also shown the num-
ber of gaps of various lengths (gap length = number of consecutive flagged ens.)
```

Bin	Int. ens. flgd	Velocity ens. flgd	% flgd	Number of velocity gaps of length									
				1	2	3	4	5	6-10	11-20	21-30	31-50	>50
1	2	82	0	73	3	1	0	0	0	0	0	0	0
2	5	42	0	40	1	0	0	0	0	0	0	0	0
3	2	33	0	33	0	0	0	0	0	0	0	0	0
4	2	32	0	32	0	0	0	0	0	0	0	0	0
5	2	33	0	31	1	0	0	0	0	0	0	0	0
6	1	39	0	35	2	0	0	0	0	0	0	0	0
7	0	60	0	52	4	0	0	0	0	0	0	0	0
8	0	171	1	144	9	3	0	0	0	0	0	0	0
9	0	389	2	311	30	2	3	0	0	0	0	0	0
10	3	519	2	385	42	11	3	1	0	0	0	0	0
11	0	442	2	343	32	5	5	0	0	0	0	0	0
12	0	410	2	332	27	8	0	0	0	0	0	0	0
13	1	365	1	280	22	6	2	0	2	0	0	0	0
14	1	399	2	289	29	7	1	1	3	0	0	0	0
15	1	527	2	316	62	14	5	2	2	0	0	0	0
16	3	910	4	475	90	32	13	8	9	0	0	0	0

NWFB0906 ADCP 1642

```
Deployment: NWFB0906 updated 2010/11/30
Instrument no.: 1642
Instrument freq.: 75
Latitude: 61 25.000 N
Longitude:08 16.800 W
Bottom depth:  812
Instrument depth: 806
Center depth of first bin:  771
Bin length: 25
Number of bins: 16
Number of first ensemble:    93
Time of first ensemble: 2009 06 07 20 00
Number of last ensemble:  24714
Time of last ensemble:  2010 05 15 19 00
Time between ensembles (min.):   20
All directions have been corrected by adding:  -8.0
```

Below is listed for each bin the average speed (scalar average) and
the average velocity magnitude and direction formed as a vectorial
average of non-flagged (Good) observations. The last column shows the
number of good values used in parts per thousand

Bin no.	Depth m	Height m	Speed mm/s	Vel mm/s	Dir deg	Good ppt
1	771	41	967	963	307	997
2	746	66	1038	1034	310	998
3	721	91	1063	1060	312	999
4	696	116	1068	1065	313	999
5	671	141	1064	1061	314	999
6	646	166	1043	1040	315	998
7	621	191	989	983	316	998
8	596	216	881	870	319	993
9	571	241	727	705	323	984
10	546	266	567	523	327	979
11	521	291	427	355	331	982
12	496	316	327	230	334	983
13	471	341	268	150	337	985
14	446	366	239	104	341	984
15	421	391	227	80	347	979
16	396	416	229	71	351	963

NWFB0906 ADCP 1642

```
Deployment: NWFB0906


Frequency of high speeds.
=========================


Frequency (in parts per thousand) of speeds equal to or exceeding specified vales.


=======================================================================================
Bin|Depth|                                    Speed (cm/s)
no.|   m|  10   20   30   40   50   60   70   80   90  100  110  120  130  140  150  160  170  180
---------------------------------------------------------------------------------------
  1|  771|  997  997  997  997  997  995  976  893  695  401  155   38    6    1    0    0    0    0
  2|  746|  998  998  998  998  998  998  992  956  852  624  326  104   18    3    0    0    0    0
  3|  721|  999  999  999  999  999  999  995  969  888  699  410  141   27    3    0    0    0    0
  4|  696|  999  999  999  999  999  999  994  972  895  716  428  149   27    3    0    0    0    0
  5|  671|  999  999  999  999  999  998  993  969  887  703  416  142   24    2    0    0    0    0
  6|  646|  998  998  998  998  998  995  985  942  841  647  378  125   19    2    0    0    0    0
  7|  621|  998  998  997  995  986  967  925  848  727  536  288   89   13    1    0    0    0    0
  8|  596|  992  986  972  947  908  856  788  690  546  353  164   47    7    1    0    0    0    0
  9|  571|  971  931  880  823  759  679  583  458  315  176   71   17    3    0    0    0    0    0
 10|  546|  942  855  760  663  565  458  349  242  141   66   21    4    1    0    0    0    0    0
 11|  521|  921  778  619  474  353  248  160   91   43   14    3    0    0    0    0    0    0    0
 12|  496|  896  690  471  299  185  106   51   21    6    1    0    0    0    0    0    0    0    0
 13|  471|  869  609  353  184   86   36   12    3    0    0    0    0    0    0    0    0    0    0
 14|  446|  844  546  286  125   47   14    2    0    0    0    0    0    0    0    0    0    0    0
 15|  421|  824  513  256  104   33    8    1    0    0    0    0    0    0    0    0    0    0    0
 16|  396|  809  508  257  108   34    9    2    0    0    0    0    0    0    0    0    0    0    0
```

NWFB0906 ADCP 1642

Harmonic constants for constituent M2 for deployment NWFB0906.

```
===============================================================================
Bin   Depth   E-ampl   E-gpl   N-ampl   N-gpl   Major   Minor   Incl   Grphl   R
         m   mm/sec     deg   mm/sec     deg  mm/sec  mm/sec    deg     deg
-------------------------------------------------------------------------------
 01     771      30      54       24     320      30      24    169     243   A
 02     746      34      59       24     321      34      24    169     247   A
 03     721      33      66       22     322      34      21    165     255   A
 04     696      32      75       19     322      33      17    161     265   A
 05     671      29      85       17     313      32      12    155     275   A
 06     646      27     103       16     297      31       3    149     286   A
 07     621      29     134       18     270      32      11    151     303   C
 08     596      36     161       20     257      36      20    176     339   C
 09     571      42     192       21     239      45      15     21     199   C
 10     546      54     217       30     199      61       8     28     213   A
 11     521      66     233       53     177      75      38     34     213   A
 12     496      73     241       76     170      86      61     48     203   A
 13     471      78     246       93     168      97      73     65     188   A
 14     446      78     251      101     170     103      75     74     183   A
 15     421      78     255      106     173     107      76     78     181   A
 16     396      76     261      110     176     111      76     82     182   A
```

Harmonic constants for constituent S2 for deployment NWFB0906.

```
===============================================================================
Bin   Depth   E-ampl   E-gpl   N-ampl   N-gpl   Major   Minor   Incl   Grphl   R
         m   mm/sec     deg   mm/sec     deg  mm/sec  mm/sec    deg     deg
-------------------------------------------------------------------------------
 01     771      13      93       10      29      14       8     28      77   A
 02     746      16     101        9      27      16       8     11      95   A
 03     721      15     106        9      28      15       8     10     100   A
 04     696      13     106        6      20      13       6      2     105   A
 05     671       9     112        4     353       9       3    166     297   A
 06     646       7     140        5     316       9       0    146     319   C
 07     621      13     172        6     300      13       5    160     345   C
 08     596      15     199        8     303      15       7    170      14   C
 09     571      17     235        7     268      18       4     20     239   C
 10     546      21     267       16     218      24      10     34     250   A
 11     521      29     288       30     214      33      25     50     246   A
 12     496      34     294       39     212      40      33     66     233   A
 13     471      33     292       41     211      42      32     72     225   A
 14     446      31     289       40     211      41      29     71     224   A
 15     421      29     291       40     212      41      28     75     223   A
 16     396      28     292       40     216      41      27     74     226   A
```

NWFB0906 ADCP 1642

Harmonic constants for constituent N2 for deployment NWFB0906.

```
================================================================================
Bin   Depth  E-ampl   E-gpl  N-ampl   N-gpl   Major   Minor    Incl   Grphl  R
         m   mm/sec     deg  mm/sec     deg  mm/sec  mm/sec     deg     deg
--------------------------------------------------------------------------------
 01    771       8      48       5     311       8       5     174     231  A
 02    746       9      55       5     309       9       5     167     242  A
 03    721       9      55       5     306       9       5     167     242  A
 04    696       9      57       4     316       9       4     172     241  A
 05    671       8      68       3     310       8       3     167     253  A
 06    646       7      66       5     284       8       3     149     257  A
 07    621       7      59       5     254       9       1     145     244  A
 08    596       4      67       9     226       9       1     112     229  C
 09    571       2     138      11     222      11       2      89     222  C
 10    546       4     215      11     224      12       1      69     223  C
 11    521      11     215      11     186      15       4      45     201  A
 12    496      13     199      13     152      17       7      45     176  A
 13    471      14     196      14     143      17       9      45     169  A
 14    446      12     206      15     146      17       9      58     165  A
 15    421      12     216      18     151      19      10      66     165  A
 16    396      14     221      21     151      22      13      69     164  A
```

Harmonic constants for constituent O1 for deployment NWFB0906.

```
================================================================================
Bin   Depth  E-ampl   E-gpl  N-ampl   N-gpl   Major   Minor    Incl   Grphl  R
         m   mm/sec     deg  mm/sec     deg  mm/sec  mm/sec     deg     deg
--------------------------------------------------------------------------------
 01    771      16     323       9     157      19       2     152     146  A
 02    746      19     322      10     152      21       1     152     145  A
 03    721      19     321      11     148      22       1     150     143  A
 04    696      18     324      12     148      21       1     145     145  A
 05    671      18     331      12     144      22       1     145     149  C
 06    646      21     333      13     142      25       2     148     150  C
 07    621      27     334      16     145      31       2     149     152  C
 08    596      30     340      23     147      38       4     142     155  C
 09    571      30     346      27     155      40       4     137     161  C
 10    546      25     357      27     167      36       3     132     171  C
 11    521      17     358      23     174      28       1     127     175  C
 12    496      14       3      21     176      25       1     123     178  C
 13    471      11      11      18     181      22       2     122     184  C
 14    446      12      20      17     189      21       2     125     193  C
 15    421      13      28      17     195      21       2     128     200  C
 16    396      14      25      18     200      23       1     128     202  C
```

NWFB0906 ADCP 1642

Harmonic constants for constituent K1 for deployment NWFB0906.

```
===============================================================================
Bin    Depth  E-ampl   E-gpl  N-ampl   N-gpl   Major   Minor    Incl   Grphl  R
         m    mm/sec     deg  mm/sec     deg  mm/sec  mm/sec     deg     deg
-------------------------------------------------------------------------------
 01     771      13     218       9      54      15       2     145      43   A
 02     746      14     221       9      59      17       2     148      46   A
 03     721      16     223      10      60      19       3     147      48   A
 04     696      16     220      11      59      19       3     144      46   A
 05     671      16     222      12      54      20       2     143      47   A
 06     646      19     229      12      58      23       2     147      51   A
 07     621      24     235      16      62      29       2     146      57   A
 08     596      28     237      22      64      36       2     142      60   A
 09     571      28     236      28      63      39       2     135      60   A
 10     546      24     233      30      65      38       4     129      60   A
 11     521      19     234      30      69      36       4     122      65   A
 12     496      14     242      28      74      32       3     116      71   A
 13     471       9     252      25      80      27       1     110      79   A
 14     446       6     281      21      84      21       2     106      86   C
 15     421       5     300      18      93      19       2     104      95   C
 16     396       4     288      17     100      17       1     104     100   C
```

NWFB0906 MicroCat 1993
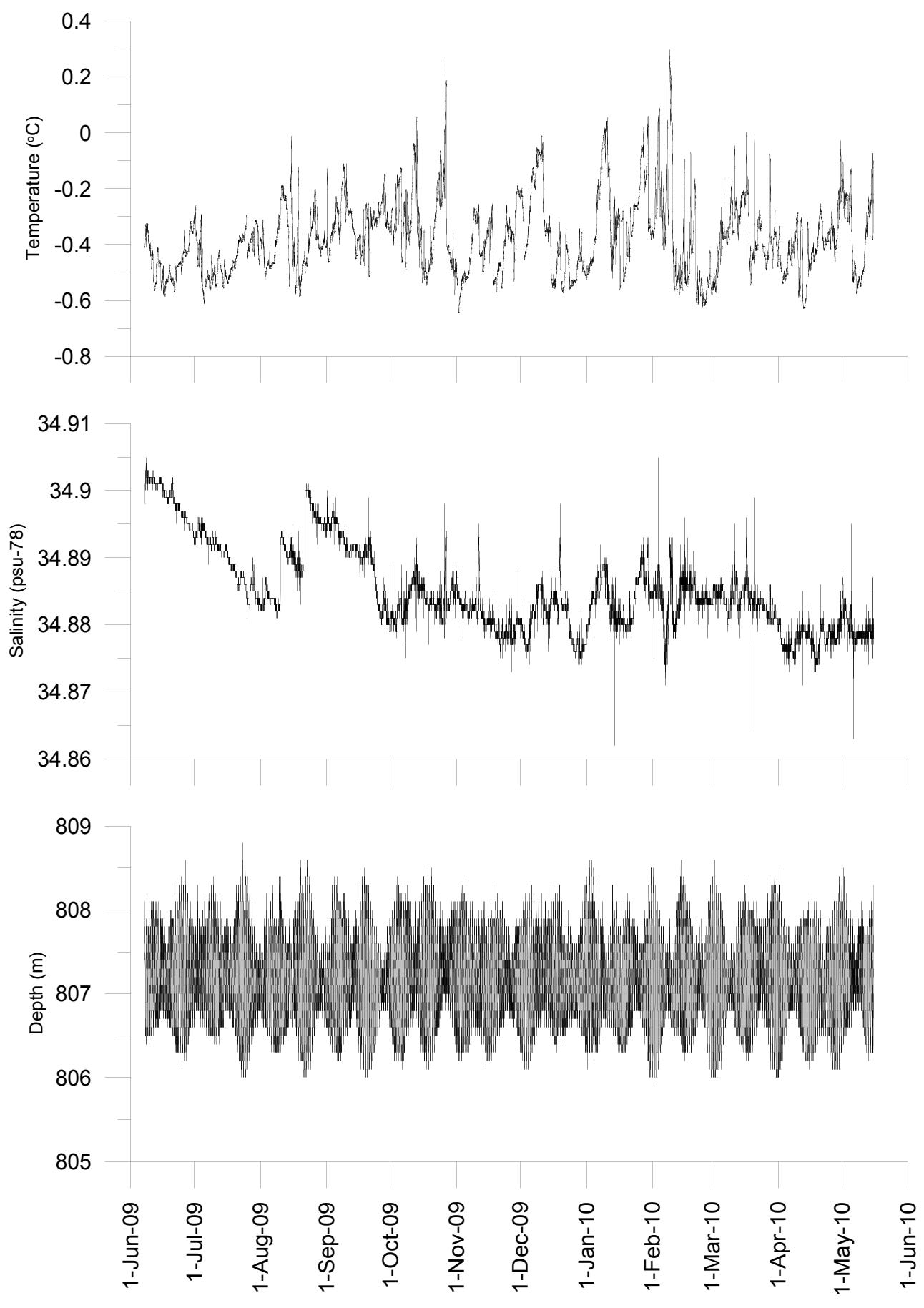
NWFB0906 MicroCat 1993
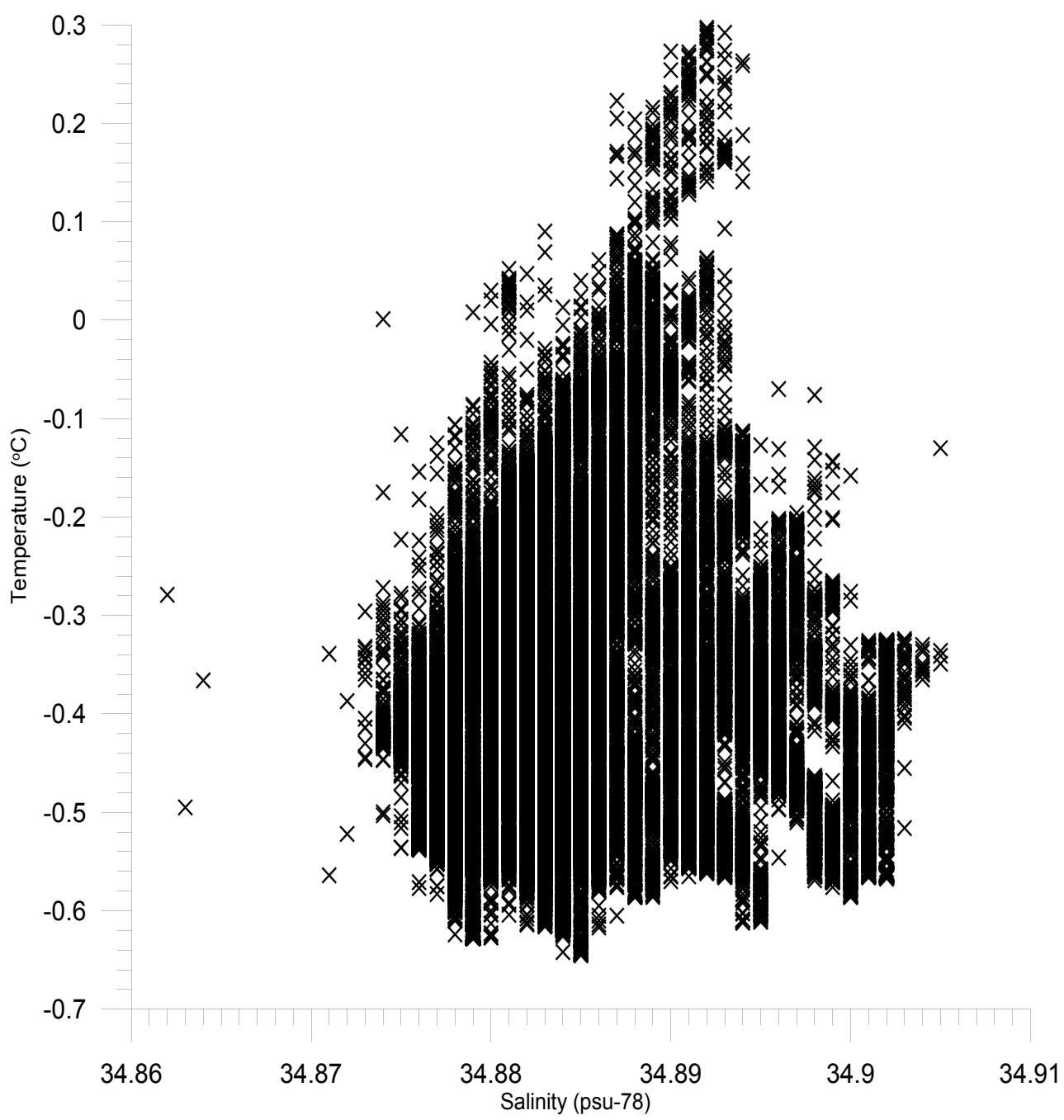
NWFC0906

Latitude: 61°23.550´N

Longitude: 008°19.010´W

Echo sounding depth: 850 m

Bottom depth corr.: 841 m

Time of deployment: 7/6 - 2009 1920 UTC

Time of recovery: 15/5 - 2010 1824 UTC

ADCP:

Instrument no.: RDI ADCP 1285

Instrument frequency: 75 kHz

Height above bottom: 6 m

Depth: 835 m (corr.)

Time of first data: 7/6 - 2009 1940 UTC

Time of last data: 15/5 - 2010 1800 UTC

Sample interval: 20 min

No. of ensembles: 24620

Pings per ens.: 1

Binlength: 25 m

Depth of first bin: 800 m (corr.)

No. of bins: 25

2m

1m

6m

3m
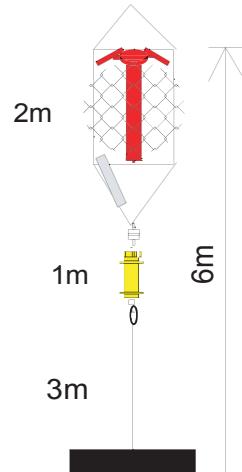
Data:

All data ok.

NWFC0906 ADCP 1285

```
Error statistics for deployment: NWFC0906 updated 2010/11/04
----------------



Surface distance invalid due to range limitation
Heading, pitch and roll not edited
Temperature edited by EJ in Sep 2010
Velocity edited up to and including bin 25 by EJ in Jun 2010
Intensity edited up to and including bin 25 by EJ in Sep 2010


Total number of  ensembles:        24620
Interval between ensembles:      20 min
Original number of bins:            32
Number of acceptable velocity bins:  25
Number of acceptable intensity bins: 25


Flagged values have been replaced by error codes: -999.99 for temperature, -999
for velocity and intensity. For observations where velocity is flagged, error
codes have been inserted into speed, direction and vertical velocity files


Number of temperature ens. flagged:       3

Below are for each bin listed ensembles flagged for intensity in number and for
velocity in number and % of total ens.number. For velocity is also shown the num-
ber of gaps of various lengths (gap length = number of consecutive flagged ens.)
```

Bin	Int. ens. flgd	Velocity ens. flgd	% flgd	Number of velocity gaps of length									
				1	2	3	4	5	6-10	11-20	21-30	31-50	>50
1	6	152	1	145	2	1	0	0	0	0	0	0	0
2	4	81	0	75	3	0	0	0	0	0	0	0	0
3	6	124	1	101	5	2	0	0	1	0	0	0	0
4	2	558	2	348	68	17	2	3	0	0	0	0	0
5	2	1308	5	662	173	49	15	10	7	0	0	0	0
6	0	1847	8	1007	239	66	15	8	9	0	0	0	0
7	1	2403	10	1384	307	81	22	7	6	0	0	0	0
8	1	2672	11	1572	366	82	25	3	1	0	0	0	0
9	2	2061	8	1242	287	50	17	3	2	0	0	0	0
10	1	1436	6	882	182	38	11	5	1	0	0	0	0
11	4	856	3	591	89	17	3	2	2	0	0	0	0
12	0	507	2	385	44	7	2	1	0	0	0	0	0
13	3	367	1	272	32	7	0	2	0	0	0	0	0
14	2	317	1	245	19	10	1	0	0	0	0	0	0
15	2	260	1	201	18	5	2	0	0	0	0	0	0
16	1	216	1	177	13	3	1	0	0	0	0	0	0
17	3	224	1	153	23	4	2	1	0	0	0	0	0
18	1	249	1	173	18	5	1	3	1	0	0	0	0
19	2	626	3	224	53	12	9	3	13	6	1	0	0
20	1	1474	6	439	97	28	26	11	15	16	11	0	0
21	3	2993	12	760	191	93	51	28	61	31	10	2	0
22	5	4947	20	1012	301	122	76	45	100	74	21	2	0
23	3	6902	28	1094	368	147	99	70	141	77	46	15	0
24	5	8860	36	1255	359	171	105	69	212	140	41	21	4
25	2	11012	45	1328	385	187	118	65	220	158	76	40	2

NWFC0906 ADCP 1285

```
Deployment: NWFC0906 updated 2010/11/04
Instrument no.:  1285
Instrument freq.:  75
Latitude: 61 23.550 N
Longitude:08 19.010 W
Bottom depth:  841
Instrument depth:  835
Center depth of first bin:  800
Bin length:  25
Number of bins:  25
Number of first ensemble:    381
Time of first ensemble: 2009 06 07 19 40
Number of last ensemble:   25000
Time of last ensemble:  2010 05 15 18 00
Time between ensembles (min.):    20
All directions have been corrected by adding:  -8.0
```

Below is listed for each bin the average speed (scalar average) and
the average velocity magnitude and direction formed as a vectorial
average of non-flagged (Good) observations. The last column shows the
number of good values used in parts per thousand

Bin no.	Depth m	Height m	Speed mm/s	Vel mm/s	Dir deg	Good ppt
1	800	41	1033	1024	301	994
2	775	66	1113	1105	304	997
3	750	91	1133	1126	307	995
4	725	116	1126	1119	308	977
5	700	141	1097	1089	308	947
6	675	166	1007	997	309	925
7	650	191	821	794	310	902
8	625	216	600	526	314	891
9	600	241	416	280	322	916
10	575	266	299	116	338	942
11	550	291	237	48	37	965
12	525	316	212	58	85	979
13	500	341	202	70	98	985
14	475	366	199	76	104	987
15	450	391	197	78	107	989
16	425	416	196	79	110	991
17	400	441	196	80	113	991
18	375	466	197	81	116	990
19	350	491	197	81	117	975
20	325	516	197	81	116	940
21	300	541	197	80	115	878
22	275	566	197	77	116	799
23	250	591	199	77	116	720
24	225	616	200	74	116	640
25	200	641	199	69	116	553

NWFC0906 ADCP 1285

Frequency of high speeds.
========================

Frequency (in parts per thousand) of speeds equal to or exceeding specified vales.

```
========================================================================================
Bin|Depth|                                  Speed (cm/s)
no.|   m|  10   20   30   40   50   60   70   80   90  100  110  120  130  140  150  160  170  180
----------------------------------------------------------------------------------------
  1|  800| 994  993  993  993  992  988  977  931  804  594  339  135   35    6    1    0    0    0
  2|  775| 996  996  996  995  994  992  988  972  917  785  562  292   92   17    2    0    0    0
  3|  750| 995  995  994  993  992  990  986  976  931  822  620  345  119   22    3    0    0    0
  4|  725| 977  977  976  976  974  971  967  954  903  785  591  330  114   22    3    1    0    0
  5|  700| 947  946  945  944  940  933  916  883  814  694  521  301  107   23    4    1    0    0
  6|  675| 922  915  905  891  874  846  807  749  664  545  398  228   85   20    3    0    0    0
  7|  650| 885  846  803  761  717  662  599  527  438  332  221  117   41   10    2    0    0    0
  8|  625| 844  744  649  572  501  430  362  293  222  149   87   39   13    3    0    0    0    0
  9|  600| 839  665  507  383  294  229  172  120   76   44   19    8    2    0    0    0    0    0
 10|  575| 830  589  373  227  141   86   51   29   14    6    3    1    0    0    0    0    0    0
 11|  550| 819  521  266  118   51   23   10    4    2    0    0    0    0    0    0    0    0    0
 12|  525| 811  470  206   74   23    7    2    0    0    0    0    0    0    0    0    0    0    0
 13|  500| 801  447  182   58   14    3    0    0    0    0    0    0    0    0    0    0    0    0
 14|  475| 796  433  176   54   12    2    0    0    0    0    0    0    0    0    0    0    0    0
 15|  450| 792  425  173   53   12    2    0    0    0    0    0    0    0    0    0    0    0    0
 16|  425| 795  421  169   55   13    2    0    0    0    0    0    0    0    0    0    0    0    0
 17|  400| 794  419  170   55   13    3    0    0    0    0    0    0    0    0    0    0    0    0
 18|  375| 794  419  169   56   15    3    1    0    0    0    0    0    0    0    0    0    0    0
 19|  350| 782  412  168   55   15    3    1    0    0    0    0    0    0    0    0    0    0    0
 20|  325| 752  398  161   55   15    4    1    0    0    0    0    0    0    0    0    0    0    0
 21|  300| 701  371  149   51   15    3    0    0    0    0    0    0    0    0    0    0    0    0
 22|  275| 636  336  139   48   14    3    0    0    0    0    0    0    0    0    0    0    0    0
 23|  250| 576  306  129   45   14    4    1    0    0    0    0    0    0    0    0    0    0    0
 24|  225| 513  275  117   40   13    4    1    0    0    0    0    0    0    0    0    0    0    0
 25|  200| 444  239   97   35   11    3    0    0    0    0    0    0    0    0    0    0    0    0
```

NWFC0906 ADCP 1285

Harmonic constants for constituent M2 for deployment NWFC0906.

```
================================================================================
Bin   Depth  E-ampl  E-gpl  N-ampl  N-gpl  Major   Minor   Incl  Grphl  R
        m    mm/sec    deg  mm/sec    deg  mm/sec  mm/sec    deg    deg
--------------------------------------------------------------------------------
 01    800      11     92      12    305      16       5    133    290  A
 02    775      14     84      13    303      18       6    137    282  A
 03    750      15     76      16    293      21       7    132    276  A
 04    725      16     67      19    291      23       9    128    274  A
 05    700      20     83      24    304      29      11    128    288  A
 06    675      36    110      34    318      48      12    137    303  A
 07    650      58    121      43    321      71      12    144    308  A
 08    625      62    137      32    321      69       2    153    318  A
 09    600      50    169       8    154      50       2      8    168  A
 10    575      45    211      45    152      55      32     45    182  A
 11    550      53    234      68    155      70      50     72    169  A
 12    525      56    243      77    161      78      55     79    169  A
 13    500      56    251      81    166      81      56     83    171  A
 14    475      58    259      83    172      83      58     87    174  A
 15    450      59    267      85    177      85      59     91    176  A
 16    425      59    274      87    181      87      59     93    179  A
 17    400      61    279      89    186      89      61     94    183  A
 18    375      62    282      91    188      91      62     95    185  A
 19    350      64    285      92    191      92      64     95    187  A
 20    325      64    287      91    193      92      64     96    189  A
 21    300      67    290      93    195      93      66     96    191  A
 22    275      66    289      92    198      92      66     92    196  A
 23    250      69    292      91    200      91      69     94    197  A
 24    225      73    296      94    203      94      73     94    200  A
 25    200      75    300      96    205      96      74     98    199  A
```

Harmonic constants for constituent S2 for deployment NWFC0906.

```
================================================================================
Bin   Depth  E-ampl  E-gpl  N-ampl  N-gpl  Major   Minor   Incl  Grphl  R
        m    mm/sec    deg  mm/sec    deg  mm/sec  mm/sec    deg    deg
--------------------------------------------------------------------------------
 01    800       5    122       4    314       6       1    139    307  A
 02    775       6    112       6    311       8       1    135    301  A
 03    750       6     94       6    307       8       2    139    288  A
 04    725       7     88       6    309       9       3    139    286  A
 05    700       9    129       7    325      11       2    141    315  A
 06    675      20    146      12    359      22       6    151    334  A
 07    650      29    159      14      4      32       6    155    344  A
 08    625      26    189       7     41      27       3    167     11  A
 09    600      20    248      11    168      20      11      8    244  A
 10    575      24    281      23    195      24      22     23    260  A
 11    550      24    299      32    205      32      24     97    199  A
 12    525      24    306      36    211      36      24     96    207  A
 13    500      24    307      36    214      36      24     93    212  A
 14    475      23    310      36    216      36      23     95    213  A
 15    450      22    311      36    218      36      22     93    216  A
 16    425      22    315      36    220      36      22     96    216  A
 17    400      21    322      36    222      36      21     99    217  A
 18    375      20    326      36    225      36      20     99    220  A
 19    350      21    330      33    231      33      20     99    226  A
 20    325      22    338      31    236      31      22    105    226  A
 21    300      23    341      29    239      30      22    108    226  A
 22    275      20    339      28    239      28      19    103    230  A
 23    250      21    342      31    245      31      20     97    241  A
 24    225      18    347      32    244      32      17    100    239  A
 25    200      19    356      31    252      31      18    102    245  A
```

NWFC0906 ADCP 1285

Harmonic constants for constituent N2 for deployment NWFC0906.

```
===============================================================================
Bin   Depth   E-ampl   E-gpl   N-ampl   N-gpl   Major   Minor   Incl   Grphl   R
        m    mm/sec     deg   mm/sec     deg  mm/sec  mm/sec    deg     deg
-------------------------------------------------------------------------------
01    800        3      67        2     297       3       1    147     263   A
02    775        4      49        1     210       4       0    166     228   C
03    750        3      42        2     224       4       0    144     223   A
04    725        2      43        3     218       4       0    131     220   C
05    700        4      29        3     225       5       1    144     214   A
06    675        7      49        6     280       8       4    142     249   A
07    650       10      76       11     294      14       5    132     276   A
08    625       12      87       15     281      19       2    130     275   A
09    600       12     100       13     283      17       0    134     282   A
10    575        7     132        6     239       7       5    155     294   C
11    550        7     190        8     146      10       4     53     163   A
12    525        8     211       12     137      12       7     73     148   A
13    500        8     223       14     143      14       8     82     148   A
14    475        9     239       15     150      15       9     89     150   A
15    450        9     239       16     154      16       9     86     156   A
16    425       11     244       16     161      16      11     82     166   A
17    400       11     249       16     162      16      11     86     164   A
18    375       12     251       17     161      17      12     90     161   A
19    350       12     251       19     160      19      12     90     160   A
20    325       14     250       20     162      20      14     87     164   A
21    300       13     252       20     170      20      13     81     176   A
22    275       13     257       20     172      20      13     85     176   A
23    250       13     259       18     168      18      13     92     167   A
24    225       14     274       21     169      22      13    105     160   A
25    200       12     275       18     189      18      12     85     192   A
```

Harmonic constants for constituent O1 for deployment NWFC0906.

```
===============================================================================
Bin   Depth   E-ampl   E-gpl   N-ampl   N-gpl   Major   Minor   Incl   Grphl   R
        m    mm/sec     deg   mm/sec     deg  mm/sec  mm/sec    deg     deg
-------------------------------------------------------------------------------
01    800       12     333       12     145      17       1    134     149   C
02    775       13     335       13     145      18       2    135     150   C
03    750       13     338       14     149      19       2    134     153   C
04    725       14     341       15     155      20       1    134     158   C
05    700       19     348       17     166      25       0    139     167   C
06    675       31     351       25     176      39       2    141     173   A
07    650       42     356       30     181      52       2    144     178   A
08    625       40       5       34     185      53       0    140     185   C
09    600       35      10       32     186      47       2    138     188   C
10    575       27       7       25     181      37       2    138     184   C
11    550       20      13       18     183      27       2    137     188   C
12    525       17      16       15     186      22       2    138     192   C
13    500       16      20       15     188      22       2    136     195   C
14    475       15      25       15     188      21       3    133     196   C
15    450       14      25       15     185      20       4    133     194   C
16    425       14      24       15     188      20       3    132     195   C
17    400       14      28       15     190      20       3    133     198   C
18    375       14      34       15     191      20       4    132     201   C
19    350       14      33       16     192      21       4    132     201   C
20    325       13      27       18     189      22       3    127     196   C
21    300       15      27       17     196      22       2    131     201   C
22    275       15      24       16     195      22       2    134     199   C
23    250       14      32       15     191      20       4    134     201   C
24    225       14      36       15     186      20       5    132     200   C
25    200       14      42       14     194      19       5    136     208   C
```

NWFC0906 ADCP 1285

Harmonic constants for constituent K1 for deployment NWFC0906.

```
===============================================================================
Bin   Depth  E-ampl   E-gpl  N-ampl   N-gpl   Major   Minor    Incl   Grphl  R
         m   mm/sec     deg  mm/sec     deg  mm/sec  mm/sec     deg     deg
-------------------------------------------------------------------------------
 01     800       7     237      10      44      12       1     126      49  C
 02     775       8     231       9      43      12       1     131      46  C
 03     750       9     225      11      44      14       0     129      44  C
 04     725       9     222      14      48      16       1     124      46  A
 05     700      12     239      13      53      18       1     131      55  C
 06     675      21     248      18      60      28       2     139      65  C
 07     650      33     252      26      73      42       0     141      72  A
 08     625      32     246      26      75      41       3     140      70  A
 09     600      28     243      25      73      37       3     138      68  A
 10     575      21     249      23      76      31       2     132      73  A
 11     550      15     263      20      84      25       0     128      84  A
 12     525      13     269      20      87      24       0     123      88  C
 13     500      11     274      19      86      22       1     120      88  C
 14     475       9     281      18      84      20       2     117      88  C
 15     450       8     283      18      80      20       3     111      84  C
 16     425       6     282      19      79      20       2     107      81  C
 17     400       6     288      21      77      21       3     104      79  C
 18     375       5     292      23      79      23       3     102      81  C
 19     350       5     285      22      81      22       2     103      82  C
 20     325       8     278      19      77      21       3     111      80  C
 21     300      10     284      19      77      21       4     117      82  C
 22     275      11     287      19      82      21       4     120      89  C
 23     250      12     283      20      81      22       4     120      86  C
 24     225      10     282      18      73      20       4     117      79  C
 25     200       6     275      13      59      14       3     113      65  C
```

NWNA0906

Latitude: 62°41.983´N

Longitude: 006°05.115´W

Echo sound depth: 298 m

Bottom depth corr.: 301 m

Time of deployment: 5/6 - 2009 0254 UTC

Time of recovery: 14/5 - 2010 0526 UTC

ADCP:

Instrument no.: RDI ADCP 1279

Instrument frequency: 150 kHz

Height above bottom: 1m

Depth: 300 m (corr.)

Time of first data: 5/6 - 2009 0320 UTC

Time of last data: 14/5 - 2010 0520 UTC

Sample interval: 20 min

No. of ensembles: 24703

Pings per ens.: 1

Binlength: 10 m

Depth of first bin: 284 m (corr.)

No. of bins: 24

Data:

All data ok.
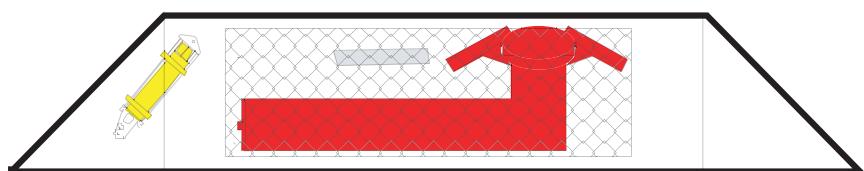
NWNA0906 ADCP 1279

```
Error statistics for deployment: NWNA0906 updated 2010/11/04
----------------


Surface distance not edited
Heading, pitch and roll not edited
Temperature edited by EJ in Sep 2010
Velocity edited up to and including bin 24 by EJ in Jun 2010
Intensity edited up to and including bin 24 by EJ in Sep 2010


Total number of  ensembles:       24703
Interval between ensembles:      20 min
Original number of bins:             30
Number of acceptable velocity bins:  24
Number of acceptable intensity bins: 24


Flagged values have been replaced by error codes: -999.99 for temperature, -999
for velocity and intensity. For observations where velocity is flagged, error
codes have been inserted into speed, direction and vertical velocity files


Number of temperature ens. flagged:      0

Below are for each bin listed ensembles flagged for intensity in number and for
velocity in number and % of total ens.number. For velocity is also shown the num-
ber of gaps of various lengths (gap length = number of consecutive flagged ens.)
```
```
--------------------------------------------------------------------------------
     Int.  Velocity |          Number of velocity gaps of length
 Bin  ens.  ens.   % |-------------------------------------------------------------
      flgd  flgd flgd|   1     2     3     4     5  6-10 11-20 21-30 31-50   >50
-------------------|----------------------------------------------------------
  1    7  1877    8| 1340   195    35     5     3     1     0     0     0     0
  2    2  1879    8| 1377   180    35     8     1     0     0     0     0     0
  3    4  1628    7| 1202   164    21     6     1     1     0     0     0     0
  4    3  1410    6| 1042   136    23     4     2     0     0     0     0     0
  5    5  1185    5|  934    98    14     2     1     0     0     0     0     0
  6    4  1073    4|  846    93     7     2     1     1     0     0     0     0
  7    3   903    4|  691    74    13     5     1     0     0     0     0     0
  8    3   932    4|  725    67    14     5     1     1     0     0     0     0
  9    3   815    3|  644    67     8     2     1     0     0     0     0     0
 10    3   750    3|  585    64     7     1     1     1     0     0     0     0
 11    2   804    3|  570    66    11     4     5     2     1     0     0     0
 12    5   859    3|  584    62    22     9     4     2     1     0     0     0
 13    5   829    3|  509    72    17     9     3     4     4     0     0     0
 14    4   887    4|  537    64    17    13     3     6     3     1     0     0
 15    7  1094    4|  554    99    32    13    13    12     1     1     0     0
 16    0  1314    5|  535   105    45    15     9    27     9     0     0     0
 17    4  1696    7|  577   120    50    24    15    31    12     6     0     0
 18    4  2261    9|  609   142    47    42    24    34    27     9     3     0
 19    5  3030   12|  709   164    62    32    22    69    34    12     6     0
 20    4  4031   16|  850   204    82    40    26    76    44    21    13     1
 21    3  5321   22| 1049   245    98    55    34    79    48    31    22     4
 22    2  6886   28| 1222   310   157    56    40    80    51    31    36     9
 23    3  8656   35| 1387   384   164    72    66   105    49    34    52    16
 24    4 10652   43| 1419   454   226    92    67   101    71    39    50    27
```

NWNA0906 ADCP 1279

```
Deployment: NWNA0906 updated 2010/11/04
Instrument no.:  1279
Instrument freq.: 150
Latitude: 62 41.983 N
Longitude:06 05.115 W
Bottom depth:   301
Instrument depth:  300
Center depth of first bin:  284
Bin length:  10
Number of bins:  24
Number of first ensemble:    188
Time of first ensemble: 2009 06 05 03 20
Number of last ensemble:   24890
Time of last ensemble:  2010 05 14 05 20
Time between ensembles (min.):   20
All directions have been corrected by adding:  -7.0
```

Below is listed for each bin the average speed (scalar average) and
the average velocity magnitude and direction formed as a vectorial
average of non-flagged (Good) observations. The last column shows the
number of good values used in parts per thousand

Bin no.	Depth m	Height m	Speed mm/s	Vel mm/s	Dir deg	Good ppt
1	284	17	200	125	102	924
2	274	27	213	130	105	924
3	264	37	223	131	108	934
4	254	47	232	135	110	943
5	244	57	236	139	112	952
6	234	67	239	144	113	957
7	224	77	240	149	113	963
8	214	87	240	152	113	962
9	204	97	241	158	113	967
10	194	107	242	162	113	970
11	184	117	243	166	113	967
12	174	127	243	168	112	965
13	164	137	244	170	112	966
14	154	147	246	173	112	964
15	144	157	248	175	112	956
16	134	167	248	176	112	947
17	124	177	250	179	112	931
18	114	187	253	181	112	908
19	104	197	257	185	112	877
20	94	207	262	189	113	837
21	84	217	269	194	113	785
22	74	227	278	199	113	721
23	64	237	289	205	113	650
24	54	247	304	212	113	569

NWNA0906 ADCP 1279

```
Frequency of high speeds.
=========================


Frequency (in parts per thousand) of speeds equal to or exceeding specified vales.


================================================================================================
Bin|Depth|                                       Speed (cm/s)
no.|   m|   10   20   30   40   50   60   70   80   90  100  110  120  130  140  150  160  170  180
------------------------------------------------------------------------------------------------
  1|  284|  733  407  171   57   15    3    1    0    0    0    0    0    0    0    0    0    0    0
  2|  274|  750  440  208   79   24    6    2    1    0    0    0    0    0    0    0    0    0    0
  3|  264|  774  473  235   96   32    9    2    1    0    0    0    0    0    0    0    0    0    0
  4|  254|  797  504  255  110   39   12    3    1    0    0    0    0    0    0    0    0    0    0
  5|  244|  809  518  268  121   42   14    3    1    0    0    0    0    0    0    0    0    0    0
  6|  234|  812  527  277  127   47   15    4    1    0    0    0    0    0    0    0    0    0    0
  7|  224|  817  530  283  131   49   16    5    1    0    0    0    0    0    0    0    0    0    0
  8|  214|  814  527  282  132   50   16    4    1    0    0    0    0    0    0    0    0    0    0
  9|  204|  826  528  289  137   53   17    5    1    0    0    0    0    0    0    0    0    0    0
 10|  194|  825  530  292  140   55   18    5    1    0    0    0    0    0    0    0    0    0    0
 11|  184|  819  530  293  142   58   19    6    1    0    0    0    0    0    0    0    0    0    0
 12|  174|  818  531  291  142   57   19    6    1    0    0    0    0    0    0    0    0    0    0
 13|  164|  822  533  296  144   58   20    6    1    0    0    0    0    0    0    0    0    0    0
 14|  154|  822  540  301  145   61   21    6    1    0    0    0    0    0    0    0    0    0    0
 15|  144|  817  538  303  147   62   21    6    1    0    0    0    0    0    0    0    0    0    0
 16|  134|  806  536  301  148   61   21    6    1    0    0    0    0    0    0    0    0    0    0
 17|  124|  795  532  303  149   62   22    6    1    0    0    0    0    0    0    0    0    0    0
 18|  114|  779  526  300  148   62   23    7    2    0    0    0    0    0    0    0    0    0    0
 19|  104|  756  516  300  151   63   23    7    2    1    0    0    0    0    0    0    0    0    0
 20|   94|  726  505  298  150   65   24    8    2    1    0    0    0    0    0    0    0    0    0
 21|   84|  689  484  292  150   66   26    9    3    1    1    0    0    0    0    0    0    0    0
 22|   74|  639  460  282  149   67   28   10    5    2    1    1    0    0    0    0    0    0    0
 23|   64|  583  429  269  146   71   31   13    5    3    2    1    1    1    0    0    0    0    0
 24|   54|  516  391  253  143   73   34   15    8    4    3    2    1    1    1    1    0    0    0
```

NWNA0906 ADCP 1279

Harmonic constants for constituent M2 for deployment NWNA0906.

```
================================================================================
Bin    Depth  E-ampl   E-gpl  N-ampl   N-gpl   Major    Minor    Incl   Grphl  R
         m   mm/sec     deg  mm/sec     deg  mm/sec   mm/sec     deg    deg
--------------------------------------------------------------------------------
01      284    125      291      95     167     141       70     148    128   A
02      274    139      290     111     168     157       83     147    129   A
03      264    150      289     123     169     170       94     146    130   A
04      254    160      289     131     171     179      104     147    130   A
05      244    167      290     136     174     185      110     148    131   A
06      234    170      292     137     177     187      113     149    132   A
07      224    172      293     136     179     187      114     150    133   A
08      214    172      295     134     182     186      114     151    134   A
09      204    174      297     131     184     186      113     153    134   A
10      194    174      299     128     187     185      112     155    134   A
11      184    176      300     125     189     185      110     157    135   A
12      174    175      303     123     192     184      109     158    136   A
13      164    174      305     120     194     182      107     158    138   A
14      154    175      307     118     196     182      106     159    139   A
15      144    173      308     116     198     180      104     160    140   A
16      134    171      310     112     201     177      102     161    141   A
17      124    171      312     109     203     176      100     162    142   A
18      114    169      314     105     206     174       97     164    143   A
19      104    169      316     102     209     173       95     165    145   A
20       94    166      318      99     212     170       93     166    146   A
21       84    167      320      97     215     170       92     168    147   A
22       74    165      322      93     219     167       90     170    148   A
23       64    164      324      90     223     165       88     172    148   A
24       54    162      326      95     227     163       93     172    150   A
```

Harmonic constants for constituent S2 for deployment NWNA0906.

```
================================================================================
Bin    Depth  E-ampl   E-gpl  N-ampl   N-gpl   Major    Minor    Incl   Grphl  R
         m   mm/sec     deg  mm/sec     deg  mm/sec   mm/sec     deg    deg
--------------------------------------------------------------------------------
01      284     45      333      33     213      49       26     151    170   A
02      274     48      330      39     219      52       34     151    170   A
03      264     50      328      44     220      54       38     147    173   A
04      254     54      329      48     221      59       42     146    174   A
05      244     57      332      51     221      64       43     144    178   A
06      234     62      335      52     221      68       43     147    177   A
07      224     64      337      51     222      70       42     149    177   A
08      214     65      339      50     224      71       42     151    177   A
09      204     67      340      49     226      71       42     154    176   A
10      194     68      341      48     226      72       41     156    175   A
11      184     67      342      47     227      72       40     155    177   A
12      174     68      343      46     227      72       38     156    176   A
13      164     68      344      45     227      72       37     157    177   A
14      154     68      345      44     228      71       37     158    176   A
15      144     67      346      42     230      71       36     159    177   A
16      134     66      347      40     232      69       35     160    178   A
17      124     65      350      38     234      68       33     161    179   A
18      114     64      353      37     237      67       32     162    182   A
19      104     63      355      34     241      65       30     164    183   A
20       94     61      359      33     244      63       29     164    186   A
21       84     59        0      30     248      60       27     166    186   A
22       74     59        1      28     253      60       27     170    185   A
23       64     62        6      29     258      63       27     170    190   A
24       54     58        7      31     261      59       30     169    193   A
```

NWNA0906 ADCP 1279

Harmonic constants for constituent N2 for deployment NWNA0906.

```
================================================================================
Bin   Depth  E-ampl   E-gpl  N-ampl   N-gpl   Major   Minor    Incl   Grphl  R
         m   mm/sec     deg  mm/sec     deg  mm/sec  mm/sec     deg     deg
--------------------------------------------------------------------------------
 01     284      27     258      21     130      31      14     146      96   A
 02     274      30     259      24     131      35      16     144      98   A
 03     264      31     258      27     133      36      19     142     100   A
 04     254      33     260      27     136      38      19     145     100   A
 05     244      33     263      27     141      37      20     145     104   A
 06     234      33     266      27     144      37      20     145     107   A
 07     224      32     270      25     146      36      19     147     108   A
 08     214      32     272      25     150      36      19     148     110   A
 09     204      32     273      23     151      35      18     151     109   A
 10     194      32     276      23     154      35      18     152     111   A
 11     184      33     277      22     160      36      18     156     110   A
 12     174      34     278      22     162      36      19     158     110   A
 13     164      34     279      23     166      36      20     158     112   A
 14     154      34     283      23     169      36      20     157     116   A
 15     144      34     285      23     171      36      20     158     117   A
 16     134      34     286      22     173      36      19     160     117   A
 17     124      34     287      22     174      36      19     160     118   A
 18     114      35     291      22     176      37      19     159     122   A
 19     104      37     293      22     182      38      20     163     122   A
 20      94      37     293      21     186      38      20     167     119   A
 21      84      36     293      23     189      37      22     167     121   A
 22      74      37     297      21     195      37      21     170     123   A
 23      64      35     296      20     198      35      20     173     121   A
 24      54      37     299      21     205      37      21     177     121   A
```

Harmonic constants for constituent O1 for deployment NWNA0906.

```
================================================================================
Bin   Depth  E-ampl   E-gpl  N-ampl   N-gpl   Major   Minor    Incl   Grphl  R
         m   mm/sec     deg  mm/sec     deg  mm/sec  mm/sec     deg     deg
--------------------------------------------------------------------------------
 01     284      21      27       9     283      22       9     173     210   A
 02     274      22      26       9     285      22       9     175     209   A
 03     264      24      28      11     281      24      10     171     212   A
 04     254      24      25      11     280      25      10     172     208   A
 05     244      24      28      10     279      24       9     171     212   A
 06     234      26      32      10     279      26       9     170     215   A
 07     224      27      31      11     280      27      10     171     214   A
 08     214      27      31      12     276      27      11     167     216   A
 09     204      27      34      13     278      27      11     166     220   A
 10     194      27      33      13     277      28      11     165     219   A
 11     184      27      35      14     277      28      12     162     223   A
 12     174      28      36      14     274      29      11     163     223   A
 13     164      29      36      15     274      30      12     162     223   A
 14     154      30      36      16     272      31      12     160     224   A
 15     144      30      34      16     271      32      13     160     222   A
 16     134      30      35      16     269      32      12     160     223   A
 17     124      31      35      17     268      33      13     158     224   A
 18     114      33      36      17     269      35      13     160     223   A
 19     104      34      37      17     269      36      13     161     224   A
 20      94      35      38      19     272      37      14     159     227   A
 21      84      35      43      19     276      37      14     159     232   A
 22      74      39      39      20     269      41      14     159     227   A
 23      64      41      39      21     264      44      14     157     227   A
 24      54      38      40      19     266      41      13     159     227   A
```

NWNA0906 ADCP 1279

Harmonic constants for constituent K1 for deployment NWNA0906.

```
==============================================================================
Bin   Depth  E-ampl  E-gpl  N-ampl  N-gpl  Major   Minor   Incl   Grphl  R
      m      mm/sec  deg    mm/sec  deg    mm/sec  mm/sec  deg    deg
------------------------------------------------------------------------------
01    284    31      271    17      187    32      17      5      268    A
02    274    31      279    22      184    31      22      173    104    A
03    264    33      285    24      177    35      22      159    118    A
04    254    35      284    23      171    37      20      159    116    A
05    244    35      282    20      168    37      18      163    111    A
06    234    34      280    20      166    35      17      163    109    A
07    224    33      280    20      164    35      17      160    110    A
08    214    33      279    21      166    34      18      160    110    A
09    204    34      278    21      167    35      19      163    107    A
10    194    35      277    21      163    36      18      161    107    A
11    184    36      274    21      161    37      19      162    103    A
12    174    36      272    23      159    38      20      161    102    A
13    164    36      269    22      158    38      20      163    98     A
14    154    37      267    22      156    38      20      163    96     A
15    144    37      264    23      153    39      21      163    93     A
16    134    38      263    23      154    39      21      164    92     A
17    124    38      262    23      154    39      21      165    90     A
18    114    38      262    23      151    39      21      163    91     A
19    104    37      261    22      151    38      20      164    90     A
20    94     39      263    22      150    40      20      164    90     A
21    84     40      262    22      151    41      20      165    89     A
22    74     39      259    21      156    40      20      171    83     A
23    64     38      261    22      159    38      21      170    87     A
24    54     37      259    20      163    37      20      176    81     A
```

NWNB0906

Latitude: 62°55.100´N

Longitude: 006°05.100´W

Echo sounding depth: 985 m

Bottom depth corr.: 959 m

Time of deployment: 5/6 - 2009 0616 UTC

Time of recovery: 14/5 - 2010 0741 UTC

ADCP:

Instrument no.: RDI ADCP 1577

Instrument frequency: 75 kHz

Height above bottom: 254 m (corr.)

Depth: 705 m (corr.)

Time of first data: 5/6 - 2009 0640 UTC

Time of last data: 14/5 - 2010 0720 UTC

Sample interval: 20 min

No. of ensembles: 24699

Pings per ens.: 1

Binlength: 25 m

Depth of first bin: 670 m (corr.)

No. of bins: 23

Data:

All data ok.

2m

1m

200m

254m

5m

1m

0

40m

5m
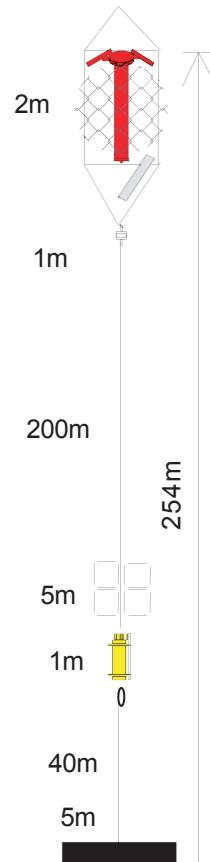
NWNB0906 ADCP 1577

```
Error statistics for deployment: NWNB0906 updated 2010/11/04
----------------


Surface distance not edited
Heading, pitch and roll not edited
Temperature edited by EJ in Sep 2010
Velocity edited up to and including bin 23 by EJ in Jul 2010
Intensity edited up to and including bin 23 by EJ in Sep 2010

Total number of  ensembles:      24699
Interval between ensembles:      20 min
Original number of bins:            32
Number of acceptable velocity bins:  23
Number of acceptable intensity bins: 23

Flagged values have been replaced by error codes: -999.99 for temperature, -999
for velocity and intensity. For observations where velocity is flagged, error
codes have been inserted into speed, direction and vertical velocity files


Number of temperature ens. flagged:       0

Below are for each bin listed ensembles flagged for intensity in number and for
velocity in number and % of total ens.number. For velocity is also shown the num-
ber of gaps of various lengths (gap length = number of consecutive flagged ens.)
```

Bin	Int. ens. flgd	Velocity ens. flgd	% flgd	1	2	3	4	5	6-10	11-20	21-30	31-50	>50
1	7	22	0	20	1	0	0	0	0	0	0	0	0
2	2	21	0	19	1	0	0	0	0	0	0	0	0
3	0	27	0	25	1	0	0	0	0	0	0	0	0
4	0	25	0	22	0	1	0	0	0	0	0	0	0
5	0	21	0	21	0	0	0	0	0	0	0	0	0
6	0	18	0	18	0	0	0	0	0	0	0	0	0
7	1	13	0	13	0	0	0	0	0	0	0	0	0
8	0	17	0	15	1	0	0	0	0	0	0	0	0
9	0	21	0	16	1	1	0	0	0	0	0	0	0
10	0	22	0	22	0	0	0	0	0	0	0	0	0
11	0	38	0	32	3	0	0	0	0	0	0	0	0
12	2	47	0	43	2	0	0	0	0	0	0	0	0
13	2	75	0	55	5	0	1	0	1	0	0	0	0
14	1	83	0	57	8	2	1	0	0	0	0	0	0
15	2	225	1	91	12	3	4	2	5	3	0	0	0
16	1	513	2	134	32	5	6	5	9	6	4	0	0
17	3	1058	4	166	43	26	19	10	22	14	4	4	0
18	1	1921	8	228	61	27	31	18	37	23	7	12	0
19	2	2861	12	289	85	54	25	26	58	32	7	22	0
20	1	4737	19	394	156	72	36	44	74	60	20	32	2
21	2	7039	28	521	192	102	72	52	118	80	42	36	12
22	2	9392	38	554	195	118	83	74	171	121	67	41	18
23	2	11285	46	511	212	113	87	70	142	143	57	70	31

NWNB0906 ADCP 1577

```
Deployment: NWNB0906 updated 2010/11/04
Instrument no.:  1577
Instrument freq.:  75
Latitude: 62 55.100 N
Longitude:06 05.100 W
Bottom depth:  959
Instrument depth:  705
Center depth of first bin:  670
Bin length:  25
Number of bins:  23
Number of first ensemble:    198
Time of first ensemble: 2009 06 05 06 40
Number of last ensemble:   24896
Time of last ensemble:  2010 05 14 07 20
Time between ensembles (min.):   20
All directions have been corrected by adding:  -7.0
```

Below is listed for each bin the average speed (scalar average) and
the average velocity magnitude and direction formed as a vectorial
average of non-flagged (Good) observations. The last column shows the
number of good values used in parts per thousand

Bin no.	Depth m	Height m	Speed mm/s	Vel mm/s	Dir deg	Good ppt
1	670	289	130	11	94	999
2	645	314	129	6	96	999
3	620	339	128	2	91	999
4	595	364	128	1	311	999
5	570	389	130	3	287	999
6	545	414	131	3	261	999
7	520	439	132	4	215	999
8	495	464	133	6	163	999
9	470	489	135	12	136	999
10	445	514	140	22	124	999
11	420	539	148	35	120	998
12	395	564	159	51	118	998
13	370	589	171	71	115	997
14	345	614	185	93	114	997
15	320	639	202	115	114	991
16	295	664	221	139	114	979
17	270	689	240	160	114	957
18	245	714	259	180	114	922
19	220	739	277	198	114	884
20	195	764	292	211	115	808
21	170	789	306	220	116	715
22	145	814	310	221	116	620
23	120	839	305	214	115	543

NWNB0906 ADCP 1577

```
Frequency of high speeds.
=========================

Frequency (in parts per thousand) of speeds equal to or exceeding specified vales.

========================================================================================
Bin|Depth|                                     Speed (cm/s)
no.|   m|  10   20   30   40   50   60   70   80   90  100  110  120  130  140  150  160  170  180
----------------------------------------------------------------------------------------
  1|  670| 572  180   39    6    1    0    0    0    0    0    0    0    0    0    0    0    0    0
  2|  645| 570  178   36    5    1    0    0    0    0    0    0    0    0    0    0    0    0    0
  3|  620| 574  176   34    5    1    0    0    0    0    0    0    0    0    0    0    0    0    0
  4|  595| 580  172   31    4    0    0    0    0    0    0    0    0    0    0    0    0    0    0
  5|  570| 586  176   32    5    1    0    0    0    0    0    0    0    0    0    0    0    0    0
  6|  545| 597  173   32    4    0    0    0    0    0    0    0    0    0    0    0    0    0    0
  7|  520| 604  183   33    4    0    0    0    0    0    0    0    0    0    0    0    0    0    0
  8|  495| 608  191   33    3    0    0    0    0    0    0    0    0    0    0    0    0    0    0
  9|  470| 620  194   36    4    0    0    0    0    0    0    0    0    0    0    0    0    0    0
 10|  445| 645  213   43    7    0    0    0    0    0    0    0    0    0    0    0    0    0    0
 11|  420| 677  244   56   10    1    0    0    0    0    0    0    0    0    0    0    0    0    0
 12|  395| 710  291   75   15    3    0    0    0    0    0    0    0    0    0    0    0    0    0
 13|  370| 741  339  106   26    4    1    0    0    0    0    0    0    0    0    0    0    0    0
 14|  345| 769  385  142   40    7    1    0    0    0    0    0    0    0    0    0    0    0    0
 15|  320| 802  445  184   61   14    2    0    0    0    0    0    0    0    0    0    0    0    0
 16|  295| 819  503  242   85   25    5    0    0    0    0    0    0    0    0    0    0    0    0
 17|  270| 826  546  285  115   38    8    1    0    0    0    0    0    0    0    0    0    0    0
 18|  245| 812  569  334  151   52   12    1    0    0    0    0    0    0    0    0    0    0    0
 19|  220| 788  579  366  187   72   18    3    0    0    0    0    0    0    0    0    0    0    0
 20|  195| 726  554  366  198   85   25    5    0    0    0    0    0    0    0    0    0    0    0
 21|  170| 648  503  349  197   93   32    8    1    0    0    0    0    0    0    0    0    0    0
 22|  145| 562  439  307  174   86   34   10    2    0    0    0    0    0    0    0    0    0    0
 23|  120| 485  376  258  149   75   31   10    3    0    0    0    0    0    0    0    0    0    0
```

NWNB0906 ADCP 1577

Harmonic constants for constituent M2 for deployment NWNB0906.

```
================================================================================
Bin    Depth  E-ampl   E-gpl  N-ampl   N-gpl  Major   Minor    Incl   Grphl  R
          m  mm/sec     deg  mm/sec     deg  mm/sec  mm/sec     deg    deg
--------------------------------------------------------------------------------
 01     670      69     266      41     122     77      21     152      95   A
 02     645      70     268      39     125     77      21     154      96   A
 03     620      73     270      38     130     79      22     156      97   A
 04     595      77     271      39     136     82      26     158      99   A
 05     570      81     273      40     143     86      29     160     100   A
 06     545      85     274      40     149     89      31     162     101   A
 07     520      90     275      42     154     93      35     164     101   A
 08     495      94     277      43     161     97      38     166     103   A
 09     470     100     280      45     170    102      42     170     105   A
 10     445     106     284      48     181    106      46     173     107   A
 11     420     112     290      52     194    113      52     177     111   A
 12     395     120     296      57     208    120      56       2     295   A
 13     370     123     301      61     218    124      60       4     299   A
 14     345     125     307      64     228    126      63       7     304   A
 15     320     125     315      69     241    127      65      12     309   A
 16     295     126     320      73     250    129      67      15     312   A
 17     270     127     323      77     255    132      69      18     314   A
 18     245     127     325      81     258    133      72      20     314   A
 19     220     128     328      85     261    134      75      21     316   A
 20     195     128     330      87     262    134      77      22     317   A
 21     170     132     331      91     262    138      82      22     318   A
 22     145     131     300      92     234    138      79      24     286   A
 23     120     131     301      89     234    138      77      22     288   A
```

Harmonic constants for constituent S2 for deployment NWNB0906.

```
================================================================================
Bin    Depth  E-ampl   E-gpl  N-ampl   N-gpl  Major   Minor    Incl   Grphl  R
          m  mm/sec     deg  mm/sec     deg  mm/sec  mm/sec     deg    deg
--------------------------------------------------------------------------------
 01     670      30     305      15     186     31      13     163     133   A
 02     645      30     306      16     187     31      13     163     134   A
 03     620      30     306      15     185     31      13     163     133   A
 04     595      31     308      15     186     32      12     164     134   A
 05     570      32     308      15     189     33      13     165     133   A
 06     545      35     309      17     195     36      15     166     135   A
 07     520      39     313      20     207     39      19     170     138   A
 08     495      41     319      22     220     42      21     174     142   A
 09     470      44     327      24     236     44      24     179     147   A
 10     445      45     334      24     249     45      24       4     332   A
 11     420      43     337      23     257     43      22       7     334   A
 12     395      37     342      18     266     37      17       8     338   A
 13     370      36     349      16     280     36      14      11     344   A
 14     345      36     354      18     288     37      16      14     348   A
 15     320      37     357      20     291     38      18      16     349   A
 16     295      35     356      20     296     37      16      19     347   A
 17     270      33     357      20     303     36      15      24     346   A
 18     245      34     359      19     307     36      14      23     350   A
 19     220      33       1      18     307     35      13      20     353   A
 20     195      35       2      17     312     37      12      19     356   A
 21     170      37       5      14     307     38      12      13       1   A
 22     145      31     341      21     283     33      16      26     328   A
 23     120      31     340      22     280     34      18      28     324   A
```

NWNB0906 ADCP 1577

Harmonic constants for constituent N2 for deployment NWNB0906.

Bin	Depth m	E-ampl mm/sec	E-gpl deg	N-ampl mm/sec	N-gpl deg	Major mm/sec	Minor mm/sec	Incl deg	Grphl deg	R
01	670	9	250	6	67	11	0	148	69	C
02	645	10	245	6	67	12	0	148	66	A
03	620	11	238	7	67	13	1	147	60	A
04	595	11	238	8	71	14	2	146	62	A
05	570	12	242	7	74	14	1	148	65	A
06	545	13	251	7	76	14	1	151	72	A
07	520	14	256	5	97	15	2	161	78	A
08	495	17	264	3	151	17	3	175	85	A
09	470	17	272	4	170	17	4	177	93	A
10	445	19	275	6	177	19	6	177	96	A
11	420	22	274	8	189	22	8	2	274	A
12	395	24	272	9	187	24	9	2	271	A
13	370	25	274	11	194	25	11	6	272	A
14	345	25	281	13	204	26	13	9	277	A
15	320	30	280	16	196	30	16	5	277	A
16	295	31	279	18	197	32	18	7	275	A
17	270	30	284	18	203	30	17	8	279	A
18	245	33	285	18	202	33	18	5	282	A
19	220	33	284	16	196	33	16	1	283	A
20	195	31	284	16	206	31	15	8	281	A
21	170	29	285	15	216	30	14	14	278	A
22	145	26	264	16	205	28	13	23	253	A
23	120	25	283	20	216	27	17	29	264	A

Harmonic constants for constituent O1 for deployment NWNB0906.

Bin	Depth m	E-ampl mm/sec	E-gpl deg	N-ampl mm/sec	N-gpl deg	Major mm/sec	Minor mm/sec	Incl deg	Grphl deg	R
01	670	4	50	4	220	5	0	137	225	C
02	645	4	46	3	222	5	0	143	225	C
03	620	4	39	3	231	5	1	142	224	A
04	595	4	38	3	224	5	0	141	220	A
05	570	4	26	4	229	6	1	139	216	A
06	545	4	24	4	239	6	2	137	221	A
07	520	6	24	4	243	7	2	149	215	A
08	495	7	24	4	246	8	3	153	213	A
09	470	8	34	5	254	9	3	150	225	A
10	445	8	39	5	260	9	3	154	227	A
11	420	8	36	5	259	9	3	156	224	A
12	395	9	37	5	267	9	3	158	225	A
13	370	10	31	6	263	11	5	152	224	A
14	345	11	28	7	268	12	6	157	219	A
15	320	11	33	9	274	12	7	150	231	A
16	295	13	37	8	270	14	6	152	230	A
17	270	13	36	8	283	13	7	162	225	A
18	245	13	36	7	285	14	7	165	224	A
19	220	13	36	7	292	13	7	168	223	A
20	195	10	25	8	286	10	8	164	217	A
21	170	12	24	5	284	12	5	175	206	A
22	145	16	7	5	291	16	4	4	6	A
23	120	16	18	8	278	16	8	173	201	A

NWNB0906 ADCP 1577

Harmonic constants for constituent K1 for deployment NWNB0906.

```
================================================================================
Bin   Depth  E-ampl  E-gpl  N-ampl   N-gpl  Major   Minor    Incl   Grphl  R
         m   mm/sec    deg  mm/sec     deg  mm/sec  mm/sec    deg     deg
--------------------------------------------------------------------------------
 01    670       4     286      4      155      6       3     132     133   A
 02    645       4     276      4      149      5       3     130     126   A
 03    620       4     275      5      144      6       3     126     126   A
 04    595       4     275      5      144      6       3     130     124   A
 05    570       5     273      5      143      7       3     130     122   A
 06    545       5     273      5      147      6       3     131     123   A
 07    520       6     279      6      152      7       4     138     123   A
 08    495       7     282      6      152      9       4     146     119   A
 09    470       7     277      5      151      8       4     148     113   A
 10    445       7     272      5      145      8       4     150     106   A
 11    420       8     265      7      137     10       4     147     102   A
 12    395       9     272      7      132     11       4     145     106   A
 13    370      10     272      7      127     12       3     149     102   A
 14    345      11     274      7      130     12       4     150     104   A
 15    320      10     275      8      134     13       4     142     110   A
 16    295      11     276      9      140     13       5     141     114   A
 17    270       9     273      9      153     11       7     136     122   A
 18    245       8     254      8      145      9       7     132     112   A
 19    220       7     230     10      139     10       7      92     138   A
 20    195       8     211      9      151     11       6      53     173   A
 21    170       7     202     12      130     12       7      74     138   A
 22    145       5     126     10      128     11       0      65     128   C
 23    120       6     113      8      109      9       0      53     110   A
```

NWNE0906

Latitude:　　　62°47.628´N

Longitude:　　006°04.914´W

Echo sounding depth:　456 m

Bottom depth corr.:　455 m

Time of deployment:　5/6 - 2009 0441 UTC

Time of recovery:　14/5 - 2010 0630 UTC

ADCP:

Instrument no.:　RDI ADCP 1244

Instrument frequency:　150 kHz

Height above bottom:　1 m

Depth:　454 m (corr.)

Time of first data:　5/6 - 2009 0500 UTC

Time of last data:　14/5 - 2010 0620 UTC

Sample interval:　20 min

No. of ensembles:　24701

Pings per ens.:　1

Binlength:　25 m

Depth of first bin:　423 m (corr.)

No. of bins:　15

Data:

All data ok.
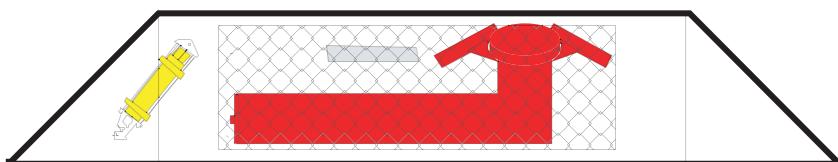
NWNE0906 ADCP 1244

```
Error statistics for deployment: NWNE0906 updated 2010/11/04
----------------


Surface distance not edited
Heading, pitch and roll not edited
Temperature edited by EJ in Sep 2010
Velocity edited up to and including bin 15 by EJ in Jul 2010
Intensity edited up to and including bin 15 by EJ in Sep 2010


Total number of  ensembles:       24701
Interval between ensembles:      20 min
Original number of bins:             20
Number of acceptable velocity bins:  15
Number of acceptable intensity bins: 15


Flagged values have been replaced by error codes: -999.99 for temperature, -999
for velocity and intensity. For observations where velocity is flagged, error
codes have been inserted into speed, direction and vertical velocity files


Number of temperature ens. flagged:       0

Below are for each bin listed ensembles flagged for intensity in number and for
velocity in number and % of total ens.number. For velocity is also shown the num-
ber of gaps of various lengths (gap length = number of consecutive flagged ens.)
```

Bin	Int. ens. flgd	Velocity ens. flgd	% flgd	1	2	3	4	5	6-10	11-20	21-30	31-50	>50
1	6	866	4	752	51	4	0	0	0	0	0	0	0
2	1	928	4	788	59	6	1	0	0	0	0	0	0
3	6	1068	4	913	67	4	1	1	0	0	0	0	0
4	3	1100	4	918	81	4	2	0	0	0	0	0	0
5	3	1051	4	911	62	4	1	0	0	0	0	0	0
6	4	1051	4	917	59	4	1	0	0	0	0	0	0
7	1	1028	4	879	68	3	1	0	0	0	0	0	0
8	5	1015	4	864	69	3	1	0	0	0	0	0	0
9	3	1056	4	857	66	11	2	0	1	1	0	0	0
10	3	1509	6	868	71	17	11	11	18	11	3	0	0
11	5	2392	10	892	131	24	17	21	37	32	10	0	0
12	3	3481	14	925	127	52	29	14	52	37	37	3	0
13	6	5138	21	1049	186	79	42	28	53	54	46	21	0
14	3	7697	31	1198	332	115	68	39	104	74	40	52	2
15	1	11370	46	1243	391	171	66	48	133	83	52	97	13

NWNE0906 ADCP 1244

```
Deployment: NWNE0906 updated 2010/11/04
Instrument no.: 1244
Instrument freq.: 150
Latitude: 62 47.628 N
Longitude:06 04.914 W
Bottom depth:  455
Instrument depth:  454
Center depth of first bin:  423
Bin length:  25
Number of bins:  15
Number of first ensemble:    193
Time of first ensemble: 2009 06 05 05 00
Number of last ensemble:   24893
Time of last ensemble:  2010 05 14 06 20
Time between ensembles (min.):   20
All directions have been corrected by adding:  -7.0
```

Below is listed for each bin the average speed (scalar average) and
the average velocity magnitude and direction formed as a vectorial
average of non-flagged (Good) observations. The last column shows the
number of good values used in parts per thousand

Bin no.	Depth m	Height m	Speed mm/s	Vel mm/s	Dir deg	Good ppt
1	423	32	217	114	90	965
2	398	57	229	139	96	962
3	373	82	240	163	99	957
4	348	107	249	186	99	955
5	323	132	259	204	100	957
6	298	157	268	218	100	957
7	273	182	279	232	101	958
8	248	207	288	245	101	959
9	223	232	297	257	101	957
10	198	257	303	264	101	939
11	173	282	307	268	101	903
12	148	307	310	271	101	859
13	123	332	316	276	102	792
14	98	357	326	283	102	688
15	73	382	342	291	102	540

NWNE0906 ADCP 1244

```
Frequency of high speeds.
=========================

Frequency (in parts per thousand) of speeds equal to or exceeding specified vales.

===============================================================================================
Bin|Depth|                                       Speed (cm/s)
no.|   m|   10   20   30   40   50   60   70   80   90  100  110  120  130  140  150  160  170  180
-----------------------------------------------------------------------------------------------
  1|  423|  810  480  221   84   22    4    0    0    0    0    0    0    0    0    0    0    0    0
  2|  398|  815  509  250  106   35    9    1    0    0    0    0    0    0    0    0    0    0    0
  3|  373|  821  522  277  127   50   14    2    0    0    0    0    0    0    0    0    0    0    0
  4|  348|  815  542  307  153   64   19    5    0    0    0    0    0    0    0    0    0    0    0
  5|  323|  826  564  336  175   72   26    6    1    0    0    0    0    0    0    0    0    0    0
  6|  298|  835  584  361  192   84   29    8    1    0    0    0    0    0    0    0    0    0    0
  7|  273|  848  612  385  211   95   35   10    3    0    0    0    0    0    0    0    0    0    0
  8|  248|  854  632  409  229  106   42   13    4    1    0    0    0    0    0    0    0    0    0
  9|  223|  855  644  427  247  117   50   18    5    1    0    0    0    0    0    0    0    0    0
 10|  198|  837  636  435  256  126   55   22    7    2    1    0    0    0    0    0    0    0    0
 11|  173|  809  618  421  252  129   59   24    8    3    1    0    0    0    0    0    0    0    0
 12|  148|  771  592  405  243  127   60   26   10    3    1    1    0    0    0    0    0    0    0
 13|  123|  718  553  383  234  124   58   28   10    4    2    1    0    0    0    0    0    0    0
 14|   98|  629  492  346  214  116   58   27   11    5    2    1    0    0    0    0    0    0    0
 15|   73|  501  403  290  185  102   52   26   10    5    2    1    1    0    0    0    0    0    0
```

NWNE0906 ADCP 1244

Harmonic constants for constituent M2 for deployment NWNE0906.

```
================================================================================
Bin    Depth   E-ampl   E-gpl   N-ampl   N-gpl   Major   Minor   Incl   Grphl  R
         m     mm/sec     deg   mm/sec     deg   mm/sec  mm/sec    deg    deg
--------------------------------------------------------------------------------
 01      423     139      257     115      144     152      96     148      99   A
 02      398     150      266     114      155     160      99     153     103   A
 03      373     157      278     106      171     162      99     162     109   A
 04      348     156      290      98      187     159      94     168     117   A
 05      323     153      300      93      203     153      91     173     125   A
 06      298     147      308      88      216     147      88     178     129   A
 07      273     144      313      85      225     144      85       1     313   A
 08      248     141      316      82      230     141      81       4     314   A
 09      223     138      317      80      233     139      79       5     314   A
 10      198     136      318      78      236     137      77       7     314   A
 11      173     136      318      75      239     137      73       8     314   A
 12      148     133      321      73      243     134      71       9     316   A
 13      123     131      325      69      247     132      68       8     321   A
 14       98     126      329      70      258     128      65      13     322   A
 15       73     125      335      69      267     128      62      16     327   A
```

Harmonic constants for constituent S2 for deployment NWNE0906.

```
================================================================================
Bin    Depth   E-ampl   E-gpl   N-ampl   N-gpl   Major   Minor   Incl   Grphl  R
         m     mm/sec     deg   mm/sec     deg   mm/sec  mm/sec    deg    deg
--------------------------------------------------------------------------------
 01      423      55      310      41      209      57      39     164     142   A
 02      398      55      318      42      218      56      40     164     150   A
 03      373      53      329      39      231      54      39     168     158   A
 04      348      52      339      35      241      53      35     171     165   A
 05      323      49      344      31      251      49      31     176     167   A
 06      298      48      347      29      258      48      29       1     347   A
 07      273      46      351      26      262      46      26       1     350   A
 08      248      46      353      25      266      46      25       3     351   A
 09      223      46      354      24      271      46      23       5     351   A
 10      198      46      353      22      275      47      22       7     350   A
 11      173      46      353      22      276      46      21       8     350   A
 12      148      45      354      20      275      45      19       6     352   A
 13      123      41      357      19      282      41      18       9     353   A
 14       98      40      360      17      288      41      16       9     356   A
 15       73      46        4      16      300      47      14      10       1   A
```

NWNE0906 ADCP 1244

Harmonic constants for constituent N2 for deployment NWNE0906.

```
================================================================================
Bin   Depth  E-ampl   E-gpl  N-ampl   N-gpl   Major   Minor    Incl   Grphl  R
         m   mm/sec     deg  mm/sec     deg  mm/sec  mm/sec     deg     deg
--------------------------------------------------------------------------------
 01     423      16     240      13      86      20       5     140      71  A
 02     398      19     248      13     112      22       8     149      80  A
 03     373      22     262      14     141      24      11     157      93  A
 04     348      27     270      17     153      28      14     158     102  A
 05     323      31     271      20     156      33      17     159     103  A
 06     298      33     276      21     163      35      19     160     107  A
 07     273      34     281      22     175      35      20     165     110  A
 08     248      34     287      22     185      34      21     168     115  A
 09     223      31     290      20     191      32      20     171     116  A
 10     198      29     293      18     195      29      18     173     117  A
 11     173      27     294      16     198      28      16     175     117  A
 12     148      28     294      17     198      28      17     175     116  A
 13     123      26     302      16     219      26      16       7     297  A
 14      98      27     307      16     229      27      15      10     302  A
 15      73      31     307      18     241      33      16      17     299  A
```

Harmonic constants for constituent O1 for deployment NWNE0906.

```
================================================================================
Bin   Depth  E-ampl   E-gpl  N-ampl   N-gpl   Major   Minor    Incl   Grphl  R
         m   mm/sec     deg  mm/sec     deg  mm/sec  mm/sec     deg     deg
--------------------------------------------------------------------------------
 01     423      22      26      12     299      22      12       2      25  A
 02     398      24      32      11     294      24      11     176     214  A
 03     373      25      37      12     293      25      11     172     221  A
 04     348      22      40      11     300      23      11     174     223  A
 05     323      19      36       9     299      19       9     176     218  A
 06     298      19      36      10     297      19      10     173     220  A
 07     273      18      38      13     295      19      12     164     229  A
 08     248      17      40      13     292      18      12     157     235  A
 09     223      19      38      13     289      19      12     159     231  A
 10     198      19      37      13     291      19      12     162     229  A
 11     173      20      34      12     292      20      12     168     221  A
 12     148      23      35      12     291      23      12     170     219  A
 13     123      23      42      12     278      24       9     161     229  A
 14      98      23      38      13     283      24      12     162     227  A
 15      73      22      43      10     263      24       6     160     229  A
```

NWNE0906 ADCP 1244

Harmonic constants for constituent K1 for deployment NWNE0906.

```
================================================================================
Bin   Depth  E-ampl   E-gpl  N-ampl   N-gpl   Major   Minor    Incl  Grphl  R
         m  mm/sec     deg  mm/sec     deg  mm/sec  mm/sec     deg    deg
--------------------------------------------------------------------------------
 01     423      21     259      14     175      21      14       7    255  A
 02     398      21     268      15     165      21      14     163     99  A
 03     373      22     271      16     162      23      14     156    107  A
 04     348      20     272      15     153      22      12     151    108  A
 05     323      19     275      13     155      21      11     153    110  A
 06     298      20     278      14     153      22      11     152    112  A
 07     273      20     278      15     155      23      11     149    115  A
 08     248      19     278      14     152      21      10     148    115  A
 09     223      17     277      13     157      19      10     151    114  A
 10     198      17     271      13     164      18      12     156    108  A
 11     173      18     270      13     165      19      12     161    103  A
 12     148      18     271      13     167      18      12     161    104  A
 13     123      17     275      13     178      17      13     168    104  A
 14      98      16     272      11     183      16      11       2    271  A
 15      73       9     300      13     191      14       8     111    177  A
```

NWNG0906

Latitude: 63°06.300´N

Longitude: 006°05.000´W

Echo sounding depth: 1853 m

Bottom depth corr.: 1810 m

Time of deployment: 5/6 - 2009 0802 UTC

Time of recovery: 14/5 - 2010 0945 UTC

ADCP:

Instrument no.: RDI ADCP 1292

Instrument frequence: 75 kHz

Height above bottom: 1168 m

Depth: 642 m (corr.)

Time of first data: 5/6 - 2009 0840 UTC

Time of last data: 14/5 - 2010 0900 UTC

Sample interval: 20 min

No. of ensembles: 24698

Pings per ens.: 1

Binlength: 25 m

Depth of first bin: 607 m (corr.)

No. of bins: 23
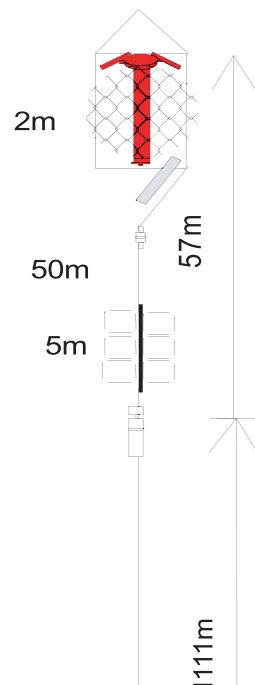
Aanderaa:

Instrument no.: RCM9 721

Height above bottom: 1111 m

Depth: 699 m (corr.)

Time of first data: 5/6 - 2009 0829 UTC

Time of last data: 14/5 - 2010 0829 UTC

Sample interval: 60 min

No. of ensembles: 8233

Data:

All data ok.

2m

57 m

50m

5m

1111m

1100m

5m

1m

5m
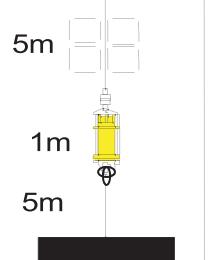
NWNG0906 ADCP 1292

```
Error statistics for deployment: NWNG0906 updated 2010/11/04
----------------



Surface distance not edited
Heading, pitch and roll not edited
Temperature edited by EJ in Sep 2010
Velocity edited up to and including bin 23 by EJ in Aug 2010
Intensity edited up to and including bin 23 by EJ in Sep 2010


Total number of  ensembles:      24698
Interval between ensembles:     20 min
Original number of bins:           32
Number of acceptable velocity bins:  23
Number of acceptable intensity bins: 23


Flagged values have been replaced by error codes: -999.99 for temperature, -999
for velocity and intensity. For observations where velocity is flagged, error
codes have been inserted into speed, direction and vertical velocity files


Number of temperature ens. flagged:      2

Below are for each bin listed ensembles flagged for intensity in number and for
velocity in number and % of total ens.number. For velocity is also shown the num-
ber of gaps of various lengths (gap length = number of consecutive flagged ens.)
```

	Int.	Velocity		Number of velocity gaps of length									
Bin	ens.	ens.	%	1	2	3	4	5	6-10	11-20	21-30	31-50	>50
	flgd	flgd	flgd										
1	2	20	0	20	0	0	0	0	0	0	0	0	0
2	2	28	0	28	0	0	0	0	0	0	0	0	0
3	2	41	0	41	0	0	0	0	0	0	0	0	0
4	0	37	0	37	0	0	0	0	0	0	0	0	0
5	2	35	0	29	1	0	1	0	0	0	0	0	0
6	0	29	0	26	0	1	0	0	0	0	0	0	0
7	1	31	0	29	1	0	0	0	0	0	0	0	0
8	1	26	0	26	0	0	0	0	0	0	0	0	0
9	2	30	0	28	1	0	0	0	0	0	0	0	0
10	1	34	0	30	2	0	0	0	0	0	0	0	0
11	2	50	0	46	2	0	0	0	0	0	0	0	0
12	2	79	0	77	1	0	0	0	0	0	0	0	0
13	3	112	0	98	7	0	0	0	0	0	0	0	0
14	5	138	1	115	8	1	1	0	0	0	0	0	0
15	3	367	1	168	19	7	2	3	7	5	0	0	0
16	2	659	3	248	36	12	7	5	9	5	4	0	0
17	4	1117	5	267	75	23	12	15	21	11	4	3	0
18	2	2013	8	345	80	29	26	17	36	34	8	7	0
19	4	3037	12	368	79	45	24	9	26	44	33	14	0
20	2	4280	17	480	131	58	25	22	52	53	42	20	2
21	2	5827	24	638	184	67	45	19	78	65	52	36	3
22	2	7853	32	1025	282	134	54	48	101	83	58	48	3
23	4	11549	47	1408	383	184	87	40	129	96	98	71	9

NWNG0906 ADCP 1292

```
Deployment: NWNG0906 updated 2010/11/04
Instrument no.:  1292
Instrument freq.:  75
Latitude: 63 06.300 N
Longitude:06 05.000 W
Bottom depth: 1810
Instrument depth:  642
Center depth of first bin:  607
Bin length:  25
Number of bins:  23
Number of first ensemble:    204
Time of first ensemble: 2009 06 05 08 40
Number of last ensemble:   24901
Time of last ensemble:  2010 05 14 09 00
Time between ensembles (min.):   20
All directions have been corrected by adding:  -7.0
```

Below is listed for each bin the average speed (scalar average) and
the average velocity magnitude and direction formed as a vectorial
average of non-flagged (Good) observations. The last column shows the
number of good values used in parts per thousand

```
==========================================================================
  Bin no.      Depth      Height      Speed       Vel       Dir      Good
                  m           m        mm/s       mm/s       deg       ppt
--------------------------------------------------------------------------
         1        607        1203          89        21       143       999
         2        582        1228          90        22       143       999
         3        557        1253          91        23       141       998
         4        532        1278          93        24       140       999
         5        507        1303          95        26       139       999
         6        482        1328          98        29       139       999
         7        457        1353         103        32       139       999
         8        432        1378         107        37       139       999
         9        407        1403         113        42       140       999
        10        382        1428         121        48       140       999
        11        357        1453         131        56       139       998
        12        332        1478         143        64       139       997
        13        307        1503         157        73       139       995
        14        282        1528         172        81       139       994
        15        257        1553         186        89       140       985
        16        232        1578         202       100       139       973
        17        207        1603         220       112       139       955
        18        182        1628         239       125       139       918
        19        157        1653         258       135       140       877
        20        132        1678         277       143       140       827
        21        107        1703         297       152       139       764
        22         82        1728         320       160       140       682
        23         57        1753         330       145       144       532
```

NWNG0906 ADCP 1292

```
Frequency of high speeds.
========================

Frequency (in parts per thousand) of speeds equal to or exceeding specified vales.

==============================================================================================
Bin|Depth|                                      Speed (cm/s)
no.|   m|  10   20   30   40   50   60   70   80   90  100  110  120  130  140  150  160  170  180
----------------------------------------------------------------------------------------------
  1| 607| 376   19    0    0    0    0    0    0    0    0    0    0    0    0    0    0    0    0
  2| 582| 382   21    0    0    0    0    0    0    0    0    0    0    0    0    0    0    0    0
  3| 557| 389   24    0    0    0    0    0    0    0    0    0    0    0    0    0    0    0    0
  4| 532| 402   29    0    0    0    0    0    0    0    0    0    0    0    0    0    0    0    0
  5| 507| 421   33    0    0    0    0    0    0    0    0    0    0    0    0    0    0    0    0
  6| 482| 443   44    1    0    0    0    0    0    0    0    0    0    0    0    0    0    0    0
  7| 457| 468   60    3    0    0    0    0    0    0    0    0    0    0    0    0    0    0    0
  8| 432| 496   77    6    0    0    0    0    0    0    0    0    0    0    0    0    0    0    0
  9| 407| 525   99   10    0    0    0    0    0    0    0    0    0    0    0    0    0    0    0
 10| 382| 562  134   16    1    0    0    0    0    0    0    0    0    0    0    0    0    0    0
 11| 357| 602  174   30    4    0    0    0    0    0    0    0    0    0    0    0    0    0    0
 12| 332| 650  224   51    8    1    0    0    0    0    0    0    0    0    0    0    0    0    0
 13| 307| 692  278   79   16    2    0    0    0    0    0    0    0    0    0    0    0    0    0
 14| 282| 735  338  114   27    5    0    0    0    0    0    0    0    0    0    0    0    0    0
 15| 257| 755  379  152   48   11    1    0    0    0    0    0    0    0    0    0    0    0    0
 16| 232| 774  424  188   71   20    4    1    0    0    0    0    0    0    0    0    0    0    0
 17| 207| 786  465  234   98   31   10    2    0    0    0    0    0    0    0    0    0    0    0
 18| 182| 780  495  270  128   49   16    5    0    0    0    0    0    0    0    0    0    0    0
 19| 157| 765  514  299  154   66   25    8    2    0    0    0    0    0    0    0    0    0    0
 20| 132| 730  520  322  175   83   32   12    4    1    0    0    0    0    0    0    0    0    0
 21| 107| 687  512  329  189  101   45   19    7    3    1    0    0    0    0    0    0    0    0
 22|  82| 627  483  325  199  113   56   26   11    5    1    0    0    0    0    0    0    0    0
 23|  57| 492  386  264  164   92   50   25   11    4    2    1    0    0    0    0    0    0    0
```

NWNG0906 ADCP 1292

Harmonic constants for constituent M2 for deployment NWNG0906.

```
===========================================================================================
Bin    Depth   E-ampl   E-gpl   N-ampl   N-gpl   Major   Minor    Incl    Grphl   R
         m     mm/sec    deg    mm/sec    deg    mm/sec  mm/sec    deg      deg
-------------------------------------------------------------------------------------------
 01     607      71      294      32      245      75      23       18      288    A
 02     582      71      295      32      249      75      22       19      289    A
 03     557      70      296      32      252      74      21       19      291    A
 04     532      70      298      33      255      74      21       21      291    A
 05     507      69      301      34      260      74      21       23      294    A
 06     482      66      304      37      269      73      19       26      297    A
 07     457      64      309      39      276      72      19       29      301    A
 08     432      62      313      42      281      73      19       32      304    A
 09     407      61      317      45      285      73      20       35      306    A
 10     382      60      322      48      290      74      20       37      310    A
 11     357      60      326      53      293      77      22       40      312    A
 12     332      64      331      59      294      83      28       42      314    A
 13     307      70      335      68      292      91      36       44      315    A
 14     282      74      340      75      293      96      41       46      316    A
 15     257      75      343      80      297     100      43       48      318    A
 16     232      73      348      83      300     101      44       51      320    A
 17     207      74      353      88      303     105      48       53      322    A
 18     182      74      356      94      306     109      48       55      323    A
 19     157      74        3     102      309     115      53       60      325    A
 20     132      78        8     113      311     124      59       62      325    A
 21     107      87       10     121      310     132      69       62      325    A
 22      82      90        9     120      307     131      72       61      325    A
 23      57      89        4     108      305     123      68       56      325    A
```

Harmonic constants for constituent S2 for deployment NWNG0906.

```
===========================================================================================
Bin    Depth   E-ampl   E-gpl   N-ampl   N-gpl   Major   Minor    Incl    Grphl   R
         m     mm/sec    deg    mm/sec    deg    mm/sec  mm/sec    deg      deg
-------------------------------------------------------------------------------------------
 01     607      19      330       8      302      21       4       21      326    A
 02     582      19      330       7      307      20       3       20      327    A
 03     557      18      329       7      317      19       1       20      328    A
 04     532      18      326       6      317      19       1       17      325    A
 05     507      18      323       5      316      19       1       15      322    A
 06     482      19      327       7      304      21       3       18      325    A
 07     457      21      333       9      302      22       4       21      328    A
 08     432      21      334       9      300      22       5       21      329    A
 09     407      21      332       8      308      23       3       20      329    A
 10     382      20      336       9      320      22       2       25      333    A
 11     357      16      343      10      337      19       1       33      341    A
 12     332      13      349      12      353      18       1       42      351    C
 13     307      10      358      14      359      17       0       53      359    C
 14     282       9       18      16        8      18       1       62       10    A
 15     257      10       39      21       10      22       4       66       15    A
 16     232      12       48      23        9      25       7       66       16    A
 17     207      12       51      24       10      26       7       66       17    A
 18     182      11       57      26        9      27       8       73       14    A
 19     157       7       75      28       15      28       6       82       17    A
 20     132       8       85      32       11      32       7       86       12    A
 21     107      13       81      41        6      41      12       85        8    A
 22      82      12       58      42        2      43      10       81        4    A
 23      57      10       70      35      354      35      10       86      355    A
```

NWNG0906 ADCP 1292

Harmonic constants for constituent N2 for deployment NWNG0906.

```
==========================================================================
Bin   Depth  E-ampl   E-gpl  N-ampl   N-gpl   Major   Minor    Incl   Grphl  R
         m   mm/sec     deg  mm/sec     deg  mm/sec  mm/sec     deg    deg
--------------------------------------------------------------------------
 01    607      18     262       8     187      18       8       8    258   A
 02    582      17     262       7     186      18       7       7    260   A
 03    557      17     264       7     190      17       7       8    261   A
 04    532      18     273       9     204      18       8      12    268   A
 05    507      19     280      11     214      20       9      17    272   A
 06    482      20     282      12     219      21      10      19    273   A
 07    457      20     282      12     219      21      10      19    273   A
 08    432      20     283      12     219      21      10      19    273   A
 09    407      19     280      11     209      19      10      15    272   A
 10    382      19     276       9     204      19       9      11    271   A
 11    357      17     277       9     210      18       8      14    271   A
 12    332      17     285      11     223      18       9      22    274   A
 13    307      19     298      13     235      20      11      26    283   A
 14    282      18     321      15     255      20      12      34    298   A
 15    257      16     336      17     268      20      13      47    300   A
 16    232      15     345      18     280      20      12      58    301   A
 17    207      15     357      19     290      21      13      63    307   A
 18    182      17       1      20     284      21      16      64    304   A
 19    157      20     352      22     273      23      18      57    301   A
 20    132      23     350      24     268      25      21      58    295   A
 21    107      25     340      24     262      27      22      38    308   A
 22     82      25     326      29     249      30      23      58    274   A
 23     57      24     325      25     246      27      22      52    279   A
```

Harmonic constants for constituent O1 for deployment NWNG0906.

```
==========================================================================
Bin   Depth  E-ampl   E-gpl  N-ampl   N-gpl   Major   Minor    Incl   Grphl  R
         m   mm/sec     deg  mm/sec     deg  mm/sec  mm/sec     deg    deg
--------------------------------------------------------------------------
 01    607       4      59       2     277       5       1     163    243   A
 02    582       5      60       1     286       5       1     167    242   A
 03    557       4      55       1     288       5       1     168    238   A
 04    532       5      59       2     307       5       1     173    241   A
 05    507       6      65       1     311       6       1     174    246   A
 06    482       6      60       2     289       6       1     168    243   A
 07    457       7      56       1     300       7       1     174    237   A
 08    432       6      48       1     336       6       1       3     48   A
 09    407       5      55       1     297       5       1     173    236   A
 10    382       5      54       2     291       5       1     169    237   A
 11    357       6      48       2     269       6       1     162    232   A
 12    332       6      52       2     280       6       2     166    236   A
 13    307       6      56       3     297       6       2     166    241   A
 14    282       7      63       3     323       7       3     176    245   A
 15    257       8      60       3     316       8       3     175    242   A
 16    232       7      63       2     312       7       2     171    246   A
 17    207       7      73       1     326       7       1     177    254   A
 18    182       6      79       4      48       7       2      33     69   A
 19    157       5      78       7      41       8       3      51     55   A
 20    132       6      58      10      29      11       3      60     36   A
 21    107       7      43      14      12      15       3      65     18   A
 22     82      10      50      15      11      17       6      57     24   A
 23     57       7      34      19      10      20       3      70     13   A
```

NWNG0906 ADCP 1292

Harmonic constants for constituent K1 for deployment NWNG0906.

```
===============================================================================
Bin   Depth  E-ampl   E-gpl  N-ampl   N-gpl   Major   Minor    Incl   Grphl  R
        m    mm/sec    deg   mm/sec    deg    mm/sec  mm/sec    deg     deg
-------------------------------------------------------------------------------
 01     607       4     291       2     183       4       2     169     116   A
 02     582       4     288       2     162       4       2     154     120   A
 03     557       4     285       3     142       4       1     144     118   A
 04     532       4     280       3     139       5       2     148     111   A
 05     507       4     290       2     140       5       1     154     116   A
 06     482       5     295       2     137       5       1     159     118   A
 07     457       5     294       2     148       6       1     161     118   A
 08     432       6     298       3     163       6       2     160     124   A
 09     407       6     306       2     178       6       2     165     130   A
 10     382       5     300       2     164       5       1     162     125   A
 11     357       5     290       2     140       5       1     157     114   A
 12     332       6     279       4     146       7       2     153     109   A
 13     307       7     288       3     151       8       2     159     114   A
 14     282       7     307       2     118       7       0     160     126   C
 15     257       8     307       2     139       8       0     166     127   A
 16     232       8     300       2     175       8       1     173     121   A
 17     207       7     299       3     137       8       1     158     121   A
 18     182       8     311       7     138      10       1     141     134   A
 19     157       8     322       7     140      11       0     141     141   C
 20     132      11     324       4     174      11       2     161     147   A
 21     107      14     322       5     232      14       5     180     143   A
 22      82      14     329      11     223      15      10     158     164   A
 23      57      17     319      24     217      24      17     107     205   A
```

NWNG0906 Aanderaa 721

```
Deployment: NWNG0906        analyzed from beginning to end
Instrument no.:   721
Instrument type: Aanderaa
Latitude: 63 06.300 N
Longitude:06 05.000 W
Bottom depth: 1853
Instrument depth:  699
Number of records: 8233
Time of first record: 2009 06 05 08 29
Time of last record : 2010 05 14 08 29
Time between records (min.): 60.000

Parameters            Records OK    Records flagged
----------            ----------    ---------------
Column  1  : Recno
Column  2- 4: Date
Column  5- 6: Time
Column  7  : Temp        8232                1
Column  8  : Speed       8233                0
Column  9  : Direct      8233                0


Comments
--------



Residual current:  19 mm/sec towards: 133 degrees
----------------



TIDAL ANALYSIS
--------------
Error flagged records interpolated for velocity:    0, records not int.:     0
Tidal analysis performed on unfiltered data
===========================================================================================
Const    Freq      E-ampl   E-gpl  N-ampl  N-gpl   Major   Minor    Incl   Grphl  R
         c/hr      mm/sec    deg   mm/sec    deg   mm/sec  mm/sec    deg     deg
-------------------------------------------------------------------------------------------
MM    .00151215       4     336      4      107      5       2      138     134   C
MSF   .00282193       4      55      4      292      6       3      134     264   A
Q1    .03721850       3      26      0      179      3       0      170     205   C
O1    .03873065       5      58      1      300      5       1      174     239   A
NO1   .04026859       0     244      0       68      0       0      136      66   A
P1    .04155259       1     314      1      120      1       0      146     130   C
K1    .04178075       3     299      2      190      3       1      170     123   A
N2    .07899925      17     262      7      189     17       7        9     258   A
M2    .08051140      68     290     30      241     71      22       18     284   A
L2    .08202355       3     308      2      248      4       2       27     293   A
S2    .08333334      22     334     12      293     24       7       25     326   A
K2    .08356149       5     313      2      298      5       0       17     312   A
MK3   .12229210       0     220      0       71      0       0      126      60   A
M4    .16102280       0     294      1       96      1       0      119     100   C
MS4   .16384470       1     193      0      139      1       0       40     170   A


DIRECTIONAL CURRENT DISTRIBUTION (for all nonflagged observations in series)
--------------------------------
Relative number of observations in parts per thousand (ppt) grouped into speed and
direction intervals (of 30 degree width centred around the directions shown)
===========================================================================================
   Speed    |                    Direction intervals                    | All dir.
  intervals |---- ---- ---- ---- ---- ---- ---- ---- ---- ---- ---- ----|---- ----
   (mm/s)   | 15   45   75  105  135  165  195  225  255  285  315  345| Tot  Acc
-----------|---- ---- ---- ---- ---- ---- ---- ---- ---- ---- ---- ----|---- ----
    0 -  50 | 22   23   27   33   31   29   26   27   27   20   19   15| 300  300
   50 - 100 | 18   31   51   69   49   40   38   44   52   30   17   12| 450  749
  100 - 150 |  5   15   33   44   18   10   10   18   25   11    3    3| 195  944
  150 - 200 |  1    5   11   11    3    2    3    4    7    2    0    0|  49  994
  200 - 300 |  0 0.12    2    1 0.36 0.24 0.36 0.49    1    0    0    0|   6 1000
-----------  ---- ---- ---- ---- ---- ---- ---- ---- ---- ---- ---- ----
Total  (ppt)| 46   75  124  158  102   80   78   94  112   63   39   30|
Rel.flux (ppt)| 36  76  147  181   97   70   70   93  121   59   28   21|
-----------  ---- ---- ---- ---- ---- ---- ---- ---- ---- ---- ---- ----
Avg.spd (mm/s)| 61  79   91   88   73   67   70   76   83   72   55   54|
Max.spd (mm/s)| 179 205 264  243  217  214  220  223  255  197  141  144|
-----------  ---- ---- ---- ---- ---- ---- ---- ---- ---- ---- ---- ----
```

NWNG0906 Aanderaa 721

NWNG0906 Aanderaa 721

START

N

STOP

100km
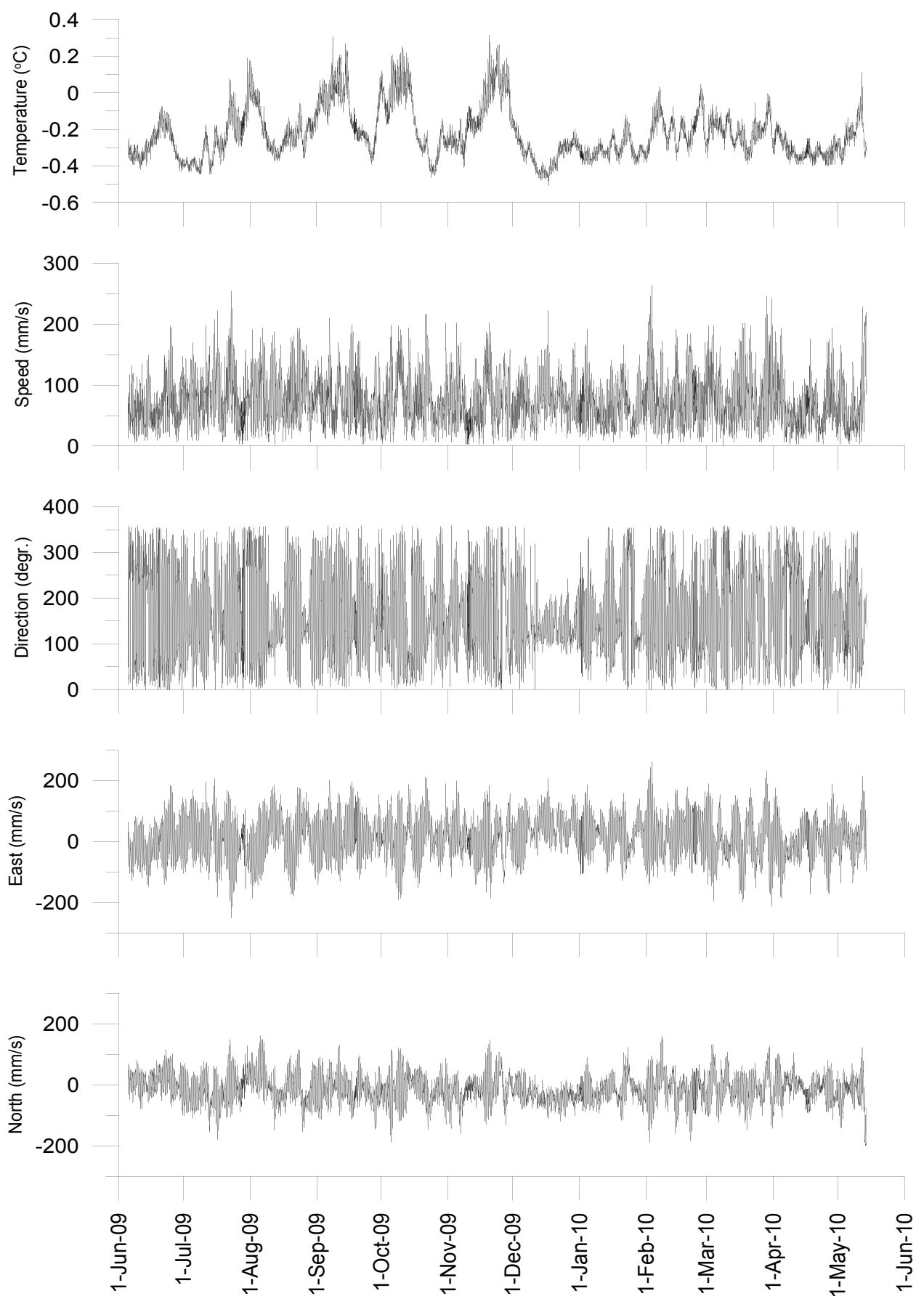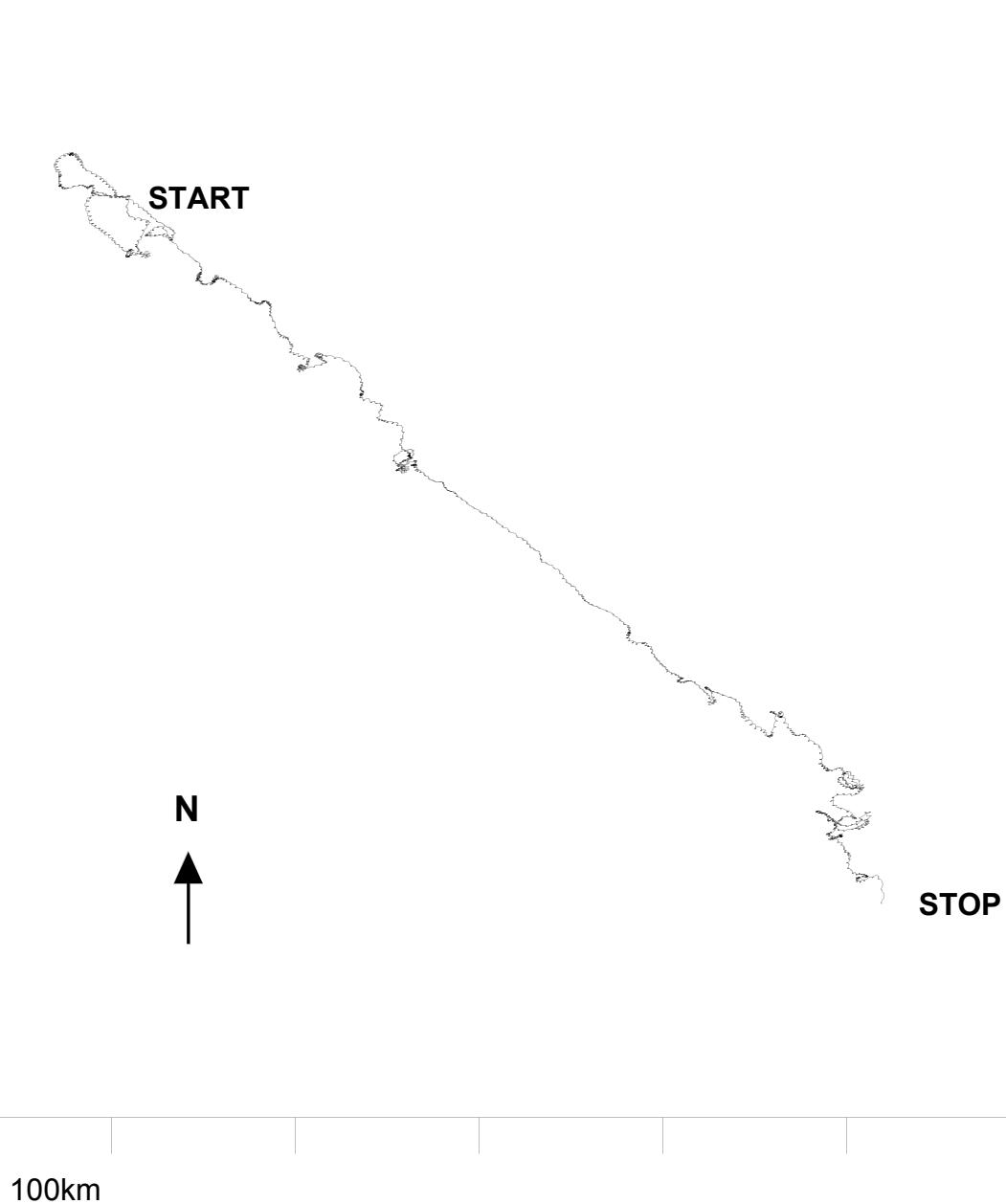
NWSC0906

Latitude: 60°33.970´N

Longitude: 004°46.030´W

Echo sounding depth: 1088 m

Bottom depth corr.: 1065 m

Time of deployment: 7/6 - 2009 0058 UTC

Time of recovery: 17/5 - 2010 0344 UTC

ADCP:

Instrument no.: RDI ADCP 1644

Instrument frequency: 75 kHz

Height above bottom: 419 m (corr.)

Depth: 646 m (corr.)

Time of first data: 7/6 - 2009 0120 UTC

Time of last data: 17/5 - 2010 0320 UTC

Sample interval: 20 min

No. of ensembles: 24775

Pings per ens.: 1

Binlength: 25 m

Depth of first bin: 611 m (corr.)

No. of bins: 22
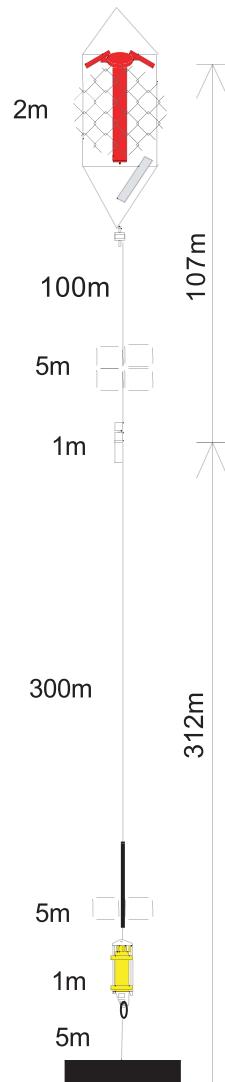
Aanderaa:

Instrument no.: RCM9 718

Height above bottom: 312 m

Depth: 753 m (corr.)

Time of first data: 7/6 - 2009 0129 UTC

Time of last data: 17/5 - 2010 0229 UTC

Sample interval: 60 min

No. of records: 8258
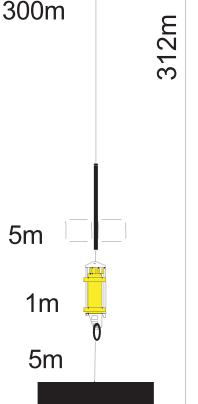
Data:

All data ok.

NWSC0906 ADCP 1644

```
Error statistics for deployment: NWSC0906 updated 2010/11/04
----------------



Surface distance not edited
Heading, pitch and roll not edited
Temperature edited by EJ in Sep 2010
Velocity edited up to and including bin 22 by EJ in Sep 2010
Intensity edited up to and including bin 22 by EJ in Sep 2010


Total number of  ensembles:       24775
Interval between ensembles:      20 min
Original number of bins:            32
Number of acceptable velocity bins:  22
Number of acceptable intensity bins: 22


Flagged values have been replaced by error codes: -999.99 for temperature, -999
for velocity and intensity. For observations where velocity is flagged, error
codes have been inserted into speed, direction and vertical velocity files


Number of temperature ens. flagged:       1

Below are for each bin listed ensembles flagged for intensity in number and for
velocity in number and % of total ens.number. For velocity is also shown the num-
ber of gaps of various lengths (gap length = number of consecutive flagged ens.)
```

	Int.	Velocity		Number of velocity gaps of length									
Bin	ens.	ens.	%	1	2	3	4	5	6-10	11-20	21-30	31-50	>50
	flgd	flgd	flgd										
1	2	28	0	28	0	0	0	0	0	0	0	0	0
2	4	24	0	21	0	1	0	0	0	0	0	0	0
3	1	22	0	20	1	0	0	0	0	0	0	0	0
4	0	14	0	12	1	0	0	0	0	0	0	0	0
5	1	16	0	14	1	0	0	0	0	0	0	0	0
6	2	27	0	27	0	0	0	0	0	0	0	0	0
7	2	29	0	26	0	1	0	0	0	0	0	0	0
8	3	41	0	30	2	0	0	0	1	0	0	0	0
9	3	31	0	23	0	0	0	0	1	0	0	0	0
10	2	50	0	43	0	0	0	0	1	0	0	0	0
11	1	50	0	42	0	0	0	0	1	0	0	0	0
12	4	50	0	41	1	0	0	0	1	0	0	0	0
13	1	74	0	56	3	2	0	0	1	0	0	0	0
14	2	158	1	74	4	3	2	2	4	1	0	0	0
15	5	416	2	96	18	5	8	4	7	6	3	0	0
16	4	1208	5	202	55	29	17	12	23	16	10	0	0
17	3	2766	11	284	81	34	21	22	41	47	34	6	0
18	5	4236	17	346	120	58	41	23	53	56	53	16	0
19	7	5642	23	395	128	66	54	34	86	64	58	38	0
20	4	6917	28	471	167	99	45	46	90	78	53	62	0
21	4	8206	33	505	158	76	67	41	78	84	47	85	5
22	5	10138	41	544	171	91	65	47	67	80	55	98	15

NWSC0906 ADCP 1644

```
Deployment: NWSC0906 updated 2010/11/04
Instrument no.:  1644
Instrument freq.:  75
Latitude: 60 33.970 N
Longitude:04 46.030 W
Bottom depth: 1065
Instrument depth:  646
Center depth of first bin:  611
Bin length:  25
Number of bins:  22
Number of first ensemble:    326
Time of first ensemble: 2009 06 07 01 20
Number of last ensemble:   25100
Time of last ensemble:  2010 05 17 03 20
Time between ensembles (min.):   20
All directions have been corrected by adding:  -6.0
```

Below is listed for each bin the average speed (scalar average) and
the average velocity magnitude and direction formed as a vectorial
average of non-flagged (Good) observations. The last column shows the
number of good values used in parts per thousand

Bin no.	Depth m	Height m	Speed mm/s	Vel mm/s	Dir deg	Good ppt
1	611	454	164	51	189	999
2	586	479	166	55	188	999
3	561	504	168	57	186	999
4	536	529	170	60	183	999
5	511	554	175	63	179	999
6	486	579	180	67	174	999
7	461	604	185	71	170	999
8	436	629	194	76	166	998
9	411	654	203	82	161	999
10	386	679	210	88	158	998
11	361	704	216	91	156	998
12	336	729	223	92	154	998
13	311	754	232	91	152	997
14	286	779	244	93	148	994
15	261	804	253	98	145	983
16	236	829	262	104	143	951
17	211	854	268	109	141	888
18	186	879	275	114	138	829
19	161	904	283	121	137	772
20	136	929	290	124	137	721
21	111	954	296	127	138	669
22	86	979	306	130	139	591

NWSC0906 ADCP 1644

```
Frequency of high speeds.
========================

Frequency (in parts per thousand) of speeds equal to or exceeding specified vales.

==============================================================================================
Bin|Depth|                                   Speed (cm/s)
no.|   m|  10   20   30   40   50   60   70   80   90  100  110  120  130  140  150  160  170  180
----------------------------------------------------------------------------------------------
  1|  611|  734  314   80   13    3    1    0    0    0    0    0    0    0    0    0    0    0    0
  2|  586|  741  319   84   14    3    1    0    0    0    0    0    0    0    0    0    0    0    0
  3|  561|  751  327   87   16    4    1    0    0    0    0    0    0    0    0    0    0    0    0
  4|  536|  753  338   93   17    4    1    0    0    0    0    0    0    0    0    0    0    0    0
  5|  511|  771  356  105   20    5    2    0    0    0    0    0    0    0    0    0    0    0    0
  6|  486|  779  374  117   25    5    2    0    0    0    0    0    0    0    0    0    0    0    0
  7|  461|  790  395  132   29    6    2    0    0    0    0    0    0    0    0    0    0    0    0
  8|  436|  807  427  153   39    8    2    0    0    0    0    0    0    0    0    0    0    0    0
  9|  411|  829  464  176   49   11    2    0    0    0    0    0    0    0    0    0    0    0    0
 10|  386|  839  483  198   64   15    3    0    0    0    0    0    0    0    0    0    0    0    0
 11|  361|  835  502  215   80   22    5    1    0    0    0    0    0    0    0    0    0    0    0
 12|  336|  842  518  234   92   31    8    1    0    0    0    0    0    0    0    0    0    0    0
 13|  311|  857  542  260  107   41   12    3    0    0    0    0    0    0    0    0    0    0    0
 14|  286|  869  577  290  122   50   18    5    1    0    0    0    0    0    0    0    0    0    0
 15|  261|  868  599  314  133   56   23    8    1    0    0    0    0    0    0    0    0    0    0
 16|  236|  846  600  324  139   61   28   13    4    0    0    0    0    0    0    0    0    0    0
 17|  211|  794  568  316  144   63   31   16    9    2    0    0    0    0    0    0    0    0    0
 18|  186|  744  539  308  146   65   33   18   12    5    2    0    0    0    0    0    0    0    0
 19|  161|  692  513  301  148   69   34   20   12    8    3    1    0    0    0    0    0    0    0
 20|  136|  648  489  292  145   69   36   21   13    8    5    2    1    0    0    0    0    0    0
 21|  111|  605  462  284  145   69   36   21   12    7    4    2    1    1    0    0    0    0    0
 22|   86|  540  412  266  144   69   38   23   13    6    3    1    1    0    0    0    0    0    0
```

NWSC0906 ADCP 1644

Harmonic constants for constituent M2 for deployment NWSC0906.

```
=================================================================================
Bin   Depth   E-ampl   E-gpl   N-ampl   N-gpl   Major   Minor   Incl   Grphl   R
        m     mm/sec    deg    mm/sec    deg    mm/sec  mm/sec   deg    deg
---------------------------------------------------------------------------------
 01    611     159      250       81     250     178       0     27     250    C
 02    586     158      250       82     251     178       1     27     250    C
 03    561     156      250       84     253     177       4     28     251    C
 04    536     155      250       85     255     177       6     29     251    C
 05    511     153      251       90     256     178       7     30     253    C
 06    486     150      253       96     259     178       8     33     255    C
 07    461     146      255      101     260     177       8     35     257    C
 08    436     145      257      108     260     181       5     37     258    C
 09    411     145      259      113     261     184       3     38     259    C
 10    386     140      261      119     263     184       4     40     262    C
 11    361     134      262      122     266     181       5     42     264    C
 12    336     128      264      126     268     179       7     44     266    C
 13    311     123      268      136     270     183       3     48     269    C
 14    286     122      272      148     271     192       2     51     272    A
 15    261     120      276      158     272     198       7     53     273    A
 16    236     119      279      167     273     205      12     54     275    A
 17    211     119      283      173     273     209      16     56     276    A
 18    186     118      286      179     273     214      21     57     277    A
 19    161     115      288      187     274     218      24     59     278    A
 20    136     117      289      192     274     223      26     59     278    A
 21    111     116      289      193     273     224      26     59     277    A
 22     86     123      287      191     272     226      27     58     276    A
```

Harmonic constants for constituent S2 for deployment NWSC0906.

```
=================================================================================
Bin   Depth   E-ampl   E-gpl   N-ampl   N-gpl   Major   Minor   Incl   Grphl   R
        m     mm/sec    deg    mm/sec    deg    mm/sec  mm/sec   deg    deg
---------------------------------------------------------------------------------
 01    611      53      290       36     295      64       3     34     292    C
 02    586      53      291       38     294      65       2     35     292    C
 03    561      54      293       40     293      67       0     36     293    C
 04    536      54      294       41     294      68       0     37     294    A
 05    511      54      296       43     296      69       0     39     296    A
 06    486      53      297       44     297      69       0     40     297    C
 07    461      51      296       45     297      68       0     41     296    C
 08    436      52      297       48     296      70       1     43     296    A
 09    411      52      299       49     299      71       0     44     299    A
 10    386      51      302       52     301      73       1     45     301    A
 11    361      51      300       51     301      72       1     45     301    C
 12    336      51      297       50     302      72       3     45     299    C
 13    311      50      297       50     304      71       4     45     300    C
 14    286      48      298       50     306      70       4     46     302    C
 15    261      48      302       48     305      68       1     45     304    C
 16    236      49      305       48     303      69       1     45     304    A
 17    211      52      306       50     306      73       0     44     306    C
 18    186      50      309       50     307      71       2     45     308    A
 19    161      51      310       45     305      68       3     42     308    A
 20    136      48      310       45     300      65       6     43     305    A
 21    111      46      305       43     296      63       5     43     301    A
 22     86      47      302       41     296      62       3     41     300    A
```

NWSC0906 ADCP 1644

Harmonic constants for constituent N2 for deployment NWSC0906.

```
================================================================================
Bin   Depth  E-ampl   E-gpl  N-ampl   N-gpl   Major   Minor   Incl   Grphl   R
         m   mm/sec     deg  mm/sec     deg  mm/sec  mm/sec    deg     deg
--------------------------------------------------------------------------------
 01     611      35     227      14     219      38       2     22     226   A
 02     586      35     228      15     223      38       1     23     227   A
 03     561      33     227      15     233      36       1     24     228   C
 04     536      31     227      16     241      35       4     27     230   C
 05     511      30     231      19     244      35       4     31     234   C
 06     486      32     232      21     241      38       3     33     235   C
 07     461      33     236      22     235      40       0     33     235   A
 08     436      34     234      22     230      41       1     32     233   A
 09     411      34     240      25     235      42       2     37     238   A
 10     386      31     245      28     238      42       2     41     242   A
 11     361      29     247      29     243      41       2     44     245   A
 12     336      29     250      31     245      43       2     47     247   A
 13     311      29     255      33     245      43       4     49     249   A
 14     286      25     258      36     251      44       2     55     253   A
 15     261      23     267      40     258      46       3     60     260   A
 16     236      25     269      39     258      46       4     58     261   A
 17     211      26     268      39     257      47       4     57     260   A
 18     186      26     273      41     256      48       7     58     261   A
 19     161      26     271      43     252      50       7     60     257   A
 20     136      26     266      41     257      48       3     58     260   A
 21     111      24     262      42     258      49       2     60     259   A
 22      86      28     268      46     245      53       9     60     251   A
```

Harmonic constants for constituent O1 for deployment NWSC0906.

```
================================================================================
Bin   Depth  E-ampl   E-gpl  N-ampl   N-gpl   Major   Minor   Incl   Grphl   R
         m   mm/sec     deg  mm/sec     deg  mm/sec  mm/sec    deg     deg
--------------------------------------------------------------------------------
 01     611      10       9       9      36      13       3     41      20   C
 02     586      10       9       9      34      13       3     40      19   C
 03     561      10      12       9      36      13       3     39      21   C
 04     536      10       8       8      41      12       4     40      22   C
 05     511      10       8       8      41      12       3     36      20   C
 06     486      11      14       9      38      14       3     40      24   C
 07     461      11      16       9      42      14       3     37      26   C
 08     436      12      14       9      35      14       3     36      22   C
 09     411      11       8       8      34      13       3     35      17   C
 10     386      10       7       7      42      12       3     34      18   C
 11     361      10      15       8      37      13       2     37      23   C
 12     336      10      12       8      33      13       2     37      19   C
 13     311      10      18       8      35      13       2     40      25   C
 14     286       9      17       7      41      11       2     38      27   C
 15     261      10      15       8      47      12       3     40      28   C
 16     236      10      13      10      40      13       3     44      26   C
 17     211      11      23      12      41      16       3     48      33   C
 18     186       9      43      13      31      16       2     53      35   A
 19     161       8      78      12      42      14       4     57      53   A
 20     136      13     102      15      42      17      10     55      64   A
 21     111      17      96      17      37      21      12     44      68   A
 22      86      18     101      17      28      20      15     40      69   A
```

NWSC0906 ADCP 1644

Harmonic constants for constituent K1 for deployment NWSC0906.

```
================================================================================
Bin   Depth  E-ampl   E-gpl  N-ampl   N-gpl   Major   Minor    Incl   Grphl  R
        m   mm/sec     deg  mm/sec     deg  mm/sec  mm/sec     deg     deg
--------------------------------------------------------------------------------
 01    611       6     237       2     242       7       0      20     237   C
 02    586       6     237       3     247       6       0      26     239   C
 03    561       6     232       2     255       7       1      21     235   C
 04    536       7     229       2     243       7       0      15     230   C
 05    511       8     233       3     231       8       0      21     232   A
 06    486       6     238       4     244       7       0      36     240   C
 07    461       5     245       3     266       6       1      25     249   C
 08    436       6     234       3     278       6       2      19     240   C
 09    411       7     218       3     252       7       2      22     224   C
 10    386       7     202       4     206       8       0      28     203   C
 11    361       5     196       7     209       9       1      56     205   C
 12    336       2     127      10     213      10       2      89     213   C
 13    311       4     105      12     214      12       3      96     216   C
 14    286       3     150      12     204      12       2      81     202   C
 15    261       5     190       9     196      11       1      59     195   C
 16    236       8     211       5     207      10       0      32     210   A
 17    211      12     252       6     253      13       0      29     252   C
 18    186      17     271       8     271      19       0      26     271   A
 19    161      22     269      12     322      23       9      22     278   C
 20    136      23     274      19     333      26      14      34     294   C
 21    111      22     268      28     327      31      17      57     308   C
 22     86      21     268      33     326      36      17      66     314   C
```

NWSC0906 AANDERAA 718

```
Deployment: NWSC0906          analyzed from beginning to end
Instrument no.:   718
Instrument type: Aanderaa
Latitude: 60 33.970 N
Longitude:04 46.030 W
Bottom depth: 1065
Instrument depth:  753
Number of records: 8258
Time of first record: 2009 06 07 01 29
Time of last record : 2010 05 17 02 29
Time between records (min.): 60.000

Parameters              Records OK    Records flagged
----------              ----------    ---------------
Column  1  : Recno
Column  2- 4: Date
Column  5- 6: Time
Column  7  : Temp         8258              0
Column  8  : Speed        8258              0
Column  9  : Direct       8258              0

Comments
--------


Residual current:  49 mm/sec towards: 190 degrees
----------------


TIDAL ANALYSIS
--------------
Error flagged records interpolated for velocity:    0, records not int.:     0
Tidal analysis performed on unfiltered data
====================================================================================
Const     Freq      E-ampl  E-gpl  N-ampl  N-gpl  Major   Minor   Incl   Grphl  R
          c/hr      mm/sec   deg   mm/sec   deg   mm/sec  mm/sec   deg    deg
------------------------------------------------------------------------------------
MM     .00151215      15     137     13     195     17       9      37    159   C
MSF    .00282193      11     154     15     337     18       0     126    336   A
Q1     .03721850       3     330      4     349      5       1      51    341   C
O1     .03873065       9      14     10      36     14       3      47     26   C
NO1    .04026859       2      88      1      96      2       0      29     90   C
P1     .04155259       0     268      3     315      3       0      84    314   C
K1     .04178075       6     230      3     265      6       2      24    236   C
N2     .07899925      32     220     16     221     36       0      26    220   C
M2     .08051140     151     249     92     248    177       1      31    249   A
L2     .08202355       3     321      5     255      5       2      76    261   A
S2     .08333334      50     289     41     293     65       2      39    291   C
K2     .08356149      12     287     12     306     17       3      44    296   C
MK3    .12229210       0     209      1     345      1       0      94    345   C
M4     .16102280       1     263      1     186      1       1       9    258   A
MS4    .16384470       1     323      1     331      1       0      20    324   C


DIRECTIONAL CURRENT DISTRIBUTION (for all nonflagged observations in series)
--------------------------------
Relative number of observations in parts per thousand (ppt) grouped into speed and
direction intervals (of 30 degree width centred around the directions shown)
====================================================================================
   Speed    |                  Direction intervals                    | All dir.
 intervals  |---- ---- ---- ---- ---- ---- ---- ---- ---- ---- ---- ----|---- ----
  (mm/s)    | 15   45   75  105  135  165  195  225  255  285  315  345| Tot  Acc
------------|---- ---- ---- ---- ---- ---- ---- ---- ---- ---- ---- ----|---- ----
   0 -  50  |  8    9    8    9   10   10    9    8    7    7    4    5|  95   95
  50 - 100  | 10   15   30   26   22   22   29   25   20   10    5    5| 219  314
 100 - 150  |  8   23   42   25   16   15   28   35   24    6    2    3| 226  540
 150 - 200  |  4   19   36   17    7   10   22   40   22    3    1    1| 182  722
 200 - 300  |  2   20   34    8    5    6   25   75   26    2 0.36 0.12| 203  925
 300 - 400  |  1    7    4    2    1    2    8   28    7 0.48 0.24 0.36|  61  986
 400 - 500  |0.48   1 0.12 0.12    0    0    1    7    2    0    0 0.12|  11  997
 500 - 600  |  0    0    0    0    0    0    0    1    1    0    0    0|   2  999
 600 - 700  |  0    0    0    0    0    0    0 0.12    1    0    0    0|   1 1000
 700 - 800  |  0    0    0    0    0    0    0    0 0.12    0    0    0| .12 1000

Total  (ppt)| 32   93  152   87   62   65  123  220  110   28   13   15|
Rel.flux (ppt)| 23   95  150   70   44   49  123  291  123   18    7    8|
------------ ---- ---- ---- ---- ---- ---- ---- ---- ---- ---- ---- ----
Avg.spd (mm/s)| 110  161  154  126  112  119  157  208  175  101   85   86|
Max.spd (mm/s)| 490  446  408  405  343  393  422  639  722  340  340  422|
------------ ---- ---- ---- ---- ---- ---- ---- ---- ---- ---- ---- ----
```

NWSC0906 Aanderaa 718

NWSC0906 Aanderaa 718

START

N

STOP

100 km
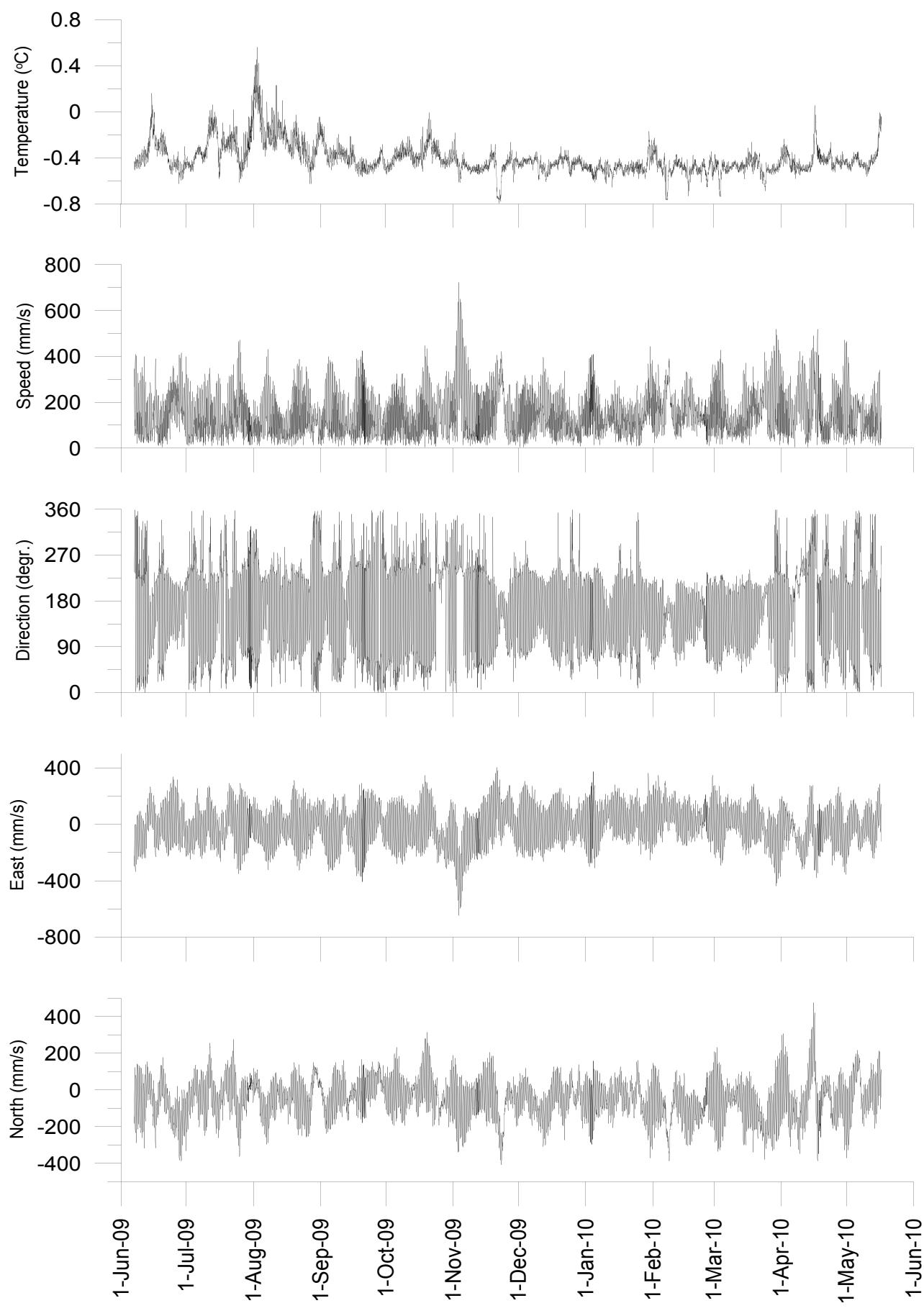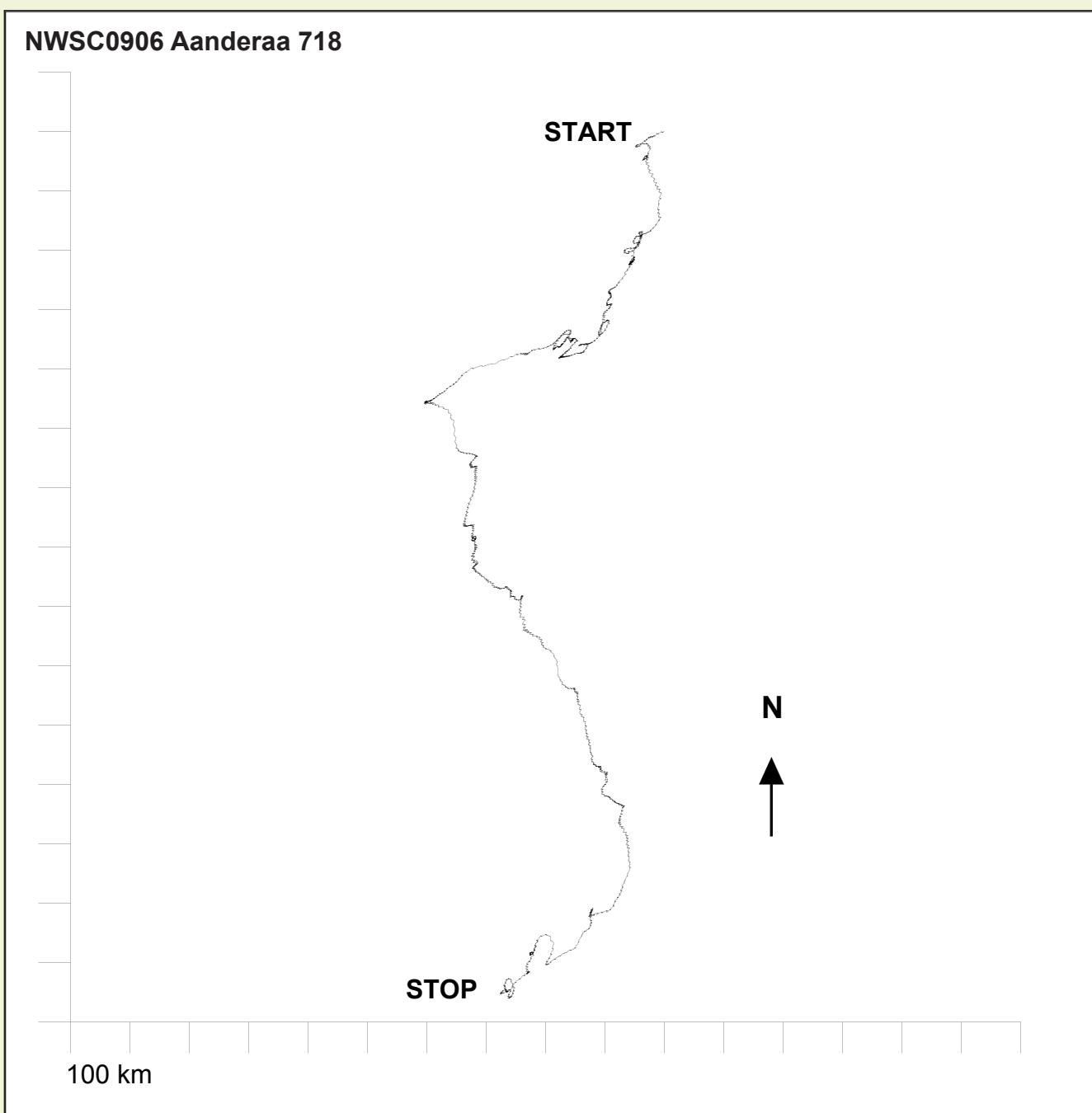
NWSX0906

Latitude: 60°51.500´N

Longitude: 005°29.700´W

Echo sounding depth: 559 m

Bottom depth corr.: 552 m

Time of deployment: 6/6 - 2009 2142 UTC

Time of recovery: 17/5 - 2010 1048 UTC

ADCP:

Instrument no.: RDI ADCP 3368

Instrument frequency: 75 kHz

Height above bottom: 1 m

Depth: 551 m (corr.)

MicroCat:

Instrument no.: 0984

Height above bottom: 1 m

Time of first data: 06/06 - 2009 2200 UTC

Time of last data: 17/05 - 2010 1050 UTC

Sample interval: 10 min

No. of ensembles: 49614

Instrument depth: 551 m

Data:

There are no data from the ADCP due to battery case failure.

There is a drift in the salinity from the MicroCat.
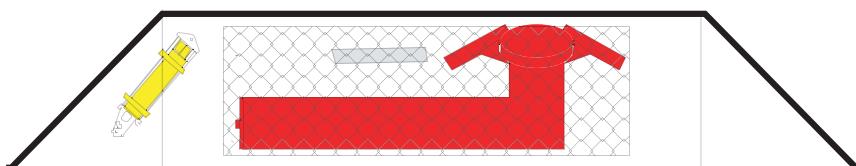
NWSX0906 MicroCat 0984
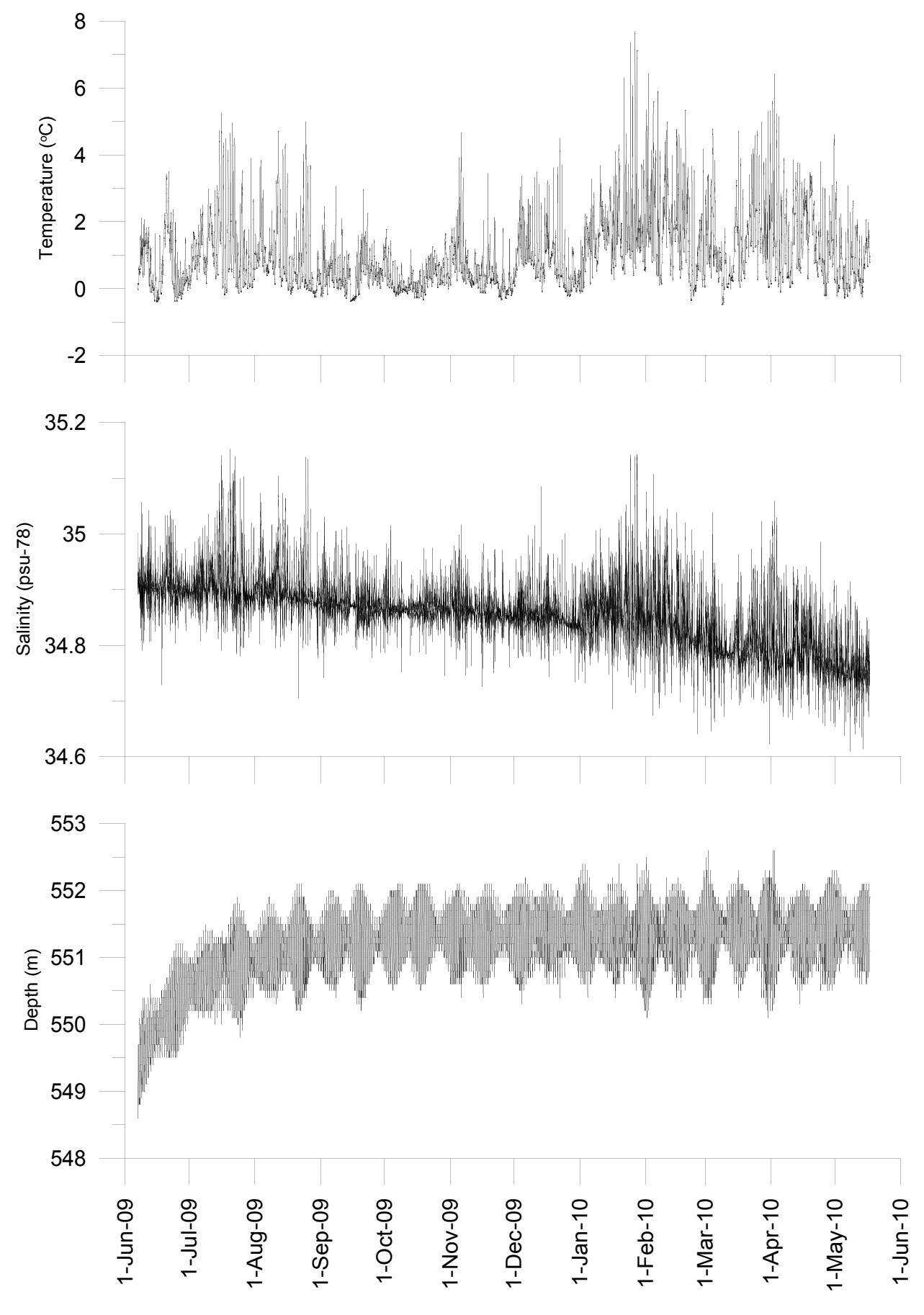
NWSX0906 MicroCat 0984
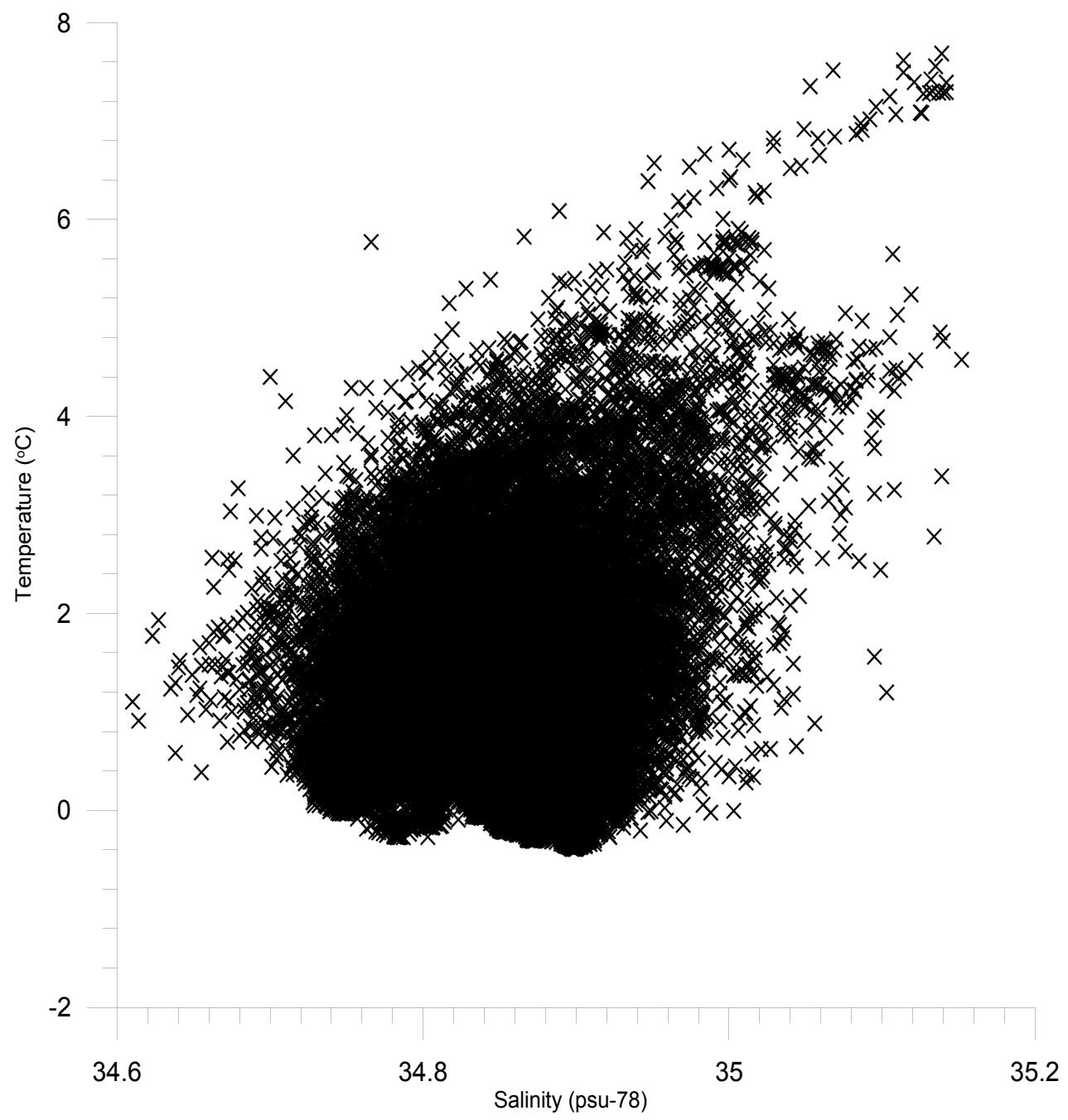
NWSY0908

Latitude: 60°42.934´N

Longitude: 005°04.333´W

Echo sounding depth: 916 m

Bottom depth corr.: 910 m

Time of deployment: 30/8 - 2009 2027 UTC

Time of recovery: 17/5 - 2010 0654 UTC

ADCP:

Instrument no.: RDI ADCP 8552

Instrument frequency: 75 kHz

Height above bottom: 213 m

Depth: 697 m (corr.)

Time of first data: 30/8 - 2009 2100 UTC

Time of last data: 17/5 - 2010 0620 UTC

Sample interval: 20 min

No. of ensembles: 18677

Pings per ens.: 10

Binlength: 10 m

Depth of first bin: 679 m (corr.)

No. of bins: 62

Data:

All data ok.

2m

200m

213 m

5m

1m

5m

NWSY0908 ADCP 8552

```
Error statistics for deployment: NWSY0908 updated 2010/11/11
----------------

Surface distance not edited
Depth edited by EM in Nov 2010
Heading, pitch and roll not edited
Temperature edited by EJ in Sep 2010
Velocity edited up to and including bin 62 by EJ in Sep 2010
Intensity edited up to and including bin 62 by EJ in Sep 2010

Total number of  ensembles:        18677
Interval between ensembles:       20 min
Original number of bins:             70
Number of acceptable velocity bins:  62
Number of acceptable intensity bins: 62

Flagged values have been replaced by error codes: -999.99 for temperature and
depth, -999 for velocity and intensity. For observations where velocity is
flagged, error codes have been inserted into speed, direction and vertical vel-
ocity files


Number of depth ens. flagged     :        0
Number of temperature ens. flagged:       1


Below are for each bin listed ensembles flagged for intensity in number and for
velocity in number and % of total ens.number. For velocity is also shown the num-
ber of gaps of various lengths (gap length = number of consecutive flagged ens.)
```

Bin	Int. ens. flgd	Velocity ens. flgd	% flgd	1	2	3	4	5	6-10	11-20	21-30	31-50	>50
1	0	15	0	13	1	0	0	0	0	0	0	0	0
2	0	20	0	20	0	0	0	0	0	0	0	0	0
3	0	17	0	17	0	0	0	0	0	0	0	0	0
4	0	18	0	18	0	0	0	0	0	0	0	0	0
5	0	21	0	21	0	0	0	0	0	0	0	0	0
6	0	21	0	19	1	0	0	0	0	0	0	0	0
7	0	21	0	19	1	0	0	0	0	0	0	0	0
8	0	16	0	16	0	0	0	0	0	0	0	0	0
9	0	15	0	15	0	0	0	0	0	0	0	0	0
10	0	23	0	21	1	0	0	0	0	0	0	0	0
11	0	23	0	21	1	0	0	0	0	0	0	0	0
12	0	20	0	18	1	0	0	0	0	0	0	0	0
13	0	25	0	21	2	0	0	0	0	0	0	0	0
14	0	23	0	18	1	1	0	0	0	0	0	0	0
15	0	25	0	23	1	0	0	0	0	0	0	0	0
16	2	13	0	13	0	0	0	0	0	0	0	0	0
17	1	29	0	20	0	3	0	0	0	0	0	0	0
18	1	27	0	27	0	0	0	0	0	0	0	0	0
19	0	21	0	17	0	0	1	0	0	0	0	0	0
20	1	37	0	31	3	0	0	0	0	0	0	0	0
21	1	23	0	19	0	0	1	0	0	0	0	0	0
22	0	29	0	27	1	0	0	0	0	0	0	0	0
23	0	34	0	31	0	1	0	0	0	0	0	0	0
24	1	28	0	28	0	0	0	0	0	0	0	0	0
25	1	24	0	22	1	0	0	0	0	0	0	0	0
26	1	31	0	26	1	1	0	0	0	0	0	0	0
27	1	35	0	27	2	0	1	0	0	0	0	0	0
28	2	49	0	36	1	2	0	1	0	0	0	0	0
29	1	54	0	36	3	1	1	1	0	0	0	0	0
30	2	37	0	30	2	1	0	0	0	0	0	0	0
31	1	45	0	34	2	1	1	0	0	0	0	0	0
32	0	70	0	44	5	1	2	1	0	0	0	0	0
33	0	58	0	37	3	2	1	1	0	0	0	0	0
34	1	73	0	58	1	0	0	0	2	0	0	0	0
35	1	59	0	40	2	2	1	1	0	0	0	0	0
36	1	50	0	41	2	0	0	1	0	0	0	0	0
37	1	69	0	50	3	1	1	0	1	0	0	0	0
38	0	66	0	39	6	2	1	1	0	0	0	0	0
39	1	64	0	38	7	2	0	0	1	0	0	0	0
40	0	68	0	45	5	1	1	0	1	0	0	0	0
41	1	72	0	52	3	0	0	0	2	0	0	0	0
42	1	86	0	46	6	2	2	0	2	0	0	0	0
43	1	132	1	71	5	3	0	0	4	1	0	0	0
44	0	192	1	62	13	2	0	2	5	4	0	0	0
45	0	305	2	82	9	1	1	3	6	7	2	0	0
46	0	413	2	100	9	5	5	3	12	6	3	0	0
47	3	681	4	117	28	7	5	8	11	11	7	0	0
48	1	939	5	134	40	14	10	7	17	10	12	0	0
49	4	1301	7	167	46	20	11	14	14	15	14	6	0
50	1	1679	9	175	48	15	6	11	22	23	12	14	0
51	2	2065	11	182	53	31	19	8	22	22	19	17	0
52	1	2478	13	180	51	22	18	15	27	28	26	21	0
53	0	2877	15	199	73	36	15	9	26	25	34	25	0
54	0	3269	18	189	68	29	19	9	26	28	36	33	0
55	1	3758	20	210	62	27	9	15	32	25	35	47	0
56	2	4250	23	240	55	24	10	10	35	29	37	55	0
57	0	4843	26	233	67	27	21	12	31	34	40	67	0
58	2	5377	29	267	79	28	20	15	29	50	42	69	0
59	2	5981	32	336	80	36	25	12	22	54	41	83	0
60	0	6674	36	365	93	44	19	14	33	59	39	90	4
61	1	7530	40	400	127	55	24	20	43	54	32	99	7
62	1	8538	46	563	153	50	29	18	48	75	46	92	12

NWSY0908 ADCP 8552

```
Deployment: NWSY0908 updated 2010/11/11
Instrument no.:  8552
Instrument freq.:  75
Latitude: 60 42.934 N
Longitude:05 04.333 W
Bottom depth:  910
Instrument depth:  697
Center depth of first bin:  679
Bin length:  10
Number of bins:  62
Number of first ensemble:    454
Time of first ensemble: 2009 08 30 21 00
Number of last ensemble:   19130
Time of last ensemble:  2010 05 17 06 20
Time between ensembles (min.):   20
All directions have been corrected by adding:  -6.0
```

Below is listed for each bin the average speed (scalar average) and
the average velocity magnitude and direction formed as a vectorial
average of non-flagged (Good) observations. The last column shows the
number of good values used in parts per thousand

```
=====================================================================
  Bin no.      Depth      Height      Speed       Vel       Dir      Good
                 m           m         mm/s       mm/s       deg       ppt
---------------------------------------------------------------------
        1       679        231         203         48        188       999
        2       669        241         203         48        188       999
        3       659        251         204         48        188       999
        4       649        261         203         48        189       999
        5       639        271         203         48        188       999
        6       629        281         203         48        188       999
        7       619        291         201         48        188       999
        8       609        301         202         48        188       999
        9       599        311         201         49        188       999
       10       589        321         200         49        188       999
       11       579        331         200         49        187       999
       12       569        341         199         50        187       999
       13       559        351         198         50        187       999
       14       549        361         196         51        187       999
       15       539        371         196         52        186       999
       16       529        381         195         53        186       999
       17       519        391         194         54        184       998
       18       509        401         194         55        184       999
       19       499        411         194         56        183       999
       20       489        421         195         58        183       998
       21       479        431         195         59        183       999
       22       469        441         195         62        183       998
       23       459        451         195         64        183       998
       24       449        461         196         65        182       999
       25       439        471         197         67        181       999
       26       429        481         200         68        180       998
       27       419        491         202         71        179       998
       28       409        501         205         73        178       997
       29       399        511         208         75        178       997
       30       389        521         213         78        178       998
       31       379        531         217         81        177       998
       32       369        541         221         84        178       996
       33       359        551         227         85        179       997
       34       349        561         232         86        179       996
       35       339        571         237         86        180       997
       36       329        581         240         84        179       997
       37       319        591         244         82        178       996
       38       309        601         246         80        177       996
       39       299        611         250         79        176       997
       40       289        621         253         80        174       996
       41       279        631         255         79        172       996
       42       269        641         257         80        171       995
       43       259        651         261         82        169       993
       44       249        661         263         83        168       990
       45       239        671         267         85        167       984
       46       229        681         271         85        166       978
       47       219        691         273         85        166       964
       48       209        701         275         87        165       950
       49       199        711         277         86        164       930
       50       189        721         278         86        162       910
       51       179        731         280         86        161       889
       52       169        741         282         87        159       867
       53       159        751         283         87        158       846
       54       149        761         285         86        156       825
       55       139        771         287         85        155       799
       56       129        781         289         84        154       772
       57       119        791         291         83        152       741
       58       109        801         294         82        150       712
       59        99        811         299         83        147       680
       60        89        821         303         84        143       643
       61        79        831         309         85        142       597
       62        69        841         307         84        135       543
```

NWSY0908 ADCP 8552

Frequency of high speeds.
========================

Frequency (in parts per thousand) of speeds equal to or exceeding specified vales.

```
============================================================================================================
Bin|Depth|                                      Speed (cm/s)
no.|   m|  10   20   30   40   50   60   70   80   90  100  110  120  130  140  150  160  170  180
------------------------------------------------------------------------------------------------------------
  1|  679| 837  473  172   38    6    1    0    0    0    0    0    0    0    0    0    0    0    0
  2|  669| 841  469  176   39    5    1    0    0    0    0    0    0    0    0    0    0    0    0
  3|  659| 838  476  177   40    6    1    0    0    0    0    0    0    0    0    0    0    0    0
  4|  649| 842  476  174   39    6    1    0    0    0    0    0    0    0    0    0    0    0    0
  5|  639| 838  472  171   38    6    1    0    0    0    0    0    0    0    0    0    0    0    0
  6|  629| 839  473  171   38    6    1    0    0    0    0    0    0    0    0    0    0    0    0
  7|  619| 833  467  170   40    7    1    0    0    0    0    0    0    0    0    0    0    0    0
  8|  609| 834  466  170   40    6    1    0    0    0    0    0    0    0    0    0    0    0    0
  9|  599| 835  464  169   39    6    1    0    0    0    0    0    0    0    0    0    0    0    0
 10|  589| 831  462  169   40    6    1    0    0    0    0    0    0    0    0    0    0    0    0
 11|  579| 829  460  167   38    6    1    0    0    0    0    0    0    0    0    0    0    0    0
 12|  569| 828  459  164   38    6    1    0    0    0    0    0    0    0    0    0    0    0    0
 13|  559| 825  451  162   37    6    1    0    0    0    0    0    0    0    0    0    0    0    0
 14|  549| 820  445  158   35    7    1    0    0    0    0    0    0    0    0    0    0    0    0
 15|  539| 820  443  158   35    6    1    0    0    0    0    0    0    0    0    0    0    0    0
 16|  529| 818  439  156   35    6    1    0    0    0    0    0    0    0    0    0    0    0    0
 17|  519| 814  438  154   35    6    0    0    0    0    0    0    0    0    0    0    0    0    0
 18|  509| 812  433  156   36    6    0    0    0    0    0    0    0    0    0    0    0    0    0
 19|  499| 811  432  157   40    6    0    0    0    0    0    0    0    0    0    0    0    0    0
 20|  489| 809  430  163   41    8    0    0    0    0    0    0    0    0    0    0    0    0    0
 21|  479| 804  430  163   45    8    0    0    0    0    0    0    0    0    0    0    0    0    0
 22|  469| 801  433  163   45    8    1    0    0    0    0    0    0    0    0    0    0    0    0
 23|  459| 802  429  167   46   10    1    0    0    0    0    0    0    0    0    0    0    0    0
 24|  449| 802  435  168   48   11    1    0    0    0    0    0    0    0    0    0    0    0    0
 25|  439| 809  438  168   48   11    1    0    0    0    0    0    0    0    0    0    0    0    0
 26|  429| 816  449  173   51   12    1    0    0    0    0    0    0    0    0    0    0    0    0
 27|  419| 815  452  180   57   15    3    0    0    0    0    0    0    0    0    0    0    0    0
 28|  409| 824  464  187   63   17    4    0    0    0    0    0    0    0    0    0    0    0    0
 29|  399| 825  471  196   69   21    4    0    0    0    0    0    0    0    0    0    0    0    0
 30|  389| 831  481  211   79   25    6    1    0    0    0    0    0    0    0    0    0    0    0
 31|  379| 834  488  221   86   29    7    1    0    0    0    0    0    0    0    0    0    0    0
 32|  369| 840  497  230   97   33    8    0    0    0    0    0    0    0    0    0    0    0    0
 33|  359| 843  516  246  106   40   12    1    0    0    0    0    0    0    0    0    0    0    0
 34|  349| 847  528  264  118   44   14    2    0    0    0    0    0    0    0    0    0    0    0
 35|  339| 851  536  279  127   50   16    3    0    0    0    0    0    0    0    0    0    0    0
 36|  329| 853  551  289  135   54   19    4    0    0    0    0    0    0    0    0    0    0    0
 37|  319| 857  558  297  140   57   19    4    0    0    0    0    0    0    0    0    0    0    0
 38|  309| 862  566  308  145   59   20    4    0    0    0    0    0    0    0    0    0    0    0
 39|  299| 863  577  322  151   59   19    4    0    0    0    0    0    0    0    0    0    0    0
 40|  289| 867  589  331  153   59   19    4    0    0    0    0    0    0    0    0    0    0    0
 41|  279| 869  599  337  154   59   19    4    0    0    0    0    0    0    0    0    0    0    0
 42|  269| 871  609  341  163   61   20    5    0    0    0    0    0    0    0    0    0    0    0
 43|  259| 875  615  349  168   65   22    6    0    0    0    0    0    0    0    0    0    0    0
 44|  249| 873  617  356  174   68   23    6    0    0    0    0    0    0    0    0    0    0    0
 45|  239| 872  620  363  179   72   24    6    0    0    0    0    0    0    0    0    0    0    0
 46|  229| 871  623  368  186   77   27    7    1    0    0    0    0    0    0    0    0    0    0
 47|  219| 859  620  371  187   82   28    8    1    0    0    0    0    0    0    0    0    0    0
 48|  209| 847  614  372  192   84   30    8    1    0    0    0    0    0    0    0    0    0    0
 49|  199| 828  603  369  193   84   31    7    1    0    0    0    0    0    0    0    0    0    0
 50|  189| 811  591  364  191   85   30    9    2    0    0    0    0    0    0    0    0    0    0
 51|  179| 795  579  360  189   86   30    9    3    0    0    0    0    0    0    0    0    0    0
 52|  169| 773  568  355  188   88   32    9    2    0    0    0    0    0    0    0    0    0    0
 53|  159| 755  554  349  187   90   31    9    2    0    0    0    0    0    0    0    0    0    0
 54|  149| 737  541  345  184   89   34    8    2    0    0    0    0    0    0    0    0    0    0
 55|  139| 714  529  338  184   90   35    9    2    0    0    0    0    0    0    0    0    0    0
 56|  129| 691  508  329  184   89   36   10    2    0    0    0    0    0    0    0    0    0    0
 57|  119| 663  490  321  179   86   37   11    3    0    0    0    0    0    0    0    0    0    0
 58|  109| 639  476  309  175   85   37   12    3    0    0    0    0    0    0    0    0    0    0
 59|   99| 618  465  305  176   87   35   12    3    0    0    0    0    0    0    0    0    0    0
 60|   89| 584  444  293  172   86   36   12    4    0    0    0    0    0    0    0    0    0    0
 61|   79| 546  418  279  166   84   36   12    3    0    0    0    0    0    0    0    0    0    0
 62|   69| 495  383  257  149   72   30   10    3    0    0    0    0    0    0    0    0    0    0
```

NWSY0908 ADCP 8552

Harmonic constants for constituent M2 for deployment NWSY0908.

```
========================================================================
Bin   Depth  E-ampl  E-gpl  N-ampl  N-gpl  Major   Minor   Incl  Grphl  R
        m    mm/sec   deg   mm/sec   deg   mm/sec  mm/sec   deg   deg
------------------------------------------------------------------------
 01    679    215     244     90     209    228      49     20    240   A
 02    669    215     244     90     209    228      49     20    240   A
 03    659    215     244     91     209    228      49     20    240   A
 04    649    215     244     89     210    228      47     20    240   A
 05    639    214     244     89     210    227      47     20    240   A
 06    629    214     244     89     212    227      45     20    240   A
 07    619    212     244     88     212    225      44     20    240   A
 08    609    212     244     88     212    225      44     20    240   A
 09    599    211     244     87     212    224      43     20    240   A
 10    589    210     244     86     212    223      42     20    240   A
 11    579    208     244     85     214    221      40     20    240   A
 12    569    207     244     84     215    220      38     20    240   A
 13    559    203     243     83     217    217      35     21    240   A
 14    549    200     243     82     218    214      32     21    240   A
 15    539    198     243     81     221    212      29     21    240   A
 16    529    196     243     79     222    209      26     21    240   A
 17    519    192     243     79     224    206      24     21    240   A
 18    509    188     243     80     226    203      21     22    241   A
 19    499    184     243     80     230    200      17     23    241   A
 20    489    181     244     82     233    198      14     24    242   A
 21    479    175     244     83     236    193      11     25    243   A
 22    469    169     244     83     240    188       5     26    243   A
 23    459    162     244     83     244    182       1     27    244   A
 24    449    154     245     84     249    175       5     29    246   C
 25    439    145     245     87     254    169      11     31    248   C
 26    429    137     246     91     259    163      17     33    250   C
 27    419    128     247     94     262    158      20     36    252   C
 28    409    123     248    100     265    157      23     39    255   C
 29    399    118     250    104     267    155      23     41    257   C
 30    389    112     252    109     269    154      23     44    260   C
 31    379    106     254    115     271    155      23     47    263   C
 32    369    101     258    122     273    157      21     51    267   C
 33    359     98     262    131     274    163      16     53    270   C
 34    349     96     266    137     275    167      12     55    272   C
 35    339     94     271    145     275    173       5     57    274   C
 36    329     93     276    152     274    178       2     58    275   A
 37    319     93     280    159     273    184       9     60    275   A
 38    309     95     283    165     273    190      14     60    276   A
 39    299     98     287    172     273    197      20     61    276   A
 40    289    100     289    177     273    202      24     61    277   A
 41    279    101     290    181     272    206      28     61    277   A
 42    269    104     293    184     272    209      32     61    277   A
 43    259    105     294    188     272    212      35     62    277   A
 44    249    108     295    191     271    216      38     62    277   A
 45    239    111     295    191     271    217      39     61    277   A
 46    229    114     296    195     271    221      43     61    277   A
 47    219    114     297    197     271    223      45     61    277   A
 48    209    116     297    198     270    225      46     61    277   A
 49    199    116     298    200     271    226      47     61    277   A
 50    189    114     298    203     271    229      46     62    277   A
 51    179    113     299    202     271    227      47     62    277   A
 52    169    112     300    204     271    228      49     63    277   A
 53    159    114     300    205     271    229      50     63    277   A
 54    149    112     302    203     271    226      53     63    277   A
 55    139    114     302    210     270    233      54     64    276   A
 56    129    115     302    212     271    236      53     64    278   A
 57    119    118     303    216     270    239      59     64    276   A
 58    109    122     304    218     269    241      64     64    276   A
 59     99    127     304    221     269    246      66     63    276   A
 60     89    134     303    225     268    252      69     62    276   A
 61     79    141     303    224     266    254      74     60    276   A
 62     69    142     305    217     265    246      80     60    276   A
```

NWSY0908 ADCP 8552

Harmonic constants for constituent S2 for deployment NWSY0908.

```
========================================================================================
Bin    Depth   E-ampl   E-gpl   N-ampl   N-gpl   Major    Minor     Incl    Grphl   R
         m    mm/sec    deg    mm/sec    deg    mm/sec   mm/sec     deg     deg
----------------------------------------------------------------------------------------
01     679       74     288       39     257       82       18       26     281    A
02     669       74     288       40     258       82       18       26     282    A
03     659       74     288       40     257       83       19       26     282    A
04     649       73     288       40     258       82       18       27     282    A
05     639       73     289       40     259       81       18       27     282    A
06     629       73     289       40     260       81       17       27     283    A
07     619       73     289       39     261       81       16       27     283    A
08     609       73     289       40     263       81       16       27     283    A
09     599       72     290       40     264       81       16       28     284    A
10     589       72     290       41     264       81       16       28     284    A
11     579       71     291       41     265       80       15       29     285    A
12     569       70     290       41     267       80       14       29     284    A
13     559       70     290       41     267       80       14       30     285    A
14     549       68     291       42     270       79       13       31     286    A
15     539       67     292       42     273       78       11       32     286    A
16     529       65     292       42     275       77       10       32     287    A
17     519       64     291       42     278       76        8       33     287    A
18     509       62     292       41     277       74        9       33     288    A
19     499       61     291       40     278       73        7       33     287    A
20     489       59     289       40     279       71        6       34     286    A
21     479       58     288       40     280       70        5       34     286    A
22     469       57     286       38     282       68        3       34     285    A
23     459       56     287       38     283       67        2       34     286    A
24     449       56     285       37     283       67        1       34     284    A
25     439       54     285       36     285       65        0       34     285    C
26     429       51     285       36     289       62        2       35     286    C
27     419       48     285       37     293       60        4       38     288    C
28     409       45     288       40     298       60        5       42     292    C
29     399       43     290       43     301       60        6       45     296    C
30     389       42     292       45     302       61        5       47     297    C
31     379       39     292       46     303       60        6       49     299    C
32     369       38     292       48     304       61        6       52     300    C
33     359       39     288       52     306       64       10       53     299    C
34     349       39     285       52     307       64       12       54     299    C
35     339       37     280       51     309       62       15       55     300    C
36     329       36     279       52     312       61       17       56     301    C
37     319       35     279       54     315       61       18       60     305    C
38     309       33     280       55     317       62       18       62     308    C
39     299       31     285       57     318       64       15       64     311    C
40     289       30     289       57     317       63       13       64     312    C
41     279       30     296       55     318       62       10       62     313    C
42     269       30     299       54     317       61        8       62     313    C
43     259       31     300       52     315       60        7       60     311    C
44     249       32     299       52     314       61        7       59     310    C
45     239       34     302       52     313       62        5       57     310    C
46     229       35     302       53     312       63        6       57     309    C
47     219       36     303       55     313       65        5       57     310    C
48     209       36     304       54     314       65        5       57     311    C
49     199       36     309       57     316       67        3       58     314    C
50     189       36     313       57     316       67        1       58     315    C
51     179       37     316       57     316       68        0       57     316    C
52     169       40     319       61     318       73        1       57     318    A
53     159       42     324       63     317       75        4       56     319    A
54     149       43     330       66     319       78        7       57     322    A
55     139       45     331       69     319       82        8       57     323    A
56     129       44     334       72     321       84        9       59     324    A
57     119       48     340       74     320       87       14       58     326    A
58     109       48     339       73     319       86       14       57     325    A
59      99       45     342       70     319       82       16       58     325    A
60      89       43     342       69     315       80       17       60     322    A
61      79       47     337       77     313       89       16       60     319    A
62      69       42     344       73     311       82       20       63     318    A
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NWSY0908 ADCP 8552

Harmonic constants for constituent N2 for deployment NWSY0908.

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=========================================================================
Bin   Depth  E-ampl  E-gpl  N-ampl  N-gpl  Major   Minor   Incl   Grphl  R
      m      mm/sec  deg    mm/sec  deg    mm/sec  mm/sec  deg    deg
-------------------------------------------------------------------------
01    679    46      222    18      179    48      12      17     218    A
02    669    45      222    18      179    47      12      17     218    A
03    659    46      221    18      180    48      11      17     217    A
04    649    46      222    17      182    48      10      17     218    A
05    639    46      222    17      179    48      11      16     218    A
06    629    45      221    18      178    47      12      17     217    A
07    619    46      221    18      178    48      11      17     217    A
08    609    47      221    18      180    49      12      17     217    A
09    599    47      220    19      178    49      12      18     216    A
10    589    47      221    20      179    49      13      18     216    A
11    579    47      223    20      179    50      13      18     218    A
12    569    47      222    20      176    50      14      18     217    A
13    559    48      222    21      177    51      14      18     217    A
14    549    48      221    19      177    50      13      17     217    A
15    539    47      220    19      182    50      11      18     216    A
16    529    45      219    18      182    47      10      18     215    A
17    519    43      218    16      185    45      8       18     215    A
18    509    41      218    15      189    43      7       18     215    A
19    499    39      217    15      194    41      5       20     214    A
20    489    37      215    14      198    39      4       21     213    A
21    479    36      217    15      204    39      3       23     215    A
22    469    34      216    16      216    38      0       26     216    A
23    459    32      218    16      224    36      1       26     219    C
24    449    31      221    16      231    35      3       27     223    C
25    439    28      221    17      234    33      3       32     225    C
26    429    26      224    19      244    32      5       36     231    C
27    419    24      228    21      243    32      4       42     235    C
28    409    21      230    24      245    32      4       48     238    C
29    399    19      239    26      250    32      3       54     246    C
30    389    17      248    27      252    32      1       58     251    C
31    379    17      252    29      252    34      0       60     252    A
32    369    19      257    30      252    35      1       59     253    A
33    359    20      259    32      250    37      3       58     253    A
34    349    23      258    32      250    39      3       55     253    A
35    339    23      258    34      248    41      3       57     251    A
36    329    22      258    34      247    40      3       56     251    A
37    319    22      258    33      248    39      3       57     251    A
38    309    21      258    33      247    39      3       58     250    A
39    299    21      260    33      247    39      4       58     250    A
40    289    20      259    33      246    38      4       59     250    A
41    279    21      263    33      248    39      5       57     253    A
42    269    22      268    34      250    40      5       58     255    A
43    259    22      273    36      251    42      7       59     257    A
44    249    22      274    38      253    43      7       61     258    A
45    239    22      279    39      253    44      8       62     258    A
46    229    22      282    40      250    44      10      63     257    A
47    219    23      280    41      250    46      10      63     257    A
48    209    24      282    42      251    47      11      62     259    A
49    199    26      284    43      252    48      12      61     260    A
50    189    26      288    44      249    49      15      62     258    A
51    179    26      289    44      250    49      15      62     259    A
52    169    26      293    44      253    49      15      63     262    A
53    159    23      294    44      253    48      14      67     260    A
54    149    18      291    43      253    45      11      70     258    A
55    139    18      287    42      249    44      10      70     254    A
56    129    16      273    43      245    45      7       71     248    A
57    119    18      264    42      240    45      7       68     244    A
58    109    17      264    40      241    43      6       68     244    A
59    99     22      262    45      241    50      7       65     245    A
60    89     25      271    45      238    50      12      63     245    A
61    79     29      270    42      237    50      13      57     247    A
62    69     35      269    40      239    52      14      49     252    A
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NWSY0908 ADCP 8552

Harmonic constants for constituent O1 for deployment NWSY0908.

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==================================================================================
Bin    Depth  E-ampl  E-gpl  N-ampl  N-gpl  Major   Minor   Incl   Grphl  R
       m      mm/sec  deg    mm/sec  deg    mm/sec  mm/sec  deg    deg
----------------------------------------------------------------------------------
01     679     15     348     10      38     17      7       30      2    C
02     669     14     349     10      40     16      7       30      3    C
03     659     15     348     11      36     17      7       31      2    C
04     649     15     351     11      38     17      7       34      6    C
05     639     15     346     11      36     17      7       33      2    C
06     629     15     347     11      34     17      7       31      1    C
07     619     15     346     11      34     17      7       32      0    C
08     609     16     345     11      36     18      8       31    360    C
09     599     15     345     11      37     17      8       32      1    C
10     589     15     347     11      38     17      7       31      2    C
11     579     16     346     11      35     18      7       29    359    C
12     569     16     346     11      36     18      7       31      0    C
13     559     16     348     12      34     18      7       33      3    C
14     549     15     348     11      35     17      7       34      3    C
15     539     14     347     11      40     16      8       35      5    C
16     529     16     344     10      36     17      7       28    357    C
17     519     15     345     10      40     17      8       27    358    C
18     509     16     343     11      42     17      8       27    357    C
19     499     15     341     11      40     17      8       26    355    C
20     489     15     342      9      35     16      6       23    352    C
21     479     15     342      8      38     16      7       22    351    C
22     469     15     341      8      45     15      7       18    349    C
23     459     15     341      9      49     16      8       17    350    C
24     449     16     346      9      52     16      8       17    354    C
25     439     15     349      9      49     16      7       21    359    C
26     429     15     347      9      51     15      8       20    357    C
27     419     15     349      9      51     15      7       20    359    C
28     409     15     349      9      53     15      8       19    359    C
29     399     15     346      9      58     15      9       17    356    C
30     389     15     344      9      56     15      8       14    352    C
31     379     15     344      8      55     16      8       13    350    C
32     369     15     345      7      58     15      7       11    350    C
33     359     17     346      6      46     17      5       12    350    C
34     349     16     348      6      23     16      3       17    352    C
35     339     13     350      8      18     15      3       30    357    C
36     329     13     350      9      18     16      3       32    358    C
37     319     13     349      9      15     16      3       34    357    C
38     309     13     345      8      22     14      4       28    354    C
39     299     13     338      8      33     14      6       24    349    C
40     289     13     335      8      38     14      7       21    346    C
41     279     13     338      9      45     14      8       23    351    C
42     269     14     336      9      46     14      8       20    348    C
43     259     14     336      9      41     15      8       21    347    C
44     249     14     336      9      40     15      8       23    349    C
45     239     14     341      8      40     15      7       21    350    C
46     229     15     346      7      40     16      6       19    353    C
47     219     14     348      7      36     15      5       22    356    C
48     209     15     352      7      29     16      4       23    358    C
49     199     14     358      8      32     16      4       28      6    C
50     189     12     358     11      31     16      5       42     13    C
51     179     10       3     13      41     15      5       55     28    C
52     169      5      30     14      46     15      1       71     44    C
53     159      7      32     16      33     18      0       67     33    C
54     149      6      77     16      39     16      3       73     42    A
55     139      6      66     19      30     20      4       74     33    A
56     129      6      91     21      40     22      5       79     42    A
57     119      9     104     24      33     24      8       82     36    A
58     109      8     101     23      24     23      8       85     25    A
59      99      6     122     23      29     23      5       91     29    A
60      89      7     150     26      35     26      6       97     33    A
61      79      5     137     26      38     26      5       92     37    A
62      69      6     125     25      31     25      6       91     31    A
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NWSY0908 ADCP 8552

Harmonic constants for constituent K1 for deployment NWSY0908.

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==============================================================================
Bin    Depth  E-ampl   E-gpl  N-ampl   N-gpl   Major   Minor    Incl   Grphl  R
          m  mm/sec     deg  mm/sec     deg  mm/sec  mm/sec     deg    deg
------------------------------------------------------------------------------
 01     679     11     192      4     257     11       4      10     195   C
 02     669     11     192      4     261     11       4      10     196   C
 03     659     11     191      5     259     11       4      11     195   C
 04     649     11     191      5     265     11       4       7     194   C
 05     639     10     194      5     273     10       5       8     198   C
 06     629     10     192      5     266     10       5      10     197   C
 07     619     10     193      5     268     10       5      10     198   C
 08     609      9     185      5     272      9       5       2     186   C
 09     599      9     188      5     270      9       5       8     193   C
 10     589      9     191      5     263      9       5      15     199   C
 11     579      8     191      5     259      8       4      16     199   C
 12     569      9     190      4     260      9       3      10     193   C
 13     559      9     193      4     240      9       3      19     199   C
 14     549      9     195      4     245      9       3      20     202   C
 15     539      9     200      5     229     10       2      25     205   C
 16     529      8     206      5     244      9       3      28     215   C
 17     519      9     202      7     236     10       3      35     214   C
 18     509      8     203      6     239      9       3      37     216   C
 19     499      7     204      6     247      8       3      36     220   C
 20     489      6     200      6     251      8       4      49     229   C
 21     479      6     193      6     257      7       5      51     231   C
 22     469      6     192      6     269      6       5      48     233   C
 23     459      4     194      5     283      5       4      88     281   C
 24     449      5     191      5     304      6       4     138     340   C
 25     439      5     192      4     300      6       4     155     355   C
 26     429      6     190      4     288      6       4     170       3   C
 27     419      8     195      4     266      8       4      15     203   C
 28     409      9     189      4     257      9       4      11     193   C
 29     399      9     187      5     218     10       2      25     193   C
 30     389      8     182      7     202     10       2      38     190   C
 31     379      7     163      8     192     11       3      47     178   C
 32     369      6     144     10     190     12       4      63     179   C
 33     359      7     123     13     189     14       6      75     182   C
 34     349      8     101     17     193     17       8      92     194   C
 35     339     10      82     18     192     18       9     104     200   C
 36     329     12      71     19     198     21       9     116     209   C
 37     319     13      63     20     200     22       8     119     211   C
 38     309     13      56     21     196     23       7     118     205   C
 39     299     10      50     20     191     22       6     113     197   C
 40     289      6      53     19     191     20       4     104     194   C
 41     279      5      66     18     190     18       4      99     192   C
 42     269      2      98     15     189     15       2      90     189   C
 43     259      2     146     12     195     12       2      83     194   C
 44     249      4     186     11     201     11       1      70     199   C
 45     239      6     180      9     208     10       2      57     200   C
 46     229      8     190      8     220     10       3      45     205   C
 47     219      9     195      9     242     12       5      44     217   C
 48     209      9     199      9     255     11       6      41     224   C
 49     199     10     215     11     266     14       7      49     244   C
 50     189     12     231     14     274     18       7      51     257   C
 51     179     14     236     18     273     22       7      52     259   C
 52     169     21     246     23     273     30       7      47     260   C
 53     159     24     245     25     274     34       9      46     260   C
 54     149     29     252     32     269     43       6      49     261   C
 55     139     33     249     38     267     50       8      49     259   C
 56     129     38     250     46     263     59       7      51     258   C
 57     119     44     250     52     262     68       7      50     257   C
 58     109     47     250     56     263     73       8      50     258   C
 59      99     44     256     56     264     71       5      51     261   C
 60      89     52     261     58     270     77       6      48     266   C
 61      79     49     257     64     266     80       6      53     262   C
 62      69     52     254     62     267     80       9      50     261   C
```