ADCP deployments in Faroese Waters 2021 - 2022

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Introduction

This report documents five current meter deployments in Faroese waters in 2021 – 2022.

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. Three of the moorings (NWFB, NWFC and NWNB) were located at standard (Nordic WOCE) sites; two moorings (IFRF and IFRG) were deployed on the Iceland-Faroe Ridge funded by NCKF (Nationalt Center for Klimaforskning).

At all sites except IFRF, RDI ADCPs (Acoustic Doppler Current Profiler) were placed in the top of single-point moorings. At site IFRF an RDI ADCP was placed on the bottom inside a protective aluminium frame.

The ADCP's measure the velocity averaged over a number of depth layers ("bins"). At 20 minute intervals, the ADCP's record the data from all bins into "ensembles" as well as the instruments heading, pitch, roll and temperature.

In addition to ADCP's the moorings had other recorders attached as shown in Table 2. The MicroCat (SBE 37) at site NWFB recorded pressure, temperature, salinity and oxygen. The SBE39plus and SBE56 are temperature recorders only. For more details see Tables 1 and 2.
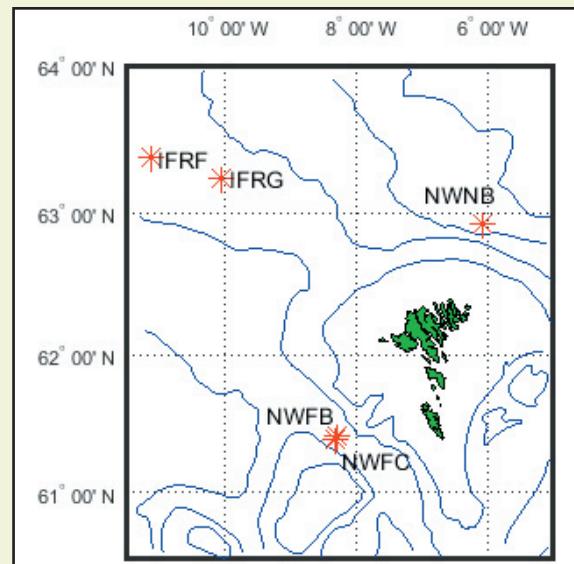
Figure 1. Mooring sites in Faroese waters 2021-2022 superposed on a map with the bottom topography. Each site is indicated by a four-letter label.

Table 1. List of deployments with information on instrument number, type and settings.

Deployment	Instr. No	Current Meter type	Freq. kHz	Pings per ens	Binlng. m
NWFB2106	1642	BB ADCP	75	1	25
NWFC2106	1285	BB ADCP	75	1	25
NWNB2106	19518	LR ADCP	75	10	10
IFRF2106	1279	BB ADCP	150	1	10
IFRG2106	1644	BB ADCP	75	1	25

Table 2. List of deployments with information on duration and range of valid data. All depths are in meters. The last column indicates whether other instruments were on the mooring.

Deployment	Bottom depth	Int. min.	Valid data period YYYY MM DD-YYYY MM DD	Dur. days	No bins	Depthrange	Other instr.
NWFB2106	803	20	2021 06 12-2022 05 14	335	18	336- 761	Microcat + SBE56
NWFC2106	829	20	2021 06 12-2022 05 14	335	24	212- 787	SBE39
NWNB2106	963	20	2021 06 14-2022 05 16	336	64	64- 694	SBE56
IFRF2106	424	20	2021 06 15-2022 05 15	334	30	117- 407	SBE56
IFRG2106	439	20	2021 06 15-2022 05 15	334	14	72- 397	SBE56

Quality control

ADCP data

The velocity data from the ADCPs have been quality controlled using a semi-automatic routine that error flags observations that are above/below specified thresholds or are identified by specific filters as elaborated below:

i) A minimum threshold can be set for intensity and correlation.

ii) In order to remove extremely large speed (spd) values, the mean speed is calculated for each bin and multiplied by a specified factor. The result is the maximum threshold for each bin.

iii) A maximum threshold for absolute vertical velocity (w) can be set.

iv) The ADCP data also include an error velocity and a maximum absolute threshold can be specified for this parameter. The final threshold is this threshold plus ten percent of the observed speed for the individual observations.

v) A de-spiking filter for horizontal velocities u and v can be applied. Observations, where u and v deviate from a three point median filter by more than the standard deviation multiplied by a specified factor, are error flagged. The specified factor can be chosen to vary between bins. One factor can be specified for bin 1 and another for the uppermost bin. For the intermediate bins the factor varies exponentially from bin 1 to the uppermost bin, such that the "sensitivity" of the filter can decrease with increasing distance from the instrument.

vi) A de-spiking filter similar to that described in v) can be selected that operates vertically between bins instead of temporally between ensembles, but here only one factor is specified.

vii) A separate de-spiking filter (similar to that described in v)) can be set for the vertical velocity component, w. Also here only one factor is specified.

viii) Finally, an absolute maximum threshold can be set for Pitch and Roll.

In the final process, all the thresholds and filters are combined and applied to the velocity components u, v and w. In the data files this corresponds to the Speed, Direction and Vertical velocity files. 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. Generally, the temperature recordings have been edited, but not the other ADCP sensor data nor intensity or correlation.

The instrument depth at site NWFB is found from the MicroCat pressure measurements. The instrument depths at sites NWFC, IFRF and IFRF are found using the data from the echo sounding depth (corrected for change in sound velocity). The instrument depth at site NWNB is found from the ADCP pressure measurements.

Auxiliary data

In order to calibrate the data from the auxiliary sensors, these have been attached to a CTD and set to record data while on the CTD cast. Offsets have then been found by comparing the auxiliary data to the CTD recordings. Typically such calibrations have been performed just prior to or after the deployment, and if done this is indicated in the details for the deployment. Additionally, the data from the MicroCat SBE37 and the SBE39 and SBE56 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.

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 and threshold settings for the deployment, and it 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 M2, S2, N2, O1, and K1. 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 MicroCat data are presented on two pages, the first page showing plots of temperature, salinity, oxygen and depth time series, while the second is a T-S and a T-Ox diagram of the recorded data.

The SBE39 and SBE56 temperature data are presented on one page.

On the following pages, the data descriptions from each deployment are presented in the same sequence as Tables 1 and 2. For each deployment, the ADCP data are presented first, followed by possible MicroCat or temperature recorder data.
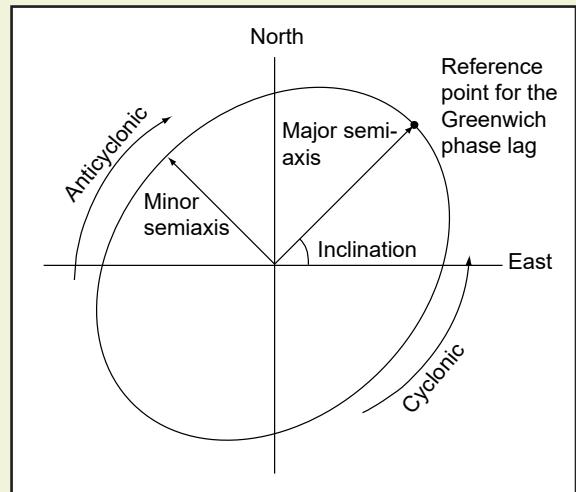
Figure 2. Parameters of the tidal ellipse for a given constituent. The reference point for the Greenwich phase lag is always chosen to be above the east-west axis.

NWFB2106

Latitude: 61°25.037'N
Longitude: 008°17.007'W
Echo sounding depth: 816 m
Bottom depth corr.: 803 m
Time of deployment: 12/6 - 2021 2156 UTC
Time of recovery: 14/5 - 2022 0550 UTC

ADCP:

Instrument no.: RDI ADCP 1642
Instrument frequency: 75 kHz
Height above bottom: 6 m
Depth: 797 m
Time of first data: 12/6 - 2021 2240 UTC
Time of last data: 14/5 - 2022 0500 UTC
Sample interval: 20 min
No. of ensembles: 24140
Pings per ens.:   1
Binlength: 25 m
Depth of first bin: 761 m
No. of bins: 18
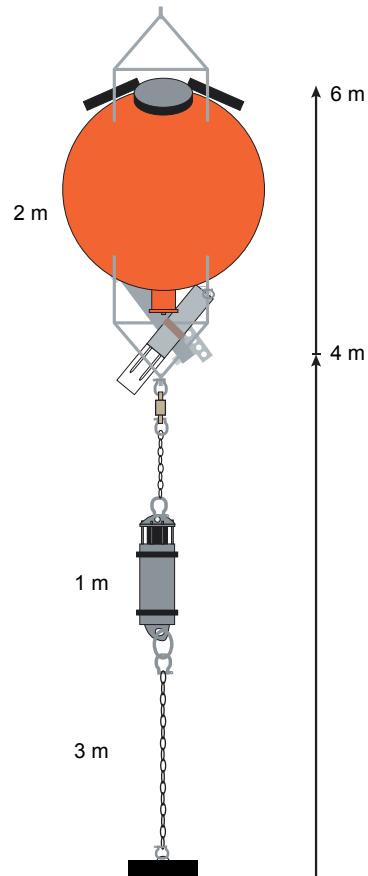
MicroCat

Instrument no.: 14007
Height above bottom: 4 m
Instrument depth: 799 m
Time of first data: 13/6 - 2021 0002 UTC
Time of last data: 14/5 - 2022 0502 UTC
Sample interval: 60 min
No. of ensembles: 8046

SBE56

Instrument no.: 06503
Height above bottom: 4 m
Instrument depth: 799 m
Time of first data: 12/6 - 2021 2207 UTC
Time of last data: 14/5 - 2022 0508 UTC
Sample interval: 1 min
No. of ensembles: 482822

Data:

The MicroCat was factury calibrated prior to deployment, but not calibrated after deployment. The salinity data seem to have a drift at the end of the deployment. The oxygen data have the usual hysteresis in the beginning of the deployment.
The SBE56 is calibrated against an SBE911+ CTD prior to deployment.

NWFB2106 ADCP 1642

```
Error statistics for deployment: NWFB2106 updated 2022/11/14
-----------------------------------------------------------


Temperature not edited
Surface distance not edited
Heading, pitch and roll not edited
Intensity not edited


Velocity (spd, dir, wel) is error flagged using these data filters:
Minimum Intensity threshold: 59.0
Minimum Correlation threshold: 64.0
Maximum Speed factor (Average speed for each bin times factor): 5.0
Maximum Absolute Vertical Velocity threshold: 150.0
Maximum Absolute Error Velocity threshold (erv_tr+0.1*spd): 150.0
Std dev for de-spiking (u, v deviate from 3 point median by more than number of std dev, bin 1): 5.00
Std dev for de-spiking (u, v deviate from 3 point median by more than number of std dev, bin 18): 3.86
Std dev for de-spiking (u, v deviate from 3 point median by more than number of std dev, bin 32): 2.00
Std dev for vertical de-spiking (u and v deviate from 3 point median by more than number of std dev): 4.0
Std dev for de-spiking (w deviates from 3 point median by more than number of std dev): 4.0


Total number of  ensembles:       24140
Interval between ensembles:      20 min
Original number of bins:            32
Number of acceptable velocity bins:  18


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 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      0   148    1|  125    11     0     0     0     0     0     0     0     0
  2      0   315    1|  293     9     1     0     0     0     0     0     0     0
  3      0   225    1|  206     8     1     0     0     0     0     0     0     0
  4      0   185    1|  171     7     0     0     0     0     0     0     0     0
  5      0   230    1|  175    18     3     1     1     0     0     0     0     0
  6      0   416    2|  196    25    11     6     5     6     3     0     0     0
  7      0   485    2|  253    23     9     2     7     4     2     1     1     0
  8      0   448    2|  262    36    12     5     1     4     0     1     0     0
  9      0   385    2|  265    26    11     1     0     2     1     0     0     0
 10      0   378    2|  258    32     6     4     1     2     0     0     0     0
 11      0   322    1|  242    30     5     1     0     0     0     0     0     0
 12      0   303    1|  236    16     6     4     0     0     0     0     0     0
 13      0   268    1|  214    16     2     0     1     1     0     0     0     0
 14      0   358    1|  230    16     6     4     3     2     2     0     0     0
 15      0   876    4|  366    60    24     7     6    14     5     2     1     0
 16      0  2101    9|  505   100    61    27    24    43    23     8     2     1
 17      0  4956   21|  613   184   106    45    48    83    76    25    13     4
 18      0  8866   37|  724   214    97    71    43   132    66    54    39    23
```

NWFB2106 ADCP 1642

```
Deployment: NWFB2106 updated 2022/11/14
Instrument no.:  1642
Instrument freq.:  75
Latitude: 61 25.037 N
Longitude:08 17.007 W
Bottom depth:  803
Instrument depth:  797
Center depth of first bin:  761
Bin length:  25
Number of bins:  18
Number of first ensemble:    333
Time of first ensemble: 2021 06 12 22 40
Number of last ensemble:   24472
Time of last ensemble:  2022 05 14 05 00
Time between ensembles (min.):    20
All directions have been corrected by adding:  -5.0
```

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	761	42	953	948	305	994
2	736	67	1017	1012	308	987
3	711	92	1041	1037	310	991
4	686	117	1044	1040	311	992
5	661	142	1031	1026	312	990
6	636	167	989	983	313	983
7	611	192	898	887	315	980
8	586	217	748	728	318	981
9	561	242	581	539	320	984
10	536	267	435	361	323	984
11	511	292	330	228	325	987
12	486	317	266	139	326	987
13	461	342	232	84	328	989
14	436	367	215	51	335	985
15	411	392	205	30	352	964
16	386	417	201	24	26	913
17	361	442	199	32	46	795
18	336	467	199	43	54	633

NWFB2106 ADCP 1642

```
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|  761|  994  994  994  993  988  974  945  850  654  387  159   41    7    1    0    0    0    0
  2|  736|  987  987  987  986  982  973  956  907  781  568  307  102   20    2    0    0    0    0
  3|  711|  991  991  991  990  985  978  962  922  818  634  383  148   31    2    0    0    0    0
  4|  686|  992  992  992  990  986  978  961  923  823  644  394  157   31    3    0    0    0    0
  5|  661|  990  990  988  985  979  970  951  903  791  616  374  144   31    3    0    0    0    0
  6|  636|  981  979  975  970  962  944  906  829  701  529  315  117   25    2    0    0    0    0
  7|  611|  976  969  959  941  909  857  781  680  545  389  215   75   15    1    0    0    0    0
  8|  586|  970  936  888  831  765  682  586  479  355  226  110   31    6    1    0    0    0    0
  9|  561|  948  862  759  657  566  475  374  271  179   96   34    8    2    0    0    0    0    0
 10|  536|  924  767  607  476  366  267  186  112   58   23    5    1    0    0    0    0    0    0
 11|  511|  893  678  461  306  199  121   66   29    9    2    0    0    0    0    0    0    0    0
 12|  486|  860  594  343  181   92   45   17    5    1    0    0    0    0    0    0    0    0    0
 13|  461|  842  535  260  110   44   15    4    1    0    0    0    0    0    0    0    0    0    0
 14|  436|  822  489  210   73   23    7    1    0    0    0    0    0    0    0    0    0    0    0
 15|  411|  795  450  184   56   15    4    1    0    0    0    0    0    0    0    0    0    0    0
 16|  386|  751  418  161   45   11    3    0    0    0    0    0    0    0    0    0    0    0    0
 17|  361|  650  357  136   37    8    2    0    0    0    0    0    0    0    0    0    0    0    0
 18|  336|  518  284  106   29    6    1    0    0    0    0    0    0    0    0    0    0    0    0
```

NWFB2106 ADCP 1642

Harmonic constants for constituent M2 for deployment NWFB2106.

```
================================================================================
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    761      29      63      20     330      29      20     177     245  A
 02    736      34      68      21     328      34      20     171     254  A
 03    711      34      77      21     329      35      19     165     265  A
 04    686      33      87      18     329      34      15     162     275  A
 05    661      31     100      16     312      34       8     156     285  A
 06    636      33     121      16     288      37       3     154     298  C
 07    611      40     146      18     274      42      14     162     320  C
 08    586      45     176      18     255      45      17       5     178  C
 09    561      54     209      27     199      60       4      26     207  A
 10    536      67     234      54     176      76      40      33     215  A
 11    511      74     247      78     172      86      65      52     203  A
 12    486      77     253      92     173      95      74      69     190  A
 13    461      78     258      97     175      99      76      76     186  A
 14    436      77     263     101     176     101      77      83     181  A
 15    411      75     267     101     179     101      75      86     181  A
 16    386      72     270     100     182     100      72      87     184  A
 17    361      72     275     100     183     100      72      92     182  A
 18    336      73     276      96     185      96      73      92     184  A
```

Harmonic constants for constituent S2 for deployment NWFB2106.

```
================================================================================
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    761      12      89      12      16      14      10      53      45  A
 02    736      13      99      13      13      14      12      38      63  A
 03    711      13     111      13      14      14      12     139     329  A
 04    686      10     129      10       6      12       6     136     337  A
 05    661      10     158       7     353      12       1     148     342  A
 06    636      16     179       5     339      17       2     164     357  C
 07    611      22     198       6     331      22       4     170      16  C
 08    586      25     215       4     326      25       3     177      34  C
 09    561      28     236       7     176      28       6       7     235  A
 10    536      30     259      19     187      30      17      16     250  A
 11    511      29     276      28     197      31      25      40     242  A
 12    486      28     286      34     201      35      27      80     209  A
 13    461      27     289      35     206      35      27      78     215  A
 14    436      25     294      36     211      36      25      80     217  A
 15    411      24     300      35     217      35      24      81     223  A
 16    386      23     305      33     221      33      22      82     226  A
 17    361      21     316      29     226      29      21      90     226  A
 18    336      23     328      27     226      28      21     114     207  A
```

NWFB2106 ADCP 1642

NWFB2106 ADCP 1642

Harmonic constants for constituent N2 for deployment NWFB2106.

```
================================================================================
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     761       7       58       8      296      10       5      123    278   A
02     736       8       63       8      297      10       5      138    268   A
03     711       9       65       6      297      10       4      153    257   A
04     686      11       73       6      292      12       3      156    260   A
05     661      12       83       5      291      13       2      159    267   A
06     636      12      101       6      268      13       1      156    278   C
07     611      15      120       8      265      17       4      155    293   C
08     586      16      137       8      288      18       3      156    312   C
09     561      15      163       2      356      15       0      172    343   A
10     536      15      196       9      122      16       8       12    190   A
11     511      18      212      18      138      20      16       46    174   A
12     486      18      220      24      146      25      16       69    160   A
13     461      15      234      24      151      24      15       83    156   A
14     436      13      248      24      157      24      13       91    157   A
15     411      14      261      26      163      26      14       96    160   A
16     386      14      266      26      165      26      13       98    161   A
17     361      11      260      26      170      26      11       90    169   A
18     336      10      290      27      174      27       9      100    171   A
```

Harmonic constants for constituent O1 for deployment NWFB2106.

```
================================================================================
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     761      20      326       8      146      22       0      159    146   C
02     736      22      326      10      147      24       0      156    147   A
03     711      22      326      12      147      25       0      151    146   A
04     686      22      327      13      149      25       0      149    148   A
05     661      24      328      15      148      28       0      148    148   A
06     636      29      329      18      148      34       0      147    149   C
07     611      35      337      25      152      43       2      145    155   C
08     586      37      347      31      158      48       4      140    163   C
09     561      34      355      32      161      46       6      137    168   C
10     536      25        1      30      167      38       5      129    173   C
11     511      16       13      24      172      29       5      123    178   C
12     486      15       27      19      180      23       6      126    189   C
13     461      14       35      16      189      20       5      130    200   C
14     436      13       37      15      190      19       4      132    202   C
15     411      12       36      14      186      18       5      131    199   C
16     386      11       40      15      185      17       5      124    196   C
17     361      11       59      14      194      16       7      125    210   C
18     336       9       60      13      181      14       7      120    197   C
```

NWFB2106 ADCP 1642

Harmonic constants for constituent K1 for deployment NWFB2106.

```
===============================================================================
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     761      21      218      12      39      24       0      151      38   A
02     736      24      218      14      36      28       0      150      38   C
03     711      24      219      17      38      29       0      146      39   C
04     686      23      220      17      46      29       1      144      42   A
05     661      26      224      18      49      31       1      145      45   A
06     636      31      230      20      52      37       0      147      51   A
07     611      35      236      25      57      43       0      144      57   A
08     586      35      242      33      59      48       1      137      61   C
09     561      31      248      33      63      45       2      133      65   C
10     536      24      255      30      64      38       3      129      69   C
11     511      17      262      29      59      33       6      119      64   C
12     486      14      269      26      62      28       5      117      68   C
13     461      14      269      22      65      26       5      120      71   C
14     436      13      275      20      64      24       6      122      73   C
15     411      15      276      18      65      23       6      130      78   C
16     386      17      276      16      64      22       6      138      81   C
17     361      17      282      12      57      19       7      148      88   C
18     336      18      291      14      48      20      12      150      93   C
```

NWFB2106 MicroCat 14007
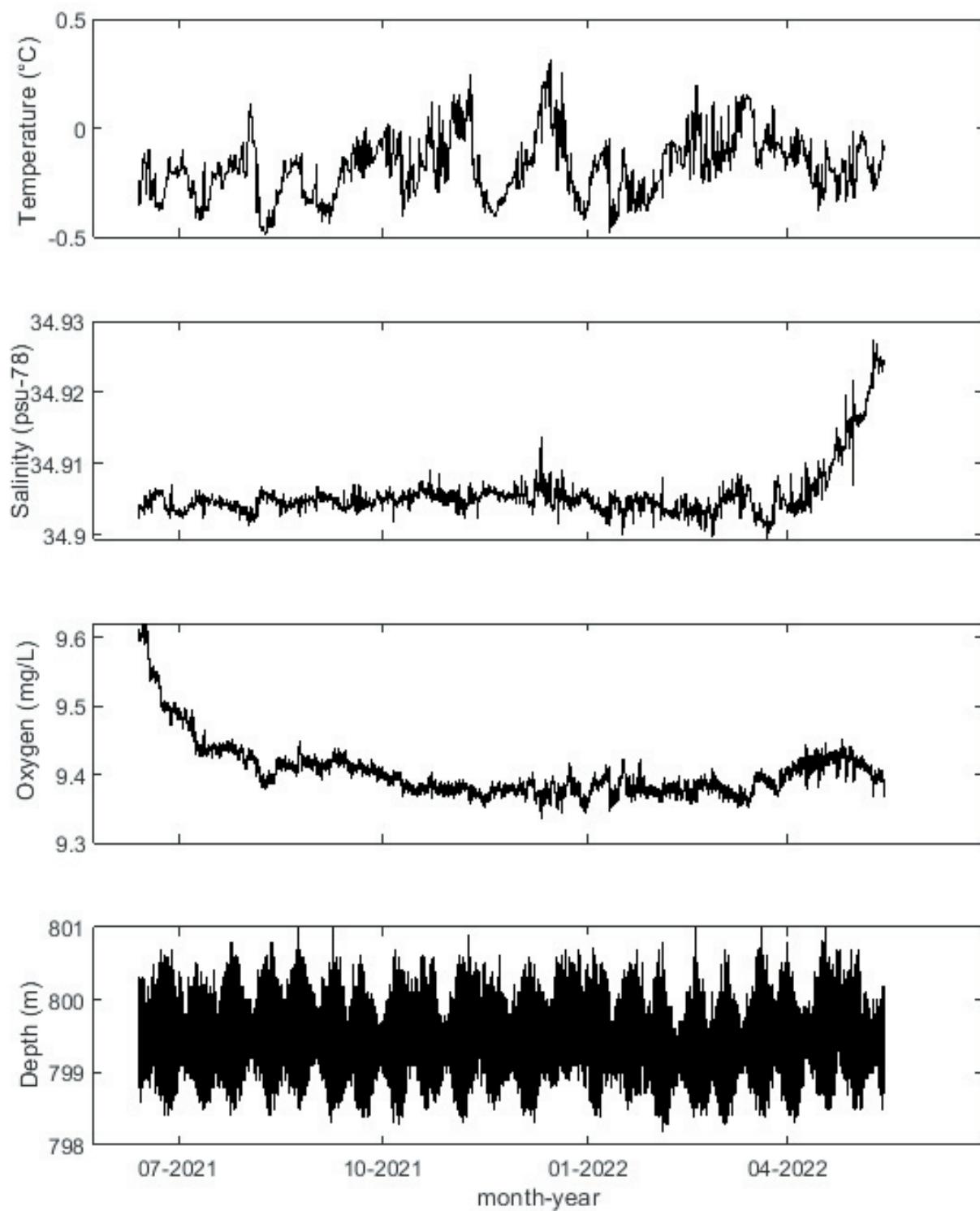
NWFB2106 MicroCat 14007
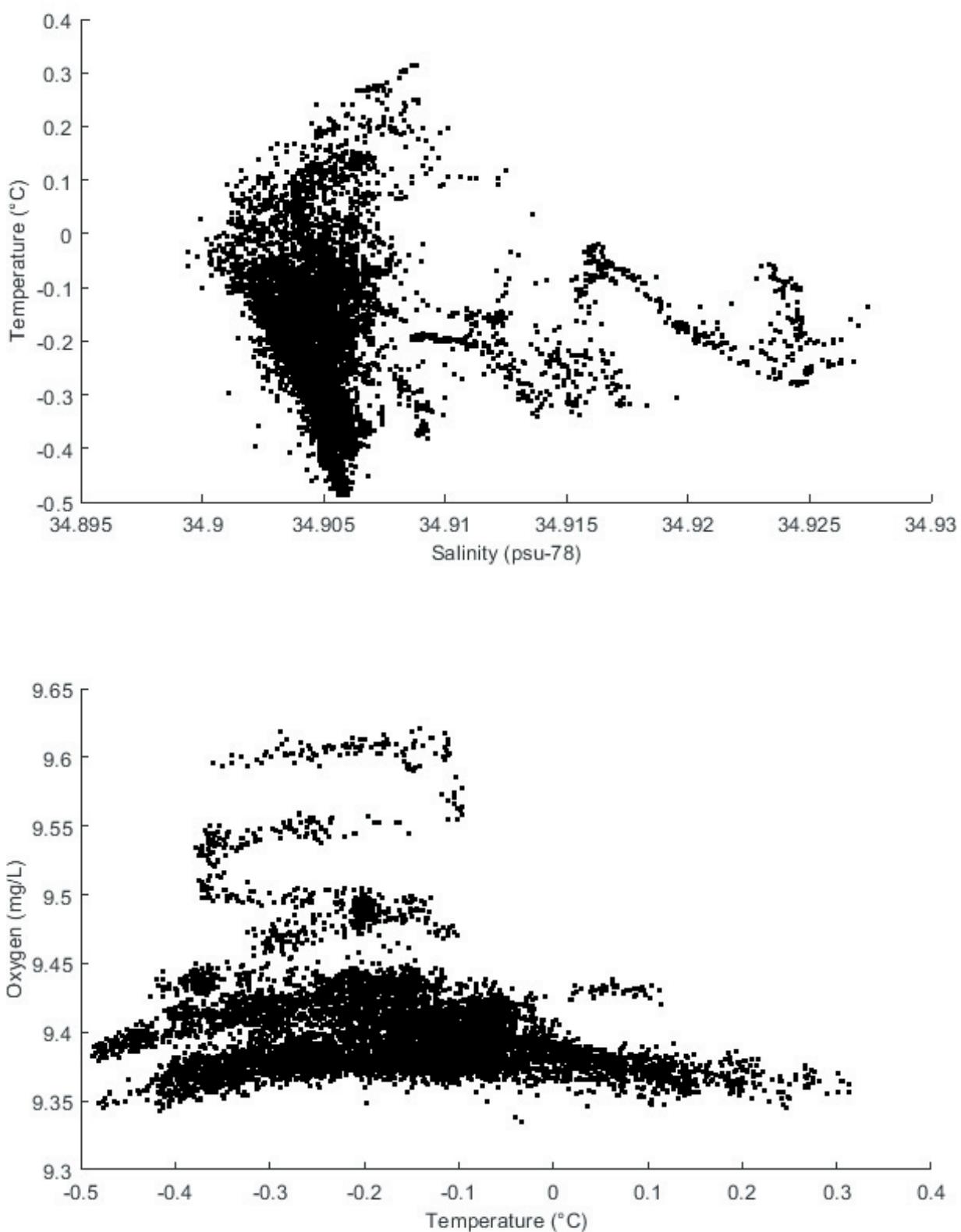
NWFB2106 SBE56 06503
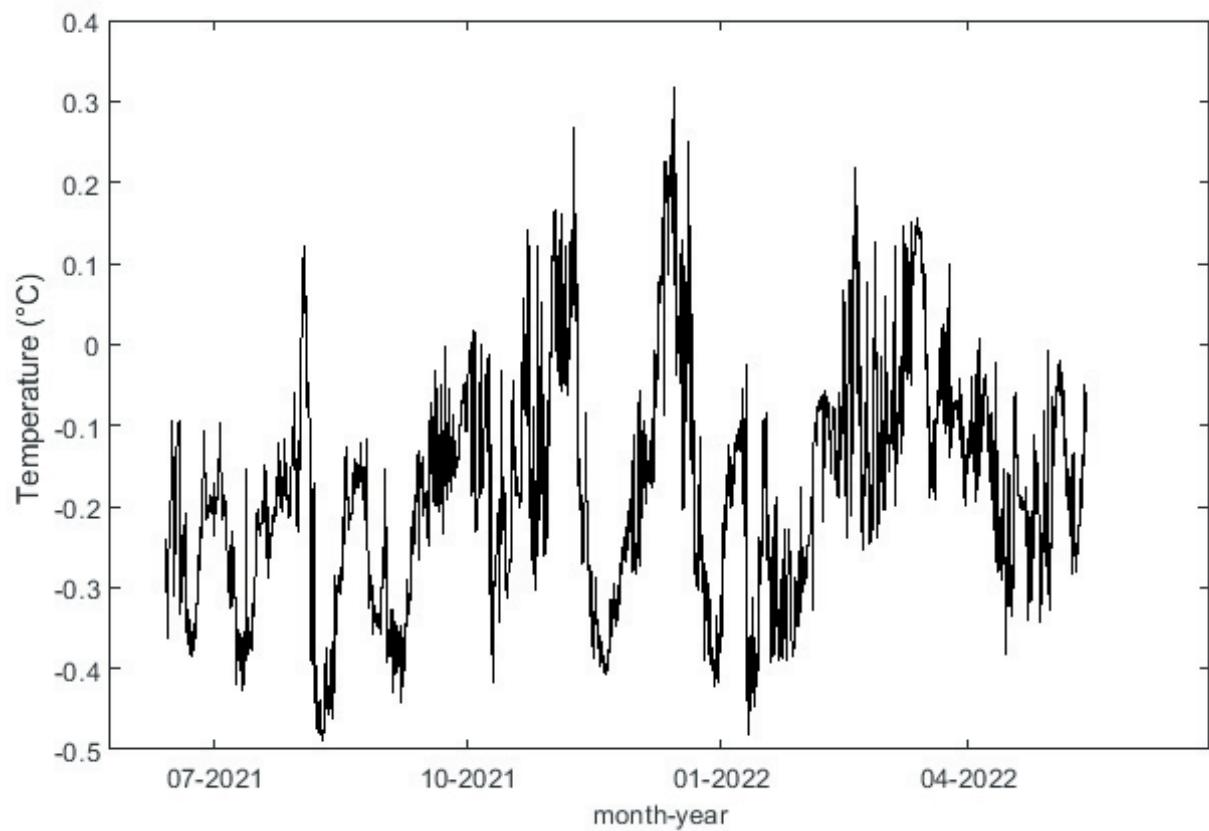
NWFC2106

Latitude: 61°23.555'N

Longitude: 008°18.700´W

Echo sounding depth: 838 m

Bottom depth corr.: 829 m

Time of deployment: 12/6 - 2021 2240 UTC

Time of recovery: 14/5 - 2022 0707 UTC

ADCP:

Instrument no.: RDI ADCP 1285

Instrument frequency: 75 kHz

Height above bottom: 6 m

Depth: 823 m

Time of first data: 12/6 - 2021 2340 UTC

Time of last data: 14/5 - 2022 0600 UTC

Sample interval: 20 min

No. of ensembles: 24140

Pings per ens.: 1

Binlength: 25 m

Depth of first bin: 787 m

No. of bins: 24
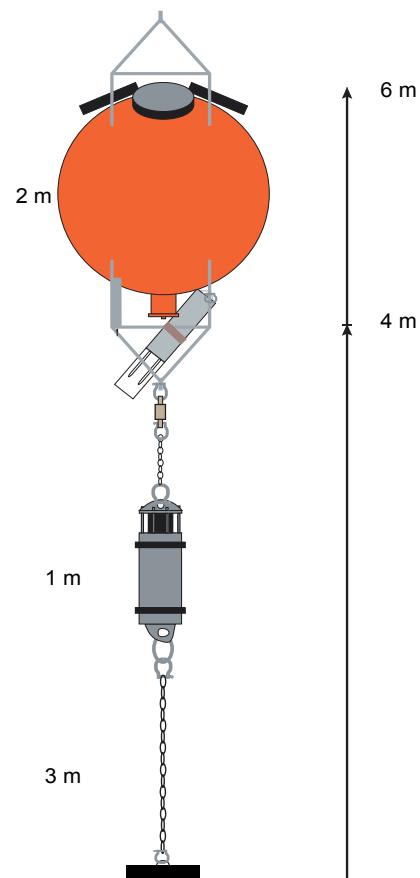
SBE39plus

Instrument no.: 7752

Height above bottom: 4 m

Instrument depth: 825 m

Time of first data: 12/6 - 2021 2253 UTC

Time of last data: 14/5 - 2022 0620 UTC

Sample interval: 1 min

No. of ensembles: 482848

Data:

All data ok.

NWFC2106 ADCP 1285

```
Error statistics for deployment: NWFC2106 updated 2022/11/16
-----------------------------------------------------------------


Temperature not edited
Surface distance not edited
Heading, pitch and roll not edited
Intensity not edited

Velocity (spd, dir, wel) is error flagged using these data filters:
Minimum Correlation threshold: 60.0
Maximum Speed factor (Average speed for each bin times factor): 5.0
Std dev for de-spiking (u, v deviate from 3 point median by more than number of std dev, bin 1): 4.00
Std dev for de-spiking (u, v deviate from 3 point median by more than number of std dev, bin 24): 2.74
Std dev for de-spiking (u, v deviate from 3 point median by more than number of std dev, bin 32): 2.00


Total number of  ensembles:      24140
Interval between ensembles:      20 min
Original number of bins:            32
Number of acceptable velocity bins:  24

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 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     0   218    1|  160    18     6     1     0     0     0     0     0     0
  2     0   211    1|  161    14     6     1     0     0     0     0     0     0
  3     0   304    1|  228    23     7     1     1     0     0     0     0     0
  4     0   877    4|  519    99    33     7     4     2     0     0     0     0
  5     0  1591    7|  794   203    59    26     9     9     0     0     0     0
  6     0  1705    7|  832   188    60    35     8    18     1     0     0     0
  7     0  1238    5|  620   138    53    23     5    10     0     0     0     0
  8     0   803    3|  429    91    28    12     5     5     0     0     0     0
  9     0   638    3|  347    84    17     9     2     4     0     0     0     0
 10     0   564    2|  329    60    26     4     3     1     0     0     0     0
 11     0   441    2|  292    47    14     1     0     1     0     0     0     0
 12     0   364    2|  276    34     4     2     0     0     0     0     0     0
 13     0   361    1|  304    21     5     0     0     0     0     0     0     0
 14     0   429    2|  344    33     5     1     0     0     0     0     0     0
 15     0   497    2|  374    43     2     1     2     2     0     0     0     0
 16     0   565    2|  417    53    10     3     0     0     0     0     0     0
 17     0   673    3|  460    59    11     5     0     4     1     0     0     0
 18     0   777    3|  488    69    27     3     6     2     1     0     0     0
 19     0  1230    5|  602   115    33    16     7    17     3     1     0     0
 20     0  2349   10|  701   168    61    36    25    45    23     6     1     0
 21     0  4205   17|  865   208    65    39    29    77    48    22    16     0
 22     0  6813   28|  947   244   100    65    52   104    64    36    28    11
 23     0  9709   40|  935   281    99    97    52   123    79    63    31    28
 24     0 12247   51|  899   296   115    78    72   147   108    46    57    38
```

NWFC2106 ADCP 1285

```
Deployment: NWFC2106 updated 2022/11/16
Instrument no.:  1285
Instrument freq.:  75
Latitude: 61 23.555 N
Longitude:08 18.700 W
Bottom depth:  829
Instrument depth:  823
Center depth of first bin:  787
Bin length:  25
Number of bins:  24
Number of first ensemble:    336
Time of first ensemble: 2021 06 12 23 40
Number of last ensemble:   24475
Time of last ensemble:  2022 05 14 06 00
Time between ensembles (min.):   20
All directions have been corrected by adding:  -5.0
```

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	787	42	1003	992	303	991
2	762	67	1071	1061	305	991
3	737	92	1087	1077	307	987
4	712	117	1073	1064	308	964
5	687	142	1032	1022	309	934
6	662	167	929	915	309	929
7	637	192	749	712	312	949
8	612	217	555	470	315	967
9	587	242	397	260	320	974
10	562	267	295	112	332	977
11	537	292	240	38	19	982
12	512	317	215	45	90	985
13	487	342	205	68	108	985
14	462	367	201	82	114	982
15	437	392	202	92	118	979
16	412	417	202	97	120	977
17	387	442	204	101	122	972
18	362	467	206	104	123	968
19	337	492	207	106	124	949
20	312	517	208	107	124	903
21	287	542	210	109	124	826
22	262	567	211	109	124	718
23	237	592	210	110	123	598
24	212	617	207	108	123	493

NWFC2106 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|  787|  991  991  990  988  984  975  950  881  734  515  289  118   32    7    2    0    0    0
  2|  762|  991  991  990  989  986  979  967  931  849  688  464  220   65   11    1    0    0    0
  3|  737|  987  987  986  985  983  975  964  934  866  721  507  259   77   12    1    0    0    0
  4|  712|  964  963  961  960  955  946  932  900  825  674  470  234   68   10    1    0    0    0
  5|  687|  933  930  925  920  910  894  869  812  715  582  407  208   63   10    1    0    0    0
  6|  662|  923  910  892  870  835  793  735  659  565  455  310  164   54   10    1    0    0    0
  7|  637|  921  861  797  740  686  625  554  477  380  280  182   92   31    6    1    0    0    0
  8|  612|  904  782  666  569  488  413  346  273  197  131   72   31    9    2    0    0    0    0
  9|  587|  882  686  500  374  293  229  171  119   72   38   15    5    1    0    0    0    0    0
 10|  562|  849  593  365  228  149  100   61   30   13    5    2    0    0    0    0    0    0    0
 11|  537|  830  527  267  127   65   34   15    5    1    0    0    0    0    0    0    0    0    0
 12|  512|  818  483  211   77   28    8    2    0    0    0    0    0    0    0    0    0    0    0
 13|  487|  812  465  185   54   14    3    1    0    0    0    0    0    0    0    0    0    0    0
 14|  462|  803  455  175   48   11    2    0    0    0    0    0    0    0    0    0    0    0    0
 15|  437|  806  449  172   48   10    2    0    0    0    0    0    0    0    0    0    0    0    0
 16|  412|  807  451  175   49   10    2    0    0    0    0    0    0    0    0    0    0    0    0
 17|  387|  805  453  177   53   11    2    0    0    0    0    0    0    0    0    0    0    0    0
 18|  362|  804  455  179   57   14    3    1    0    0    0    0    0    0    0    0    0    0    0
 19|  337|  789  451  178   60   15    3    1    0    0    0    0    0    0    0    0    0    0    0
 20|  312|  751  430  174   59   16    3    1    0    0    0    0    0    0    0    0    0    0    0
 21|  287|  688  395  163   59   18    3    1    0    0    0    0    0    0    0    0    0    0    0
 22|  262|  599  339  144   55   17    4    1    0    0    0    0    0    0    0    0    0    0    0
 23|  237|  492  280  121   47   14    4    1    0    0    0    0    0    0    0    0    0    0    0
 24|  212|  401  226   95   36   11    3    1    0    0    0    0    0    0    0    0    0    0    0
```

NWFC2106 ADCP 1285

Harmonic constants for constituent M2 for deployment NWFC2106.
```
===============================================================================
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    787      12      82      17     306      20       7     123     293  A
 02    762      13      76      18     302      21       8     122     288  A
 03    737      15      70      21     296      24      10     121     283  A
 04    712      14      67      26     297      28      10     113     288  A
 05    687      19      95      30     303      34       8     121     296  A
 06    662      39     123      41     319      56       8     134     311  A
 07    637      59     139      44     326      74       4     143     321  A
 08    612      58     153      25     331      63       1     157     333  C
 09    587      50     183      13     148      51       7      12     181  A
 10    562      51     217      44     155      58      34      36     193  A
 11    537      58     241      68     159      69      57      69     176  A
 12    512      64     250      78     163      78      64      84     167  A
 13    487      67     257      84     167      84      67      89     168  A
 14    462      67     263      87     173      87      67      91     172  A
 15    437      66     271      90     180      90      66      91     179  A
 16    412      66     276      91     184      91      66      93     182  A
 17    387      68     280      93     188      93      68      94     185  A
 18    362      69     285      94     191      94      68      95     188  A
 19    337      69     288      93     194      93      69      97     190  A
 20    312      70     291      93     197      94      69      97     191  A
 21    287      70     293      96     199      97      69      97     193  A
 22    262      71     294      95     201      95      71      95     197  A
 23    237      72     293      93     201      93      72      94     198  A
 24    212      70     295      92     204      92      70      92     202  A
```

Harmonic constants for constituent S2 for deployment NWFC2106.
```
===============================================================================
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    787       6     135       5     347       8       2     141     328  A
 02    762       5     130       4     354       6       2     146     324  A
 03    737       6     126       5     340       7       2     139     321  A
 04    712       8     135       7     343      10       2     140     327  A
 05    687      12     148      10       1      15       4     143     340  A
 06    662      21     159      13     358      25       4     149     344  A
 07    637      25     172      14      19      28       6     152     358  A
 08    612      22     194       9      44      23       4     159      18  A
 09    587      17     221       8     110      18       7     169      46  A
 10    562      17     246      13     161      17      13      10     238  A
 11    537      19     264      20     176      21      19      78     187  A
 12    512      20     273      25     188      25      20      79     197  A
 13    487      21     285      30     195      30      21      89     196  A
 14    462      22     297      33     205      33      22      91     205  A
 15    437      21     308      35     213      35      21      94     211  A
 16    412      20     314      36     218      36      19      94     216  A
 17    387      19     323      36     221      36      19      99     216  A
 18    362      20     328      36     226      36      19      99     221  A
 19    337      20     335      36     227      37      18     103     221  A
 20    312      19     338      35     230      36      18     103     224  A
 21    287      22     340      35     236      35      21     103     228  A
 22    262      21     344      32     241      32      20     104     232  A
 23    237      22     346      32     240      33      21     109     228  A
 24    212      26     348      29     240      32      22     124     215  A
```

NWFC2106 ADCP 1285

Harmonic constants for constituent N2 for deployment NWFC2106.

```
=====================================================================================
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    787       3      88       7     274       7       0     117     273  A
 02    762       4      77       6     261       7       0     120     260  A
 03    737       3      49       8     257       8       1     112     252  A
 04    712       2      76       8     263       9       0     104     262  A
 05    687       5      97      10     281      11       0     115     280  A
 06    662      13     112      18     302      22       2     127     298  A
 07    637      23     120      22     308      31       2     136     304  A
 08    612      20     115      14     302      24       2     145     297  A
 09    587      17     146       3      16      17       2     174     326  A
 10    562      17     167      11     119      19       8      30     154  A
 11    537      18     186      16     118      20      13      40     157  A
 12    512      14     195      19     130      20      12      62     148  A
 13    487      12     213      20     144      20      11      72     154  A
 14    462      11     232      20     152      20      11      82     157  A
 15    437      11     241      21     158      21      11      85     160  A
 16    412      11     253      21     162      21      11      91     161  A
 17    387      11     256      23     165      23      11      90     165  A
 18    362      12     261      23     168      23      12      92     167  A
 19    337      13     265      25     171      25      13      93     170  A
 20    312      12     268      25     174      25      12      93     173  A
 21    287      14     271      23     176      23      14      95     173  A
 22    262      11     272      23     171      23      11      97     168  A
 23    237      12     261      21     173      21      12      88     174  A
 24    212      10     258      19     163      19      10      93     162  A
```

Harmonic constants for constituent O1 for deployment NWFC2106.

```
=====================================================================================
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    787      10     333      15     151      18       0     124     151  C
 02    762       9     341      15     151      18       1     120     154  C
 03    737       9     342      16     153      19       1     118     155  C
 04    712      10     342      18     161      20       0     120     161  C
 05    687      19     343      21     166      28       1     132     165  A
 06    662      35     347      31     170      46       1     139     168  A
 07    637      46     353      37     173      59       0     141     173  C
 08    612      43     357      39     180      58       2     138     178  A
 09    587      32       2      34     181      47       0     133     181  C
 10    562      25       5      25     185      35       0     135     185  A
 11    537      18       9      18     189      25       0     134     189  C
 12    512      14      15      16     193      21       0     130     194  C
 13    487      13      18      16     194      21       1     128     195  C
 14    462      13      18      18     195      22       1     126     196  C
 15    437      13      16      18     193      22       1     126     194  C
 16    412      12      19      18     192      22       1     125     194  C
 17    387      11      20      19     195      22       1     119     196  C
 18    362      12      22      19     199      23       1     122     200  C
 19    337      13      23      18     200      22       1     125     201  C
 20    312      14      21      18     203      23       0     127     202  A
 21    287      16      28      20     208      25       0     129     208  C
 22    262      19      31      18     212      26       0     136     211  A
 23    237      17      41      16     220      23       0     138     220  C
 24    212      19      41      17     221      25       0     139     221  C
```

NWFC2106 ADCP 1285

Harmonic constants for constituent K1 for deployment NWFC2106.

```
=============================================================================
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    787      11     241      19      52      22       2     120      54   C
 02    762      11     235      20      51      23       1     118      52   C
 03    737      10     232      22      50      24       0     115      51   C
 04    712      10     244      22      53      24       2     113      54   C
 05    687      14     257      25      53      28       5     118      59   C
 06    662      28     253      30      63      41       4     133      67   C
 07    637      42     254      37      70      56       2     139      72   C
 08    612      42     261      38      75      57       3     138      78   C
 09    587      35     264      31      80      47       2     139      83   C
 10    562      28     266      25      82      38       1     138      84   C
 11    537      22     273      21      82      30       3     136      88   C
 12    512      17     274      19      79      26       3     132      86   C
 13    487      15     275      17      80      23       3     131      86   C
 14    462      14     273      16      78      21       3     132      85   C
 15    437      15     277      16      79      22       4     133      88   C
 16    412      15     279      18      78      23       4     130      87   C
 17    387      14     279      18      74      23       5     127      83   C
 18    362      15     276      19      68      23       5     127      79   C
 19    337      15     278      18      65      22       6     128      78   C
 20    312      16     273      19      65      24       6     130      76   C
 21    287      19     273      19      67      26       6     136      80   C
 22    262      18     273      19      77      26       4     134      85   C
 23    237      14     262      17      78      22       1     130      79   C
 24    212      11     252      16      86      19       2     126      81   A
```

NWFC2106 SBE39plus 7752
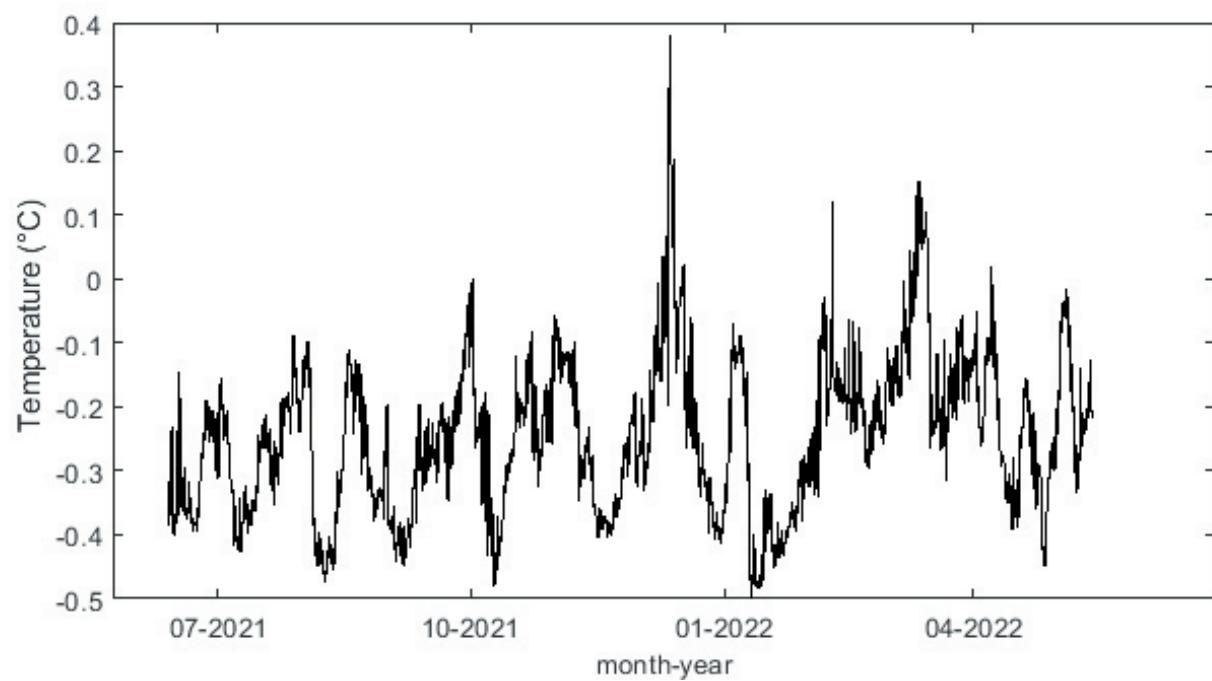
NWNB2106

Latitude: 62°54.981´N

Longitude: 006°05.094´W

Echo sound depth: 965 m

Bottom depth corr.: 963 m

Time of deployment: 14/6 - 2021 0056 UTC

Time of recovery: 16/5 - 2022 0823 UTC

ADCP:

Instrument no.: RDI ADCP 19518

Instrument frequency: 75 kHz

Height above bottom: 250 m

Depth: 713 m

Time of first data: 14/6 - 2021 0120 UTC

Time of last data: 16/5 - 2022 0620 UTC

Sample interval: 20 min

No. of ensembles: 24208

Pings per ens.: 10

Binlength: 10 m

Depth of first bin: 694 m

No. of bins: 64
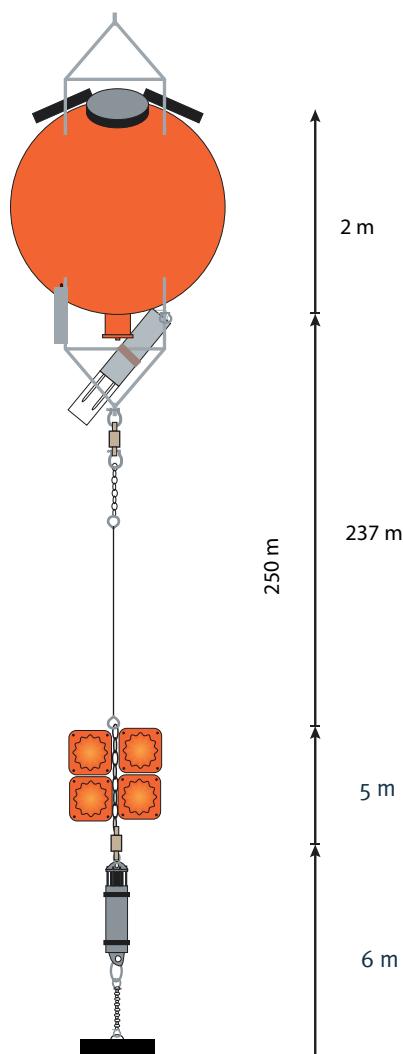
SBE56

Instrument no.: 06504

Height above bottom: 248 m

Instrument depth: 715 m

Time of first data: 14/6 - 2021 0104 UTC

Time of last data: 16/5 - 2022 0654 UTC

Sample interval: 1 min

No. of ensembles: 484191

Data:

All data ok.

The SBE56 is calibrated against an SBE911+ CTD prior to deployment.

NWNB2106 ADCP 19518

```
Error statistics for deployment: NWNB2106 updated 2022/11/18
----------------------------------------------------------------
Temperature not edited
Depth not edited
Surface distance not edited
Heading, pitch and roll not edited
Intensity not edited

Velocity (spd, dir, wel ) is error flagged using these data filters:
Minimum Intensity threshold: 63.0
Minimum Correlation threshold: 65.0
Maximum Speed factor (Average speed for each bin times factor): 6.0
Std dev for de-spiking (u, v deviate from 3 point median by more than number of std dev, bin 1): 4.00
Std dev for de-spiking (u, v deviate from 3 point median by more than number of std dev, bin 64): 3.12
Std dev for de-spiking (u, v deviate from 3 point median by more than number of std dev, bin 70): 3.00

Total number of  ensembles:       24208
Interval between ensembles:      20 min
Original number of bins:            70
Number of acceptable velocity bins:  64

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:         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    0     81   0|   75     3     0     0     0     0     0     0     0     0
  2    0     89   0|   87     1     0     0     0     0     0     0     0     0
  3    0     94   0|   82     6     0     0     0     0     0     0     0     0
  4    0     91   0|   75     8     0     0     0     0     0     0     0     0
  5    0     84   0|   75     3     1     0     0     0     0     0     0     0
  6    0     95   0|   85     5     0     0     0     0     0     0     0     0
  7    0    105   0|   92     5     1     0     0     0     0     0     0     0
  8    0    104   0|   84    10     0     0     0     0     0     0     0     0
  9    0    103   0|   93     5     0     0     0     0     0     0     0     0
 10    0     97   0|   76     9     1     0     0     0     0     0     0     0
 11    0    125   1|  109     8     0     0     0     0     0     0     0     0
 12    0    117   0|   95    11     0     0     0     0     0     0     0     0
 13    0    122   1|  103     8     0     0     0     0     0     0     0     0
 14    0    107   0|   94     5     1     0     0     0     0     0     0     0
 15    0    133   1|  121     6     0     0     0     0     0     0     0     0
 16    0    129   1|   99    15     0     0     0     0     0     0     0     0
 17    0    135   1|  115    10     0     0     0     0     0     0     0     0
 18    0    152   1|  122     9     4     0     0     0     0     0     0     0
 19    0    151   1|  135     8     0     0     0     0     0     0     0     0
 20    0    143   1|  124     8     1     0     0     0     0     0     0     0
 21    0    166   1|  126    20     0     0     0     0     0     0     0     0
 22    0    141   1|  127     7     0     0     0     0     0     0     0     0
 23    0    163   1|  149     7     0     0     0     0     0     0     0     0
 24    0    179   1|  143    18     0     0     0     0     0     0     0     0
 25    0    183   1|  155    11     2     0     0     0     0     0     0     0
 26    0    200   1|  164    18     0     0     0     0     0     0     0     0
 27    0    186   1|  157    13     1     0     0     0     0     0     0     0
 28    0    204   1|  176    12     0     1     0     0     0     0     0     0
 29    0    205   1|  164    17     1     1     0     0     0     0     0     0
 30    0    223   1|  182    19     1     0     0     0     0     0     0     0
 31    0    229   1|  185    17     2     1     0     0     0     0     0     0
 32    0    230   1|  192    14     2     1     0     0     0     0     0     0
 33    0    240   1|  190    21     1     0     1     0     0     0     0     0
 34    0    230   1|  191    15     3     0     0     0     0     0     0     0
 35    0    254   1|  202    23     2     0     0     0     0     0     0     0
 36    0    258   1|  209    21     1     1     0     0     0     0     0     0
 37    0    260   1|  206    21     4     0     0     0     0     0     0     0
 38    0    306   1|  244    25     4     0     0     0     0     0     0     0
 39    0    293   1|  229    26     4     0     0     0     0     0     0     0
 40    0    301   1|  245    24     0     2     0     0     0     0     0     0
 41    0    297   1|  224    32     0     0     0     1     0     0     0     0
 42    0    360   1|  263    37     4     1     0     1     0     0     0     0
 43    0    378   2|  244    37    11     3     1     1     0     0     0     0
 44    0    377   2|  228    30     6     3     2     4     2     0     0     0
 45    0    497   2|  234    38     7     8     3    11     3     0     0     0
 46    0    666   3|  204    38    19    13     5    17     7     1     0     0
 47    0    889   4|  154    32    19    12    11    21     8     8     1     0
 48    0   1297   5|  139    54    21    18     8    32    20     8     4     0
 49    0   1753   7|  114    57    27    20    14    34    20    12    12     0
 50    0   2163   9|   90    33    36    15    16    37    30     8    22     0
 51    0   2622  11|  114    49    34    18    13    35    28    20    25     0
 52    0   3125  13|  115    50    38    25    17    40    32    23    30     0
 53    0   3625  15|  121    54    44    21    15    54    36    22    37     1
 54    0   4157  17|   90    40    45    21    15    59    34    38    37     6
 55    0   4675  19|  103    57    40    20    17    43    56    39    38     9
 56    0   5299  22|  116    59    38    28    19    54    69    39    41    11
 57    0   5923  24|  123    70    41    23    15    56    69    42    49    16
 58    0   6653  27|  127    80    42    23    28    56    72    50    49    24
 59    0   7509  31|  137    73    57    26    26    52    80    47    66    27
 60    0   8278  34|  135    68    42    35    20    49    84    45    75    33
 61    0   9014  37|  159    61    33    27    13    67    62    57    75    39
 62    0   9771  40|  149    68    42    25    14    54    63    49    79    49
 63    0  10538  44|  130    69    37    29    25    52    52    49    88    44
 64    0  10729  44|  161    46    33    18    15    52    54    57    83    39
```

NWNB2106 ADCP 19518

```
Deployment: NWNB2106 updated 2022/11/18
Instrument no.: 19518
Instrument freq.:  75
Latitude: 62 54.981 N
Longitude:06 05.094 W
Bottom depth:  963
Instrument depth:  713
Center depth of first bin:  694
Bin length:  10
Number of bins:  64
Number of first ensemble:    476
Time of first ensemble: 2021 06 14 01 20
Number of last ensemble:   24683
Time of last ensemble:  2022 05 16 06 20
Time between ensembles (min.):    20
All directions have been corrected by adding:  -4.0
```

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	694	269	138	38	96	997
2	684	279	139	37	96	996
3	674	289	138	36	96	996
4	664	299	138	35	96	996
5	654	309	137	34	95	997
6	644	319	136	32	95	996
7	634	329	136	31	95	996
8	624	339	135	30	96	996
9	614	349	135	29	96	996
10	604	359	135	28	97	996
11	594	369	134	27	99	995
12	584	379	134	26	98	995
13	574	389	134	26	97	995
14	564	399	134	25	97	996
15	554	409	136	25	100	995
16	544	419	136	24	100	995
17	534	429	137	25	101	994
18	524	439	138	26	103	994
19	514	449	138	26	103	994
20	504	459	139	28	105	994
21	494	469	141	29	106	993
22	484	479	142	32	108	994
23	474	489	144	36	109	993
24	464	499	147	39	110	993
25	454	509	150	44	110	992
26	444	519	153	48	110	992
27	434	529	157	53	111	992
28	424	539	161	60	112	992
29	414	549	164	67	112	992
30	404	559	168	73	113	991
31	394	569	172	79	113	991
32	384	579	178	87	113	990
33	374	589	184	96	113	990
34	364	599	192	104	113	990
35	354	609	199	113	113	990
36	344	619	206	121	113	989
37	334	629	214	132	114	989
38	324	639	222	141	114	987
39	314	649	230	152	114	988
40	304	659	238	160	114	988
41	294	669	247	170	114	988
42	284	679	256	180	114	985
43	274	689	265	190	115	984
44	264	699	274	199	115	984
45	254	709	282	208	115	979
46	244	719	290	216	115	972
47	234	729	298	224	115	963
48	224	739	306	231	115	946
49	214	749	313	239	115	928
50	204	759	320	245	115	911
51	194	769	326	252	115	892
52	184	779	331	257	115	871
53	174	789	336	262	115	850
54	164	799	340	266	115	828
55	154	809	344	270	116	807
56	144	819	347	273	116	781
57	134	829	350	277	116	755
58	124	839	354	280	116	725
59	114	849	355	281	117	690
60	104	859	357	283	117	658
61	94	869	359	283	117	628
62	84	879	359	282	117	596
63	74	889	359	281	117	565
64	64	899	346	266	116	557

NWNB2106 ADCP 19518

```
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|  694| 621  195   52   14    4    1    0    0    0    0    0    0    0    0    0    0    0    0
  2|  684| 622  199   50   14    4    0    0    0    0    0    0    0    0    0    0    0    0    0
  3|  674| 616  197   49   13    3    1    0    0    0    0    0    0    0    0    0    0    0    0
  4|  664| 612  196   49   13    3    1    0    0    0    0    0    0    0    0    0    0    0    0
  5|  654| 609  196   48   13    3    0    0    0    0    0    0    0    0    0    0    0    0    0
  6|  644| 611  192   47   11    3    0    0    0    0    0    0    0    0    0    0    0    0    0
  7|  634| 609  191   45   11    2    0    0    0    0    0    0    0    0    0    0    0    0    0
  8|  624| 611  188   43   10    2    0    0    0    0    0    0    0    0    0    0    0    0    0
  9|  614| 606  184   43   10    2    0    0    0    0    0    0    0    0    0    0    0    0    0
 10|  604| 608  184   42    9    2    0    0    0    0    0    0    0    0    0    0    0    0    0
 11|  594| 609  178   41    9    2    0    0    0    0    0    0    0    0    0    0    0    0    0
 12|  584| 611  182   40    8    2    0    0    0    0    0    0    0    0    0    0    0    0    0
 13|  574| 612  181   40    7    2    0    0    0    0    0    0    0    0    0    0    0    0    0
 14|  564| 613  181   39    8    1    0    0    0    0    0    0    0    0    0    0    0    0    0
 15|  554| 622  188   39    8    1    0    0    0    0    0    0    0    0    0    0    0    0    0
 16|  544| 625  191   40    7    1    0    0    0    0    0    0    0    0    0    0    0    0    0
 17|  534| 631  193   40    7    1    0    0    0    0    0    0    0    0    0    0    0    0    0
 18|  524| 638  195   40    6    1    0    0    0    0    0    0    0    0    0    0    0    0    0
 19|  514| 640  197   40    6    1    0    0    0    0    0    0    0    0    0    0    0    0    0
 20|  504| 641  201   40    6    1    0    0    0    0    0    0    0    0    0    0    0    0    0
 21|  494| 653  207   43    6    0    0    0    0    0    0    0    0    0    0    0    0    0    0
 22|  484| 658  213   44    7    0    0    0    0    0    0    0    0    0    0    0    0    0    0
 23|  474| 668  216   45    7    1    0    0    0    0    0    0    0    0    0    0    0    0    0
 24|  464| 673  232   50    8    1    0    0    0    0    0    0    0    0    0    0    0    0    0
 25|  454| 683  248   56   10    0    0    0    0    0    0    0    0    0    0    0    0    0    0
 26|  444| 696  259   64   12    1    0    0    0    0    0    0    0    0    0    0    0    0    0
 27|  434| 708  273   72   14    1    0    0    0    0    0    0    0    0    0    0    0    0    0
 28|  424| 716  283   78   17    2    0    0    0    0    0    0    0    0    0    0    0    0    0
 29|  414| 728  300   86   19    3    0    0    0    0    0    0    0    0    0    0    0    0    0
 30|  404| 740  316   96   22    3    0    0    0    0    0    0    0    0    0    0    0    0    0
 31|  394| 745  334  107   23    3    0    0    0    0    0    0    0    0    0    0    0    0    0
 32|  384| 758  361  123   32    4    0    0    0    0    0    0    0    0    0    0    0    0    0
 33|  374| 767  384  139   37    5    0    0    0    0    0    0    0    0    0    0    0    0    0
 34|  364| 783  412  158   46    8    1    0    0    0    0    0    0    0    0    0    0    0    0
 35|  354| 797  441  178   54   11    1    0    0    0    0    0    0    0    0    0    0    0    0
 36|  344| 809  470  197   64   12    1    0    0    0    0    0    0    0    0    0    0    0    0
 37|  334| 820  495  221   74   16    1    0    0    0    0    0    0    0    0    0    0    0    0
 38|  324| 835  519  245   86   15    2    0    0    0    0    0    0    0    0    0    0    0    0
 39|  314| 848  543  270   97   20    3    0    0    0    0    0    0    0    0    0    0    0    0
 40|  304| 859  570  290  111   25    4    0    0    0    0    0    0    0    0    0    0    0    0
 41|  294| 874  602  317  121   32    5    1    0    0    0    0    0    0    0    0    0    0    0
 42|  284| 881  626  345  137   37    7    1    0    0    0    0    0    0    0    0    0    0    0
 43|  274| 892  650  372  154   42    9    2    0    0    0    0    0    0    0    0    0    0    0
 44|  264| 901  673  401  175   50   12    2    0    0  100  120  130  140    0    0    0    0    0
 45|  254| 900  688  421  192   60   15    3    0    0    0    0    0    0    0    0    0    0    0
 46|  244| 900  697  436  211   71   17    4    0    0    0    0    0    0    0    0    0    0    0
 47|  234| 895  706  457  226   82   22    5    1    0    0    0    0    0    0    0    0    0    0
 48|  224| 886  708  466  242   93   26    6    1    0    0    0    0    0    0    0    0    0    0
 49|  214| 872  704  473  252  104   33    8    1    0    0    0  210    0    0    0    0    0    0
 50|  204| 854  701  478  264  112   39   10    2    0    0    0    0    0    0    0    0    0    0
 51|  194| 840  691  479  271  121   44   12    3    0    0    0    0    0    0    0    0    0    0
 52|  184| 822  685  479  276  127   49   14    4    1    0    0    0    0    0    0    0    0    0
 53|  174| 804  671  475  277  130   54   18    4    1    0    0    0    0    0    0    0    0    0
 54|  164| 786  659  468  277  131   56   19    5    1    0    0    0    0    0    0    0    0    0
 55|  154| 765  643  461  281  138   60   22    6    1    0    0    0    0    0    0    0    0    0
 56|  144| 742  624  450  276  137   60   23    6    1    0    0    0    0    0    0    0    0    0
 57|  134| 716  608  440  272  140   63   25    7    1    0    0    0    0    0    0    0    0    0
 58|  124| 689  585  426  266  139   65   25    8    1    0    0    0    0    0    0    0    0    0
 59|  114| 655  559  409  255  134   62   26    7    1    0    0    0    0    0    0    0    0    0
 60|  104| 629  535  391  245  129   61   25    8    2    0    0    0    0    0    0    0    0    0
 61|   94| 599  512  375  235  124   60   26    9    2    0    0    0    0    0    0    0    0    0
 62|   84| 568  484  357  221  119   56   26    9    3    1    0    0    0    0    0    0    0    0
 63|   74| 537  458  335  211  112   54   24   10    3    1    0    0    0    0    0    0    0    0
 64|   64| 526  436  309  188  102   52   25   10    3    1    0    0    0    0    0    0    0    0
```

NWNB2106 ADCP 19518

Harmonic constants for constituent M2 for deployment NWNB2106.

```
======================================================================
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     694      71     252      53     113      83      29     145      86   A
02     684      72     252      53     113      84      30     146      86   A
03     674      72     254      53     114      84      29     146      87   A
04     664      73     254      53     115      85      30     147      87   A
05     654      73     256      51     116      85      29     148      88   A
06     644      74     257      51     118      85      30     149      89   A
07     634      75     257      51     120      85      31     149      89   A
08     624      76     259      51     122      86      30     150      91   A
09     614      77     260      50     125      86      31     151      92   A
10     604      79     261      49     127      88      32     153      91   A
11     594      80     262      50     130      88      34     153      92   A
12     584      82     262      49     132      89      34     155      93   A
13     574      83     264      49     135      90      36     156      94   A
14     564      85     265      49     137      91      36     157      95   A
15     554      88     266      50     141      93      38     158      96   A
16     544      89     268      49     144      94      39     159      97   A
17     534      91     269      49     148      96      40     161      97   A
18     524      93     271      49     150      97      40     162      99   A
19     514      94     273      48     155      98      41     164     100   A
20     504      97     274      47     160      99      42     166     100   A
21     494      99     276      47     166     101      43     168     101   A
22     484     101     279      45     171     102      43     170     103   A
23     474     102     281      46     177     103      44     172     105   A
24     464     105     284      48     183     105      46     174     106   A
25     454     108     286      49     189     108      49     176     107   A
26     444     111     287      51     194     111      51     178     108   A
27     434     114     290      53     199     114      53     179     110   A
28     424     116     292      53     205     116      53       2     291   A
29     414     117     295      55     211     117      55       4     293   A
30     404     117     297      57     216     117      56       6     294   A
31     394     118     299      59     221     118      57       8     296   A
32     384     120     302      60     224     120      59       8     298   A
33     374     122     304      64     228     124      61      10     299   A
34     364     125     306      69     232     127      65      12     300   A
35     354     128     308      72     236     130      67      14     300   A
36     344     129     310      76     239     133      70      15     302   A
37     334     129     311      78     241     133      71      16     303   A
38     324     129     313      78     243     133      71      17     303   A
39     314     128     314      78     245     132      70      18     304   A
40     304     128     315      79     247     132      71      18     305   A
41     294     127     316      80     248     132      71      19     306   A
42     284     127     317      80     250     132      71      19     306   A
43     274     127     319      81     252     133      71      20     308   A
44     264     127     320      83     253     133      73      21     309   A
45     254     128     322      86     255     135      75      22     309   A
46     244     130     323      88     256     137      76      22     310   A
47     234     132     323      90     257     139      78      23     310   A
48     224     134     324      91     257     141      79      22     311   A
49     214     135     324      93     257     142      82      23     311   A
50     204     138     324      94     256     144      84      21     312   A
51     194     138     325      97     255     144      87      22     311   A
52     184     138     325      97     257     145      86      23     311   A
53     174     138     325     100     257     146      87      25     310   A
54     164     140     325     102     257     148      89      24     310   A
55     154     140     325     102     257     148      90      25     310   A
56     144     137     326     101     258     145      88      25     310   A
57     134     137     326     101     259     146      88      26     310   A
58     124     135     326     101     258     144      87      26     309   A
59     114     134     326     101     259     144      86      27     309   A
60     104     132     325     101     259     142      85      28     308   A
61      94     129     325     103     258     140      87      30     305   A
62      84     128     323     101     257     139      86      29     304   A
63      74     129     323     102     258     141      85      30     304   A
64      64     122     322      88     257     131      75      26     306   A
```

NWNB2106 ADCP 19518

Harmonic constants for constituent S2 for deployment NWNB2106.

```
=========================================================================
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     694      32     295      20     177      34      17     158     126   A
02     684      31     295      20     176      33      16     157     127   A
03     674      31     296      19     174      33      15     157     127   A
04     664      31     296      19     177      33      15     158     127   A
05     654      30     298      18     180      32      15     159     128   A
06     644      30     297      18     181      32      15     161     127   A
07     634      30     299      17     181      32      14     161     128   A
08     624      30     299      16     182      31      14     163     127   A
09     614      30     301      17     183      32      14     161     129   A
10     604      30     301      16     184      31      14     162     129   A
11     594      30     303      16     187      31      14     163     131   A
12     584      30     303      16     189      31      14     164     131   A
13     574      30     304      16     189      31      14     164     132   A
14     564      30     303      15     190      31      14     166     130   A
15     554      31     305      16     191      32      14     165     132   A
16     544      32     306      16     197      33      15     168     132   A
17     534      33     309      15     203      33      15     171     133   A
18     524      34     312      15     209      34      15     173     134   A
19     514      34     313      16     210      34      15     173     137   A
20     504      35     313      16     210      35      15     173     136   A
21     494      35     314      16     212      35      16     173     137   A
22     484      34     316      15     214      34      15     174     138   A
23     474      33     320      15     217      33      14     173     143   A
24     464      34     322      14     224      34      14     176     143   A
25     454      34     324      14     233      34      14     180     144   A
26     444      34     328      12     238      34      12       0     328   A
27     434      35     331      12     247      35      12       2     330   A
28     424      35     335      13     257      35      12       5     333   A
29     414      36     336      14     261      37      14       7     334   A
30     404      37     338      16     264      38      16       8     335   A
31     394      37     340      17     266      37      16      10     335   A
32     384      37     342      19     270      38      18      11     337   A
33     374      37     344      21     277      38      19      17     335   A
34     364      37     346      21     280      38      19      18     337   A
35     354      38     348      22     284      39      19      19     338   A
36     344      39     350      23     289      41      19      21     340   A
37     334      40     352      24     290      42      20      20     342   A
38     324      40     354      25     294      42      20      23     342   A
39     314      39     356      24     293      41      20      22     344   A
40     304      40     355      24     295      42      20      23     344   A
41     294      39     355      23     298      42      19      23     345   A
42     284      39     355      24     299      42      18      24     344   A
43     274      39     357      25     303      43      19      26     345   A
44     264      41     359      27     302      44      21      26     346   A
45     254      41       0      28     301      44      22      27     346   A
46     244      42       1      29     301      46      23      26     347   A
47     234      43       2      28     300      45      23      23     350   A
48     224      42       2      27     300      45      23      23     350   A
49     214      41       3      28     304      45      22      27     349   A
50     204      42       2      29     306      46      22      28     348   A
51     194      42       5      30     306      46      23      29     350   A
52     184      43       4      31     306      47      24      30     348   A
53     174      45       3      31     307      49      24      27     350   A
54     164      44       6      32     308      48      24      29     350   A
55     154      44       5      32     308      49      24      29     350   A
56     144      41       3      32     311      47      22      33     346   A
57     134      40       2      31     310      46      21      34     344   A
58     124      39     358      32     312      46      19      37     341   A
59     114      37     359      31     315      45      18      39     342   A
60     104      34       0      32     316      44      18      43     340   A
61      94      36       7      31     316      43      20      39     346   A
62      84      36       9      31     315      43      21      39     347   A
63      74      41       4      32     312      47      22      34     347   A
64      64      41       2      29     308      45      21      30     347   A
```

NWNB2106 ADCP 19518

Harmonic constants for constituent N2 for deployment NWNB2106.

```
==================================================================================
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      694      10     201      14      62      16       6     123      49   A
02      684      11     201      13      65      16       6     127      49   A
03      674      12     203      14      66      17       6     128      49   A
04      664      12     208      14      67      17       6     131      50   A
05      654      12     208      14      70      17       7     129      53   A
06      644      12     209      14      74      17       7     129      55   A
07      634      13     209      14      78      17       8     134      55   A
08      624      15     215      15      80      19       8     134      58   A
09      614      15     213      15      78      19       8     135      55   A
10      604      16     211      16      84      20      10     136      57   A
11      594      16     214      17      83      21       9     131      61   A
12      584      16     213      17      83      21      10     133      59   A
13      574      16     214      17      84      21      10     133      60   A
14      564      18     215      18      88      22      11     135      61   A
15      554      19     215      17      95      23      13     141      60   A
16      544      20     218      18     101      23      14     142      63   A
17      534      22     223      19     108      25      16     145      66   A
18      524      23     228      19     112      26      15     149      67   A
19      514      25     231      19     115      27      16     151      69   A
20      504      26     233      19     117      28      16     152      70   A
21      494      28     235      20     123      29      17     156      70   A
22      484      28     239      20     126      30      18     156      74   A
23      474      29     243      21     134      30      19     158      77   A
24      464      28     245      21     138      30      19     156      81   A
25      454      29     250      19     143      30      18     162      81   A
26      444      28     256      18     150      28      17     165      85   A
27      434      27     258      16     153      27      15     167      86   A
28      424      27     262      15     156      27      14     167      89   A
29      414      25     263      13     159      25      13     170      88   A
30      404      22     264      10     160      23      10     172      88   A
31      394      21     269       8     161      21       7     172      92   A
32      384      20     274       6     177      20       6     178      95   A
33      374      21     278       7     191      21       7       1     278   A
34      364      22     278       8     195      22       8       3     277   A
35      354      23     278       9     198      23       9       5     276   A
36      344      24     280      10     208      24      10       9     276   A
37      334      25     286      11     219      26      10      12     281   A
38      324      26     290      13     224      27      12      15     283   A
39      314      27     294      15     223      28      14      14     287   A
40      304      29     296      16     223      30      15      13     289   A
41      294      30     296      16     224      31      15      13     289   A
42      284      30     298      17     229      31      16      15     291   A
43      274      32     299      18     229      33      17      15     291   A
44      264      32     300      20     229      33      18      16     291   A
45      254      32     301      20     230      33      18      16     292   A
46      244      33     303      21     230      33      20      17     293   A
47      234      34     303      23     232      35      20      20     291   A
48      224      34     303      25     232      35      22      23     289   A
49      214      35     304      25     234      37      22      23     290   A
50      204      35     302      26     234      37      22      24     287   A
51      194      35     306      25     237      37      22      22     293   A
52      184      37     307      27     239      40      24      24     292   A
53      174      39     310      29     238      41      26      24     294   A
54      164      38     309      28     234      40      26      21     295   A
55      154      39     311      30     233      40      28      19     297   A
56      144      37     309      26     235      38      25      20     296   A
57      134      36     309      28     233      37      26      20     295   A
58      124      35     306      29     234      37      26      30     285   A
59      114      37     309      30     231      38      28      22     292   A
60      104      36     315      26     229      36      26       6     310   A
61       94      37     313      26     227      37      26       5     309   A
62       84      40     314      29     229      41      28       7     309   A
63       74      42     317      31     227      42      31     179     138   A
64       64      45     312      31     227      45      31       7     307   A
```

NWNB2106 ADCP 19518

```
Harmonic constants for constituent O1 for deployment NWNB2106.
=================================================================================
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     694       4      51       3     265       5       1     147     241  A
02     684       4      47       3     253       5       1     144     236  A
03     674       4      45       3     265       5       2     142     241  A
04     664       4      35       4     261       5       2     134     238  A
05     654       3      40       3     256       4       1     133     239  A
06     644       4      32       2     250       4       1     148     223  A
07     634       4      38       2     255       4       1     150     228  A
08     624       4      49       2     244       5       1     151     233  A
09     614       5      49       3     249       6       1     149     235  A
10     604       4      50       3     225       5       0     145     229  C
11     594       5      43       3     253       5       1     151     231  A
12     584       4      43       4     250       5       1     138     235  A
13     574       4      42       4     249       5       1     139     234  A
14     564       4      42       3     248       5       1     142     232  A
15     554       4      36       3     246       4       1     147     225  A
16     544       4      35       4     238       5       1     135     227  A
17     534       4      29       3     234       5       1     150     215  A
18     524       5      31       4     227       6       1     143     217  A
19     514       5      26       5     224       7       1     135     215  A
20     504       5      26       4     227       7       1     141     214  A
21     494       5      27       4     244       6       2     145     220  A
22     484       6      23       4     244       7       2     148     215  A
23     474       6      29       3     248       7       2     155     217  A
24     464       6      28       3     251       7       2     160     213  A
25     454       7      32       4     251       7       2     154     219  A
26     444       7      35       4     248       8       2     156     221  A
27     434       7      38       4     248       8       2     153     224  A
28     424       7      37       4     249       8       2     156     223  A
29     414       7      39       5     256       8       2     149     230  A
30     404       8      39       6     257       9       3     146     231  A
31     394       8      33       5     246      10       3     149     222  A
32     384       9      36       6     246      11       3     146     226  A
33     374       9      32       6     248      10       3     148     222  A
34     364       9      32       6     253      10       3     151     222  A
35     354       9      29       4     257      10       3     161     215  A
36     344      10      31       4     257      10       3     161     217  A
37     334      11      31       4     254      11       3     162     215  A
38     324      11      31       5     254      12       3     160     217  A
39     314      10      32       4     259      11       3     162     217  A
40     304      10      30       4     279      10       4     171     213  A
41     294      10      24       4     268      10       3     170     207  A
42     284      10      27       5     248      11       3     158     213  A
43     274       9      25       6     240      11       3     151     214  A
44     264       9      24       6     240      10       3     151     213  A
45     254      10      24       5     237      11       2     157     209  A
46     244      11      28       5     245      12       3     157     214  A
47     234      12      31       6     256      13       4     157     218  A
48     224      13      33       7     257      14       5     155     222  A
49     214      13      32       8     265      14       6     156     222  A
50     204      14      44       8     263      15       5     151     233  A
51     194      13      45      11     263      16       5     141     240  A
52     184      13      39      10     264      15       6     147     233  A
53     174      14      34      10     263      15       6     149     228  A
54     164      14      43      10     268      16       6     146     238  A
55     154      14      44      11     268      17       7     144     240  A
56     144      13      49      11     270      16       6     142     245  A
57     134      12      57      10     277      15       5     141     253  A
58     124      13      60      11     274      16       5     141     254  A
59     114      10      60      13     260      16       3     129     252  A
60     104      11      55      14     259      17       4     129     249  A
61      94      13      49      13     249      18       3     136     239  A
62      84      13      48      12     240      17       2     136     234  A
63      74      14      59      15     251      20       2     133     245  A
64      64      15      71      13     256      19       1     140     253  A
```

NWNB2106 ADCP 19518

Harmonic constants for constituent K1 for deployment NWNB2106.

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	694	4	262	4	138	5	3	137	108	A
02	684	4	253	4	141	5	3	138	104	A
03	674	4	259	4	137	5	2	133	110	A
04	664	5	255	4	137	5	3	151	92	A
05	654	5	255	4	144	5	3	147	99	A
06	644	5	255	3	150	5	3	161	88	A
07	634	5	258	3	144	5	3	162	88	A
08	624	5	262	4	161	5	4	161	96	A
09	614	5	258	4	161	5	4	152	102	A
10	604	5	259	4	160	5	3	169	86	A
11	594	5	257	3	145	5	3	159	89	A
12	584	6	249	4	148	6	4	164	81	A
13	574	5	254	4	139	6	4	150	93	A
14	564	5	261	4	137	6	3	147	100	A
15	554	6	260	4	139	6	3	155	92	A
16	544	6	261	3	122	6	2	156	88	A
17	534	5	259	3	125	6	2	156	88	A
18	524	6	263	3	152	6	3	166	90	A
19	514	6	267	3	159	6	3	167	94	A
20	504	7	266	3	165	7	3	174	89	A
21	494	8	271	4	140	8	3	158	99	A
22	484	8	261	4	155	8	4	167	88	A
23	474	9	255	5	139	9	4	161	85	A
24	464	8	259	5	142	9	4	158	90	A
25	454	9	258	6	142	10	5	158	90	A
26	444	9	258	6	144	10	5	156	92	A
27	434	10	257	6	137	10	5	158	87	A
28	424	10	263	5	144	10	4	163	90	A
29	414	10	270	4	160	10	4	170	94	A
30	404	10	276	4	176	10	4	176	98	A
31	394	10	277	2	174	10	2	176	98	A
32	384	10	274	1	180	10	1	180	94	A
33	374	10	268	2	148	10	2	174	89	A
34	364	11	265	4	137	11	3	168	88	A
35	354	11	266	4	137	11	3	165	90	A
36	344	11	269	5	136	12	3	163	94	A
37	334	11	269	5	141	12	4	163	95	A
38	324	13	268	5	146	13	5	166	93	A
39	314	14	263	6	142	15	5	166	88	A
40	304	15	259	6	137	15	5	166	83	A
41	294	15	262	6	128	16	4	163	87	A
42	284	15	266	6	141	16	5	167	90	A
43	274	16	269	7	157	16	6	169	94	A
44	264	16	274	7	160	16	6	169	98	A
45	254	17	274	7	166	17	7	171	98	A
46	244	16	274	9	167	16	8	168	100	A
47	234	17	276	8	159	17	7	165	102	A
48	224	18	273	8	158	19	7	167	98	A
49	214	19	274	9	155	20	8	165	100	A
50	204	20	274	11	156	20	9	162	102	A
51	194	21	278	13	151	23	10	155	109	A
52	184	22	273	13	150	23	10	159	102	A
53	174	23	273	14	151	24	11	157	104	A
54	164	23	282	15	145	26	9	151	113	A
55	154	23	285	16	140	27	8	148	116	A
56	144	22	290	17	141	27	7	145	120	A
57	134	22	295	15	141	26	5	146	124	A
58	124	21	296	15	140	25	5	145	124	A
59	114	24	296	16	139	29	5	147	123	A
60	104	25	299	17	151	30	8	147	128	A
61	94	26	298	17	151	30	8	149	127	A
62	84	28	294	17	154	32	10	152	124	A
63	74	28	293	23	154	34	13	143	128	A
64	64	22	289	19	142	28	8	139	123	A

NWNB2106 SBE56 06504
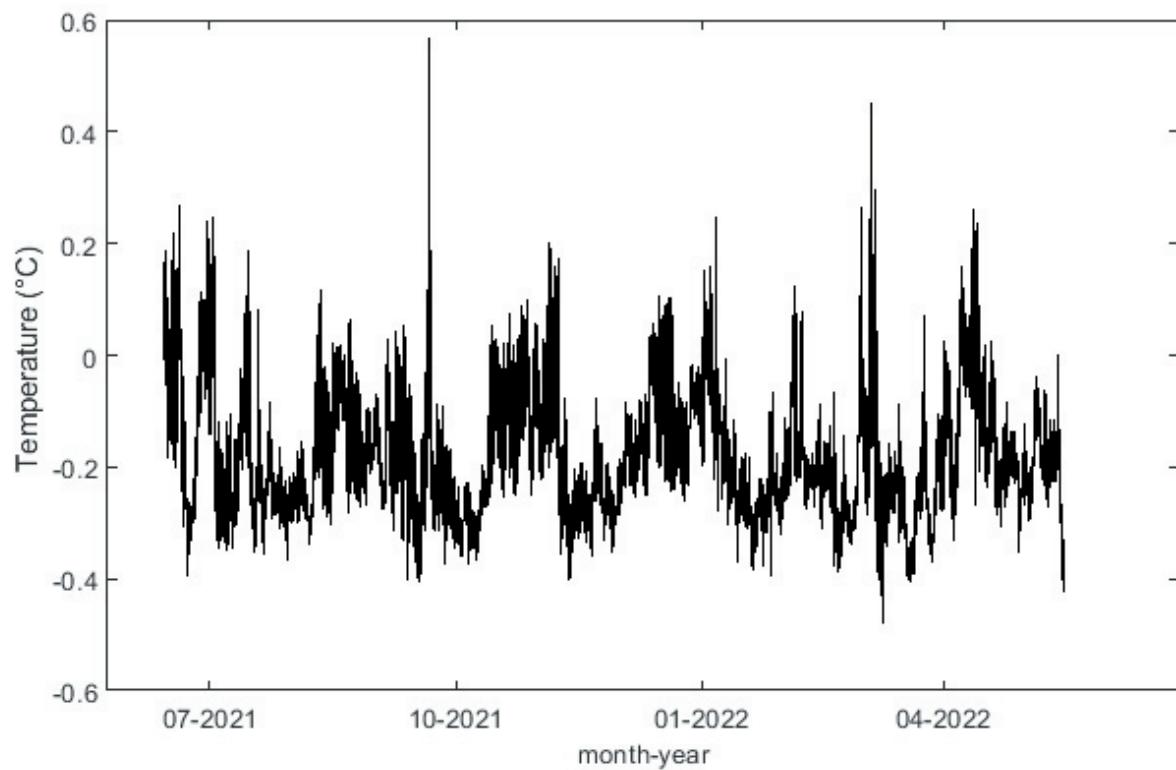
IFRF2106

Latitude: 63°22.493´N

Longitude: 011°07.371´W

Echo sound depth: 424 m

Bottom depth corr.: 424 m

Time of deployment: 15/6 - 2021 0014 UTC

Time of recovery: 15/5 - 2022 0700 UTC

ADCP:

Instrument no.: RDI ADCP 1279

Instrument frequency: 150 kHz

Height above bottom: 1 m

Depth: 423 m

Time of first data: 15/6 - 2021 0100 UTC

Time of last data: 15/5 - 2022 0620 UTC

Sample interval: 20 min

No. of ensembles: 24065

Pings per ens.: 1

Binlength: 10 m

Depth of first bin: 407 m

No. of bins: 30

HAV.FO

SBE56

Instrument no.: 06505

Height above bottom: 1 m

Instrument depth: 423 m

Time of first data: 15/6 - 2021 0031 UTC

Time of last data: 15/5 - 2022 0633 UTC

Sample interval: 1 min

No. of ensembles: 481323

Data:

All data ok.

IFRF2106 ADCP 1279

```
Error statistics for deployment: IFRD2005 updated 2022/11/11
-------------------------------------------------------------
Temperature edited
Surface distance not edited
Heading, pitch and roll not edited
Intensity not edited


Velocity (spd, dir, wel) is error flagged using these data filters:
Maximum Speed factor (Average speed for each bin times factor): 5.0
Maximum Absolute Error Velocity threshold (erv_tr+0.1*spd): 120.0
Std dev for de-spiking (u, v deviate from 3 point median by more than number of std dev, bin 1): 5.00
Std dev for de-spiking (u, v deviate from 3 point median by more than number of std dev, bin 30): 2.00
Std dev for de-spiking (u, v deviate from 3 point median by more than number of std dev, bin 30): 2.00


Total number of  ensembles:        24065
Interval between ensembles:        20 min
Original number of bins:             30
Number of acceptable velocity bins:  30


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 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	0	98	0	84	7	0	0	0	0	0	0	0	0
2	0	119	0	87	14	0	1	0	0	0	0	0	0
3	0	158	1	132	10	2	0	0	0	0	0	0	0
4	0	189	1	164	11	1	0	0	0	0	0	0	0
5	0	211	1	174	11	2	1	1	0	0	0	0	0
6	0	263	1	226	11	5	0	0	0	0	0	0	0
7	0	301	1	256	17	1	2	0	0	0	0	0	0
8	0	341	1	282	19	3	1	0	1	0	0	0	0
9	0	305	1	250	20	5	0	0	0	0	0	0	0
10	0	349	1	280	24	7	0	0	0	0	0	0	0
11	0	339	1	275	29	2	0	0	0	0	0	0	0
12	0	385	2	277	44	5	0	1	0	0	0	0	0
13	0	398	2	314	38	1	1	0	0	0	0	0	0
14	0	412	2	299	44	7	1	0	0	0	0	0	0
15	0	499	2	357	56	6	3	0	0	0	0	0	0
16	0	485	2	351	53	5	2	1	0	0	0	0	0
17	0	560	2	374	70	11	2	1	0	0	0	0	0
18	0	598	2	390	73	9	6	1	1	0	0	0	0
19	0	613	3	352	83	12	9	1	1	1	0	0	0
20	0	787	3	380	93	19	12	1	2	4	2	0	0
21	0	993	4	403	111	17	7	8	7	6	4	0	0
22	0	1322	5	376	115	29	25	6	15	14	6	1	0
23	0	1849	8	400	109	42	22	15	24	20	12	5	0
24	0	2517	10	408	125	51	25	28	29	27	17	11	0
25	0	3265	14	388	147	44	41	22	42	44	23	17	0
26	0	4111	17	447	143	54	39	21	54	39	32	31	0
27	0	5033	21	454	153	84	44	18	54	50	35	46	0
28	0	5950	25	501	189	87	41	24	60	59	32	63	1
29	0	7124	30	563	214	96	42	33	88	70	47	67	1
30	0	8511	35	639	235	111	48	38	87	83	59	78	5

IFRF2106 ADCP 1279

```
Deployment: IFRF2106 updated 2022/11/11
Instrument no.:  1279
Instrument freq.: 150
Latitude: 63 22.493 N
Longitude:11 07.371 W
Bottom depth:  424
Instrument depth:  423
Center depth of first bin:  407
Bin length:  10
Number of bins:  30
Number of first ensemble:    478
Time of first ensemble: 2021 06 15 01 00
Number of last ensemble:   24542
Time of last ensemble:  2022 05 15 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      Height      Speed       Vel       Dir       Good
                   m           m       mm/s      mm/s       deg        ppt
-------------------------------------------------------------------------------
         1        407          17        225       111       228        996
         2        397          27        237       122       231        995
         3        387          37        246       127       233        993
         4        377          47        256       131       234        992
         5        367          57        265       132       234        991
         6        357          67        274       133       234        989
         7        347          77        283       133       235        987
         8        337          87        293       132       235        986
         9        327          97        302       131       235        987
        10        317         107        311       127       236        985
        11        307         117        318       123       236        986
        12        297         127        324       117       236        984
        13        287         137        329       114       236        983
        14        277         147        334       110       237        983
        15        267         157        338       105       237        979
        16        257         167        342       102       236        980
        17        247         177        345        98       236        977
        18        237         187        349        95       236        975
        19        227         197        352        93       235        975
        20        217         207        354        90       235        967
        21        207         217        356        88       236        959
        22        197         227        357        84       237        945
        23        187         237        359        81       239        923
        24        177         247        361        78       241        895
        25        167         257        362        74       241        864
        26        157         267        364        71       243        829
        27        147         277        368        68       243        791
        28        137         287        370        65       243        753
        29        127         297        373        65       242        704
        30        117         307        375        64       241        646
```

IFRF2106 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|  407|  817  498  252  113   43   16    6    1    0    0    0    0    0    0    0    0    0    0
  2|  397|  831  530  282  134   57   22    7    2    0    0    0    0    0    0    0    0    0    0
  3|  387|  843  555  309  150   65   24    7    2    0    0    0    0    0    0    0    0    0    0
  4|  377|  854  583  335  165   71   27    8    2    0    0    0    0    0    0    0    0    0    0
  5|  367|  866  604  361  183   80   31    9    1    0    0    0    0    0    0    0    0    0    0
  6|  357|  878  629  381  199   87   36   11    1    0    0    0    0    0    0    0    0    0    0
  7|  347|  884  650  404  218  100   41   14    2    0    0    0    0    0    0    0    0    0    0
  8|  337|  892  674  428  235  111   47   16    3    0    0    0    0    0    0    0    0    0    0
  9|  327|  901  693  451  253  123   53   18    4    0    0    0    0    0    0    0    0    0    0
 10|  317|  908  706  469  268  133   59   20    6    1    0    0    0    0    0    0    0    0    0
 11|  307|  915  724  488  282  143   63   24    7    1    0    0    0    0    0    0    0    0    0
 12|  297|  917  739  506  293  149   65   25    8    2    0    0    0    0    0    0    0    0    0
 13|  287|  920  748  519  303  156   68   27    9    2    0    0    0    0    0    0    0    0    0
 14|  277|  922  758  528  311  162   72   28   10    3    0    0    0    0    0    0    0    0    0
 15|  267|  921  762  537  322  167   73   29   11    3    0    0    0    0    0    0    0    0    0
 16|  257|  922  771  548  328  171   77   31   12    3    0    0    0    0    0    0    0    0    0
 17|  247|  919  773  554  335  174   80   33   12    3    0    0    0    0    0    0    0    0    0
 18|  237|  921  778  563  341  180   82   36   13    3    0    0    0    0    0    0    0    0    0
 19|  227|  921  778  568  350  186   87   37   14    3    0    0    0    0    0    0    0    0    0
 20|  217|  915  775  565  351  189   90   38   14    3    0    0    0    0    0    0    0    0    0
 21|  207|  907  768  564  355  193   92   40   15    4    1    0    0    0    0    0    0    0    0
 22|  197|  894  755  561  352  191   92   37   14    4    1    0    0    0    0    0    0    0    0
 23|  187|  876  745  553  345  191   93   39   15    4    1    0    0    0    0    0    0    0    0
 24|  177|  851  727  539  338  185   91   38   15    4    1    0    0    0    0    0    0    0    0
 25|  167|  821  703  523  329  181   89   38   14    4    1    0    0    0    0    0    0    0    0
 26|  157|  789  676  505  319  177   86   37   14    4    1    0    0    0    0    0    0    0    0
 27|  147|  754  645  487  310  174   85   38   14    4    1    0    0    0    0    0    0    0    0
 28|  137|  719  615  465  300  169   86   38   14    4    1    0    0    0    0    0    0    0    0
 29|  127|  670  575  438  287  163   83   38   15    5    1    0    0    0    0    0    0    0    0
 30|  117|  615  528  402  265  154   79   37   15    5    1    0    0    0    0    0    0    0    0
```

IFRF2106 ADCP 1279

Harmonic constants for constituent M2 for deployment IFRF2106.

```
=================================================================================
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    407    142      226     67      221     157       6     25     225   A
02    397    163      232     83      209     181      29     26     227   A
03    387    180      237    104      204     202      50     28     229   A
04    377    195      241    126      203     222      68     30     231   A
05    367    209      246    146      204     241      85     32     233   A
06    357    221      250    165      206     257      99     34     236   A
07    347    232      255    181      208     271     113     35     238   A
08    337    241      259    197      210     285     125     36     241   A
09    327    250      263    211      212     298     137     38     243   A
10    317    258      266    225      215     309     148     39     245   A
11    307    266      269    238      216     320     158     40     247   A
12    297    271      273    250      218     328     168     41     249   A
13    287    276      275    259      219     334     177     42     250   A
14    277    281      278    267      220     340     185     42     251   A
15    267    285      280    274      221     346     192     43     252   A
16    257    290      281    281      222     352     198     43     253   A
17    247    293      282    287      222     356     203     44     253   A
18    237    296      282    291      223     360     207     44     253   A
19    227    298      283    294      222     362     210     44     253   A
20    217    300      283    296      222     364     213     44     253   A
21    207    302      283    297      222     366     214     44     253   A
22    197    304      283    298      222     368     215     44     253   A
23    187    306      282    299      222     370     216     44     253   A
24    177    307      282    300      221     370     217     44     253   A
25    167    308      282    300      221     370     219     43     253   A
26    157    308      282    300      221     371     218     43     253   A
27    147    312      282    299      221     372     220     43     254   A
28    137    312      282    299      221     372     220     43     254   A
29    127    312      282    304      221     376     221     43     253   A
30    117    310      282    305      221     375     221     44     252   A
```

Harmonic constants for constituent S2 for deployment IFRF2106.

```
=================================================================================
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    407     62      266     27      257      67       4     24     264   A
02    397     70      271     34      245      77      13     24     266   A
03    387     77      275     42      239      85      22     26     268   A
04    377     83      279     52      239      93      30     29     269   A
05    367     88      284     60      241     100      36     31     272   A
06    357     92      289     68      243     106      42     33     274   A
07    347     95      293     73      246     110      45     34     277   R
08    337     97      296     77      248     114      48     35     279   A
09    327     98      300     81      251     117      51     37     282   A
10    317    100      303     85      254     120      53     38     284   A
11    307    102      307     88      257     122      56     38     287   A
12    297    103      310     92      259     125      59     40     288   A
13    287    105      313     94      260     126      62     40     291   A
14    277    104      315     95      261     126      64     41     291   A
15    267    105      316     96      262     127      64     41     292   A
16    257    104      317     97      263     127      65     42     292   A
17    247    103      318     99      263     127      66     43     292   A
18    237    103      319    100      263     127      68     43     292   A
19    227    103      319    101      263     127      68     44     292   A
20    217    105      320    103      263     129      70     44     292   A
21    207    107      321    104      262     130      73     43     294   A
22    197    108      322    104      263     130      75     43     295   A
23    187    109      323    103      263     130      75     41     296   A
24    177    109      323    102      262     129      75     41     296   A
25    167    109      325    101      262     127      76     40     297   A
26    157    109      325    100      262     126      78     40     298   A
27    147    110      325    102      262     128      78     40     298   A
28    137    111      325    102      262     128      79     39     298   A
29    127    109      323    103      260     128      79     41     295   A
30    117    104      323    106      258     125      80     46     290   A
```

IFRF2106 ADCP 1279

Harmonic constants for constituent N2 for deployment IFRF2106.

```
====================================================================================
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     407      21     223      25     227      32       1      50     225   C
02     397      23     230      25     223      34       2      47     226   A
03     387      26     230      24     219      36       3      43     225   A
04     377      29     230      25     212      38       6      41     222   A
05     367      34     230      26     205      42       9      37     221   A
06     357      37     232      29     201      45      12      37     220   A
07     347      42     233      32     196      50      16      36     220   A
08     337      47     234      36     191      56      21      35     219   A
09     327      50     236      40     189      59      25      36     219   A
10     317      54     239      44     189      64      28      37     220   A
11     307      57     241      48     189      67      32      37     222   A
12     297      60     245      52     191      71      35      39     223   A
13     287      62     249      56     194      74      38      40     225   A
14     277      64     252      58     195      76      41      40     227   A
15     267      63     254      59     196      76      42      41     228   A
16     257      63     255      59     195      75      43      41     228   A
17     247      65     255      59     195      76      44      40     230   A
18     237      65     256      60     197      77      44      41     230   A
19     227      65     257      62     196      78      46      42     229   A
20     217      67     258      63     197      79      46      42     230   A
21     207      65     258      63     198      79      45      43     230   A
22     197      66     258      63     199      80      45      43     231   A
23     187      65     259      62     199      78      45      43     231   A
24     177      65     260      63     201      78      45      43     232   A
25     167      63     263      60     202      75      44      42     235   A
26     157      64     264      60     204      75      44      41     237   A
27     147      64     266      60     205      76      44      41     239   A
28     137      66     265      61     204      78      45      40     239   A
29     127      67     265      61     205      79      45      40     239   A
30     117      71     264      61     203      82      47      36     241   A
```

Harmonic constants for constituent O1 for deployment IFRF2106.

```
====================================================================================
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     407      24      41      13     233      27       2     153     223   A
02     397      26      30      17     237      30       6     149     218   A
03     387      27      24      20     242      32      11     145     217   A
04     377      29      16      23     246      34      15     144     214   A
05     367      31      13      25     249      36      18     146     212   A
06     357      34      10      27     251      38      21     148     210   A
07     347      35       8      29     251      39      23     146     210   R
08     337      36       7      30     251      40      24     147     208   A
09     327      37       5      31     252      40      26     147     207   A
10     317      38       5      31     252      41      26     148     206   A
11     307      37       4      31     253      40      26     149     205   A
12     297      38       2      31     253      40      27     151     203   A
13     287      38       1      31     253      40      28     152     201   A
14     277      38     359      31     252      40      28     152     200   A
15     267      39     358      31     252      41      29     154     197   A
16     257      40     356      31     252      41      29     158     192   A
17     247      39     356      31     251      41      29     157     192   A
18     237      40     356      32     252      42      30     157     193   A
19     227      40     354      33     253      42      31     158     191   A
20     217      41     356      34     253      43      32     155     194   A
21     207      41     354      34     253      42      32     155     193   A
22     197      41     354      33     253      42      32     159     190   A
23     187      39     352      34     253      40      33     155     193   A
24     177      37     353      33     253      39      31     155     193   A
25     167      39     353      33     255      39      32     160     189   A
26     157      40     353      32     255      41      31     164     185   A
27     147      41     352      31     251      42      29     163     184   A
28     137      43     353      32     251      44      30     162     185   A
29     127      42     353      30     248      44      28     162     185   A
30     117      41     355      26     245      42      24     162     185   A
```

IFRF2106 ADCP 1279

```
Harmonic constants for constituent K1 for deployment IFRF2106.
================================================================================
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    407      29     294      12     149      31       7     160     119   A
 02    397      31     286      17     150      33      11     156     115   A
 03    387      31     280      21     154      34      16     152     114   A
 04    377      32     273      26     156      35      21     147     114   A
 05    367      33     270      29     156      37      23     145     114   A
 06    357      36     267      30     154      39      25     146     111   A
 07    347      37     265      32     152      41      27     144     111   A
 08    337      40     263      34     150      44      29     145     107   A
 09    327      42     260      35     151      45      31     149     103   A
 10    317      43     258      36     152      46      33     151     100   A
 11    307      44     256      37     151      46      34     152      97   A
 12    297      44     255      38     151      47      35     151      97   A
 13    287      45     254      39     151      47      36     152      96   A
 14    277      45     254      39     151      48      36     151      97   A
 15    267      45     256      40     151      48      36     150      99   A
 16    257      45     255      38     152      47      36     154      96   A
 17    247      44     254      38     155      45      36     158      92   A
 18    237      44     254      37     154      45      36     158      91   A
 19    227      44     254      37     155      45      36     158      92   A
 20    217      45     254      37     156      46      36     162      88   A
 21    207      47     255      37     155      48      36     162      89   A
 22    197      48     255      38     157      49      37     165      87   A
 23    187      49     256      37     157      50      36     165      87   A
 24    177      51     255      37     157      51      36     169      82   A
 25    167      56     256      37     160      56      37     174      80   A
 26    157      60     254      37     163      60      37     179      74   A
 27    147      64     254      38     168      64      37       4     251   A
 28    137      65     252      40     170      66      39       8     247   A
 29    127      66     250      39     174      67      37      11     244   A
 30    117      68     250      36     176      69      34      11     244   A
```

IFRF2106 SBE56 06505
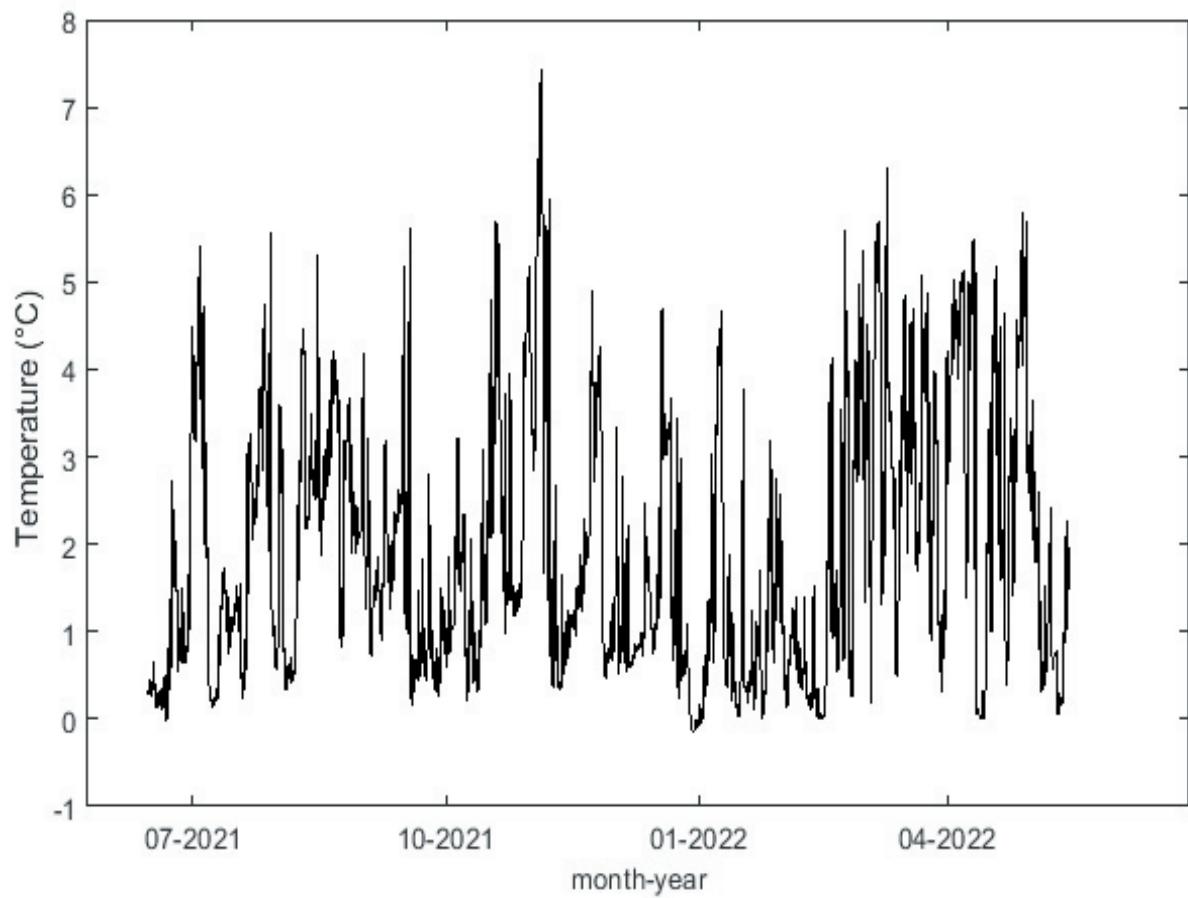
IFRG2106

Latitude: 63°14.445´N

Longitude: 010°02.606´W

Echo sound depth: 439 m

Bottom depth corr.: 439 m

Time of deployment: 15/6 - 2021 0431 UTC

Time of recovery: 15/5 - 2022 1013 UTC

ADCP:

Instrument no.: RDI ADCP 1644

Instrument frequency: 75 kHz

Height above bottom: 6 m

Depth: 433 m

Time of first data: 15/6 - 2021 0520 UTC

Time of last data: 15/5 - 2022 1000 UTC

Sample interval: 20 min

No. of ensembles: 24063

Pings per ens.: 1

Binlength: 25 m

**Depth of first bin:** 397 m

No. of bins: 14
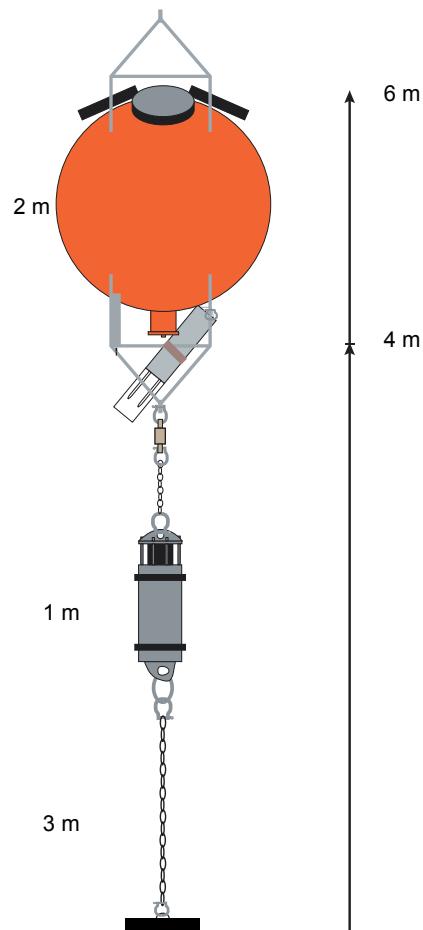
SBE56

Instrument no.: 06506

Height above bottom: 4 m

Instrument depth: 435 m

Time of first data: 15/6 - 2021 0454 UTC

Time of last data: 15/5 - 2022 1010 UTC

Sample interval: 1 min

No. of ensembles: 481277

Data:

No data were available from beam #2 of the ADCP. This means that no error velocity is calculated since it is based on the fourth (redundant) beam.

The SBE56 is calibrated against an SBE911+ CTD prior to deployment.

IFRG2106 ADCP 1644

```
Error statistics for deployment: IFRG2106 updated 2022/11/17
-------------------------------------------------------------


Temperature not edited
Surface distance not edited
Heading, pitch and roll not edited
Intensity not edited

Velocity (spd, dir, wel) is error flagged using these data filters:
Minimum Correlation threshold:60.0
Maximum Speed factor (Average speed for each bin times factor): 4.0
Maximum Absolute Vertical Velocity threshold: 150.0
Std dev for de-spiking (u, v deviate from 3 point median by more than number of std dev, bin 1): 5.00
Std dev for de-spiking (u, v deviate from 3 point median by more than number of std dev, bin 14): 2.98
Std dev for de-spiking (u, v deviate from 3 point median by more than number of std dev, bin 32):-8.00
Std dev for de-spiking (w deviates from 3 point median by more than number of std dev): 4.0


Total number of  ensembles:       24063
Interval between ensembles:      20 min
Original number of bins:            32
Number of acceptable velocity bins:  14


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 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     0   189    1| 142    20     1     1     0     0     0     0     0     0
  2     0   225    1| 159    28     2     1     0     0     0     0     0     0
  3     0   232    1| 162    27     4     1     0     0     0     0     0     0
  4     0   228    1| 166    22     6     0     0     0     0     0     0     0
  5     0   234    1| 168    24     6     0     0     0     0     0     0     0
  6     0   238    1| 169    25     5     1     0     0     0     0     0     0
  7     0   303    1| 216    30     5     3     0     0     0     0     0     0
  8     0   455    2| 256    46    19     6     0     3     0     0     0     0
  9     0   821    3| 296    77    30    11     8     9     7     1     0     0
 10     0  1563    6| 355   110    42    20    17    19    18     8     3     0
 11     0  2531   11| 349   138    59    32    21    40    29    16    11     0
 12     0  3698   15| 416   155    85    45    23    67    52    22    18     0
 13     0  5018   21| 554   186    93    73    37    79    82    35    17     0
 14     0  6871   29| 680   249   114    84    53   107    78    36    43     4
```

IFRG2106 ADCP 1644

```
Deployment: IFRG2106 updated 2022/11/17
Instrument no.:  1644
Instrument freq.:  75
Latitude: 63 14.445 N
Longitude:10 02.606 W
Bottom depth:  439
Instrument depth:  433
Center depth of first bin:  397
Bin length:  25
Number of bins:  14
Number of first ensemble:    497
Time of first ensemble: 2021 06 15 05 20
Number of last ensemble:   24559
Time of last ensemble:  2022 05 15 10 00
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        397         42        290       114       195       992
        2        372         67        303        95       204       991
        3        347         92        307        80       206       990
        4        322        117        307        66       202       991
        5        297        142        311        57       195       990
        6        272        167        317        54       186       990
        7        247        192        325        53       178       987
        8        222        217        333        53       170       981
        9        197        242        339        52       165       966
       10        172        267        347        52       165       935
       11        147        292        354        52       165       895
       12        122        317        363        55       164       846
       13         97        342        376        57       162       791
       14         72        367        393        58       152       714
```

IFRG2106 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|  397| 891  663  423  234  110   43   14    3    1    0    0    0    0    0    0    0    0    0
  2|  372| 905  695  456  257  126   50   18    5    1    0    0    0    0    0    0    0    0    0
  3|  347| 913  711  466  257  126   51   16    4    1    0    0    0    0    0    0    0    0    0
  4|  322| 917  719  465  257  120   49   16    4    1    0    0    0    0    0    0    0    0    0
  5|  297| 925  729  475  261  122   49   16    5    1    0    0    0    0    0    0    0    0    0
  6|  272| 927  748  495  275  131   53   17    4    1    0    0    0    0    0    0    0    0    0
  7|  247| 931  761  517  292  142   55   19    5    1    0    0    0    0    0    0    0    0    0
  8|  222| 927  767  533  311  152   60   21    6    1    0    0    0    0    0    0    0    0    0
  9|  197| 913  758  536  320  162   69   24    7    1    0    0    0    0    0    0    0    0    0
 10|  172| 888  746  537  327  168   74   27   10    2    0    0    0    0    0    0    0    0    0
 11|  147| 852  722  523  326  174   80   33   12    4    1    0    0    0    0    0    0    0    0
 12|  122| 806  688  506  323  179   88   39   15    5    2    1    0    0    0    0    0    0    0
 13|   97| 756  649  485  320  187   99   47   21    8    4    1    1    1    0    0    0    0    0
 14|   72| 683  592  455  311  193  107   56   29   14    7    3    2    1    0    0    0    0    0
```

IFRG2106 ADCP 1644

Harmonic constants for constituent M2 for deployment IFRG2106.

```
================================================================================
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     397     220    264     203    216     273     122      42     242  A
 02     372     240    272     245    222     311     145      46     246  A
 03     347     245    277     263    226     324     155      48     249  A
 04     322     244    280     270    227     327     159      50     250  A
 05     297     244    281     273    228     328     163      50     250  A
 06     272     247    283     277    228     329     171      51     251  A
 07     247     252    284     282    227     332     180      51     251  A
 08     222     258    285     287    226     337     188      51     251  A
 09     197     261    285     289    225     338     192      51     251  A
 10     172     261    285     290    225     339     195      51     250  A
 11     147     266    285     292    224     341     199      51     250  A
 12     122     271    285     292    223     343     203      49     250  A
 13      97     273    285     289    223     341     204      48     251  A
 14      72     271    284     287    222     338     205      49     250  A
```

Harmonic constants for constituent S2 for deployment IFRG2106.

```
================================================================================
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     397      83    305      79    256     104      48      43     282  A
 02     372      86    313      95    262     116      55      49     284  A
 03     347      85    318      99    268     119      54      51     288  A
 04     322      84    319     100    270     120      52      53     289  A
 05     297      84    319     100    270     120      54      53     289  A
 06     272      86    321     101    268     119      58      52     289  A
 07     247      86    322     101    268     119      59      53     289  A
 08     222      86    322     100    268     118      59      52     289  A
 09     197      89    322     100    268     119      60      51     290  A
 10     172      90    321     100    267     120      61      50     290  A
 11     147      94    320      99    265     121      63      47     290  A
 12     122      95    319      98    262     120      65      47     289  A
 13      97      98    319     100    262     123      67      46     290  A
 14      72     101    317      98    261     124      66      44     291  A
```

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Harmonic constants for constituent N2 for deployment IFRG2106.

```
================================================================================
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     397      41     227      27     179      45      18      29    215  A
 02     372      48     236      42     181      57      29      38    214  A
 03     347      51     245      50     193      64      31      44    219  A
 04     322      54     256      58     201      70      36      49    226  A
 05     297      56     261      61     206      73      38      49    230  A
 06     272      57     265      64     209      75      40      51    232  A
 07     247      57     267      64     209      75      41      51    233  A
 08     222      57     264      64     207      75      41      50    231  A
 09     197      58     263      61     206      74      40      48    232  A
 10     172      57     263      59     205      72      40      46    232  A
 11     147      56     264      60     205      72      40      48    232  A
 12     122      57     265      62     205      73      42      50    231  A
 13      97      56     268      62     206      72      43      51    231  A
 14      72      58     272      62     208      72      45      49    236  A
```

Harmonic constants for constituent O1 for deployment IFRG2106.

```
================================================================================
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     397      54      15      25     266      54      23     169    200  A
 02     372      49      10      26     267      50      25     171    195  A
 03     347      44       5      27     264      45      27     169    192  A
 04     322      42       1      26     266      42      26     175    184  A
 05     297      39       2      25     266      39      25     173    186  A
 06     272      40     359      25     262      40      25     172    184  A
 07     247      42     357      27     263      42      27     175    180  A
 08     222      42     357      27     262      43      27     175    180  A
 09     197      42     356      28     262      42      28     176    178  A
 10     172      40     356      28     258      40      27     170    182  A
 11     147      37     359      29     259      38      28     164    191  A
 12     122      36     357      31     261      36      31     160    194  A
 13      97      33     358      33     260      36      31     138    216  A
 14      72      30       0      35     258      37      28     117    237  A
```

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Harmonic constants for constituent K1 for deployment IFRG2106.

```
===============================================================================
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     397       53     268       33     159      54      31     162      98   A
 02     372       47     262       32     159      48      31     165      92   A
 03     347       45     256       30     158      46      30     171      81   A
 04     322       44     252       29     154      44      29     172      77   A
 05     297       43     252       29     155      43      29     172      78   A
 06     272       41     252       29     157      42      29     173      77   A
 07     247       42     251       28     156      42      28     175      74   A
 08     222       43     250       27     158      43      27     178      71   A
 09     197       42     250       28     156      42      28     175      73   A
 10     172       41     246       30     152      41      30     174      70   A
 11     147       38     244       30     151      38      30     173      69   A
 12     122       38     244       29     148      38      28     169      72   A
 13      97       41     246       30     149      41      29     169      74   A
 14      72       42     248       32     149      42      31     164      80   A
```