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Oceanographic data collected in the Straits of Florida at 27°N during the year 2007, including the estimated Florida Current transport

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March 2, 2017

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Contents

Table of Contents **iv**

List of Figures **v**

List of Tables **viii**

Abstract **ix**

1 Introduction **1**

1.1 Continuous observations 2

1.2 Shipboard measurements 3

2 Cable observations **3**

3 Dropsonde - XBT cruises **5**

4 CTD - LADCP - SADCP cruises **8**

5 Issues during the year **12**

5.1 Cable observations 12

5.2 Dropsonde - XBT cruises 12

5.3 CTD - LADCP - SADCP cruises 12

6 Data availability **13**

7 Acknowledgements **14**

8 References **15**

List of Figures

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. 2

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. 4

3 Temperature sections measured with XBT on the indicated dates. Date format is year, month, and day. 6

4 Same as Figure 3 for the data collected on the cruise date indicated. 7

5 Sections of temperature, salinity, dissolved oxygen (all from CTD), velocity profile (LADCP) and vector velocity map at 50m (SADCP) collected by research vessel. Cruise ID noted above the temperature panel; cruise date are shown in Table 3. . . . 9

6 Same as Figure 5 for the data collected on the cruise ID indicated above the temperature panel. 10

7 Same as Figure 5 for the data collected on the cruise ID indicated above the temperature panel. 11

List of Tables

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

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. 5

3 CTD/LADCP/SADCP 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. 8

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. 17

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. 19

6 Same as Table 5 for dropsonde measurements during the cruises on the indicated dates. 20

7 Same as Table 5 for dropsonde measurements during the cruises on the indicated dates. 21

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. 23

9 Same as Table 8 for the cruise on the indicated date. 24

10 Same as Table 8 for the cruise on the indicated date. 25

11 Same as Table 8 for the cruise on the indicated date. 26

12 Same as Table 8 for the cruise on the indicated date. 27

13 Same as Table 8 for the cruise on the indicated date. 28

14 Same as Table 8 for the cruise on the indicated date. 29

15 Same as Table 8 for the cruise on the indicated date. 30

16 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. . . 32

17 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. 34

18 Same as Table 17 for the cruise ID and the station number indicated. 35

19 Same as Table 17 for the cruise ID and the station number indicated. 36

20 Same as Table 17 for the cruise ID and the station number indicated. 37

21 Same as Table 17 for the cruise ID and the station number indicated. 38

22 Same as Table 17 for the cruise ID and the station number indicated. 39

23 Same as Table 17 for the cruise ID and the station number indicated. 40

24 Same as Table 17 for the cruise ID and the station number indicated. 41

25 Same as Table 17 for the cruise ID and the station number indicated. 42

26 Same as Table 17 for the cruise ID and the station number indicated. 43

27 Same as Table 17 for the cruise ID and the station number indicated. 44

28 Same as Table 17 for the cruise ID and the station number indicated. 45

29 Same as Table 17 for the cruise ID and the station number indicated. 46

30 Same as Table 17 for the cruise ID and the station number indicated. 47

31 Same as Table 17 for the cruise ID and the station number indicated. 48

32 Same as Table 17 for the cruise ID and the station number indicated. 49

33 Same as Table 17 for the cruise ID and the station number indicated. 50

34 Same as Table 17 for the cruise ID and the station number indicated. 51

35 Same as Table 17 for the cruise ID and the station number indicated. 52

36 Same as Table 17 for the cruise ID and the station number indicated. 53

37 Same as Table 17 for the cruise ID and the station number indicated. 54

38 Same as Table 17 for the cruise ID and the station number indicated. 55

39 Same as Table 17 for the cruise ID and the station number indicated. 56

40 Same as Table 17 for the cruise ID and the station number indicated. 57

41 Same as Table 17 for the cruise ID and the station number indicated. 58

42 Same as Table 17 for the cruise ID and the station number indicated. 59

43 Same as Table 17 for the cruise ID and the station number indicated. 60

Abstract

This report summarizes the Florida Current data collected along 27°N during calendar year 2007 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 shipboard and lowered acoustic Doppler current profiler, SADCP and 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 either research vessels or small chartered boats.

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.

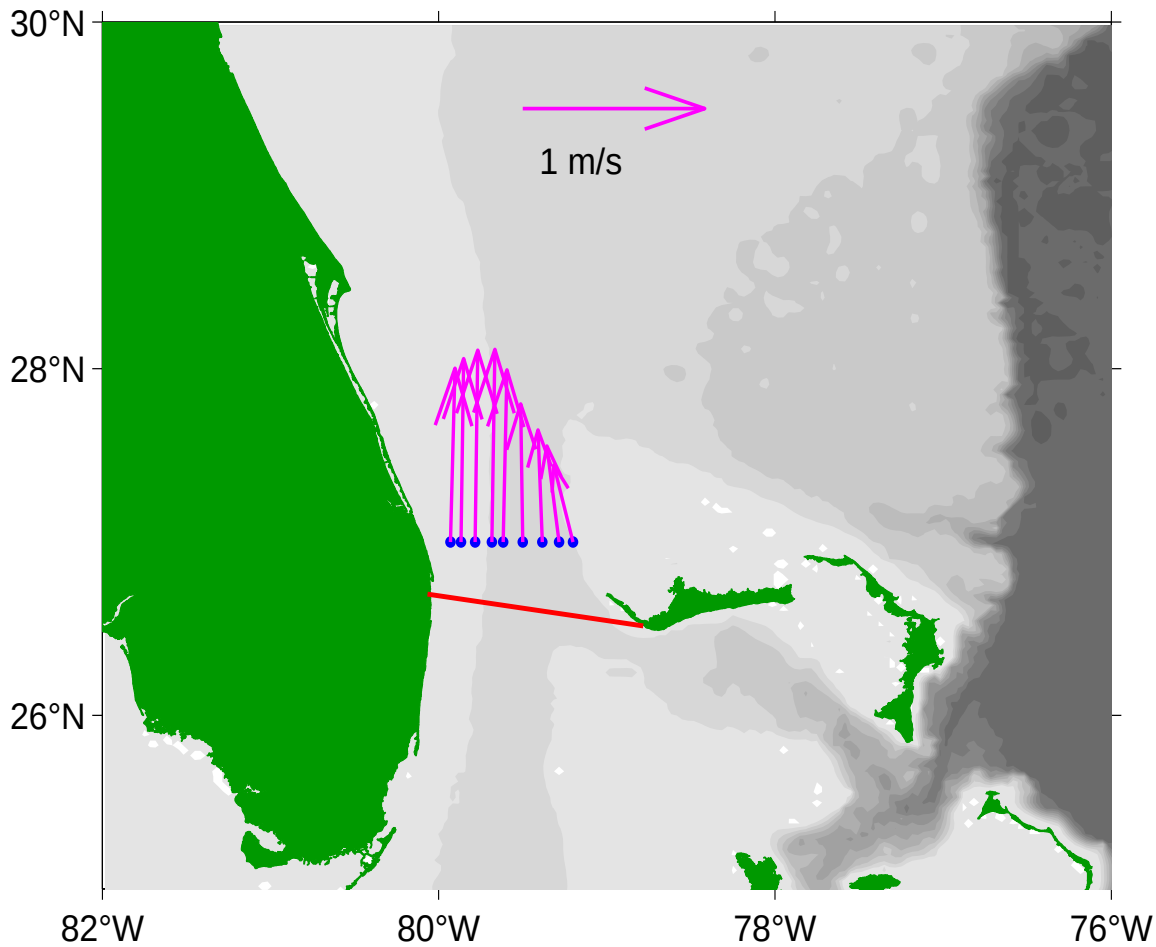

Figure 1: Map of the Straits of Florida study area. Blue dots indicate the locations of dropsonde, XBT and CTD/LADCP stations. Red line shows the approximate location of the telephone cable used for the voltage measurements. Magenta vectors illustrate the time mean vertically-averaged horizontal velocities 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). 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).

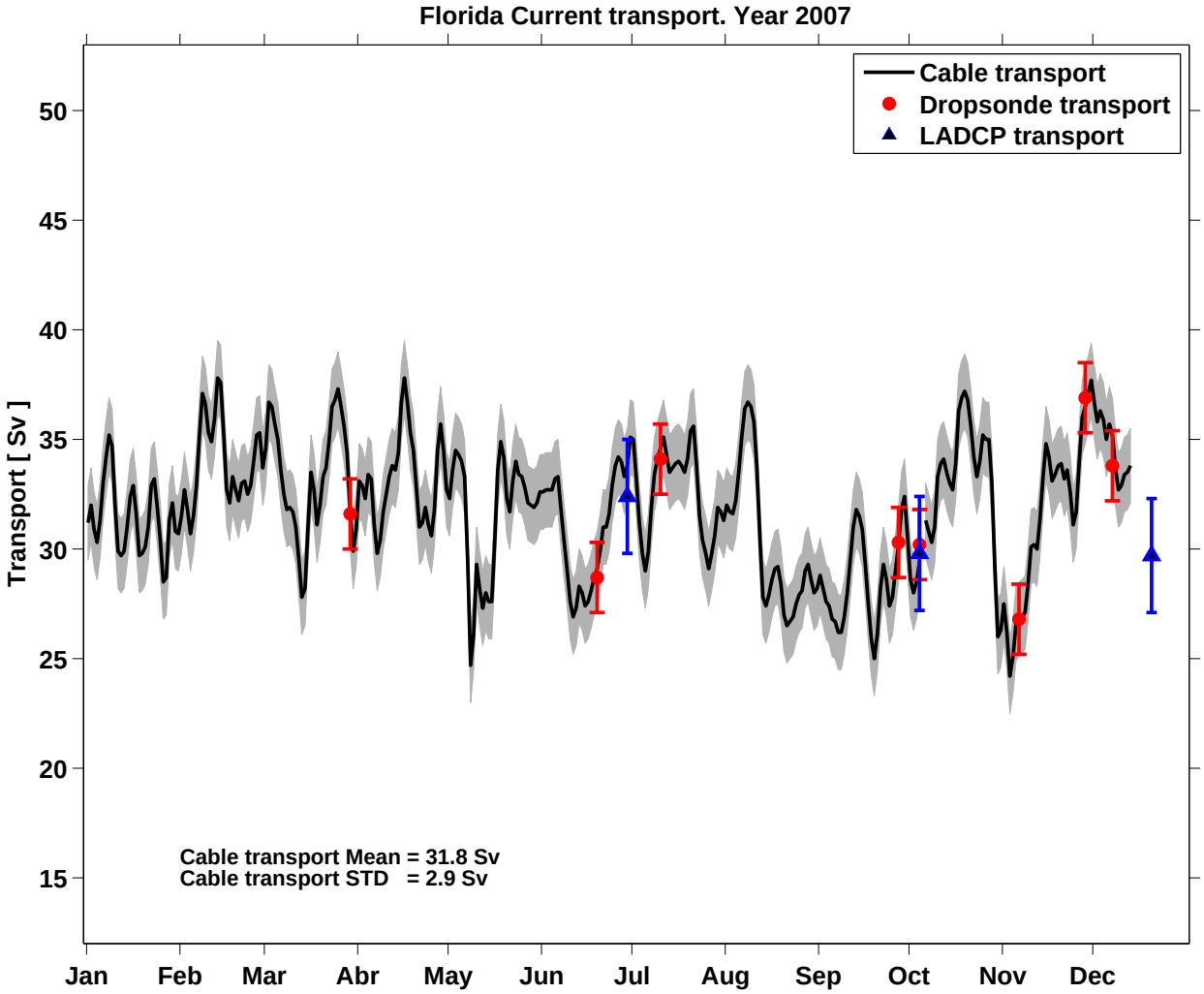

Figure 2: Observed Florida Current volume transports measured by cable voltage (black line), dropsonde sections (red dots) and LADCP sections (blue triangles). For each measurement system the estimated error bar is also shown. The annual mean and standard deviation (STD) from the cable voltage estimates 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	2007	3	29	15	31.2	31.6
2	2007	6	19	14	28.8	28.7
3	2007	7	10	14	37.2	34.1
4	2007	9	5	14	NaN	NaN
5	2007	9	27	15	28.5	30.3
6	2007	10	4	14	32.5	30.2
7	2007	11	6	16	26.2	26.8
8	2007	11	28	16	34.9	36.9
9	2007	12	7	15	31.6	33.8

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.

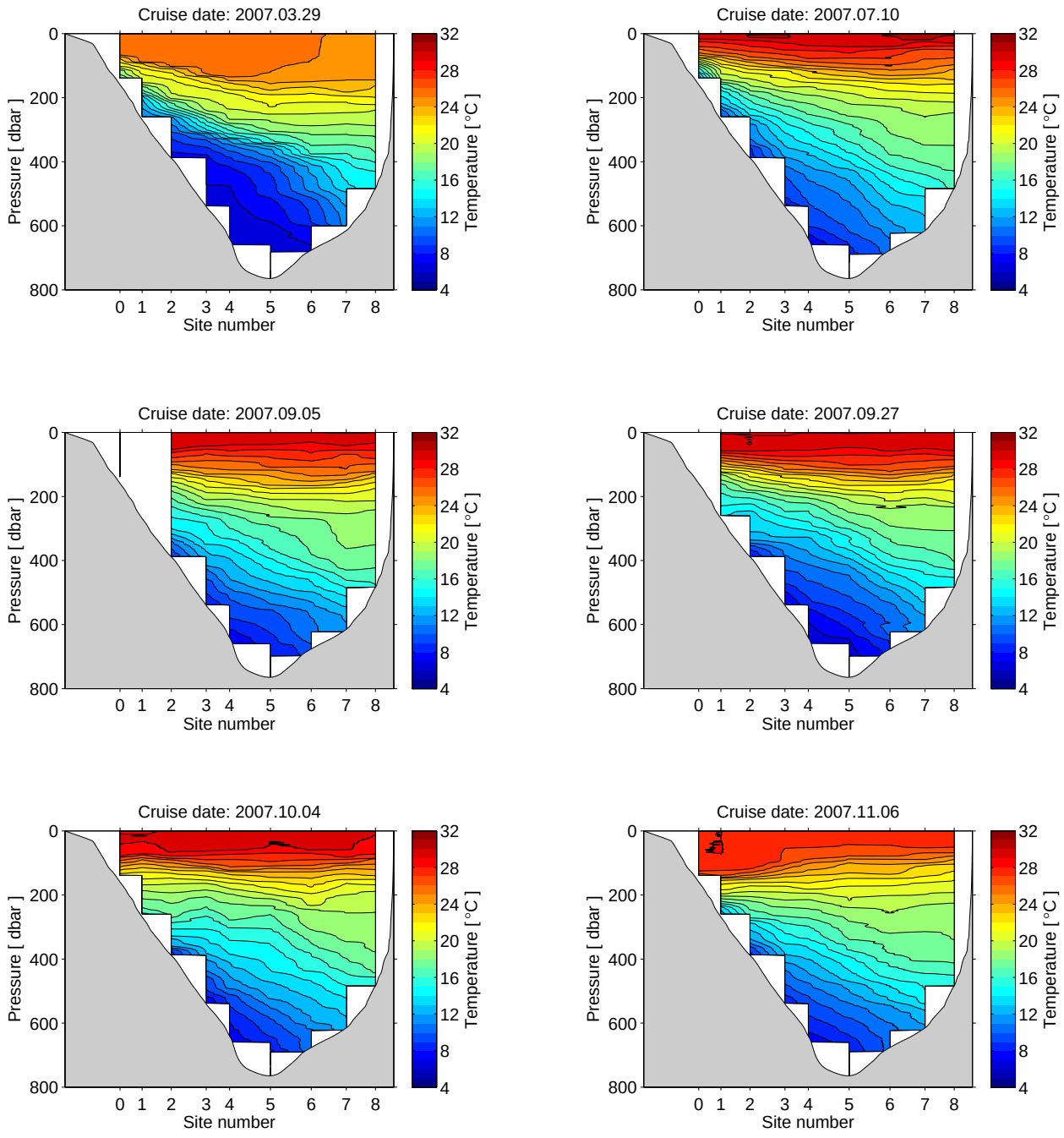

Figure 3: Temperature sections measured with XBT on the indicated dates. Date format is year, month, and day.

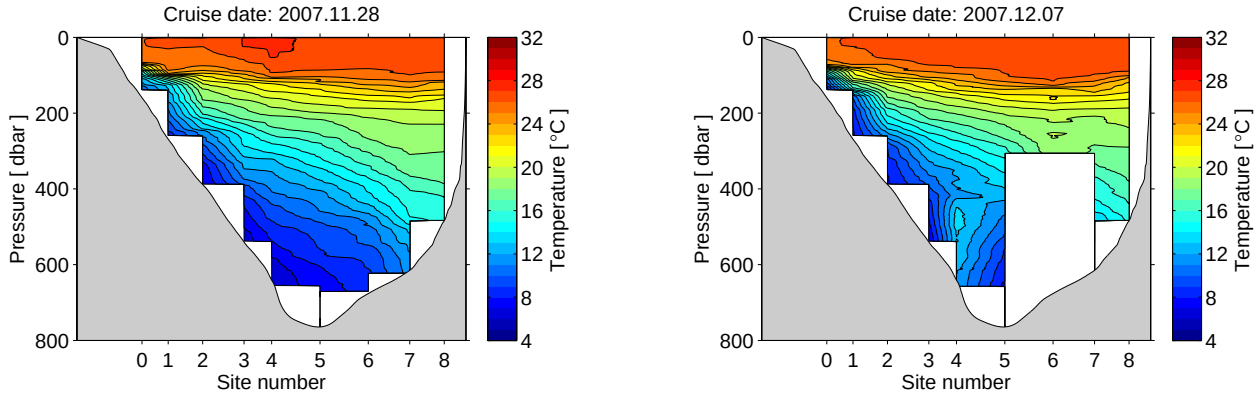

Figure 4: Same as Figure 3 for the data collected on the cruise date indicated.

4 CTD - LADCP - SADCP 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 and SADCP data when possible and follows the methods presented in Visbeck (2002) and Thurnherr (2010); the SADCP processing used the methods shown in Firing et al. (2012).

Cruise ID	Year	Month	Day	Hour mean	Transport	Transport detided
ws0716	2007	6	29	0	32.4	32.4
ws0725	2007	10	4	22	29.5	29.8
ws0729	2007	12	20	0	30.4	29.7

Table 3: CTD/LADCP/SADCP 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.

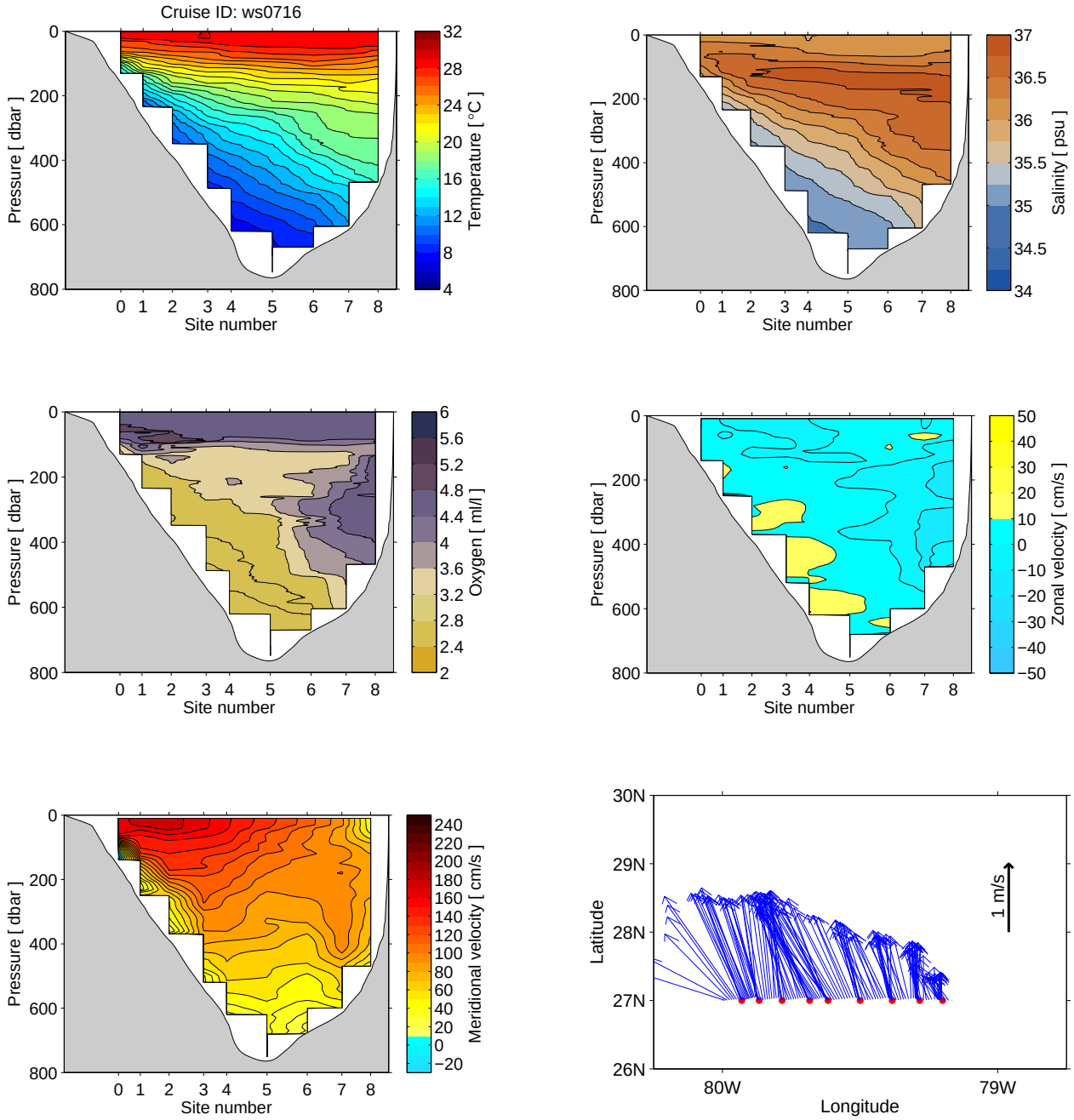

Figure 5: Sections of temperature, salinity, dissolved oxygen (all from CTD), velocity profile (LADCP) and vector velocity map at 50m (SADCP) collected by research vessel. Cruise ID noted above the temperature panel; cruise date are shown in Table 3.

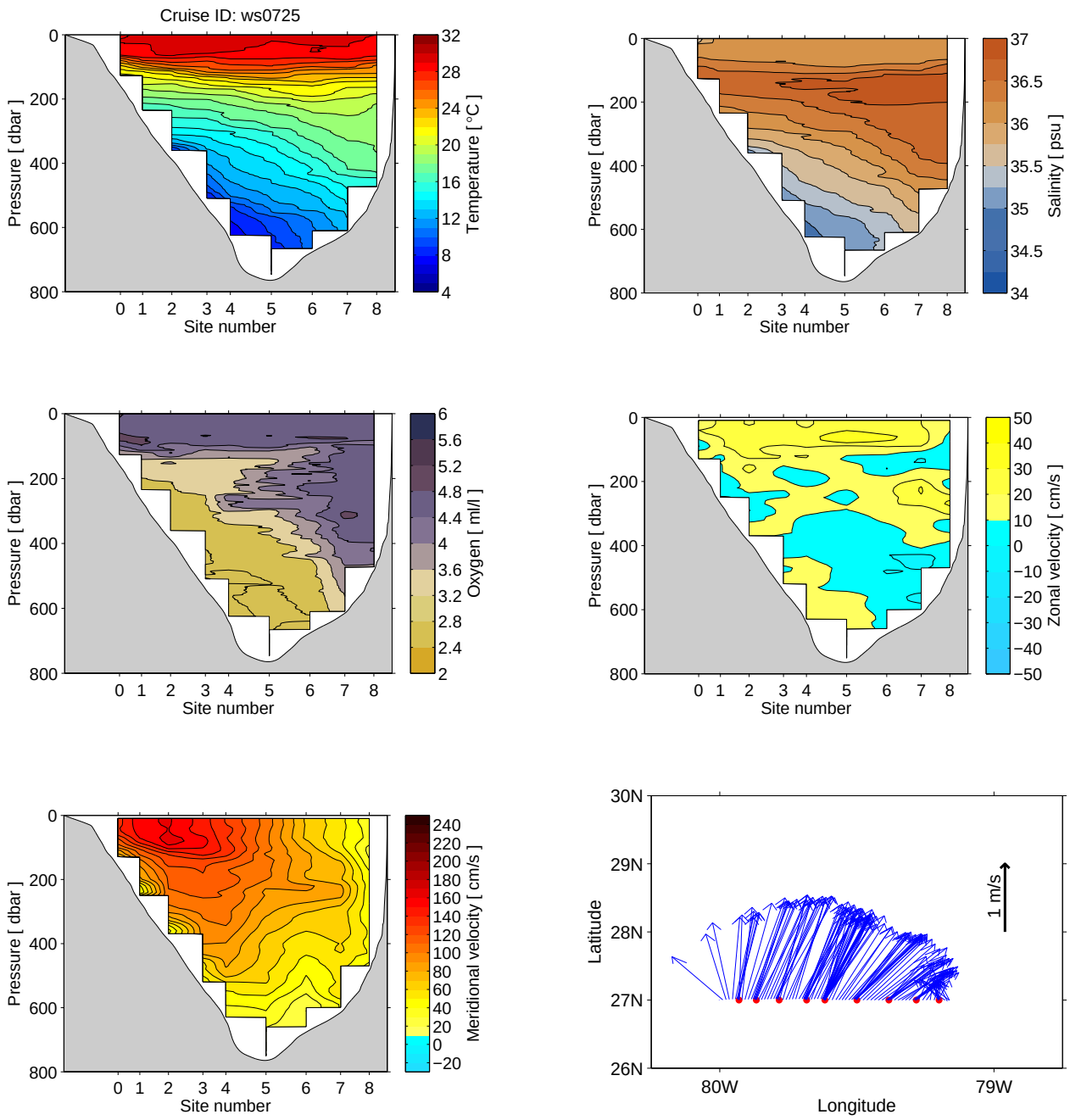

Figure 6: Same as Figure 5 for the data collected on the cruise ID indicated above the temperature panel.

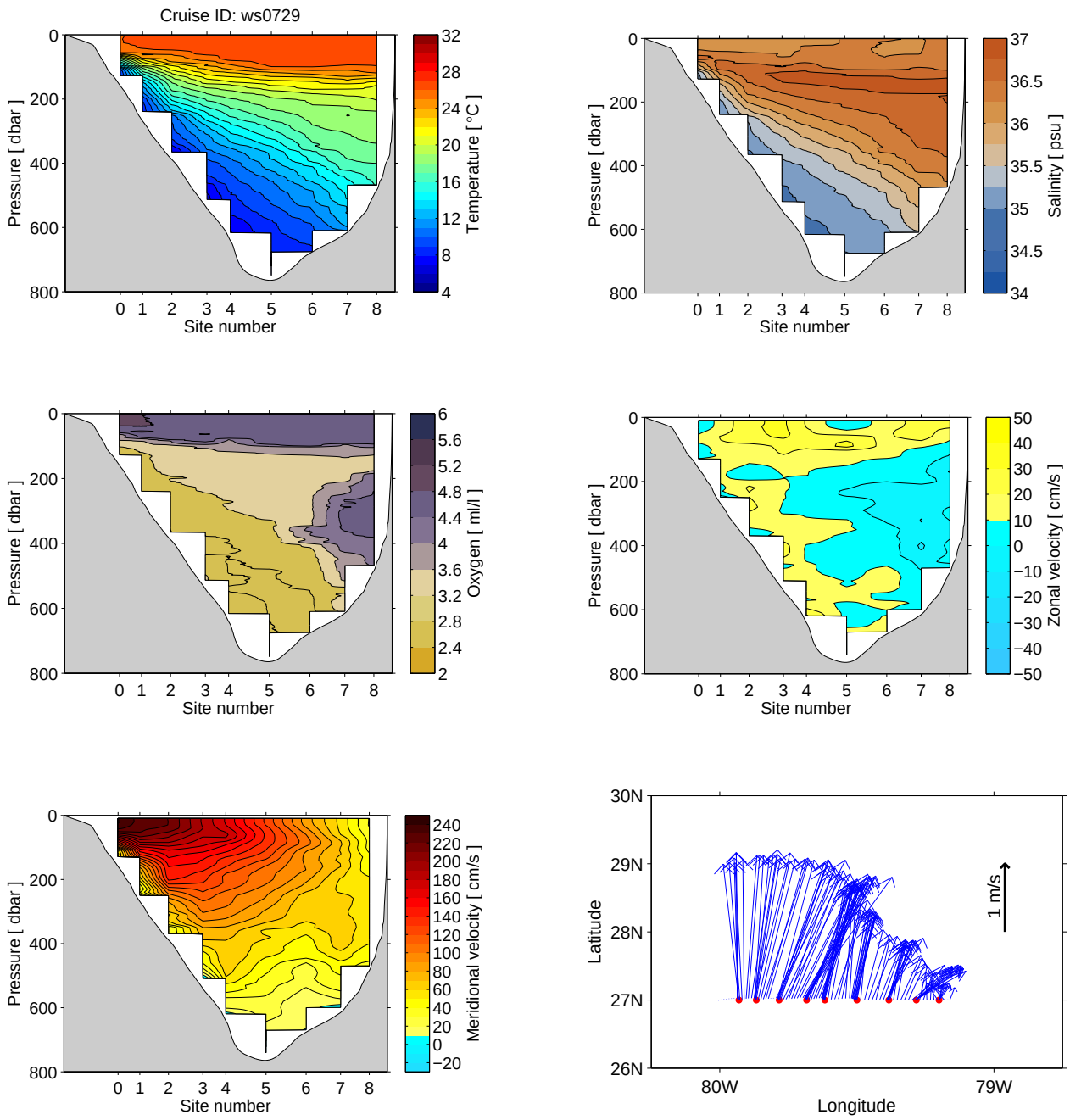

Figure 7: Same as Figure 5 for the data collected on the cruise ID indicated above the temperature panel.

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 suffered a one-day failure on October 5, 2007. Also the cable voltage recording system did not record any data starting on December 14 until the end of the year, due to a complete recording system failure. As a result, for one day in October (October 5), and then for those eighteen days in December (December 14-31), there are no estimates for the Florida Current volume transport from the cable. Data are available for all other days throughout the year.

5.2 Dropsonde - XBT cruises

Only one problem arose during the year involving the dropsonde system. During the cruise of September 5 the dropsonde system failed to capture any data at the first and last stations. As a result, an estimate for the Florida Current volume transport is not available for that cruise.

Several problems arose during the year involving the XBT systems. During the cruise of June 19, the XBT system failed during the entire cruise and no data were collected. During both cruises in September, the XBT system failed at one station and no data were collected. Also, during the cruise of December 7, the XBT system failed at one station before the probe reached the bottom.

5.3 CTD - LADCP - SADCP cruises

No serious problems arose during the year involving the CTD/LADCP/SADCP systems. During ws0716, the CTD package was configured with a single, downward-facing LADCP system. All LADCP profiles from this cruise were found to be suitable for scientific analysis. During ws0729, vertical coverage of the SADCP data set only reached a maximum depth of approximately 300 meters; typically the 75 kHz SADCP installed on the R/V F.G. Walton Smith can provide full water column coverage across the 27N section. Despite this, however, there were sufficient SADCP data collected to produce final LADCP profiles suitable for scientific analysis.

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, LADCP profile, and SADCP 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

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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	31.2	31.5	34.6	33.1	32.3	32.6	35.0	32.0	28.8	28.6	27.5	36.7
2	32.0	32.7	36.7	32.9	33.6	32.7	33.2	31.7	28.2	28.0	26.2	35.8
3	30.9	31.8	36.5	32.3	34.5	32.7	31.2	31.6	27.6	28.5	24.2	36.3
4	30.3	30.7	35.7	33.4	34.3	32.7	29.8	32.2	27.4	29.4	25.1	35.9
5	31.3	31.5	35.0	33.2	34.0	33.2	29.0	33.5	26.8	NaN	26.6	35.0
6	33.0	32.9	33.6	31.1	33.3	33.3	29.9	35.1	26.7	31.3	26.8	35.7
7	34.2	35.2	32.5	29.8	29.6	31.8	31.9	36.4	26.2	30.8	26.9	35.2
8	35.2	37.1	31.8	30.4	24.7	30.4	33.4	36.7	26.2	30.3	27.1	33.7
9	34.7	36.6	31.9	31.7	26.1	29.1	34.1	36.5	26.9	31.0	28.4	32.7
10	32.0	35.3	31.7	32.5	29.3	27.6	34.6	35.8	28.0	33.3	30.1	32.9
11	29.9	34.9	31.0	33.3	28.2	26.9	35.1	33.7	29.5	33.9	30.2	33.4
12	29.7	35.9	29.5	33.8	27.3	27.3	34.3	30.5	31.0	34.1	30.0	33.5
13	29.9	37.8	27.8	33.6	28.0	28.3	33.5	27.8	31.8	33.5	31.4	33.8
14	31.0	37.6	28.2	34.4	27.6	28.0	33.7	27.4	31.5	33.0	33.3	NaN
15	32.4	35.3	31.0	36.7	27.6	27.4	33.9	27.9	30.9	32.7	34.8	NaN
16	32.9	32.7	33.5	37.8	30.4	27.6	34.0	28.6	29.3	33.9	34.2	NaN
17	31.6	32.1	32.7	36.7	33.6	28.1	33.8	29.1	27.5	36.3	33.1	NaN
18	29.7	33.3	31.1	35.3	34.9	28.7	33.5	29.2	25.9	36.9	33.4	NaN
19	29.8	32.7	32.0	34.5	34.2	29.1	34.1	28.4	25.0	37.2	33.8	NaN
20	30.1	32.2	33.3	32.8	32.3	29.9	35.4	27.0	26.1	36.8	33.9	NaN
21	31.0	33.0	33.7	31.0	31.7	31.0	35.6	26.5	28.2	35.6	33.2	NaN
22	32.9	33.1	34.9	31.2	33.1	31.0	33.8	26.7	29.3	34.2	33.6	NaN
23	33.2	32.5	36.5	31.9	34.0	31.6	31.5	26.9	28.6	33.3	32.6	NaN
24	31.9	32.9	36.8	31.1	33.4	32.9	30.4	27.5	27.4	34.0	31.1	NaN
25	30.4	34.0	37.3	30.6	33.3	33.8	29.8	27.9	27.8	35.2	31.7	NaN
26	28.5	35.2	36.5	31.8	32.8	34.2	29.1	28.1	29.0	35.0	34.0	NaN
27	28.7	35.3	35.6	34.5	32.1	34.0	29.8	29.0	30.2	35.0	36.0	NaN
28	31.3	33.7	34.4	35.7	32.0	33.3	30.6	29.3	31.8	33.0	36.5	NaN
29	32.1	–	31.7	34.5	31.9	33.8	31.9	28.6	32.4	29.1	37.1	NaN
30	30.8	–	29.9	32.7	32.1	35.1	31.7	28.0	30.6	26.0	37.7	NaN
31	30.7	–	30.9	–	32.6	–	31.3	28.2	–	26.3	–	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: 2007.03.29								
0	11:40: 1	-79.9302	27.0006	11:47:26	-79.9303	27.0052	-3.32	114.93
1	12: 9:36	-79.8661	27.0007	12:23:14	-79.8668	27.0066	-8.61	78.42
2	12:48:17	-79.7835	26.9999	13: 7:19	-79.7847	27.0070	-9.63	68.43
3	13:35:39	-79.6835	27.0002	14: 2:19	-79.6846	27.0113	-6.43	76.36
4	14:26:51	-79.6169	27.0002	14:57:50	-79.6177	27.0123	-3.98	71.35
5	15:28:24	-79.5009	27.0011	16: 5:50	-79.5018	27.0176	-3.90	81.50
6	16:34:35	-79.3835	27.0005	17: 7:20	-79.3848	27.0118	-6.39	64.04
7	17:34: 4	-79.2835	27.0004	18: 4:14	-79.2854	27.0111	-10.18	65.84
8	18:26:43	-79.2015	27.0005	18:50:50	-79.2042	27.0080	-17.91	57.40
Cruise date: 2007.06.19								
0	11: 9:36	-79.9304	27.0003	11:17:26	-79.9309	27.0038	-10.00	79.91
1	11:38:21	-79.8667	27.0003	11:51:50	-79.8669	27.0071	-2.47	92.50
2	12:12:39	-79.7831	27.0009	12:31: 8	-79.7835	27.0099	-2.70	88.86
3	12:52:51	-79.6835	27.0004	13:20: 2	-79.6840	27.0123	-2.78	80.81
4	13:36:44	-79.6163	27.0007	14: 9:44	-79.6167	27.0138	-1.88	73.04
5	14:35:41	-79.4999	27.0005	15:12:32	-79.5010	27.0128	-4.88	61.37
6	15:37: 1	-79.3830	27.0003	16:10:26	-79.3843	27.0105	-6.16	56.23
7	16:30:30	-79.2827	27.0000	17: 2: 2	-79.2848	27.0091	-11.39	53.23
8	17:26:47	-79.1991	27.0001	17:49:38	-79.2015	27.0065	-16.81	52.01
Cruise date: 2007.07.10								
0	10:53:34	-79.9297	27.0018	11: 1:20	-79.9295	27.0071	2.98	124.87
1	11:22:58	-79.8661	27.0015	11:36:50	-79.8656	27.0109	6.17	123.87
2	12: 1:10	-79.7831	27.0018	12:19:26	-79.7826	27.0137	4.07	119.49
3	12:44:48	-79.6836	27.0005	13:10:55	-79.6834	27.0148	1.25	100.25
4	13:31:42	-79.6167	27.0009	14: 4:20	-79.6165	27.0176	1.09	94.29
5	14:32: 7	-79.4999	27.0001	15: 9:38	-79.5015	27.0155	-7.12	75.43
6	15:37:38	-79.3838	27.0003	16:10:20	-79.3863	27.0139	-12.65	76.88
7	16:37: 3	-79.2840	27.0002	17: 6:56	-79.2862	27.0113	-13.39	69.57
8	17:29:23	-79.1996	26.9999	17:52:26	-79.2021	27.0073	-18.48	59.46

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: 2007.09.05								
0	–	–	–	–	–	–	NaN	NaN
1	11:38:25	-79.8654	27.0006	11:48:25	-79.8646	27.0036	13.31	53.95
2	12: 8: 8	-79.7822	27.0005	12:22:49	-79.7809	27.0075	13.75	86.94
3	12:45:25	-79.6826	27.0006	13: 5:55	-79.6809	27.0118	13.53	100.22
4	13:23:23	-79.6165	27.0005	13:48:37	-79.6146	27.0144	12.42	101.15
5	14:14:26	-79.4996	27.0006	14:43: 7	-79.4983	27.0142	7.30	87.52
6	15: 8:51	-79.3833	27.0003	15:46: 1	-79.3575	27.0080	103.53	40.15
7	15:59: 3	-79.2831	26.9996	17:14: 6	-79.2533	26.9873	78.28	-25.39
8	–	–	–	–	–	–	NaN	NaN
Cruise date: 2007.09.27								
0	11:45:45	-79.9298	27.0002	11:52: 8	-79.9300	27.0021	-3.80	54.14
1	12:12:18	-79.8670	27.0051	12:23:20	-79.8673	27.0088	-4.30	62.33
2	12:42: 0	-79.7830	27.0003	12:57:38	-79.7829	27.0081	2.33	91.57
3	13:26:27	-79.6831	27.0001	13:48:44	-79.6826	27.0112	3.07	91.52
4	14: 5: 3	-79.6167	27.0004	14:32: 7	-79.6160	27.0117	4.78	76.56
5	14:55:17	-79.4997	27.0004	15:26:56	-79.4999	27.0119	-1.05	66.89
6	15:58:32	-79.3831	27.0001	16:27: 8	-79.3842	27.0089	-6.26	56.71
7	16:48:27	-79.2831	27.0002	17:13:20	-79.2849	27.0077	-11.99	56.00
8	17:31:36	-79.1996	27.0002	17:51:38	-79.2009	27.0040	-10.35	36.02
Cruise date: 2007.10.04								
0	11:28:37	-79.9300	27.0004	11:34:48	-79.9296	27.0028	10.67	70.61
1	11:52: 5	-79.8666	27.0001	12: 3: 8	-79.8661	27.0055	8.02	90.34
2	12:23:22	-79.7832	27.0002	12:39:20	-79.7825	27.0099	6.30	111.77
3	13: 3:23	-79.6831	27.0005	13:25:26	-79.6826	27.0136	3.47	109.55
4	13:44: 7	-79.6165	27.0005	14:10:50	-79.6158	27.0149	4.66	99.73
5	14:33:47	-79.5000	27.0001	15: 4:43	-79.4998	27.0121	1.22	71.53
6	15:27:55	-79.3831	27.0001	15:56:19	-79.3831	27.0089	0.50	57.39
7	16:18:57	-79.2832	27.0002	16:44:26	-79.2831	27.0081	1.01	57.24
8	17: 3:52	-79.2000	27.0003	17:23:26	-79.1999	27.0033	1.42	28.79

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: 2007.11.06								
0	12:49:12	-79.9302	26.9999	12:55:30	-79.9299	27.0032	6.50	97.45
1	13:13:22	-79.8666	27.0003	13:24:32	-79.8661	27.0062	8.07	98.67
2	13:50: 7	-79.7832	27.0001	14: 6:26	-79.7830	27.0072	1.81	80.87
3	14:31:58	-79.6835	26.9995	14:54:14	-79.6830	27.0080	3.07	71.27
4	15:16: 7	-79.6163	27.0004	15:43: 8	-79.6160	27.0108	2.34	71.81
5	16:10:25	-79.5000	27.0001	16:42: 1	-79.4999	27.0104	0.39	60.22
6	17: 6:45	-79.3835	27.0000	17:35:38	-79.3843	27.0073	-3.79	46.52
7	18: 0:56	-79.2830	27.0000	18:27: 3	-79.2840	27.0059	-5.92	41.80
8	18:46: 9	-79.1998	26.9998	19: 6:14	-79.2004	27.0034	-3.93	33.71
Cruise date: 2007.11.28								
0	12:55:49	-79.9294	27.0012	13: 2:21	-79.9286	27.0042	21.32	82.13
1	13:21:45	-79.8665	27.0006	13:32:50	-79.8666	27.0062	-1.43	92.49
2	13:52:48	-79.7833	27.0001	14: 9:19	-79.7839	27.0101	-6.61	111.64
3	14:31:58	-79.6837	27.0002	14:54:56	-79.6844	27.0147	-4.68	115.95
4	15:18:55	-79.6169	26.9999	15:46: 2	-79.6172	27.0141	-1.30	96.50
5	16:13: 9	-79.4999	27.0000	16:45: 8	-79.5007	27.0127	-4.21	72.98
6	17:12:55	-79.3840	27.0005	17:42: 2	-79.3854	27.0103	-7.55	61.94
7	18: 6: 4	-79.2829	26.9993	18:31:56	-79.2849	27.0090	-12.02	69.64
8	18:51:43	-79.1996	26.9995	19:11:43	-79.2016	27.0052	-16.22	53.57
Cruise date: 2007.12.07								
0	12:33:18	-79.9307	27.0013	12:40:14	-79.9305	27.0070	5.41	153.43
1	12:58:38	-79.8669	27.0004	13:10:32	-79.8663	27.0088	6.74	128.78
2	13:31:35	-79.7837	26.9997	13:49: 2	-79.7837	27.0101	0.67	108.46
3	14:12:40	-79.6835	26.9999	14:35:20	-79.6830	27.0125	4.14	101.87
4	14:53: 7	-79.6171	26.9985	15:20:50	-79.6168	27.0110	1.87	82.70
5	15:55:23	-79.4996	27.0006	16:28:14	-79.5000	27.0120	-1.93	63.88
6	16:56:52	-79.3830	26.9991	17:25:26	-79.3840	27.0071	-5.92	51.16
7	17:50:13	-79.2834	26.9975	18:17:26	-79.2847	27.0037	-7.74	42.62
8	18:36:48	-79.1997	26.9990	18:57:26	-79.2014	27.0037	-13.24	42.71

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

Appendix C:

XBT temperature profiles

Cruise date: 2007.03.29									
Depth	Sta. 0	Sta. 1	Sta. 2	Sta. 3	Sta. 4	Sta. 5	Sta. 6	Sta. 7	Sta. 8
0	24.86	25.10	25.17	25.10	24.94	25.09	25.09	24.60	24.63
10	25.41	25.43	25.44	25.34	25.39	25.31	25.22	24.57	24.53
20	25.40	25.44	25.43	25.33	25.37	25.30	25.19	24.53	24.46
30	25.39	25.45	25.43	25.33	25.36	25.32	25.18	24.52	24.40
40	25.38	25.44	25.44	25.33	25.37	25.29	25.19	24.49	24.37
50	25.39	25.45	25.43	25.33	25.36	25.25	25.18	24.44	24.36
60	25.29	25.45	25.44	25.32	25.35	25.24	25.18	24.39	24.36
70	24.69	25.44	25.44	25.32	25.34	25.23	25.17	24.38	24.33
80	22.86	25.44	25.44	25.32	25.32	25.23	25.01	24.38	24.30
90	22.03	24.26	25.44	25.33	25.33	25.23	24.95	24.36	24.30
100	21.24	22.54	25.15	25.34	25.33	25.20	24.68	24.34	24.29
110	19.63	21.81	23.16	25.34	25.32	25.12	24.45	24.28	24.29
120	18.33	21.28	22.24	25.40	25.32	25.00	24.35	24.12	24.27
130	17.68	20.86	21.70	24.89	25.32	24.86	24.34	24.05	24.24
140	–	20.44	21.18	22.74	24.36	24.66	24.30	24.03	24.12
150	–	20.34	20.80	22.25	23.39	24.15	24.00	23.82	23.95
160	–	18.89	20.51	21.67	22.66	23.63	23.28	23.75	23.43
170	–	17.45	20.32	21.07	22.38	23.22	22.65	23.69	22.89
180	–	16.70	20.12	20.54	21.24	22.92	22.20	23.16	22.57
190	–	15.36	19.92	20.39	20.76	22.19	21.91	22.19	22.35
200	–	13.47	19.44	20.24	20.56	21.68	21.78	21.52	21.97
210	–	12.75	17.76	19.87	20.39	21.37	21.34	21.21	21.69
220	–	12.41	16.70	19.65	20.29	21.06	20.78	20.84	21.28
230	–	12.06	16.30	19.39	20.14	20.93	20.65	20.62	20.39
240	–	11.53	14.98	18.99	19.73	20.47	20.28	20.34	19.98
250	–	11.25	13.57	17.99	19.28	20.16	20.00	19.77	19.89
260	–	10.99	12.21	17.01	19.26	19.29	19.80	19.49	19.60
270	–	–	11.37	16.09	18.85	19.01	19.75	19.24	19.56
280	–	–	11.07	15.14	18.01	18.80	19.52	19.02	19.19
290	–	–	10.45	14.65	16.82	18.69	18.79	18.68	18.92
300	–	–	10.23	13.96	16.23	18.19	18.39	18.46	18.37
350	–	–	8.58	9.18	10.80	13.35	16.93	16.83	17.31
400	–	–	–	7.70	8.56	10.17	13.52	15.04	16.07
450	–	–	–	7.18	7.28	8.77	11.62	14.21	14.62
500	–	–	–	6.62	6.86	8.54	10.61	12.93	–
550	–	–	–	–	6.70	7.43	9.12	11.84	–
600	–	–	–	–	6.29	6.70	8.15	11.36	–
650	–	–	–	–	6.26	6.39	7.17	–	–
700	–	–	–	–	–	6.20	NaN	–	–
750	–	–	–	–	–	6.17	–	–	–

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: 2007.07.10									
Depth	Sta. 0	Sta. 1	Sta. 2	Sta. 3	Sta. 4	Sta. 5	Sta. 6	Sta. 7	Sta. 8
0	29.84	29.63	29.79	29.54	29.42	29.21	29.21	29.19	29.16
10	29.81	29.78	30.01	30.02	29.90	29.91	29.98	30.13	29.86
20	28.49	28.78	29.22	29.39	29.55	29.86	29.95	29.94	29.73
30	27.73	27.92	28.43	29.01	29.31	29.48	29.57	28.55	29.01
40	27.06	27.24	28.00	28.44	28.75	29.09	29.07	28.02	27.83
50	25.86	26.67	27.50	28.05	28.21	28.23	27.91	26.83	27.03
60	25.02	25.85	26.73	27.32	27.64	28.04	27.54	26.28	26.52
70	23.66	24.60	26.18	26.71	27.31	27.29	27.05	26.19	26.17
80	21.18	23.38	25.49	26.07	26.83	26.76	26.86	25.95	25.88
90	19.06	22.57	23.96	25.10	25.89	26.22	26.55	25.72	25.46
100	17.23	21.29	23.20	24.36	24.94	25.73	26.04	25.41	24.82
110	15.75	20.40	22.19	22.42	24.04	24.72	25.37	25.08	24.07
120	14.84	20.05	21.35	21.66	22.81	23.73	24.65	24.65	23.70
130	12.99	19.64	20.47	21.35	22.29	23.35	24.11	23.87	23.54
140	–	19.23	20.10	21.01	21.95	22.51	23.28	22.82	23.17
150	–	18.21	19.64	20.62	21.24	21.73	22.27	22.60	22.66
160	–	16.35	19.05	20.47	20.49	21.03	21.72	22.02	21.86
170	–	15.78	18.37	19.76	19.82	20.71	21.19	21.40	21.40
180	–	14.78	17.83	19.10	19.50	20.21	20.94	21.08	21.12
190	–	14.05	17.06	18.59	19.16	19.84	20.75	20.84	20.79
200	–	13.60	16.57	18.22	18.47	19.65	20.44	20.50	20.59
210	–	13.16	15.94	17.87	18.19	19.18	19.83	20.03	20.16
220	–	12.75	15.72	17.34	17.93	18.99	19.26	19.74	19.80
230	–	11.77	15.34	16.68	17.72	18.77	18.89	19.67	19.54
240	–	10.68	14.68	16.39	17.40	18.49	18.84	19.31	19.26
250	–	9.95	14.25	16.05	17.08	18.30	18.70	19.15	18.93
260	–	9.81	13.14	15.60	16.59	17.84	18.58	19.01	18.76
270	–	–	12.67	15.26	16.23	17.42	18.36	18.91	18.64
280	–	–	12.17	14.95	15.93	17.12	18.25	18.70	18.53
290	–	–	11.41	14.59	15.55	16.89	18.18	18.56	18.42
300	–	–	11.39	14.33	15.15	16.57	18.11	18.46	18.37
350	–	–	9.77	13.01	13.87	15.50	17.43	17.95	17.99
400	–	–	–	11.42	12.29	13.96	16.39	17.13	17.60
450	–	–	–	9.92	11.13	12.19	14.80	15.76	16.65
500	–	–	–	9.28	10.35	11.24	13.63	14.64	–
550	–	–	–	–	9.81	10.55	12.53	13.31	–
600	–	–	–	–	9.06	10.13	11.72	12.97	–
650	–	–	–	–	7.33	9.09	10.74	–	–
700	–	–	–	–	–	8.35	NaN	–	–
750	–	–	–	–	–	7.42	–	–	–

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

Cruise date: 2007.09.05									
Depth	Sta. 0	Sta. 1	Sta. 2	Sta. 3	Sta. 4	Sta. 5	Sta. 6	Sta. 7	Sta. 8
0	29.23	NaN	29.64	29.55	29.93	29.59	29.80	30.31	29.91
10	30.16	NaN	29.83	29.87	29.87	29.55	29.66	29.61	29.57
20	29.81	NaN	29.83	29.87	29.87	29.49	29.63	29.60	29.52
30	29.72	NaN	29.83	29.85	29.59	29.26	28.98	29.54	29.26
40	29.57	NaN	29.68	29.34	28.93	28.80	28.58	29.14	28.54
50	28.89	NaN	29.28	28.24	28.45	28.34	28.31	28.23	28.49
60	26.55	NaN	28.23	27.41	27.77	27.47	28.05	27.60	27.74
70	25.91	NaN	27.72	26.95	27.19	27.37	27.86	26.82	27.28
80	25.59	NaN	26.94	26.31	26.62	26.98	27.37	26.78	27.10
90	23.62	NaN	26.18	25.89	25.97	26.32	27.00	26.32	26.35
100	22.37	NaN	25.06	25.41	25.51	26.16	26.58	26.05	25.94
110	22.30	NaN	24.36	25.18	25.36	25.91	25.91	26.01	25.61
120	21.36	NaN	23.33	24.49	24.88	24.79	25.66	25.81	25.25
130	20.32	NaN	21.70	24.02	24.01	24.21	25.20	25.04	23.80
140	–	NaN	21.00	22.59	23.21	23.86	24.86	24.72	22.84
150	–	NaN	20.22	22.01	22.63	23.57	24.27	23.51	22.23
160	–	NaN	19.40	21.29	22.20	23.28	23.83	22.63	21.79
170	–	NaN	18.65	21.02	21.28	22.26	22.38	22.08	21.26
180	–	NaN	18.16	20.50	20.48	21.47	21.51	21.55	20.84
190	–	NaN	17.53	19.90	20.02	21.01	21.08	21.06	20.61
200	–	NaN	17.03	19.43	19.48	20.45	20.37	20.47	20.53
210	–	NaN	16.82	18.99	18.89	19.97	19.94	20.17	20.26
220	–	NaN	16.53	18.56	18.45	19.32	19.52	19.90	19.72
230	–	NaN	16.00	17.85	18.14	18.99	19.45	19.67	19.33
240	–	NaN	15.71	17.05	17.78	18.69	19.32	19.39	19.01
250	–	NaN	15.37	16.50	17.27	18.49	18.91	19.18	18.76
260	–	NaN	15.12	16.16	16.81	18.13	18.46	18.83	18.63
270	–	–	14.84	15.51	16.41	17.90	17.91	18.71	18.55
280	–	–	14.41	15.11	16.31	17.63	17.49	18.61	18.46
290	–	–	14.12	14.95	16.17	17.02	17.40	18.55	18.37
300	–	–	13.99	14.87	16.01	16.89	17.37	18.50	18.31
350	–	–	10.61	13.92	14.21	16.33	17.14	18.16	18.01
400	–	–	–	12.28	12.87	14.82	16.42	17.52	17.37
450	–	–	–	10.06	12.15	13.58	14.32	16.31	16.32
500	–	–	–	9.08	10.54	12.02	12.83	14.49	–
550	–	–	–	–	9.46	10.27	11.53	12.93	–
600	–	–	–	–	8.55	9.25	10.84	11.88	–
650	–	–	–	–	7.14	8.72	10.28	–	–
700	–	–	–	–	–	8.02	NaN	–	–
750	–	–	–	–	–	7.48	–	–	–

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

Cruise date: 2007.09.27									
Depth	Sta. 0	Sta. 1	Sta. 2	Sta. 3	Sta. 4	Sta. 5	Sta. 6	Sta. 7	Sta. 8
0	NaN	28.37	28.32	28.10	28.43	28.44	28.83	29.08	28.98
10	NaN	29.02	29.02	29.02	29.32	29.16	29.20	29.20	29.12
20	NaN	29.07	29.00	29.16	29.32	29.16	29.20	29.26	29.11
30	NaN	29.08	29.00	29.21	29.31	29.20	29.23	29.27	29.13
40	NaN	29.07	29.08	29.22	29.32	29.19	29.24	29.26	29.16
50	NaN	29.12	29.10	29.35	29.31	28.77	29.23	29.00	29.17
60	NaN	28.60	28.62	28.86	28.75	28.33	28.79	28.60	28.72
70	NaN	27.12	27.90	28.59	28.26	28.05	28.12	27.68	28.43
80	NaN	25.91	26.99	27.52	27.71	27.72	27.83	27.27	27.73
90	NaN	24.70	25.69	26.86	26.86	27.45	27.21	26.97	26.69
100	NaN	23.61	24.93	25.82	26.19	27.11	27.00	26.63	26.23
110	NaN	22.25	23.46	25.14	25.75	26.44	26.68	26.24	25.56
120	NaN	21.51	22.14	24.41	24.75	25.24	26.07	25.25	24.52
130	NaN	19.39	21.43	23.28	23.64	24.46	25.43	24.07	23.23
140	–	18.33	20.76	22.17	22.27	23.61	24.23	23.44	22.82
150	–	17.83	19.98	21.61	21.97	23.00	23.47	23.14	21.64
160	–	17.03	19.19	20.52	21.47	22.38	22.46	22.04	21.56
170	–	16.55	18.71	19.76	20.78	21.62	21.69	21.71	21.44
180	–	16.34	18.01	19.09	19.84	21.01	21.21	20.88	21.09
190	–	15.99	16.67	18.39	18.95	20.37	20.77	20.57	20.78
200	–	15.84	16.30	17.81	18.29	19.46	20.30	20.09	20.58
210	–	15.68	15.63	17.24	17.67	19.03	20.16	19.68	20.51
220	–	15.35	15.13	16.87	17.08	18.85	19.74	19.20	20.09
230	–	14.91	14.71	16.44	16.53	18.65	19.04	18.83	19.19
240	–	14.50	14.36	16.15	16.16	18.33	18.92	18.70	18.74
250	–	14.23	13.71	15.79	15.96	17.99	18.63	18.55	18.67
260	–	14.01	13.60	15.28	15.82	17.54	18.49	18.44	18.53
270	–	–	13.54	14.84	15.34	17.28	18.38	18.39	18.52
280	–	–	13.49	14.34	14.94	17.00	18.22	18.33	18.51
290	–	–	13.25	14.16	14.83	16.68	18.06	18.27	18.41
300	–	–	13.15	13.85	14.20	16.11	17.87	18.06	18.22
350	–	–	10.35	11.90	12.44	14.89	16.96	17.15	17.59
400	–	–	–	10.56	11.49	12.60	15.75	16.13	17.04
450	–	–	–	9.40	10.19	10.95	13.50	14.83	15.13
500	–	–	–	7.85	9.42	10.19	11.77	13.78	–
550	–	–	–	–	8.07	9.34	10.61	12.66	–
600	–	–	–	–	6.92	8.28	10.40	11.68	–
650	–	–	–	–	6.28	6.96	9.09	–	–
700	–	–	–	–	–	6.58	NaN	–	–
750	–	–	–	–	–	6.19	–	–	–

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

Cruise date: 2007.10.04									
Depth	Sta. 0	Sta. 1	Sta. 2	Sta. 3	Sta. 4	Sta. 5	Sta. 6	Sta. 7	Sta. 8
0	28.52	28.71	28.90	29.08	28.82	29.05	29.05	29.06	29.03
10	29.01	28.98	29.14	29.25	29.25	29.11	29.10	29.08	29.03
20	29.04	29.08	29.13	29.24	29.24	29.09	29.07	29.08	28.99
30	29.05	29.01	29.12	29.20	29.24	29.04	29.03	29.06	28.93
40	29.01	28.96	29.08	29.18	29.23	29.00	29.02	29.04	28.89
50	28.95	28.93	29.06	29.24	29.23	28.96	29.02	29.05	28.85
60	28.94	28.84	29.05	29.13	29.05	28.74	28.99	28.93	28.84
70	28.85	28.06	28.87	28.41	28.23	27.95	28.00	28.61	28.27
80	27.50	26.39	27.91	27.73	27.49	27.43	27.58	28.18	27.43
90	26.38	24.99	26.11	27.01	26.94	27.17	27.01	26.91	25.74
100	25.02	24.40	24.96	26.34	26.38	26.72	26.51	26.11	25.12
110	24.10	23.32	24.24	25.25	26.06	25.99	25.75	24.54	24.71
120	23.08	22.60	23.09	23.58	25.57	24.81	24.90	23.84	24.04
130	22.22	21.87	22.10	22.50	23.58	23.88	23.68	23.26	23.80
140	–	21.52	21.32	22.06	22.68	23.20	23.19	22.73	22.98
150	–	21.01	20.82	21.39	21.97	22.64	22.92	22.29	22.47
160	–	20.58	20.32	20.24	21.25	21.75	22.67	21.04	21.52
170	–	19.92	19.91	19.49	20.49	21.31	22.08	20.84	20.93
180	–	19.51	19.47	19.15	20.01	20.86	21.77	20.50	20.36
190	–	18.81	19.31	18.59	19.35	20.46	21.36	20.24	19.86
200	–	18.44	18.69	18.36	18.85	19.91	20.77	19.93	19.69
210	–	18.09	18.28	17.78	18.73	19.17	20.35	19.62	19.51
220	–	17.52	18.16	17.62	18.39	18.49	20.33	19.50	19.11
230	–	17.17	17.92	17.24	17.88	18.22	20.22	19.43	19.02
240	–	16.98	17.60	16.96	17.79	17.82	19.69	19.31	19.01
250	–	16.48	17.37	16.64	17.67	17.35	18.94	19.09	19.00
260	–	15.52	17.28	16.30	17.38	17.03	18.65	18.97	18.94
270	–	–	17.03	15.76	17.21	16.81	18.52	18.91	18.76
280	–	–	16.47	15.65	16.79	16.64	18.58	18.85	18.71
290	–	–	15.85	15.43	16.33	16.45	18.43	18.58	18.67
300	–	–	15.35	15.06	16.12	16.24	18.25	18.49	18.66
350	–	–	12.56	13.87	14.71	15.06	17.01	17.88	18.09
400	–	–	–	12.10	13.53	14.30	15.70	16.97	17.94
450	–	–	–	10.29	12.07	13.70	14.27	15.89	16.57
500	–	–	–	8.85	10.49	12.50	13.41	14.58	–
550	–	–	–	–	8.93	11.05	12.69	13.48	–
600	–	–	–	–	7.96	9.72	11.87	12.70	–
650	–	–	–	–	7.45	8.73	10.49	–	–
700	–	–	–	–	–	7.49	NaN	–	–
750	–	–	–	–	–	6.70	–	–	–

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

Cruise date: 2007.11.06									
Depth	Sta. 0	Sta. 1	Sta. 2	Sta. 3	Sta. 4	Sta. 5	Sta. 6	Sta. 7	Sta. 8
0	26.71	27.12	27.01	27.22	26.92	27.20	27.25	27.39	27.46
10	27.97	28.00	27.76	27.73	27.23	27.47	27.37	27.59	27.65
20	27.98	28.00	27.77	27.68	27.21	27.47	27.34	27.58	27.64
30	27.98	28.00	27.78	27.40	27.19	27.29	27.34	27.55	27.63
40	27.98	28.01	27.77	27.21	27.18	27.05	27.34	27.51	27.52
50	27.98	28.02	27.78	27.05	27.04	26.93	26.79	27.44	27.00
60	27.98	28.02	27.78	26.96	26.78	26.62	26.38	26.51	26.69
70	27.98	28.00	27.78	26.91	26.58	26.37	26.60	25.86	25.91
80	27.99	27.95	27.78	26.90	26.34	25.96	25.73	25.52	24.79
90	27.99	27.90	27.78	26.88	25.80	24.94	24.82	24.93	23.94
100	27.99	27.83	27.76	26.36	25.10	24.02	24.50	24.08	23.55
110	27.87	27.81	27.58	25.71	24.54	23.74	23.49	22.95	22.33
120	27.40	27.46	26.89	24.94	24.13	23.63	23.35	22.70	22.12
130	26.41	26.57	25.95	24.20	23.74	23.04	23.21	22.60	21.83
140	–	25.92	24.67	23.48	22.89	22.53	22.44	22.17	21.32
150	–	23.65	23.14	22.55	22.30	21.94	21.86	21.82	21.03
160	–	22.60	22.30	21.99	22.09	21.51	21.30	21.20	20.51
170	–	21.89	21.12	21.28	21.70	21.16	21.07	20.74	20.35
180	–	21.32	20.54	20.55	21.18	20.75	20.47	20.45	20.12
190	–	20.40	19.96	20.11	20.29	20.57	20.24	20.14	20.10
200	–	19.19	19.15	19.65	19.62	20.44	20.10	19.97	19.52
210	–	18.34	18.76	19.25	19.29	20.02	19.57	19.66	19.32
220	–	16.96	17.95	18.77	18.77	19.78	19.47	19.26	19.26
230	–	15.24	17.51	18.56	18.43	19.33	19.43	19.02	18.88
240	–	13.63	17.23	17.91	18.16	18.95	19.23	18.80	18.72
250	–	12.86	16.93	17.43	17.70	18.62	19.07	18.68	18.62
260	–	12.27	16.61	17.30	17.54	18.43	18.96	18.49	18.59
270	–	–	16.15	16.82	17.12	18.13	18.81	18.40	18.53
280	–	–	14.82	16.28	16.63	18.05	18.57	18.34	18.39
290	–	–	13.71	15.94	16.28	17.71	18.43	18.20	18.26
300	–	–	13.42	15.59	15.94	17.69	18.41	18.14	18.21
350	–	–	11.04	14.13	14.40	16.77	17.16	17.61	17.83
400	–	–	–	12.32	13.06	14.72	16.60	17.28	17.19
450	–	–	–	10.66	11.88	13.63	15.56	15.86	16.01
500	–	–	–	9.60	10.43	12.00	13.67	14.92	–
550	–	–	–	–	9.41	10.66	11.87	13.42	–
600	–	–	–	–	8.50	9.58	10.97	12.16	–
650	–	–	–	–	7.44	8.72	10.31	–	–
700	–	–	–	–	–	7.82	NaN	–	–
750	–	–	–	–	–	7.51	–	–	–

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

Cruise date: 2007.11.28									
Depth	Sta. 0	Sta. 1	Sta. 2	Sta. 3	Sta. 4	Sta. 5	Sta. 6	Sta. 7	Sta. 8
0	25.43	25.85	25.86	26.93	26.98	26.78	26.98	26.85	26.85
10	25.95	26.48	26.10	27.05	27.10	26.87	26.87	26.95	26.90
20	25.96	26.24	26.07	27.04	27.11	26.86	26.85	26.88	26.87
30	25.93	26.00	25.92	26.73	27.10	26.86	26.81	26.86	26.73
40	25.90	25.76	25.88	26.32	27.10	26.48	26.77	26.85	26.55
50	25.86	25.65	25.76	26.16	27.08	26.43	26.64	26.82	26.51
60	25.58	25.65	25.35	25.99	26.65	26.37	26.45	26.72	26.49
70	23.67	25.61	25.24	25.63	26.19	26.24	26.38	26.66	26.45
80	19.84	25.49	24.53	25.46	26.15	26.16	26.22	26.54	26.30
90	15.61	24.78	23.46	24.77	26.12	25.83	25.77	26.15	26.09
100	14.55	20.82	22.14	23.76	25.40	25.34	25.61	25.99	25.77
110	12.59	16.76	21.30	22.92	23.75	24.18	25.15	25.30	25.41
120	11.93	14.69	20.20	21.49	22.40	23.22	24.40	24.78	23.39
130	10.72	13.17	19.61	20.62	21.71	22.54	23.52	24.16	23.29
140	–	12.91	18.76	20.18	21.30	21.94	22.92	23.21	22.86
150	–	12.24	18.46	19.63	20.54	21.15	22.35	22.32	22.18
160	–	12.13	18.14	19.38	20.06	20.74	21.37	21.98	21.07
170	–	12.02	17.65	18.61	19.55	20.49	20.74	21.11	20.64
180	–	11.29	17.15	18.23	19.16	19.83	20.43	20.56	20.28
190	–	10.98	16.54	17.93	18.69	19.58	19.88	19.99	20.24
200	–	10.75	16.08	17.70	18.36	18.92	19.40	19.75	19.88
210	–	10.37	15.46	17.39	17.77	18.23	19.14	19.48	19.65
220	–	10.03	14.29	16.82	17.47	17.88	18.72	19.23	19.17
230	–	9.56	13.82	15.92	17.23	17.64	18.61	18.95	18.97
240	–	9.26	13.20	15.39	16.88	17.48	18.38	18.73	18.81
250	–	8.76	11.55	14.95	16.40	17.14	18.27	18.58	18.64
260	–	8.45	11.13	14.42	15.94	16.94	18.17	18.46	18.37
270	–	–	10.70	14.24	15.54	16.27	17.98	18.39	18.35
280	–	–	10.15	14.22	15.02	15.96	17.85	18.31	18.24
290	–	–	9.57	13.89	14.54	15.74	17.68	18.23	18.20
300	–	–	9.31	13.56	14.26	15.47	17.23	18.12	18.05
350	–	–	7.27	11.83	12.20	13.76	15.81	17.46	17.48
400	–	–	–	9.51	11.10	12.25	14.12	16.04	16.38
450	–	–	–	7.96	9.69	11.10	12.63	15.21	15.67
500	–	–	–	7.07	8.77	9.61	10.80	13.64	–
550	–	–	–	–	7.84	9.09	9.88	12.15	–
600	–	–	–	–	6.71	8.10	9.09	11.52	–
650	–	–	–	–	6.29	7.59	8.56	–	–
700	–	–	–	–	–	6.83	NaN	–	–
750	–	–	–	–	–	6.35	–	–	–

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

Cruise date: 2007.12.07									
Depth	Sta. 0	Sta. 1	Sta. 2	Sta. 3	Sta. 4	Sta. 5	Sta. 6	Sta. 7	Sta. 8
0	25.28	26.00	26.27	26.42	26.47	26.07	26.46	26.57	26.59
10	25.71	26.28	26.48	26.69	26.63	26.33	26.60	26.60	26.60
20	25.64	26.28	26.49	26.68	26.63	26.32	26.53	26.59	26.58
30	25.60	25.78	26.49	26.68	26.62	26.32	26.46	26.58	26.57
40	25.53	25.57	26.46	26.68	26.68	26.32	26.45	26.57	26.57
50	25.13	25.55	26.28	26.69	26.61	26.30	26.43	26.57	26.56
60	24.94	25.43	25.61	26.55	26.54	26.28	26.41	26.47	26.52
70	24.35	25.14	25.05	26.23	26.19	26.26	26.40	26.33	26.36
80	19.71	23.38	24.74	25.55	25.98	26.18	26.38	26.20	26.20
90	15.73	21.24	24.53	25.05	25.35	26.06	26.33	26.11	25.96
100	13.46	20.75	22.90	24.45	24.48	25.97	26.32	25.97	25.22
110	10.75	19.68	21.90	23.23	24.20	25.73	26.05	25.51	23.79
120	9.86	17.64	20.47	21.83	23.29	24.83	25.35	24.49	22.92
130	8.64	16.36	19.60	21.47	22.60	23.78	24.34	23.91	22.35
140	–	14.35	18.91	20.93	21.97	22.76	22.52	23.22	22.12
150	–	11.86	18.26	19.80	20.92	22.13	22.17	22.35	21.68
160	–	10.03	17.84	19.32	20.09	21.28	22.05	21.42	21.10
170	–	9.60	17.17	18.87	19.57	20.78	21.27	20.88	20.56
180	–	9.31	16.59	18.63	19.07	20.23	20.66	20.33	20.37
190	–	8.75	15.75	17.92	18.52	19.59	20.13	19.75	19.89
200	–	8.49	15.34	17.49	18.10	19.14	19.63	19.27	19.63
210	–	8.41	14.83	17.18	17.63	18.89	19.15	18.90	19.31
220	–	8.14	14.30	16.74	17.29	18.29	19.08	18.89	19.21
230	–	7.99	13.73	16.00	16.90	18.02	18.90	18.73	19.13
240	–	7.92	13.10	15.60	16.45	17.88	18.80	18.63	18.95
250	–	7.88	12.13	15.15	16.03	17.55	18.97	18.56	18.57
260	–	7.84	11.46	14.36	15.67	17.24	19.02	18.40	18.56
270	–	–	10.75	13.93	15.24	16.90	18.91	18.27	18.56
280	–	–	9.83	13.67	14.60	16.36	18.81	18.16	18.35
290	–	–	9.10	13.34	14.28	15.95	18.88	17.86	17.99
300	–	–	8.95	12.91	13.95	15.79	18.87	17.89	17.92
350	–	–	8.04	11.33	12.09	14.29	NaN	16.55	17.58
400	–	–	–	9.79	11.97	13.00	NaN	15.39	16.52
450	–	–	–	8.46	13.06	11.33	NaN	14.33	15.86
500	–	–	–	7.59	13.45	10.37	NaN	12.65	–
550	–	–	–	–	12.91	9.15	NaN	11.69	–
600	–	–	–	–	12.49	8.43	NaN	11.47	–
650	–	–	–	–	11.94	7.75	NaN	–	–
700	–	–	–	–	–	7.59	NaN	–	–
750	–	–	–	–	–	7.29	–	–	–

Table 15: 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: 2007.06.29								
0	6:17:23	-79.9299	27.0050	6:28:18	-79.9331	27.0149	-4.63	84.45
1	4:33:10	-79.8674	27.0050	4:55:24	-79.8731	27.0255	-5.98	95.38
2	3: 9:39	-79.7842	27.0068	3:35: 7	-79.7897	27.0326	-5.73	93.10
3	1:34: 1	-79.6846	27.0056	2: 3:18	-79.6918	27.0338	-2.25	94.53
4	0: 7:33	-79.6184	27.0057	0:41:58	-79.6261	27.0367	-2.60	84.32
5	22:19:34	-79.5017	27.0047	23: 0: 9	-79.5108	27.0347	-3.65	65.51
6	20:33:44	-79.3844	27.0051	21: 8:38	-79.3935	27.0312	-7.72	60.87
7	18:31:59	-79.2851	27.0024	19: 2:34	-79.2948	27.0193	-15.26	75.16
8	16:48:15	-79.2016	27.0021	17:13: 4	-79.2106	27.0092	-18.36	59.19
Cruise date: 2007.10.04								
0	4:26:30	-79.9309	27.0039	4:39:26	-79.9350	27.0129	2.28	104.85
1	3:33:31	-79.8679	27.0031	3:50:56	-79.8751	27.0148	3.36	97.43
2	2:26:14	-79.7852	27.0038	2:50:49	-79.7941	27.0191	6.05	105.65
3	1: 5: 9	-79.6845	27.0033	1:36:41	-79.6927	27.0178	3.43	97.17
4	23:51:18	-79.6167	27.0021	0:26:57	-79.6246	27.0178	3.71	85.41
5	20:35:56	-79.5022	27.0046	21:15:20	-79.5070	27.0171	2.29	60.47
6	19: 2:38	-79.3846	27.0009	19:40:59	-79.3877	27.0086	-0.07	48.24
7	17:38:56	-79.2847	27.0003	18:15:18	-79.2869	27.0053	1.97	51.95
8	16:28: 9	-79.2018	27.0010	17: 0:15	-79.2040	27.0015	-0.29	30.24
Cruise date: 2007.12.20								
0	5: 0:55	-79.9320	27.0054	5:11:37	-79.9356	27.0184	-3.28	149.20
1	4: 2:38	-79.8686	27.0056	4:20:30	-79.8735	27.0249	3.19	119.13
2	2:51:19	-79.7850	27.0040	3:13:26	-79.7894	27.0269	6.00	121.56
3	1:28:31	-79.6843	27.0037	1:57:46	-79.6907	27.0299	6.71	99.79
4	0:18:21	-79.6186	27.0036	0:50:22	-79.6288	27.0271	3.18	86.04
5	22:51:30	-79.5039	27.0031	23:29: 1	-79.5179	27.0221	-0.65	57.45
6	21:25:58	-79.3847	27.0020	21:58:23	-79.3900	27.0067	-2.22	44.45
7	20:12:12	-79.2851	27.0001	20:39:31	-79.2865	27.0012	-7.78	45.33
8	19: 7:45	-79.2002	26.9997	19:30:33	-79.1998	27.0012	-8.51	35.50

Table 16: 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: ws0716. Station: 0					
Pressure	Temperature	Salinity	Oxygen	U speed	V speed
[db]	[deg. C]	[psu]	[ml/l]	[cm/s]	[cm/s]
1	28.78	36.18	4.55	NaN	NaN
10	28.78	36.18	4.54	-6.3	154.7
20	28.52	36.20	4.58	-6.3	154.7
30	26.95	36.33	4.74	-6.3	154.7
40	26.36	36.50	4.82	-6.3	154.7
50	25.85	36.50	4.83	-3.1	155.6
60	25.27	36.47	4.85	-0.7	149.3
70	23.56	36.49	4.74	-1.8	129.1
80	21.75	36.43	4.45	-1.6	98.3
90	19.79	36.34	4.04	-3.4	61.4
100	17.39	36.19	3.58	-6.4	24.8
110	16.01	36.08	3.28	-5.8	-1.0
120	15.20	35.98	3.17	-5.1	-17.2
130	14.81	35.94	3.07	-8.0	-29.9
140	NaN	NaN	NaN	-3.9	-7.1

Table 17: 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: ws0716. Station: 1					
Pressure	Temperature	Salinity	Oxygen	U speed	V speed
[db]	[deg. C]	[psu]	[ml/l]	[cm/s]	[cm/s]
1	28.80	36.10	4.51	NaN	NaN
10	28.80	36.10	4.54	-10.7	165.8
20	28.86	36.21	4.56	-10.6	165.3
30	27.09	36.34	4.76	-9.9	163.0
40	26.57	36.46	4.78	-7.4	154.6
50	26.23	36.50	4.81	-10.2	146.9
60	25.60	36.53	4.84	-13.3	141.0
70	24.55	36.54	4.74	-10.6	136.1
80	23.51	36.53	4.86	-7.7	136.7
90	22.52	36.54	4.74	-6.0	135.1
100	21.78	36.59	4.36	-4.0	131.8
110	21.09	36.56	4.50	-3.2	126.4
120	19.94	36.48	4.04	-4.2	118.6
130	17.95	36.29	3.64	-2.3	106.4
140	16.86	36.16	3.38	-1.5	88.0
150	15.96	36.05	3.29	0.4	78.4
160	15.50	36.02	3.15	1.2	68.0
170	14.36	35.87	3.02	1.6	56.8
180	13.93	35.81	2.98	1.5	49.9
190	13.03	35.68	2.94	0.7	42.4
200	12.59	35.62	2.92	-0.5	34.7
210	11.62	35.48	2.89	-0.7	17.9
220	10.58	35.33	2.84	-2.0	14.0
230	10.05	35.26	2.84	-2.1	13.2
240	NaN	NaN	NaN	-2.3	42.1
250	NaN	NaN	NaN	-45.9	51.4

Table 18: Same as Table 17 for the cruise ID and the station number indicated.

Cruise ID: ws0716. Station: 2					
Pressure	Temperature	Salinity	Oxygen	U speed	V speed
[db]	[deg. C]	[psu]	[ml/l]	[cm/s]	[cm/s]
1	28.92	36.12	4.57	NaN	NaN
10	28.93	36.12	4.53	-14.2	165.0
20	28.94	36.12	4.54	-14.2	165.0
30	28.05	36.29	4.68	-14.2	165.0
40	27.59	36.36	4.69	-14.2	165.0
50	26.76	36.33	4.66	-8.4	157.6
60	26.17	36.49	4.81	-3.4	151.0
70	25.55	36.52	4.86	-6.7	143.3
80	24.54	36.52	4.92	-7.0	139.6
90	23.81	36.51	4.93	-8.8	135.1
100	23.16	36.70	3.82	-10.4	135.5
110	22.10	36.72	3.60	-12.7	134.2
120	21.31	36.69	3.84	-13.4	129.8
130	20.76	36.73	3.48	-10.4	128.8
140	19.85	36.58	3.84	-7.6	129.7
150	19.46	36.58	3.63	-6.9	128.4
160	18.93	36.53	3.59	-4.2	124.7
170	18.14	36.43	3.44	-4.0	120.7
180	17.27	36.29	3.27	-7.3	115.1
190	16.18	36.10	3.25	-9.5	107.5
200	15.16	35.96	3.15	-8.6	96.9
210	14.87	35.94	3.05	-7.8	88.3
220	14.18	35.84	3.03	-7.3	80.1
230	13.69	35.77	3.00	-6.6	71.8
240	13.12	35.68	2.96	-2.1	59.9
250	12.29	35.56	2.93	-4.2	52.5
260	11.83	35.49	2.89	-4.2	43.0
270	11.63	35.46	2.86	-3.2	39.1
280	11.42	35.43	2.85	-0.4	39.1
290	10.77	35.34	2.81	-1.2	38.2
300	10.65	35.33	2.81	-2.2	35.1
350	NaN	NaN	NaN	3.9	14.1

Table 19: Same as Table 17 for the cruise ID and the station number indicated.

Cruise ID: ws0716. Station: 3					
Pressure	Temperature	Salinity	Oxygen	U speed	V speed
[db]	[deg. C]	[psu]	[ml/l]	[cm/s]	[cm/s]
1	29.02	36.12	4.61	NaN	NaN
10	29.02	36.11	4.53	-11.5	152.9
20	29.03	36.12	4.54	-11.6	152.9
30	28.42	36.20	4.67	-12.0	152.7
40	27.67	36.26	4.69	-13.8	151.7
50	27.01	36.33	4.62	-16.3	146.7
60	26.56	36.43	4.43	-15.7	143.2
70	25.46	36.28	4.65	-9.7	139.2
80	25.51	36.49	4.61	-5.8	136.7
90	24.74	36.63	4.49	-5.0	135.2
100	23.90	36.73	3.71	-9.0	131.8
110	23.21	36.81	3.53	-11.7	127.4
120	22.59	36.82	3.46	-11.9	122.5
130	21.83	36.81	3.40	-9.7	120.4
140	21.09	36.76	3.39	-6.1	119.6
150	20.37	36.71	3.41	-1.0	119.3
160	20.06	36.69	3.42	0.4	122.3
170	19.03	36.57	3.44	-0.4	117.6
180	18.56	36.52	3.49	-1.2	112.7
190	17.93	36.44	3.52	-2.5	109.8
200	17.57	36.38	3.48	-4.0	108.8
210	16.96	36.28	3.34	-5.2	108.3
220	16.55	36.22	3.26	-6.0	107.9
230	16.12	36.16	3.38	-7.1	107.1
240	15.89	36.12	3.31	-6.7	105.2
250	15.50	36.06	3.26	-4.8	103.1
260	15.18	36.01	3.25	-0.2	102.2
270	14.73	35.94	3.22	4.1	100.9
280	14.13	35.84	3.08	6.8	98.3
290	13.74	35.78	3.06	7.0	92.9
300	13.00	35.66	2.98	6.3	87.3
350	11.85	35.48	2.89	-2.0	81.1
400	10.38	35.27	2.77	6.8	70.2
450	9.50	35.16	2.75	5.7	47.1
500	NaN	NaN	NaN	1.5	18.1

Table 20: Same as Table 17 for the cruise ID and the station number indicated.

Cruise ID: ws0716. Station: 4					
Pressure	Temperature	Salinity	Oxygen	U speed	V speed
[db]	[deg. C]	[psu]	[ml/l]	[cm/s]	[cm/s]
1	28.80	35.96	4.60	NaN	NaN
10	28.77	35.99	4.56	-9.9	141.9
20	28.80	36.01	4.57	-10.2	141.8
30	28.93	36.10	4.58	-11.4	141.5
40	28.30	36.20	4.71	-13.1	141.0
50	27.70	36.23	4.75	-18.4	139.3
60	27.15	36.29	4.65	-17.9	137.2
70	26.49	36.39	4.51	-17.0	135.2
80	26.02	36.49	4.31	-18.0	133.2
90	25.17	36.62	4.06	-16.8	129.3
100	24.13	36.72	3.73	-11.9	126.2
110	23.30	36.81	3.55	-9.3	122.9
120	22.24	36.81	3.44	-10.5	119.2
130	21.67	36.79	3.41	-11.4	116.5
140	21.17	36.77	3.40	-11.0	113.8
150	20.53	36.73	3.39	-7.9	110.3
160	20.02	36.68	3.42	-6.5	108.1
170	19.59	36.64	3.44	-7.8	108.3
180	19.13	36.59	3.43	-7.9	107.8
190	18.82	36.57	3.51	-7.0	105.9
200	18.24	36.49	3.53	-5.4	102.9
210	18.00	36.47	3.63	-3.2	102.1
220	17.73	36.43	3.63	-1.5	101.1
230	17.23	36.34	3.54	-1.1	98.2
240	16.62	36.25	3.47	-2.3	94.5
250	16.28	36.19	3.41	-4.3	91.0
260	15.87	36.12	3.35	-3.2	89.0
270	15.47	36.06	3.19	-1.9	87.8
280	15.19	36.01	3.17	-1.4	87.5
290	14.62	35.92	3.10	-1.4	87.5
300	14.20	35.85	3.09	-1.6	88.1
350	12.86	35.64	2.91	-2.0	81.6
400	11.35	35.41	2.81	4.5	67.0
450	10.21	35.24	2.77	4.0	60.4
500	9.54	35.16	2.75	0.1	52.2
550	8.30	35.02	2.80	8.0	40.7
600	7.57	34.96	2.92	9.2	25.7

Table 21: Same as Table 17 for the cruise ID and the station number indicated.

Cruise ID: ws0716. Station: 5					
Pressure	Temperature	Salinity	Oxygen	U speed	V speed
[db]	[deg. C]	[psu]	[ml/l]	[cm/s]	[cm/s]
1	28.84	36.13	4.54	NaN	NaN
10	28.86	36.14	4.55	-2.4	124.4
20	28.86	36.14	4.57	-2.5	124.1
30	28.86	36.14	4.57	-3.1	123.1
40	28.87	36.17	4.57	-3.9	121.7
50	27.94	36.19	4.66	-6.8	112.2
60	27.55	36.19	4.68	-7.0	109.0
70	27.04	36.28	4.66	-5.2	109.0
80	26.32	36.44	4.43	-4.7	109.4
90	25.34	36.53	4.17	-3.2	104.6
100	24.57	36.67	3.82	-5.8	105.8
110	24.09	36.73	3.71	-8.9	106.3
120	23.42	36.77	3.61	-10.8	99.8
130	22.87	36.82	3.48	-11.8	95.8
140	22.55	36.82	3.44	-11.9	94.5
150	21.73	36.79	3.42	-8.5	93.4
160	21.19	36.76	3.41	-7.6	92.3
170	20.82	36.75	3.40	-8.3	91.1
180	20.17	36.71	3.42	-8.7	90.0
190	19.65	36.67	3.52	-9.8	88.0
200	19.38	36.63	3.52	-11.9	85.2
210	19.04	36.59	3.50	-14.1	83.7
220	18.89	36.57	3.53	-13.6	82.8
230	18.47	36.51	3.53	-6.8	81.7
240	17.74	36.39	3.44	-2.5	79.4
250	16.99	36.30	3.41	-1.4	77.3
260	16.63	36.26	3.67	-3.0	76.7
270	16.08	36.18	3.55	-3.2	75.5
280	15.89	36.15	3.57	-2.9	73.6
290	15.61	36.10	3.53	-2.6	72.1
300	15.46	36.08	3.50	-1.9	71.2
350	14.02	35.82	3.02	-11.3	71.7
400	13.10	35.68	3.01	-6.6	65.6
450	11.90	35.49	2.88	-2.7	52.7
500	10.83	35.32	2.85	-0.3	50.3
550	9.75	35.18	2.76	-0.7	43.1
600	8.47	35.04	2.81	3.1	35.2
650	7.97	35.01	2.91	-3.5	32.0
700	6.90	34.94	3.14	12.5	23.6
750	NaN	NaN	NaN	-0.2	5.0

Table 22: Same as Table 17 for the cruise ID and the station number indicated.

Cruise ID: ws0716. Station: 6					
Pressure	Temperature	Salinity	Oxygen	U speed	V speed
[db]	[deg. C]	[psu]	[ml/l]	[cm/s]	[cm/s]
1	28.90	36.17	4.55	NaN	NaN
10	28.91	36.17	4.55	-3.5	105.2
20	28.91	36.17	4.57	-3.5	105.2
30	28.90	36.17	4.58	-3.5	104.9
40	28.33	36.19	4.69	-2.5	94.3
50	28.03	36.21	4.74	-3.7	92.5
60	27.56	36.22	4.73	-5.3	93.0
70	27.16	36.27	4.72	-6.3	91.8
80	26.90	36.33	4.62	-4.1	89.8
90	26.30	36.44	4.38	0.1	87.7
100	25.32	36.60	4.07	0.8	88.9
110	24.79	36.67	3.86	-0.5	90.6
120	23.71	36.76	3.66	-3.7	91.7
130	23.04	36.80	3.50	-5.7	89.3
140	22.70	36.81	3.49	-7.3	87.0
150	21.87	36.81	3.41	-8.8	87.4
160	21.29	36.78	3.44	-12.2	86.5
170	20.85	36.75	3.48	-16.5	84.9
180	20.52	36.71	3.60	-17.9	86.3
190	20.02	36.64	3.69	-18.3	87.8
200	19.60	36.59	3.74	-18.0	88.2
210	19.23	36.57	3.64	-16.1	88.3
220	19.10	36.57	3.59	-13.6	87.6
230	18.51	36.51	3.53	-11.2	85.0
240	18.44	36.52	3.55	-9.3	83.2
250	18.03	36.46	3.59	-8.2	82.1
260	17.90	36.46	3.56	-9.4	79.3
270	17.87	36.50	4.15	-10.5	77.0
280	17.87	36.50	4.20	-10.9	75.8
290	17.83	36.49	4.18	-10.7	74.9
300	17.82	36.49	4.21	-10.4	74.0
350	16.82	36.33	3.82	-14.6	66.0
400	14.94	36.02	3.88	-9.2	51.2
450	13.74	35.84	3.69	-6.8	51.3
500	12.24	35.59	3.45	-6.7	37.5
550	10.66	35.32	2.86	-3.3	30.3
600	9.80	35.19	2.76	-4.6	21.5
650	8.62	35.07	2.85	2.4	7.4

Table 23: Same as Table 17 for the cruise ID and the station number indicated.

Cruise ID: ws0716. Station: 7					
Pressure	Temperature	Salinity	Oxygen	U speed	V speed
[db]	[deg. C]	[psu]	[ml/l]	[cm/s]	[cm/s]
1	28.75	36.21	4.56	NaN	NaN
10	28.75	36.21	4.56	-10.7	82.9
20	28.75	36.22	4.59	-10.7	82.8
30	28.75	36.22	4.58	-10.7	82.7
40	28.43	36.20	4.64	-10.3	76.9
50	28.14	36.22	4.65	-2.8	75.3
60	27.90	36.24	4.67	4.7	74.7
70	27.09	36.26	4.68	3.8	73.8
80	26.36	36.40	4.49	-2.4	74.4
90	25.74	36.48	4.25	-9.9	76.4
100	25.13	36.52	4.09	-10.8	81.6
110	24.47	36.67	3.73	-9.5	85.1
120	23.91	36.76	3.61	-7.9	85.4
130	23.32	36.81	3.54	-9.7	83.5
140	22.75	36.82	3.49	-13.0	80.8
150	22.28	36.83	3.46	-16.3	79.5
160	22.09	36.82	3.47	-17.0	83.2
170	21.29	36.74	3.64	-15.7	89.2
180	21.19	36.82	3.87	-15.0	90.6
190	20.63	36.74	3.65	-15.7	88.8
200	20.61	36.78	3.86	-18.3	85.2
210	20.20	36.74	3.87	-19.4	83.7
220	19.76	36.72	4.36	-19.7	83.6
230	19.44	36.69	4.32	-18.9	85.7
240	19.08	36.66	4.41	-18.5	86.9
250	18.92	36.65	4.45	-18.3	87.4
260	18.75	36.64	4.48	-16.8	87.2
270	18.54	36.61	4.50	-16.4	87.0
280	18.40	36.60	4.54	-17.5	86.8
290	18.36	36.60	4.56	-19.5	87.0
300	18.29	36.59	4.58	-21.0	87.5
350	17.76	36.51	4.50	-20.9	87.7
400	16.74	36.32	4.21	-23.4	86.8
450	15.32	36.08	3.97	-21.7	69.5
500	13.75	35.84	3.68	-18.6	53.8
550	12.84	35.70	3.56	-9.7	51.0
600	11.99	35.58	3.47	-7.0	30.5

Table 24: Same as Table 17 for the cruise ID and the station number indicated.

Cruise ID: ws0716. Station: 8					
Pressure	Temperature	Salinity	Oxygen	U speed	V speed
[db]	[deg. C]	[psu]	[ml/l]	[cm/s]	[cm/s]
1	28.86	36.18	4.53	NaN	NaN
10	28.89	36.19	4.56	-7.9	31.1
20	28.88	36.21	4.57	-7.7	31.2
30	28.86	36.21	4.58	-6.6	31.9
40	28.75	36.20	4.60	-5.0	33.5
50	27.63	36.25	4.70	-3.3	36.1
60	26.72	36.35	4.60	-3.2	41.3
70	26.53	36.39	4.47	-5.0	47.2
80	25.68	36.39	4.51	-13.9	55.0
90	24.90	36.56	3.99	-18.4	61.8
100	24.71	36.62	3.83	-18.3	64.1
110	24.01	36.69	3.70	-16.9	66.3
120	23.36	36.71	3.75	-13.9	69.6
130	23.15	36.75	3.79	-15.6	72.6
140	22.61	36.77	4.62	-20.0	74.9
150	21.92	36.77	4.67	-25.1	75.9
160	21.51	36.78	4.70	-28.4	75.9
170	21.42	36.78	4.69	-29.8	75.0
180	21.39	36.78	4.68	-29.9	73.0
190	21.11	36.78	4.66	-29.4	71.8
200	20.58	36.76	4.67	-28.6	71.8
210	20.35	36.75	4.57	-27.8	70.9
220	20.19	36.75	4.52	-26.9	70.2
230	19.88	36.73	4.51	-24.8	71.5
240	19.63	36.71	4.51	-23.3	72.3
250	19.24	36.67	4.46	-22.2	72.3
260	18.89	36.64	4.38	-20.0	68.4
270	18.60	36.62	4.49	-18.7	65.6
280	18.52	36.61	4.54	-18.9	65.4
290	18.43	36.60	4.55	-21.2	66.2
300	18.33	36.59	4.58	-22.8	66.2
350	17.90	36.53	4.54	-25.1	62.8
400	17.47	36.45	4.40	-15.3	58.2
450	16.62	36.30	4.16	-12.3	43.2

Table 25: Same as Table 17 for the cruise ID and the station number indicated.

Cruise ID: ws0725. Station: 0					
Pressure	Temperature	Salinity	Oxygen	U speed	V speed
[db]	[deg. C]	[psu]	[ml/l]	[cm/s]	[cm/s]
1	28.94	35.66	4.82	NaN	NaN
10	28.98	35.70	4.81	3.0	125.4
20	29.03	36.02	4.75	3.0	125.4
30	28.99	36.04	4.71	4.9	126.0
40	28.97	36.07	4.71	9.9	128.7
50	28.98	36.13	4.72	8.2	127.7
60	28.46	36.27	4.80	4.0	122.8
70	26.47	36.40	4.92	-0.3	111.5
80	25.03	36.45	4.87	-5.7	104.4
90	23.65	36.53	4.67	-10.5	99.8
100	22.45	36.59	4.37	-3.5	91.9
110	21.83	36.59	4.05	8.6	76.2
120	21.12	36.64	3.86	6.9	69.2
130	NaN	NaN	NaN	1.1	54.1

Table 26: Same as Table 17 for the cruise ID and the station number indicated.

Cruise ID: ws0725. Station: 1					
Pressure	Temperature	Salinity	Oxygen	U speed	V speed
[db]	[deg. C]	[psu]	[ml/l]	[cm/s]	[cm/s]
1	29.08	36.13	4.69	NaN	NaN
10	29.10	36.12	4.65	12.0	147.3
20	29.09	36.12	4.65	12.0	147.3
30	28.97	36.12	4.66	12.8	146.6
40	28.96	36.15	4.66	15.3	144.7
50	28.95	36.15	4.65	13.6	143.8
60	28.93	36.15	4.65	10.6	143.2
70	28.13	36.28	4.74	8.9	140.6
80	26.99	36.38	4.85	8.8	135.6
90	25.46	36.46	4.94	9.6	126.3
100	24.29	36.49	4.79	7.8	115.0
110	22.66	36.56	4.52	3.4	106.3
120	21.67	36.66	3.85	-2.1	101.9
130	21.11	36.61	3.84	-1.6	95.9
140	20.46	36.61	3.68	0.2	88.1
150	20.18	36.58	3.54	-0.8	83.0
160	19.66	36.55	3.46	-1.0	79.3
170	18.94	36.51	3.35	-0.8	75.6
180	18.73	36.49	3.29	-3.4	72.9
190	18.28	36.43	3.26	-5.5	70.7
200	17.56	36.33	3.18	-6.3	67.0
210	17.14	36.27	3.16	-4.1	50.6
220	16.71	36.21	3.12	-0.9	37.9
230	16.46	36.17	3.11	-3.3	33.1
240	NaN	NaN	NaN	-2.9	30.0
250	NaN	NaN	NaN	1.8	52.8

Table 27: Same as Table 17 for the cruise ID and the station number indicated.

Cruise ID: ws0725. Station: 2					
Pressure	Temperature	Salinity	Oxygen	U speed	V speed
[db]	[deg. C]	[psu]	[ml/l]	[cm/s]	[cm/s]
1	29.19	36.14	4.62	NaN	NaN
10	29.20	36.14	4.64	9.6	151.4
20	29.18	36.14	4.64	9.6	151.4
30	29.10	36.13	4.67	10.5	151.2
40	29.09	36.13	4.64	13.8	150.2
50	29.09	36.13	4.65	15.9	150.4
60	29.09	36.13	4.65	17.5	151.7
70	28.35	36.21	4.72	18.9	154.2
80	27.42	36.33	4.54	17.0	154.1
90	26.64	36.40	4.43	12.9	151.7
100	25.68	36.48	4.10	13.2	144.3
110	23.83	36.55	4.40	15.0	133.7
120	22.67	36.57	4.42	15.2	121.4
130	21.85	36.60	4.13	9.1	116.7
140	21.11	36.69	3.59	5.6	115.5
150	20.16	36.59	3.61	11.6	114.2
160	19.70	36.56	3.49	13.3	109.7
170	19.48	36.55	3.39	11.3	105.5
180	18.87	36.50	3.26	7.8	103.8
190	18.43	36.47	3.29	5.6	101.8
200	17.99	36.41	3.28	3.7	101.2
210	17.43	36.34	3.20	1.8	101.3
220	17.00	36.28	3.17	0.6	100.6
230	16.83	36.25	3.16	0.6	99.9
240	16.40	36.19	3.16	-0.6	98.9
250	16.11	36.14	3.11	-2.5	97.3
260	15.92	36.11	3.12	-3.1	94.2
270	15.80	36.09	3.08	-4.6	91.6
280	15.25	36.01	3.07	-8.4	89.9
290	14.92	35.96	3.06	-10.4	88.4
300	14.51	35.89	3.02	-8.5	83.3
350	9.88	35.24	2.90	9.5	33.0

Table 28: Same as Table 17 for the cruise ID and the station number indicated.

Cruise ID: ws0725. Station: 3					
Pressure	Temperature	Salinity	Oxygen	U speed	V speed
[db]	[deg. C]	[psu]	[ml/l]	[cm/s]	[cm/s]
1	29.28	36.13	4.63	NaN	NaN
10	29.29	36.14	4.64	12.3	135.1
20	29.28	36.14	4.66	12.3	135.1
30	29.24	36.14	4.67	12.7	135.0
40	29.21	36.14	4.67	14.8	133.3
50	29.18	36.14	4.67	15.6	134.2
60	28.92	36.18	4.71	16.3	137.4
70	27.83	36.19	4.81	16.9	143.2
80	27.19	36.27	4.74	14.0	145.1
90	26.79	36.34	4.52	7.7	143.1
100	26.06	36.37	4.39	2.7	140.3
110	25.61	36.55	4.07	3.0	137.7
120	24.61	36.69	3.79	9.5	134.3
130	22.98	36.72	3.71	10.0	125.3
140	22.15	36.76	3.53	5.8	116.5
150	21.37	36.76	3.41	0.3	112.6
160	20.64	36.70	3.39	-3.2	111.1
170	19.89	36.61	3.46	-4.9	110.8
180	19.36	36.60	3.39	-3.1	110.0
190	18.64	36.51	3.37	-0.5	109.7
200	18.10	36.44	3.35	1.3	109.6
210	17.69	36.41	3.53	2.6	106.3
220	17.51	36.38	3.53	2.1	103.0
230	17.21	36.33	3.51	-0.4	102.3
240	16.75	36.26	3.28	-1.3	102.0
250	16.36	36.20	3.21	-0.1	101.6
260	16.00	36.14	3.19	3.4	99.5
270	15.58	36.07	3.18	5.5	96.3
280	15.33	36.03	3.19	4.1	94.6
290	15.15	36.00	3.07	3.1	93.5
300	14.69	35.93	3.07	2.7	92.5
350	13.16	35.68	2.90	1.8	85.1
400	12.04	35.50	2.83	-7.0	80.2
450	10.46	35.28	2.77	6.4	54.5
500	8.24	35.01	2.79	8.6	40.3

Table 29: Same as Table 17 for the cruise ID and the station number indicated.

Cruise ID: ws0725. Station: 4					
Pressure	Temperature	Salinity	Oxygen	U speed	V speed
[db]	[deg. C]	[psu]	[ml/l]	[cm/s]	[cm/s]
1	29.32	36.15	4.61	NaN	NaN
10	29.31	36.15	4.66	8.3	119.2
20	29.32	36.15	4.67	8.3	119.2
30	29.13	36.14	4.71	9.4	120.7
40	29.12	36.17	4.71	13.0	125.1
50	29.08	36.18	4.70	15.2	125.4
60	28.57	36.19	4.78	16.2	123.3
70	28.31	36.22	4.74	16.3	120.8
80	27.61	36.22	4.72	14.6	122.2
90	27.17	36.28	4.55	11.2	125.0
100	26.66	36.35	4.33	7.9	127.0
110	26.07	36.48	4.13	7.4	127.6
120	24.89	36.67	3.85	10.6	124.4
130	23.87	36.79	3.62	9.6	118.3
140	22.66	36.80	3.56	7.6	111.2
150	21.87	36.79	3.44	6.3	106.3
160	21.11	36.76	3.42	2.1	102.6
170	19.88	36.61	3.51	-2.4	100.5
180	19.47	36.61	3.40	-4.4	100.9
190	18.94	36.54	3.32	-5.0	102.9
200	18.54	36.51	3.32	-4.8	105.3
210	18.31	36.50	3.51	-2.1	105.9
220	17.94	36.45	3.53	1.2	104.0
230	17.53	36.38	3.37	4.2	100.1
240	17.27	36.34	3.40	3.7	98.9
250	17.38	36.43	3.89	1.7	99.7
260	17.11	36.39	4.19	2.7	99.8
270	16.45	36.25	3.97	3.3	98.5
280	16.18	36.23	4.01	2.5	96.0
290	15.70	36.15	3.90	2.4	94.0
300	15.07	36.02	3.74	1.2	92.7
350	13.74	35.78	3.11	-3.0	88.7
400	13.02	35.66	2.95	-3.6	79.6
450	12.30	35.54	2.91	2.6	73.1
500	11.06	35.36	2.72	6.2	62.6
550	8.52	35.06	2.85	4.6	39.1
600	7.67	34.96	2.88	6.6	27.3

Table 30: Same as Table 17 for the cruise ID and the station number indicated.

Cruise ID: ws0725. Station: 5					
Pressure	Temperature	Salinity	Oxygen	U speed	V speed
[db]	[deg. C]	[psu]	[ml/l]	[cm/s]	[cm/s]
1	29.17	36.09	4.65	NaN	NaN
10	29.08	36.10	4.66	17.7	96.3
20	29.00	36.09	4.69	17.7	96.3
30	28.97	36.12	4.69	17.9	96.4
40	28.82	36.16	4.73	19.5	94.8
50	28.69	36.17	4.78	23.5	93.4
60	28.54	36.17	4.77	27.5	92.9
70	28.15	36.17	4.78	26.8	92.7
80	27.88	36.18	4.70	19.4	92.4
90	27.37	36.25	4.59	8.5	92.6
100	26.72	36.33	4.60	2.6	94.2
110	26.00	36.51	4.12	1.2	93.0
120	25.05	36.64	3.88	-0.1	88.5
130	24.56	36.73	3.70	-1.8	91.5
140	23.22	36.83	3.55	0.9	94.7
150	22.54	36.84	3.46	5.9	93.8
160	21.40	36.70	3.67	7.2	93.3
170	21.07	36.82	3.55	6.1	92.5
180	20.79	36.83	4.05	4.5	93.3
190	20.42	36.79	4.04	3.6	93.2
200	19.65	36.74	3.99	4.5	90.5
210	19.20	36.67	4.24	4.4	87.1
220	18.80	36.62	3.67	1.9	83.5
230	18.53	36.59	4.24	-1.2	79.4
240	18.09	36.50	3.82	-2.3	78.0
250	17.51	36.42	3.92	-2.2	79.4
260	17.30	36.40	3.81	-1.5	78.0
270	17.31	36.43	4.27	-0.6	76.6
280	17.16	36.40	4.21	0.9	75.4
290	16.87	36.34	4.21	-0.5	73.5
300	16.14	36.18	3.47	-3.6	72.1
350	14.89	35.97	3.23	-7.0	65.0
400	13.89	35.80	3.07	-6.7	56.3
450	13.04	35.65	2.95	-6.4	56.5
500	12.10	35.51	2.86	-4.3	51.5
550	11.01	35.34	2.73	3.0	43.9
600	9.21	35.11	2.71	7.4	31.2
650	8.56	35.03	2.74	7.3	21.6
700	7.86	34.96	2.84	7.9	17.6
750	NaN	NaN	NaN	-7.8	13.2

Table 31: Same as Table 17 for the cruise ID and the station number indicated.

Cruise ID: ws0725. Station: 6					
Pressure	Temperature	Salinity	Oxygen	U speed	V speed
[db]	[deg. C]	[psu]	[ml/l]	[cm/s]	[cm/s]
1	29.25	36.13	4.65	NaN	NaN
10	29.08	36.13	4.67	18.4	58.1
20	29.03	36.13	4.67	18.5	58.1
30	29.01	36.14	4.69	17.9	58.9
40	29.00	36.15	4.68	16.3	58.4
50	29.01	36.15	4.67	18.6	58.4
60	28.83	36.19	4.69	22.2	58.0
70	28.23	36.19	4.75	21.3	57.5
80	27.47	36.25	4.75	16.8	61.2
90	26.73	36.37	4.47	10.6	63.7
100	25.85	36.54	4.12	6.1	66.1
110	24.82	36.68	3.86	2.0	68.9
120	24.09	36.77	3.85	-1.2	72.4
130	23.37	36.86	4.04	-4.8	72.8
140	23.20	36.87	4.05	-7.3	71.8
150	22.61	36.84	4.22	-9.4	71.2
160	21.98	36.85	4.37	-10.2	70.9
170	21.82	36.88	4.05	-8.8	70.4
180	21.57	36.86	4.38	-2.1	69.1
190	21.24	36.87	4.01	3.8	69.2
200	20.34	36.79	4.09	5.5	70.8
210	19.78	36.74	4.13	5.8	76.6
220	19.34	36.71	4.53	7.2	82.6
230	19.19	36.69	4.48	7.6	81.1
240	19.03	36.67	4.45	7.0	78.9
250	18.75	36.64	4.44	5.1	77.3
260	18.37	36.56	4.05	6.5	74.9
270	18.26	36.56	4.06	8.1	71.0
280	18.05	36.53	4.13	7.5	66.4
290	17.83	36.49	4.13	6.8	63.3
300	17.65	36.47	4.18	6.4	60.9
350	16.62	36.28	3.77	-2.9	52.5
400	15.33	36.05	3.51	-6.4	41.4
450	14.20	35.85	3.19	-7.5	36.6
500	12.96	35.66	3.07	-8.8	29.9
550	11.78	35.48	2.96	-5.9	22.2
600	10.94	35.36	2.85	-6.3	11.5
650	10.47	35.31	2.97	-4.0	14.6

Table 32: Same as Table 17 for the cruise ID and the station number indicated.

Cruise ID: ws0725. Station: 7					
Pressure	Temperature	Salinity	Oxygen	U speed	V speed
[db]	[deg. C]	[psu]	[ml/l]	[cm/s]	[cm/s]
1	29.25	36.18	4.68	NaN	NaN
10	29.09	36.18	4.67	10.0	43.5
20	29.05	36.18	4.68	10.0	43.5
30	29.01	36.17	4.69	10.6	44.0
40	29.00	36.19	4.69	12.6	43.5
50	28.96	36.19	4.69	14.0	42.6
60	28.85	36.18	4.72	14.9	42.3
70	28.51	36.20	4.76	15.2	42.5
80	27.52	36.25	4.71	13.6	41.6
90	26.66	36.37	4.34	9.8	41.4
100	26.47	36.46	4.54	3.4	43.1
110	24.66	36.72	4.52	-2.8	46.4
120	24.06	36.79	4.42	-7.1	50.8
130	23.22	36.83	4.69	-10.6	55.0
140	22.65	36.84	4.68	-10.7	58.9
150	21.40	36.83	4.59	-5.0	63.5
160	21.11	36.83	4.61	1.7	65.5
170	20.84	36.81	4.57	6.8	66.0
180	20.66	36.80	4.55	7.7	64.4
190	20.38	36.79	4.53	8.9	62.1
200	19.90	36.76	4.52	12.9	61.5
210	19.60	36.74	4.52	18.6	67.0
220	19.48	36.73	4.50	20.8	71.8
230	19.24	36.71	4.52	21.0	74.0
240	19.14	36.70	4.50	20.0	74.0
250	19.04	36.69	4.56	19.4	72.6
260	18.80	36.67	4.59	17.6	68.6
270	18.74	36.66	4.62	13.6	64.2
280	18.68	36.65	4.62	7.5	60.4
290	18.44	36.63	4.60	2.4	57.1
300	18.31	36.62	4.79	0.1	55.4
350	17.88	36.55	4.58	3.8	56.1
400	17.11	36.39	4.34	2.7	50.4
450	15.75	36.16	4.09	-13.9	46.7
500	14.54	35.96	3.88	-8.2	43.2
550	13.15	35.74	3.66	-10.8	49.1
600	12.46	35.63	3.52	-4.2	30.8

Table 33: Same as Table 17 for the cruise ID and the station number indicated.

Cruise ID: ws0725. Station: 8					
Pressure	Temperature	Salinity	Oxygen	U speed	V speed
[db]	[deg. C]	[psu]	[ml/l]	[cm/s]	[cm/s]
1	28.98	36.14	4.66	NaN	NaN
10	28.94	36.18	4.67	1.7	22.4
20	28.91	36.19	4.68	1.2	21.0
30	28.85	36.17	4.67	0.8	23.1
40	28.80	36.17	4.68	0.3	25.2
50	28.80	36.19	4.68	-0.9	25.8
60	28.77	36.19	4.67	-2.9	26.4
70	27.55	36.34	4.60	-4.2	26.6
80	26.84	36.50	4.51	-4.7	24.4
90	25.59	36.63	4.19	-8.6	20.9
100	24.75	36.73	4.63	-9.6	17.3
110	24.55	36.75	4.59	-8.4	16.5
120	24.04	36.81	4.66	-6.2	17.3
130	23.09	36.84	4.68	-5.9	19.0
140	22.76	36.85	4.68	-6.1	21.1
150	21.48	36.84	4.63	-5.3	22.7
160	21.24	36.84	4.61	-2.0	25.9
170	20.81	36.82	4.55	2.6	29.3
180	20.26	36.80	4.54	4.2	31.7
190	19.75	36.76	4.45	0.4	33.2
200	19.66	36.76	4.46	-4.6	33.5
210	19.23	36.72	4.51	-5.8	34.7
220	18.92	36.69	4.58	-2.7	34.9
230	18.92	36.69	4.59	3.7	33.7
240	18.91	36.69	4.61	9.2	32.6
250	18.91	36.69	4.60	15.2	32.6
260	18.73	36.67	4.62	20.1	33.3
270	18.68	36.66	4.63	21.4	34.0
280	18.65	36.66	4.67	19.3	34.5
290	18.58	36.65	4.68	16.6	34.2
300	18.53	36.64	4.70	12.2	33.1
350	18.01	36.57	4.60	-3.0	37.8
400	17.48	36.46	4.35	-5.6	37.3
450	15.58	36.14	4.11	-4.3	32.4

Table 34: Same as Table 17 for the cruise ID and the station number indicated.

Cruise ID: ws0729. Station: 0					
Pressure	Temperature	Salinity	Oxygen	U speed	V speed
[db]	[deg. C]	[psu]	[ml/l]	[cm/s]	[cm/s]
1	25.94	36.12	4.81	NaN	NaN
10	25.97	36.12	4.83	-6.8	231.4
20	25.96	36.13	4.84	-6.7	231.1
30	25.89	36.14	4.84	-5.8	228.9
40	25.69	36.33	4.78	-3.4	222.6
50	25.32	36.41	4.78	-0.7	211.5
60	23.69	36.62	4.28	2.0	192.3
70	19.78	36.35	3.80	3.9	164.5
80	16.82	36.01	3.68	0.2	136.9
90	14.67	35.80	3.36	-6.3	112.9
100	12.54	35.56	3.24	-8.4	86.7
110	9.73	35.23	3.03	-3.3	43.7
120	9.15	35.15	2.97	-9.2	37.5
130	NaN	NaN	NaN	1.8	39.6

Table 35: Same as Table 17 for the cruise ID and the station number indicated.

Cruise ID: ws0729. Station: 1					
Pressure	Temperature	Salinity	Oxygen	U speed	V speed
[db]	[deg. C]	[psu]	[ml/l]	[cm/s]	[cm/s]
1	26.20	36.12	4.81	NaN	NaN
10	26.22	36.12	4.81	2.8	215.7
20	26.22	36.12	4.81	2.8	216.0
30	26.14	36.11	4.82	2.9	214.6
40	26.10	36.20	4.78	4.3	211.9
50	25.61	36.39	4.65	7.8	210.9
60	24.99	36.43	4.74	10.4	207.1
70	24.51	36.54	4.54	10.0	196.8
80	21.78	36.63	3.74	8.9	185.4
90	20.41	36.62	3.48	7.7	172.8
100	18.83	36.44	3.40	5.8	156.8
110	17.39	36.26	3.28	3.1	143.5
120	16.11	36.09	3.19	2.3	133.7
130	15.02	35.96	3.09	6.1	117.4
140	13.93	35.79	3.06	9.2	100.5
150	12.77	35.63	3.01	8.0	86.0
160	12.00	35.52	2.98	5.2	72.8
170	11.25	35.42	2.97	2.8	62.1
180	10.87	35.37	2.96	2.2	56.9
190	10.10	35.27	2.96	2.5	51.0
200	9.17	35.13	2.97	2.6	44.6
210	8.91	35.11	2.95	-0.9	34.1
220	8.61	35.07	2.97	-2.7	25.1
230	8.53	35.06	2.96	-0.8	17.9
240	8.47	35.06	2.97	-4.2	30.3
250	NaN	NaN	NaN	-19.2	14.3

Table 36: Same as Table 17 for the cruise ID and the station number indicated.

Cruise ID: ws0729. Station: 2					
Pressure	Temperature	Salinity	Oxygen	U speed	V speed
[db]	[deg. C]	[psu]	[ml/l]	[cm/s]	[cm/s]
1	26.53	36.22	4.75	NaN	NaN
10	26.54	36.22	4.74	18.7	209.8
20	26.54	36.22	4.75	18.8	209.9
30	26.54	36.22	4.75	18.9	209.9
40	26.54	36.22	4.75	18.4	208.4
50	25.66	36.43	4.57	16.6	201.1
60	25.04	36.38	4.77	15.5	193.2
70	24.66	36.42	4.77	15.7	189.1
80	24.43	36.53	4.45	10.9	183.5
90	23.34	36.62	3.96	5.0	175.8
100	21.58	36.71	3.56	2.9	166.5
110	21.07	36.70	3.47	1.4	159.0
120	20.04	36.60	3.43	0.3	153.9
130	19.18	36.54	3.41	1.0	150.8
140	18.46	36.47	3.54	1.1	147.1
150	17.98	36.42	3.51	-1.7	142.5
160	17.61	36.36	3.49	-5.4	140.1
170	17.21	36.32	3.46	-9.1	138.8
180	16.43	36.20	3.34	-9.1	138.0
190	15.97	36.13	3.23	-4.8	136.4
200	15.33	36.02	3.20	3.6	131.6
210	14.69	35.92	3.16	8.7	124.2
220	13.78	35.78	3.10	11.6	114.8
230	13.27	35.71	3.04	10.3	103.6
240	12.53	35.59	3.01	9.4	94.0
250	10.95	35.35	2.92	10.1	86.2
260	10.36	35.27	2.87	11.3	77.8
270	10.01	35.23	2.87	12.5	70.3
280	9.87	35.21	2.87	13.6	65.8
290	9.85	35.21	2.87	11.2	64.1
300	9.76	35.20	2.88	8.2	61.4
350	7.71	35.01	3.13	-1.4	18.3

Table 37: Same as Table 17 for the cruise ID and the station number indicated.

Cruise ID: ws0729. Station: 3					
Pressure	Temperature	Salinity	Oxygen	U speed	V speed
[db]	[deg. C]	[psu]	[ml/l]	[cm/s]	[cm/s]
1	26.56	36.21	4.71	NaN	NaN
10	26.58	36.22	4.74	21.5	178.2
20	26.57	36.22	4.74	21.5	178.2
30	26.58	36.22	4.73	21.9	178.9
40	26.58	36.22	4.73	22.1	180.1
50	26.58	36.22	4.73	23.6	177.7
60	26.44	36.31	4.63	22.6	173.5
70	25.62	36.37	4.75	18.0	168.8
80	25.11	36.42	4.67	14.1	165.7
90	24.28	36.55	4.33	12.7	162.7
100	23.57	36.73	3.65	12.3	157.2
110	22.91	36.80	3.56	11.7	152.4
120	22.30	36.82	3.53	9.0	147.3
130	21.51	36.78	3.49	5.7	142.5
140	20.89	36.74	3.47	2.8	139.5
150	20.34	36.70	3.48	1.9	139.3
160	19.36	36.59	3.48	2.1	135.7
170	18.67	36.51	3.49	1.6	131.5
180	18.15	36.46	3.50	0.3	127.4
190	17.73	36.39	3.38	-0.0	124.5
200	17.10	36.30	3.24	1.1	122.5
210	16.66	36.24	3.39	2.4	119.9
220	16.33	36.19	3.35	2.2	117.2
230	15.74	36.09	3.26	0.6	112.6
240	15.14	35.99	3.23	0.4	109.7
250	14.92	35.96	3.12	0.8	107.2
260	14.33	35.87	3.12	-0.1	103.1
270	13.84	35.78	3.01	-0.5	98.9
280	13.16	35.68	2.97	-1.1	95.3
290	12.79	35.62	2.94	-1.5	93.5
300	12.34	35.54	2.93	-0.5	90.9
350	11.13	35.37	2.83	2.1	70.1
400	9.55	35.15	2.77	13.6	54.7
450	8.53	35.05	2.86	2.6	30.9
500	6.80	34.93	3.23	0.1	-3.2

Table 38: Same as Table 17 for the cruise ID and the station number indicated.

Cruise ID: ws0729. Station: 4					
Pressure	Temperature	Salinity	Oxygen	U speed	V speed
[db]	[deg. C]	[psu]	[ml/l]	[cm/s]	[cm/s]
1	26.56	36.20	4.72	NaN	NaN
10	26.60	36.20	4.73	9.1	158.9
20	26.60	36.23	4.71	9.1	158.9
30	26.51	36.26	4.72	9.7	160.0
40	26.47	36.26	4.74	11.3	164.0
50	26.38	36.28	4.74	10.9	169.2
60	26.36	36.29	4.74	10.9	172.6
70	26.36	36.29	4.71	11.9	169.8
80	25.99	36.57	4.00	12.7	161.0
90	25.25	36.65	3.84	12.5	151.0
100	24.48	36.73	3.73	9.1	146.4
110	23.86	36.81	3.69	5.4	142.4
120	22.78	36.82	3.57	4.8	136.8
130	22.11	36.79	3.50	6.1	129.9
140	21.30	36.76	3.46	5.0	124.9
150	20.64	36.69	3.47	1.7	123.4
160	19.70	36.65	3.47	0.5	120.2
170	19.27	36.61	3.48	0.2	115.8
180	18.75	36.55	3.50	0.2	110.4
190	18.39	36.50	3.52	-1.2	107.6
200	17.86	36.42	3.52	-4.5	108.0
210	17.59	36.38	3.48	-6.4	108.5
220	17.22	36.33	3.45	-6.3	106.6
230	16.90	36.28	3.48	-5.0	102.6
240	16.52	36.22	3.40	-5.8	98.0
250	16.16	36.16	3.34	-7.3	93.5
260	15.77	36.10	3.25	-7.2	92.7
270	15.31	36.02	3.18	-4.9	92.7
280	14.96	35.96	3.27	-1.9	91.3
290	14.50	35.88	3.23	-0.7	88.7
300	14.20	35.84	3.17	-0.7	86.4
350	12.14	35.51	2.89	6.3	69.0
400	10.45	35.26	2.80	-0.7	59.2
450	9.75	35.17	2.79	0.0	59.4
500	8.80	35.04	2.81	4.8	50.9
550	8.34	35.02	2.80	2.5	31.4
600	7.18	34.94	3.06	11.9	11.3

Table 39: Same as Table 17 for the cruise ID and the station number indicated.

Cruise ID: ws0729. Station: 5					
Pressure	Temperature	Salinity	Oxygen	U speed	V speed
[db]	[deg. C]	[psu]	[ml/l]	[cm/s]	[cm/s]
1	26.59	36.26	4.67	NaN	NaN
10	26.60	36.26	4.68	-9.8	117.8
20	26.60	36.26	4.70	-9.8	117.8
30	26.59	36.26	4.69	-7.6	119.3
40	26.54	36.26	4.70	-0.0	124.2
50	26.48	36.27	4.69	6.7	126.8
60	26.44	36.27	4.71	12.9	128.0
70	26.41	36.28	4.70	18.3	127.7
80	26.40	36.28	4.70	22.5	127.0
90	26.34	36.30	4.68	23.0	125.3
100	25.96	36.57	4.07	12.0	121.9
110	24.91	36.72	3.81	4.0	119.5
120	23.78	36.77	3.63	1.9	116.7
130	23.01	36.83	3.56	2.4	113.2
140	22.24	36.81	3.49	2.6	108.4
150	21.37	36.78	3.44	0.1	103.1
160	20.79	36.74	3.43	-1.5	99.0
170	20.19	36.69	3.44	-2.7	95.8
180	19.61	36.63	3.42	-4.9	94.2
190	19.11	36.58	3.52	-6.8	94.0
200	18.85	36.56	3.50	-6.8	93.7
210	18.46	36.51	3.52	-7.9	91.3
220	18.25	36.48	3.53	-9.4	88.5
230	18.04	36.45	3.53	-11.1	85.3
240	17.79	36.41	3.53	-11.0	82.8
250	17.49	36.37	3.54	-9.4	80.5
260	17.17	36.32	3.51	-7.0	79.2
270	16.87	36.27	3.48	-6.2	76.9
280	16.37	36.19	3.45	-7.1	73.9
290	16.17	36.16	3.41	-7.8	71.1
300	15.83	36.11	3.39	-6.5	68.5
350	13.85	35.78	3.11	1.3	52.8
400	12.58	35.59	2.91	-4.3	45.9
450	11.12	35.36	2.84	-4.5	37.7
500	10.30	35.24	2.79	-2.3	28.7
550	9.54	35.14	2.76	1.8	22.7
600	8.81	35.05	2.78	-3.3	14.3
650	8.35	35.01	2.81	-2.3	9.4
700	7.72	34.97	2.88	7.0	1.9

Table 40: Same as Table 17 for the cruise ID and the station number indicated.

Cruise ID: ws0729. Station: 6					
Pressure	Temperature	Salinity	Oxygen	U speed	V speed
[db]	[deg. C]	[psu]	[ml/l]	[cm/s]	[cm/s]
1	26.64	36.26	4.68	NaN	NaN
10	26.67	36.25	4.67	6.1	74.9
20	26.67	36.25	4.66	6.1	74.9
30	26.64	36.25	4.68	6.5	76.5
40	26.62	36.25	4.67	7.9	80.9
50	26.61	36.25	4.68	8.5	85.6
60	26.57	36.25	4.66	8.4	90.0
70	26.54	36.26	4.67	6.5	92.6
80	26.52	36.26	4.67	5.5	94.4
90	26.52	36.27	4.65	5.2	93.8
100	25.96	36.56	4.41	5.0	87.3
110	25.09	36.71	3.86	5.3	80.9
120	24.25	36.77	3.68	4.1	77.7
130	23.23	36.80	3.56	-1.0	77.1
140	22.37	36.81	3.49	-5.6	77.4
150	21.80	36.80	3.45	-6.4	78.5
160	21.33	36.78	3.42	-4.6	79.4
170	20.97	36.76	3.41	-2.7	79.9
180	20.15	36.69	3.41	-5.5	77.4
190	19.55	36.63	3.44	-8.6	75.0
200	19.16	36.59	3.46	-9.6	72.4
210	19.07	36.58	3.45	-13.7	69.5
220	18.97	36.58	3.44	-14.8	67.5
230	18.71	36.55	3.40	-11.9	63.6
240	18.43	36.51	3.53	-10.9	59.4
250	18.28	36.49	3.53	-11.3	55.3
260	18.22	36.48	3.53	-11.5	53.6
270	18.09	36.46	3.53	-11.5	52.5
280	18.01	36.45	3.53	-12.0	51.5
290	17.91	36.43	3.52	-13.1	52.2
300	17.66	36.39	3.51	-12.9	52.7
350	16.85	36.34	4.03	-4.1	48.1
400	14.58	35.92	3.61	-3.6	35.0
450	13.38	35.72	3.02	-2.0	27.2
500	11.91	35.47	2.87	4.7	16.0
550	10.94	35.33	2.80	-1.1	7.2
600	9.93	35.20	2.70	0.2	2.5
650	9.14	35.11	2.71	2.0	2.4

Table 41: Same as Table 17 for the cruise ID and the station number indicated.

Cruise ID: ws0729. Station: 7					
Pressure	Temperature	Salinity	Oxygen	U speed	V speed
[db]	[deg. C]	[psu]	[ml/l]	[cm/s]	[cm/s]
1	26.59	36.24	4.63	NaN	NaN
10	26.63	36.23	4.65	13.4	46.9
20	26.62	36.23	4.64	13.4	47.0
30	26.61	36.24	4.66	14.0	47.2
40	26.61	36.24	4.65	16.1	47.6
50	26.60	36.25	4.64	16.5	48.4
60	26.59	36.27	4.58	15.1	50.1
70	26.57	36.28	4.59	11.0	56.1
80	26.52	36.28	4.61	6.4	60.3
90	26.45	36.39	4.62	2.0	61.7
100	25.40	36.58	3.90	-3.1	59.8
110	25.01	36.63	3.97	-6.4	59.4
120	24.76	36.67	3.79	-6.0	60.5
130	24.01	36.78	3.71	-5.0	58.3
140	23.04	36.81	3.52	-5.8	57.1
150	22.57	36.82	3.49	-7.1	59.8
160	21.62	36.79	3.42	-7.7	60.1
170	20.95	36.76	3.40	-7.9	56.4
180	20.46	36.72	3.39	-7.0	53.3
190	20.03	36.68	3.39	-5.2	51.3
200	19.46	36.63	3.40	-5.8	49.1
210	19.07	36.60	3.59	-10.8	48.0
220	19.03	36.62	3.85	-14.3	47.5
230	18.94	36.61	3.91	-14.3	47.7
240	18.93	36.61	3.89	-14.4	49.2
250	19.01	36.65	4.07	-13.3	52.5
260	18.78	36.63	4.34	-11.9	54.7
270	18.51	36.60	4.41	-12.0	54.5
280	18.43	36.60	4.48	-14.3	53.7
290	18.23	36.57	4.43	-16.0	52.9
300	18.11	36.57	4.55	-18.0	52.3
350	17.57	36.48	4.46	-19.3	55.9
400	16.81	36.34	4.23	-21.8	55.3
450	15.04	36.04	3.74	-12.8	41.6
500	14.12	35.89	3.71	-6.5	29.3
550	13.03	35.68	3.12	-6.3	18.7
600	11.89	35.56	3.44	-3.6	-4.4

Table 42: Same as Table 17 for the cruise ID and the station number indicated.

Cruise ID: ws0729. Station: 8					
Pressure	Temperature	Salinity	Oxygen	U speed	V speed
[db]	[deg. C]	[psu]	[ml/l]	[cm/s]	[cm/s]
1	26.41	36.31	4.60	NaN	NaN
10	26.41	36.30	4.65	13.3	19.4
20	26.38	36.32	4.65	13.4	19.3
30	26.34	36.32	4.65	11.8	19.1
40	26.29	36.33	4.66	5.6	20.3
50	26.28	36.33	4.66	2.4	22.9
60	26.28	36.33	4.66	1.1	24.7
70	26.28	36.33	4.66	0.4	26.3
80	26.29	36.33	4.66	-1.8	27.1
90	26.12	36.38	4.54	-5.4	26.4
100	25.85	36.50	4.24	-8.9	26.1
110	25.34	36.59	3.92	-9.7	27.9
120	24.82	36.67	3.82	-10.3	30.9
130	23.52	36.78	3.56	-12.7	34.5
140	22.62	36.80	3.46	-15.7	33.7
150	21.61	36.79	3.37	-17.2	31.5
160	20.93	36.76	3.37	-18.9	31.6
170	20.85	36.76	3.49	-20.7	32.8
180	20.51	36.75	3.66	-17.4	36.2
190	20.16	36.76	4.33	-14.8	39.7
200	20.07	36.76	4.37	-13.6	42.7
210	19.83	36.74	4.37	-13.7	44.1
220	19.49	36.71	4.37	-14.5	45.0
230	19.23	36.68	4.38	-14.9	44.4
240	18.99	36.66	4.41	-15.5	43.9
250	18.84	36.65	4.42	-13.4	44.5
260	18.73	36.63	4.44	-12.6	44.2
270	18.59	36.62	4.47	-11.5	43.6
280	18.50	36.61	4.50	-9.9	44.1
290	18.41	36.60	4.52	-8.3	43.6
300	18.35	36.59	4.54	-7.3	43.6
350	17.86	36.53	4.54	-10.4	45.2
400	17.03	36.38	4.27	-7.1	40.4
450	16.40	36.27	4.12	-7.6	32.9

Table 43: Same as Table 17 for the cruise ID and the station number indicated.

NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION

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