NOAA Data Report, OAR AOML - 72

Oceanographic data collected in the Straits of Florida at 27°N during the year 2001, including the estimated Florida Current transport

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April 5, 2017

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National Oceanic and Atmospheric Administration / **Office of Oceanic and Atmospheric Research**

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Abstract

This report summarizes the Florida Current data collected along 27°N during calendar year 2001 as part of the NOAA-funded Western Boundary Time Series project. This includes the daily Florida Current volume transport values estimated from one-minute voltage data on an out-of-service telephone cable, as well as observations collected on cruises on R/V Walton Smith (i.e. full-water-column conductivity-temperature-depth, CTD, and lowered acoustic Doppler current profiler, LADCP, profiles). The report also includes dropsonde and expendable bathythermograph (XBT) data collected on small boat cruises. The data presented herein are in final processed and quality controlled form. The report also documents where the electronic files for these data can be obtained.

1 Introduction

The Florida Current is perhaps one of the most well observed oceanic flows in the world. This warm surface current flows northward through the Straits of Florida from the Gulf of Mexico to 27°N, where it exits the Straits and becomes the Gulf Stream. Along the way the Florida Current forms both the western boundary current of the subtropical gyre and the upper limb of the Meridional Overturning Circulation. Modern observation of the Florida Current at 27°N began in 1982, when the National Oceanic and Atmospheric Administration (NOAA) began funding a project to measure the volume transport and hydrographic structure of the flow between Florida and Grand Bahama Island. The project changed names several times over the next 20 years, and since the year 2000 the Florida Current observations have been a component of the Western Boundary Time Series (WBTS) project, with funding from the NOAA Climate Program Office - Climate Observations Division. The nominal locations where data are collected are shown in Figure 1 and Table 1.

This data report details all of the WBTS observations collected in the Florida Current over the calendar year. These data come in two categories:

1. Continuous time series observations made via an unused submarine telephone cable.

2. Ship-based observations made several times per year on small chartered boats. In addition, beginning this year, ship-based observations were collected on several cruises per year using the R/V Walton Smith.

Data presented in this report are organized by collection platform - either cable, research vessel, or small charter boat. Data are reported both graphically and via tables; a later section in the report provides web links to the electronic data files themselves. Further information about these data can be obtained either on the project web page (www.aoml.noaa.gov/phod/floridacurrent/) or from the contact personnel listed on that web page.

Station	Latitude	Longitude	Depth
0	27°00.00' N	79°55.80' W	139
1	27°00.00' N	79°52.00' W	261
2	27°00.00' N	79°47.00' W	389
3	27°00.00' N	79°41.00' W	540
4	27°00.00' N	79°37.00' W	661
5	27°00.00' N	79°30.00' W	783
6	27°00.00' N	79°23.00' W	708
7	27°00.00' N	79°17.00' W	624
8	27°00.00' N	79°12.00' W	485

Table 1: Nominal locations and depths (m) for the dropsonde/XBT and CTD/LADCP data collected in the Straits of Florida.

1.1 Continuous observations

Basic electromagnetic theory indicates that when charged particles move through a magnetic field, an electric field is created perpendicular to the motion of the particles. The continuous measurements of the Florida Current volume transport made as part of the WBTS project take advantage of this basic physics, as the charged salt ions in seawater move northward in the Florida Current through the magnetic field of the Earth and create an east-west electric field. This electric field can be measured as a voltage on an out-of-use submarine telephone cable between Florida and Grand Bahama Island (see Figure 1). The technique used to estimate transport from voltage will be briefly presented in Section 2.

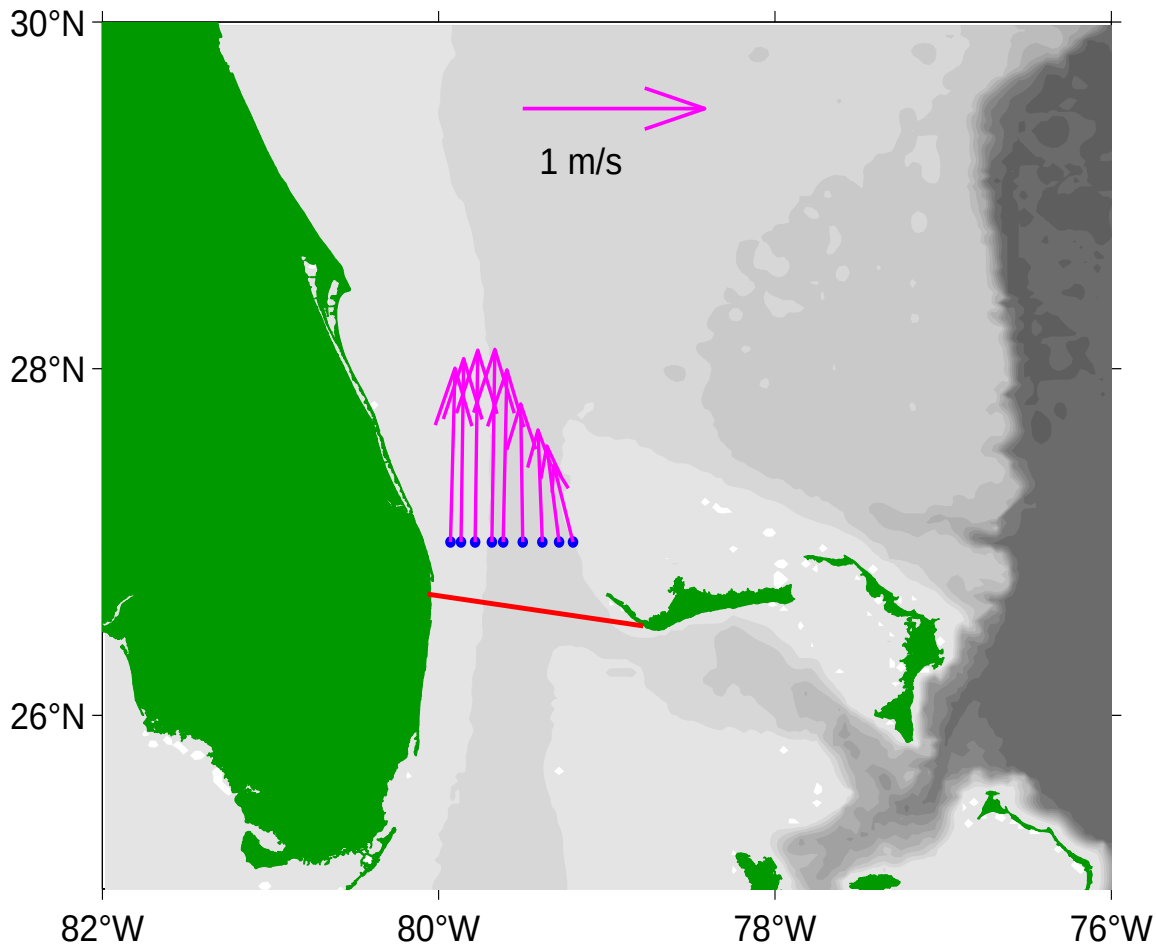

Figure 1: Map of the Straits of Florida study area. Blue dots indicate the locations of dropsonde, XBT and CTD/LADCP stations. Red line shows the approximate location of the telephone cable used for the voltage measurements. Magenta vectors illustrate the time mean vertically-averaged horizontal velocities from all dropsonde data collected between 1994 and 2014 to indicate observation locations relative to the Florida Current position.

1.2 Shipboard measurements

Ship sections collected in the Straits of Florida along 27°N as part of the WBTS project are used to calibrate the cable observations, and they also collect additional data sets that provide information about water properties and the velocity structure. Data are collected at nine stations along 27°N, and the same nine stations have been in use since the mid-1980s (see Figure 1 and Table 1). Beginning this year, two different types of ship sections are collected as part of the WBTS project: CTD/LADCP sections are collected via the R/V Walton Smith, and dropsonde/XBT sections are collected via small chartered boats. For more detail on how the data collected in these sections are used to calculate volume transport, please see Garcia and Meinen (2014).

2 Cable observations

As discussed in the Introduction, voltages induced on a submarine cable by the Florida Current have been shown to be proportional to the total current transport. These voltages are calibrated into volume transport using calibration coefficients originally derived in comparison to ship sections in the 1980s (e.g. Larsen and Sanford, 1985; Larsen, 1992), and the resulting calibrated volume transports are routinely verified by regular ship sections collected each year (see next section). Voltages are measured on the cable each minute by a voltmeter and computer; these voltages are then processed with a low-pass filter (2nd order Butterworth, passed both forward and backward to eliminate phase shifting) with a 3-day cut-off period to remove ionospheric noise from the record. The resulting volume transports are reported in units of Sverdrups (1 Sv = 10^6 m^3 s^{-1}). For further details on the cable observations and processing, please see Meinen et al., (2010).

Cable voltages have been monitored and daily total transport values obtained since 1982. A table listing the daily cable transport values is presented in Appendix A. The annual time series is presented graphically as Figure 2, with the estimated 'error bar' on each daily value indicated by the gray shading. Details on the estimation of the volume transport accuracy, i.e. the 'error bar', can be found in Garcia and Meinen (2014).

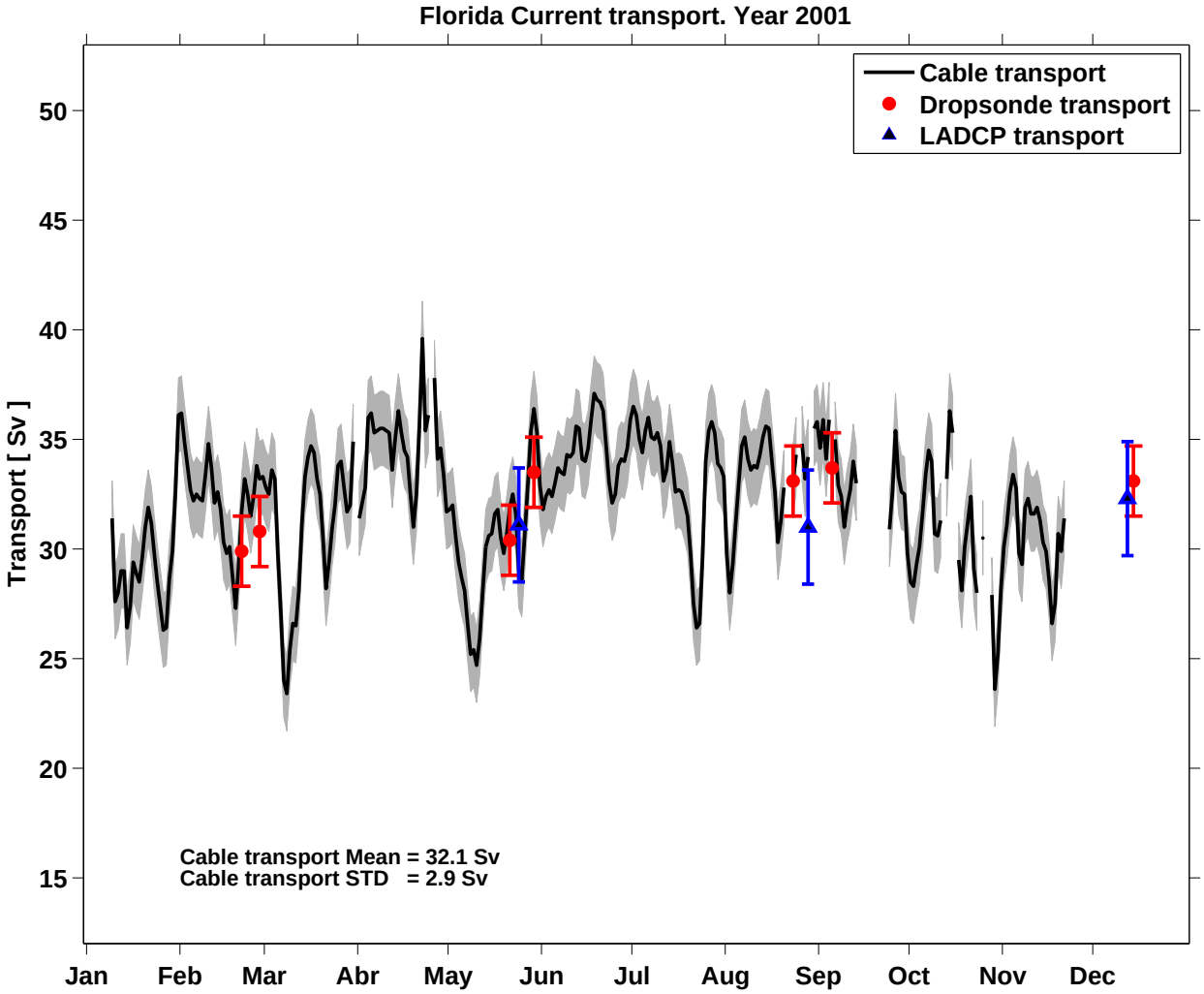

Figure 2: Observed Florida Current volume transports measured by cable voltage (black line), dropsonde sections (red dots) and LADCP sections (blue triangles). For each measurement system the estimated error bar is also shown. The annual mean and standard deviation (STD) from the cable voltage estimates are shown in the figure at lower left.

3 Dropsonde - XBT cruises

This section presents data collected on small boat charter cruises performed during the calendar year in the Straits of Florida at 27°N. These cruises involve the collection of measurements of vertically-averaged horizontal velocity, using dropsonde floats, and temperature profiles, using expendable bathythermographs (XBTs).

A dropsonde is a free-falling float that is deployed from a boat. Once deployed, it sinks to the bottom, drops a weight, and then rises back to the surface under its own buoyancy. Knowing the initial and final position of the dropsonde on the ocean surface at the start and end of the cast, and the elapsed time to complete the cast, it is possible to calculate the vertically-averaged horizontal velocity as the total distance traveled divided by the time required for the cast. For more detail on how the data are collected and used to estimate the volume transport of the Florida Current, please see Garcia and Meinen (2014).

The dates of the dropsonde/XBT cruises during the year, and the resulting estimated transports values, are shown in Table 2. The transport values are also plotted in Figure 2, where the corresponding error bars, as estimated by Garcia and Meinen (2014), are also shown. The individual dropsonde velocity measurements are listed in table form in Appendix B.

The XBT probes are launched at each of the same nine stations to obtain temperature profiles through the full water column (because the maximum depth along 27°N is roughly 750 m). Plots of the XBT temperature sections are shown in Figure 3 . The temperature profile data, organized by cruise, are shown in tabular form in Appendix C. Methods for the XBT processing and quality control can be found in Daneshzadeh et al. (1994).

Cruise No.	Year	Month	Day	Hour mean	Transport	Transport detided
1	2001	2	21	15	28.2	29.9
2	2001	2	27	15	30.1	30.8
3	2001	5	21	13	31.3	30.4
4	2001	5	29	13	33.9	33.5
5	2001	8	23	14	33.7	33.1
6	2001	9	5	13	33.2	33.7
7	2001	12	14	15	30.0	33.1

Table 2: Dropsonde/XBT cruise information: cruise number, cruise date, and transport values estimated with and without the tide signals. NaN indicates insuficient data to estimate transport.

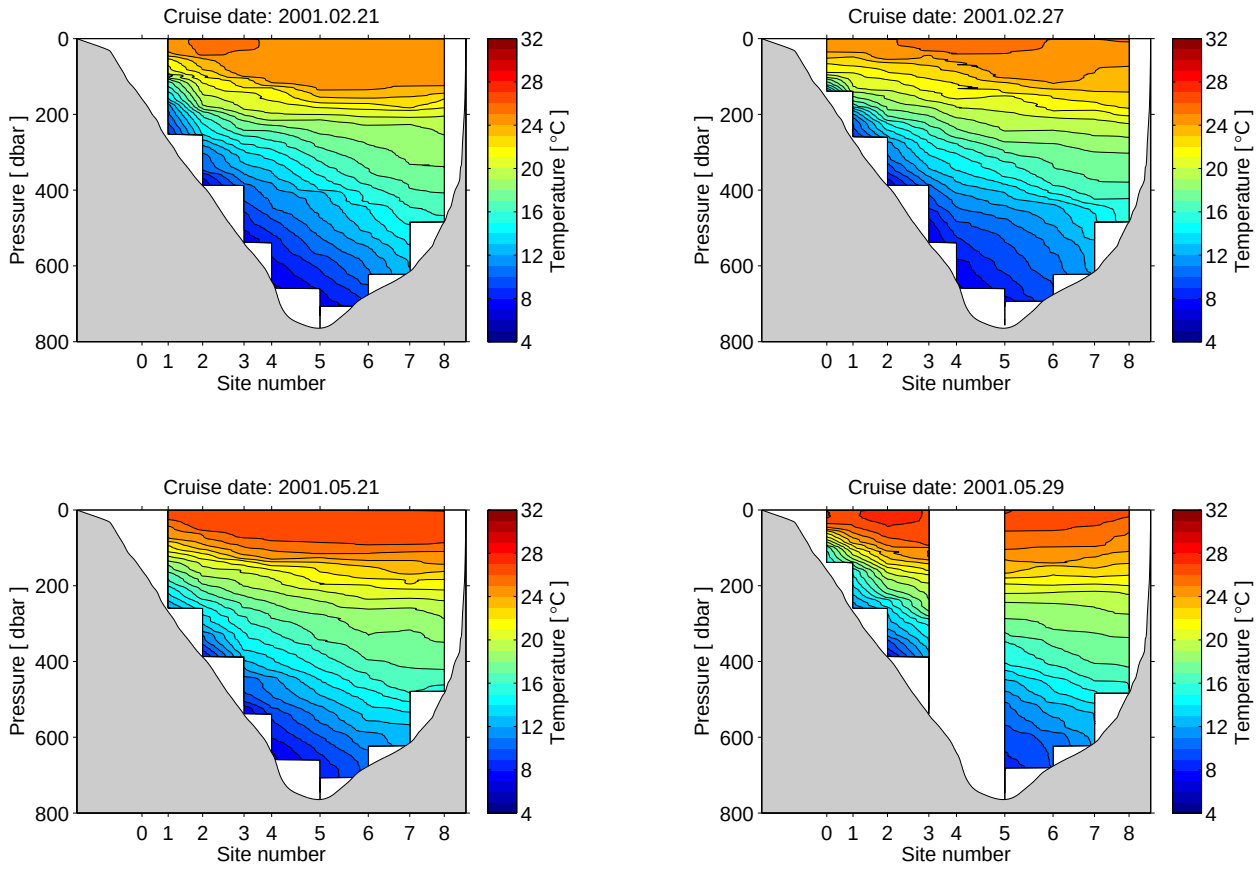

Figure 3: Temperature sections measured with XBT on the indicated dates. Date format is year, month, and day.

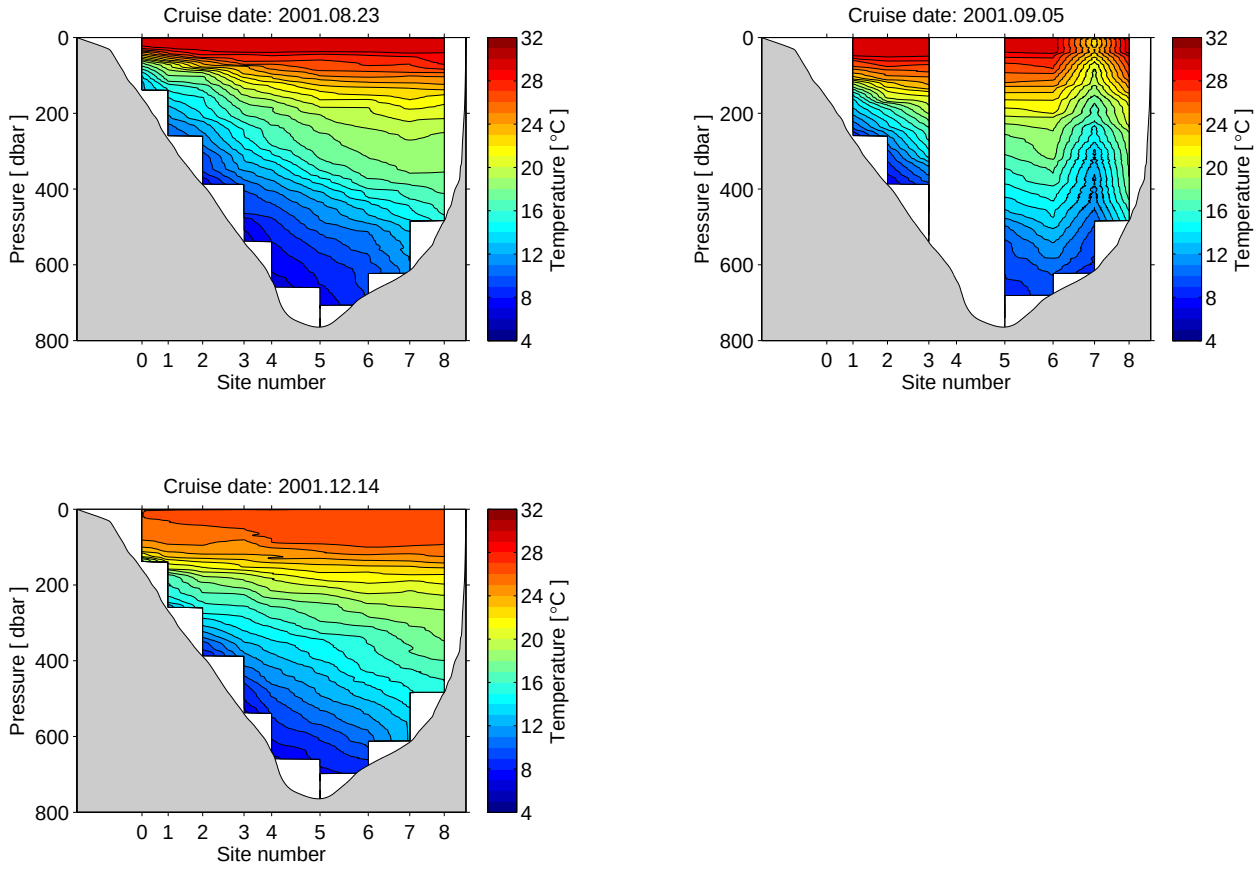

Figure 4: Same as Figure 3 for the data collected on the cruise date indicated.

4 CTD - LADCP cruises

This section includes data from cruises on the R/V Walton Smith. Each cruise collects CTD/LADCP profiles at the nine stations given in Table 1. Transports from these cruises are estimated by first vertically-averaging the LADCP profiles, and the resulting vertical mean velocities are horizontally-integrated in the same manner as the dropsonde observations - see Garcia and Meinen (2014) for more detail.

The cruise dates and the estimated section transports, are shown in Table 3, and are plotted in Figure 2 with the corresponding error bars. For each cruise the horizontal vertically-mean LADCP velocity measurements are listed in Appendix D.

Vertical property sections (temperature, salinity, dissolved oxygen, zonal and meridional velocity) for each cruise are shown in the figures in this section of the report, beginning with Figure 5. Tables listing the data profiles for each station on each cruise are presented in Appendix E. Details of the processing and quality control of the CTD data follow the methods shown in Hooper and Baringer (2015). The LADCP processing incorporates CTD data when possible and follows the methods presented in Visbeck (2002) and Thurnherr (2010).

Cruise ID	Year	Month	Day	Hour mean	Transport	Transport detided
ws0108	2001	5	24	4	29.6	31.1
ws0116	2001	8	28	6	29.9	31.0
ws0122	2001	12	12	7	33.6	32.3

Table 3: CTD/LADCP cruise information: cruise identification, cruise date, and transport values estimated using LADCP data, with and without the tide signals. Values of NaN indicate transport can not be estimated.

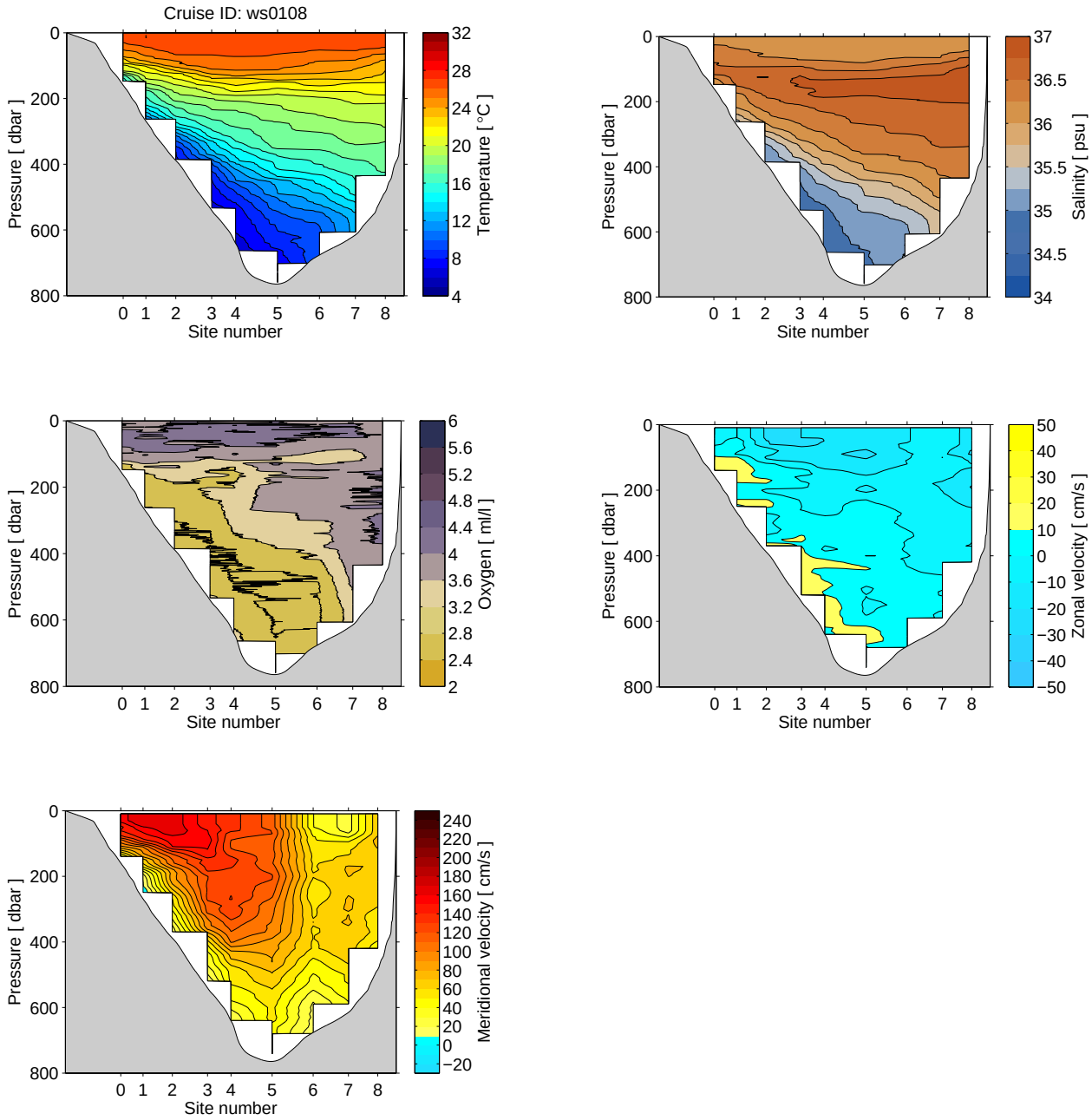

Figure 5: Sections of temperature, salinity, dissolved oxygen (all from CTD), and velocity profile (LADCP) collected by research vessel. Cruise ID noted above the temperature panel; cruise date are shown in Table 3.

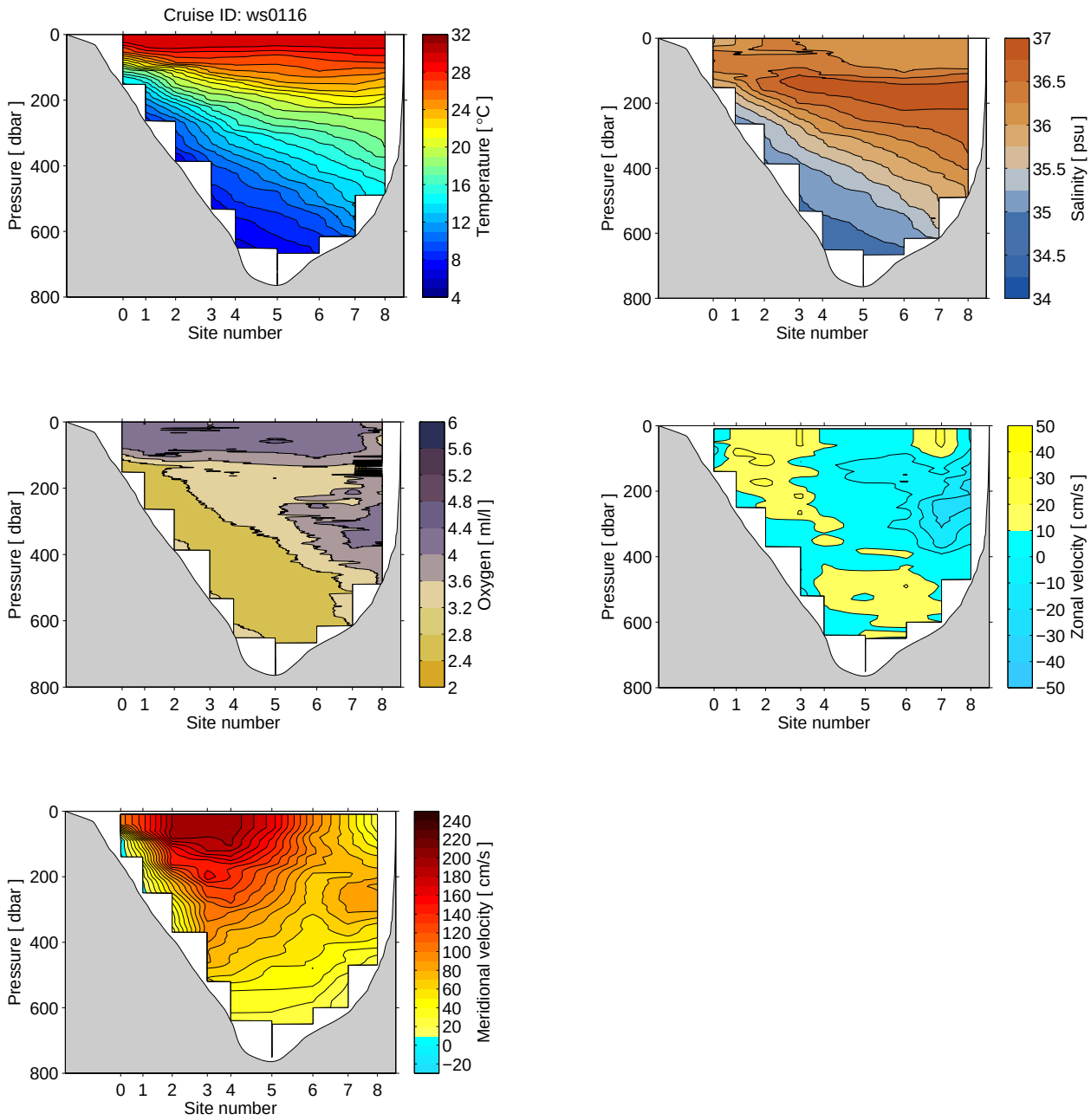

Figure 6: Same as Figure 5 for the data collected on the cruise ID indicated above the temperature panel.

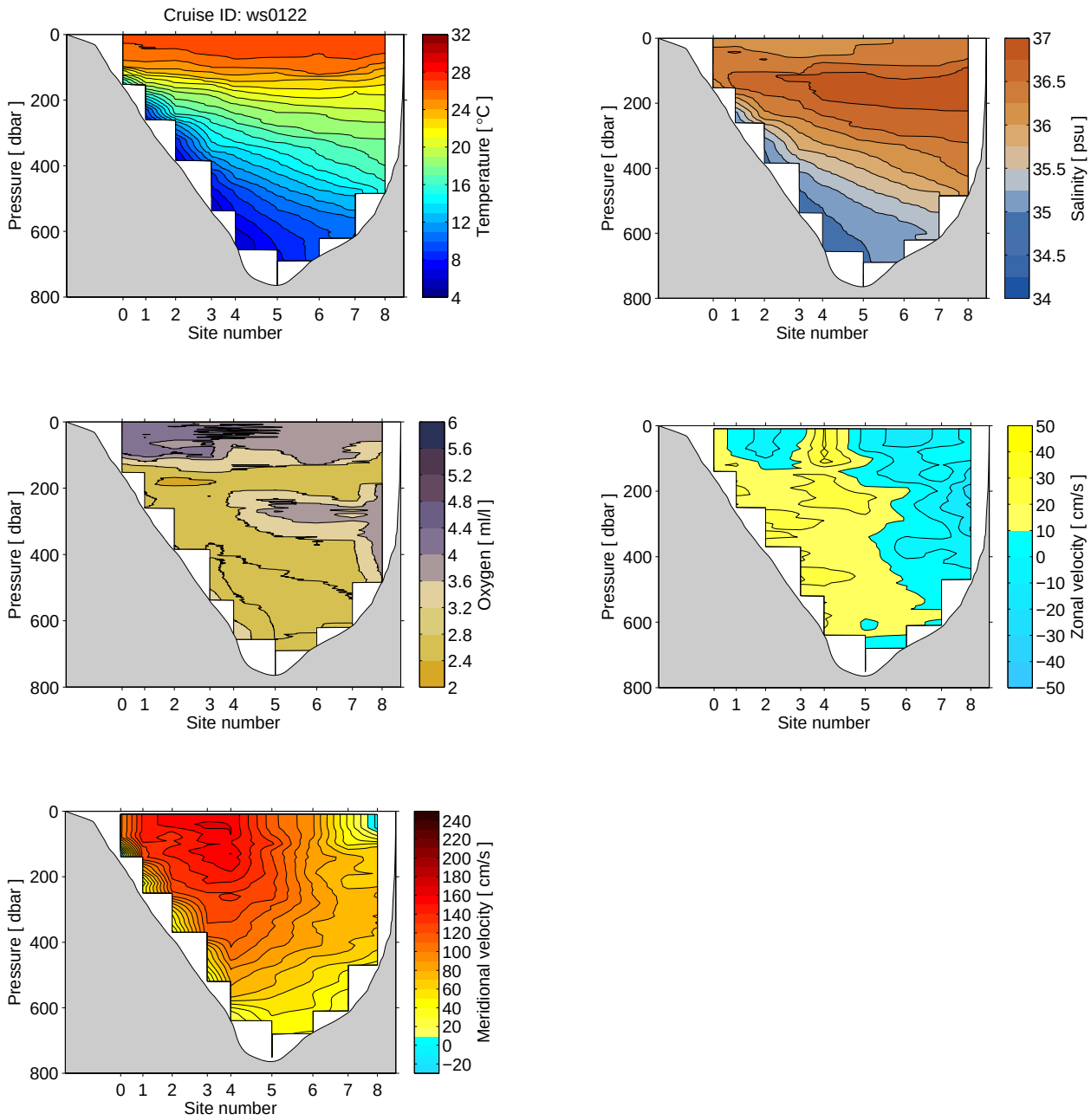

Figure 7: Same as Figure 5 for the data collected on the cruise ID indicated above the temperature panel.

5 Issues during the year

This section of the report is designed to list any issues or problems with the data collection during this calendar year which may affect data quality. This information is provided so that users of the data are aware of any limitations or issues with the data. In most years, data from all of these systems is collected successfully with few or no problems, so in most cases this section will be brief. The section is organized following the same order of data systems as in the body of the report.

5.1 Cable observations

The cable voltage recording system failed during 70 days during this year. As a result, there are no cable transport estimates for the following dates: January 1-8; March 31; April 25; August 21, 22, 25, and 29; September 5, and 14-23; October 12, 16, 24, 26, and 27; and from November 22 to December 31. Data are available for all other days throughout the year.

Note that during 2000-2005, a fairly primitive voltage recording system was used for the cable. Data quality from this system was good, but not as good as the subsequent systems used from January 1, 2006 and beyond.

5.2 Dropsonde - XBT cruises

No problems arose during the year involving the dropsonde system.

Several problems arose during the year involving the XBT system. During the cruises of February 21, May 21, and May 29, the XBT system failed at one station each, and no data were collected at those stations. Also, during the cruise of September 5, the XBT system failed at two stations, and no data were collected at those stations.

5.3 CTD - LADCP cruises

The final LADCP data for ws0108 and ws0116 cruises were found to be of good quality and suitable for scientific analysis. During the ws0122 cruise, LADCP data quality suffered on casts 0-4 due to instrument power issues. LADCP data from these casts should be used with extreme caution.

During this year no bottle sample data for salinity or dissolved oxygen were collected for comparison with and calibration of the CTD electronic sensor data. These profiles should be used with caution.

6 Data availability

The electronic files for the data presented in this report can be obtained from the following sources:

Raw 1-minute voltage data can be obtained from the NOAA National Centers for Environmental Information (NCEI - formerly the NOAA National Oceanographic Data Center). See this web address (http://accession.nodc.noaa.gov/0088016).

The processed daily cable transports, and the dropsonde and LADCP section transports, can be obtained from the project web page (www.aoml.noaa.gov/phod/floridacurrent). See the "Data Access" subpage.

The processed CTD profile, and LADCP profile data sets can be obtained from the WBTS project web page (www.aoml.noaa.gov/phod/wbts/) under the "Data and Results" subpage. The raw dropsonde observations and the XBT profiles at full vertical resolution can be found via the same page.

Other raw data are available upon request - please email/call the contact people listed on the www.aoml.noaa.gov/phod/floridacurrent web page.

7 Acknowledgements

The authors wish to sincerely thank the many people who have helped to collect the data presented in this report. Special thanks go to the engineers who have maintained the cable recording system (Doug Anderson, David Bitterman, and Ulises Rivero). Thanks also to Batelco for allowing the recording system to be housed in their facility on Grand Bahama Island. Great appreciation also to the scientists, engineers and technicians who participated in the small charter boat dropsonde/XBT cruises (Doug Anderson, Paul Dammann, Nelson Melo, and Ulises Rivero) and in the R/V Walton Smith CTD/LADCP cruises (Doug Anderson, Robert Roddy, and Doug Wilson). And many thanks to the fine captains and crews of the vessels used to collect this data. Finally, the authors also want to express their thanks to the technical support staff at AOML who have aided in the processing of these data including George Berberian, Yeun-Ho Daneshzadeh, and Chris Duncombe Rae. The collection and processing of the data in this report was supported by the NOAA Climate Program Office - Climate Observations Division and the NOAA Atlantic Oceanographic and Meteorological Laboratory.

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Appendix A:

Daily Florida Current transport data

Day	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1	NaN	36.2	32.8	31.4	31.8	31.8	36.5	29.8	34.6	28.5	30.1	NaN
2	NaN	34.9	32.5	32.1	32.0	32.4	36.1	28.0	35.9	28.3	31.1	NaN
3	NaN	33.8	33.6	32.8	30.6	32.7	35.0	29.3	34.1	29.3	32.6	NaN
4	NaN	32.7	33.2	36.0	29.4	32.4	34.4	31.2	35.9	30.1	33.4	NaN
5	NaN	32.2	29.8	36.2	28.7	33.0	35.4	33.0	NaN	31.6	32.8	NaN
6	NaN	32.5	27.1	35.3	28.1	33.7	36.0	34.7	35.0	33.4	29.8	NaN
7	NaN	32.3	24.0	35.4	26.6	33.5	35.1	35.1	32.9	34.5	29.3	NaN
8	NaN	32.2	23.4	35.5	25.2	33.4	35.0	34.1	32.4	34.0	31.9	NaN
9	31.4	33.4	25.4	35.5	25.4	34.3	35.3	33.6	31.0	30.7	32.3	NaN
10	27.6	34.8	26.6	35.4	24.7	34.2	34.7	33.8	32.0	30.6	31.6	NaN
11	28.0	33.7	26.5	35.3	25.9	34.4	33.1	33.7	32.7	31.3	31.6	NaN
12	29.0	32.1	28.1	33.6	28.1	35.6	33.6	34.3	34.0	NaN	31.9	NaN
13	29.0	32.6	31.1	35.1	30.1	35.5	34.9	35.1	33.0	33.2	31.3	NaN
14	26.4	31.8	33.3	36.3	30.6	34.1	33.9	35.6	NaN	36.3	30.3	NaN
15	27.4	30.3	34.2	35.3	30.7	34.0	32.6	35.5	NaN	35.3	29.9	NaN
16	29.4	29.8	34.7	34.5	31.6	34.6	32.7	34.0	NaN	NaN	28.6	NaN
17	28.9	30.1	34.4	34.2	31.8	35.9	32.6	32.6	NaN	29.5	26.6	NaN
18	28.5	28.7	33.2	32.5	30.5	37.1	32.1	30.3	NaN	28.1	27.5	NaN
19	29.6	27.3	32.5	31.0	29.8	36.8	31.5	31.3	NaN	30.1	30.7	NaN
20	31.0	29.3	30.5	32.5	30.7	36.7	29.8	32.8	NaN	31.2	29.9	NaN
21	31.9	31.7	28.2	35.6	31.9	36.3	27.5	NaN	NaN	32.4	31.4	NaN
22	31.2	33.2	29.4	39.6	32.5	34.7	26.4	NaN	NaN	29.1	NaN	NaN
23	29.8	32.5	30.9	35.4	31.6	33.0	26.6	33.1	NaN	28.0	NaN	NaN
24	28.5	31.5	32.0	36.1	29.0	32.1	29.6	34.3	30.9	NaN	NaN	NaN
25	27.4	32.4	33.8	NaN	28.6	32.5	34.0	NaN	32.6	30.5	NaN	NaN
26	26.3	33.8	34.0	37.8	30.7	33.8	35.4	34.8	35.4	NaN	NaN	NaN
27	26.4	33.2	32.8	34.1	33.0	34.1	35.8	33.2	33.3	NaN	NaN	NaN
28	28.6	33.3	31.7	34.6	35.4	34.0	35.3	34.2	32.6	27.9	NaN	NaN
29	29.9	–	32.0	33.4	36.4	34.6	33.9	NaN	32.5	23.6	NaN	NaN
30	32.6	–	34.9	31.7	35.3	35.9	33.7	35.5	29.8	25.2	NaN	NaN
31	36.1	–	NaN	–	32.9	–	33.3	35.8	–	28.1	–	NaN

Table 4: Florida Current daily transport estimated using voltage measurements on a telephone cable. Units are Sverdrups (1 Sv = 10^6 m^3 s^{-1}). NaN values indicate no data is available on that day; dashes indicate that day does not exist in that month/year. Table oriented such that each row is the day of the month and each column is the month.

Appendix B:

Dropsonde vertical mean velocities

Sta	Deployed			Surfaced			Mean Velocities	
	Time (GMT)	Lon	Lat	Time (GMT)	Lon	Lat	U cm/s	V cm/s
Cruise date: 2001.02.21								
0	12: 7:25	-79.9298	27.0022	12:13:43	-79.9298	27.0049	0.15	77.78
1	12:30: 2	-79.8659	27.0011	12:40:51	-79.8654	27.0070	7.46	99.48
2	12:57:36	-79.7827	27.0010	13:15:51	-79.7820	27.0114	6.87	104.27
3	13:34:36	-79.6829	27.0006	13:54:45	-79.6822	27.0108	6.03	93.17
4	14:15:51	-79.6161	27.0008	14:41: 3	-79.6156	27.0116	3.61	77.97
5	15: 1:28	-79.4999	27.0005	15:30:57	-79.5002	27.0098	-1.66	58.21
6	15:50:48	-79.3827	27.0003	16:16:51	-79.3843	27.0075	-9.71	50.59
7	16:36:13	-79.2832	27.0002	16:58:57	-79.2844	27.0054	-8.23	42.52
8	17:14:53	-79.1996	26.9999	17:33:15	-79.2004	27.0031	-7.19	32.39
Cruise date: 2001.02.27								
0	12:24:48	-79.9298	27.0016	12:30:44	-79.9299	27.0051	-0.27	109.91
1	12:44:49	-79.8665	27.0006	12:54:57	-79.8663	27.0062	2.78	101.47
2	13: 8:47	-79.7831	27.0007	13:23:57	-79.7828	27.0089	3.54	99.62
3	13:40:23	-79.6829	27.0006	14: 1: 3	-79.6826	27.0112	2.04	93.79
4	14:13:18	-79.6163	27.0005	14:37:51	-79.6158	27.0117	3.77	84.10
5	14:58:11	-79.4993	27.0002	15:26:51	-79.4996	27.0098	-1.68	61.08
6	15:46: 4	-79.3832	27.0009	16:13: 9	-79.3845	27.0080	-7.79	47.76
7	16:30:32	-79.2832	27.0004	16:54:45	-79.2846	27.0076	-9.42	54.89
8	17:11:19	-79.1996	27.0001	17:31:21	-79.2010	27.0048	-11.62	43.89
Cruise date: 2001.05.21								
0	10:48:11	-79.9294	27.0016	10:54: 9	-79.9291	27.0032	7.18	46.80
1	11:16:40	-79.8660	27.0009	11:27:22	-79.8651	27.0058	14.36	83.81
2	11:45:26	-79.7830	27.0008	12: 0:21	-79.7818	27.0097	12.86	108.64
3	12:19:52	-79.6830	27.0005	12:40:33	-79.6820	27.0127	7.47	108.50
4	12:54:19	-79.6162	27.0001	13:18:57	-79.6155	27.0133	4.02	98.04
5	13:39:25	-79.4996	27.0003	14: 8:39	-79.4994	27.0123	1.09	74.92
6	14:28:40	-79.3830	26.9999	14:54:21	-79.3833	27.0080	-1.84	58.16
7	15:12: 3	-79.2833	27.0004	15:34:39	-79.2839	27.0060	-4.80	45.75
8	15:50:43	-79.1997	26.9999	16: 8:51	-79.2004	27.0024	-6.49	26.19

Table 5: Tables of dropsonde floats measurements made during the cruises on the indicated dates. Station numbers in left column are as shown in Table 1. Tables include information on where the dropsonde floats were deployed, where they surfaced, and the resulting estimated zonal (U) and meridional (V) vertically averaged velocity. NaN indicates no observation at that station.

Sta	Deployed			Surfaced			Mean Velocities	
	Time (GMT)	Lon	Lat	Time (GMT)	Lon	Lat	U cm/s	V cm/s
Cruise date: 2001.05.29								
0	10:55: 3	-79.9297	27.0014	11: 1: 8	-79.9294	27.0056	8.43	123.31
1	11:13:33	-79.8663	27.0011	11:23:51	-79.8658	27.0078	7.87	118.41
2	11:40:18	-79.7829	27.0007	11:55: 9	-79.7820	27.0112	9.62	129.68
3	12:11:50	-79.6833	27.0006	12:32:45	-79.6823	27.0135	6.96	113.55
4	12:45:42	-79.6164	27.0006	13:10:33	-79.6157	27.0135	4.70	95.45
5	13:30:17	-79.5001	27.0002	13:59: 9	-79.4998	27.0100	2.62	62.99
6	14:19: 8	-79.3832	26.9998	14:46:39	-79.3850	27.0077	-10.50	53.26
7	15: 4:49	-79.2830	27.0003	15:28:33	-79.2852	27.0068	-15.15	51.54
8	15:45: 5	-79.1998	27.0001	16: 3:57	-79.2014	27.0049	-13.94	48.74
Cruise date: 2001.08.23								
0	11:11:37	-79.9294	27.0007	11:17:27	-79.9294	27.0024	-2.10	54.44
1	11:31:22	-79.8663	27.0008	11:42: 3	-79.8663	27.0049	0.24	69.03
2	11:58:28	-79.7829	27.0012	12:12:45	-79.7828	27.0095	1.66	106.58
3	12:32: 2	-79.6829	27.0017	12:53:39	-79.6829	27.0161	0.53	122.33
4	13: 7:34	-79.6161	27.0011	13:33:21	-79.6158	27.0162	1.54	107.59
5	13:53:33	-79.4996	27.0008	14:22:33	-79.4993	27.0139	1.57	82.11
6	14:43: 1	-79.3828	27.0006	15: 9:57	-79.3823	27.0105	2.67	68.20
7	15:29:27	-79.2833	27.0006	15:54: 3	-79.2834	27.0061	-0.34	41.33
8	16: 9:30	-79.2000	27.0003	16:27:51	-79.2008	27.0036	-6.70	33.37
Cruise date: 2001.09.05								
0	11: 4:28	-79.9294	27.0008	11:10:44	-79.9291	27.0041	9.57	96.10
1	11:23:14	-79.8663	27.0013	11:33:45	-79.8658	27.0074	8.11	105.66
2	11:49:48	-79.7831	27.0008	12: 5:57	-79.7822	27.0117	8.07	123.12
3	12:23:38	-79.6829	27.0006	12:43:27	-79.6823	27.0131	5.24	116.11
4	13: 0:16	-79.5999	27.0009	13:27:21	-79.5993	27.0148	3.79	94.18
5	13:46:42	-79.4996	27.0003	14:16: 9	-79.4992	27.0130	1.66	79.05
6	14:35:42	-79.3830	27.0005	15: 2:15	-79.3825	27.0094	3.51	61.34
7	15:20: 1	-79.2831	26.9998	15:44: 3	-79.2830	27.0047	0.11	37.56
8	16: 1:12	-79.2001	27.0000	16:20:57	-79.2004	27.0021	-2.58	19.85

Table 6: Same as Table 5 for dropsonde measurements during the cruises on the indicated dates.

Sta	Deployed			Surfaced			Mean Velocities	
	Time (GMT)	Lon	Lat	Time (GMT)	Lon	Lat	U cm/s	V cm/s
Cruise date: 2001.12.14								
0	12:31:47	-79.9306	27.0016	12:37:38	-79.9304	27.0041	5.30	77.90
1	12:53:28	-79.8683	27.0005	13: 3:51	-79.8680	27.0057	4.20	92.23
2	13:23:12	-79.7843	27.0007	13:38:21	-79.7841	27.0080	2.70	88.46
3	14: 1:38	-79.6852	27.0002	14:22:27	-79.6851	27.0107	1.53	92.52
4	14:38:14	-79.6177	27.0010	15: 3:39	-79.6176	27.0123	1.20	81.74
5	15:29:12	-79.5010	26.9998	15:59:25	-79.5014	27.0106	-1.96	65.19
6	16:25:13	-79.3834	27.0004	16:52: 9	-79.3839	27.0083	-3.42	53.32
7	17:13:59	-79.2848	27.0006	17:37:27	-79.2861	27.0075	-9.74	54.28
8	17:57:40	-79.1972	27.0031	18:16:21	-79.1992	27.0087	-17.77	55.73

Table 7: Same as Table 5 for dropsonde measurements during the cruises on the indicated dates.

Appendix C:

XBT temperature profiles

Cruise date: 2001.02.21									
Depth	Sta. 0	Sta. 1	Sta. 2	Sta. 3	Sta. 4	Sta. 5	Sta. 6	Sta. 7	Sta. 8
0	NaN	24.64	24.69	24.99	24.40	24.24	23.82	24.62	24.79
10	NaN	24.65	25.24	25.30	24.75	24.68	24.47	24.73	24.78
20	NaN	24.45	25.26	25.29	24.75	24.68	24.47	24.70	24.76
30	NaN	24.12	25.25	25.06	24.75	24.68	24.46	24.70	24.76
40	NaN	23.77	25.22	24.85	24.75	24.68	24.46	24.68	24.76
50	NaN	22.36	24.30	24.82	24.75	24.67	24.47	24.68	24.76
60	NaN	21.48	23.62	24.81	24.75	24.68	24.48	24.68	24.76
70	NaN	21.06	23.40	24.80	24.75	24.66	24.47	24.67	24.77
80	NaN	20.84	23.05	24.80	24.75	24.67	24.48	24.64	24.76
90	NaN	20.19	22.22	24.69	24.71	24.61	24.46	24.56	24.74
100	NaN	18.75	21.72	24.01	24.47	24.57	24.39	24.54	24.68
110	NaN	17.68	21.33	22.55	24.36	24.53	24.10	24.45	24.45
120	NaN	16.30	20.86	22.33	23.58	24.46	24.10	24.41	24.21
130	NaN	15.63	20.57	21.99	22.00	24.18	24.14	23.83	23.79
140	–	15.02	20.23	21.25	21.53	23.69	23.75	23.50	23.16
150	–	14.19	19.90	20.72	21.22	23.23	23.48	23.37	22.63
160	–	13.84	19.39	20.69	21.11	22.64	22.73	22.87	21.97
170	–	12.53	19.15	20.29	20.69	21.97	22.15	22.76	21.51
180	–	11.41	18.75	20.13	20.40	21.13	21.59	22.15	21.18
190	–	11.00	17.40	19.78	20.31	20.52	20.86	20.95	20.48
200	–	10.80	16.28	19.08	19.93	20.05	20.35	20.48	20.25
210	–	10.30	15.76	18.51	19.57	19.36	19.66	19.80	19.89
220	–	9.98	15.29	17.81	18.69	18.85	19.25	19.16	19.59
230	–	9.70	14.78	17.62	17.87	18.74	18.94	18.94	19.33
240	–	9.14	14.45	17.12	17.10	18.37	18.79	18.78	19.12
250	–	8.84	14.16	16.48	16.70	18.06	18.49	18.62	19.06
260	–	NaN	13.61	15.81	16.19	17.76	18.33	18.44	18.97
270	–	–	12.69	15.36	15.95	17.44	18.17	18.44	18.91
280	–	–	12.13	14.79	15.48	17.20	18.00	18.30	18.87
290	–	–	11.42	14.44	15.09	16.93	17.84	18.25	18.71
300	–	–	11.02	13.96	14.74	16.68	17.70	18.20	18.45
350	–	–	9.81	12.23	13.03	15.43	16.98	17.85	17.84
400	–	–	–	10.38	11.66	13.86	15.58	16.92	17.21
450	–	–	–	9.19	10.90	12.23	14.03	15.85	16.27
500	–	–	–	8.18	9.38	11.47	13.37	14.86	–
550	–	–	–	–	8.37	10.51	12.00	13.90	–
600	–	–	–	–	7.53	9.20	11.15	13.06	–
650	–	–	–	–	6.90	8.30	10.00	–	–
700	–	–	–	–	–	7.68	8.49	–	–
750	–	–	–	–	–	6.36	–	–	–

Table 8: Expendable bathythermograph (XBT) temperature profile data collected during the cruise on the date indicated at the top. Left column indicates the estimated depth in meters from the fall rate. Temperature units are degrees Celsius. NaN indicates missing values due to instrument failure, and dashes indicates depths below bottom for each station.

Cruise date: 2001.02.27									
Depth	Sta. 0	Sta. 1	Sta. 2	Sta. 3	Sta. 4	Sta. 5	Sta. 6	Sta. 7	Sta. 8
0	25.02	24.73	25.00	25.59	25.47	25.69	25.27	25.20	25.13
10	24.54	24.74	24.89	25.38	25.54	25.50	24.90	24.85	24.94
20	24.52	24.64	24.87	25.19	25.48	25.47	24.87	24.77	24.82
30	24.33	24.59	24.82	25.05	25.72	25.25	24.82	24.75	24.70
40	23.73	23.45	24.75	24.21	25.18	24.97	24.80	24.73	24.56
50	23.13	22.85	24.62	23.86	24.82	24.81	24.74	24.72	24.48
60	22.41	22.43	23.42	23.56	24.18	24.72	24.69	24.48	24.37
70	21.83	22.16	22.41	23.12	23.81	24.63	24.60	24.31	24.05
80	21.44	21.49	22.21	22.66	23.47	24.52	24.50	24.03	23.77
90	20.91	21.04	21.98	22.35	22.90	24.49	24.31	24.00	23.59
100	19.30	20.74	21.57	22.19	22.41	24.44	24.32	23.89	23.44
110	17.37	20.36	20.92	21.81	22.37	23.57	24.29	23.83	23.34
120	16.14	20.09	20.74	21.43	22.00	22.66	23.97	23.43	23.29
130	14.11	19.96	20.35	21.27	21.78	22.28	23.38	23.39	23.18
140	–	19.30	19.80	20.92	21.38	22.05	22.52	22.98	23.04
150	–	18.13	19.26	20.49	21.55	21.41	22.11	22.78	22.83
160	–	17.37	19.00	20.19	20.93	20.54	21.84	22.46	22.70
170	–	16.16	18.70	19.71	20.27	20.14	21.58	21.94	22.57
180	–	15.30	18.09	19.09	20.03	20.39	21.24	21.36	22.34
190	–	13.09	17.78	18.55	19.84	20.05	21.02	20.94	21.71
200	–	11.92	17.31	18.15	19.37	19.77	20.50	20.40	21.45
210	–	10.88	16.73	17.72	18.94	19.66	19.97	20.17	20.51
220	–	10.16	15.33	17.33	18.64	19.45	19.77	19.86	20.08
230	–	9.92	14.68	16.98	18.25	19.28	19.41	19.68	19.75
240	–	9.69	14.15	16.25	17.95	19.09	19.07	19.44	19.41
250	–	9.37	13.50	16.03	17.61	18.81	18.72	19.14	19.13
260	–	8.64	12.89	15.61	17.11	18.45	18.50	18.93	19.01
270	–	–	12.11	15.13	16.55	18.11	18.14	18.65	18.76
280	–	–	11.60	14.85	15.94	17.69	17.90	18.43	18.58
290	–	–	11.22	14.65	15.76	17.21	17.70	18.19	18.33
300	–	–	11.02	14.26	15.20	17.01	17.57	17.97	18.13
350	–	–	9.31	12.65	13.88	15.29	16.77	17.33	17.48
400	–	–	–	10.36	12.39	13.22	15.30	16.70	16.58
450	–	–	–	8.92	10.90	11.86	12.60	14.23	15.70
500	–	–	–	7.35	9.56	10.53	11.82	13.51	–
550	–	–	–	–	8.65	9.78	11.15	12.50	–
600	–	–	–	–	7.44	9.38	10.61	12.40	–
650	–	–	–	–	6.90	8.56	10.00	–	–
700	–	–	–	–	–	7.18	NaN	–	–
750	–	–	–	–	–	6.36	–	–	–

Table 9: Same as Table 8 for the cruise on the indicated date.

Cruise date: 2001.05.21									
Depth	Sta. 0	Sta. 1	Sta. 2	Sta. 3	Sta. 4	Sta. 5	Sta. 6	Sta. 7	Sta. 8
0	NaN	26.57	26.83	26.85	26.94	26.94	27.41	27.38	27.47
10	NaN	26.65	26.94	26.94	26.89	26.63	26.66	26.71	26.88
20	NaN	26.55	26.94	26.94	26.88	26.61	26.64	26.66	26.80
30	NaN	25.60	26.92	26.93	26.88	26.58	26.62	26.65	26.75
40	NaN	25.09	26.67	26.90	26.85	26.41	26.42	26.57	26.72
50	NaN	24.73	26.27	26.69	26.77	26.37	26.33	26.44	26.68
60	NaN	24.37	25.29	26.59	26.35	26.29	26.32	26.38	26.44
70	NaN	24.22	24.97	26.27	26.20	26.23	26.28	26.29	26.42
80	NaN	23.46	24.60	25.82	26.03	26.20	26.06	26.28	26.11
90	NaN	22.40	24.03	25.46	25.73	25.87	26.05	26.10	25.92
100	NaN	21.76	23.36	24.93	25.43	25.57	25.81	25.73	25.77
110	NaN	21.01	22.43	24.53	24.94	25.27	25.29	25.06	24.89
120	NaN	20.15	21.52	23.85	24.49	24.57	24.87	24.52	24.64
130	NaN	19.16	20.92	22.75	24.01	23.72	24.35	24.25	24.39
140	–	18.45	20.21	21.50	22.51	22.91	23.53	23.79	24.28
150	–	17.82	19.95	20.77	21.70	22.18	22.96	23.65	23.65
160	–	17.44	19.62	20.03	20.91	22.05	22.62	23.45	23.18
170	–	16.51	19.14	19.69	20.41	21.73	22.62	22.97	22.67
180	–	16.02	18.64	19.49	20.03	21.41	22.09	22.32	22.17
190	–	15.79	18.22	19.16	19.75	21.13	21.33	22.09	21.64
200	–	15.10	17.79	19.05	19.59	20.72	20.96	21.58	21.33
210	–	14.42	17.20	18.69	19.17	20.18	20.84	20.95	21.03
220	–	13.99	16.77	18.40	18.84	19.79	20.36	20.57	20.52
230	–	13.51	16.42	17.91	18.55	19.31	20.17	20.23	20.25
240	–	12.98	15.63	17.50	18.16	19.04	19.77	19.75	19.98
250	–	12.45	15.08	17.14	17.92	18.79	19.51	19.41	19.63
260	–	11.76	14.61	16.74	17.73	18.60	19.09	18.91	19.36
270	–	–	14.17	16.52	17.21	18.37	18.66	18.79	19.22
280	–	–	13.75	16.16	17.05	17.91	18.52	18.60	19.06
290	–	–	13.56	15.87	16.87	17.74	18.40	18.26	18.93
300	–	–	13.13	15.82	16.51	17.55	18.35	18.15	18.76
350	–	–	10.47	14.48	15.25	16.76	17.70	17.67	17.97
400	–	–	–	12.85	13.90	15.46	16.91	17.13	17.54
450	–	–	–	10.15	11.67	13.96	15.74	16.73	16.72
500	–	–	–	9.26	10.68	12.66	14.23	15.30	–
550	–	–	–	–	9.05	11.25	13.18	13.48	–
600	–	–	–	–	8.05	9.93	11.68	12.47	–
650	–	–	–	–	6.83	8.87	10.59	–	–
700	–	–	–	–	–	8.10	10.40	–	–
750	–	–	–	–	–	6.94	–	–	–

Table 10: Same as Table 8 for the cruise on the indicated date.

Cruise date: 2001.05.29									
Depth	Sta. 0	Sta. 1	Sta. 2	Sta. 3	Sta. 4	Sta. 5	Sta. 6	Sta. 7	Sta. 8
0	26.36	26.28	27.77	26.87	NaN	27.02	26.82	26.90	26.83
10	27.03	26.76	27.87	26.83	NaN	27.00	26.76	26.76	26.58
20	27.02	26.70	27.86	26.80	NaN	26.57	26.75	26.72	25.93
30	26.36	26.34	27.49	26.82	NaN	26.39	26.55	26.55	25.42
40	25.61	26.01	27.05	26.71	NaN	26.24	26.23	26.13	25.18
50	24.27	25.66	26.91	26.55	NaN	26.14	26.10	25.83	25.17
60	22.20	25.02	26.49	26.47	NaN	25.79	25.82	25.72	25.01
70	21.00	24.35	26.13	26.46	NaN	25.68	25.72	25.62	24.61
80	19.74	23.59	25.80	26.28	NaN	25.56	25.65	25.55	24.40
90	18.24	22.67	25.31	26.11	NaN	25.48	25.46	25.37	24.23
100	16.37	21.71	24.75	24.88	NaN	25.08	24.92	24.57	24.36
110	15.90	20.52	23.69	25.05	NaN	24.87	24.83	24.43	23.97
120	15.60	19.89	23.43	25.06	NaN	24.46	24.79	24.11	23.53
130	15.24	18.91	22.85	24.21	NaN	24.03	24.69	23.63	23.36
140	–	17.49	22.25	23.16	NaN	23.67	24.01	23.56	23.07
150	–	16.66	21.16	22.54	NaN	23.54	22.72	23.18	22.48
160	–	15.28	20.40	22.02	NaN	23.33	22.29	22.78	22.22
170	–	14.98	19.83	21.11	NaN	22.63	22.02	22.40	22.05
180	–	14.59	19.19	20.49	NaN	21.96	21.64	21.89	21.91
190	–	14.38	18.64	20.34	NaN	21.22	21.24	21.26	21.41
200	–	13.93	18.26	19.54	NaN	20.95	20.94	20.71	20.98
210	–	13.36	17.85	19.43	NaN	20.43	20.38	20.35	20.25
220	–	13.04	17.11	19.20	NaN	20.03	19.96	19.77	20.05
230	–	12.64	16.27	19.11	NaN	19.53	19.69	19.47	19.74
240	–	12.33	14.72	18.85	NaN	19.19	19.32	19.30	19.48
250	–	11.80	14.47	18.75	NaN	18.75	18.89	19.13	19.38
260	–	11.24	13.63	18.44	NaN	18.48	18.61	18.95	19.28
270	–	–	13.33	17.86	NaN	18.37	18.47	18.70	19.24
280	–	–	12.86	17.03	NaN	18.11	18.22	18.54	18.54
290	–	–	12.76	15.99	NaN	17.84	18.19	18.47	18.31
300	–	–	12.46	15.28	NaN	17.50	18.16	18.38	18.30
350	–	–	9.58	13.94	NaN	15.92	17.19	17.82	17.60
400	–	–	–	12.12	NaN	15.22	16.17	17.12	17.15
450	–	–	–	9.99	NaN	12.85	14.43	16.04	16.19
500	–	–	–	7.40	NaN	11.35	13.34	14.41	–
550	–	–	–	–	NaN	10.43	11.82	13.01	–
600	–	–	–	–	NaN	9.45	10.33	12.30	–
650	–	–	–	–	NaN	8.92	10.12	–	–
700	–	–	–	–	–	7.81	NaN	–	–
750	–	–	–	–	–	6.94	–	–	–

Table 11: Same as Table 8 for the cruise on the indicated date.

Cruise date: 2001.08.23									
Depth	Sta. 0	Sta. 1	Sta. 2	Sta. 3	Sta. 4	Sta. 5	Sta. 6	Sta. 7	Sta. 8
0	27.10	28.73	28.81	28.97	28.97	28.89	28.60	28.75	27.90
10	29.56	29.60	29.56	29.59	29.63	29.64	29.65	29.68	29.18
20	29.17	29.59	29.56	29.59	29.63	29.63	29.64	29.66	29.19
30	27.68	28.88	29.34	29.60	29.63	29.62	29.63	29.66	29.16
40	24.37	27.08	28.64	28.87	28.91	28.30	28.73	29.19	29.01
50	22.29	24.96	27.66	27.57	27.49	27.58	27.81	28.06	28.82
60	19.62	22.92	25.32	27.36	27.10	26.98	27.26	27.42	28.61
70	17.70	20.26	23.98	26.17	26.08	26.75	27.05	27.01	28.10
80	16.21	19.36	22.20	23.65	25.41	26.31	26.53	26.60	27.62
90	15.07	18.66	19.36	23.42	24.35	25.57	25.97	26.13	26.43
100	14.13	18.00	18.20	22.57	23.61	25.04	25.37	25.10	25.15
110	13.39	17.31	17.71	21.58	22.81	24.07	24.55	24.65	24.71
120	12.78	16.34	17.34	20.91	21.53	23.65	23.92	23.97	24.15
130	12.76	15.51	16.29	20.24	21.06	22.80	23.18	23.48	23.62
140	–	15.05	15.98	19.50	20.67	22.07	22.74	22.84	22.85
150	–	14.58	15.56	19.23	19.99	21.55	22.33	22.52	22.09
160	–	13.95	14.91	18.68	19.29	21.10	21.28	22.18	21.49
170	–	13.54	14.84	18.11	18.82	20.68	20.77	21.77	21.40
180	–	13.02	14.74	17.70	18.35	20.12	20.19	21.31	20.93
190	–	12.58	14.37	17.30	17.96	19.85	19.96	20.98	20.51
200	–	12.18	14.12	17.12	17.86	19.34	19.90	20.65	20.29
210	–	11.85	13.97	16.69	17.41	18.92	19.78	20.25	20.07
220	–	11.31	13.14	16.25	17.22	18.74	19.72	20.04	19.65
230	–	10.87	12.62	15.77	17.07	18.43	19.40	19.83	19.40
240	–	10.61	12.24	15.22	16.59	18.25	19.00	19.55	19.24
250	–	10.14	12.00	15.02	16.51	18.06	18.69	19.38	19.01
260	–	9.94	11.65	14.97	16.44	17.84	18.54	19.15	18.88
270	–	–	11.39	14.67	16.34	17.78	18.48	19.04	18.71
280	–	–	11.13	14.26	16.14	17.65	18.46	18.91	18.63
290	–	–	10.72	14.04	15.79	17.53	18.35	18.80	18.54
300	–	–	10.21	13.55	15.07	17.37	18.20	18.73	18.47
350	–	–	9.14	12.14	12.98	16.04	17.49	18.14	18.04
400	–	–	–	10.05	11.34	13.38	15.96	16.36	17.35
450	–	–	–	9.25	9.69	11.49	13.51	14.98	16.38
500	–	–	–	7.19	8.49	10.60	11.47	13.41	–
550	–	–	–	–	7.81	9.33	10.54	12.29	–
600	–	–	–	–	7.20	8.40	9.58	11.82	–
650	–	–	–	–	6.37	8.05	9.31	–	–
700	–	–	–	–	–	7.36	9.00	–	–
750	–	–	–	–	–	6.42	–	–	–

Table 12: Same as Table 8 for the cruise on the indicated date.

Cruise date: 2001.09.05									
Depth	Sta. 0	Sta. 1	Sta. 2	Sta. 3	Sta. 4	Sta. 5	Sta. 6	Sta. 7	Sta. 8
0	NaN	28.80	28.78	29.24	NaN	28.05	29.23	22.69	28.63
10	NaN	29.98	29.94	29.96	NaN	29.56	29.83	22.47	29.80
20	NaN	29.95	29.94	29.96	NaN	29.55	29.82	22.34	29.74
30	NaN	29.89	29.87	29.95	NaN	29.47	29.81	23.04	29.74
40	NaN	29.77	29.85	29.87	NaN	28.82	29.45	23.13	29.46
50	NaN	28.74	29.13	28.92	NaN	28.16	28.14	22.24	27.97
60	NaN	27.22	28.36	28.08	NaN	27.22	27.88	21.29	27.66
70	NaN	26.44	27.41	27.17	NaN	26.77	27.47	20.49	27.20
80	NaN	25.36	26.65	26.52	NaN	26.42	27.04	20.09	26.81
90	NaN	24.46	25.63	26.09	NaN	26.22	26.47	19.87	26.43
100	NaN	23.39	25.09	25.34	NaN	25.80	25.78	19.79	26.09
110	NaN	21.91	24.37	24.59	NaN	25.37	25.29	19.62	25.45
120	NaN	19.37	22.77	24.18	NaN	24.94	24.72	19.45	24.57
130	NaN	18.05	22.27	23.77	NaN	23.94	23.83	18.61	24.22
140	–	16.58	21.18	22.34	NaN	23.24	23.16	18.30	23.74
150	–	15.02	20.62	21.43	NaN	22.86	22.84	18.04	22.87
160	–	14.17	19.99	20.58	NaN	22.26	22.67	17.47	22.04
170	–	13.46	18.79	20.19	NaN	21.90	21.93	17.07	21.27
180	–	13.30	16.87	19.86	NaN	21.44	21.76	16.81	21.00
190	–	12.77	15.79	19.59	NaN	20.55	21.63	16.49	20.79
200	–	12.36	15.36	19.08	NaN	20.25	21.03	16.63	20.63
210	–	11.64	14.82	18.44	NaN	19.95	20.03	16.25	20.53
220	–	11.06	14.20	18.00	NaN	19.38	19.56	16.00	20.41
230	–	10.43	13.91	17.35	NaN	18.88	19.37	15.32	20.12
240	–	9.91	13.35	16.97	NaN	18.60	19.12	14.68	19.72
250	–	8.85	12.36	16.50	NaN	18.23	18.96	14.69	18.98
260	–	8.29	11.85	16.31	NaN	17.91	18.77	14.54	18.79
270	–	–	11.20	16.10	NaN	17.49	18.71	14.33	18.69
280	–	–	10.97	15.56	NaN	17.37	18.58	13.85	18.53
290	–	–	10.70	15.20	NaN	17.26	18.50	13.50	18.52
300	–	–	9.82	14.79	NaN	17.07	18.46	12.88	18.37
350	–	–	8.31	11.56	NaN	15.86	17.08	12.19	18.05
400	–	–	–	9.79	NaN	14.65	15.80	11.57	17.63
450	–	–	–	9.14	NaN	13.16	14.43	11.14	16.27
500	–	–	–	8.49	NaN	10.82	13.29	9.89	–
550	–	–	–	–	NaN	9.71	11.80	9.18	–
600	–	–	–	–	NaN	9.13	10.52	8.79	–
650	–	–	–	–	NaN	8.62	9.65	–	–
700	–	–	–	–	–	8.33	NaN	–	–
750	–	–	–	–	–	7.93	–	–	–

Table 13: Same as Table 8 for the cruise on the indicated date.

Cruise date: 2001.12.14									
Depth	Sta. 0	Sta. 1	Sta. 2	Sta. 3	Sta. 4	Sta. 5	Sta. 6	Sta. 7	Sta. 8
0	25.59	25.09	25.60	25.94	25.59	26.47	26.33	26.08	25.98
10	26.00	26.22	26.50	26.63	26.49	26.84	26.82	26.81	26.69
20	26.00	26.21	26.49	26.63	26.49	26.84	26.81	26.79	26.64
30	25.92	26.00	26.48	26.63	26.48	26.83	26.81	26.79	26.62
40	25.84	25.92	26.09	26.50	26.49	26.84	26.82	26.79	26.62
50	25.57	25.60	25.87	26.03	26.52	26.83	26.84	26.71	26.61
60	25.43	25.49	25.71	25.77	26.42	26.84	26.85	26.63	26.51
70	25.31	25.41	25.54	25.91	26.19	26.84	26.89	26.41	26.33
80	25.04	25.18	25.23	25.10	26.01	26.86	26.88	26.31	26.22
90	24.80	25.05	25.12	24.52	25.97	26.08	26.51	26.22	26.05
100	24.04	24.79	24.83	24.11	25.22	25.48	26.03	25.93	25.82
110	23.15	24.25	24.53	24.14	24.14	25.08	25.50	25.56	25.65
120	21.59	23.52	23.86	23.95	24.07	24.79	25.05	24.70	25.46
130	19.31	22.64	22.92	23.53	24.06	23.98	24.41	24.46	24.85
140	–	21.27	21.95	22.47	23.28	23.43	23.55	23.79	24.27
150	–	20.49	21.16	22.09	22.41	22.66	22.97	23.05	23.34
160	–	19.14	20.58	21.08	21.81	22.21	22.33	22.70	22.52
170	–	17.61	19.55	20.02	20.98	21.86	21.87	22.27	22.12
180	–	16.20	18.75	19.27	20.28	21.46	21.62	21.52	21.70
190	–	16.10	18.32	18.95	19.79	20.88	21.39	20.94	21.15
200	–	15.90	17.66	18.47	19.54	20.21	20.85	20.61	20.88
210	–	15.54	17.15	17.89	19.15	19.63	20.47	20.31	20.47
220	–	15.44	17.01	17.24	18.90	19.21	20.20	19.92	20.22
230	–	14.99	16.44	16.78	18.62	18.67	19.57	19.63	19.85
240	–	14.34	16.30	16.51	17.80	18.28	19.26	19.29	19.57
250	–	13.26	15.94	16.24	17.33	17.73	18.91	19.22	19.36
260	–	12.29	15.75	15.83	16.81	17.48	18.64	18.94	19.14
270	–	–	15.37	15.55	16.48	17.47	18.36	18.75	18.91
280	–	–	14.60	15.17	16.24	17.27	18.04	18.35	18.79
290	–	–	13.85	14.82	15.85	17.11	17.78	18.32	18.69
300	–	–	13.36	14.67	15.48	16.80	17.34	18.07	18.56
350	–	–	9.90	13.03	13.86	14.81	16.05	17.18	17.92
400	–	–	–	11.36	12.44	13.92	15.46	16.46	16.96
450	–	–	–	9.55	11.40	12.63	14.60	15.36	16.02
500	–	–	–	8.02	9.83	11.73	13.17	14.44	–
550	–	–	–	–	8.97	10.55	11.88	13.38	–
600	–	–	–	–	8.11	9.11	10.72	13.11	–
650	–	–	–	–	6.95	8.37	9.42	–	–
700	–	–	–	–	–	7.41	NaN	–	–
750	–	–	–	–	–	6.80	–	–	–

Table 14: Same as Table 8 for the cruise on the indicated date.

Appendix D:

LADCP vertical mean velocities

Sta	Deployed			Surfaced			Mean Velocities	
	Time (GMT)	Lon	Lat	Time (GMT)	Lon	Lat	U cm/s	V cm/s
Cruise date: 2001.05.24								
0	10: 7:42	-79.9304	27.0038	10:13:50	-79.9323	27.0093	-5.97	104.15
1	9: 2:44	-79.8657	27.0054	9:19: 5	-79.8666	27.0183	-1.94	77.56
2	7: 3:48	-79.7833	27.0031	7:22:29	-79.7854	27.0171	-11.59	85.17
3	5:25:33	-79.6834	27.0070	5:48: 1	-79.6789	27.0207	-8.70	91.57
4	4: 4:18	-79.6152	27.0024	4:33:47	-79.6058	27.0159	-9.35	86.83
5	2:22:17	-79.4986	27.0067	2:53:29	-79.4883	27.0181	-10.13	76.20
6	0:27:51	-79.3837	27.0008	1: 2:27	-79.3677	27.0136	-11.38	35.11
7	22:40: 3	-79.2803	27.0038	23:15:41	-79.2671	27.0166	-13.34	47.30
8	21: 3:21	-79.1938	27.0148	21:31:26	-79.1827	27.0192	-21.03	52.84
Cruise date: 2001.08.28								
0	10: 5:36	-79.9304	27.0029	10:12:58	-79.9308	27.0064	-6.15	29.84
1	9:18:27	-79.8668	27.0048	9:30:51	-79.8670	27.0129	3.65	52.19
2	8:11:32	-79.7849	27.0054	8:30:11	-79.7845	27.0219	4.32	96.09
3	6:56:26	-79.6844	27.0031	7:17:51	-79.6844	27.0216	-0.59	117.35
4	5:45:21	-79.6149	27.0035	6:12:26	-79.6149	27.0234	-1.58	97.25
5	4:20:52	-79.5005	27.0033	4:50:24	-79.5000	27.0198	-3.66	66.86
6	3: 4:51	-79.3845	27.0030	3:30:35	-79.3860	27.0134	-3.63	50.08
7	1:58:20	-79.2842	27.0011	2:22: 2	-79.2867	27.0070	-10.28	46.01
8	1: 1:41	-79.2012	26.9995	1:19: 5	-79.2024	27.0010	-16.62	44.63
Cruise date: 2001.12.12								
0	12:52:18	-79.9299	27.0036	12:59:36	-79.9289	27.0079	8.28	57.50
1	11:59:54	-79.8676	27.0021	12:12:42	-79.8664	27.0129	3.38	95.52
2	11: 1:15	-79.7852	27.0011	11:17: 0	-79.7903	27.0136	1.02	102.63
3	9:43:31	-79.6850	26.9986	10: 4: 1	-79.6904	27.0076	6.75	107.39
4	8:32:44	-79.6137	26.9949	8:59:56	-79.6229	27.0089	11.49	105.90
5	6:53:29	-79.4995	26.9945	7:32:47	-79.5082	27.0011	1.57	79.92
6	5:10:50	-79.3854	27.0031	5:45:35	-79.3962	27.0265	-7.34	64.04
7	3:58:11	-79.2845	27.0026	4:23: 8	-79.2905	27.0132	-8.50	48.54
8	17:56:37	-79.2013	27.0004	18:18:49	-79.2039	27.0033	-17.89	44.32

Table 15: Tables of vertically averaged velocity determined from lowered acoustic Doppler current profiler (LADCP) data collected during the indicated dates (see Table 3). Station numbers in left column are as shown in Table 1. Tables include information on where the LADCP cast was started ("Deployed"), where it ended ("Surfaced"), and the resulting estimated zonal (U) and meridional (V) vertically average velocity.

Appendix E:

CTD and LADCP profiles

Cruise ID: ws0108. Station: 0					
Pressure	Temperature	Salinity	Oxygen	U speed	V speed
[db]	[deg. C]	[psu]	[ml/l]	[cm/s]	[cm/s]
1	26.78	36.21	3.96	NaN	NaN
10	26.79	36.21	3.99	-16.8	145.4
20	26.79	36.21	3.99	-16.8	145.4
30	25.98	36.34	4.09	-16.8	145.4
40	25.32	36.39	4.15	-13.6	134.5
50	25.04	36.43	4.18	-15.1	127.4
60	24.68	36.45	4.23	-12.2	130.6
70	24.10	36.43	4.21	-4.6	124.4
80	22.87	36.50	3.89	-1.7	116.3
90	22.62	36.54	3.81	-1.0	96.8
100	20.70	36.58	3.94	0.7	87.8
110	20.16	36.57	3.63	4.4	77.3
120	18.95	36.39	3.64	3.9	60.7
130	16.89	36.22	3.17	4.1	41.5
140	15.74	36.07	2.92	2.0	24.7

Table 16: Profiles of temperature, salinity, dissolved oxygen, zonal (U) and meridional (V) velocity observed during the cruise ID and station indicated with the combined CTD and LADCP. NaN indicates missing values.

Cruise ID: ws0108. Station: 1					
Pressure	Temperature	Salinity	Oxygen	U speed	V speed
[db]	[deg. C]	[psu]	[ml/l]	[cm/s]	[cm/s]
1	26.98	36.19	3.97	NaN	NaN
10	27.00	36.19	3.98	-9.9	159.4
20	27.00	36.19	3.98	-9.9	159.4
30	27.00	36.19	3.98	-9.9	159.4
40	26.17	36.29	4.05	-9.9	159.4
50	25.73	36.44	3.91	-4.3	149.1
60	25.17	36.39	4.16	-4.7	142.6
70	25.01	36.40	4.18	-6.2	138.7
80	24.77	36.50	4.22	-9.3	134.3
90	23.84	36.40	4.24	-11.0	127.4
100	22.26	36.52	3.78	0.7	112.7
110	21.42	36.58	3.85	6.6	90.4
120	21.04	36.60	3.68	5.0	82.3
130	20.43	36.58	3.54	5.9	79.7
140	19.95	36.56	3.59	6.1	71.0
150	19.29	36.51	3.37	4.4	55.5
160	18.41	36.44	3.16	3.3	51.1
170	17.74	36.34	3.06	1.9	42.5
180	16.46	36.14	3.04	-0.8	27.1
190	16.14	36.11	2.98	-0.2	12.5
200	15.83	36.09	2.88	-0.8	4.2
210	15.55	36.05	2.88	-3.1	-0.0
220	14.98	35.97	2.88	-2.5	-0.7
230	13.95	35.82	2.85	0.6	-1.1
240	13.10	35.70	2.84	0.5	-7.9
250	12.38	35.59	2.85	-1.0	-10.2
260	11.22	35.43	2.80	NaN	NaN

Table 17: Same as Table 16 for the cruise ID and the station number indicated.

Cruise ID: ws0108. Station: 2					
Pressure	Temperature	Salinity	Oxygen	U speed	V speed
[db]	[deg. C]	[psu]	[ml/l]	[cm/s]	[cm/s]
1	26.93	36.14	4.00	NaN	NaN
10	26.94	36.14	4.01	-31.8	157.2
20	26.94	36.14	4.02	-31.8	157.2
30	26.87	36.15	4.03	-31.8	157.2
40	26.80	36.15	4.03	-31.8	157.2
50	26.66	36.20	4.04	-29.8	157.6
60	26.24	36.21	4.00	-29.5	157.6
70	25.80	36.41	3.91	-19.9	154.7
80	25.17	36.40	4.16	-16.3	146.7
90	24.92	36.42	4.17	-18.1	144.1
100	24.72	36.64	3.86	-21.1	142.8
110	23.47	36.63	3.67	-18.4	139.8
120	22.61	36.57	3.79	-7.8	125.2
130	21.36	36.60	3.34	-5.3	112.0
140	21.03	36.61	3.62	-4.0	104.1
150	20.29	36.59	3.43	-4.8	99.8
160	19.85	36.58	3.46	-2.2	98.5
170	19.61	36.58	3.46	2.0	89.2
180	19.20	36.54	3.25	-0.3	77.9
190	18.72	36.47	3.21	-6.8	74.5
200	18.41	36.45	3.09	-11.7	76.2
210	17.88	36.39	3.01	-9.5	76.0
220	17.32	36.32	3.03	-4.3	71.8
230	16.82	36.25	2.92	0.8	66.5
240	16.65	36.22	2.92	2.6	59.9
250	16.31	36.17	2.91	2.1	52.9
260	15.51	36.04	2.91	-4.4	44.4
270	15.06	35.98	2.87	-9.7	39.4
280	14.70	35.93	2.86	-13.5	38.5
290	13.58	35.76	2.85	-12.5	37.0
300	12.41	35.59	2.80	-11.9	31.6
350	8.46	35.05	2.82	-1.0	9.6

Table 18: Same as Table 16 for the cruise ID and the station number indicated.

Cruise ID: ws0108. Station: 3					
Pressure	Temperature	Salinity	Oxygen	U speed	V speed
[db]	[deg. C]	[psu]	[ml/l]	[cm/s]	[cm/s]
1	26.81	36.09	4.00	NaN	NaN
10	26.81	36.09	4.00	-30.0	133.1
20	26.83	36.11	4.03	-30.0	133.1
30	26.72	36.16	4.04	-30.0	133.1
40	26.55	36.14	4.07	-30.0	133.1
50	26.32	36.17	4.03	-33.8	135.6
60	26.22	36.18	3.98	-34.1	140.1
70	25.90	36.24	3.95	-28.5	141.0
80	25.50	36.32	3.96	-26.9	143.7
90	25.42	36.45	3.88	-27.8	146.1
100	25.37	36.56	3.67	-26.3	144.0
110	25.04	36.67	3.55	-22.0	141.5
120	24.49	36.75	3.50	-17.0	139.5
130	23.68	36.80	3.39	-13.6	138.7
140	22.96	36.80	3.26	-6.3	133.6
150	22.02	36.77	3.21	-7.2	123.8
160	21.13	36.63	3.31	-11.8	126.2
170	20.29	36.59	3.17	-10.7	123.4
180	20.13	36.71	3.15	-8.6	122.1
190	19.57	36.62	3.17	-8.1	117.0
200	19.02	36.56	3.16	-12.8	109.8
210	18.64	36.50	3.27	-14.9	109.9
220	18.23	36.44	3.23	-14.0	111.1
230	18.05	36.42	3.23	-10.9	111.5
240	17.82	36.41	3.12	-10.2	110.9
250	17.53	36.36	3.09	-9.9	111.4
260	17.12	36.30	3.05	-10.2	112.2
270	16.73	36.24	2.99	-7.1	111.6
280	16.51	36.21	2.97	-4.3	107.4
290	16.24	36.17	2.96	-3.2	104.5
300	15.91	36.12	2.93	-1.3	103.7
350	13.28	35.71	2.80	1.4	87.5
400	9.85	35.23	2.77	3.4	46.7
450	7.93	34.99	2.87	3.0	21.3
500	7.24	34.93	2.99	5.1	9.3

Table 19: Same as Table 16 for the cruise ID and the station number indicated.

Cruise ID: ws0108. Station: 4					
Pressure	Temperature	Salinity	Oxygen	U speed	V speed
[db]	[deg. C]	[psu]	[ml/l]	[cm/s]	[cm/s]
1	26.72	36.08	3.95	NaN	NaN
10	26.73	36.08	4.01	-29.8	124.5
20	26.73	36.10	4.02	-29.8	124.5
30	26.69	36.14	4.01	-29.8	124.5
40	26.40	36.16	4.05	-29.8	124.5
50	26.26	36.15	4.05	-29.8	124.5
60	26.26	36.16	4.02	-28.3	122.9
70	26.13	36.22	4.05	-27.7	114.5
80	25.60	36.28	3.99	-27.1	111.9
90	25.54	36.32	3.91	-27.9	109.9
100	25.17	36.46	4.03	-26.4	108.8
110	25.08	36.60	3.88	-25.5	109.2
120	24.32	36.60	3.60	-24.2	110.8
130	24.08	36.66	3.44	-23.0	114.8
140	22.75	36.83	3.17	-17.4	120.3
150	22.41	36.82	3.19	-13.3	123.8
160	22.01	36.86	3.13	-11.4	122.7
170	21.61	36.85	3.14	-11.4	120.9
180	20.94	36.80	3.17	-12.8	118.8
190	20.12	36.72	3.20	-15.0	118.6
200	19.36	36.61	3.19	-14.2	119.4
210	18.89	36.57	3.27	-14.8	117.9
220	18.63	36.54	3.28	-13.0	115.5
230	18.30	36.51	3.35	-11.3	115.3
240	17.95	36.45	3.32	-12.4	116.5
250	17.67	36.41	3.37	-14.5	117.6
260	17.50	36.39	3.35	-15.8	120.1
270	17.34	36.36	3.38	-14.0	120.6
280	17.22	36.35	3.38	-9.0	116.4
290	16.91	36.30	3.34	-7.7	113.7
300	16.58	36.24	3.32	-5.8	116.8
350	15.25	36.02	3.17	-7.0	103.8
400	12.81	35.63	2.81	-6.5	91.1
450	10.94	35.37	2.78	-4.1	60.9
500	8.54	35.05	2.80	0.8	43.3
550	7.45	34.93	2.90	7.5	32.8
600	7.00	34.91	3.05	4.1	21.6
650	6.42	34.90	3.27	NaN	NaN

Table 20: Same as Table 16 for the cruise ID and the station number indicated.

Cruise ID: ws0108. Station: 5					
Pressure	Temperature	Salinity	Oxygen	U speed	V speed
[db]	[deg. C]	[psu]	[ml/l]	[cm/s]	[cm/s]
1	26.59	36.07	4.01	NaN	NaN
10	26.60	36.07	4.03	-22.4	105.0
20	26.61	36.08	4.00	-22.4	105.0
30	26.57	36.10	4.02	-22.4	105.0
40	26.35	36.15	4.05	-22.4	105.0
50	26.20	36.17	4.03	-22.4	105.0
60	26.10	36.19	4.01	-23.2	109.6
70	25.96	36.22	3.98	-28.5	110.1
80	25.90	36.24	3.98	-30.9	107.0
90	25.48	36.35	3.87	-33.2	104.0
100	25.37	36.40	3.76	-30.9	102.9
110	25.03	36.52	3.60	-28.7	102.6
120	24.78	36.61	3.58	-27.4	102.4
130	23.74	36.76	4.06	-25.7	103.8
140	23.28	36.86	3.94	-23.9	103.6
150	21.84	36.83	3.87	-22.3	102.2
160	21.53	36.84	3.53	-17.4	100.9
170	20.90	36.83	3.62	-13.5	103.9
180	20.40	36.76	3.69	-19.2	106.7
190	19.86	36.71	3.66	-20.9	109.3
200	19.47	36.68	3.89	-21.9	110.8
210	19.28	36.67	3.90	-19.0	109.9
220	19.00	36.63	3.91	-13.1	108.3
230	18.97	36.63	3.85	-9.8	106.4
240	18.87	36.61	3.86	-8.1	105.1
250	18.50	36.57	3.87	-4.1	103.1
260	18.39	36.56	3.93	-2.2	101.1
270	18.08	36.49	3.80	-2.4	98.5
280	17.71	36.41	3.33	-8.7	95.0
290	17.66	36.41	3.35	-8.2	93.7
300	17.61	36.40	3.33	-6.1	92.4
350	17.24	36.35	3.40	-8.8	87.9
400	15.20	36.01	3.11	-10.1	75.6
450	12.52	35.56	2.89	-2.4	70.0
500	11.13	35.36	2.78	-11.5	59.0
550	9.92	35.20	2.70	-11.9	48.9
600	9.02	35.10	2.79	-5.3	42.3
650	8.34	35.02	2.78	4.6	37.5
700	7.23	34.92	2.97	5.1	27.9
750	6.83	34.91	3.10	NaN	NaN

Table 21: Same as Table 16 for the cruise ID and the station number indicated.

Cruise ID: ws0108. Station: 6					
Pressure	Temperature	Salinity	Oxygen	U speed	V speed
[db]	[deg. C]	[psu]	[ml/l]	[cm/s]	[cm/s]
1	26.62	36.06	3.96	NaN	NaN
10	26.63	36.06	3.98	-20.9	30.2
20	26.53	36.09	3.97	-20.9	30.2
30	26.35	36.15	4.00	-20.9	30.2
40	26.10	36.19	4.01	-20.9	30.2
50	26.04	36.20	4.00	-20.9	30.2
60	25.85	36.23	3.97	-19.1	35.2
70	25.57	36.28	3.94	-18.0	37.2
80	25.20	36.40	3.72	-19.8	40.7
90	24.93	36.49	3.60	-20.5	40.4
100	24.76	36.57	3.53	-21.3	42.4
110	24.57	36.63	3.46	-19.7	44.6
120	24.16	36.72	3.39	-20.0	45.7
130	23.67	36.81	3.53	-17.7	47.5
140	23.09	36.86	3.97	-14.9	48.2
150	22.43	36.87	4.02	-12.4	47.2
160	22.19	36.87	3.98	-10.9	48.9
170	21.38	36.82	3.56	-15.4	48.7
180	20.89	36.79	3.81	-15.7	47.9
190	20.51	36.77	3.89	-13.9	50.1
200	19.69	36.70	3.85	-14.4	50.7
210	19.41	36.67	3.79	-15.1	48.7
220	19.27	36.66	3.83	-16.4	45.5
230	19.23	36.66	3.86	-18.0	43.7
240	19.17	36.65	3.87	-15.7	41.5
250	19.03	36.63	3.89	-15.2	41.6
260	18.80	36.60	3.89	-13.2	41.1
270	18.74	36.60	3.85	-11.3	42.5
280	18.72	36.59	3.85	-10.4	45.9
290	18.67	36.58	3.83	-10.6	47.8
300	18.13	36.48	3.64	-11.7	48.7
350	17.28	36.35	3.36	-10.0	50.2
400	16.00	36.14	3.22	-9.8	48.9
450	14.25	35.85	2.99	-8.4	39.8
500	12.57	35.58	2.73	-3.2	29.2
550	10.78	35.31	2.75	-8.2	18.9
600	9.87	35.19	2.75	-3.9	7.7
650	9.69	35.24	3.12	-6.4	7.2
700	9.80	35.26	3.13	NaN	NaN

Table 22: Same as Table 16 for the cruise ID and the station number indicated.

Cruise ID: ws0108. Station: 7					
Pressure	Temperature	Salinity	Oxygen	U speed	V speed
[db]	[deg. C]	[psu]	[ml/l]	[cm/s]	[cm/s]
1	26.53	36.09	3.98	NaN	NaN
10	26.54	36.09	4.05	-10.8	15.2
20	26.55	36.11	4.03	-10.8	15.2
30	26.55	36.12	4.01	-10.8	15.2
40	26.54	36.14	4.04	-10.8	15.2
50	26.11	36.20	4.03	-10.8	15.2
60	25.84	36.24	3.97	-10.9	15.2
70	25.65	36.27	3.89	-15.5	21.2
80	25.08	36.47	3.65	-16.6	29.1
90	24.67	36.56	3.60	-17.7	37.0
100	24.30	36.66	3.43	-9.9	43.6
110	24.01	36.69	3.38	-11.7	46.6
120	23.76	36.76	3.45	-15.5	49.2
130	23.38	36.84	3.72	-16.5	49.3
140	23.12	36.88	3.94	-16.2	50.8
150	22.20	36.87	3.96	-17.3	52.1
160	21.65	36.84	3.98	-17.1	55.2
170	21.30	36.83	3.97	-19.3	60.9
180	20.98	36.81	3.91	-21.7	61.3
190	20.82	36.80	3.95	-20.7	60.6
200	20.40	36.75	3.96	-20.2	60.1
210	20.15	36.73	3.98	-19.5	59.1
220	19.87	36.71	3.98	-17.5	59.4
230	19.71	36.69	4.00	-16.1	59.5
240	19.60	36.69	3.98	-15.3	59.5
250	19.34	36.66	3.91	-13.9	58.4
260	19.28	36.65	4.02	-14.3	60.2
270	19.06	36.63	3.97	-14.8	61.4
280	18.87	36.61	3.83	-14.3	61.3
290	18.71	36.59	3.87	-14.4	61.6
300	18.57	36.57	3.95	-14.4	61.8
350	17.85	36.48	3.95	-14.7	60.1
400	16.70	36.30	3.86	-12.2	57.0
450	15.96	36.18	3.76	-12.4	53.4
500	14.65	35.96	3.63	-9.2	41.4
550	12.90	35.70	3.44	-6.2	37.5
600	12.41	35.63	3.38	NaN	NaN

Table 23: Same as Table 16 for the cruise ID and the station number indicated.

Cruise ID: ws0108. Station: 8					
Pressure	Temperature	Salinity	Oxygen	U speed	V speed
[db]	[deg. C]	[psu]	[ml/l]	[cm/s]	[cm/s]
1	26.70	36.08	3.86	NaN	NaN
10	26.71	36.09	3.91	-26.4	57.4
20	26.77	36.13	3.92	-26.4	57.4
30	26.79	36.14	3.90	-26.4	57.4
40	26.77	36.15	3.93	-26.5	57.4
50	25.64	36.33	3.97	-26.5	57.4
60	25.28	36.41	3.95	-26.5	57.4
70	24.39	36.65	3.80	-26.5	57.4
80	24.10	36.69	3.90	-30.8	61.4
90	23.76	36.76	3.95	-31.5	64.1
100	23.54	36.84	3.93	-24.8	62.4
110	23.22	36.88	3.92	-21.2	60.8
120	22.97	36.90	3.94	-20.0	59.3
130	22.84	36.89	3.95	-19.7	57.6
140	22.64	36.88	3.95	-22.4	57.3
150	22.13	36.87	3.98	-23.1	56.4
160	21.66	36.85	4.03	-25.1	57.3
170	21.48	36.83	4.03	-28.6	59.1
180	21.22	36.81	4.00	-28.7	58.0
190	20.98	36.80	3.98	-30.5	57.0
200	20.56	36.77	3.99	-29.6	58.1
210	20.16	36.73	4.02	-28.1	58.0
220	19.91	36.71	4.01	-27.5	56.2
230	19.73	36.70	4.01	-26.2	56.0
240	19.44	36.67	3.99	-23.7	56.9
250	19.26	36.65	4.01	-21.2	55.0
260	19.15	36.64	4.02	-17.4	53.7
270	19.07	36.63	3.96	-14.1	53.6
280	19.03	36.63	4.04	-11.8	53.3
290	18.93	36.62	4.10	-14.6	50.6
300	18.81	36.60	4.08	-16.5	48.3
350	17.79	36.47	4.03	-11.9	43.5
400	17.25	36.39	3.95	-14.5	38.7

Table 24: Same as Table 16 for the cruise ID and the station number indicated.

Cruise ID: ws0116. Station: 0					
Pressure	Temperature	Salinity	Oxygen	U speed	V speed
[db]	[deg. C]	[psu]	[ml/l]	[cm/s]	[cm/s]
1	29.42	35.73	4.07	NaN	NaN
10	29.43	35.73	4.05	-7.5	93.1
20	29.15	35.95	4.18	-7.5	93.1
30	28.52	36.16	4.18	-7.5	93.1
40	26.89	36.29	4.18	-7.5	93.1
50	26.26	36.37	4.15	1.5	67.3
60	24.75	36.30	4.19	-8.3	39.4
70	23.11	36.24	4.30	-14.8	10.9
80	21.33	36.30	4.09	-15.2	-3.3
90	20.16	36.30	3.81	-10.1	-13.3
100	18.46	36.30	3.50	-7.2	-10.7
110	17.12	36.22	3.29	-4.5	-10.7
120	16.12	36.10	3.15	-2.9	-10.6
130	14.75	35.92	3.02	-0.0	-11.0
140	14.00	35.83	2.91	5.2	-12.7
150	13.95	35.82	2.89	NaN	NaN

Table 25: Same as Table 16 for the cruise ID and the station number indicated.

Cruise ID: ws0116. Station: 1					
Pressure	Temperature	Salinity	Oxygen	U speed	V speed
[db]	[deg. C]	[psu]	[ml/l]	[cm/s]	[cm/s]
1	29.63	36.00	4.00	NaN	NaN
10	29.65	36.00	4.05	2.9	125.9
20	29.66	36.00	4.05	2.9	125.9
30	29.49	36.22	4.07	2.9	125.9
40	28.96	36.23	4.05	2.9	125.9
50	27.93	36.24	4.14	2.9	125.9
60	26.78	36.30	4.29	2.9	125.9
70	25.27	36.40	4.20	11.2	109.9
80	24.08	36.43	4.12	14.6	90.0
90	22.55	36.39	4.02	11.6	63.4
100	21.24	36.37	4.00	3.7	54.5
110	18.30	36.23	3.70	5.0	50.8
120	17.43	36.24	3.31	5.7	41.6
130	16.33	36.14	3.15	7.6	34.8
140	15.26	35.98	3.09	5.9	32.0
150	14.51	35.89	3.03	6.1	30.6
160	13.88	35.80	2.99	8.3	22.9
170	13.10	35.69	2.97	6.5	13.5
180	12.44	35.60	2.96	5.0	7.7
190	12.30	35.58	2.93	2.4	7.3
200	11.51	35.47	2.97	-0.4	6.7
210	11.16	35.42	2.99	-2.0	0.4
220	10.48	35.32	2.96	-3.8	-2.3
230	10.19	35.27	2.93	-4.0	-2.9
240	9.79	35.22	2.97	-4.5	-4.6
250	9.01	35.14	3.05	-5.0	-7.0
260	8.75	35.12	3.11	NaN	NaN

Table 26: Same as Table 16 for the cruise ID and the station number indicated.

Cruise ID: ws0116. Station: 2					
Pressure	Temperature	Salinity	Oxygen	U speed	V speed
[db]	[deg. C]	[psu]	[ml/l]	[cm/s]	[cm/s]
1	29.88	36.27	4.16	NaN	NaN
10	29.89	36.27	4.16	3.5	180.9
20	29.90	36.27	3.96	3.5	180.9
30	29.90	36.27	4.02	3.5	180.9
40	29.39	36.18	4.09	3.5	180.9
50	28.24	36.25	4.27	3.5	180.9
60	27.46	36.33	4.25	3.5	185.0
70	26.98	36.40	4.10	4.4	187.1
80	26.31	36.46	4.09	6.1	183.9
90	25.06	36.45	4.11	11.1	173.4
100	22.57	36.46	4.01	13.1	159.7
110	21.36	36.37	3.94	16.8	146.5
120	20.35	36.46	3.55	12.2	139.0
130	19.89	36.63	3.29	4.5	136.9
140	19.25	36.63	3.24	4.5	134.5
150	18.97	36.60	3.31	8.1	138.3
160	18.43	36.52	3.34	9.2	135.9
170	17.52	36.35	3.22	14.1	122.5
180	16.68	36.20	3.15	13.0	105.0
190	15.66	36.02	3.08	7.1	92.8
200	14.86	35.91	3.03	5.1	81.0
210	13.81	35.77	3.02	1.9	68.9
220	13.12	35.69	2.97	0.5	62.1
230	12.58	35.60	2.91	-0.0	58.1
240	12.16	35.54	2.90	2.2	55.6
250	11.54	35.45	2.88	2.7	50.1
260	10.70	35.33	2.86	4.7	41.4
270	10.20	35.26	2.82	3.3	35.3
280	10.14	35.26	2.87	-0.2	30.1
290	10.01	35.25	2.93	-1.0	25.6
300	9.85	35.25	2.98	-0.3	21.3
350	8.80	35.13	3.19	-1.2	11.7

Table 27: Same as Table 16 for the cruise ID and the station number indicated.

Cruise ID: ws0116. Station: 3					
Pressure	Temperature	Salinity	Oxygen	U speed	V speed
[db]	[deg. C]	[psu]	[ml/l]	[cm/s]	[cm/s]
1	29.66	36.25	3.99	NaN	NaN
10	29.68	36.25	3.99	10.9	186.3
20	29.68	36.25	4.00	10.9	186.3
30	29.65	36.26	4.02	10.9	186.3
40	28.83	36.26	4.16	10.9	186.3
50	28.06	36.26	4.30	10.9	186.3
60	27.55	36.34	4.19	10.9	186.3
70	27.06	36.40	4.12	7.3	183.5
80	26.44	36.43	4.03	4.8	179.2
90	26.00	36.49	3.97	3.4	176.6
100	24.88	36.66	3.72	-1.9	174.3
110	24.27	36.74	3.59	-10.1	173.4
120	23.41	36.85	3.52	-3.2	170.9
130	22.59	36.89	3.31	5.5	162.8
140	21.38	36.84	3.22	9.1	149.0
150	20.74	36.80	3.21	5.3	138.2
160	20.09	36.74	3.29	-2.8	135.1
170	19.75	36.71	3.30	-7.0	134.5
180	19.00	36.62	3.34	-2.8	139.7
190	18.50	36.55	3.41	2.9	143.5
200	18.15	36.51	3.45	3.6	145.6
210	17.53	36.41	3.44	11.9	139.8
220	16.22	36.20	3.43	11.8	126.9
230	15.96	36.15	3.34	5.0	119.3
240	15.46	36.07	3.33	1.2	118.2
250	14.78	35.95	3.31	4.2	115.3
260	14.30	35.87	3.22	10.4	112.0
270	13.52	35.74	3.15	10.7	104.4
280	13.08	35.67	3.09	5.8	95.9
290	12.89	35.64	3.06	-1.9	94.2
300	12.61	35.60	3.06	-6.9	95.9
350	11.34	35.40	2.94	-6.3	86.7
400	9.84	35.19	2.90	-4.6	80.2
450	9.10	35.09	2.93	-8.5	71.4
500	7.85	34.98	3.13	-12.7	51.3

Table 28: Same as Table 16 for the cruise ID and the station number indicated.

Cruise ID: ws0116. Station: 4					
Pressure	Temperature	Salinity	Oxygen	U speed	V speed
[db]	[deg. C]	[psu]	[ml/l]	[cm/s]	[cm/s]
1	29.56	36.22	4.09	NaN	NaN
10	29.57	36.22	4.09	-2.7	188.5
20	29.57	36.23	4.05	-2.7	188.5
30	29.56	36.23	4.05	-2.7	188.5
40	28.87	36.26	4.19	-2.7	188.5
50	28.12	36.27	4.24	-2.7	188.5
60	27.48	36.33	4.23	2.1	187.2
70	26.82	36.36	4.18	-0.5	185.9
80	26.52	36.37	4.03	-4.0	182.5
90	26.08	36.44	4.01	-2.2	181.9
100	25.73	36.42	3.83	-3.9	182.1
110	24.96	36.46	3.80	-3.7	178.4
120	24.46	36.74	3.66	-7.7	170.7
130	23.57	36.86	3.45	-6.3	163.2
140	22.51	36.89	3.39	-2.9	159.6
150	21.54	36.85	3.22	-1.9	150.7
160	20.92	36.82	3.22	-0.0	140.7
170	20.14	36.74	3.27	-1.8	132.1
180	19.58	36.69	3.28	-5.6	128.2
190	19.05	36.62	3.31	-9.5	128.4
200	18.52	36.56	3.39	-9.6	129.7
210	17.90	36.47	3.46	-7.9	127.6
220	17.59	36.42	3.50	-7.7	125.2
230	17.23	36.37	3.55	-5.0	122.5
240	16.78	36.29	3.51	-3.5	118.9
250	16.32	36.21	3.43	-2.7	113.5
260	15.97	36.15	3.40	-4.2	112.2
270	15.92	36.14	3.40	-2.7	112.7
280	15.54	36.08	3.36	1.2	110.7
290	15.14	36.01	3.34	3.2	104.3
300	14.13	35.84	3.30	4.4	94.5
350	12.61	35.59	3.08	7.5	77.6
400	10.76	35.31	2.92	-4.8	66.7
450	9.73	35.17	2.90	0.8	59.0
500	9.18	35.10	2.92	5.3	50.5
550	8.12	34.99	2.99	-0.1	29.6
600	7.37	34.94	3.13	-4.9	23.1
650	6.40	34.91	3.50	NaN	NaN

Table 29: Same as Table 16 for the cruise ID and the station number indicated.

Cruise ID: ws0116. Station: 5					
Pressure	Temperature	Salinity	Oxygen	U speed	V speed
[db]	[deg. C]	[psu]	[ml/l]	[cm/s]	[cm/s]
1	29.30	36.18	4.09	NaN	NaN
10	29.33	36.18	4.08	-0.9	155.5
20	29.30	36.17	4.05	-0.9	155.5
30	29.07	36.13	4.14	-0.9	155.5
40	28.63	36.15	4.34	-0.9	155.5
50	27.89	36.13	4.42	-0.9	155.5
60	27.11	36.13	4.50	-4.7	149.9
70	26.66	36.15	4.33	-2.5	144.9
80	26.41	36.19	4.19	-2.7	142.1
90	26.04	36.27	4.07	-6.0	136.8
100	25.64	36.37	3.86	-9.0	135.8
110	25.33	36.44	3.77	-14.0	134.4
120	24.96	36.50	3.76	-15.9	129.8
130	24.73	36.69	3.61	-15.6	126.5
140	24.11	36.81	3.50	-12.7	120.6
150	23.70	36.85	3.47	-17.1	118.9
160	22.80	36.89	3.35	-19.9	116.8
170	21.89	36.86	3.20	-12.7	107.7
180	20.89	36.81	3.20	-6.8	100.6
190	20.42	36.77	3.26	-4.1	97.2
200	20.03	36.73	3.22	-4.2	95.6
210	19.60	36.69	3.34	-7.2	94.9
220	19.28	36.65	3.32	-6.2	94.9
230	18.96	36.61	3.35	-3.2	92.3
240	18.65	36.57	3.40	-2.1	91.9
250	18.30	36.53	3.40	-2.8	88.4
260	17.84	36.46	3.53	-1.4	85.6
270	17.37	36.39	3.53	-2.8	83.3
280	16.90	36.30	3.55	-4.6	80.3
290	16.31	36.21	3.45	-6.0	77.5
300	15.89	36.13	3.35	-4.9	73.1
350	14.18	35.85	3.18	-8.3	64.3
400	12.50	35.57	3.03	-4.0	55.0
450	11.21	35.38	2.89	2.3	47.7
500	9.77	35.18	2.87	1.7	36.9
550	8.84	35.07	2.93	2.2	28.1
600	8.23	35.00	3.00	-0.7	22.2
650	7.58	34.94	3.09	0.6	10.9
700	7.22	34.93	3.19	-3.9	7.1
750	6.43	34.91	3.48	-8.1	5.8

Table 30: Same as Table 16 for the cruise ID and the station number indicated.

Cruise ID: ws0116. Station: 6					
Pressure	Temperature	Salinity	Oxygen	U speed	V speed
[db]	[deg. C]	[psu]	[ml/l]	[cm/s]	[cm/s]
1	29.34	36.22	4.09	NaN	NaN
10	29.35	36.22	4.09	-3.1	90.1
20	29.35	36.23	4.09	-3.1	90.1
30	29.31	36.22	4.09	-3.1	90.1
40	28.93	36.20	4.16	-3.1	90.1
50	28.31	36.18	4.26	-3.0	86.7
60	27.57	36.16	4.27	-1.7	84.6
70	27.20	36.16	4.27	-5.4	77.4
80	26.81	36.16	4.22	-7.0	73.7
90	26.44	36.20	4.20	-12.8	75.5
100	26.26	36.23	4.11	-13.0	77.7
110	26.03	36.29	4.01	-11.3	81.5
120	25.61	36.46	3.79	-13.0	82.1
130	25.01	36.67	3.63	-15.5	81.7
140	24.74	36.73	3.59	-17.9	72.9
150	23.89	36.83	3.52	-20.3	71.9
160	23.57	36.86	3.39	-14.2	73.1
170	23.04	36.88	3.38	-9.5	69.5
180	22.03	36.86	3.27	-11.1	62.9
190	21.33	36.83	3.23	-12.2	59.7
200	21.04	36.81	3.25	-10.4	57.2
210	20.72	36.79	3.22	-8.1	54.2
220	20.37	36.77	3.22	-9.4	51.7
230	19.45	36.67	3.89	-9.7	53.5
240	18.84	36.59	3.42	-10.8	53.1
250	18.55	36.59	4.08	-12.2	54.6
260	18.25	36.54	4.02	-6.8	53.3
270	18.05	36.50	3.85	-5.6	54.3
280	17.58	36.42	3.91	-8.0	55.6
290	17.12	36.37	4.08	-11.8	52.6
300	16.82	36.32	3.86	-13.2	52.7
350	15.31	36.06	3.59	-3.1	43.7
400	14.11	35.86	3.43	1.0	41.1
450	12.78	35.64	3.19	1.3	40.2
500	11.90	35.50	3.07	9.6	35.8
550	10.02	35.21	2.86	5.1	26.5
600	9.09	35.09	2.90	5.3	16.6
650	8.10	34.99	2.98	-3.2	11.6

Table 31: Same as Table 16 for the cruise ID and the station number indicated.

Cruise ID: ws0116. Station: 7					
Pressure	Temperature	Salinity	Oxygen	U speed	V speed
[db]	[deg. C]	[psu]	[ml/l]	[cm/s]	[cm/s]
1	29.33	36.22	4.06	NaN	NaN
10	29.34	36.22	4.06	12.5	50.8
20	29.34	36.22	4.07	12.5	50.8
30	29.31	36.22	4.09	12.5	50.8
40	29.25	36.21	4.11	12.5	50.8
50	28.54	36.16	4.28	12.6	50.8
60	28.03	36.15	4.26	11.2	52.7
70	27.95	36.16	4.26	9.3	55.8
80	27.27	36.16	4.24	9.3	54.1
90	26.58	36.23	4.09	5.9	54.3
100	26.11	36.34	3.83	-1.3	53.1
110	25.74	36.46	3.77	-3.3	56.4
120	25.46	36.54	3.72	-7.0	58.8
130	24.79	36.67	3.59	-8.6	60.4
140	24.46	36.75	3.50	-5.5	62.8
150	24.06	36.80	3.47	-10.2	65.9
160	23.43	36.85	3.86	-18.2	64.7
170	23.08	36.87	3.51	-18.8	64.3
180	22.75	36.88	3.64	-14.5	63.8
190	21.99	36.86	3.37	-17.9	58.4
200	21.80	36.86	3.60	-19.2	59.2
210	21.43	36.82	4.12	-19.7	68.3
220	20.11	36.73	3.97	-25.8	70.3
230	19.50	36.68	3.62	-36.2	71.9
240	19.36	36.67	3.50	-36.9	74.6
250	19.04	36.63	3.56	-35.7	74.4
260	18.76	36.60	3.77	-37.8	75.7
270	18.32	36.53	3.60	-37.0	75.6
280	18.24	36.52	3.66	-32.8	72.3
290	18.01	36.50	3.92	-33.5	71.0
300	17.66	36.46	4.03	-30.9	71.3
350	16.50	36.27	4.07	-24.8	58.2
400	15.32	36.08	3.94	-8.7	40.5
450	13.97	35.83	3.38	-5.1	29.2
500	13.47	35.76	3.28	-1.7	17.3
550	12.31	35.61	3.50	3.1	6.6
600	10.94	35.40	3.28	0.3	3.6

Table 32: Same as Table 16 for the cruise ID and the station number indicated.

Cruise ID: ws0116. Station: 8					
Pressure	Temperature	Salinity	Oxygen	U speed	V speed
[db]	[deg. C]	[psu]	[ml/l]	[cm/s]	[cm/s]
1	29.03	36.21	3.84	NaN	NaN
10	29.03	36.21	3.84	-11.3	12.5
20	29.51	36.22	3.98	-11.3	12.5
30	29.17	36.19	3.96	-11.3	12.5
40	29.01	36.19	3.60	-11.3	12.5
50	28.80	36.19	3.43	-10.2	15.8
60	28.28	36.16	3.46	-8.9	18.2
70	27.79	36.17	3.58	-10.3	24.0
80	27.26	36.14	3.65	-12.3	27.0
90	26.93	36.19	3.78	-14.4	29.7
100	26.21	36.33	3.78	-15.3	33.8
110	25.44	36.53	3.80	-20.0	39.2
120	24.89	36.64	-0.00	-21.2	40.4
130	24.40	36.73	-0.00	-25.4	45.6
140	23.78	36.82	3.87	-22.6	53.0
150	23.36	36.87	-0.00	-22.7	54.1
160	22.97	36.90	-0.00	-28.8	55.2
170	22.62	36.87	3.85	-33.6	58.6
180	22.20	36.85	3.88	-36.0	62.3
190	21.42	36.81	3.97	-37.0	68.9
200	20.83	36.79	3.76	-31.3	69.5
210	20.51	36.78	3.62	-30.4	71.5
220	20.02	36.74	3.67	-35.4	70.3
230	19.52	36.69	3.84	-36.1	69.0
240	19.34	36.67	3.95	-33.4	69.8
250	19.22	36.66	4.07	-30.0	71.5
260	19.06	36.65	4.23	-27.3	71.8
270	18.91	36.64	4.34	-23.1	71.9
280	18.78	36.62	4.25	-22.5	73.4
290	18.66	36.60	4.22	-21.2	73.1
300	18.52	36.59	4.12	-19.7	71.7
350	17.97	36.51	4.05	-14.8	44.2
400	16.57	36.29	3.88	-0.2	38.4
450	15.13	36.05	3.71	-1.6	15.3

Table 33: Same as Table 16 for the cruise ID and the station number indicated.

Cruise ID: ws0122. Station: 0					
Pressure	Temperature	Salinity	Oxygen	U speed	V speed
[db]	[deg. C]	[psu]	[ml/l]	[cm/s]	[cm/s]
1	26.09	36.11	4.06	NaN	NaN
10	26.09	36.11	4.09	10.0	87.2
20	26.09	36.11	4.09	10.0	87.2
30	25.93	36.34	4.06	10.0	87.2
40	25.56	36.38	4.12	10.0	87.2
50	25.43	36.40	4.08	10.0	87.2
60	25.20	36.39	4.13	10.0	87.2
70	25.08	36.40	4.14	10.0	87.2
80	24.98	36.42	4.13	10.0	87.2
90	24.66	36.45	4.11	7.6	65.3
100	23.57	36.49	3.95	9.1	48.9
110	21.00	36.38	3.54	5.6	29.3
120	20.14	36.33	3.36	9.0	0.5
130	18.23	36.20	3.16	1.8	-23.6
140	16.33	36.05	2.96	3.1	-13.3
150	15.42	35.99	2.86	NaN	NaN

Table 34: Same as Table 16 for the cruise ID and the station number indicated.

Cruise ID: ws0122. Station: 1					
Pressure	Temperature	Salinity	Oxygen	U speed	V speed
[db]	[deg. C]	[psu]	[ml/l]	[cm/s]	[cm/s]
1	26.20	36.08	4.05	NaN	NaN
10	26.20	36.07	4.05	-6.5	132.3
20	26.23	36.10	4.06	-6.5	132.3
30	26.07	36.32	4.06	-6.5	132.3
40	25.93	36.43	4.03	-6.5	132.3
50	25.64	36.45	4.05	-6.5	132.4
60	25.38	36.43	4.08	-6.6	132.5
70	25.14	36.43	4.10	-7.0	137.4
80	25.05	36.44	4.12	-3.0	135.4
90	24.86	36.44	4.13	-2.2	133.5
100	24.57	36.47	4.11	2.7	126.6
110	23.67	36.53	3.91	9.2	118.5
120	22.46	36.58	3.61	10.9	117.7
130	21.33	36.62	3.27	8.7	115.3
140	20.60	36.61	3.03	5.0	118.3
150	19.53	36.53	2.95	8.5	108.3
160	18.47	36.41	2.94	9.3	91.2
170	17.53	36.27	2.89	10.2	77.6
180	16.20	36.07	2.93	8.9	68.7
190	14.67	35.87	2.92	13.4	57.9
200	13.32	35.69	2.86	14.8	40.6
210	12.07	35.53	2.82	12.7	32.3
220	10.69	35.35	2.79	5.8	22.5
230	9.41	35.16	2.73	2.2	30.5
240	9.03	35.11	2.71	10.3	31.2
250	8.84	35.09	2.73	3.1	30.3
260	7.83	34.99	2.87	NaN	NaN

Table 35: Same as Table 16 for the cruise ID and the station number indicated.

Cruise ID: ws0122. Station: 2					
Pressure	Temperature	Salinity	Oxygen	U speed	V speed
[db]	[deg. C]	[psu]	[ml/l]	[cm/s]	[cm/s]
1	26.47	36.04	4.03	NaN	NaN
10	26.49	36.04	4.03	-12.3	147.7
20	26.49	36.04	4.02	-12.3	147.7
30	26.45	36.06	4.02	-12.3	147.7
40	26.15	36.17	4.04	-12.3	147.7
50	25.57	36.36	4.10	-12.7	138.6
60	25.43	36.45	3.94	-15.0	130.8
70	25.16	36.46	3.82	-16.7	127.5
80	24.99	36.44	3.98	-13.5	123.9
90	24.82	36.46	4.02	-13.8	129.2
100	24.52	36.49	3.94	-9.6	126.9
110	23.80	36.72	3.45	-3.3	131.2
120	23.16	36.70	3.48	-3.0	134.3
130	21.97	36.64	3.37	-1.6	137.0
140	21.15	36.63	3.18	2.4	129.5
150	20.73	36.63	3.09	5.8	125.6
160	20.15	36.59	2.95	4.1	124.4
170	19.29	36.53	2.72	1.3	123.3
180	18.66	36.47	2.65	0.5	125.4
190	18.22	36.45	2.68	1.5	124.1
200	17.82	36.41	2.86	3.3	121.9
210	17.47	36.37	2.93	7.0	119.0
220	16.82	36.27	2.98	6.9	114.2
230	16.57	36.23	2.96	6.7	115.0
240	16.18	36.17	2.99	5.6	112.5
250	14.96	35.99	2.97	6.4	107.8
260	13.83	35.80	2.87	12.0	100.4
270	12.44	35.60	2.84	16.8	86.1
280	11.48	35.47	2.87	16.9	71.7
290	10.86	35.39	2.87	12.4	60.0
300	10.15	35.28	2.85	8.6	51.0
350	7.71	34.97	2.94	8.5	28.5

Table 36: Same as Table 16 for the cruise ID and the station number indicated.

Cruise ID: ws0122. Station: 3					
Pressure	Temperature	Salinity	Oxygen	U speed	V speed
[db]	[deg. C]	[psu]	[ml/l]	[cm/s]	[cm/s]
1	26.73	36.01	3.97	NaN	NaN
10	26.74	36.01	3.96	-6.9	145.3
20	26.76	36.02	4.01	-6.9	145.3
30	26.75	36.01	4.00	-5.4	149.7
40	26.76	36.02	4.01	-2.8	151.3
50	26.77	36.03	4.01	0.3	151.6
60	26.20	36.27	4.01	2.2	145.7
70	25.51	36.46	4.06	0.1	141.9
80	25.23	36.41	4.10	4.3	144.8
90	25.16	36.42	4.08	4.8	144.7
100	25.00	36.45	4.02	4.3	139.4
110	24.45	36.50	3.92	-0.3	141.2
120	23.94	36.84	3.30	1.0	146.4
130	23.51	36.83	3.30	-0.0	141.4
140	22.25	36.61	3.46	3.3	141.0
150	21.21	36.61	3.30	11.2	142.6
160	20.52	36.63	3.04	8.7	137.1
170	20.01	36.61	2.91	4.5	136.8
180	19.30	36.53	2.70	7.8	134.8
190	18.80	36.51	2.85	13.6	131.9
200	18.40	36.48	2.83	7.8	129.8
210	18.19	36.47	2.89	7.5	131.8
220	17.82	36.41	2.90	7.5	130.3
230	17.39	36.36	2.92	9.8	127.1
240	17.03	36.31	2.88	10.3	123.2
250	16.41	36.21	2.87	9.3	119.6
260	16.10	36.17	2.95	8.7	117.7
270	15.94	36.14	3.01	9.7	117.7
280	15.48	36.07	3.05	8.9	117.4
290	15.13	36.01	3.02	13.4	114.4
300	14.82	35.96	2.90	15.1	113.8
350	13.26	35.70	2.86	6.1	108.6
400	10.41	35.30	2.77	10.2	81.2
450	8.38	35.05	2.88	14.7	48.9
500	6.80	34.93	3.19	5.8	20.6

Table 37: Same as Table 16 for the cruise ID and the station number indicated.

Cruise ID: ws0122. Station: 4					
Pressure	Temperature	Salinity	Oxygen	U speed	V speed
[db]	[deg. C]	[psu]	[ml/l]	[cm/s]	[cm/s]
1	26.73	36.02	3.98	NaN	NaN
10	26.72	36.02	4.00	20.8	149.6
20	26.73	36.02	4.00	20.8	149.6
30	26.73	36.03	3.99	20.8	149.7
40	26.74	36.03	4.01	21.0	149.8
50	26.78	36.07	4.00	21.2	150.0
60	26.59	36.37	3.70	21.5	150.3
70	26.18	36.47	3.57	20.0	150.2
80	25.80	36.56	3.55	23.0	146.5
90	25.37	36.63	3.47	21.0	140.5
100	25.04	36.70	3.43	19.6	140.5
110	24.40	36.78	3.34	24.5	144.0
120	24.14	36.82	3.32	15.4	147.7
130	23.84	36.88	3.19	6.3	150.6
140	23.30	36.92	3.21	3.9	145.2
150	22.64	36.90	3.18	10.5	148.2
160	21.74	36.83	3.16	15.5	147.4
170	21.11	36.83	3.11	13.9	143.7
180	20.50	36.79	3.08	15.7	141.4
190	20.06	36.75	3.14	17.0	138.0
200	19.71	36.71	3.14	16.8	136.8
210	19.18	36.65	3.22	14.1	133.3
220	18.69	36.59	3.27	11.4	128.0
230	18.44	36.55	3.29	11.7	125.6
240	18.05	36.49	3.32	13.8	122.5
250	17.63	36.43	3.32	10.2	119.7
260	17.14	36.33	3.06	6.1	122.3
270	16.94	36.30	3.08	6.9	121.4
280	16.39	36.22	3.11	7.5	117.8
290	15.99	36.15	3.17	10.0	117.8
300	15.73	36.11	3.14	8.3	115.5
350	13.75	35.78	2.92	7.1	108.5
400	12.30	35.54	2.83	7.3	101.4
450	10.41	35.27	2.72	14.8	92.5
500	8.82	35.07	2.73	9.7	77.6
550	7.85	34.97	2.85	0.7	69.2
600	6.75	34.93	3.23	11.1	29.4
650	6.05	34.91	3.50	NaN	NaN

Table 38: Same as Table 16 for the cruise ID and the station number indicated.

Cruise ID: ws0122. Station: 5					
Pressure	Temperature	Salinity	Oxygen	U speed	V speed
[db]	[deg. C]	[psu]	[ml/l]	[cm/s]	[cm/s]
1	26.64	36.15	3.97	NaN	NaN
10	26.65	36.15	3.97	-13.9	103.4
20	26.51	36.26	3.98	-13.9	103.4
30	26.30	36.30	3.98	-13.9	103.4
40	26.25	36.32	3.98	-14.0	103.6
50	26.21	36.32	4.00	-14.2	103.9
60	26.16	36.35	3.96	-15.6	107.2
70	25.94	36.42	3.94	-14.9	109.1
80	25.75	36.49	3.69	-8.9	114.2
90	25.59	36.57	3.53	-2.9	118.8
100	25.30	36.67	3.44	3.9	122.3
110	24.59	36.79	3.34	2.3	115.0
120	23.83	36.87	3.25	0.5	109.7
130	23.55	36.89	3.20	-2.6	108.8
140	23.02	36.91	3.18	-7.4	110.7
150	22.72	36.92	3.15	-8.3	111.2
160	22.28	36.90	3.13	-4.0	112.3
170	21.77	36.88	3.11	-2.9	113.6
180	21.33	36.86	3.09	-1.9	114.6
190	20.87	36.82	3.12	1.8	116.6
200	20.34	36.77	3.16	6.3	114.7
210	19.88	36.72	3.27	11.1	112.3
220	19.48	36.67	3.31	14.3	111.5
230	19.20	36.65	3.56	11.3	113.1
240	18.92	36.62	3.58	11.6	113.9
250	18.76	36.60	3.64	11.5	112.3
260	18.56	36.57	3.53	12.0	112.5
270	18.51	36.59	4.03	10.3	110.5
280	17.87	36.47	3.71	7.7	103.1
290	17.39	36.39	3.53	6.1	99.3
300	17.03	36.33	3.39	6.5	99.6
350	15.19	36.01	3.16	2.3	91.8
400	13.67	35.76	3.02	7.0	84.4
450	12.30	35.55	2.75	7.2	74.3
500	10.74	35.31	2.68	3.1	61.0
550	9.54	35.14	2.72	3.4	55.4
600	8.69	35.05	2.74	-1.4	44.6
650	8.04	34.98	2.79	-0.4	35.0
700	7.43	34.94	2.88	-0.1	35.7
750	6.91	34.92	3.04	-2.9	29.6

Table 39: Same as Table 16 for the cruise ID and the station number indicated.

Cruise ID: ws0122. Station: 6					
Pressure	Temperature	Salinity	Oxygen	U speed	V speed
[db]	[deg. C]	[psu]	[ml/l]	[cm/s]	[cm/s]
1	26.37	36.29	3.89	NaN	NaN
10	26.38	36.29	3.87	-26.1	81.5
20	26.38	36.29	3.88	-26.1	81.5
30	26.32	36.30	3.87	-26.1	81.5
40	26.28	36.32	3.88	-26.1	81.5
50	26.22	36.38	3.79	-26.1	81.5
60	25.98	36.39	3.80	-26.1	81.5
70	25.95	36.38	3.86	-15.4	82.3
80	25.50	36.47	3.93	-13.9	80.5
90	25.48	36.51	3.90	-16.9	76.7
100	25.46	36.52	3.86	-16.9	75.4
110	25.42	36.52	3.88	-15.4	76.7
120	25.13	36.59	3.89	-17.3	75.5
130	23.47	36.87	3.28	-19.3	74.7
140	22.81	36.88	3.10	-16.4	76.3
150	22.36	36.89	3.05	-13.8	73.0
160	22.26	36.89	3.06	-14.4	73.6
170	21.93	36.88	3.05	-12.7	72.7
180	21.63	36.86	3.03	-6.1	71.3
190	21.32	36.85	3.07	0.7	70.7
200	20.91	36.81	3.06	1.4	73.3
210	20.50	36.78	3.12	0.3	76.1
220	19.93	36.71	3.17	-1.3	79.3
230	19.51	36.68	3.38	-6.3	79.1
240	19.02	36.63	3.52	-7.3	80.0
250	18.90	36.63	3.70	-6.3	79.1
260	18.74	36.60	3.77	-4.4	80.5
270	18.60	36.60	3.88	-2.1	81.9
280	18.46	36.58	3.88	-0.5	84.1
290	18.32	36.56	3.95	-0.4	82.3
300	18.10	36.52	3.90	-6.1	79.6
350	16.17	36.18	3.24	-13.5	69.9
400	15.38	36.04	3.16	-11.9	73.7
450	13.67	35.76	2.90	-3.0	58.1
500	12.16	35.52	2.75	-0.0	50.2
550	10.52	35.28	2.71	0.7	40.7
600	9.81	35.19	2.73	3.2	39.9
650	9.51	35.17	2.83	-3.0	34.5

Table 40: Same as Table 16 for the cruise ID and the station number indicated.

Cruise ID: ws0122. Station: 7					
Pressure	Temperature	Salinity	Oxygen	U speed	V speed
[db]	[deg. C]	[psu]	[ml/l]	[cm/s]	[cm/s]
1	26.31	36.31	3.76	NaN	NaN
10	26.32	36.31	3.76	-17.8	28.1
20	26.32	36.32	3.77	-17.8	28.1
30	26.33	36.32	3.76	-17.8	28.0
40	26.29	36.33	3.73	-17.7	27.9
50	26.23	36.37	3.65	-16.5	29.3
60	26.22	36.37	3.64	-12.3	33.1
70	26.16	36.39	3.60	-5.3	32.9
80	25.94	36.47	3.47	-1.3	34.1
90	25.53	36.55	3.48	-1.8	33.8
100	25.35	36.56	3.70	-1.1	36.9
110	24.95	36.66	3.60	-6.1	45.4
120	24.37	36.78	3.23	-9.5	52.5
130	23.61	36.85	3.13	-5.1	58.1
140	23.11	36.88	3.06	-1.0	66.8
150	22.56	36.89	3.01	-3.2	68.3
160	22.03	36.90	2.99	-5.9	63.7
170	21.42	36.85	2.99	-9.6	61.9
180	20.96	36.82	3.00	-14.1	60.9
190	20.83	36.81	3.00	-13.8	61.1
200	20.78	36.80	3.03	-11.5	58.5
210	20.49	36.78	3.04	-15.5	56.0
220	20.25	36.76	3.06	-17.7	55.9
230	19.79	36.71	3.05	-17.2	56.9
240	19.34	36.67	3.38	-19.6	61.6
250	19.35	36.67	3.47	-20.7	63.2
260	19.20	36.66	3.74	-19.7	64.8
270	18.83	36.62	3.60	-17.5	64.4
280	18.57	36.57	3.31	-15.1	64.1
290	18.57	36.59	3.61	-11.2	63.3
300	18.30	36.53	3.51	-8.6	64.2
350	16.97	36.32	3.32	-12.8	63.0
400	16.07	36.16	3.11	-8.1	60.2
450	15.04	35.99	3.06	-5.5	56.4
500	12.73	35.62	2.85	-7.6	36.7
550	11.26	35.39	2.71	-1.9	27.2
600	10.54	35.29	2.68	-2.9	20.7

Table 41: Same as Table 16 for the cruise ID and the station number indicated.

Cruise ID: ws0122. Station: 8					
Pressure	Temperature	Salinity	Oxygen	U speed	V speed
[db]	[deg. C]	[psu]	[ml/l]	[cm/s]	[cm/s]
1	26.42	36.26	3.79	NaN	NaN
10	26.40	36.29	3.79	-4.6	-13.6
20	26.33	36.31	3.80	-4.6	-13.6
30	26.30	36.32	3.80	-4.6	-13.6
40	26.28	36.33	3.78	-4.6	-13.6
50	26.26	36.35	3.74	-8.1	-13.7
60	25.95	36.48	3.49	-6.8	-2.7
70	25.57	36.55	3.46	-9.1	5.8
80	25.23	36.65	3.28	-4.3	15.5
90	24.67	36.75	3.26	-1.0	25.7
100	24.29	36.84	3.16	-6.9	42.2
110	23.40	36.87	3.11	-12.0	51.3
120	23.23	36.89	3.08	-18.6	52.3
130	22.82	36.90	3.07	-20.5	51.8
140	22.54	36.89	3.08	-23.2	53.1
150	22.19	36.90	2.98	-24.8	52.7
160	21.84	36.88	2.98	-22.8	53.7
170	21.38	36.86	2.99	-23.6	53.0
180	21.31	36.85	2.97	-31.0	57.2
190	20.65	36.78	3.76	-35.9	59.8
200	20.54	36.78	3.76	-35.3	59.1
210	20.45	36.77	3.75	-33.6	58.1
220	20.27	36.76	3.79	-31.1	58.1
230	20.05	36.74	3.73	-29.3	60.0
240	19.85	36.72	3.79	-31.8	61.9
250	19.57	36.70	3.78	-30.0	59.8
260	19.45	36.69	3.80	-25.8	59.4
270	18.77	36.62	3.84	-24.3	60.8
280	18.55	36.59	3.88	-21.6	61.8
290	18.25	36.55	3.87	-24.8	64.3
300	18.21	36.55	3.87	-26.9	65.9
350	17.75	36.48	3.91	-17.7	60.3
400	16.92	36.35	3.82	-13.9	55.1
450	15.71	36.15	3.69	-5.9	43.7

Table 42: Same as Table 16 for the cruise ID and the station number indicated.

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