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Hydrographic Measurements Collected Aboard the UNOLS Ship R/V Walton Smith, 2017: Western Boundary Time Series Cruise – Florida Current

James A. Hooper V
Molly O. Baringer

Cruise IDs: FC1702, FC1706, FC1707, FC1710, FC1712

Atlantic Oceanographic and Meteorological Laboratory
Miami, Florida
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James A. Hooper V
University of Miami / Cooperative Institute for Marine and Atmospheric Studies
NOAA/ Atlantic Oceanographic and Meteorological Laboratory
Miami, Florida

Molly O. Baringer
NOAA/ Atlantic Oceanographic and Meteorological Laboratory
Miami, Florida

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The findings and conclusion on this report are those of the authors and do not necessarily represent the views of the funding agency.

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Abstract

This report summarizes the five cruises along 27°N on the UNOLS ship R/V *Walton Smith* involving full-water-column CTD and lowered ADCP profiles, along with shipboard ADCP profiles, conducted within the Florida Straits to monitor the Florida Current. This report describes the processing of a Seabird Electronics Model 9/11+ CTD O_2 system and water samples collected from up to 23 10-liter Niskin bottles lowered to the bottom. This report includes a description of the calibration procedures and profiles of pressure, salinity (conductivity), temperature, and dissolved oxygen concentrations. Water samples were also collected at various depths and analyzed for salinity and oxygen concentrations to aid with CTD calibration. A total of nine CTD-O_2/LADCP stations were occupied during each of the five cruises.

1 Introduction

The Florida Current transport time series began in 1982, as NOAA recognized the importance of long-term monitoring of the current transport and water mass properties of the Florida Current across the Florida Straits to determine its inter-annual variability to determine the strength of the subtropical gyre. Variations in the strength of the subtropical gyre in relation to the North Atlantic Oscillation (NAO) has been proposed as an important mechanism in the atmosphere-ocean feedback within coupled models (e.g. Latif and Barnett, 1996). Monitoring of the Florida Current includes a submarine cable, GPS measurements using drop sondes, as well as hydrographic measurements. All of these programs are collaborating with scientific analysis and logistics including ship time.

Hydrographic surveys consisting of a repeat LADCP/CTD/rosette section in the Florida Straits was carried out during 2017 (Figure 1 and Tables 1 - 5). These cruises consist of one day cruises on the R/V Walton Smith departing and returning to Miami, FL. A total of five cruises were completed consisting of a total of 45 LADCP/CTD/Rosette stations. Water samples (up to 8 for each station), LADCP, CTD data were collected on each cast to within 20 m of the bottom. Salinity and dissolved oxygen samples were analyzed from the majority of bottles sampled on the rosette.

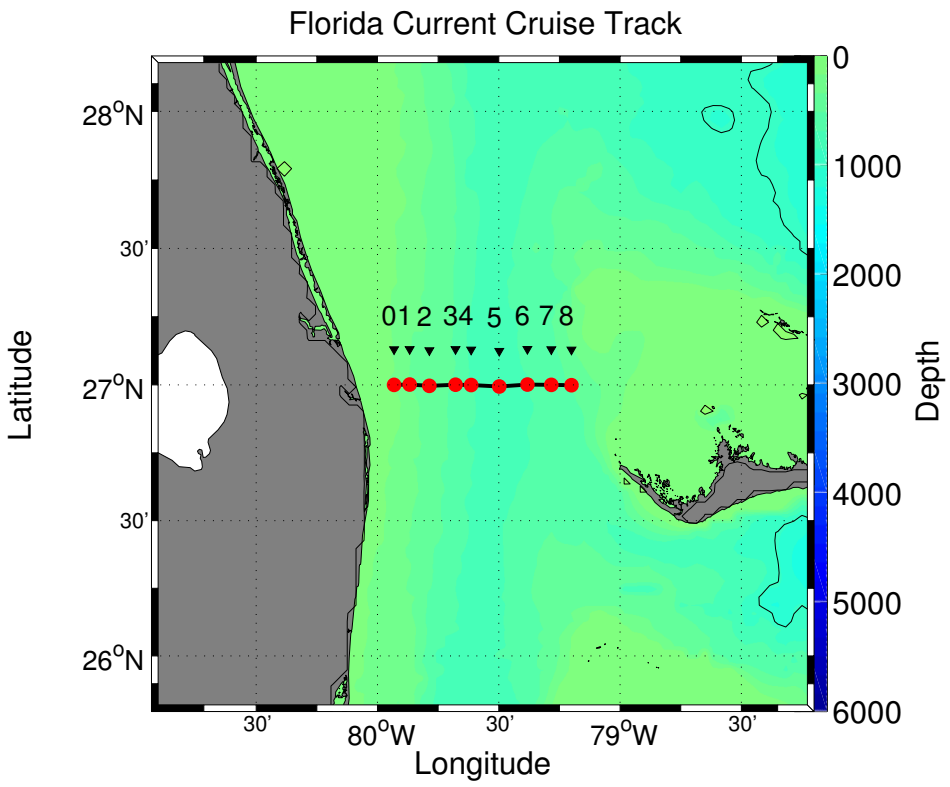


Figure 1: Florida Current CTD station locations. The landmasses are shaded. The red dots are the CTD stations.

Table 1: Florida Current (FC1702) – CTD Cast Summary

Station	Date	Time (GMT)	Latitude	Longitude	Pressure
0	02/08/20	12:13:37	26.997N	79.929W	143
1	02/08/20	11:14:24	26.997N	79.867W	249
2	02/08/20	09:20:22	26.994N	79.783W	371
3	02/08/20	07:39:57	26.992N	79.683W	527
4	02/08/20	05:51:33	26.999N	79.617W	615
5	02/08/20	03:40:30	27.010N	79.496W	743
6	02/08/20	01:39:22	27.005N	79.384W	647
7	02/08/20	00:05:28	27.002N	79.283W	601
8	02/07/20	22:35:53	27.000N	79.201W	470

Table 2: Florida Current (FC1706) – CTD Cast Summary

Station	Date	Time (GMT)	Latitude	Longitude	Pressure
0	06/16/20	07:24:24	26.997N	79.929W	137
1	06/16/20	06:30:27	26.995N	79.866W	251
2	06/16/20	05:11:42	26.991N	79.782W	379
3	06/16/20	03:42:50	26.998N	79.682W	526
4	06/16/20	02:26:54	26.997N	79.617W	648
5	06/16/20	00:40:37	26.996N	79.496W	737
6	06/15/20	23:05:45	27.000N	79.384W	639
7	06/15/20	21:35:55	27.000N	79.283W	603
8	06/15/20	20:13:40	27.001N	79.206W	478

Table 3: Florida Current (FC1707) – CTD Cast Summary

Station	Date	Time (GMT)	Latitude	Longitude	Pressure
0	07/21/20	11:12:59	27.002N	79.929W	146
1	07/21/20	09:54:30	27.005N	79.867W	257
2	07/21/20	08:24:23	27.000N	79.783W	381
3	07/21/20	06:33:30	26.997N	79.683W	534
4	07/21/20	05:00:41	27.002N	79.615W	642
5	07/21/20	03:13:17	26.997N	79.507W	756
6	07/21/20	00:31:01	26.995N	79.385W	669
7	07/20/20	23:00:15	26.996N	79.285W	614
8	07/20/20	21:35:15	26.995N	79.200W	482

Table 4: Florida Current (FC1710) – CTD Cast Summary

Station	Date	Time (GMT)	Latitude	Longitude	Pressure
0	10/17/20	10:57:50	27.001N	79.929W	138
1	10/17/20	09:57:54	26.992N	79.868W	249
2	10/17/20	08:46:00	26.993N	79.782W	373
3	10/17/20	07:21:54	26.990N	79.681W	521
4	10/17/20	06:06:41	26.997N	79.616W	627
5	10/17/20	04:30:23	26.996N	79.497W	734
6	10/17/20	02:52:16	26.995N	79.381W	665
7	10/17/20	01:34:23	26.999N	79.286W	606
8	10/17/20	00:23:32	27.001N	79.201W	468

Table 5: Florida Current (FC1712) – CTD Cast Summary

Station	Date	Time (GMT)	Latitude	Longitude	Pressure
0	12/21/20	11:35:10	27.000N	79.930W	136
1	12/21/20	10:34:14	26.999N	79.867W	247
2	12/21/20	09:18:01	26.993N	79.782W	374
3	12/21/20	07:09:37	26.990N	79.684W	525
4	12/21/20	05:32:09	27.005N	79.611W	646
5	12/21/20	03:40:53	27.007N	79.502W	752
6	12/21/20	01:45:39	26.994N	79.376W	669
7	12/21/20	00:10:29	27.005N	79.286W	606
8	12/20/20	22:43:12	27.005N	79.203W	468

2 Additional Sampling

Discrete nutrient and dissolved inorganic carbon samples were taken during the 2017 Florida Current cruises. Tables 6-10 summarize the bottle trip locations for each cruise.

Table 6: FC1702: Discrete Carbon and Nutrient Sampling positions.

Niskin	Station								
	0	1	2	3	4	5	6	7	8
1	C,N	C,N	C,N	C,N	C,N	C,N	C,N	C,N	C,N
2	C,N	C,N	C,N	C,N	C,N	C,N	C,N	C,N	C,N
3	C,N	C,N	C,N	C,N	C,N	C,N	C,N	C,N	C,N
4	C,N(d)	C,N(d)	C,N	C,N(d)	C,N	C,N	C,N	C,N	C,N(d)
5		C,N	C,N(d)	C,N	C,N	C,N	C,N	C,N	C,N(d)
6			C,N(d)	C,N	C,N(d)	C,N(d)	C,N(d)	C,N(d)	C,N
7				C,N	C,N(d)	C,N(d)	C,N	C,N(d)	
13						C,N	C,N		

C - carbon sample, N - nutrient sample, (d) - nutrient duplicate sample

Table 7: FC1706: Discrete Carbon and Nutrient Sampling positions.

Niskin	Station								
	0	1	2	3	4	5	6	7	8
1	C,N(d)	C,N	C,N(d)	C,N	C,N	C,N	C,N	C,N	C,N
2	C,N	C,N	C,N	C,N	C,N	C,N(d)	C,N(d)	C,N	C,N
3	N	C,N	C,N	C,N	C,N	C,N	C,N	C,N	C,N(d)
4	C,N	C,N	C,N	C,N	C,N	C,N	C,N	C,N(d)	C,N
5		C,N(d)	C,N(d)	C,N	C,N	C,N	C,N	C,N(d)	C,N
6			C,N	C,N(d)	C,N(d)	C,N	C,N	C,N	C,N
7				C,N(d)	C,N(d)	C,N	C,N(d)	C,N	
13						C,N	C,N		

C - carbon sample, N - nutrient sample, (d) - nutrient duplicate sample

Table 8: FC1707: Discrete Carbon and Nutrient Sampling positions.

Niskin	Station								
	0	1	2	3	4	5	6	7	8
1	C,N	C,N	C,N	C,N	C,N	C,N	C,N	C,N(d)	C,N(d)
2	C,N(d)	C,N	C,N(d)	C,N(d)	C,N	C,N	C,N	C,N	C,N
3	C,N	C,N(d)	C,N	C,N	C,N	C,N(d)	C,N	C,N	C,N
4	C,N	C,N	C,N	C,N	C,N	C,N	C,N	C,N	C,N
5		C,N	C,N(d)	C,N	C,N	C,N(d)	C,N	C,N(d)	C,N
6			C,N	C,N(d)	C,N(d)	C,N	C,N	C,N	C,N(d)
7				C,N	C,N(d)	C,N	C,N(d)	C,N	
13						C,N	C,N(d)		

C - carbon sample, N - nutrient sample, (d) - nutrient duplicate sample

Table 9: FC1710: Discrete Carbon and Nutrient Sampling positions.

Niskin	Station								
	0	1	2	3	4	5	6	7	8
1	C,N(d)	C,N	C,N	C,N	C,N	C,N	C,N	C,N	C,N
2	C,N	C,N	C,N(d)	C,N	C,N(d)	C/N	C,N	C,N	C,N
3	C,N	C,N	C,N	C,N	C,N	C,N(d)		C,N	C,N
4	C,N(d)	C,N(d)	C,N	C,N	C,N	C,N	C,N	C,N(d)	C,N
5		C,N	C,N	C,N	C,N	C,N(d)	C,N	C,N	C,N(d)
6			C,N(d)	C,N(d)	C,N(d)	C,N	C,N	C,N(d)	C,N
7				C,N	C,N	C,N	C,N(d)	C,N	
13						C,N	C,N		

C - carbon sample, N - nutrient sample, (d) - nutrient duplicate sample

Table 10: FC1712: Discrete Carbon and Nutrient Sampling positions.

Niskin	Station								
	0	1	2	3	4	5	6	7	8
1	C,N(d)	C,N	C,N	C,N	C,N	C,N	C,N	C,N	C,N
2	C,N	C,N	C,N(d)	C,N	C,N(d)	C/N	C,N	C,N	C,N
3	C,N	C,N	C,N	C,N	C,N	C,N(d)	C,N	C,N	C,N
4	C,N(d)	C,N(d)	C,N	C,N	C,N	C,N	C,N	C,N(d)	C,N
5		C,N	C,N	C,N	C,N	C,N(d)	C,N	C,N	C,N(d)
6			C,N(d)	C,N(d)	C,N(d)	C,N	C,N	C,N(d)	C,N
7				C,N	C,N	C,N	C,N(d)	C,N	
13						C,N	C,N		

C - carbon sample, N - nutrient sample, (d) - nutrient duplicate sample

3 Standards and Pre-Cruise Calibrations

The CTD/O2 system is a real-time data acquisition system with the data from a Sea-Bird Electronics, Inc. (SBE) 9plus underwater unit transmitted via a conducting cable to a SBE 11plus deck unit (V2). The serial data from the underwater unit is sent to the deck unit in RS-232 NRZ format. The deck unit decodes the serial data and sends it to a personal computer for display and storage in a disk file using the Sea-Bird Seasave software.

The SBE 911plus system transmits data from primary and auxiliary sensors in the form of binary numbers equivalent to the frequency or voltage outputs from those sensors. These are referred to as the raw data. The SBE software performs the calculations required to convert raw data to engineering units.

The SBE 911plus system is electrically and mechanically compatible with the standard, unmodified carousel water sampler, also made by Sea-Bird Electronics, Inc. A modem and carousel interface allows the 911plus system to control the operations of the carousel directly without interrupting the flow of data from the CTD.

The SBE 911plus underwater unit is configured with dual standard modular temperature (SBE 3 plus) and conductivity (SBE 4) sensors, which are mounted near the lower end cap. The conductivity cell entrance is co-planar with the tip of the temperature sensor probe. The pressure sensor is mounted inside the underwater unit main housing. A centrifugal pump module flushes water through sensor tubing at a constant rate independent of the CTD's motion to improve dynamic performance. Dual dissolved oxygen sensors (SBE 43) are added to the pumped sensor configuration following the temperature-conductivity (TC) pair. A list of sensors used during the cruises can be seen in Table 11.

Table 11: Equipment used during the 2017 Florida Straits cruises.

Instrument	SN	Stations	Use	Comment
AOML orange frame		0-8		FC1702, 1706, 1707, 1710, 1712
Sea-Bird SBE 32 24-palce Carousel Water Sampler	0980	0-8		FC1702, 1706, 1707, 1710, 1712
Sea-Bird SBE9plus CTD	0957	0-8		FC1702, 1706, 1707, 1710, 1712
Paroscientific Digiquartz Pressure Sensor	92973	0-8		
Sea-Bird SBE3plus Temperature Sensor	2946	0-8	Primary	FC1702
Sea-Bird SBE3plus Temperature Sensor	5855	0-8	Secondary	FC1702
Sea-Bird SBE3plus Temperature Sensor	1701	0-8	Primary	FC1706, 1707, 1710, 1712
Sea-Bird SBE3plus Temperature Sensor	5171	0-8	Secondary	FC1706, 1707, 1710, 1712
Sea-Bird SBE4C Conductivity Sensor	1387	0-8	Primary	FC1702
Sea-Bird SBE4C Conductivity Sensor	4346	0-8	Secondary	FC1702
Sea-Bird SBE4C Conductivity Sensor	1335	0-8	Primary	FC1706, 1707, 1710, 1712
Sea-Bird SBE4C Conductivity Sensor	1347	0-8	Secondary	FC1706, 1707, 1710, 1712
Sea-Bird SBE43 Dissolved Oxygen Sensor	2082	0-8	Primary	FC1702
Sea-Bird SBE43 Dissolved Oxygen Sensor	0730	0-8	Secondary	FC1702
Sea-Bird SBE43 Dissolved Oxygen Sensor	0703	0-8	Primary	FC1706, 1707, 1710, 1712
Sea-Bird SBE43 Dissolved Oxygen Sensor	2712	0-8	Secondary	FC1706, 1707, 1710, 1712
Simrad 807 Altimeter	gold	0-8	scale: 15.0	FC1702, 1706, 1707, 1710, 1712
RDI LADCP - 300 kHz Workhorse (AOML)	21584	0-8	Upward	FC1702 1706, 1707
RDI LADCP - 300 kHz Workhorse (AOML)	13493	0-8	Upward	FC1710, FC1712
RDI LADCP - 300 kHz Workhorse (AOML)	20550	0-8	Downward	FC1702 1706, 1707, 1710, 1712

3.1 Pressure

The Paroscientific series 4000 Digiquartz high pressure transducer uses a quartz crystal resonator whose frequency of oscillation varies with pressure induced stress measuring changes in pressure as small as 0.01 parts per million with an absolute range of 0 to 10,000 psia (0 to 6885 dbar). Repeatability, hysteresis and pressure conformance are 0.002% of full-scale. The nominal pressure frequency (0 to full scale) is 34 to 38 kHz. The nominal temperature frequency is 172 kHz ± 50 ppm/°C.

The pressure sensor used during the Florida Straits cruises was s/n 0975. Pre-cruise sensor calibrations were performed at Sea-Bird Electronics, Inc. in Bellevue, Washington. The following coefficient (Table 12) were entered into SEASAVE R using the configuration file:

Pressure coefficients are first formulated into:

$$\begin{aligned} c &= c_1 + c_2 * U + c_3 * U^2 \\ d &= d_1 + d_2 * U \\ t_0 &= t_1 + t_2 * U + t_3 * U^2 + t_4 * U^3 + t_5 * U^4 \end{aligned}$$

where U is temperature in degrees Celsius. Pressure is computed according to:

$$P\ (psia) = c * \left(1 - \frac{t_0^2}{t}\right) * \left[1 - d * \left(1 - \frac{t_0^2}{t}\right)\right]$$

where t is pressure period (μs). SEASAVE R automatically implements this equation.

Table 12: Pre-Cruise Calibration coefficients for the pressure sensor.

s/n 0975 October 09, 2014
c_1 = -4.701953e+04
c_2 = -3.199230e-01
c_3 = 1.464100e-02
d_1 = 3.748600e-02
d_2 = 0.000000e+00
t_1 = 3.002465e+01
t_2 = -3.417080e-04
t_3 = 4.277270e-06
t_4 = 2.793720e-09
t_5 = 0.000000e+00
Slope = 0.99996
Offset = -2.7284
AD590M = 1.28150e-02
AD590B = -9.22501e+000

3.2 Temperature

The temperature-sensing element is a glass-coated thermistor bead, pressure protected by a stainless steel tube. The sensor output frequency ranges from 5–13 kHz corresponding to temperatures from -5 to 35°C. The output frequency is inversely proportional to the square root of the thermistor resistance, which controls the output of a patented Wien Bridge circuit. The thermistor resistance is exponentially related to temperature. The SBE 3 thermometer has a typical accuracy/stability of ±0.004°C per year and resolution of 0.0003°C at 24 samples per second. The SBE 3 thermometer has a fast response time of 0.070 seconds.

The temperature sensors (SBE 3plus) used during the Florida Straits cruises were serial numbers (s/n) 2946 and 5855 for FC1702 and (s/n) 1701 and 5171 for FC1706, 1707, 1710 and 1712. Pre-cruise sensor calibrations were performed at Sea-Bird Electronics, Inc. in Bellevue, Washington. The following coefficients (Table 13) were entered into SEASAVE R using the configuration file. SEASAVE R automatically implements the equation below and converts between ITS-90 and IPTS-68 temperature scales as desired. The Temperature (ITS-90) is computed from g, h, i, j and f_0 and f is the instrument frequency (kHz) coefficients as follows:

$$T\ (^\circ C) = \frac{1}{\left\{g + h * \left[\ln\left(\frac{f_0}{f}\right)\right] + i * \left[\ln^2\left(\frac{f_0}{f}\right)\right] + j * \left[\ln^3\left(\frac{f_0}{f}\right)\right]\right\}} - 273.15$$

Table 13: Pre-Cruise Calibration coefficients for the temperature sensors.

s/n 2946	s/n 5855	s/n 1701	s/n 5171
July 08, 2015	December 08, 2015	March 17, 2017	March 08, 2017
g = 4.34427068e-03	g = 4.35381035e-03	g = 4.78977977e-03	g = 4.39224447e-03
h = 6.39743464e-04	h = 6.30572657e-04	h = 6.53102502e-04	h = 6.45171476e-04
i = 2.18134662e-05	i = 1.97027743e-05	i = 1.81634722e-05	i = 2.27950283e-05
j = 1.93162948e-06	j = 1.40494714e-06	j = 9.62694979e-07	j = 2.09677421e-06
f_0 = 1000.0	f_0 = 1000.0	f_0 = 1000.0	f_0 = 1000.0

3.3 Conductivity

The flow-through conductivity-sensing element is a glass tube (cell) with three platinum electrodes (Seabird model SBE 4). The resistance measured between the center electrode and the end electrode pair is determined by the cell geometry and the specific conductance of the fluid within the cell, and controls the output frequency of a Wein Bridge circuit. The sensor has a frequency output of approximately 3 to 12 kHz corresponding to conductivity from 0 to 7 Siemens/meter (0 to 70 mmho/cm). The SBE 4 has a typical accuracy/stability of ±0.0003 S·m^{-1}/month and resolution of 0.00004 S·m^{-1} at 24 scans per second.

The conductivity sensors used during the Florida Straits cruises were serial numbers (s/n) 1387 and 4346 for FC1702 and (s/n) 1335 and 1347 for FC1706, 1707, 1710 and 1712. Pre-cruise sensor calibrations were performed at Sea-Bird Electronics, Inc. in Bellevue, Washington. The coefficients shown in Table 14 were entered into Seasave using the configuration file.

Conductivity calibration certificates show an equation containing the appropriate pressure-dependent correction term to account for the effect of hydrostatic loading (pressure) on the conductivity cell:

$$C\ (Siemens/meter) = \frac{(g + h * f^2 + i * f^3 + j * f^4)}{[10 * (1 + c_{t_{cor}} * t + c_{p_{cor}} * p)]}$$

where g, h, i, j, $c_{t_{cor}}$, and $c_{p_{cor}}$ are the calibrations coefficients shown above, f is the instrument frequency (kHz), t is the water temperature (degrees Celsius), and p is the water pressure (dbar). SEASAVE R automatically implements this equation.

Table 14: Pre-Cruise Calibration coefficients for the conductivity sensors.

s/n 1387 July 08, 2015	s/n 4346 September 03, 2015	s/n 1335 March 09, 2017	s/n 1347 March 09, 2017
g = -1.06595312e+01	g = -9.89434168e+00	g = -3.97497342e+00	g = -3.93253659e+00
h = 1.59664070e+00	h = 1.29474196e+00	h = 5.02740146e+01	h = 5.17178810e+01
i = -1.04867027e-03	i = -2.53357544e-03	i = -1.67391052e-04	i = -8.90388783e-05
j = 1.66232326e-04	j = 2.34955459e-04	j = 3.72424877e-05	j = 3.54676981e-05
CPcor = -9.5700e-08	CPcor = -9.5700e-08	CPcor = -9.5700e-08	CPcor = -9.5700e-08
CTcor = 3.2500e-06	CTcor = 3.2500e-06	CTcor = 3.2500e-06	CTcor = 3.2500e-06

3.4 Dissolved Oxygen

The SBE 43 dissolved oxygen sensor uses a membrane polarographic oxygen detector (MPOD). Oxygen sensors determine the dissolved oxygen concentration by counting the number of oxygen molecules per second (flux) that diffuse through a membrane. By knowing the flux of oxygen and the geometry of the diffusion path, the concentration of oxygen can be computed. The permeability of the membrane to oxygen is a function of temperature and ambient pressure. In order to minimize the errors in the oxygen measurement due to the temperature differences between the water and the oxygen sensor, a temperature compensation is calculated using a temperature measured near the active surface of the sensor. The interface electronics output voltages proportional to the temperature-compensated oxygen current. Initial computation of dissolved oxygen in engineering units is done in the software. The range for dissolved oxygen is 120% of surface saturation in all natural waters, fresh and salt, and the nominal accuracy is 2% of saturation.

Under extreme pressure, changes can occur in gas permeable Teflon membranes that affect their permeability characteristics. Some of these changes (plasticization and amorphous/crystalinity ratios) have long time constants and depend on the sensor's time-pressure history. These slow processes result in hysteresis in long, deep casts. The hysteresis correction algorithm operates through the entire data profile and corrects the oxygen voltage values for changes in membrane permeability as pressure varies. At each measurement, the correction to the membrane permeability is calculated based on the current pressure and how long the sensor spent at previous pressures.

Sea-Bird has implemented an optional hysteresis correction for dissolved oxygen data. The correction algorithm requires a continuous time series of data, with no temporal data gaps (although a continuous time series is necessary, a constant sampling interval is not required). Prior to processing, do not remove any data from the downcast or upcast (if to be used), other than a surface soak at the beginning of the downcast.

The oxygen sensors used during the Florida Straits cruises were serial numbers (s/n) 2082 and 0730 for FC1702 and (s/n) 0703 and 2712 for FC1706, 1707, 1710 and 1712. The following oxygen coefficients (Table 15) were entered into SEASAVE R using the configuration file:

Table 15: Pre-Cruise Calibration coefficients for the dissolved oxygen sensors.

s/n 2082	s/n 0730	s/n 0703	s/n 2712
December 15, 2015	December 30, 2015	March 17, 2017	March 18, 2017
Soc = 0.4207	Soc = 0.5615	Soc = 0.5557	Soc = 0.43315
Voffset = -0.5332	Voffset = -0.5094	Voffset = -0.5186	Voffset = -0.5179
Tau20 = 1.05	Tau20 = 1.12	Tau20 = 1.37	Tau20 = 0.99
A = -3.3688e-03	A = -4.2715e-03	A = -3.4742e-03	A = -3.0408e-03
B = 2.1886e-04	B = 1.4677e-04	B = 1.6601e-04	B = 1.7282e-04
C = -3.2294e-06	C = -2.6947e-06	C = -2.8391e-06	C = -2.6651e-06
$E_{nominal}$ = 0.036	$E_{nominal}$ = 0.036	$E_{nominal}$ = 0.036	$E_{nominal}$ = 0.036

The use of these constants in linear equations of the form $I = mV + b$ and $T = kV + c$ yield sensor membrane current and temperature (with maximum error of about 0.5 °C) as a function of sensor output voltage.

Dissolved oxygen concentration is calculated according to:

$$O\ (ml/l) = \{Soc * (V + V_{offset} + tau(T,S) * \frac{\delta v}{\delta t}) + p1 * station\}$$
$$*(1.0 + A * T + B * T^2 + C * T^3) * OXSAT(T,S) * e^{E*(\frac{P}{K})}$$

where Soc, V_{offset}, tau, A, B, C, E and $p1$ are the calibration coefficients shown above and V is the instrument voltage (V). T, S and P are the temperature, salinity and pressure measured by the CTD. K is the temperature in the absolute scale (K), $\delta v/\delta t$ is the oxygen voltage time derivative, *station* is the station number, and $OXSAT$ is the oxygen saturation value calculated according to (Weiss, 1970):

$$OXSAT(\theta,S) = \exp\left\{A_1 + A_2 * \left(\frac{100}{\theta}\right) + A_3 * \ln\left(\frac{\theta}{100}\right) + A_4 * \left(\frac{\theta}{100}\right)\right.$$
$$\left. + S * \left[B_1 + B_2 * \left(\frac{\theta}{100}\right) + B_3 * \left(\frac{\theta}{100}\right)^2\right]\right\}$$

where θ is the absolute temperature (K); and

$$\begin{array}{llll} A_1 = & -173.4292 & B_1 = & -0.033096 \\ A_2 = & 249.6339 & B_2 = & 0.014259 \\ A_3 = & 143.3483 & B_3 = & -0.00170 \\ A_4 = & -21.8492. & & \end{array}$$

SEASAVE R automatically implements this equation.

The hysteresis correction is calculated, using the oxygen voltages, with the following algorithm:

$$D = 1 + H_1 * (e^{\left(\frac{P(i)}{H2}\right)} - 1)$$

$$C = e(-1 * \left(\frac{Time(i) - Time(i-1))}{H3}\right)$$

$$O_V(i) = O_{volt}(i) + V_{offset}$$

$$O_{newvolts}(i) = a * \frac{a}{D}$$

$$O_{finalvolts}(i) = O_{newvolts}(i) - V_{offset}$$

Where:

i = indexing variable (must be a continuous time series to work; can be performed on bin averaged data), where i = 1:end (end is largest data index point plus 1).
$P(i)$ = pressure (decibars) at index point i .
$Time(i)$ = time (seconds) from start of index point i.
$O_{volt}(i)$ = SBE 43 oxygen voltage output directly from sensor, with no calibration or hysteresis corrections, at index point i.
V_{offset} = correction for an electronic offset that is applied to voltage output of sensor. V_{offset} correction is always negative (see factory calibration sheet for this coefficient). V_{offset} is added to raw voltages prior to hysteresis correction. At end of hysteresis corrections, V_{offset} is removed prior to data conversion using SBE 43 calibration equation (see $O_{finalvolts}(i)$).
$O_V(i)$ = dissolved oxygen voltage value with V_{offset} correction (made prior to hysteresis correction) at index point i.
D and C are temporary variables used to simplify expression in processing loop.
$H1$ = amplitude of hysteresis correction function. Default = -0.033, range = -0.02 to -0.05 (varies from sensor to sensor).
$H2$ = function constant or curvature function for hysteresis. Default = 5000.
$H3$ = time constant for hysteresis (seconds). Default = 1450, range = 1200 to 2000 (varies from sensor to sensor).
$O_{newvolts}(i)$ = hysteresis-corrected oxygen value at index point i.
$O_{finalvolts}(i)$ = hysteresis-corrected oxygen value at index point i with V_{offset} removed.

This step is necessary prior to computing oxygen concentration using SBE 43 calibration equation.

4 Data Acquisition

CTD/rosette casts were performed with a package consisting of a 24-place, 10-liter rosette frame, a 24-place water sampler (SBE32) and up to 23, 10-liter Bullister-style bottles. This package was deployed on all stations/casts. Underwater electronic components consisted of a Sea-Bird Electronics (SBE) 9 plus CTD with dual pumps and the following sensors: dual temperature (SBE3), dual conductivity (SBE4), dual dissolved oxygen (SBE43), and an altimeter. Some cruises included a fluorometer (not reported herein). The other underwater electronic components typically consisted of two RDI LADCPs (also not reported herein). A total of 54 CTD/rosette casts were made between all six cruises, usually to within 20 m of the bottom.

The CTD's supplied a standard Sea-Bird format data stream at a data rate of 24 frames/second. The SBE9 plus CTD was connected to the SBE32 24-place pylon providing for single-conductor sea cable operations. Power to the SBE9 plus CTD, SBE32 pylon, auxiliary sensors, and altimeter was provided through the sea cable from the SBE911 plus deck unit in the computer lab. The rosette system was suspended from a UNOLS-standard three-conductor 0.322" electro-mechanical sea cable.

The CTD was mounted vertically attached to the bottom center of the rosette frame. All SBE4 conductivity and SBE3 temperature sensors and their respective pumps were mounted vertically as recommended by SBE, outboard of the CTD. The CTD was outfitted with dual pumps. Primary temperature, conductivity, and dissolved oxygen were plumbed on one pump circuit and secondary temperature, conductivity, and dissolved oxygen on the other. Pump exhausts were attached to outside corners of the CTD cage and directed downward. The altimeter was mounted on the inside of a support strut adjacent to the bottom frame ring. The LADCP's were vertically mounted inside the bottle rings with one 300 kHz pointing down, the other 300 kHz transducer pointing up. The R/V Walton Smith's stern A-frame CTD winch was used with the 24-place 10-liter rosette for all station/casts. However, at most 23 water samples are collected due to the presence of an upward looking ADCP in place of one Niskin bottle.

O-rings were changed as necessary and bottle maintenance was performed each day to insure proper closure and sealing. Valves were inspected for leaks and repaired or replaced as needed.

4.1 System Problems

- FC1712 - At the end of the Oxygen analysis it was determined that the incorrect averaged endpoint value was used during all sample runs. Although a standardization was run, the new value was omitted from the sample run by accident leaving the old standardization endpoint average to be left in for all the calculations. This average endpoint value is derived during the standardization of the Thiosulfate and is then used in determining the Molar concentration of the Thiosulfate which is used in the calculation of each samples Oxygen content. The corrected value was later run through a spreadsheet to come up with all the corrected values.
- FC1712 - Only a few on deck pressures were taken to track pressure stability.
- FC1712 - There were large sensor differences at the bottle stops. Possible led to the large differences between the sensor and the bottle data.

4.2 Data Acquisition

The CTD data acquisition system consisted of an SBE-11plus (V2) deck unit and a networked generic PC workstation located in the aft of the science lab. SBE Seasave software version 7.21(FC1702) and 7.23.2 was used for data acquisition and to close bottles on the rosette.

The console watch initiated CTD deployments after the ship stopped on station. The watch maintained a console operations log containing a description of each deployment, a record of every attempt to close a

bottle and any pertinent comments.

Prior to each cast the CTD was powered on and an on deck surface pressure was recorded and then powered off before deployment. The deck watch leader directed the winch operator to raise the package, the stern A-frame and rosette were extended outboard, and the package quickly lowered into the water and submerged to 10-15 meters of wire out. Tag lines were necessary for both deployments and recoveries during this cruise. The CTD sensor pumps were configured with a 60 second startup delay. The CTD console operator waited for the CTD sensor pumps to turn on, waiting for 2-3 minutes for sensors to stabilize, then directed the winch operator to bring the package close to the surface, pause for typically 10 seconds, hitting "Mark Scan" and begin the descent. The profiling rate was no more than 30 m/min to 150 m and no more than 60 m/min deeper than 150 m depending on sea cable tension and the sea state.

The console watch monitored the progress of the deployment and quality of the CTD data through interactive graphics and operational displays. Additionally, the watch created a sample log for the deployment that would be later used to record the correspondence between rosette bottles and analytical samples taken. The altimeter channel, CTD pressure, wire-out and bathymetric depth were all monitored to determine the distance of the package from the bottom, usually allowing a safe approach to within 20 m.

On the up cast, the winch operator was directed to stop at each bottle trip depth. The CTD console operator waited 30 seconds before tripping a bottle using a "point and click" graphical trip button. The data acquisition system responded with trip confirmation messages and the corresponding CTD data in a rosette bottle trip window on the display. All tripping attempts were noted on the console log. The console watch then directed the winch operator to raise the package up to the next bottle trip location.

After the last bottle was tripped, the console watch directed the deck watch to bring the rosette on deck. Once on deck, the console watch terminated the data acquisition, turned off the deck unit, and assisted with rosette sampling.

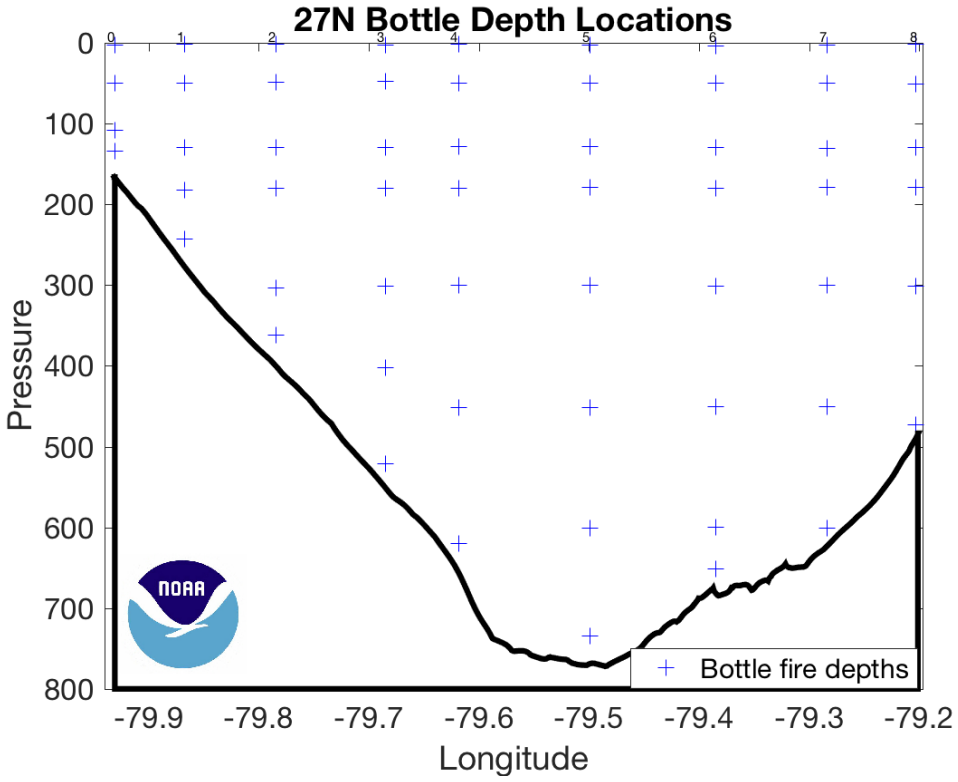


Figure 2: Nominal bottle locations for 27°N section in the Florida Straits.

4.3 Preliminary CTD Data Processing

Preliminary CTD data processing was performed using SEABIRD SBE Data Processing version 7.21k and AOML Matlab processing software. The raw CTD data and bottle trips acquired by SBE Seasave on the Windows 7 workstation were copied onto the CTD-PROC workstation, and processed to a 1-dbar series and a 1-second time series. Bottle trip values were extracted and a 1-decibar (dbar) down cast pressure series created.

Raw data are acquired from the instruments and are stored unmodified. The conversion module DATCNV uses the instrument configuration and pre-cruise factory calibration coefficients to create a converted engineering unit data file that is utilized by all SBEDataProc R post processing modules. Unless otherwise noted, all calibration parameters given are factory default values recommended by Sea Bird Electronics, Inc. The following is the SBEDataProc R processing module sequence and specifications for primary calibrated data (1 dbar averages) uses the following routines in order for reduction of CTD/O2 data from this cruise:

1. DATCNV converts raw data into engineering units and creates a .ROS bottle file. Both down and up casts were processed for scan, elapsed time(s), depth, pressure, t0 ITS-90 C, t1 ITS-90 C, c0 S/m, c1 S/m, salinity (PSU), salinity 2 (PSU), oxygen voltage V, oxygen 2 voltage V, altimeter, optical sensor, oxygen umol/kg, oxygen 2 umol/kg, oxygen ml/l, oxygen 2 ml/l, oxygen dv/dt, oxygen dv/dt 2, latitude, and longitude. MARKSCAN was used to determine the number of scans acquired on deck and while priming the system to exclude these scans from processing.

2. ALIGNCTD aligns temperature, conductivity, and oxygen measurements in time relative to pressure to ensure that derived parameters are made using measurements from the same parcel of water. Primary and secondary conductivity were automatically advanced by 0.073 seconds. Primary and secondary oxygen were advanced by 1.073.

3. FILTER applies a low pass filter to pressure with a time constant of 0.15 seconds. In order to produce zero phase (no time shift), the filter is first run forward through the file and then run backwards through the file.

4. LOOPEDIT removes scans associated with pressure slowdowns and reversals. If the CTD velocity is less than 0.25 m/s or the pressure is not greater than the previous maximum scan, the scan is omitted.

5. CELLTM uses a recursive filter to remove conductivity cell thermal mass effects from measured conductivity. In areas with steep temperature gradients the thermal mass correction is on the order of 0.005 PSS-78. In other areas the correction is negligible. The value used for the thermal anomaly amplitude (alpha) was 0.03°C. The value used for the thermal anomaly time constant (1/beta) was 7.0°C.

6. WILDEDIT computes the standard deviation of 100 point bins, and then makes two passes through the data. The first pass flags points that differ from the mean by more than 2 standard deviations. A new standard deviation is computed excluding the flagged points and the second pass marks bad values greater than 20 standard deviations from the mean.

7. BOTTLESUM creates a summary of the bottle data. Bottle position, date, and time were output automatically. Pressure, temperature, conductivity, salinity, oxygen voltage and preliminary oxygen values were averaged over a 5 second interval.

8. DERIVE uses pressure, temperature, and conductivity to compute primary and secondary salinities, potential temperatures and densities. Oxygen voltage is used to calculate oxygen concentrations.

9. BINAVG averages the data into 1 dbar bins. Each bin is centered on an integer pressure value, e.g., the 1 dbar bin averages scans where pressure is between 0.5 dbar and 1.5 dbar. There is no surface bin. The number of points averaged in each bin is included in the data file.

10. TRANS converts the binary data file into ASCII format.

11. SPLIT separates the cast into upcast and downcast values.

Package slowdowns and reversals owing to ship roll can move mixed water in tow to in front of the CTD sensors and create artificial density inversions and other artifacts. In addition to Seasoft module LOOPEDIT, a program computes values of density locally referenced between every 1 dbar of pressure to compute N^2 and linearly interpolates temperature, conductivity, and oxygen voltage over those records where N^2 is less than or equal to -1 x 10^{-5} s^{-2}. These data were retained but flagged as questionable in the final WOCE formatted files.

Final calibrations are applied to delooped data files. ITS-90 temperature, salinity, and oxygen are computed, and WOCE quality flags are created.

CTD data were examined at the completion of each deployment for clean corrected sensor response and any calibration shifts. As bottle salinity and oxygen results became available, they were used to refine shipboard conductivity and oxygen sensor calibrations.

A total of 45 casts were processed.

4.4 CTD Calibration Procedures

Laboratory calibrations of the CTD pressure, temperature, conductivity, and oxygen sensors were all performed at SBE. The calibration dates are listed in Table 11.

Secondary temperature, conductivity and dissolved oxygen (T2, C2 and DO2) sensors served as calibration checks for the reported primary sensors. The sensors used for calibrations for each cruise are listed below in Section 5.

In-situ salinity and dissolved O2 check samples collected during each cast were used to calibrate the conductivity and dissolved O2 sensors.

4.4.1 Salinity Analysis

A Guildline Autosal, model 8400B, located in the salt van outside of AOML, was used for all salinity measurements. The salinometer readings were logged on a computer using Ocean Scientific International's logging hardware and software. The Autosal's water bath temperature was set to 24°C, which the Autosal is designed to automatically maintain. The laboratory's temperature is typically set and maintained to just below 24°C, to help further stabilize reading values and improve accuracy. The room temperature was monitored by a digital thermometer. Salinity analyses were performed after samples had equilibrated to laboratory temperature, usually within a couple days after collection. The salinometer was standardized for each group of samples analyzed (usually 2 casts and up to 52 samples) using two bottles of standard seawater: one at the beginning and end of each set of measurements. The salinometer output was logged

to a computer file. The software prompted the analyst to flush the instrument's cell and change samples when appropriate. Prior to each run a sub-standard flush, approximately 200 ml, of the conductivity cell was conducted to flush out the DI water used in between runs. For each calibration standard, the salinometer cell was initially flushed 6 times before a set of conductivity ratio reading was taken. For each sample, the salinometer cell was initially flushed at least 3 times before a set of conductivity ratio readings were taken.

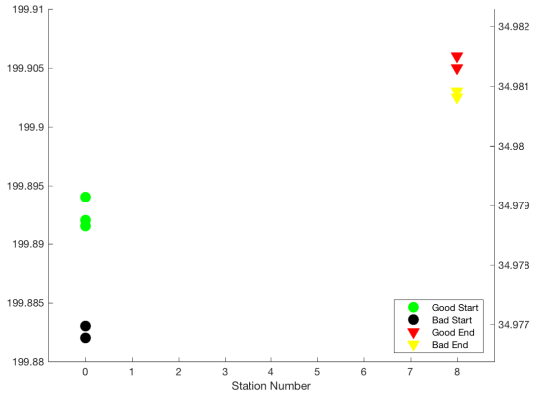
IAPSO Standard Seawater Batch P-158 was used to standardize all casts (Table 16).

Table 16: Nominal values for the batches of IAPSO standard seawater.

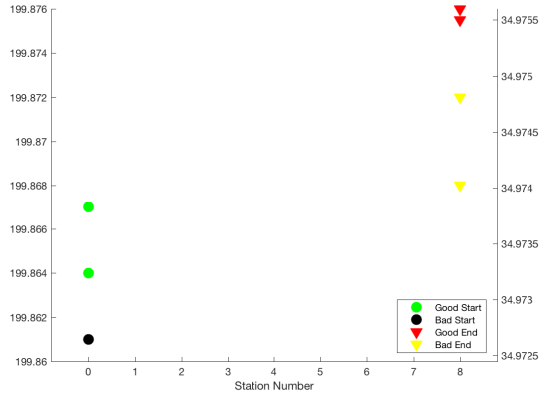
P-158
Use By: March 2018
K15: 0.99970
Salinity: 34.988

The salinity samples were collected in 200 ml Kimax high-alumina borosilicate bottles that had been rinsed at least three times with sample water prior to filling. The bottles were sealed with custom-made plastic insert thimbles and Nalgene screw caps. This assembly provides very low container dissolution and sample evaporation. Prior to sample collection, inserts were inspected for proper fit and loose inserts replaced to insure an airtight seal. Laboratory temperature was also monitored electronically throughout the cruise. PSS-78 salinity [UNES81] was calculated for each sample from the measured conductivity ratios. The offset between the initial standard seawater value and its reference value was applied to each sample. Then the difference (if any) between the initial and final vials of standard seawater was applied to each sample as a linear function of elapsed run time. The corrected salinity data was then incorporated into the cruise database. During the four Florida Straits cruises, a total of 315 salinity measurements were taken.

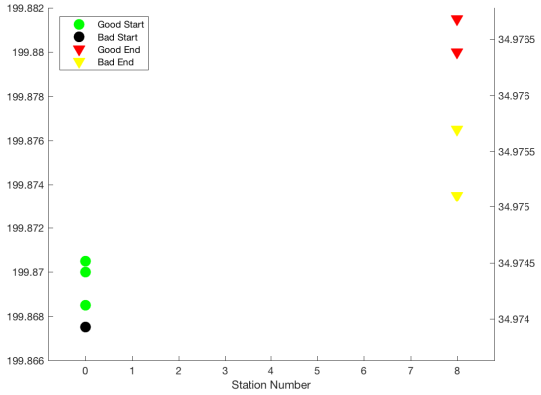
The running standard calibration values are shown in Figure . For FC1702 the autosal standards drifted by 0.00015 in conductivity ratio (about 0.002 in salinity). For FC1706 the autosal standards drifted by 0.00012 in conductivity ratio (about 0.002 in salinity). For FC1707 the autosal standards drifted by 0.00012 in conductivity ratio (about 0.002 in salinity). For FC1710 the autosal standards drifted by 0.00002 in conductivity ratio (about 0.0004 in salinity). For FC1712 the autosal standards drifted by 0.00004 in conductivity ratio (about 0.0004 in salinity).



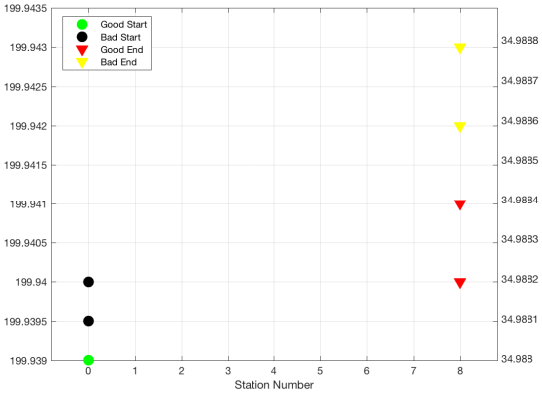
(a) FC1702



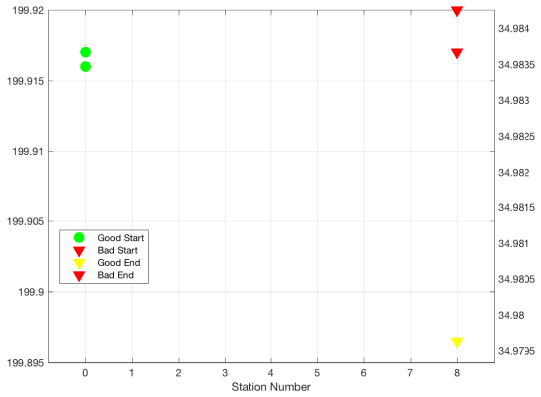
(b) FC1706



(c) FC1707



(d) FC1710



(e) FC1712

Figure 3: Standard vial calibrations throughout the cruise.

4.4.2 Oxygen Analysis

Dissolved oxygen analyses were performed with an automated titrator using amperometric end-point detection (Langdon, 2010). Sample titration, data logging, and graphical display were performed with a PC running a LabView program written by Ulises Rivero of AOML. Thiosulfate (17.5g per 500 ml) was dispensed by a 2 ml Gilmont burette driven with a stepper motor controlled by the titrator. Tests in the lab were performed to confirm that the precision and accuracy of the volume dispensed were comparable or superior to the Dosimat 665. The whole-bottle titration technique of Carpenter (1965), with modifications by Culberson et al. (1991), was used. Four replicate 10 ml iodate standards were run initially and if there requires any fill of new Thiosulfate and once again after bottle has reached half volume. The reagent blank determined as the difference between V1 and V2, the volumes of Thiosulfate required to titrate 1ml aliquots of the iodate standard. This method was found to produce a more reproducible blank value than the value determined as the intercept of a standard curve.

Dissolved oxygen samples were drawn from Niskin bottles into calibrated 125-150ml iodine titration flasks using silicon tubing. Bottles were rinsed three times and filled from the bottom, overflowing three volumes while taking care not to entrain any bubbles. The CTD temperatures were used to calculate $umol/kg$ concentrations. 1ml of MnCl2 and 1ml of NaOH/NaI were added immediately after drawing the sample was concluded using a ThermoScientific REPIPET II. The flasks were then stoppered and shaken well. Deionized water (DIW) was added to the neck of each flask to create a water seal. The total number of oxygen samples collected from the rosette was 339. A duplicate sample was taken at each station. The samples were stored in the lab in plastic totes at room temperature and run once back at AOML. The data was incorporated into the cruise database shortly after analysis. Thiosulfate normality was calculated from the laboratory temperature for each sample run.

The dispenser used for the standard solution (SOCOREX Calibrex 520) and the burette were calibrated gravimetrically just before the cruise. Oxygen flask volumes were determined gravimetrically with degassed deionized water at AOML. The correction for buoyancy was applied.

The oxygen values run for the FC1712 cruise were determined to be too high when compared to the historical data. The following was done by Chris Langdon to correct the high oxygen values. At the end of the Oxygen analysis it was determined that the incorrect averaged endpoint value was used during all sample runs. Although a standardization was run, the new value was omitted from the sample run by accident leaving the old standardization endpoint average to be left in for all the calculations. This average endpoint value is derived during the standardization of the Thiosulfate and is then used in determining the Molar concentration of the Thiosulfate which is used in the calculation of each samples Oxygen content. The corrected value was later run through a spreadsheet to come up with all the corrected values.

5 Post-Cruise Calibrations

Post cruise sensor calibrations were not done at Sea-Bird Electronics, Inc. Secondary temperature, conductivity and dissolved oxygen sensors served as calibration checks for the reported primary sensors.

In-situ salinity and dissolved oxygen samples collected during each cast were used to calibrate the conductivity and dissolved oxygen sensors.

The same pressure sensor as well as primary and secondary temperature, conductivity and oxygen sensors were used during the cruises as listed in Table 11. For all Florida Current cruises in 2017 the secondary T, C, and O were selected for final data reduction. In addition to the Seasave processing modules, a group of Matlab script files called AOML/CTDCAL Toolbox were used. These scripts were based on earlier work of different groups as well as in modern statistical tools. They cover all the steps of the CTD data processing from the preliminary comparisons between sensors or bottle samples to data reductions and final sensors calibrations.

5.1 CTD Data Processing

In addition to the Seasave processing modules, a group of Matlab script files called AOML/CTDCAL Toolbox were used. These scripts were based on earlier work of different groups as well as in modern statistical tools. They cover all the steps of the CTD data processing from the preliminary comparisons between sensors or bottle samples to data reductions and final sensors calibrations.

- FILL_SURFACE was used to copy the first good value of salinity, potential temperature, oxygen and oxygen current back to the surface. The program then calculated temperature and conductivity, and zeroed doc/dt of oxygen current for those records.
- DESPIKE1 removed spikes from primary oxygen current and oxygen temperature data, as well as removing spikes from the primary conductivity sensor. Data were linearly interpolated over despiked records. Conductivity was back calculated, and sigma-theta and potential temperature were recomputed for the interpolated records.
- DESPIKE2 removed spikes from secondary sensors in the same method as DESPIKE1.
- Package slowdown and reversals due to ship roll can move mixed water in tow in front of the CTD sensors. This mixture can create artificial density inversions and other artifacts. In addition to the SEASOFT module LOOPEDIT, DELOOP, computes values of density locally referenced between every 1 dbar of pressure to compute N^2 = (- g/p) (dp/dz) and linearly interpolated measured parameters over those records where $N^2 \leq$ -1.0 e -05 s^{-2}.

5.2 CTD Pressure

Pressure sensor calibration coefficients derived from the pre-cruise calibrations were applied to raw pressure data during each cast. Residual pressure offsets (the difference between the first and last submerged pressures) were examined to check for calibration shifts (see Figure 4 and Tables 17 - 21. All cruises used pressure sensor s/n 0957. Prior to each cruise a pressure offset of -0.588 was applied to the original offset, -2.7284, in the pressure configuration file for a total pressure offset of -3.3164. On deck pressures recorded before and after each cast are plotted in Figure 4.

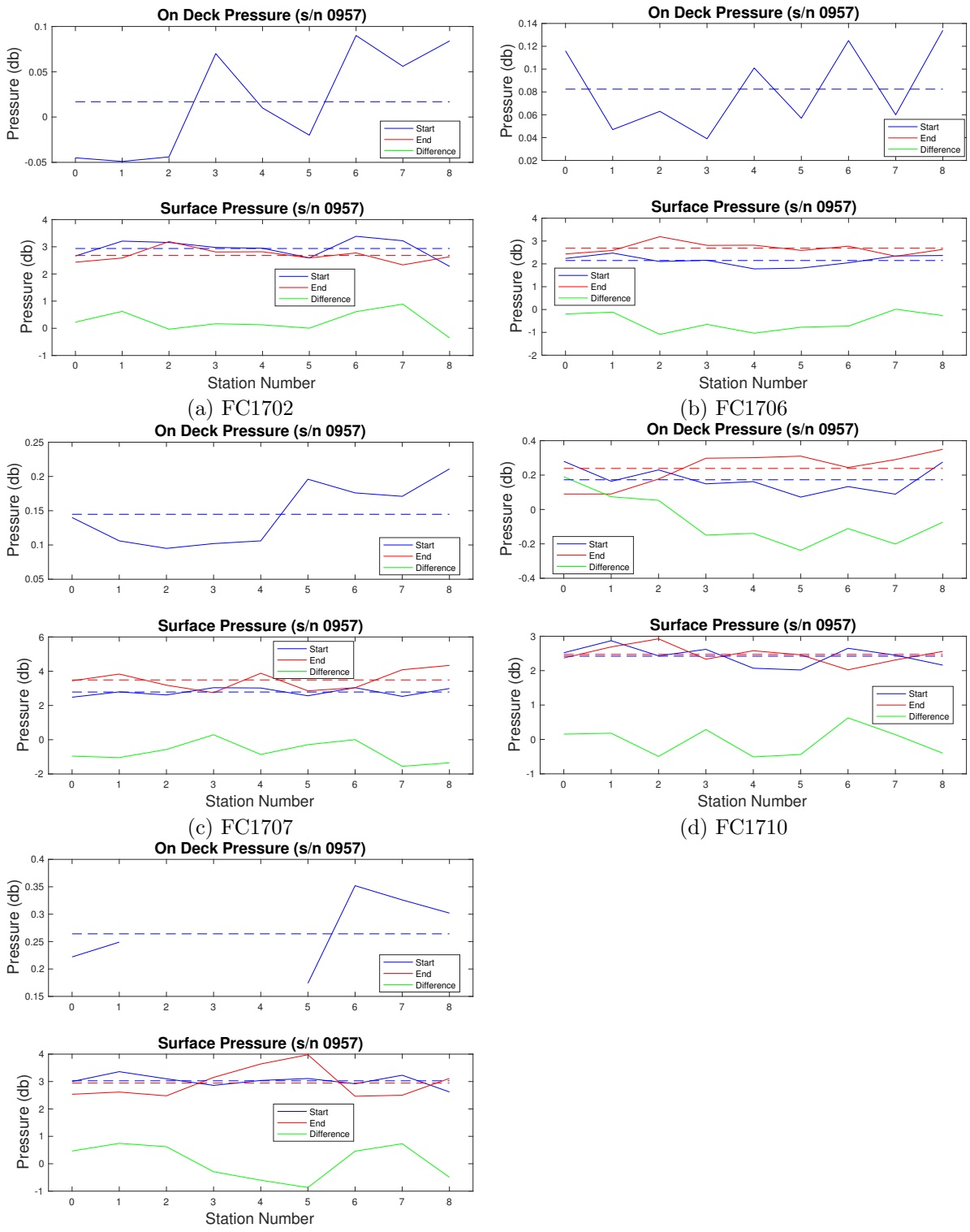
For FC1702 the on deck pressure before the cast was stable at 0.017 ± 0.058 dbar (median ± standard deviation). No pressure correction offset was necessary before final calibration of the data. Near surface pressure values (which is taken as the near-surface pressure at the markscan and the last fired bottle pressure) showed little variability over the cruise (2.93 ± 0.36 dbar before and 2.68 ± 0.25 dbar after).

For FC1706 the on deck pressure before the cast was stable at 0.082 ± 0.04 dbar. No pressure correction offset was necessary before final calibration of the data. Near surface pressure values showed a little variability over the cruise between the start and end surface pressure (2.15 ± 0.24 dbar before and 2.68 ± 0.25 dbar after).

For FC1707 the on deck pressure before the cast was stable at 0.144 ± 0.04 dbar. No pressure correction offset was necessary before final calibration of the data. Near surface pressure values showed little variability over the cruise between the start and end surface pressure (2.79 ± 0.24 dbar before and 3.49 ± 0.57 dbar after).

For FC1710 the on deck pressure before and after the cast were stable at 0.173 ± 0.07 dbar and 0.239 ± 0.1 dbar, respectively. No pressure correction offset was necessary before final calibration of the data. Near surface pressure values showed little variability over the cruise between the start and end surface pressure (2.42 ± 0.29 dbar before and 2.47 ± 0.26 dbar after).

For FC1712 the on deck pressure before the cast was stable at 0.261 ± 0.06 dbar. No pressure correction offset was necessary before final calibration of the data. Near surface pressure values showed little variability over the cruise between the start and end surface pressure (3.03 ± 0.22 dbar before and 2.94 ± 0.56 dbar after).



(a) FC1702

(b) FC1706

(c) FC1707

(d) FC1710

(e) FC1712

Figure 4: Pressure differences vs. station number. Top panel are the pressures measured on deck before the cast (blue). Bottom panel are the near sea surface pressure values measured at the start of the downcast (blue), at the end of the upcast (red) and their respective difference (green).

Table 17: Near surface Pressure values and scan number used to remove surface soak and on-deck values.

Station	Markscan	Deck Prs Start	Deck Prs End	Sfc Prs Start	Sfc Prs End
0	2523	-0.0450	-999.0000	2.6600	2.4330
1	2222	-0.0490	-999.0000	3.2080	2.5860
2	2076	-0.0440	-999.0000	3.1580	3.1910
3	4406	0.0700	-999.0000	2.9750	2.8090
4	2152	0.0100	-999.0000	2.9450	2.8170
5	1773	-0.0200	-999.0000	2.5920	2.5880
6	2974	0.0900	-999.0000	3.3850	2.7730
7	2584	0.0560	-999.0000	3.2210	2.3330
8	2045	0.0840	-999.0000	2.2780	2.6330

Table 18: Near surface Pressure values and scan number used to remove surface soak and on-deck values.

Station	Markscan	Deck Prs Start	Deck Prs End	Sfc Prs Start	Sfc Prs End
0	1263	0.1160	-999.0000	2.2370	2.4330
1	1345	0.0470	-999.0000	2.4720	2.5860
2	1435	0.0630	-999.0000	2.1020	3.1910
3	1535	0.0390	-999.0000	2.1580	2.8090
4	1682	0.1010	-999.0000	1.7800	2.8170
5	1320	0.0570	-999.0000	1.8140	2.5880
6	2100	0.1250	-999.0000	2.0470	2.7730
7	1626	0.0600	-999.0000	2.3460	2.3330
8	2065	0.1340	-999.0000	2.3670	2.6330

Table 19: Near surface Pressure values and scan number used to remove surface soak and on-deck values.

Station	Markscan	Deck Prs Start	Deck Prs End	Sfc Prs Start	Sfc Prs End
0	1996	0.1400	-999.0000	2.4820	3.4400
1	2069	0.1060	-999.0000	2.7920	3.8340
2	2304	0.0950	-999.0000	2.6130	3.1840
3	3868	0.1020	-999.0000	3.0370	2.7470
4	2416	0.1060	-999.0000	3.0190	3.8810
5	2266	0.1960	-999.0000	2.5660	2.8540
6	2433	0.1760	-999.0000	3.0390	3.0360
7	2971	0.1710	-999.0000	2.5310	4.0850
8	3649	0.2110	-999.0000	2.9900	4.3380

Table 20: Near surface Pressure values and scan number used to remove surface soak and on-deck values.

Station	Markscan	Deck Prs Start	Deck Prs End	Sfc Prs Start	Sfc Prs End
0	1345	0.2800	0.0900	2.5200	2.3670
1	1342	0.1640	0.0900	2.8700	2.6900
2	1877	0.2300	0.1770	2.4300	2.9240
3	1201	0.1490	0.2980	2.6200	2.3330
4	2098	0.1620	0.3010	2.0700	2.5780
5	1519	0.0720	0.3100	2.0200	2.4590
6	2505	0.1330	0.2440	2.6500	2.0230
7	4637	0.0890	0.2900	2.4500	2.3110
8	2139	0.2760	0.3500	2.1600	2.5590

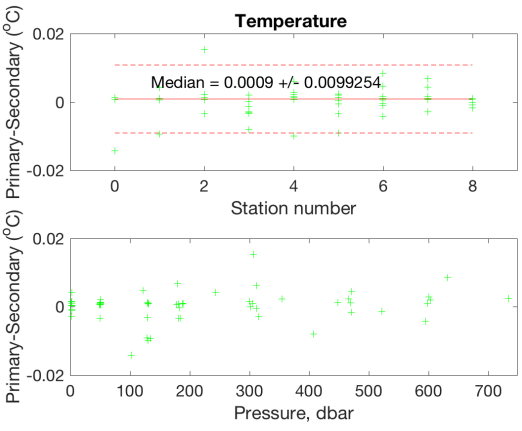
Table 21: Near surface Pressure values and scan number used to remove surface soak and on-deck values.

Station	Markscan	Deck Prs Start	Deck Prs End	Sfc Prs Start	Sfc Prs End
0	2112	0.2220	-999.0000	3.0000	2.5350
1	2876	0.2490	-999.0000	3.3600	2.6160
2	1694	-999.0000	-999.0000	3.1000	2.4790
3	1485	0.2240	-999.0000	2.8600	3.1510
4	2361	-999.0000	-999.0000	3.0400	3.6410
5	2630	0.1740	-999.0000	3.1100	3.9780
6	2251	0.3520	-999.0000	2.9200	2.4620
7	2090	0.3260	-999.0000	3.2300	2.5010
8	1721	0.3020	-999.0000	2.6200	3.1140

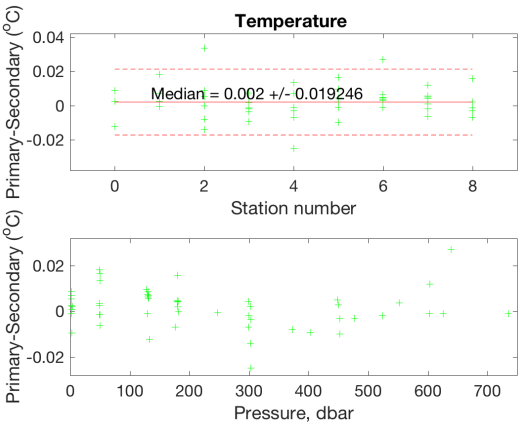
5.3 CTD Temperature

Temperature sensor calibration coefficients derived from the pre-cruise calibrations were applied to raw primary and secondary temperature data during each cast. Data accuracy, reproducibility and stability were examined by tabulating the difference between the two different temperature sensors over a range of pressures (bottle trip locations) for each cast.

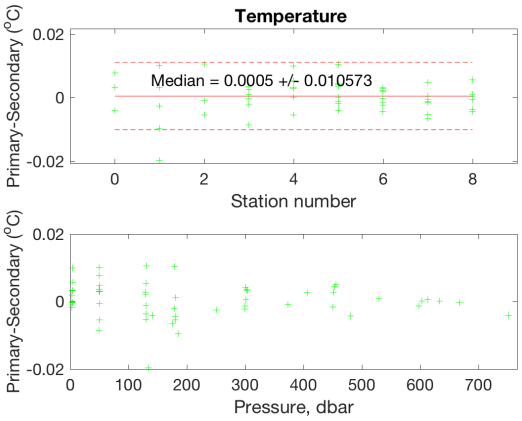
These comparisons are summarized in Figure 5, which shows the median temperature difference between the two sensors. For FC1702 there was a median of 0.0009 °C and a standard deviation of 0.01 °C. For FC1706 there was a median of 0.002 °C and a standard deviation of 0.019 °C. For FC1707 there was a median of 0.0005 °C and a standard deviation of 0.01 °C. For FC1710 there was a median of -0.0003 °C and a standard deviation of 0.007 °C. For FC1712 there was a median of -0.005 °C and a standard deviation of 0.005 °C. The secondary sensor, s/n 5855 (FC1702) and s/n 5171 (FC1706-FC1712), was used for all cruises.



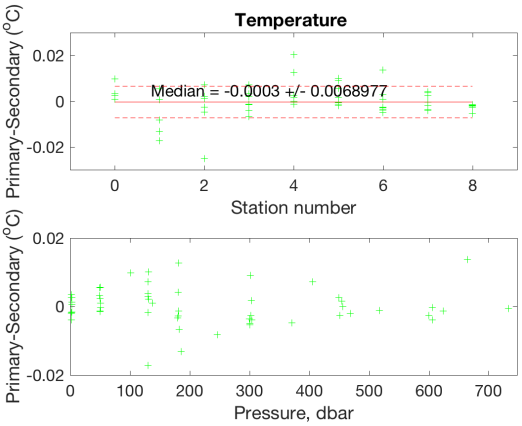
(a) FC1702



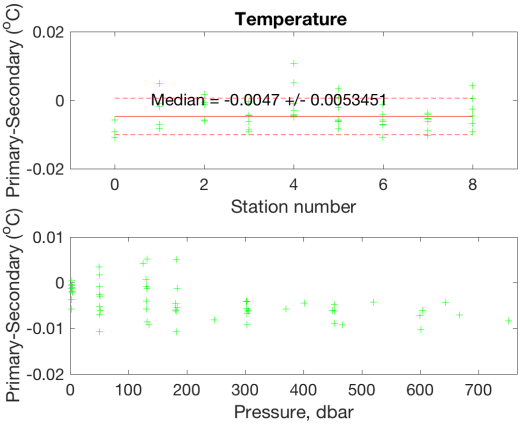
(b) FC1706



(c) FC1707



(d) FC1710



(e) FC1712

Figure 5: Temperature differences (after pressure corrections) between sensors by station number (top) and pressure (bottom). The green represents the surface data down to 1000 dbar. The blue represents data below 1000 dbar. The red solid line represents the median with the red dashed representing the standard deviation (same for top and bottom).

5.4 Conductivity

Conductivity sensor calibration coefficients derived from the pre-cruise calibrations were applied to raw primary and secondary conductivities. Comparisons between the primary and secondary sensors and between each of the sensors to conductivity calculated from bottle salinities were used to derive conductivity corrections. Uncorrected C1-C2 are shown in Figure 6 to help identify sensor drift. The AOML/CTDCAL Toolbox automatically applies a quality control to the data based on comparison with a normal distribution.

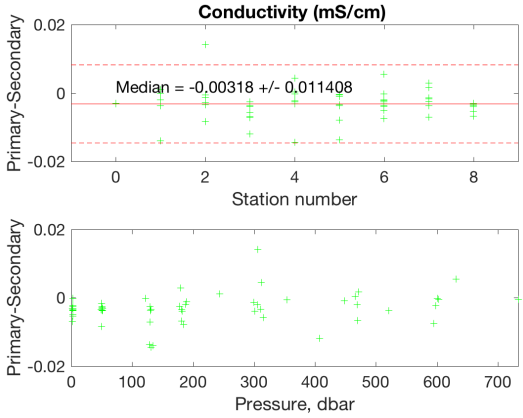
For FC1702 the sensors show a median difference of -0.003 mS/cm and a standard deviation of 0.01 mS/cm (Figure 6). Both sensors showed reasonable values for the residuals. The secondary sensor, s/n 4346, was used for all the final data values (Figure 7).

For FC1706 the sensors show a median difference of 0.003 mS/cm and a standard deviation of 0.02 mS/cm (Figure 6). Both sensors showed reasonable values for the residuals. The secondary sensor, s/n 1347, was used for all the final data values (Figure 7).

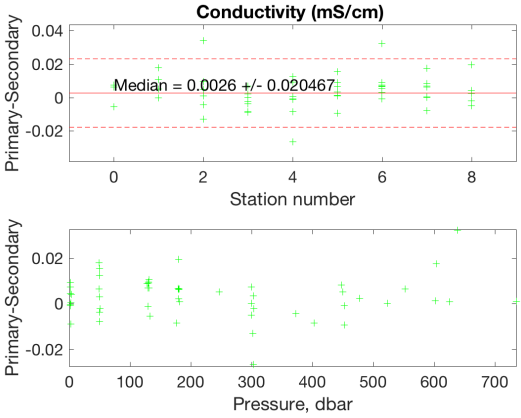
For FC1707 the sensors show a median difference of 0.002 mS/cm and a standard deviation of 0.01 mS/cm (Figure 6). Both sensors showed reasonable values for the residuals. The secondary sensor, s/n 1347, was used for all the final data values (Figure 7).

For FC1710 the sensors show a median difference of 0.003 mS/cm and a standard deviation of 0.007 mS/cm (Figure 6). Both sensors showed reasonable values for the residuals. The secondary sensor, s/n 1347, was used for all the final data values (Figure 7).

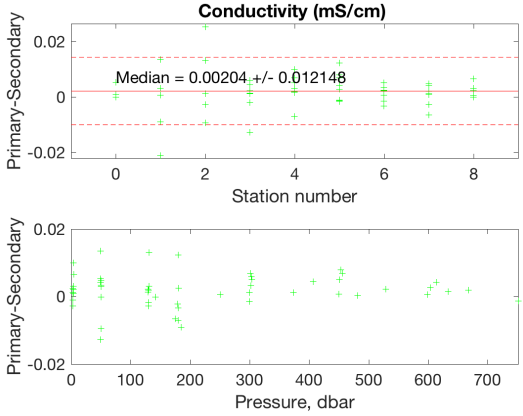
For FC1712 the sensors show a median difference of 0.012 mS/cm and a standard deviation of 0.006 mS/cm (Figure 6). Both sensors showed reasonable values for the residuals. The secondary sensor, s/n 1347, was used for all the final data values (Figure 7).



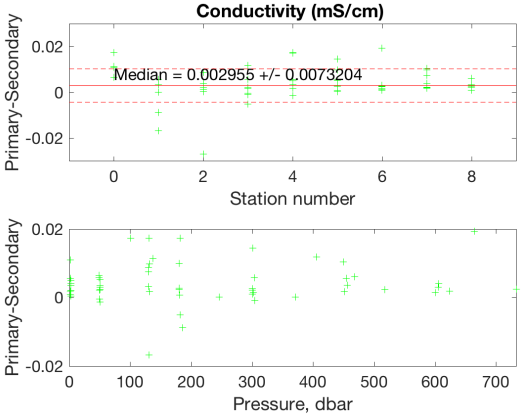
(a) FC1702



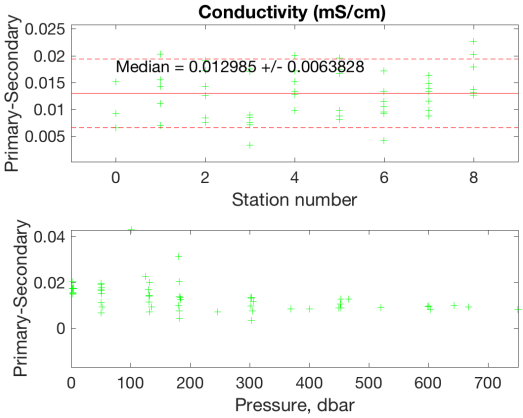
(b) FC1706



(c) FC1707



(d) FC1710



(e) FC1712

Figure 6: Conductivity (mS/cm) differences between sensors by station (top) and pressure (bottom). The red solid line represents the median with the red dashed representing the standard deviation.

In order to calibrate the CTD conductivity data against the sample conductivity we assume a constant additive correction (offset), multiplicative correction (slope), time drift correction (represented by station number) and where needed, a linear pressure-dependent term. A non-linear function is used to derive these coefficients and are applied to

$$C_{new} = [m * C_{CTD} + (p_1 * station) + b + pcor * P]$$

where C_{bottle} is bottle conductivity (S/m), C_{CTD} is pre-cruise calibrated CTD conductivity (S/m), m is the conductivity slope, b is the offset (S/m), P is the pressure, *pcor* is the pressure correction coefficient, *station* is the station number and p_1 is the polynomial coefficient. The fit is also weighted in such way that the final solution is preferentially forced to fit the data below a specified depth, in this case 1000 dbar. Final calibration coefficients are listed in Tables 22 & 23.

FC1702 s/n 4346	FC1706 s/n 1347	FC1707 s/n 1347
m= 9.99802527E-01	m= 1.00020423E+00	m= 9.99472154E-01
p_1= 0	p_1= 0	p_1= 0
b= 1.03506578E-02	b= 1.03509032E-03	b= 5.14523862E-02
pcor= 2.83515295E-06	*pcor*= -1.15430544E-05	*pcor*= -3.72928820E-05

Table 22: Conductivity calibration coefficients applied for final calibration.

FC1710(Sta 0-7) s/n 1347	FC1710(Sta 8) s/n 1347	FC1712 s/n 1347
m= 1.00030504E+00	m= 1.00101414E+00	m=1.00033521E+00
p_1= 0	p_1= 0	p_1= 0
b= -3.25684436E-03	b= -5.74810019E-02	b= 2.54112914E-03
pcor= -8.96942650E-06	*pcor*= 2.19816203E-05	*pcor*= -6.72820041E-06

Table 23: Conductivity calibration coefficients applied for final calibration.

For FC1702 the coefficients estimated by the equation above were then applied to the CTD conductivities and the final results (Figure 8 to Figure 9) show a median of 9.4 · 10-4 psu and a standard deviation of 0.005 psu. After data reduction 55 data points (94.8 %) were used in the final calculations.

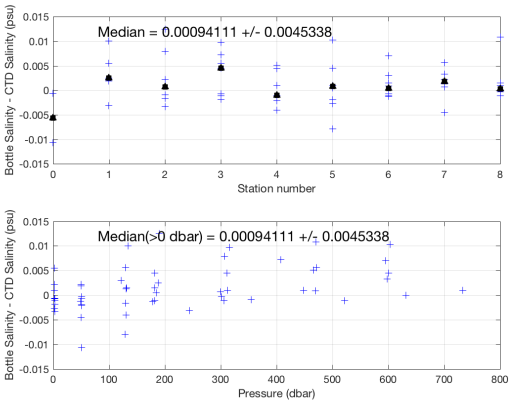
For FC1706 the coefficients estimated by the equation above were then applied to the CTD conductivities and the final results (Figure 8 to Figure 9) show a median of 5.2 · 10-3 psu and a standard deviation of 0.007 psu. After data reduction 54 data points (93.1 %) were used in the final calculations.

For FC1707 the coefficients estimated by the equation above were then applied to the CTD conductivities and the final results (Figure 8 to Figure 9) show a median of 1.1 · 10-2 psu and a standard deviation of 0.011 psu. After data reduction 53 data points (91.4 %) were used in the final calculations.

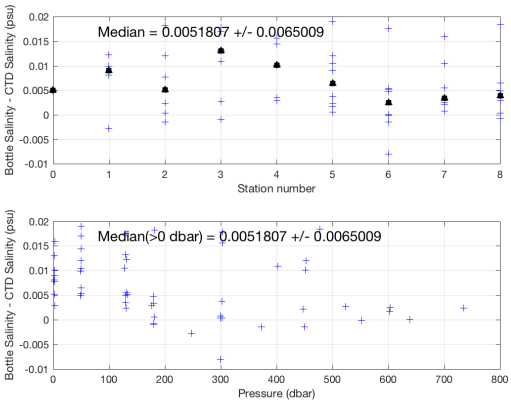
For FC1710 the coefficients estimated by the equation above were then applied to the CTD conductivities and the final results (Figure 8 to Figure 9) show a median of 6.3 · 10-3 psu and a standard deviation of 0.005 psu. After data reduction 53 data points (91.4 %) were used in the final calculations.

For FC1712 the coefficients estimated by the equation above were then applied to the CTD conductivities and the final results (Figure 8 to Figure 9) show a median of 1.4 · 10-2 psu and a standard deviation of 0.005 psu. After data reduction 52 data points (89.7 %) were used in the final calculations.

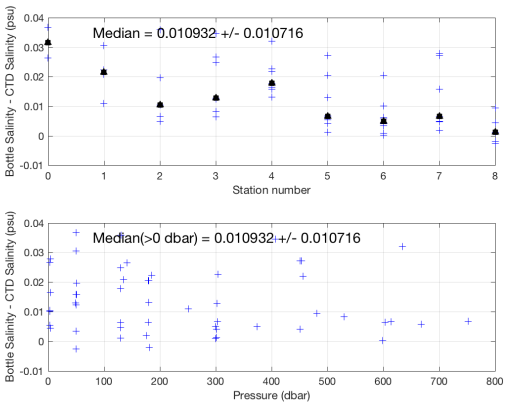
A final verification about the quality of the data was made by comparing the results of this cruise with some historical data (Figure 10 & 11).



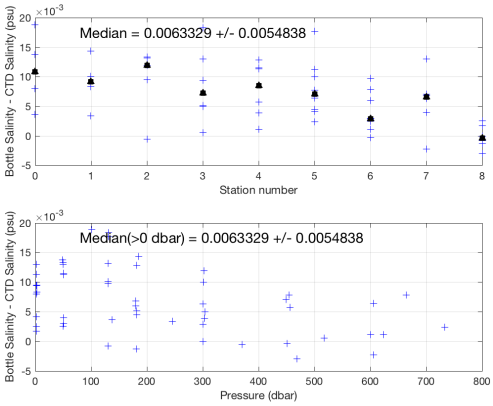
(a) FC1702



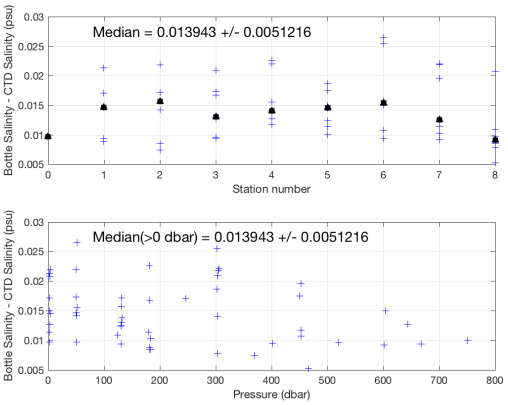
(b) FC1706



(c) FC1707

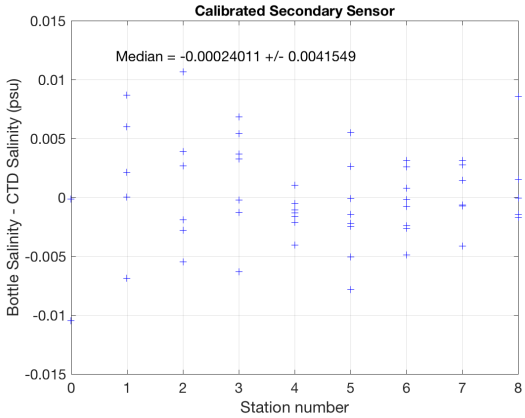


(d) FC1710

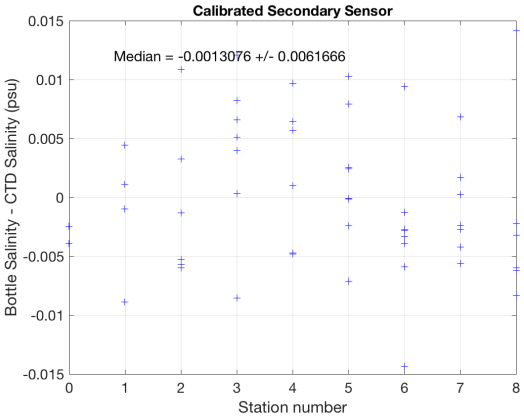


(e) FC1712

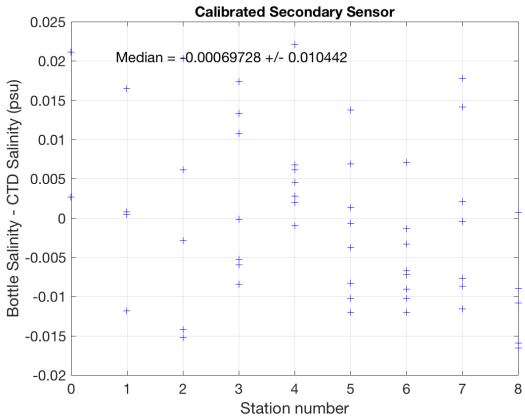
Figure 7: Bottle and uncalibrated CTD salinity differences plotted against pressure. The green crosses represent all data points and the blue are the data points below 1000 dbar. The median was calculated using only the data below 1000 dbar.



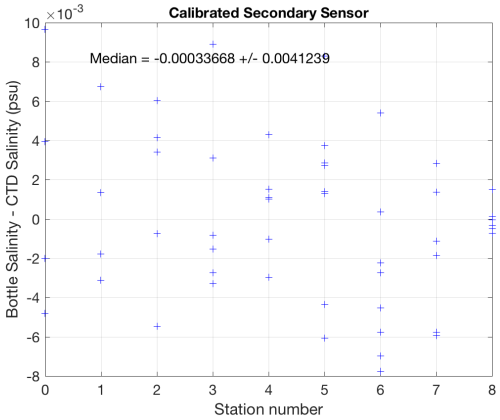
(a) FC1702



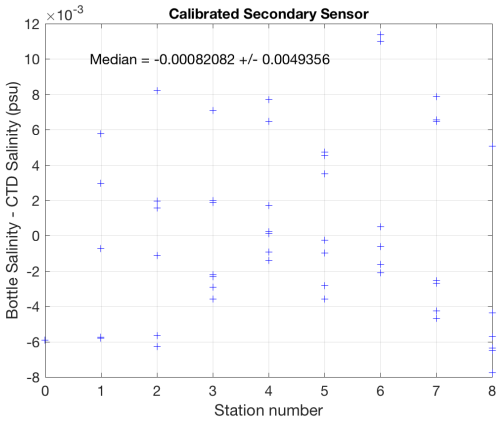
(b) FC1706



(c) FC1707

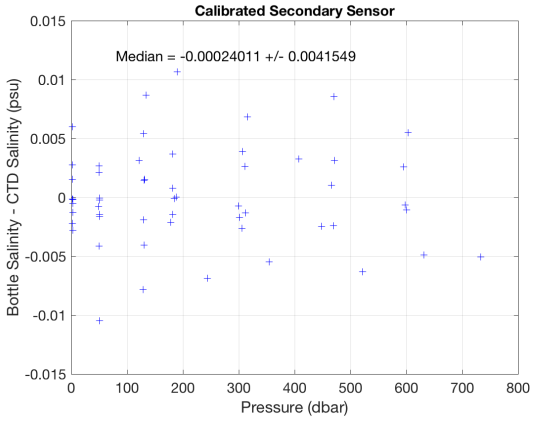


(d) FC1710

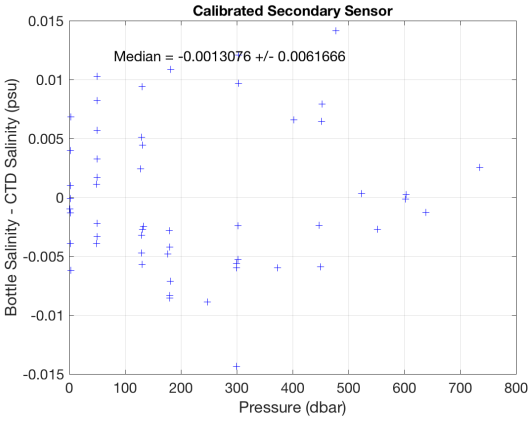


(e) FC1712

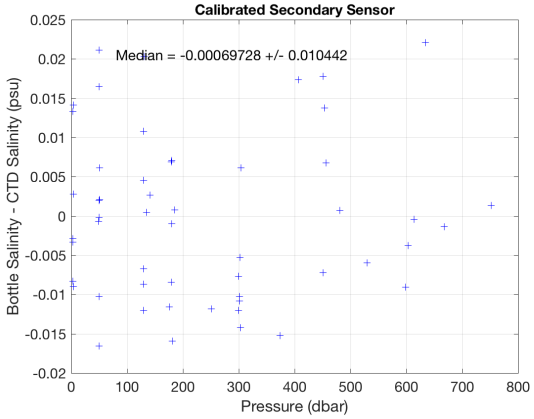
Figure 8: Bottle and calibrated CTD salinity differences plotted vs. station.



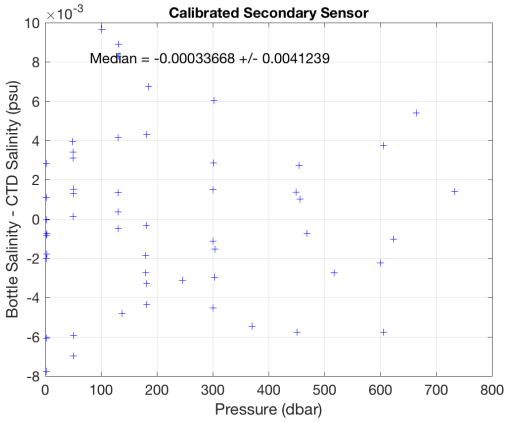
(a) FC1702



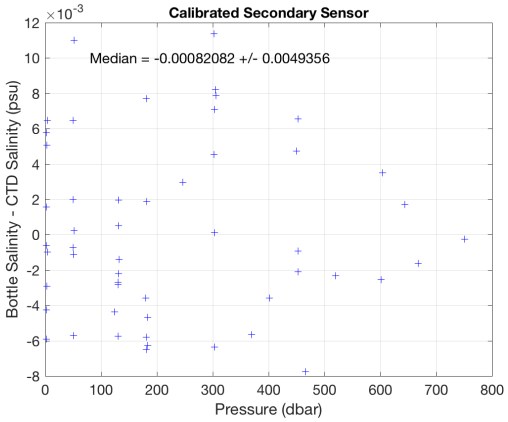
(b) FC1706



(c) FC1707

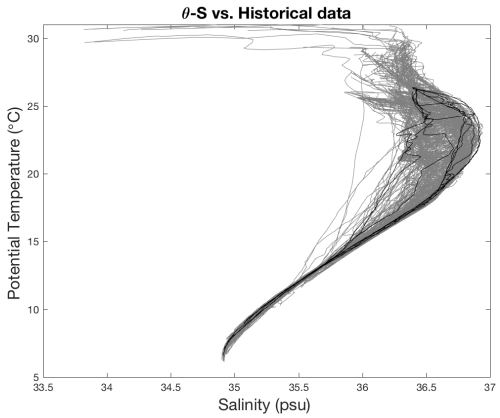


(d) FC1710

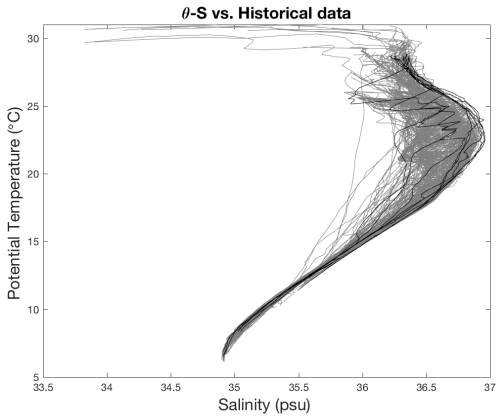


(e) FC1712

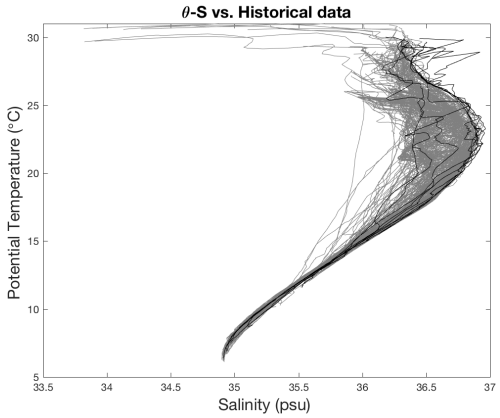
Figure 9: Bottle and calibrated CTD salinity differences plotted vs. pressure.



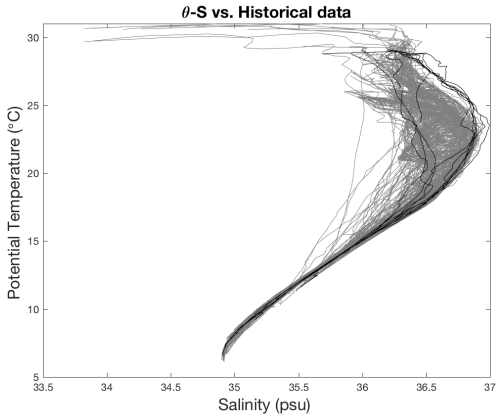
(a) FC1702



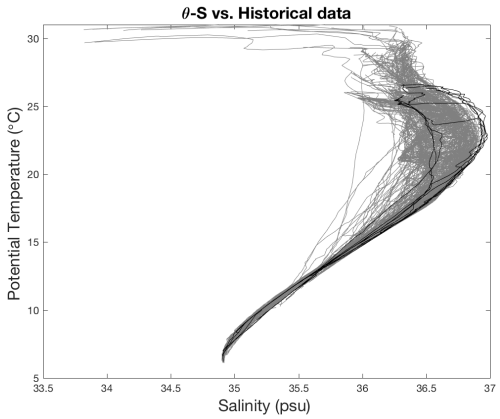
(b) FC1706



(c) FC1707

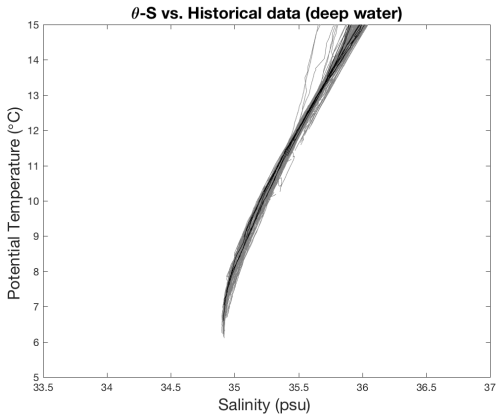


(d) FC1710

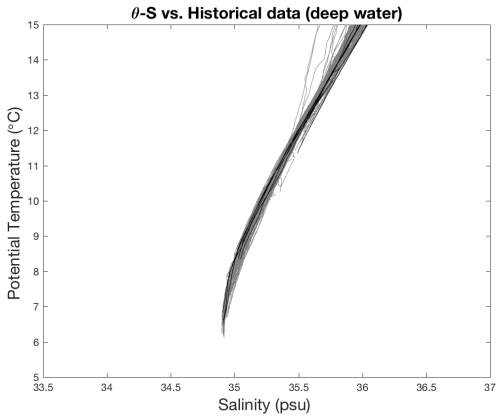


(e) FC1712

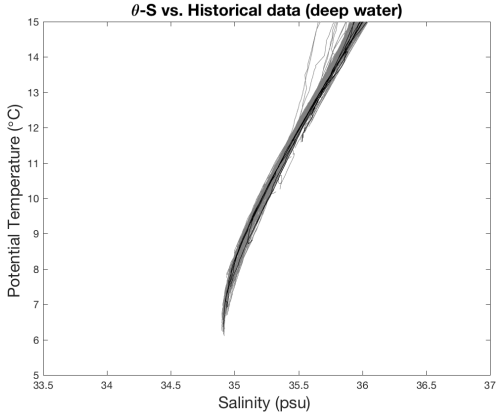
Figure 10: Potential Temperature - Salinity diagram for all stations. The solid black lines are the data collected during this cruise; the solid gray lines are data from the historical database.



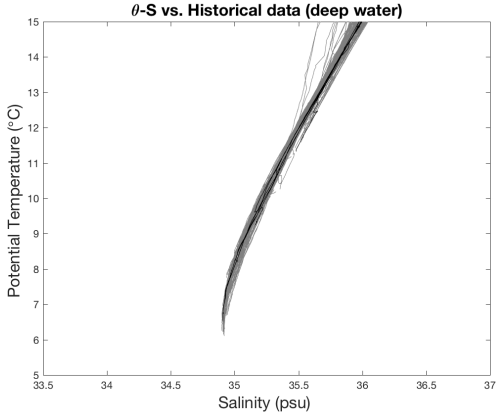
(a) FC1702



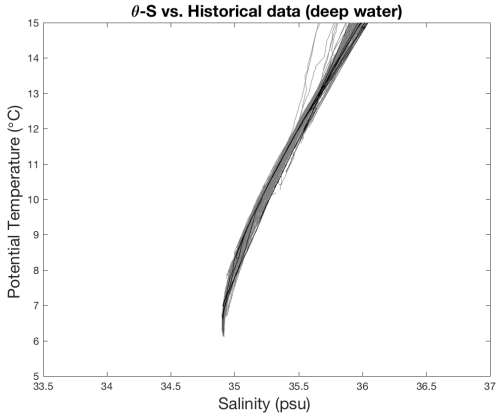
(b) FC1706



(c) FC1707



(d) FC1710



(e) FC1712

Figure 11: Potential Temperature - Salinity diagram for all stations. The solid black lines are the data collected during this cruise; the solid gray lines are data from the historical database.

5.5 Dissolved Oxygen

Three SBE43 dissolved O_2 (DO) sensors were used these four cruises (Table 11). Due to a hysteresis problem with the oxygen sensors the DO sensors were calibrated to dissolved O2 check samples by matching the up cast bottle trips to down cast CTD data along neutral density surfaces, calculating CTD dissolved O_2, and then minimizing the residuals using a non-linear least-squares fitting procedure.

The algorithm used for converting oxygen sensor current and probe temperature measurements as described, requires a non-linear least squares regression technique in order to determine the best fit coefficients of the model for oxygen sensor behavior to the water sample observations. A non-linear least squares regression using the Gauss-Newton algorithm with Levenberg-Marquardt modifications for global convergence is used to profiles to the bottle data. This algorithm is independent of the first coefficients guess and demonstrates excellent convergence. This `oxfit.m` routine includes an optional time drift term (related with the station number), allowing all stations to be calibrated without breaking into discrete groupings. The Owens and Millard (1985) algorithm was modified as follows:

$$O\ (ml/l) = \{Soc * (V + V_{offset} + tau(T,S) * \frac{\delta v}{\delta t}) + p1 * station\}$$
$$*(1.0 + A * T + B * T^2 + C * T^3) * OXSAT(T,S) * e^{E*(\frac{P}{K})}$$

with

	FC1702 S/N 2082	FC1706 S/N 2712	FC1707 S/N 2712
Soc	0.417708409	0.434797392	0.398602908
V_offset	-0.490390395	-0.534816691	-0.463981168
A	-0.007336111	0.002737843	0.001438383
B	0.000539523	-0.000175129	0.000121076
C	-8.69357E-06	3.15767E-06	-2.99306E-06
E	0.049442786	0.040254901	0.046035983
tau	0.180326526	0.675241993	0.486010428
$p1$	0	0	0

	FC1710 S/N 2712	FC1712 S/N 2712
Soc	0.449778529	0.453653161
V_offset	-0.496004244	-0.502803899
A	-0.001321588	-0.007222701
B	3.00713E-05	0.000524189
C	-3.1359E-07	-1.13981E-05
E	0.034739507	0.036576635
tau	0.254434243	1.274530594
$p1$	0	0

where Soc, tau, V_{offset}, A, B, C, E and $p1$ are the calibration coefficients shown above and V is the instrument voltage (V). T, S and P are the temperature, salinity and pressure measured by the CTD. K is the temperature in the absolute scale, $station$ is the station number, and $OXSAT$ is the oxygen saturation.

For FC1702 a comparison between the primary and secondary sensors (Figure 12) was evaluated. The sensors show a median difference of 2.92 $umol/kg$ and a standard deviation of 1.19 $umol/kg$. The primary sensor, s/n 2082, was used for all the final data values (Figure 13). After data reduction 54 data points (94.74%) were used in the final calculations. By minimizing the differences between the oxygen samples and the CTD oxygen estimated from the equation described in this section, the new coefficients above were calculated and then applied to the CTD original data (Figure 14 to Figure 15). The median is -0.02 $umol/kg$ and the standard deviation 0.85 $umol/kg$.

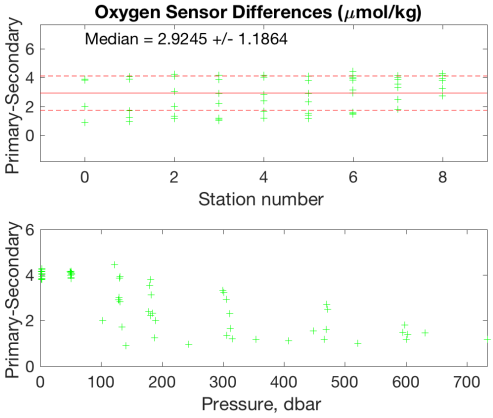
For FC1706 a comparison between the primary and secondary sensors (Figure 12) was evaluated. The sensors show a median difference of 2.25 $umol/kg$ and a standard deviation of 0.9 $umol/kg$. The secondary sensor, s/n 2712, was used for all the final data values (Figure 13). After data reduction 55 data points (94.83%) were used in the final calculations. By minimizing the differences between the oxygen samples and the CTD oxygen estimated from the equation described in this section, the new coefficients above were calculated and then applied to the CTD original data (Figure 14 to Figure 15). The median is -0.0008 $umol/kg$ and the standard deviation 0.52 $umol/kg$.

For FC1707 a comparison between the primary and secondary sensors (Figure 12) was evaluated. The sensors show a median difference of 2.76 $umol/kg$ and a standard deviation of 0.82 $umol/kg$. The secondary sensor, s/n 2712, was used for all the final data values (Figure 13). After data reduction 52 data points (89.66%) were used in the final calculations. By minimizing the differences between the oxygen samples and the CTD oxygen estimated from the equation described in this section, the new coefficients above were calculated and then applied to the CTD original data (Figure 14 to Figure 15). The median is 0.042 $umol/kg$ and the standard deviation 0.74 $umol/kg$.

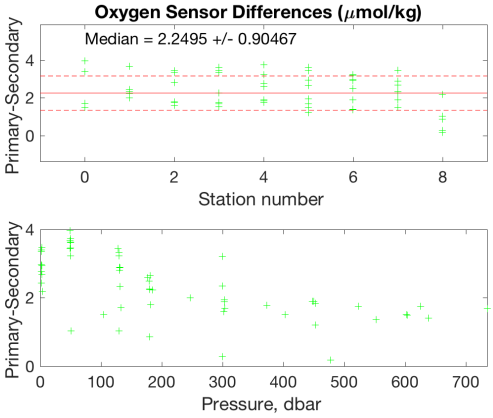
For FC1710 a comparison between the primary and secondary sensors (Figure 12) was evaluated. The sensors show a median difference of 3.42 $umol/kg$ and a standard deviation of 0.88 $umol/kg$. The secondary sensor, s/n 2712, was used for all the final data values (Figure 13). After data reduction 43 data points (74.14%) were used in the final calculations. By minimizing the differences between the oxygen samples and the CTD oxygen estimated from the equation described in this section, the new coefficients above were calculated and then applied to the CTD original data (Figure 14 to Figure 15). The median is -0.082 $umol/kg$ and the standard deviation 1.69 $umol/kg$.

For FC1712 a comparison between the primary and secondary sensors (Figure 12) was evaluated. The sensors show a median difference of 3.77 $umol/kg$ and a standard deviation of 1.05 $umol/kg$. The secondary sensor, s/n 2712, was used for all the final data values (Figure 13). After data reduction 54 data points (93.1%) were used in the final calculations. By minimizing the differences between the oxygen samples and the CTD oxygen estimated from the equation described in this section, the new coefficients above were calculated and then applied to the CTD original data (Figure 14 to Figure 15). The median is -0.11 $umol/kg$ and the standard deviation 1.54 $umol/kg$. Note: Bottle oxygen values were adjusted. See section 4.4.2.

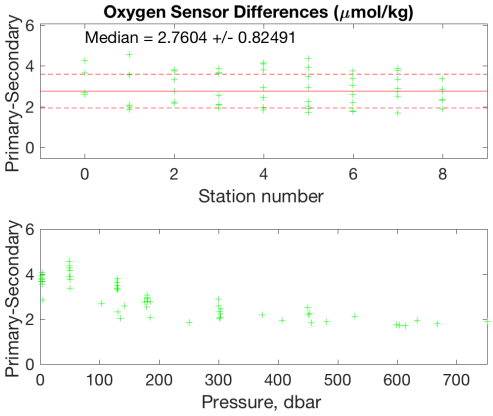
A final verification about the quality of the data, like in the salinity data, was made by comparing the results of this cruise with some historical data available at the location of the Florida Straits section (Figure 16 & 17).



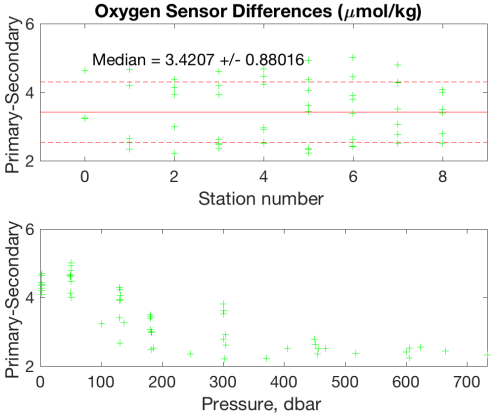
(a) FC1702



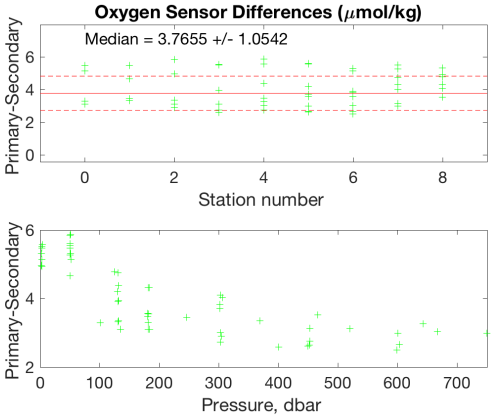
(b) FC1706



(c) FC1707

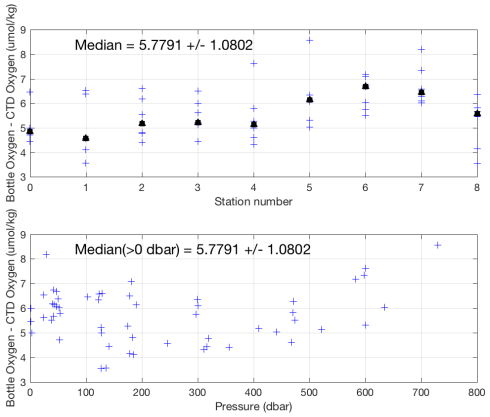


(d) FC1710

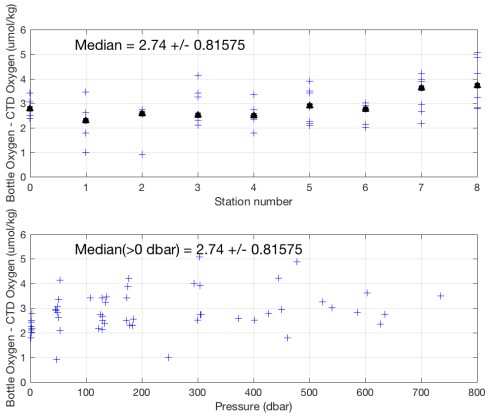


(e) FC1712

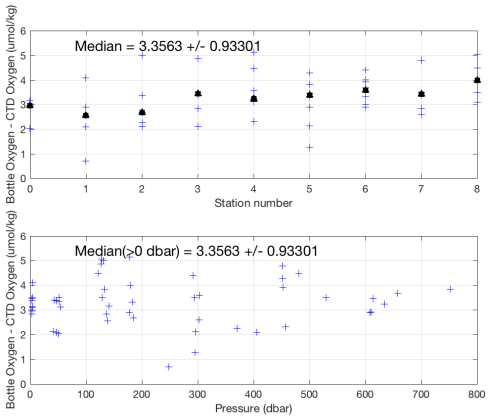
Figure 12: Dissolved oxygen differences between sensors by station (top) and by pressure (bottom). The red solid line represents the median with the red dashed representing the standard deviation.



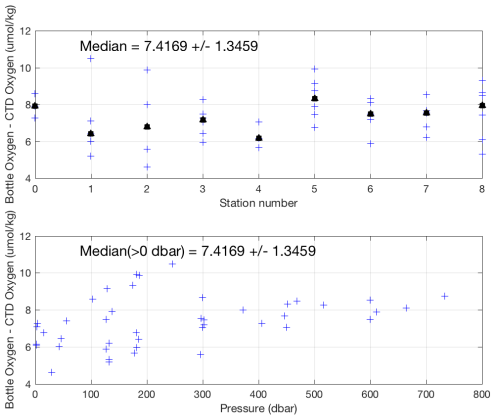
(a) FC1702



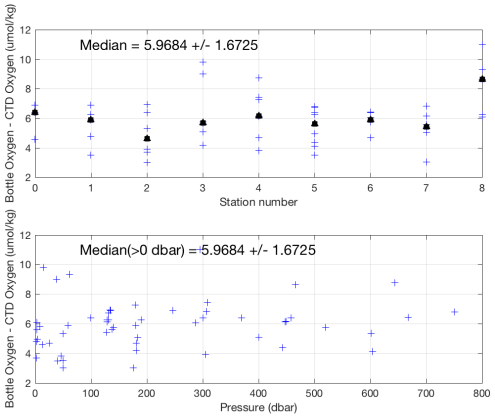
(b) FC1706



(c) FC1707

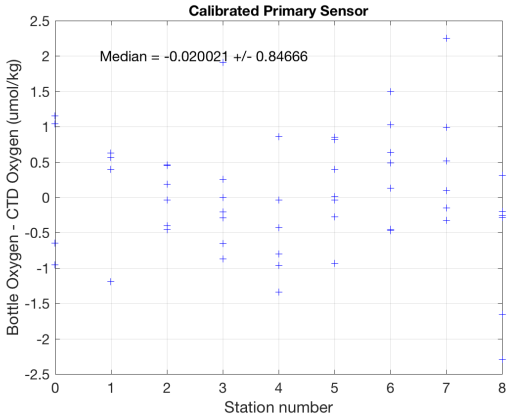


(d) FC1710



(e) FC1712

Figure 13: Bottle and uncalibrated CTD oxygen differences plotted against station number. The green crosses represent all data points and the blue are the data points below 1000 dbar. The median was calculated using only the data below 1000 dbar.



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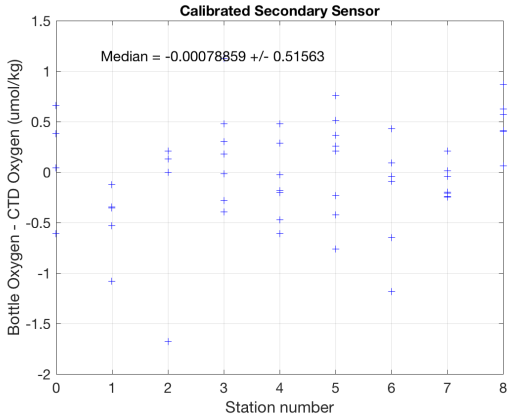

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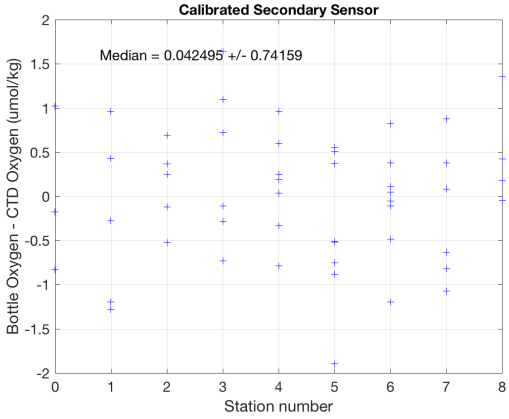
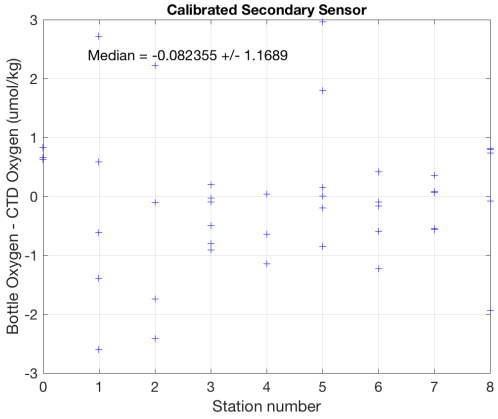


(c) FC1707



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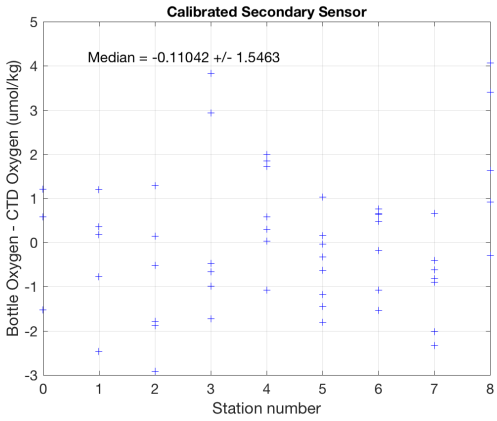
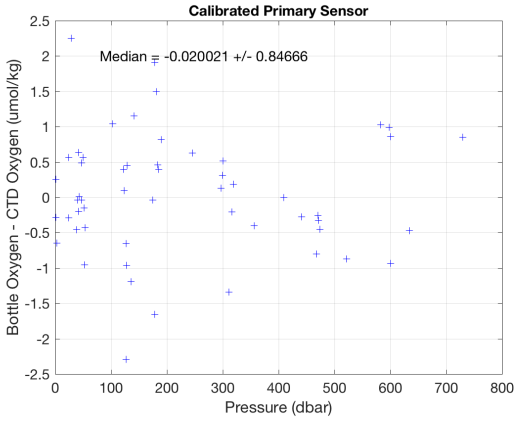
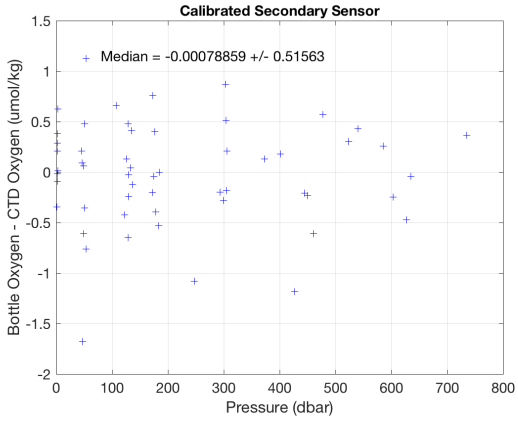


(e) FC1712

Figure 14: Bottle and calibrated CTD oxygen differences plotted vs. station.



(a) FC1702



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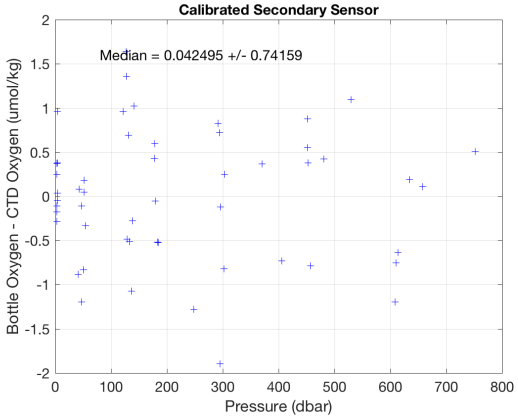
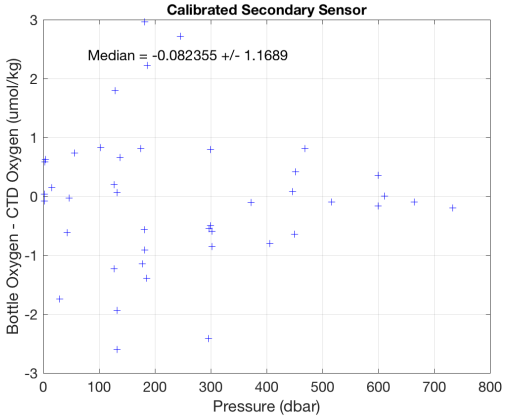
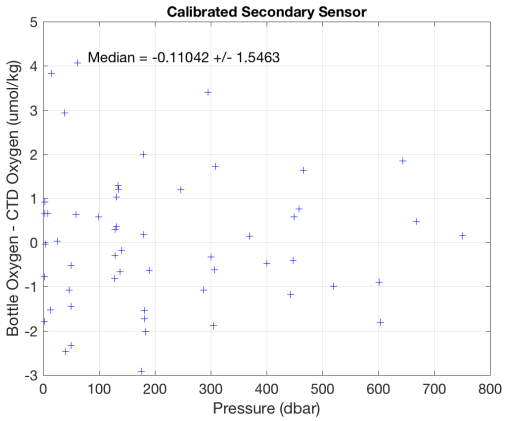


(c) FC1707

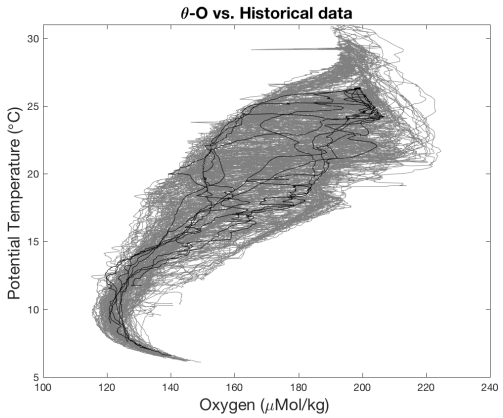


(d) FC1710

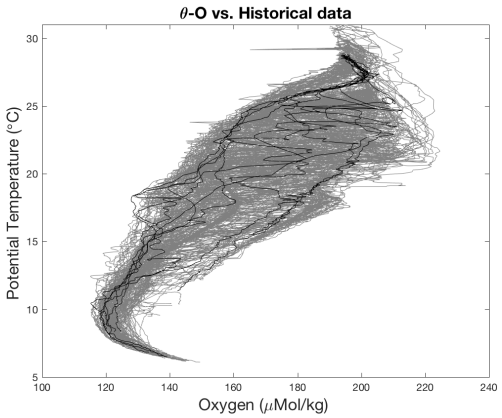


(e) FC1712

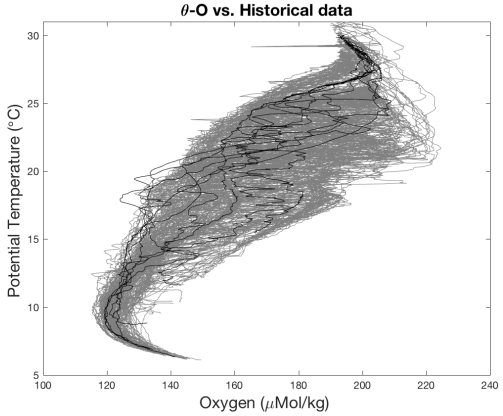
Figure 15: Bottle and calibrated CTD oxygen differences plotted vs. pressure.



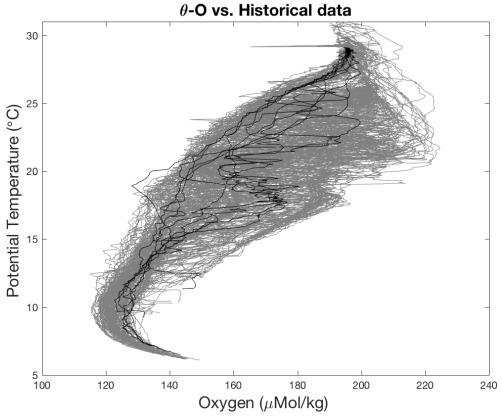
(a) FC1702



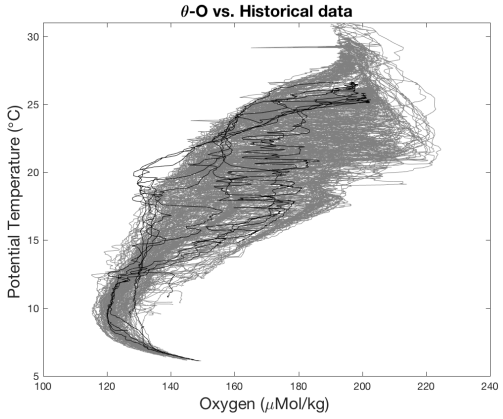
(b) FC1706



(c) FC1707

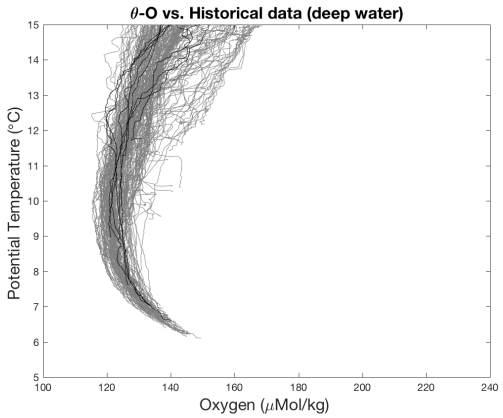


(d) FC1710



(e) FC1712

Figure 16: Potential Temperature - Oxygen diagram for all stations. The solid black lines are the data collected during this cruise; the solid gray lines are data from the historical database.



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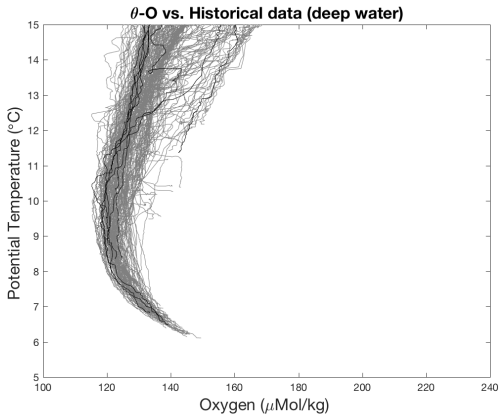
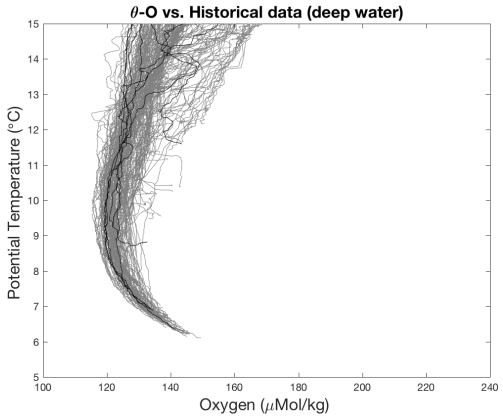
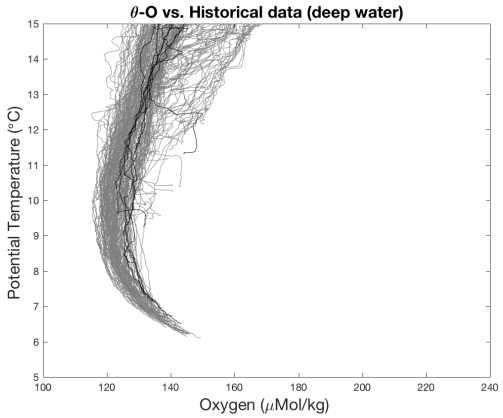


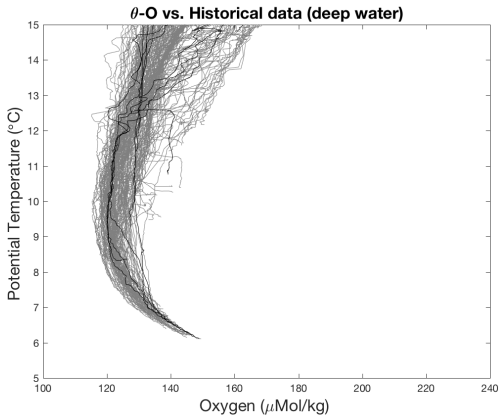
(b) FC1706



(c) FC1707



(d) FC1710



(e) FC1712

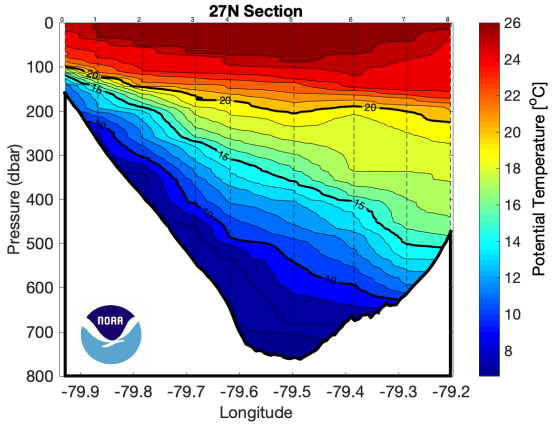
Figure 17: Potential Temperature - Oxygen diagram for all stations. The solid black lines are the data collected during this cruise; the solid gray lines are data from the historical database.

6 Final CTD Data Presentation

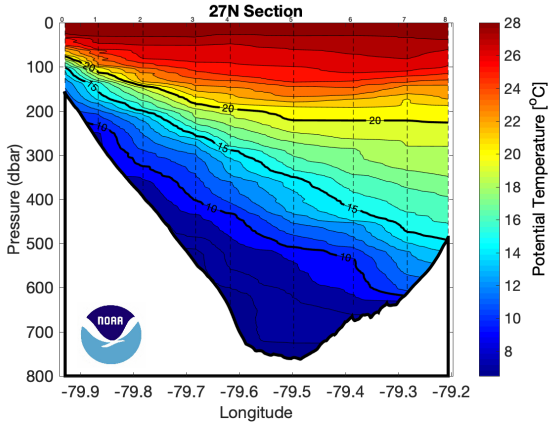
The final calibrated data files were used to produce the tables and station profile plots presented in Appendix A for each CTD station. The table on the top is in "standard depths" followed by the a table of the bottle trip depths. The corresponding profile plot is shown on the following page. Niskin bottle depths are presented on the right side of the profile plot. Bottle salinity and oxygen values are plotted as points in the three smaller plots.

Vertical sections of potential temperature, CTD salinity, potential density, and CTD oxygen are contoured with pressure as the vertical axis. The Florida Current Section uses longitude as the horizontal axis (Figure 18 to Figure 21).

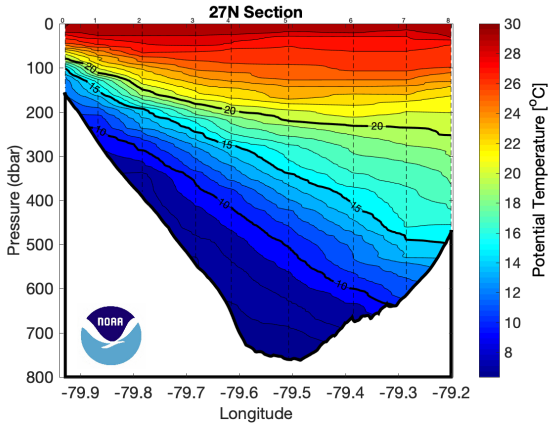
Post-cruise calibrations were applied to CTD data associated with bottle data using Matlab sub-routines (`apply_calibration.m`). WOCE quality flags were appended to bottle data records. "Bad values" (WOCE quality control value = 4) were flagged if the bottle samples failed the initial quality control and were not used for the calibration (which meant they typically fell outside 2.57 standard deviations of the difference between samples and uncalibrated CTD values). A second pass is applied, using the value of 2.5 times the standard deviation of the difference between calibrated CTD values and bottle samples, where bottle values may be flagged as "bad values" or as questionable (WOCE quality control value = 3).



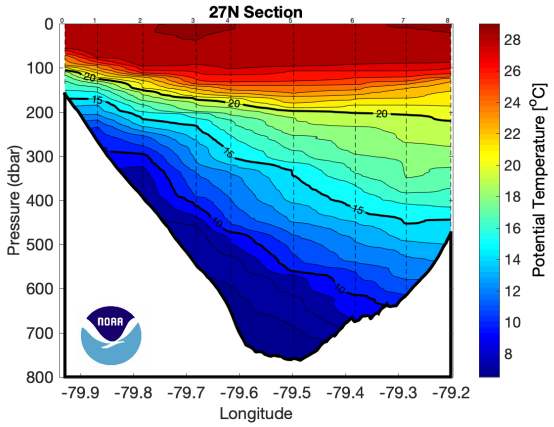
(a) FC1702



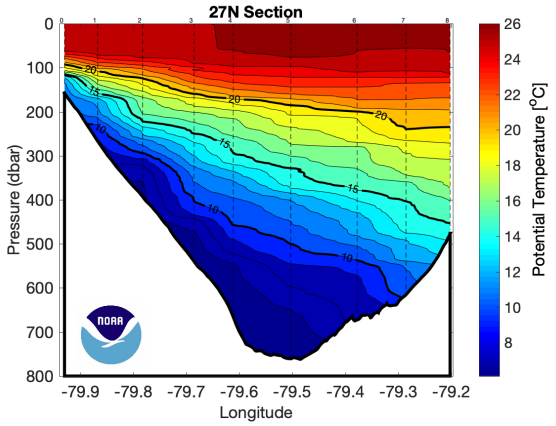
(b) FC1706



(c) FC1707

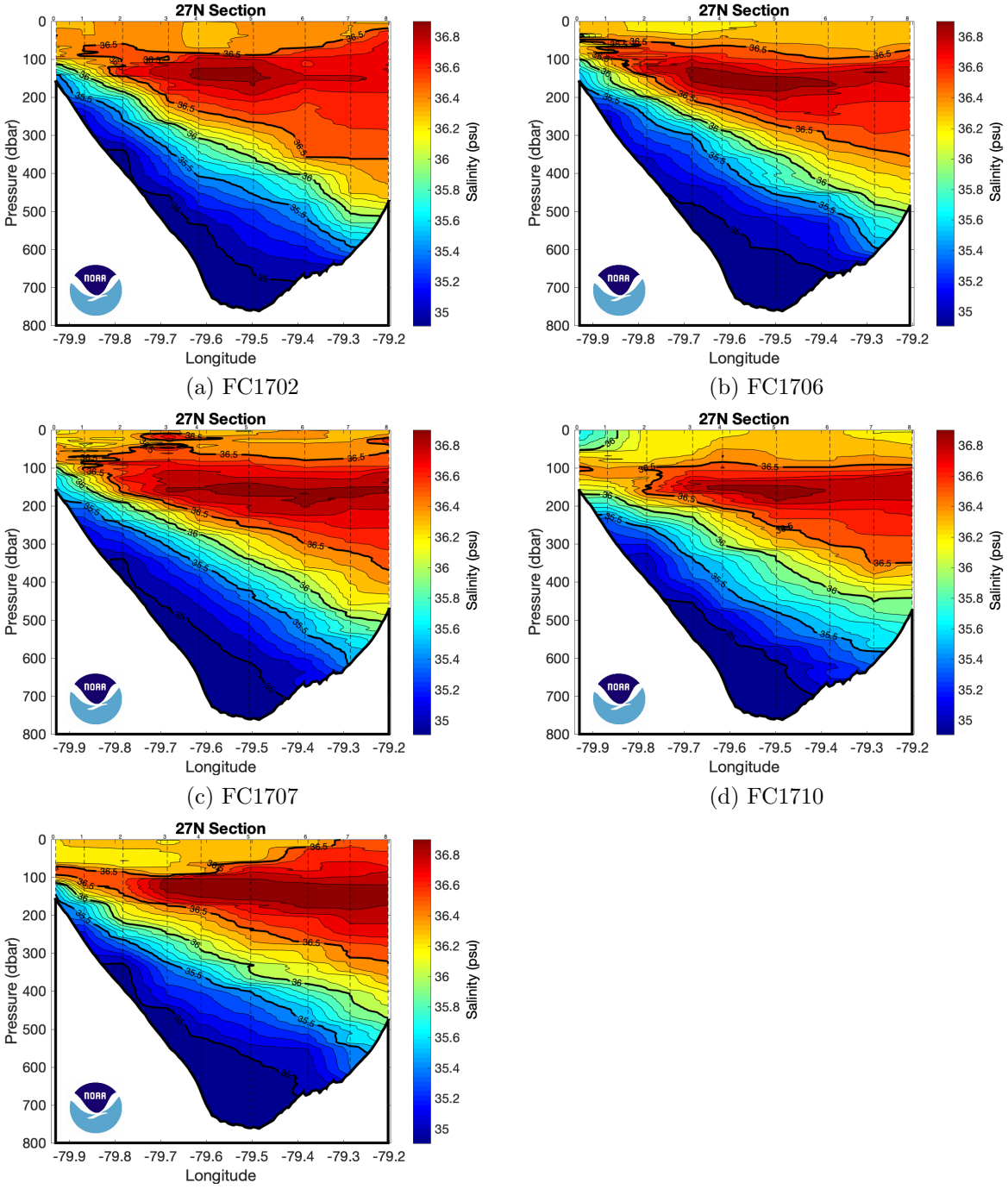


(d) FC1710



(e) FC1712

Figure 18: Potential Temperature (°C) section for the Florida Current North section. Dashed vertical lines are the CTD station locations.



(a) FC1702

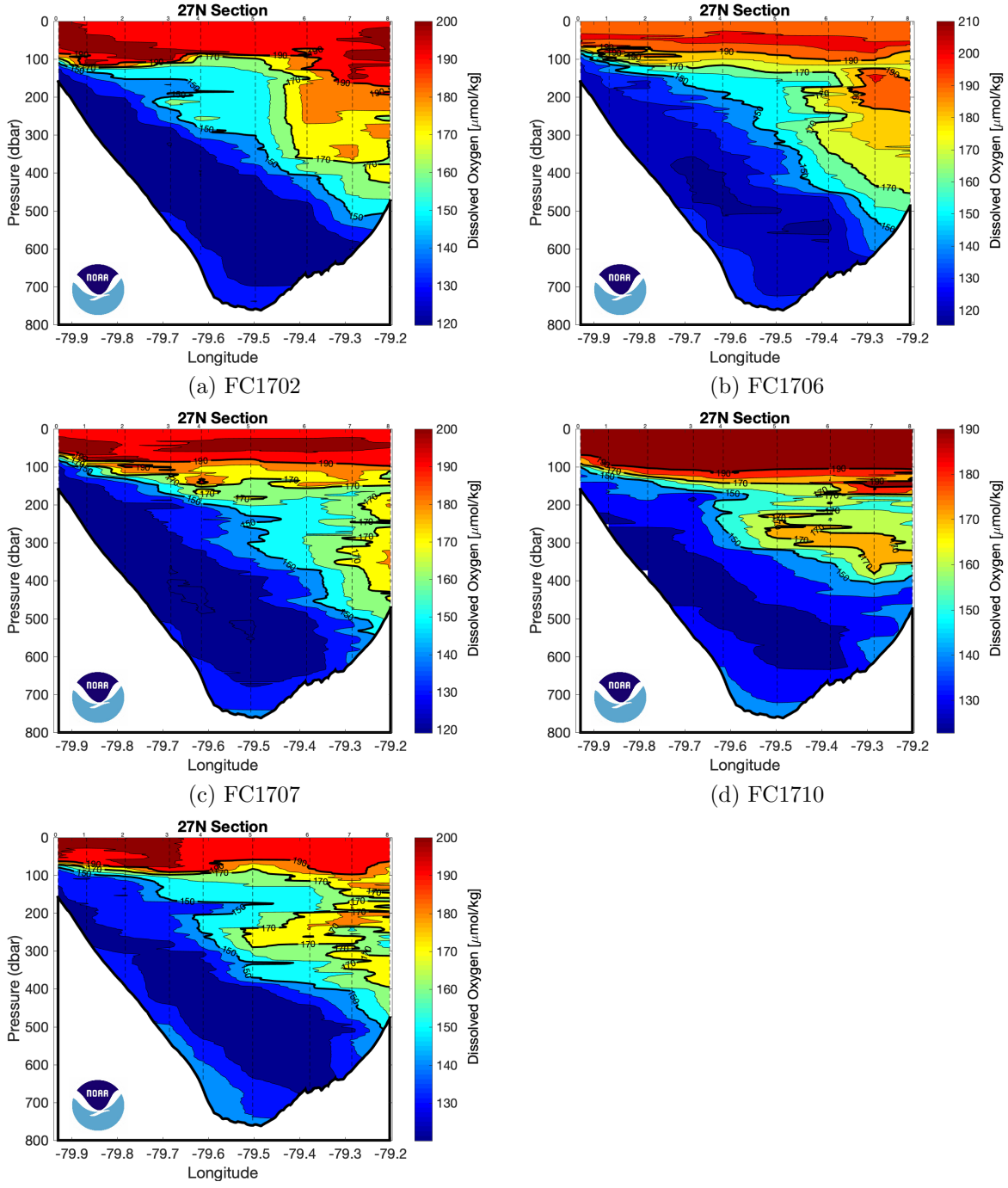
(b) FC1706

(c) FC1707

(d) FC1710

(e) FC1712

Figure 19: Salinity (PSS 78) section for the Florida Current North section. Dashed vertical lines are the CTD station locations.



(a) FC1702

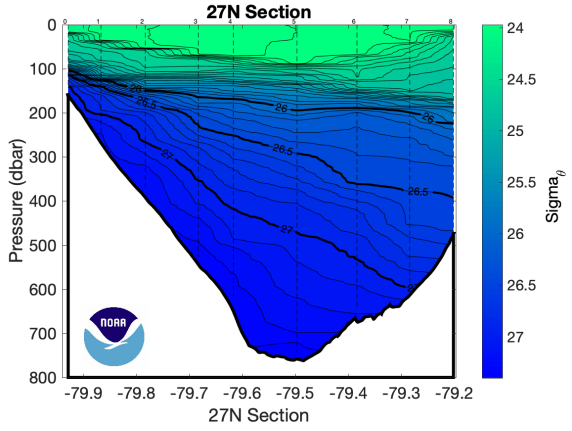
(b) FC1706

(c) FC1707

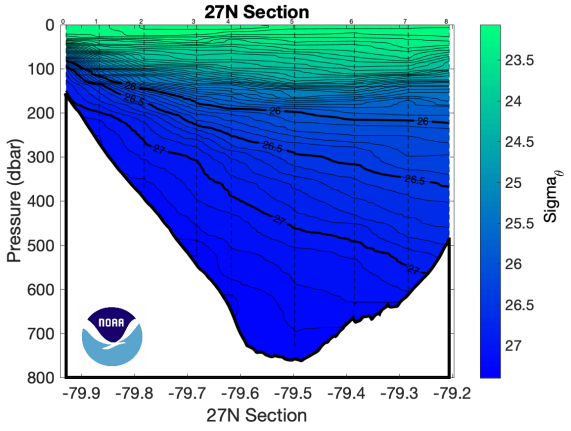
(d) FC1710

(e) FC1712

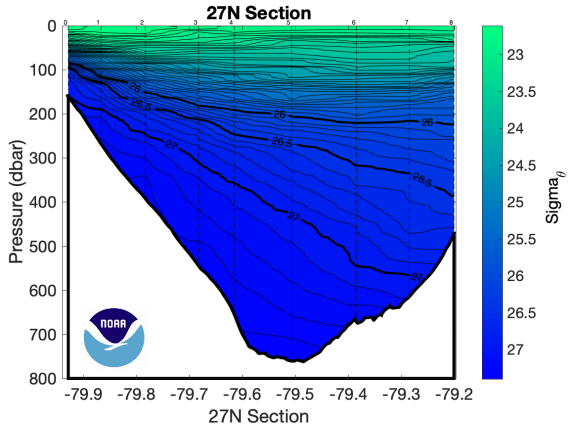
Figure 20: Dissolved Oxygen ($umol/kg$) section for the Florida Current North section. Dashed vertical lines are the CTD station locations.



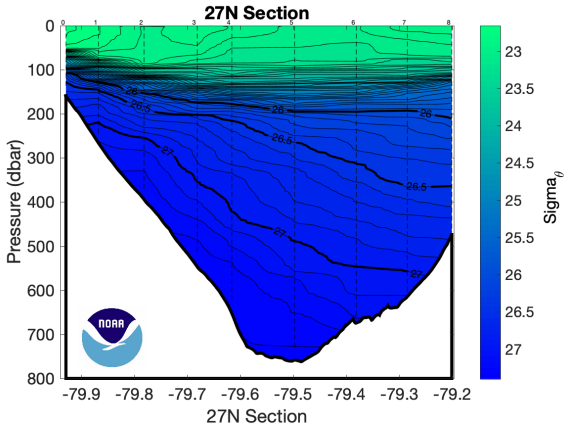
(a) FC1702



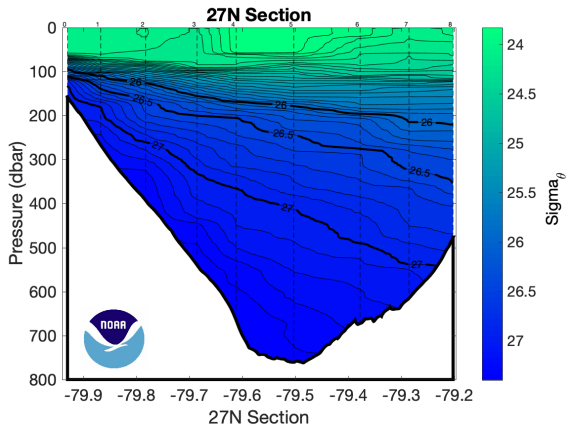
(b) FC1706



(c) FC1707



(d) FC1710



(e) FC1712

Figure 21: Neutral density (kg/m3) section for the Florida Current North section. Dashed vertical lines are the CTD station locations.

7 Acknowledgements

The successful completion of the cruise relied on dedicated assistance from many individuals on shore and on the UNOLS ship Walton Smith. Funded investigators in the project and members of the Western Boundary Time Series, and the RAPID/MOC programs were instrumental in planning and executing the cruise. The participants in the cruise, Ryan Smith, Grant Rawson, Pedro Pena, Tom Sevilla, Shaun Dolk, Erik Valdes and Denis Volkov showed dedication and camaraderie during the cruise. Officers and crew of the Walton Smith exhibited a high degree of professionalism and assistance to accomplish the mission and to make us feel at home during the voyage.

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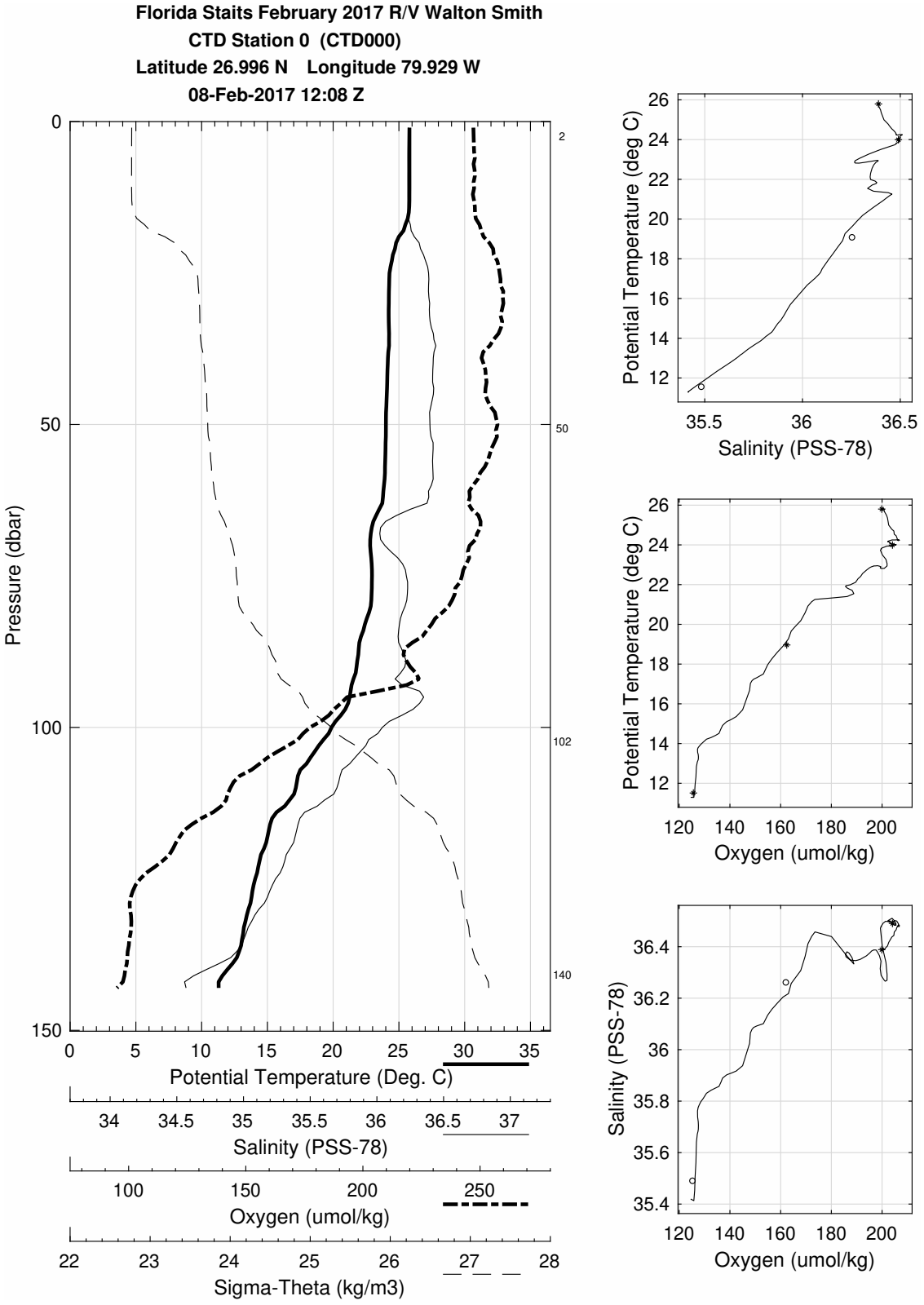
A Hydrographic - CTD Data

A.1 FC1702

Florida Staits February 2017 R/V Walton Smith
CTD Station 0 (CTD000)
Latitude 26.996N Longitude 79.929W
08-Feb-2017 12:08Z

Pressure dbar	Temp90 °C	PoTemp90 °C	Salinity PSS-78	Oxygen μmol·kg^{-1}	DynHt m^2·s^{-2}	SigT kg·m^{-3}
1	25.802	25.802	36.390	200.5	0.004	24.144
10	25.804	25.802	36.388	200.5	0.038	24.143
20	24.792	24.787	36.437	203.8	0.074	24.493
30	24.240	24.234	36.484	206.8	0.107	24.695
50	24.023	24.012	36.485	205.6	0.172	24.762
75	22.968	22.953	36.382	198.0	0.249	24.996
100	19.893	19.875	36.277	165.6	0.317	25.769
125	14.091	14.072	35.810	129.5	0.358	26.798

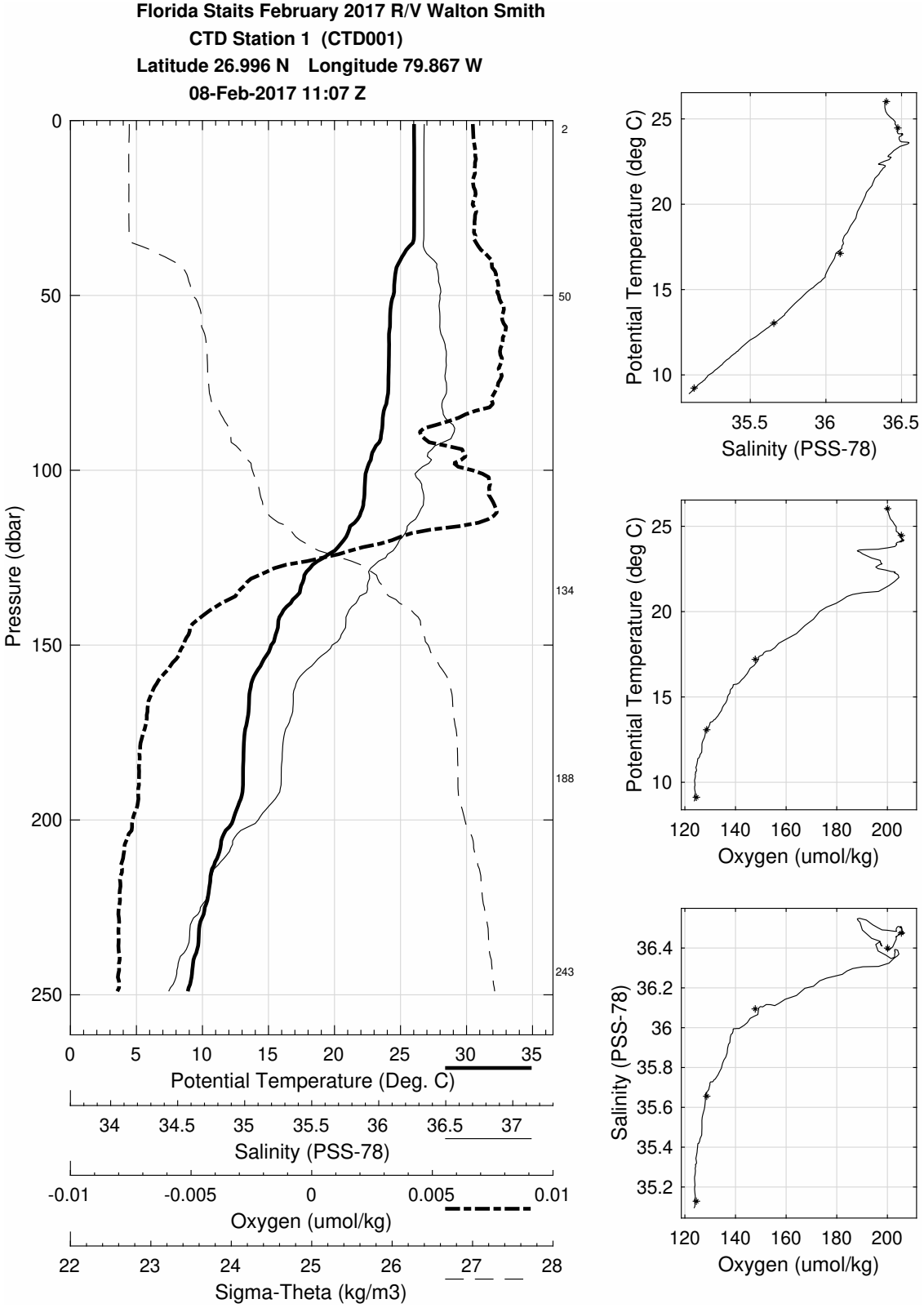
Pressure dbar	Niskin	Temp90 °C	PoTemp90 °C	Salinity PSS-78	Oxygen μmol·kg^{-1}
141	1	11.528	11.511	35.487	125.6
102	2	19.052	19.033	36.258	162.4
51	3	24.006	23.996	36.490	204.1
2	4	25.793	25.793	36.389	199.9


Florida Staits February 2017 R/V Walton Smith
CTD Station 0 (CTD000)
Latitude 26.996 N Longitude 79.929 W
08-Feb-2017 12:08 Z
Pressure (dbar)
Potential Temperature (Deg. C)
Salinity (PSS-78)
Oxygen (umol/kg)
Sigma-Theta (kg/m3)
Potential Temperature (deg C)
Salinity (PSS-78)
Potential Temperature (deg C)
Oxygen (umol/kg)
Salinity (PSS-78)
Oxygen (umol/kg)

Florida Staits February 2017 R/V Walton Smith
CTD Station 1 (CTD001)
Latitude 26.996N Longitude 79.867W
08-Feb-2017 11:07Z

Pressure dbar	Temp90 °C	PoTemp90 °C	Salinity PSS-78	Oxygen μmol·kg^{-1}	DynHt m^2·s^{-2}	SigT kg·m^{-3}
1	26.027	26.027	36.394	199.4	0.004	24.077
10	26.040	26.037	36.392	199.9	0.038	24.073
20	26.037	26.033	36.393	199.9	0.077	24.074
30	26.039	26.032	36.392	199.8	0.115	24.074
50	24.472	24.461	36.474	205.0	0.186	24.619
75	24.101	24.085	36.507	204.8	0.267	24.757
100	22.454	22.434	36.365	199.3	0.344	25.132
125	19.205	19.183	36.198	167.4	0.410	25.890
150	15.232	15.208	35.926	137.7	0.452	26.639
200	12.347	12.321	35.549	126.8	0.514	26.954

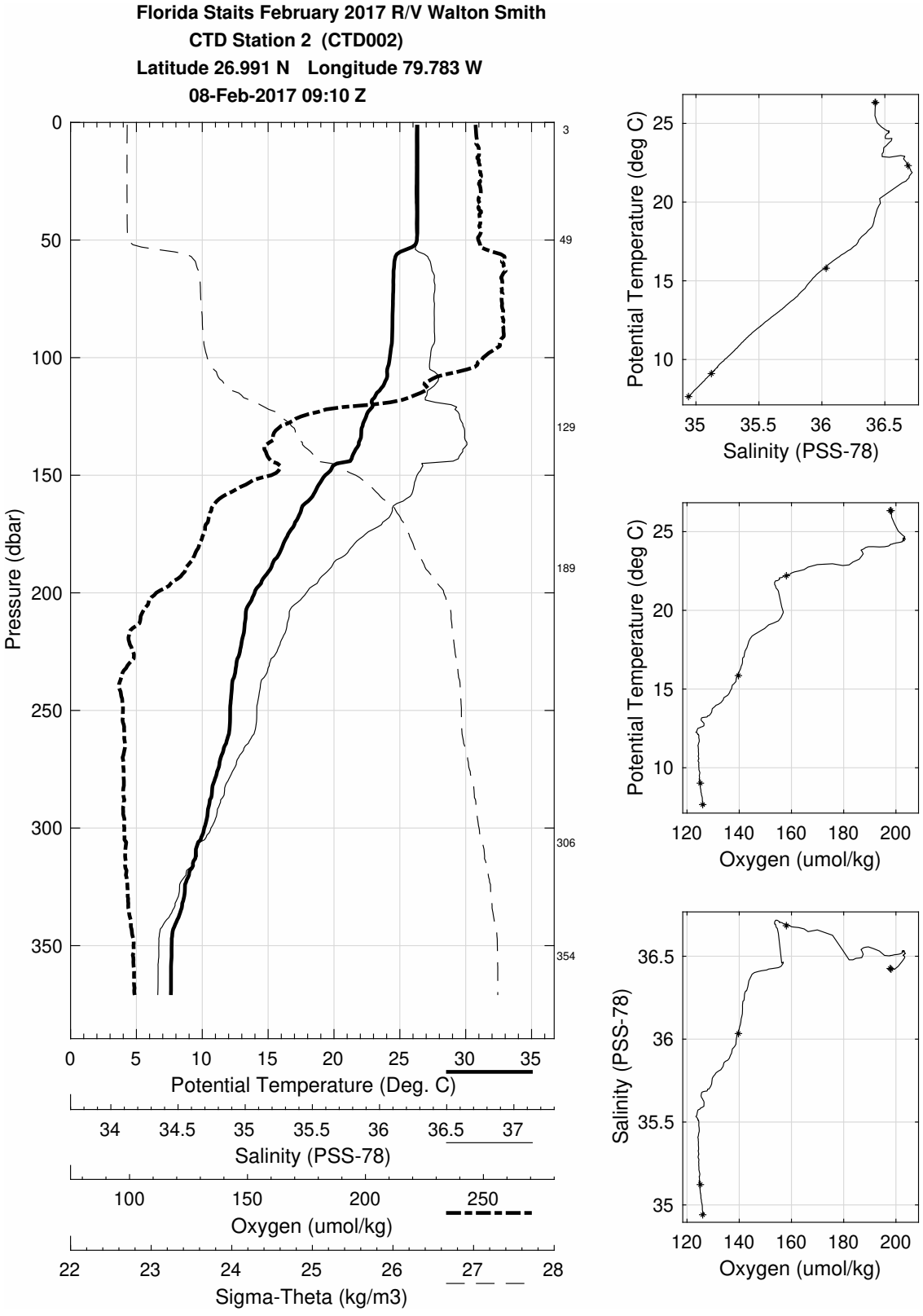
Pressure dbar	Niskin	Temp90 °C	PoTemp90 °C	Salinity PSS-78	Oxygen μmol·kg^{-1}
243	1	9.256	9.229	35.129	124.5
188	2	13.056	13.030	35.656	128.6
134	3	17.144	17.121	36.094	147.8
50	4	24.481	24.470	36.476	205.5
3	5	26.016	26.015	36.400	200.1


Florida Staits February 2017 R/V Walton Smith
CTD Station 1 (CTD001)
Latitude 26.996 N Longitude 79.867 W
08-Feb-2017 11:07 Z
Pressure (dbar)
Potential Temperature (Deg. C)
Salinity (PSS-78)
Oxygen (umol/kg)
Sigma-Theta (kg/m3)
Potential Temperature (deg C)
Salinity (PSS-78)
Potential Temperature (deg C)
Oxygen (umol/kg)
Salinity (PSS-78)
Oxygen (umol/kg)

Florida Staits February 2017 R/V Walton Smith
CTD Station 2 (CTD002)
Latitude 26.991N Longitude 79.783W
08-Feb-2017 09:10Z

Pressure dbar	Temp90 °C	PoTemp90 °C	Salinity PSS-78	Oxygen μmol·kg^{-1}	DynHt m^2·s^{-2}	SigT kg·m^{-3}
1	26.334	26.334	36.423	197.3	0.004	24.002
10	26.340	26.338	36.422	197.8	0.039	24.000
20	26.340	26.336	36.422	198.4	0.078	24.001
30	26.340	26.333	36.420	198.4	0.117	24.001
50	26.307	26.295	36.426	197.9	0.196	24.017
75	24.497	24.481	36.528	202.7	0.281	24.654
100	24.259	24.237	36.507	198.9	0.363	24.712
125	22.471	22.446	36.675	161.2	0.439	25.365
150	19.363	19.335	36.431	155.0	0.499	26.029
200	14.001	13.972	35.797	131.1	0.579	26.809
250	12.149	12.116	35.513	124.2	0.639	26.965
300	10.183	10.148	35.250	124.5	0.693	27.122

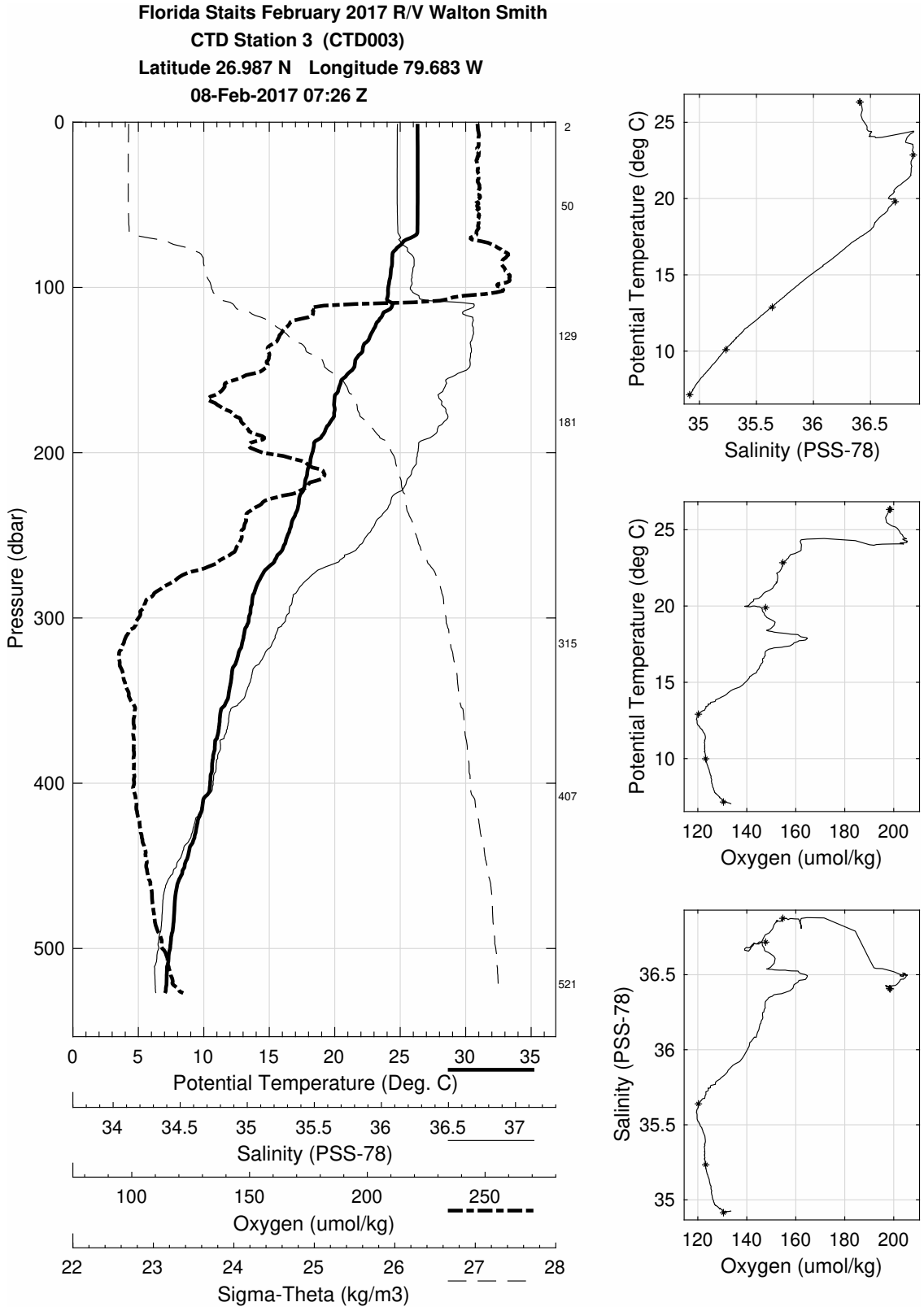
Pressure dbar	Niskin	Temp90 °C	PoTemp90 °C	Salinity PSS-78	Oxygen μmol·kg^{-1}
354	1	7.682	7.646	34.941	126.0
306	2	9.138	9.104	35.123	125.1
189	3	15.829	15.799	36.034	139.7
130	4	22.341	22.315	36.684	158.1
50	5	26.341	26.329	36.426	197.8
3	6	26.325	26.325	36.422	198.1


Florida Staits February 2017 R/V Walton Smith
CTD Station 2 (CTD002)
Latitude 26.991 N Longitude 79.783 W
08-Feb-2017 09:10 Z
Pressure (dbar)
Potential Temperature (Deg. C)
Salinity (PSS-78)
Oxygen (umol/kg)
Sigma-Theta (kg/m3)
Potential Temperature (deg C)
Salinity (PSS-78)
Potential Temperature (deg C)
Oxygen (umol/kg)
Salinity (PSS-78)
Oxygen (umol/kg)

Florida Staits February 2017 R/V Walton Smith
CTD Station 3 (CTD003)
Latitude 26.987N Longitude 79.683W
08-Feb-2017 07:26Z

Pressure dbar	Temp90 °C	PoTemp90 °C	Salinity PSS-78	Oxygen μmol·kg^{-1}	DynHt m^2·s^{-2}	SigT kg·m^{-3}
1	26.325	26.325	36.409	198.3	0.004	23.994
10	26.328	26.326	36.407	198.5	0.039	23.993
20	26.337	26.333	36.407	198.7	0.078	23.990
30	26.340	26.333	36.407	198.4	0.117	23.990
50	26.342	26.331	36.407	198.3	0.196	23.991
75	24.930	24.914	36.453	202.3	0.292	24.466
100	24.107	24.085	36.488	203.8	0.375	24.743
125	23.013	22.987	36.875	156.0	0.449	25.360
150	21.360	21.331	36.833	151.1	0.510	25.798
200	18.322	18.287	36.532	151.2	0.608	26.374
250	16.441	16.400	36.222	146.5	0.689	26.595
300	13.481	13.439	35.723	123.8	0.758	26.864
400	10.531	10.483	35.277	122.9	0.873	27.084
500	7.475	7.426	34.943	129.1	0.966	27.314

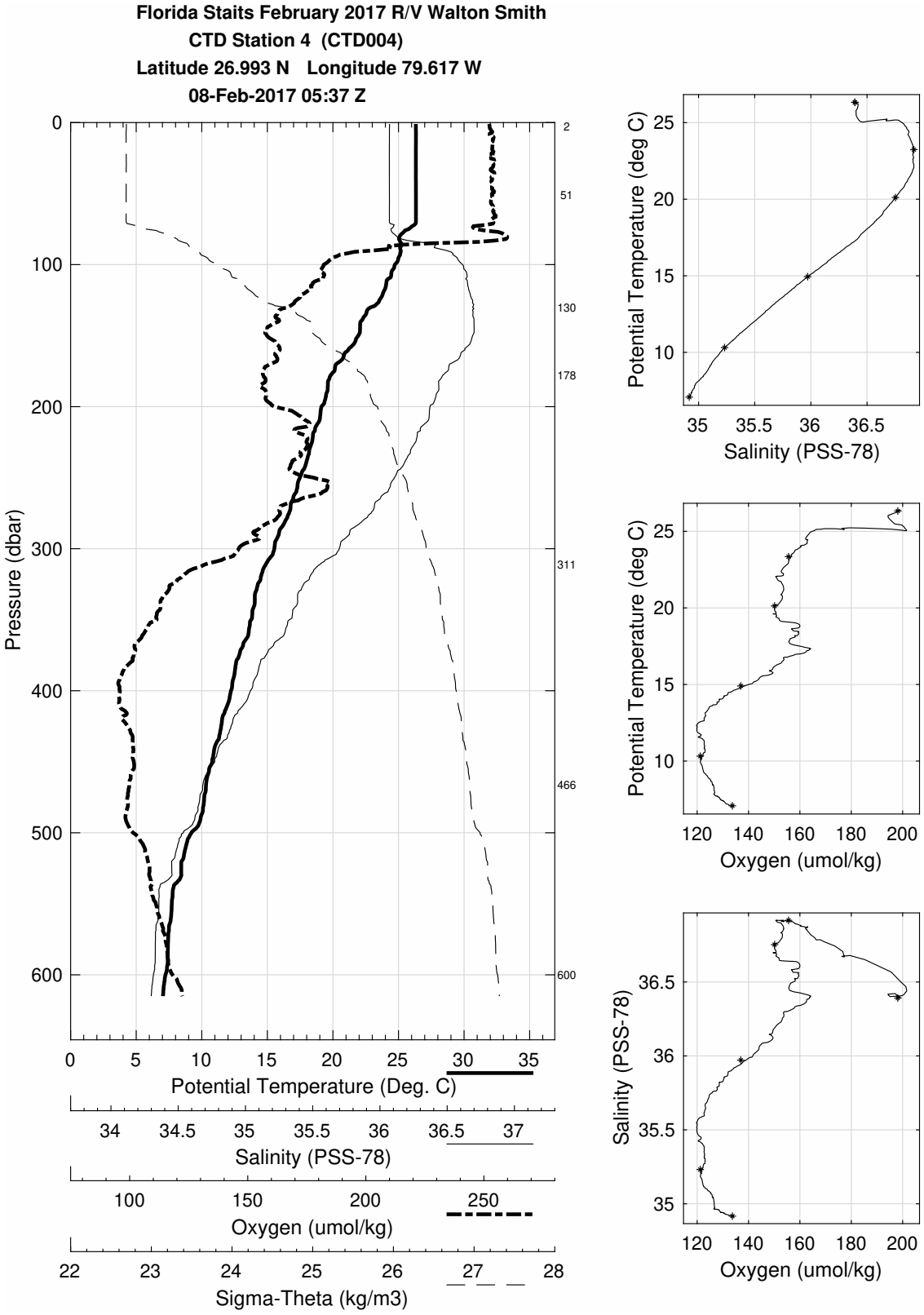
Pressure dbar	Niskin	Temp90 °C	PoTemp90 °C	Salinity PSS-78	Oxygen μmol·kg^{-1}
522	1	7.195	7.144	34.914	130.5
408	2	10.149	10.101	35.234	123.2
315	3	12.923	12.879	35.639	120.2
181	4	19.832	19.798	36.717	147.7
129	5	22.882	22.856	36.876	154.7
51	6	26.340	26.329	36.407	198.3
3	7	26.326	26.325	36.406	198.6


Florida Staits February 2017 R/V Walton Smith
CTD Station 3 (CTD003)
Latitude 26.987 N Longitude 79.683 W
08-Feb-2017 07:26 Z
Pressure (dbar)
Potential Temperature (Deg. C)
Salinity (PSS-78)
Oxygen (umol/kg)
Sigma-Theta (kg/m3)
Potential Temperature (deg C)
Salinity (PSS-78)
Potential Temperature (deg C)
Oxygen (umol/kg)
Salinity (PSS-78)
Oxygen (umol/kg)

Florida Staits February 2017 R/V Walton Smith
CTD Station 4 (CTD004)
Latitude 26.993N Longitude 79.617W
08-Feb-2017 05:37Z

Pressure dbar	Temp90 °C	PoTemp90 °C	Salinity PSS-78	Oxygen μmol·kg^{-1}	DynHt m^2·s^{-2}	SigT kg·m^{-3}
1	26.325	26.325	36.393	197.8	0.004	23.983
10	26.332	26.330	36.392	198.7	0.039	23.980
20	26.330	26.325	36.392	198.6	0.078	23.981
30	26.331	26.324	36.392	198.7	0.118	23.982
50	26.340	26.329	36.392	198.2	0.197	23.980
75	25.791	25.775	36.401	195.0	0.295	24.162
100	24.744	24.722	36.846	162.9	0.380	24.822
125	23.564	23.538	36.908	157.2	0.454	25.224
150	21.962	21.932	36.908	151.0	0.517	25.687
200	19.156	19.120	36.644	152.7	0.619	26.247
250	17.517	17.474	36.423	160.8	0.705	26.492
300	15.578	15.531	36.082	145.0	0.782	26.687
400	12.277	12.223	35.530	120.1	0.913	26.958
500	9.266	9.210	35.114	122.8	1.024	27.174
600	7.288	7.229	34.930	131.1	1.113	27.332

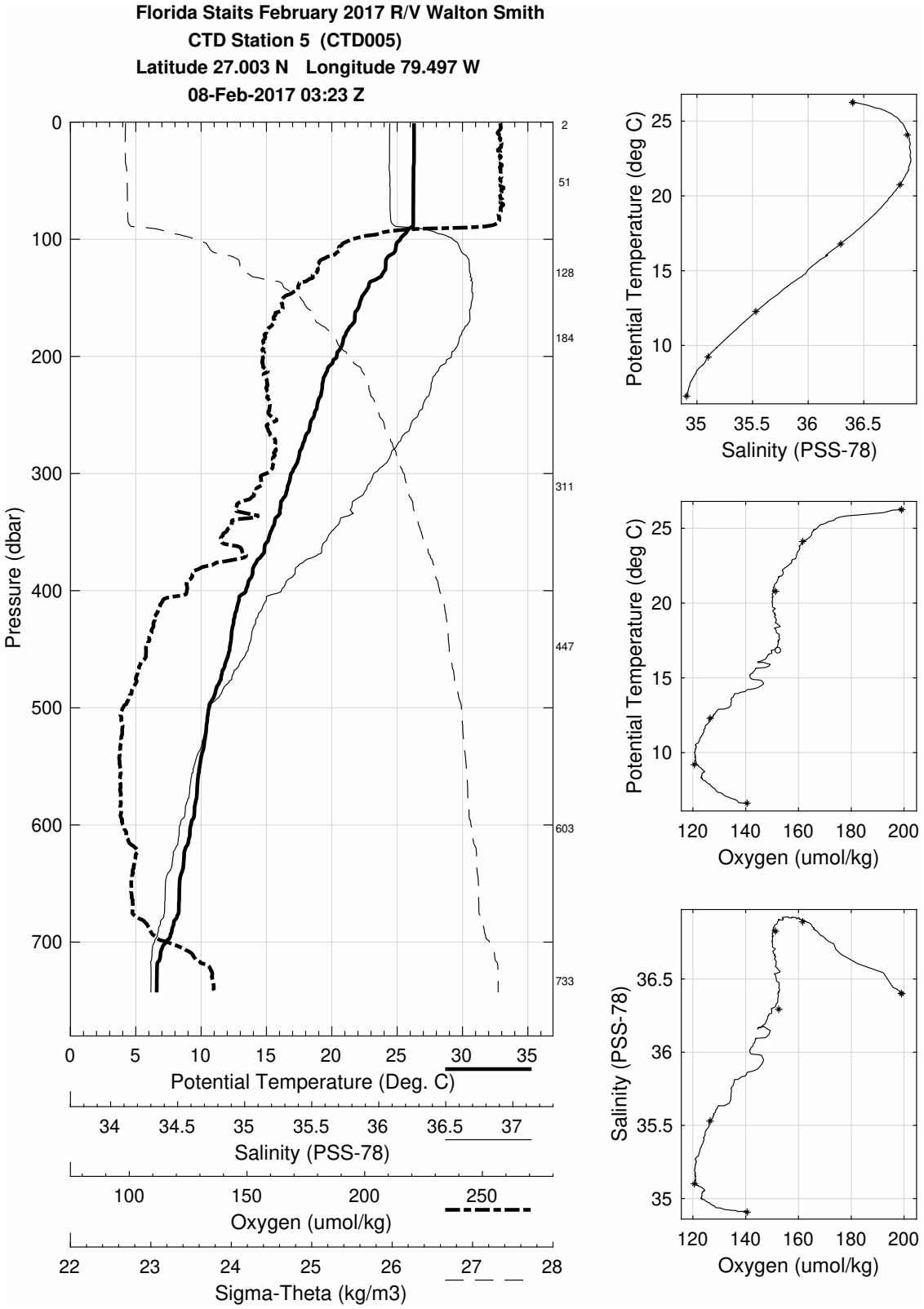
Pressure dbar	Niskin	Temp90 °C	PoTemp90 °C	Salinity PSS-78	Oxygen μmol·kg^{-1}
601	1	7.138	7.080	34.917	133.7
466	2	10.367	10.310	35.232	121.2
312	3	14.990	14.942	35.971	137.0
178	4	20.145	20.112	36.753	150.2
131	5	23.265	23.237	36.917	155.6
51	6	26.343	26.331	36.391	198.1
3	7	26.322	26.321	36.392	206.8


Florida Staits February 2017 R/V Walton Smith
CTD Station 4 (CTD004)
Latitude 26.993 N Longitude 79.617 W
08-Feb-2017 05:37 Z
Pressure (dbar)
Potential Temperature (Deg. C)
Salinity (PSS-78)
Oxygen (umol/kg)
Sigma-Theta (kg/m3)
Potential Temperature (deg C)
Salinity (PSS-78)
Potential Temperature (deg C)
Oxygen (umol/kg)
Salinity (PSS-78)
Oxygen (umol/kg)

Florida Staits February 2017 R/V Walton Smith
CTD Station 5 (CTD005)
Latitude 27.003N Longitude 79.497W
08-Feb-2017 03:23Z

Pressure dbar	Temp90 °C	PoTemp90 °C	Salinity PSS-78	Oxygen μmol·kg^{-1}	DynHt m^2·s^{-2}	SigT kg·m^{-3}
1	26.290	26.290	36.405	198.9	0.004	24.003
10	26.296	26.294	36.404	198.4	0.039	24.000
20	26.295	26.290	36.403	199.0	0.078	24.001
30	26.297	26.290	36.403	199.0	0.117	24.001
50	26.256	26.245	36.406	199.0	0.195	24.018
75	26.249	26.232	36.407	198.9	0.293	24.022
100	25.266	25.244	36.798	168.4	0.387	24.626
125	24.131	24.105	36.903	161.4	0.464	25.051
150	22.306	22.276	36.923	154.3	0.531	25.601
200	20.413	20.375	36.789	150.1	0.643	26.027
250	18.700	18.655	36.582	151.5	0.738	26.319
300	16.933	16.883	36.305	150.8	0.822	26.544
400	13.480	13.423	35.727	134.5	0.966	26.870
500	10.661	10.600	35.284	121.4	1.086	27.069
600	9.297	9.229	35.095	121.4	1.193	27.155
700	7.383	7.313	34.935	130.6	1.290	27.323

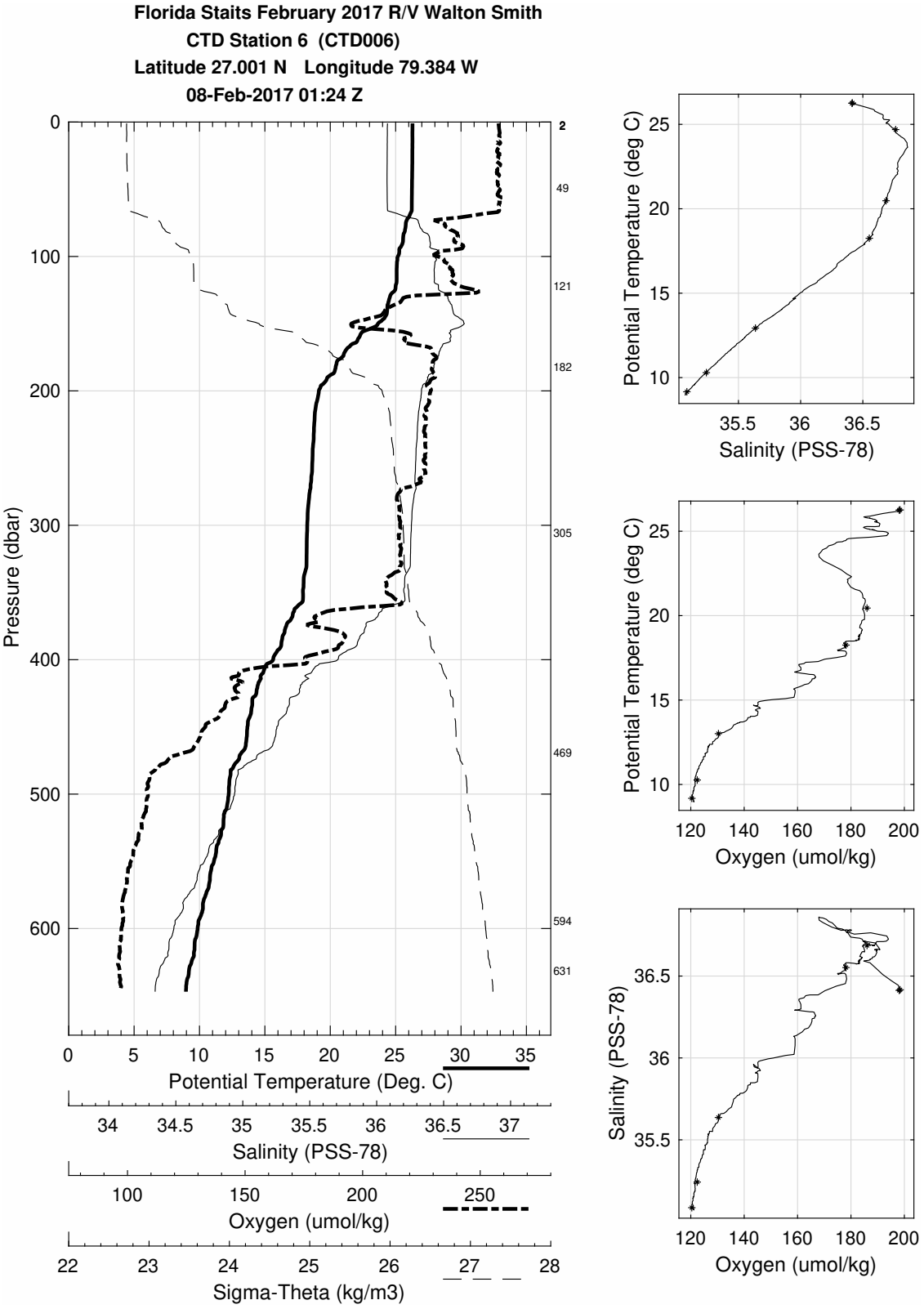
Pressure dbar	Niskin	Temp90 °C	PoTemp90 °C	Salinity PSS-78	Oxygen μmol·kg^{-1}
733	1	6.687	6.618	34.907	140.5
603	2	9.302	9.233	35.100	120.6
448	3	12.336	12.276	35.530	126.5
311	4	16.840	16.788	36.293	152.5
185	5	20.780	20.745	36.826	151.3
128	6	24.104	24.077	36.891	161.6
51	7	26.251	26.240	36.399	199.1
3	13	26.256	26.255	36.401	199.0


Florida Staits February 2017 R/V Walton Smith
CTD Station 5 (CTD005)
Latitude 27.003 N Longitude 79.497 W
08-Feb-2017 03:23 Z
Pressure (dbar)
Potential Temperature (Deg. C)
Salinity (PSS-78)
Oxygen (umol/kg)
Sigma-Theta (kg/m3)
Potential Temperature (deg C)
Salinity (PSS-78)
Potential Temperature (deg C)
Oxygen (umol/kg)
Salinity (PSS-78)
Oxygen (umol/kg)

Florida Staits February 2017 R/V Walton Smith
CTD Station 6 (CTD006)
Latitude 27.001N Longitude 79.384W
08-Feb-2017 01:24Z

Pressure dbar	Temp90 °C	PoTemp90 °C	Salinity PSS-78	Oxygen μmol·kg^{-1}	DynHt m^2·s^{-2}	SigT kg·m^{-3}
1	26.288	26.287	36.416	197.9	0.004	24.012
10	26.283	26.281	36.415	198.0	0.039	24.013
20	26.284	26.279	36.414	197.8	0.078	24.013
30	26.283	26.276	36.414	197.8	0.117	24.014
50	26.256	26.245	36.414	198.3	0.195	24.023
75	25.797	25.780	36.596	186.6	0.291	24.307
100	25.190	25.168	36.704	185.6	0.379	24.578
125	24.985	24.958	36.713	193.2	0.464	24.650
150	23.674	23.643	36.860	168.0	0.541	25.157
200	19.163	19.127	36.612	184.2	0.655	26.222
250	18.687	18.643	36.580	183.1	0.745	26.321
300	18.291	18.238	36.554	178.0	0.833	26.403
400	15.695	15.632	36.129	158.8	0.998	26.701
500	12.300	12.233	35.531	126.6	1.131	26.957
600	9.928	9.857	35.180	121.3	1.246	27.117

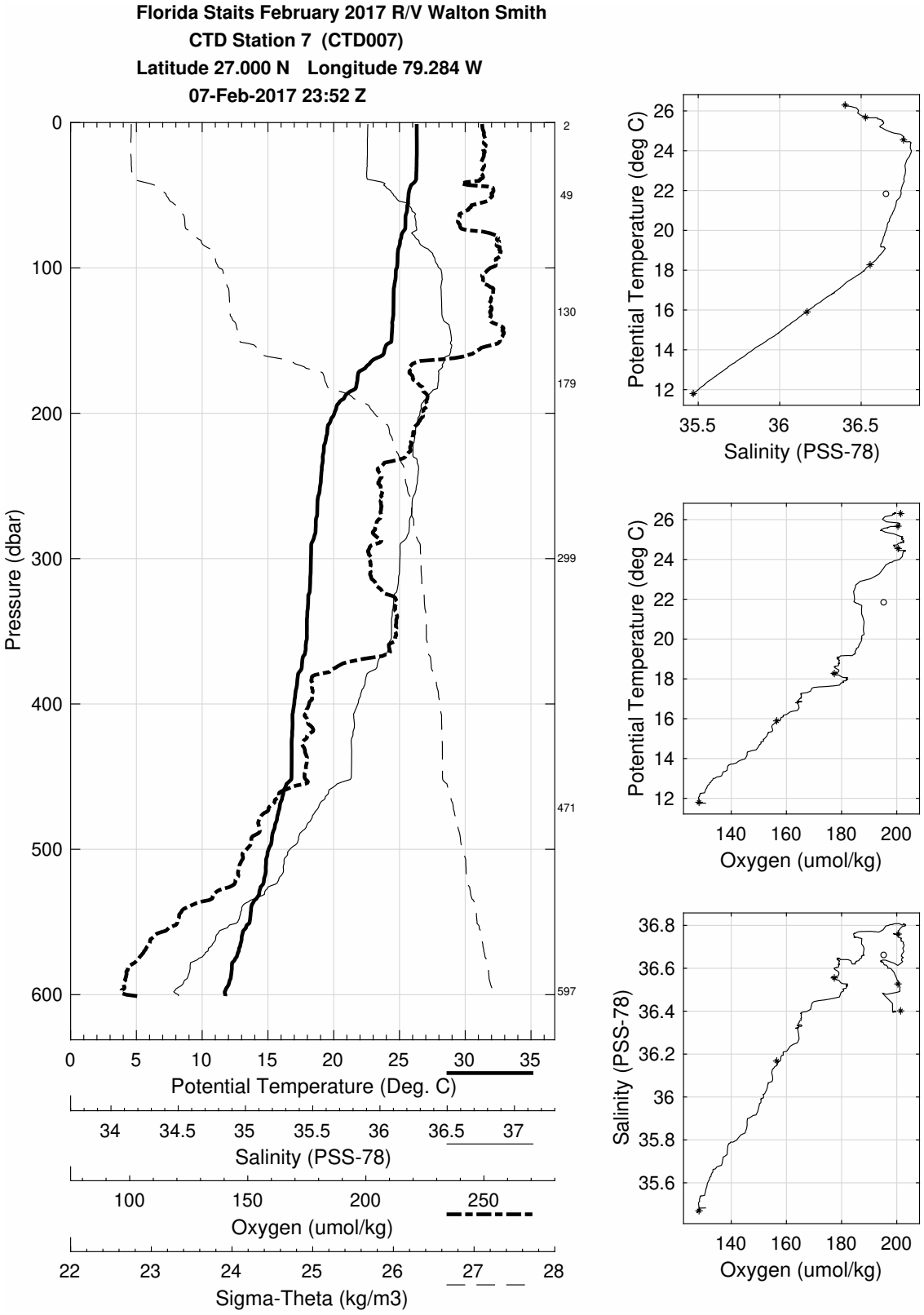
Pressure dbar	Niskin	Temp90 °C	PoTemp90 °C	Salinity PSS-78	Oxygen μmol·kg^{-1}
632	1	9.232	9.160	35.086	120.4
595	2	10.365	10.293	35.242	122.4
470	3	12.998	12.932	35.636	130.4
306	4	18.308	18.254	36.552	178.1
182	5	20.511	20.476	36.687	186.0
122	6	24.718	24.691	36.764	−999.0
49	7	26.261	26.250	36.413	198.1
3	13	26.266	26.266	36.416	198.4
3	14	26.260	26.262	−999.000	−999.0
3	15	26.266	26.267	−999.000	−999.0


Florida Staits February 2017 R/V Walton Smith
CTD Station 6 (CTD006)
Latitude 27.001 N Longitude 79.384 W
08-Feb-2017 01:24 Z
Pressure (dbar)
Potential Temperature (Deg. C)
Salinity (PSS-78)
Oxygen (umol/kg)
Sigma-Theta (kg/m3)
Potential Temperature (deg C)
Salinity (PSS-78)
Potential Temperature (deg C)
Oxygen (umol/kg)
Salinity (PSS-78)
Oxygen (umol/kg)

Florida Staits February 2017 R/V Walton Smith
CTD Station 7 (CTD007)
Latitude 27.000N Longitude 79.284W
07-Feb-2017 23:52Z

Pressure dbar	Temp90 °C	PoTemp90 °C	Salinity PSS-78	Oxygen μmol·kg^{-1}	DynHt m^2·s^{-2}	SigT kg·m^{-3}
1	26.313	26.313	36.402	198.9	0.004	23.993
10	26.317	26.315	36.400	199.4	0.039	23.991
20	26.325	26.321	36.399	199.5	0.078	23.989
30	26.313	26.307	36.399	199.3	0.118	23.993
50	25.699	25.688	36.526	201.0	0.194	24.283
75	25.298	25.282	36.624	199.0	0.283	24.482
100	24.824	24.803	36.747	200.5	0.366	24.722
125	24.574	24.547	36.759	200.1	0.446	24.810
150	24.424	24.391	36.807	202.5	0.525	24.893
200	20.088	20.050	36.654	187.4	0.651	26.011
250	19.012	18.967	36.637	178.9	0.746	26.282
300	18.321	18.268	36.557	176.9	0.835	26.398
400	17.063	16.996	36.352	164.8	1.005	26.554
500	15.129	15.052	36.023	152.4	1.161	26.750
600	11.846	11.766	35.482	128.7	1.295	27.009

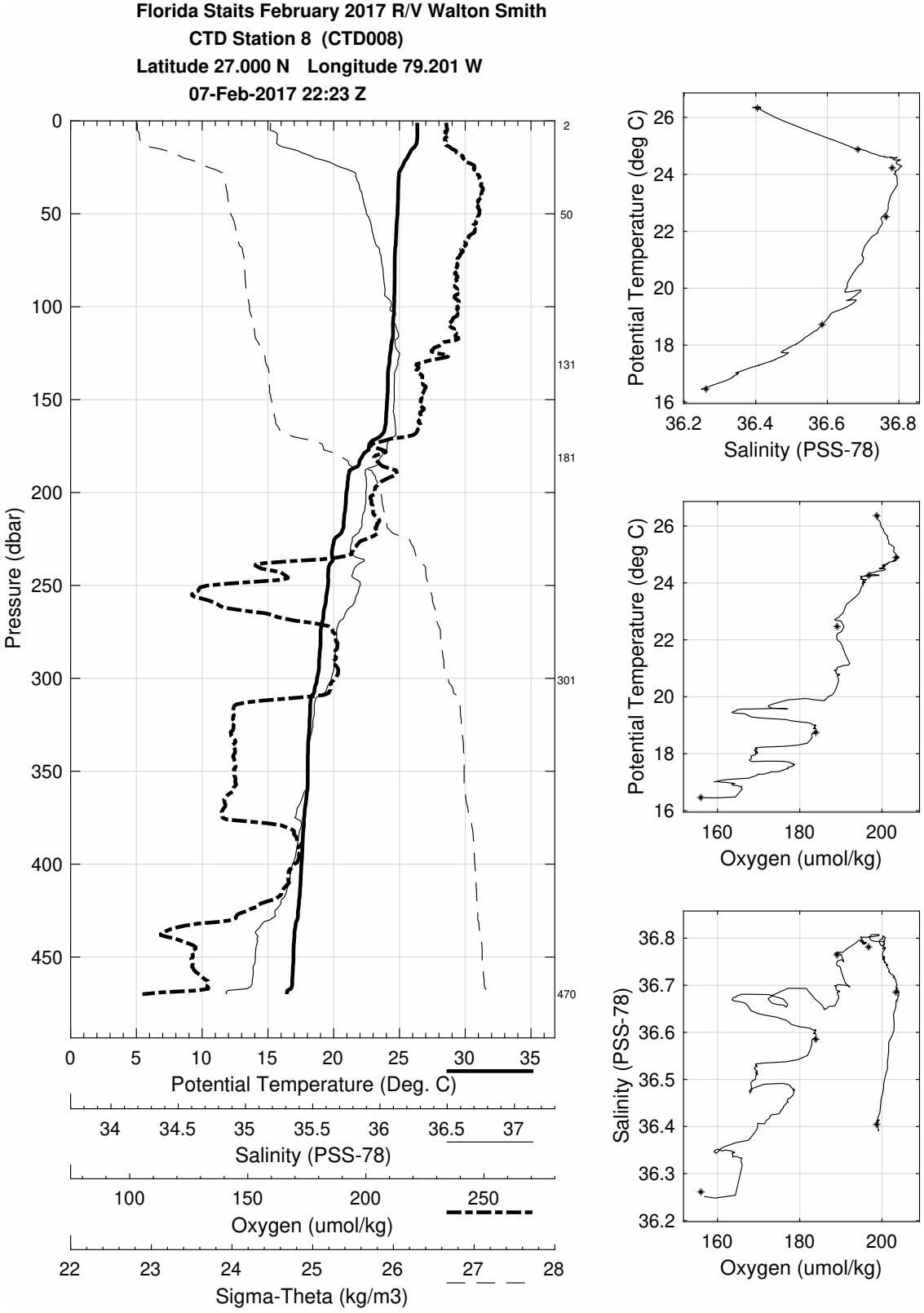
Pressure dbar	Niskin	Temp90 °C	PoTemp90 °C	Salinity PSS-78	Oxygen μmol·kg^{-1}
598	1	11.883	11.804	35.470	128.3
472	2	15.982	15.906	36.168	156.5
300	3	18.326	18.273	36.555	177.4
180	4	21.826	21.791	36.658	195.6
131	5	24.573	24.545	36.760	200.5
50	6	25.687	25.676	36.527	200.4
2	7	26.296	26.295	36.402	201.4


Florida Staits February 2017 R/V Walton Smith
CTD Station 7 (CTD007)
Latitude 27.000 N Longitude 79.284 W
07-Feb-2017 23:52 Z
Pressure (dbar)
Potential Temperature (Deg. C)
Salinity (PSS-78)
Oxygen (umol/kg)
Sigma-Theta (kg/m3)
Potential Temperature (deg C)
Salinity (PSS-78)
Oxygen (umol/kg)

Florida Staits February 2017 R/V Walton Smith
CTD Station 8 (CTD008)
Latitude 27.000N Longitude 79.201W
07-Feb-2017 22:23Z

Pressure dbar	Temp90 °C	PoTemp90 °C	Salinity PSS-78	Oxygen μmol·kg^{-1}	DynHt m^2·s^{-2}	SigT kg·m^{-3}
1	26.353	26.353	36.392	199.0	0.004	23.973
10	26.345	26.343	36.413	198.8	0.039	23.992
20	25.596	25.591	36.534	201.3	0.077	24.319
30	24.957	24.950	36.666	203.7	0.111	24.616
50	24.863	24.852	36.701	203.6	0.177	24.673
75	24.656	24.639	36.749	200.6	0.258	24.774
100	24.605	24.583	36.779	200.6	0.338	24.814
125	24.322	24.296	36.808	197.5	0.416	24.922
150	24.097	24.065	36.791	195.5	0.492	24.978
200	21.001	20.962	36.699	189.1	0.627	25.798
250	19.613	19.567	36.681	165.9	0.732	26.159
300	18.790	18.737	36.587	183.6	0.827	26.303
400	17.617	17.548	36.463	177.9	0.999	26.505

Pressure dbar	Niskin	Temp90 °C	PoTemp90 °C	Salinity PSS-78	Oxygen μmol·kg^{-1}
470	1	16.537	16.460	36.261	156.0
301	2	18.775	18.721	36.585	183.9
182	3	22.546	22.509	36.764	189.1
131	4	24.255	24.227	36.781	196.7
51	5	24.885	24.874	36.685	203.4
3	6	26.330	26.329	36.405	198.7

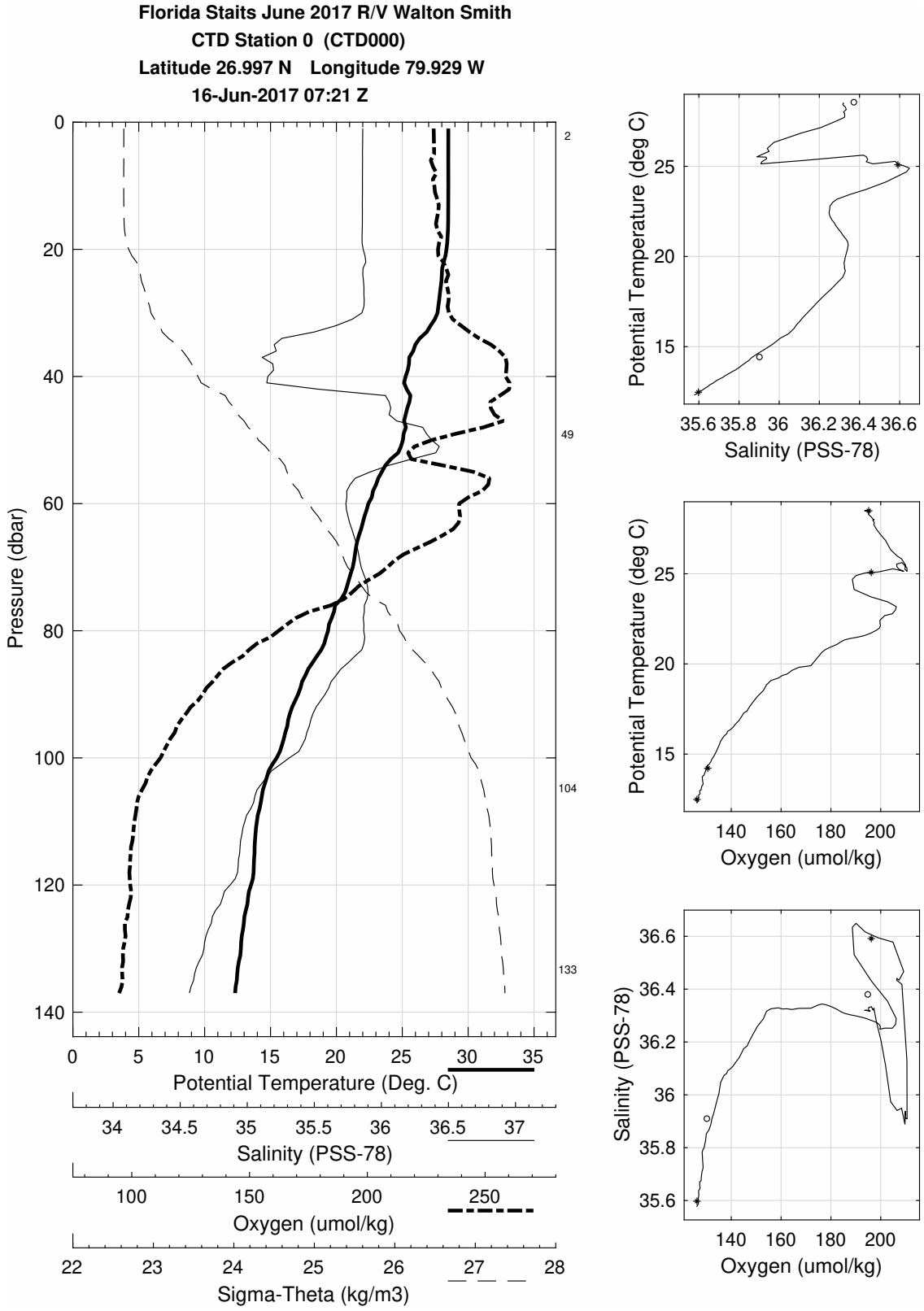

Florida Staits February 2017 R/V Walton Smith
CTD Station 8 (CTD008)
Latitude 27.000 N Longitude 79.201 W
07-Feb-2017 22:23 Z
Pressure (dbar)
Potential Temperature (Deg. C)
Salinity (PSS-78)
Oxygen (umol/kg)
Sigma-Theta (kg/m3)
Potential Temperature (deg C)
Salinity (PSS-78)
Potential Temperature (deg C)
Oxygen (umol/kg)
Salinity (PSS-78)
Oxygen (umol/kg)

A.2 FC1706

Florida Staits June 2017 R/V Walton Smith
CTD Station 0 (CTD000)
Latitude 26.997N Longitude 79.929W
16-Jun-2017 07:21Z

Pressure dbar	Temp90 °C	PoTemp90 °C	Salinity PSS-78	Oxygen μmol·kg^{-1}	DynHt m^2·s^{-2}	SigT kg·m^{-3}
1	28.495	28.494	36.321	194.2	0.005	23.225
10	28.497	28.495	36.319	194.3	0.046	23.224
20	28.358	28.353	36.323	195.1	0.093	23.273
30	27.682	27.675	36.317	197.5	0.138	23.492
50	25.059	25.048	36.616	193.8	0.215	24.549
75	20.386	20.372	36.339	174.7	0.286	25.684
100	15.482	15.467	36.005	135.0	0.330	26.643
125	13.031	13.014	35.675	127.9	0.361	26.913

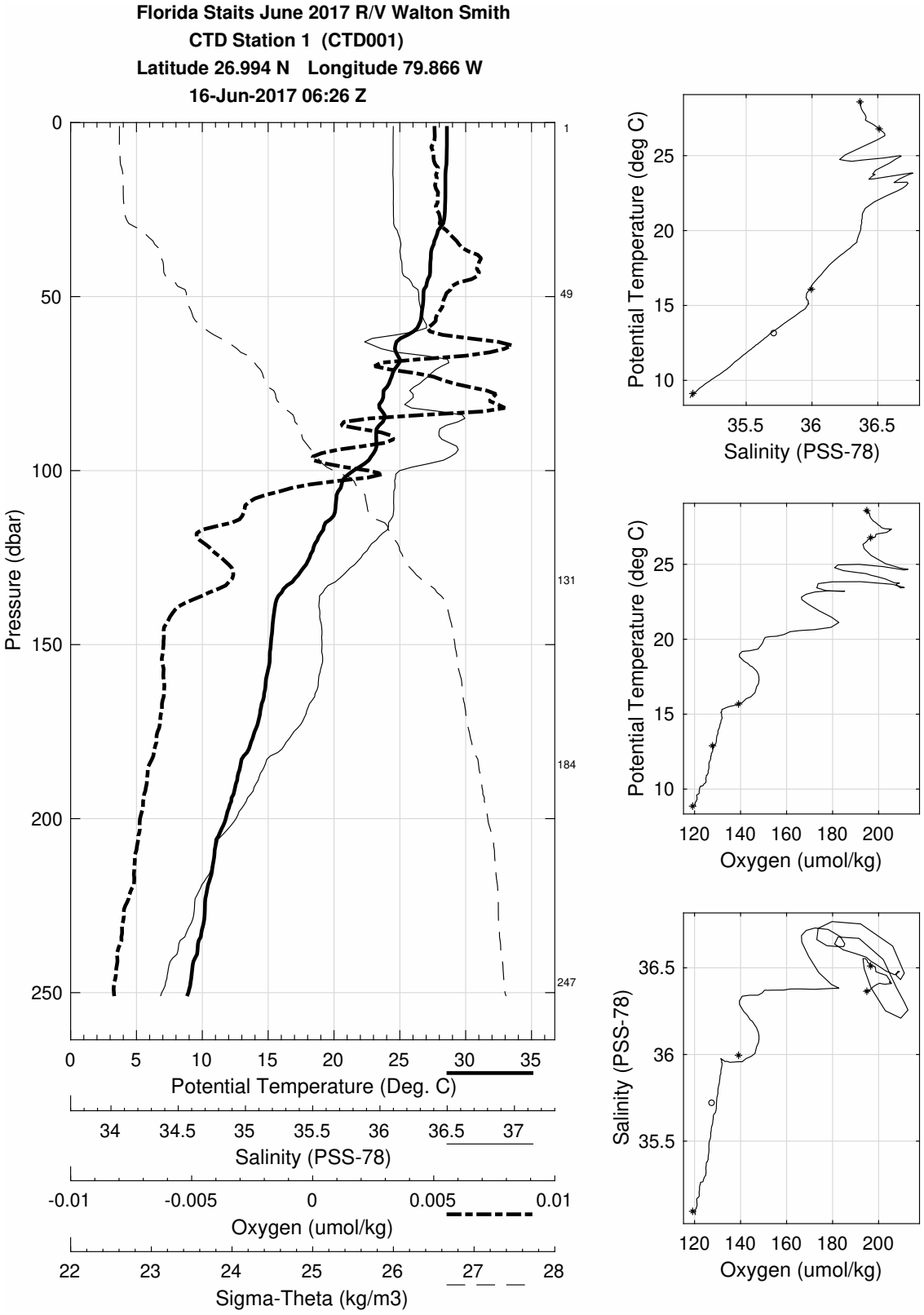
Pressure dbar	Niskin	Temp90 °C	PoTemp90 °C	Salinity PSS-78	Oxygen μmol·kg^{-1}
133	1	12.492	12.474	35.597	126.2
105	2	14.390	14.374	35.906	130.6
49	3	25.095	25.084	36.591	196.2
2	4	28.504	28.503	36.376	195.2


Florida Staits June 2017 R/V Walton Smith
CTD Station 0 (CTD000)
Latitude 26.997 N Longitude 79.929 W
16-Jun-2017 07:21 Z
Pressure (dbar)
0
20
40
60
80
100
120
140
2
49
104
133
0 5 10 15 20 25 30 35
Potential Temperature (Deg. C)
34 34.5 35 35.5 36 36.5 37
Salinity (PSS-78)
100 150 200 250
Oxygen (umol/kg)
22 23 24 25 26 27 28
Sigma-Theta (kg/m3)
Potential Temperature (deg C)
15 20 25
35.6 35.8 36 36.2 36.4 36.6
Salinity (PSS-78)
Potential Temperature (deg C)
15 20 25
140 160 180 200
Oxygen (umol/kg)
Salinity (PSS-78)
35.6 35.8 36 36.2 36.4 36.6
140 160 180 200
Oxygen (umol/kg)

Florida Staits June 2017 R/V Walton Smith
CTD Station 1 (CTD001)
Latitude 26.994N Longitude 79.866W
16-Jun-2017 06:26Z

Pressure dbar	Temp90 °C	PoTemp90 °C	Salinity PSS-78	Oxygen μmol·kg^{-1}	DynHt m^2·s^{-2}	SigT kg·m^{-3}
1	28.575	28.575	36.369	194.8	0.005	23.235
10	28.556	28.554	36.368	194.6	0.046	23.241
20	28.462	28.458	36.369	195.6	0.092	23.274
30	28.113	28.105	36.376	196.5	0.138	23.395
50	26.802	26.791	36.510	197.3	0.222	23.923
75	24.191	24.175	36.516	199.4	0.313	24.737
100	21.497	21.477	36.404	179.5	0.386	25.432
125	18.168	18.146	36.190	145.2	0.440	26.147
150	15.222	15.199	35.972	131.8	0.479	26.678
200	11.807	11.781	35.494	126.3	0.542	27.015
250	8.966	8.939	35.081	120.3	0.591	27.191

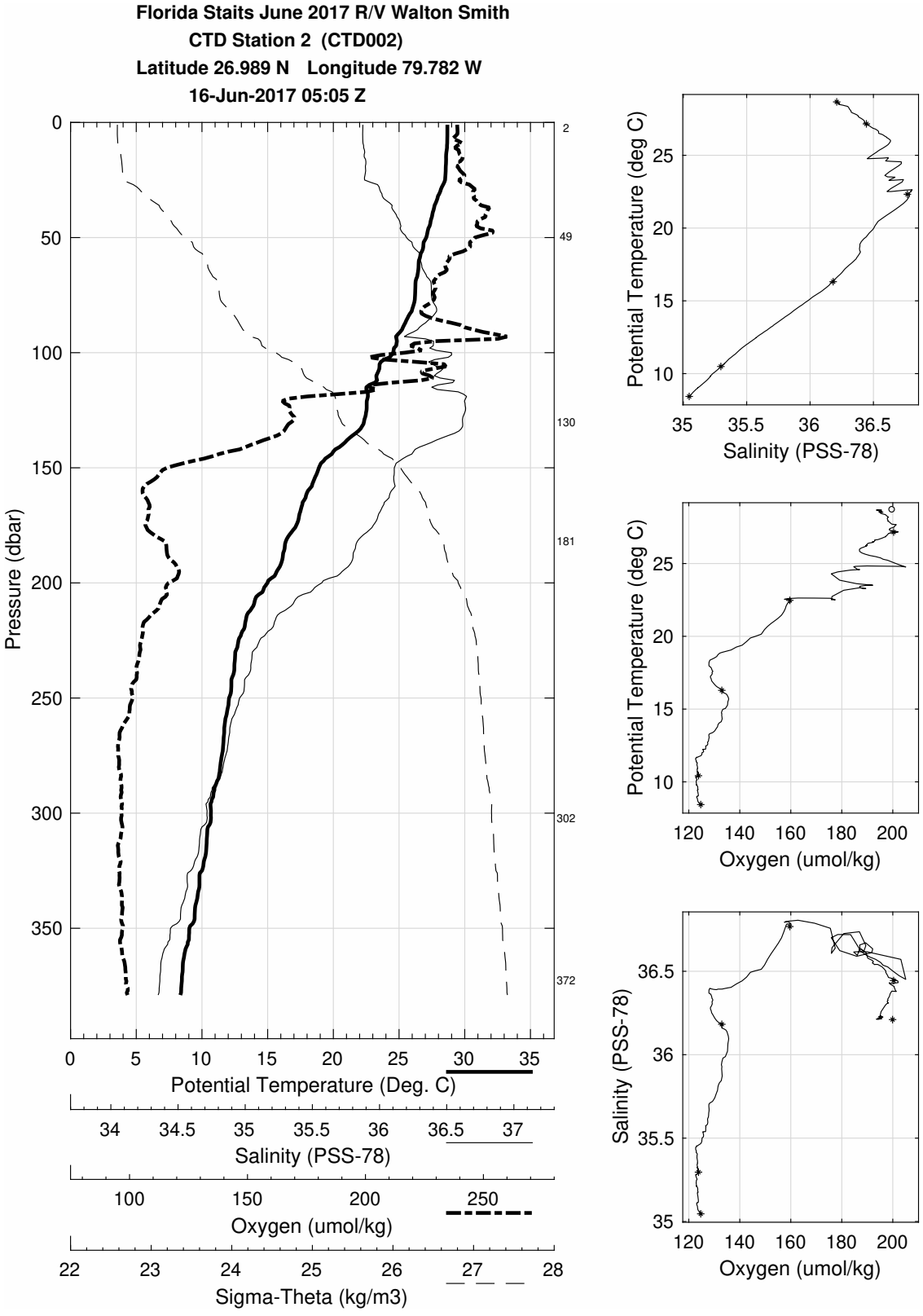
Pressure dbar	Niskin	Temp90 °C	PoTemp90 °C	Salinity PSS-78	Oxygen μmol·kg^{-1}
247	1	9.149	9.122	35.095	119.2
185	2	13.123	13.097	35.716	127.8
132	3	16.108	16.086	35.995	139.1
49	4	26.798	26.787	36.511	196.5
2	5	28.588	28.587	36.365	194.9


Florida Staits June 2017 R/V Walton Smith
CTD Station 1 (CTD001)
Latitude 26.994 N Longitude 79.866 W
16-Jun-2017 06:26 Z
Pressure (dbar)
Potential Temperature (Deg. C)
Salinity (PSS-78)
Oxygen (umol/kg)
Sigma-Theta (kg/m3)
Potential Temperature (deg C)
Salinity (PSS-78)
Potential Temperature (deg C)
Oxygen (umol/kg)
Salinity (PSS-78)
Oxygen (umol/kg)

Florida Staits June 2017 R/V Walton Smith
CTD Station 2 (CTD002)
Latitude 26.989N Longitude 79.782W
16-Jun-2017 05:05Z

Pressure dbar	Temp90 °C	PoTemp90 °C	Salinity PSS-78	Oxygen μmol·kg^{-1}	DynHt m^2·s^{-2}	SigT kg·m^{-3}
1	28.678	28.677	36.214	194.5	0.005	23.084
10	28.653	28.650	36.218	194.6	0.048	23.096
20	28.557	28.552	36.229	194.9	0.095	23.137
30	28.142	28.135	36.315	197.9	0.142	23.339
50	27.080	27.068	36.463	198.3	0.228	23.798
75	26.235	26.219	36.605	189.6	0.325	24.176
100	24.573	24.552	36.720	183.5	0.413	24.778
125	22.552	22.527	36.800	158.9	0.484	25.436
150	18.925	18.898	36.393	133.1	0.541	26.113
200	15.019	14.988	35.979	133.4	0.622	26.730
250	12.095	12.062	35.510	125.8	0.683	26.974
300	10.717	10.681	35.324	123.4	0.738	27.086

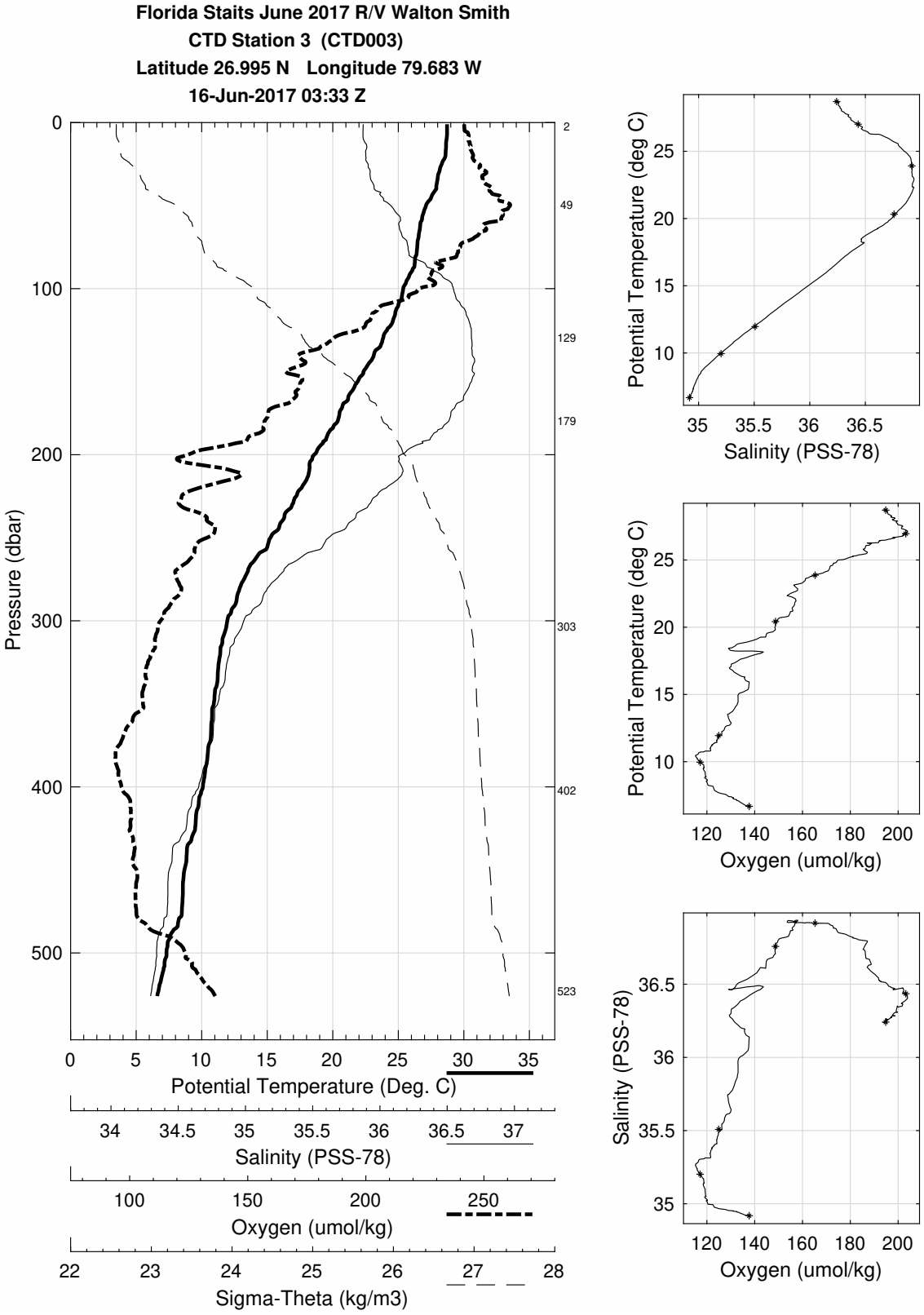
Pressure dbar	Niskin	Temp90 °C	PoTemp90 °C	Salinity PSS-78	Oxygen μmol·kg^{-1}
373	1	8.472	8.432	35.046	124.7
302	2	10.526	10.489	35.296	123.8
182	3	16.345	16.315	36.182	133.0
130	4	22.350	22.323	36.768	159.6
50	5	27.169	27.158	36.444	200.3
2	6	28.669	28.669	36.210	199.9


Florida Staits June 2017 R/V Walton Smith
CTD Station 2 (CTD002)
Latitude 26.989 N Longitude 79.782 W
16-Jun-2017 05:05 Z
Pressure (dbar)
Potential Temperature (Deg. C)
Salinity (PSS-78)
Oxygen (umol/kg)
Sigma-Theta (kg/m3)
Potential Temperature (deg C)
Salinity (PSS-78)
Oxygen (umol/kg)

Florida Staits June 2017 R/V Walton Smith
CTD Station 3 (CTD003)
Latitude 26.995N Longitude 79.683W
16-Jun-2017 03:33Z

Pressure dbar	Temp90 °C	PoTemp90 °C	Salinity PSS-78	Oxygen μmol·kg^{-1}	DynHt m^2·s^{-2}	SigT kg·m^{-3}
1	28.718	28.718	36.241	193.6	0.005	23.091
10	28.683	28.681	36.242	194.5	0.048	23.104
20	28.602	28.597	36.257	195.7	0.095	23.143
30	28.114	28.107	36.284	198.7	0.141	23.326
50	27.121	27.109	36.413	203.9	0.229	23.748
75	26.458	26.441	36.521	192.8	0.329	24.043
100	25.400	25.378	36.804	183.4	0.421	24.589
125	24.164	24.137	36.916	169.7	0.501	25.051
150	22.370	22.339	36.924	153.5	0.569	25.584
200	18.615	18.580	36.475	131.6	0.673	26.257
250	15.279	15.241	36.025	135.8	0.754	26.709
300	11.992	11.953	35.495	125.4	0.817	26.983
400	10.135	10.088	35.214	116.7	0.926	27.104
500	7.361	7.312	34.951	131.0	1.021	27.336

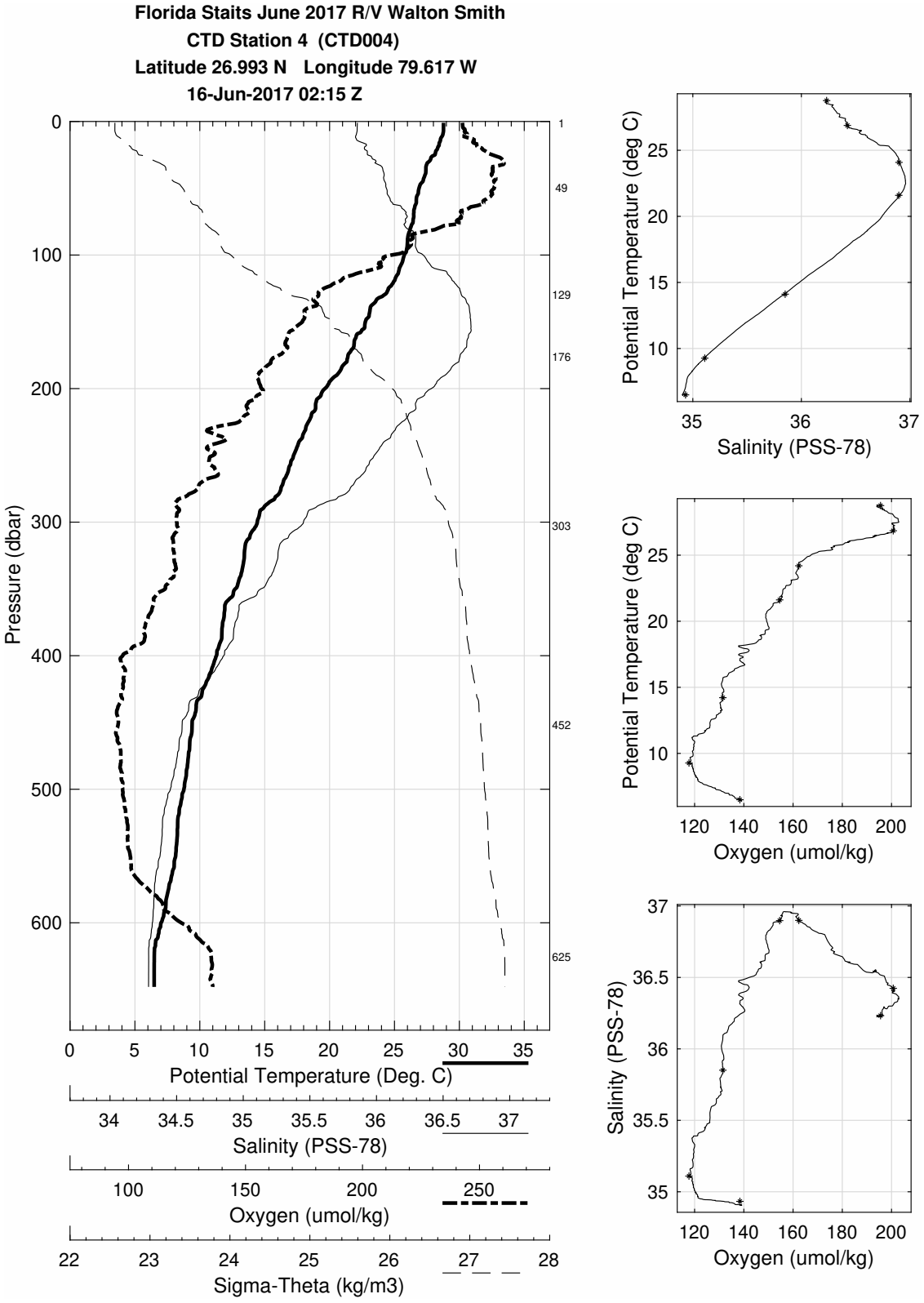
Pressure dbar	Niskin	Temp90 °C	PoTemp90 °C	Salinity PSS-78	Oxygen μmol·kg^{-1}
523	1	6.727	6.678	34.918	137.7
403	2	9.998	9.951	35.202	117.2
303	3	12.006	11.966	35.508	125.0
180	4	20.355	20.321	36.758	148.7
130	5	23.942	23.914	36.917	165.3
50	6	27.028	27.016	36.435	203.2
3	7	28.700	28.699	36.241	194.8


Florida Staits June 2017 R/V Walton Smith
CTD Station 3 (CTD003)
Latitude 26.995 N Longitude 79.683 W
16-Jun-2017 03:33 Z
Pressure (dbar)
Potential Temperature (Deg. C)
Salinity (PSS-78)
Oxygen (umol/kg)
Sigma-Theta (kg/m3)
Potential Temperature (deg C)
Salinity (PSS-78)
Potential Temperature (deg C)
Oxygen (umol/kg)
Salinity (PSS-78)
Oxygen (umol/kg)

Florida Staits June 2017 R/V Walton Smith
CTD Station 4 (CTD004)
Latitude 26.993N Longitude 79.617W
16-Jun-2017 02:15Z

Pressure dbar	Temp90 °C	PoTemp90 °C	Salinity PSS-78	Oxygen μmol·kg^{-1}	DynHt m^2·s^{-2}	SigT kg·m^{-3}
1	28.778	28.778	36.236	193.8	0.005	23.067
10	28.724	28.722	36.229	194.9	0.048	23.080
20	28.328	28.324	36.280	198.1	0.095	23.251
30	27.668	27.661	36.355	202.7	0.140	23.525
50	26.903	26.891	36.421	200.9	0.224	23.823
75	26.448	26.431	36.544	192.5	0.323	24.063
100	25.778	25.756	36.655	178.3	0.417	24.359
125	24.551	24.524	36.887	163.5	0.501	24.914
150	22.785	22.754	36.958	158.8	0.570	25.491
200	19.677	19.640	36.707	149.9	0.682	26.160
250	17.268	17.226	36.344	139.3	0.770	26.492
300	14.471	14.426	35.893	131.3	0.845	26.786
400	11.333	11.282	35.385	119.5	0.966	27.024
500	8.829	8.774	35.045	119.5	1.069	27.190
600	7.069	7.011	34.930	132.3	1.160	27.363

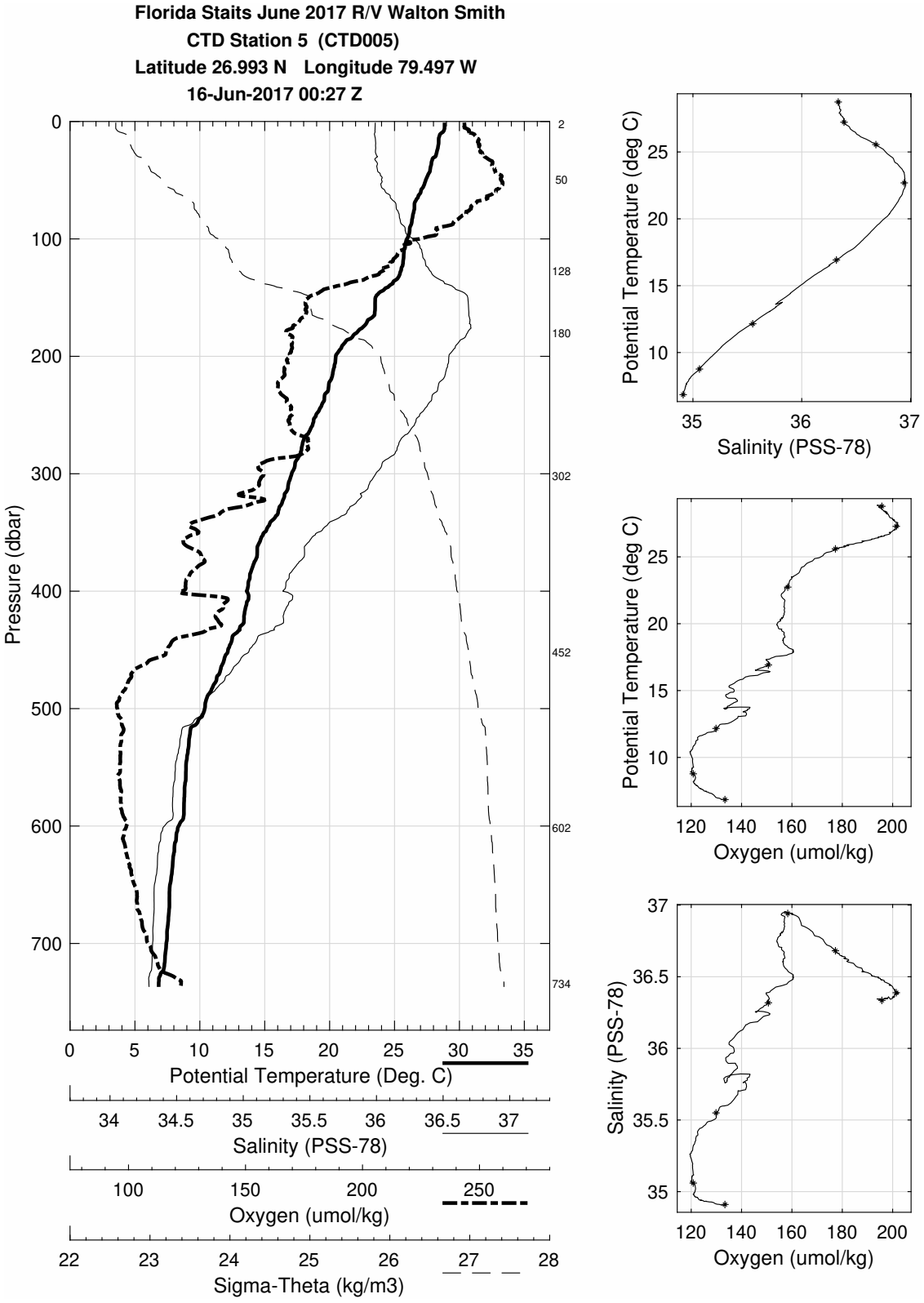
Pressure dbar	Niskin	Temp90 °C	PoTemp90 °C	Salinity PSS-78	Oxygen μmol·kg^{-1}
626	1	6.551	6.493	34.933	138.4
452	2	9.320	9.269	35.110	117.7
303	3	14.156	14.112	35.851	131.5
176	4	21.624	21.590	36.898	154.6
130	5	24.112	24.085	36.899	162.3
50	6	26.891	26.880	36.424	200.7
2	7	28.760	28.760	36.233	195.5


Florida Staits June 2017 R/V Walton Smith
CTD Station 4 (CTD004)
Latitude 26.993 N Longitude 79.617 W
16-Jun-2017 02:15 Z
Pressure (dbar)
Potential Temperature (Deg. C)
Salinity (PSS-78)
Oxygen (umol/kg)
Sigma-Theta (kg/m3)
Potential Temperature (deg C)
Salinity (PSS-78)
Potential Temperature (deg C)
Oxygen (umol/kg)
Salinity (PSS-78)
Oxygen (umol/kg)

Florida Staits June 2017 R/V Walton Smith
CTD Station 5 (CTD005)
Latitude 26.993N Longitude 79.497W
16-Jun-2017 00:27Z

Pressure dbar	Temp90 °C	PoTemp90 °C	Salinity PSS-78	Oxygen μmol·kg^{-1}	DynHt m^2·s^{-2}	SigT kg·m^{-3}
1	28.855	28.854	36.346	194.0	0.005	23.124
10	28.591	28.588	36.341	195.6	0.047	23.209
20	28.379	28.374	36.348	197.4	0.093	23.285
30	28.150	28.143	36.360	198.3	0.139	23.371
50	27.413	27.401	36.386	202.0	0.227	23.633
75	26.540	26.523	36.482	195.2	0.329	23.987
100	25.976	25.954	36.594	184.4	0.425	24.251
125	25.555	25.527	36.684	176.5	0.515	24.452
150	23.558	23.526	36.934	160.6	0.595	25.247
200	20.513	20.475	36.814	156.5	0.719	26.019
250	18.996	18.951	36.627	157.0	0.817	26.278
300	17.128	17.078	36.349	151.0	0.902	26.532
400	13.664	13.606	35.758	133.4	1.046	26.856
500	10.435	10.374	35.257	119.6	1.166	27.087
600	8.435	8.371	35.006	121.5	1.265	27.222
700	7.489	7.419	34.931	126.2	1.357	27.305

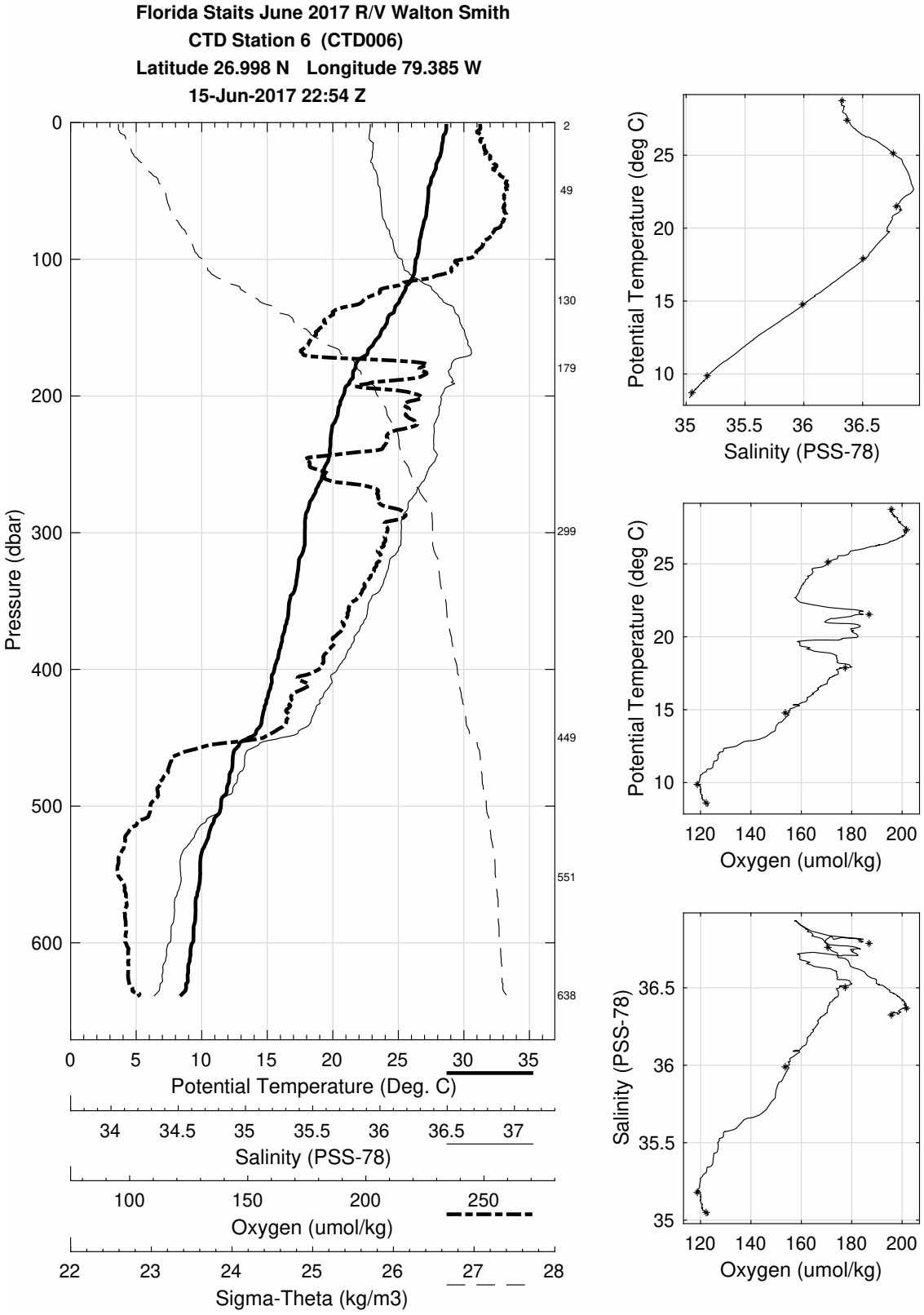
Pressure dbar	Niskin	Temp90 °C	PoTemp90 °C	Salinity PSS-78	Oxygen μmol·kg^{-1}
735	1	6.916	6.845	34.910	133.4
602	2	8.830	8.764	35.060	120.8
452	3	12.210	12.150	35.549	129.9
302	4	16.972	16.922	36.318	150.6
181	5	22.724	22.687	36.942	158.3
128	6	25.579	25.551	36.681	177.3
50	7	27.240	27.229	36.388	201.4
3	13	28.738	28.737	36.335	195.7


Florida Staits June 2017 R/V Walton Smith
CTD Station 5 (CTD005)
Latitude 26.993 N Longitude 79.497 W
16-Jun-2017 00:27 Z
Pressure (dbar)
Potential Temperature (Deg. C)
Salinity (PSS-78)
Oxygen (umol/kg)
Sigma-Theta (kg/m3)
Potential Temperature (deg C)
Salinity (PSS-78)
Potential Temperature (deg C)
Oxygen (umol/kg)
Salinity (PSS-78)
Oxygen (umol/kg)

Florida Staits June 2017 R/V Walton Smith
CTD Station 6 (CTD006)
Latitude 26.998N Longitude 79.385W
15-Jun-2017 22:54Z

Pressure dbar	Temp90 °C	PoTemp90 °C	Salinity PSS-78	Oxygen μmol·kg^{-1}	DynHt m^2·s^{-2}	SigT kg·m^{-3}
1	28.657	28.657	36.326	195.9	0.005	23.175
10	28.432	28.430	36.320	196.4	0.047	23.246
20	28.300	28.296	36.342	196.8	0.093	23.307
30	27.901	27.894	36.339	198.8	0.138	23.437
50	27.303	27.292	36.385	201.7	0.225	23.668
75	26.921	26.904	36.419	200.3	0.330	23.818
100	26.344	26.322	36.516	192.3	0.430	24.076
125	25.383	25.356	36.725	174.2	0.523	24.536
150	23.969	23.937	36.878	161.8	0.602	25.082
200	20.819	20.780	36.752	183.2	0.725	25.889
250	19.536	19.490	36.698	159.5	0.827	26.192
300	17.918	17.866	36.511	175.9	0.915	26.464
400	15.603	15.540	36.128	161.4	1.072	26.721
500	11.532	11.467	35.432	125.3	1.201	27.026
600	9.363	9.295	35.119	120.0	1.308	27.164

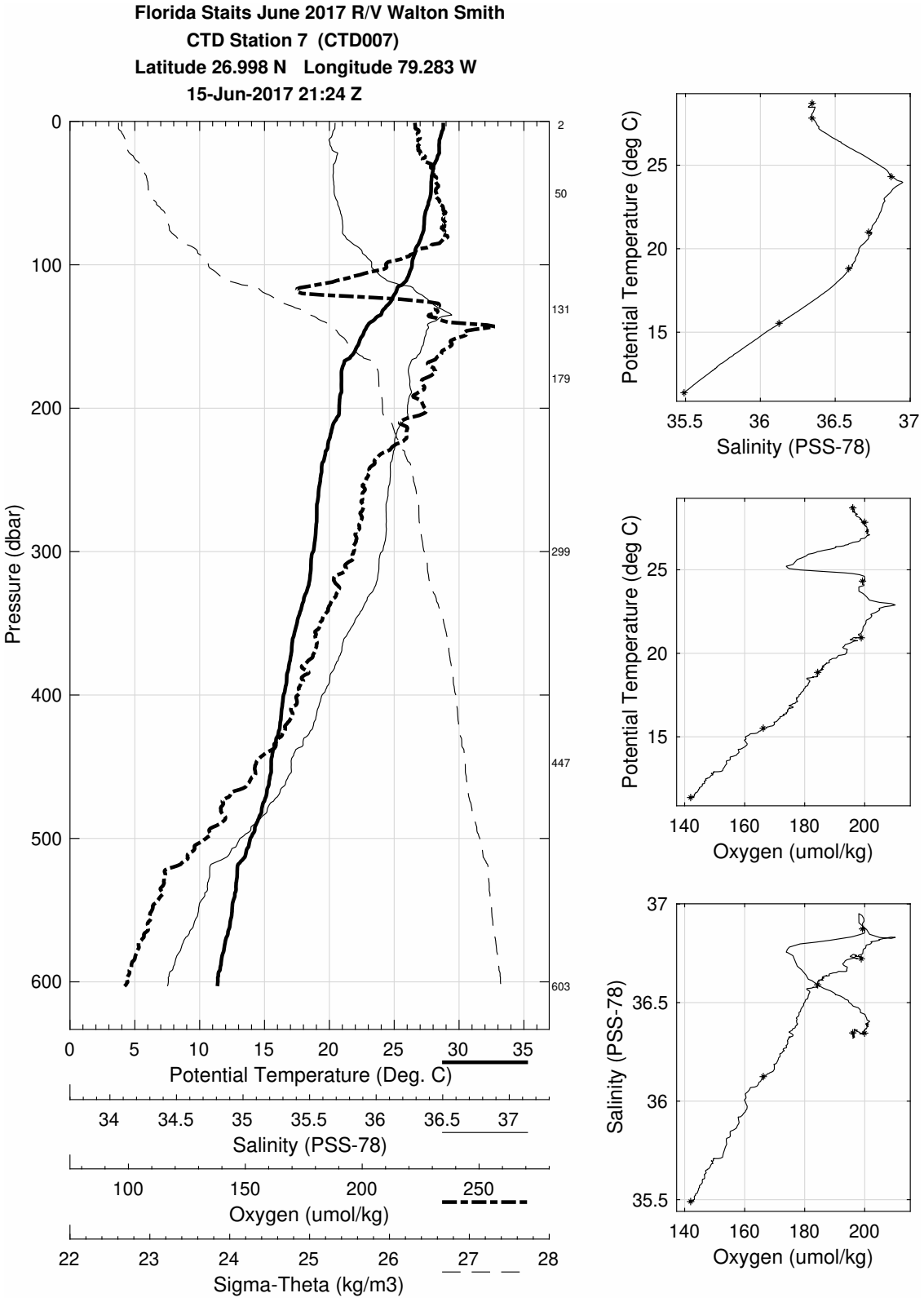
Pressure dbar	Niskin	Temp90 °C	PoTemp90 °C	Salinity PSS-78	Oxygen μmol·kg^{-1}
639	1	8.794	8.724	35.050	122.2
552	2	9.943	9.878	35.179	118.7
450	3	14.840	14.771	35.989	153.6
299	4	17.959	17.907	36.503	177.4
180	5	21.530	21.494	36.787	186.9
130	6	25.157	25.129	36.761	170.6
50	7	27.409	27.397	36.367	201.8
2	13	28.739	28.739	36.325	195.8


Florida Staits June 2017 R/V Walton Smith
CTD Station 6 (CTD006)
Latitude 26.998 N Longitude 79.385 W
15-Jun-2017 22:54 Z
Pressure (dbar)
Potential Temperature (Deg. C)
Salinity (PSS-78)
Oxygen (umol/kg)
Sigma-Theta (kg/m3)
Potential Temperature (deg C)
Salinity (PSS-78)
Potential Temperature (deg C)
Oxygen (umol/kg)
Salinity (PSS-78)
Oxygen (umol/kg)

Florida Staits June 2017 R/V Walton Smith
CTD Station 7 (CTD007)
Latitude 26.998N Longitude 79.283W
15-Jun-2017 21:24Z

Pressure dbar	Temp90 °C	PoTemp90 °C	Salinity PSS-78	Oxygen μmol·kg^{-1}	DynHt m^2·s^{-2}	SigT kg·m^{-3}
1	28.784	28.783	36.352	195.6	0.005	23.152
10	28.593	28.591	36.336	196.4	0.047	23.205
20	28.471	28.467	36.337	196.0	0.093	23.246
30	28.069	28.062	36.344	198.7	0.139	23.385
50	27.840	27.828	36.347	199.5	0.228	23.465
75	27.298	27.280	36.391	200.7	0.336	23.676
100	26.397	26.374	36.540	190.2	0.437	24.078
125	24.806	24.779	36.833	195.7	0.526	24.795
150	22.532	22.502	36.814	204.2	0.597	25.454
200	20.798	20.759	36.724	197.4	0.712	25.873
250	19.351	19.305	36.634	186.7	0.814	26.192
300	18.806	18.752	36.593	184.3	0.907	26.303
400	16.532	16.466	36.285	174.1	1.074	26.628
500	13.975	13.901	35.864	157.3	1.220	26.876
600	11.480	11.402	35.496	142.9	1.341	27.088

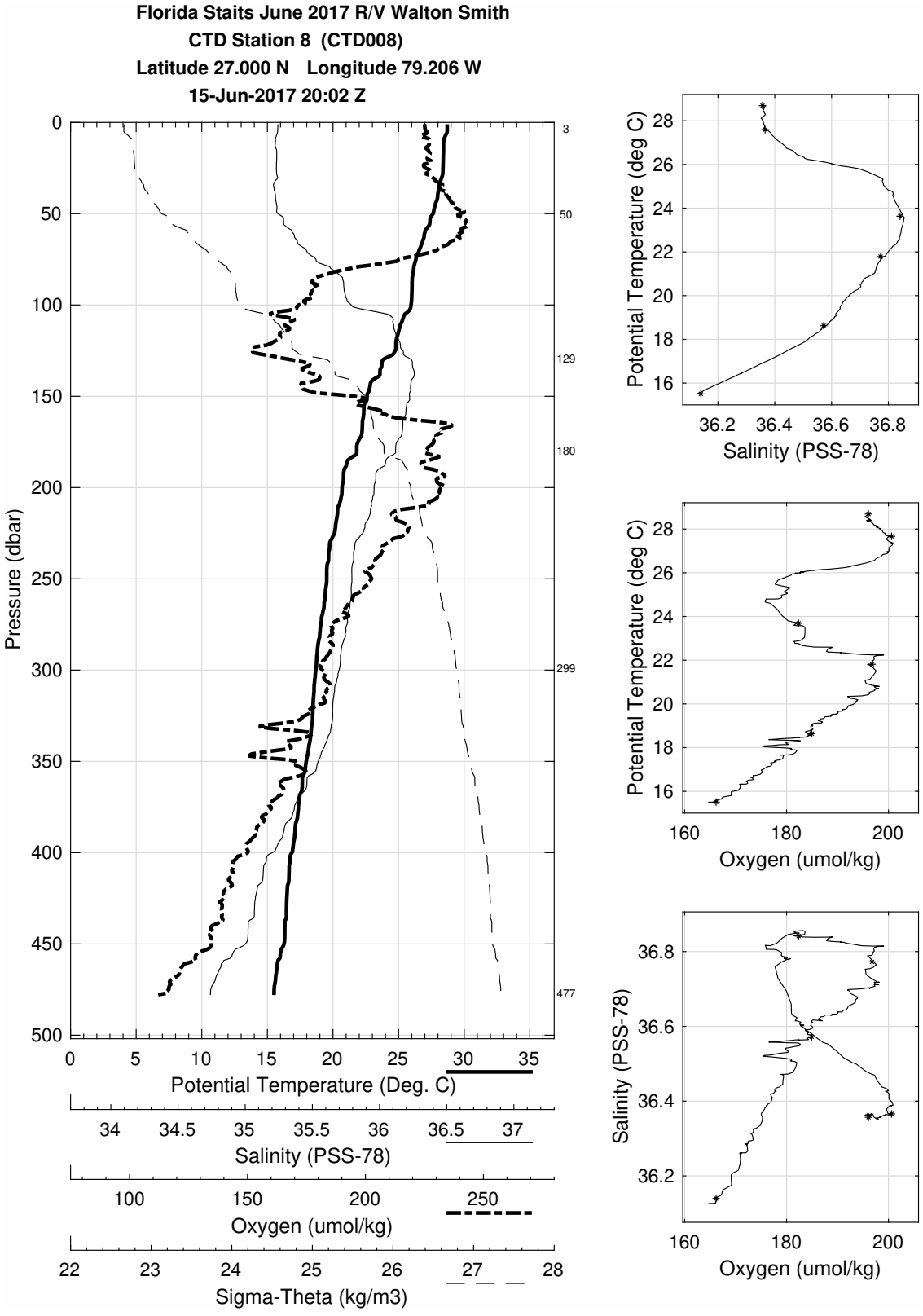
Pressure dbar	Niskin	Temp90 °C	PoTemp90 °C	Salinity PSS-78	Oxygen μmol·kg^{-1}
603	1	11.452	11.374	35.491	142.0
448	2	15.604	15.533	36.125	166.2
300	3	18.864	18.810	36.590	184.3
180	4	21.021	20.986	36.722	198.9
131	5	24.344	24.316	36.874	199.3
50	6	27.833	27.821	36.345	200.0
3	7	28.708	28.707	36.346	196.0


Florida Staits June 2017 R/V Walton Smith
CTD Station 7 (CTD007)
Latitude 26.998 N Longitude 79.283 W
15-Jun-2017 21:24 Z
Pressure (dbar)
Potential Temperature (Deg. C)
Salinity (PSS-78)
Oxygen (umol/kg)
Sigma-Theta (kg/m3)
Potential Temperature (deg C)
Salinity (PSS-78)
Potential Temperature (deg C)
Oxygen (umol/kg)
Salinity (PSS-78)
Oxygen (umol/kg)

Florida Staits June 2017 R/V Walton Smith
CTD Station 8 (CTD008)
Latitude 27.000N Longitude 79.206W
15-Jun-2017 20:02Z

Pressure dbar	Temp90 °C	PoTemp90 °C	Salinity PSS-78	Oxygen μmol·kg^{-1}	DynHt m^2·s^{-2}	SigT kg·m^{-3}
1	28.704	28.704	36.368	195.8	0.005	23.191
10	28.439	28.437	36.359	196.4	0.047	23.273
20	28.408	28.403	36.363	196.1	0.092	23.287
30	28.300	28.293	36.367	196.7	0.138	23.327
50	27.644	27.632	36.367	199.9	0.227	23.544
75	26.334	26.317	36.503	192.8	0.330	24.068
100	25.969	25.946	36.630	181.2	0.423	24.280
125	24.772	24.745	36.816	175.8	0.507	24.792
150	22.627	22.597	36.838	187.7	0.577	25.445
200	20.731	20.693	36.712	197.7	0.698	25.882
250	19.568	19.522	36.633	189.7	0.801	26.134
300	18.745	18.692	36.586	183.9	0.895	26.313
400	16.934	16.867	36.348	175.2	1.066	26.581

Pressure dbar	Niskin	Temp90 °C	PoTemp90 °C	Salinity PSS-78	Oxygen μmol·kg^{-1}
477	1	15.583	15.507	36.140	166.2
299	2	18.676	18.623	36.572	184.9
180	3	21.822	21.786	36.772	196.8
130	4	23.661	23.633	36.841	182.4
50	5	27.607	27.595	36.366	200.6
4	6	28.692	28.692	36.357	196.1


Florida Staits June 2017 R/V Walton Smith
CTD Station 8 (CTD008)
Latitude 27.000 N Longitude 79.206 W
15-Jun-2017 20:02 Z
Pressure (dbar)
Potential Temperature (Deg. C)
Salinity (PSS-78)
Oxygen (umol/kg)
Sigma-Theta (kg/m3)
Potential Temperature (deg C)
Salinity (PSS-78)
Potential Temperature (deg C)
Oxygen (umol/kg)
Salinity (PSS-78)
Oxygen (umol/kg)

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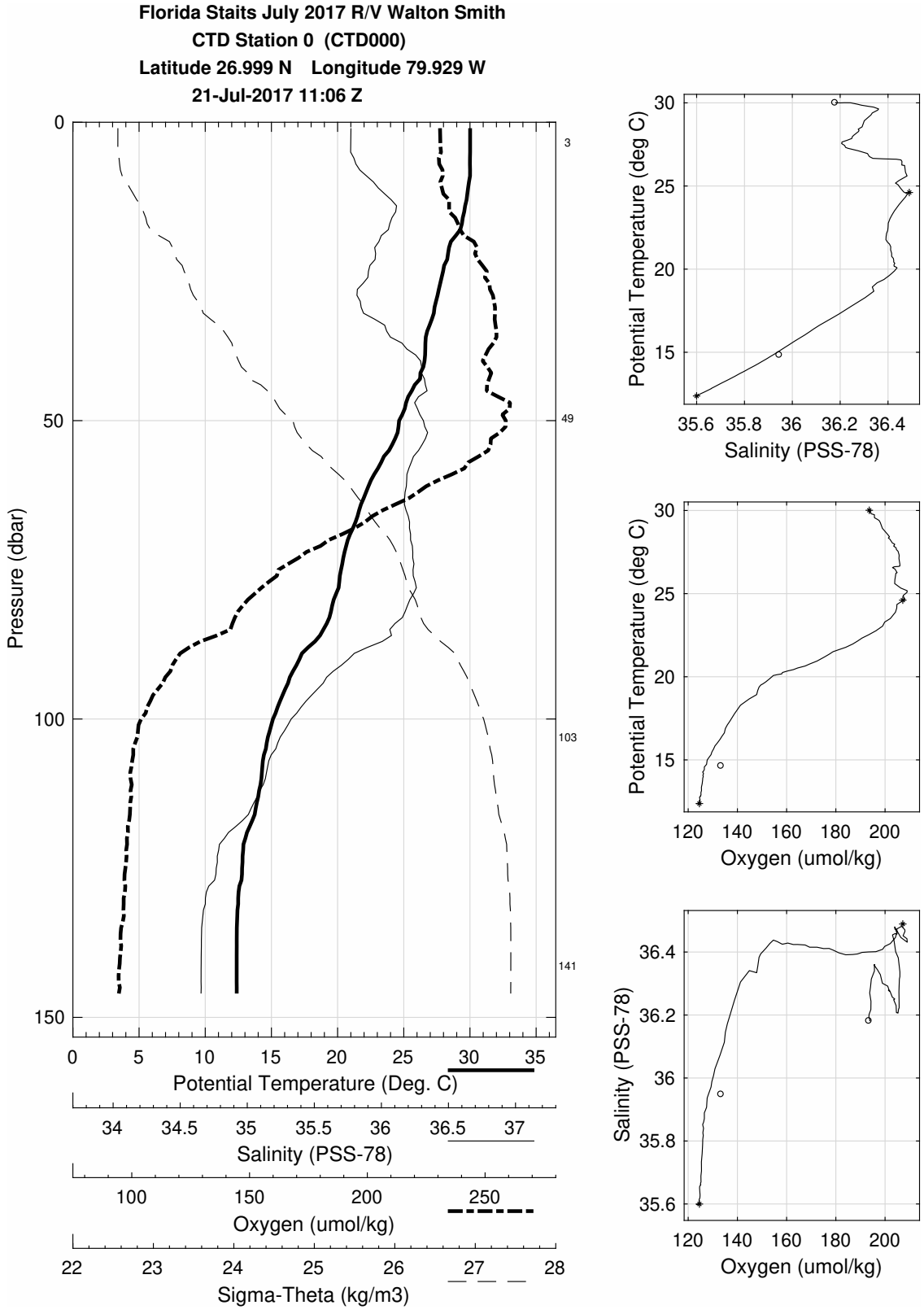
Florida Staits July 2017 R/V Walton Smith
CTD Station 0 (CTD000)
Latitude 26.999N Longitude 79.929W
21-Jul-2017 11:06Z

Pressure dbar	Temp90 °C	PoTemp90 °C	Salinity PSS-78	Oxygen μmol·kg^{-1}	DynHt m^2·s^{-2}	SigT kg·m^{-3}
1	30.013	30.013	36.183	193.7	0.005	22.609
10	29.928	29.925	36.270	193.8	0.052	22.704
20	28.562	28.557	36.292	201.1	0.102	23.182
30	27.442	27.435	36.219	205.5	0.147	23.496
50	24.657	24.646	36.465	208.1	0.225	24.557
75	20.271	20.257	36.425	158.3	0.293	25.780
100	15.130	15.115	35.950	128.3	0.338	26.679
125	12.801	12.784	35.657	124.8	0.369	26.946

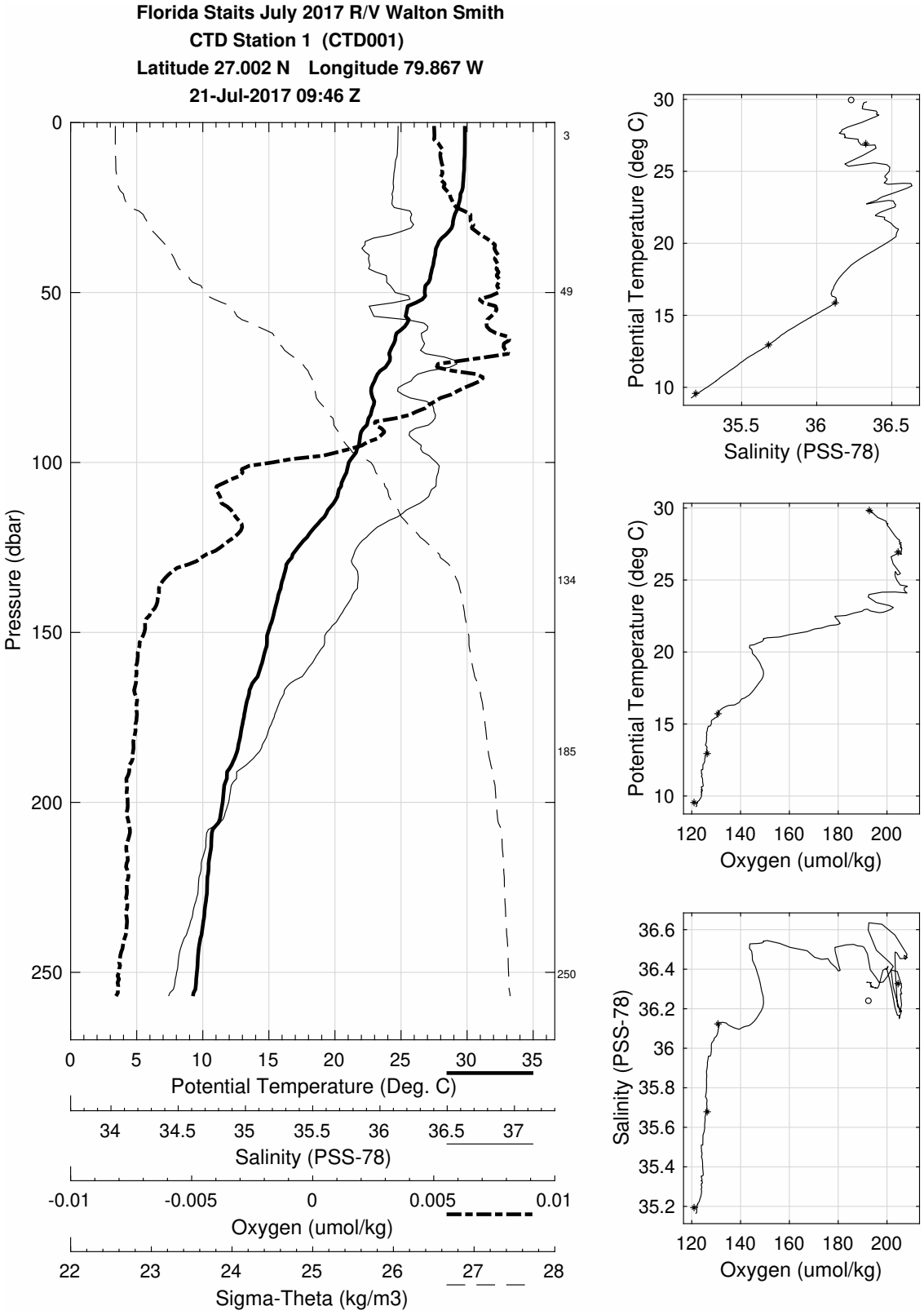
Pressure dbar	Niskin	Temp90 °C	PoTemp90 °C	Salinity PSS-78	Oxygen μmol·kg^{-1}
141	1	12.392	12.373	35.600	124.6
103	2	14.827	14.812	35.947	133.5
50	3	24.619	24.609	36.489	207.2
3	4	29.980	29.979	36.180	193.6


Florida Staits July 2017 R/V Walton Smith
CTD Station 0 (CTD000)
Latitude 26.999 N Longitude 79.929 W
21-Jul-2017 11:06 Z
Pressure (dbar)
Potential Temperature (Deg. C)
Salinity (PSS-78)
Oxygen (umol/kg)
Sigma-Theta (kg/m3)
Potential Temperature (deg C)
Salinity (PSS-78)
Oxygen (umol/kg)

Florida Staits July 2017 R/V Walton Smith
CTD Station 0 (CTD000)
Latitude 26.999N Longitude 79.929W
21-Jul-2017 11:06Z

Pressure dbar	Temp90 °C	PoTemp90 °C	Salinity PSS-78	Oxygen μmol·kg^{-1}	DynHt m^2·s^{-2}	SigT kg·m^{-3}
1	30.013	30.013	36.183	193.7	0.005	22.609
10	29.928	29.925	36.270	193.8	0.052	22.704
20	28.562	28.557	36.292	201.1	0.102	23.182
30	27.442	27.435	36.219	205.5	0.147	23.496
50	24.657	24.646	36.465	208.1	0.225	24.557
75	20.271	20.257	36.425	158.3	0.293	25.780
100	15.130	15.115	35.950	128.3	0.338	26.679
125	12.801	12.784	35.657	124.8	0.369	26.946

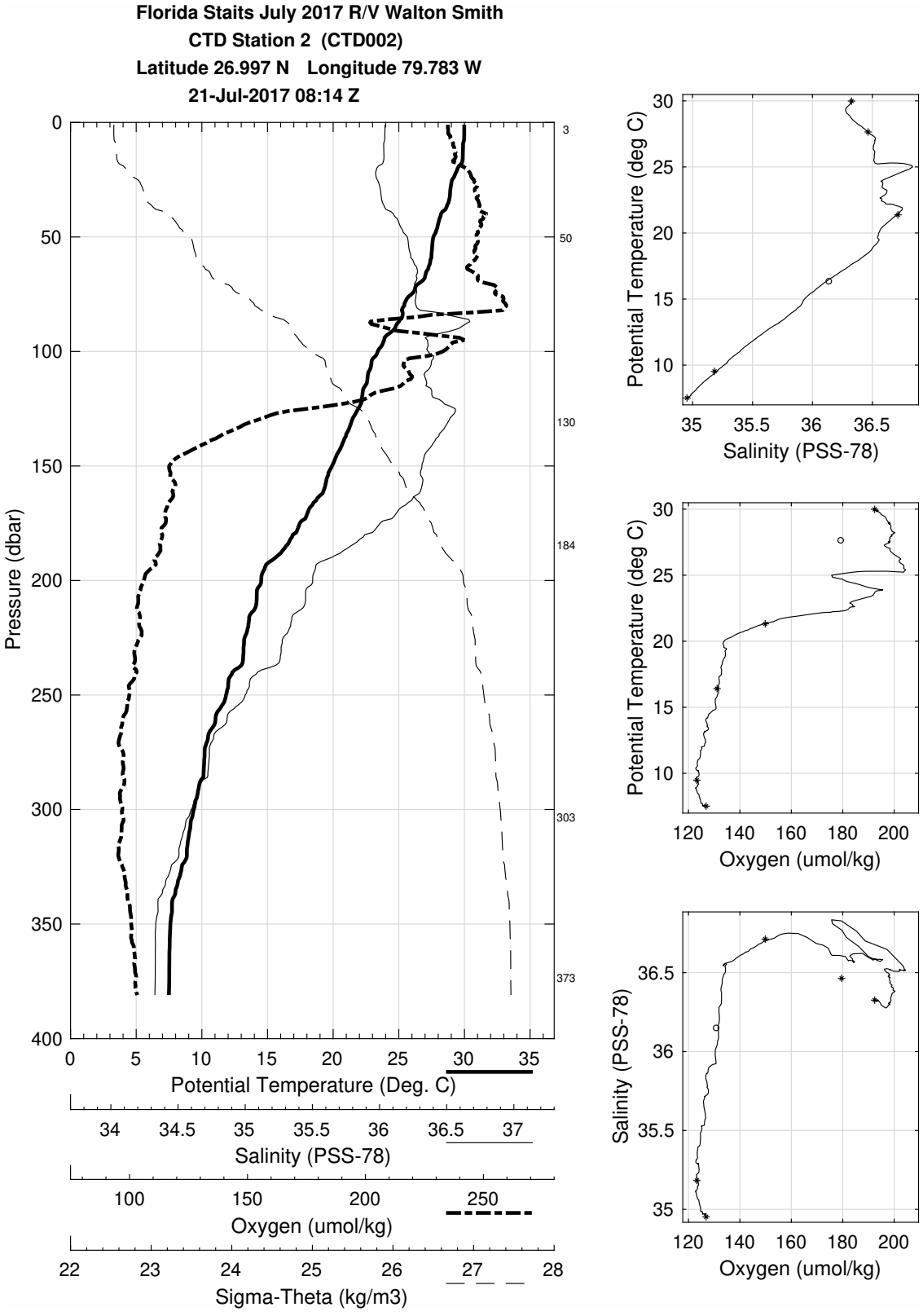
Pressure dbar	Niskin	Temp90 °C	PoTemp90 °C	Salinity PSS-78	Oxygen μmol·kg^{-1}
141	1	12.392	12.373	35.600	124.6
103	2	14.827	14.812	35.947	133.5
50	3	24.619	24.609	36.489	207.2
3	4	29.980	29.979	36.180	193.6


Florida Staits July 2017 R/V Walton Smith
CTD Station 1 (CTD001)
Latitude 27.002 N Longitude 79.867 W
21-Jul-2017 09:46 Z
Pressure (dbar)
Potential Temperature (Deg. C)
Salinity (PSS-78)
Oxygen (umol/kg)
Sigma-Theta (kg/m3)
Potential Temperature (deg C)
Salinity (PSS-78)
Potential Temperature (deg C)
Oxygen (umol/kg)
Salinity (PSS-78)
Oxygen (umol/kg)

Florida Staits July 2017 R/V Walton Smith
CTD Station 2 (CTD002)
Latitude 26.997N Longitude 79.783W
21-Jul-2017 08:14Z

Pressure dbar	Temp90 °C	PoTemp90 °C	Salinity PSS-78	Oxygen μmol·kg^{-1}	DynHt m^2·s^{-2}	SigT kg·m^{-3}
1	29.985	29.985	36.332	192.1	0.005	22.731
10	29.895	29.893	36.324	193.2	0.051	22.756
20	29.487	29.482	36.283	195.9	0.102	22.865
30	28.921	28.914	36.306	197.8	0.151	23.074
50	27.645	27.633	36.464	198.2	0.242	23.616
75	25.987	25.970	36.516	202.1	0.344	24.187
100	23.419	23.398	36.587	191.1	0.427	25.022
125	21.934	21.909	36.748	162.6	0.495	25.572
150	19.944	19.916	36.551	133.5	0.551	25.968
200	14.552	14.522	35.903	128.2	0.636	26.774
250	11.872	11.839	35.503	125.1	0.696	27.011
300	9.414	9.381	35.184	123.7	0.746	27.200

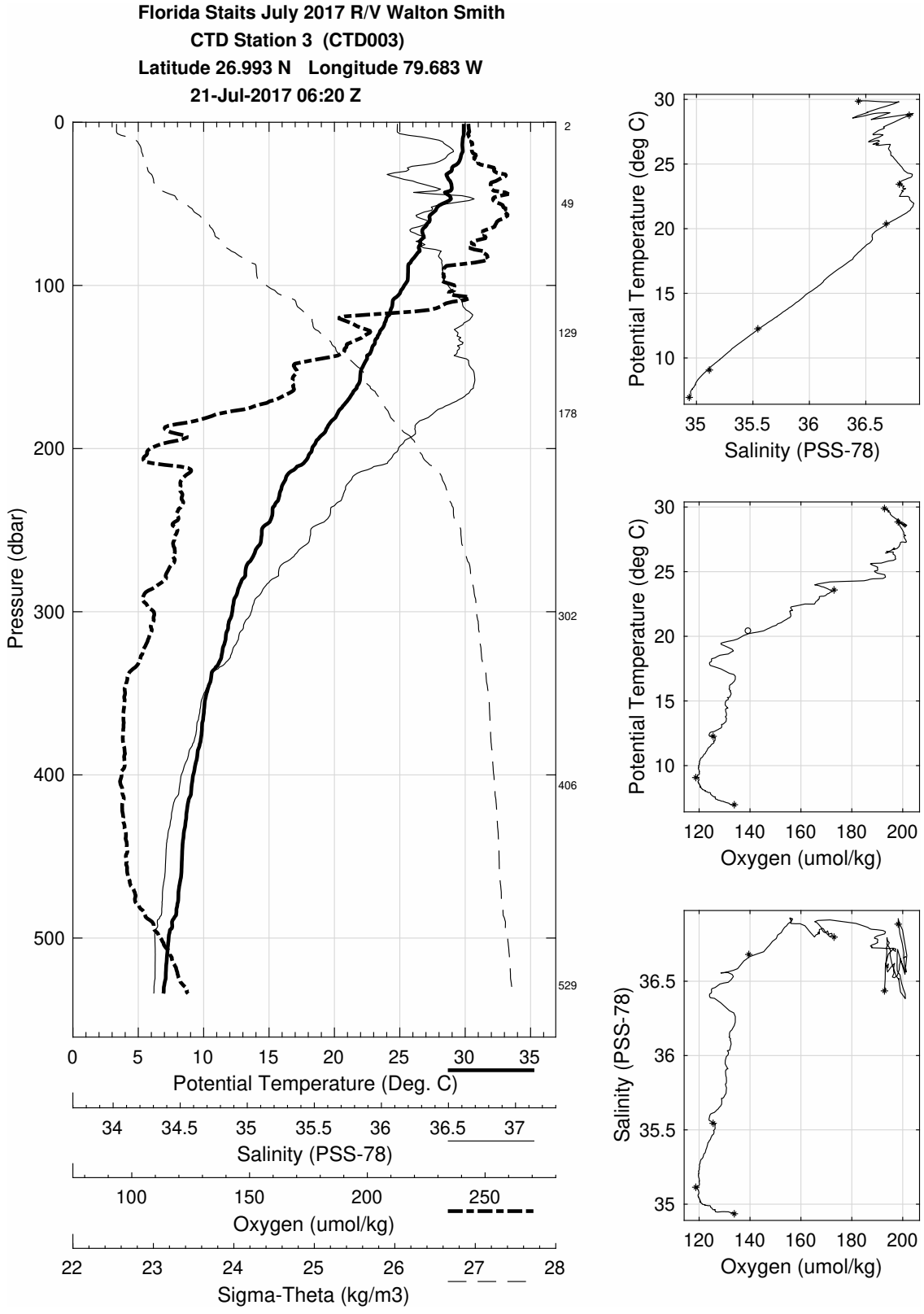
Pressure dbar	Niskin	Temp90 °C	PoTemp90 °C	Salinity PSS-78	Oxygen μmol·kg^{-1}
374	1	7.551	7.514	34.953	126.9
304	2	9.560	9.526	35.183	123.3
185	3	16.308	16.279	36.144	131.1
131	4	21.402	21.376	36.713	149.9
51	5	27.659	27.647	36.464	179.5
3	6	29.987	29.987	36.326	192.4


Florida Staits July 2017 R/V Walton Smith
CTD Station 2 (CTD002)
Latitude 26.997 N Longitude 79.783 W
21-Jul-2017 08:14 Z
Pressure (dbar)
Potential Temperature (Deg. C)
Salinity (PSS-78)
Oxygen (umol/kg)
Sigma-Theta (kg/m3)
Potential Temperature (deg C)
Salinity (PSS-78)
Potential Temperature (deg C)
Oxygen (umol/kg)
Salinity (PSS-78)
Oxygen (umol/kg)

Florida Staits July 2017 R/V Walton Smith
CTD Station 3 (CTD003)
Latitude 26.993N Longitude 79.683W
21-Jul-2017 06:20Z

Pressure dbar	Temp90 °C	PoTemp90 °C	Salinity PSS-78	Oxygen μmol·kg^{-1}	DynHt m^2·s^{-2}	SigT kg·m^{-3}
1	29.890	29.889	36.447	193.1	0.005	22.849
10	29.815	29.813	36.653	193.6	0.050	23.030
20	29.699	29.694	36.759	194.7	0.097	23.150
30	28.949	28.942	36.502	198.5	0.144	23.212
50	28.260	28.248	36.753	199.8	0.234	23.632
75	26.591	26.574	36.617	194.3	0.335	24.073
100	25.366	25.343	36.760	190.2	0.425	24.567
125	23.791	23.765	36.836	169.4	0.502	25.102
150	22.193	22.162	36.897	156.1	0.569	25.614
200	18.328	18.293	36.453	125.5	0.675	26.312
250	14.486	14.448	35.911	131.3	0.750	26.795
300	12.227	12.187	35.544	126.3	0.812	26.976
400	9.244	9.199	35.111	119.4	0.917	27.173
500	7.373	7.323	34.948	127.7	1.008	27.332

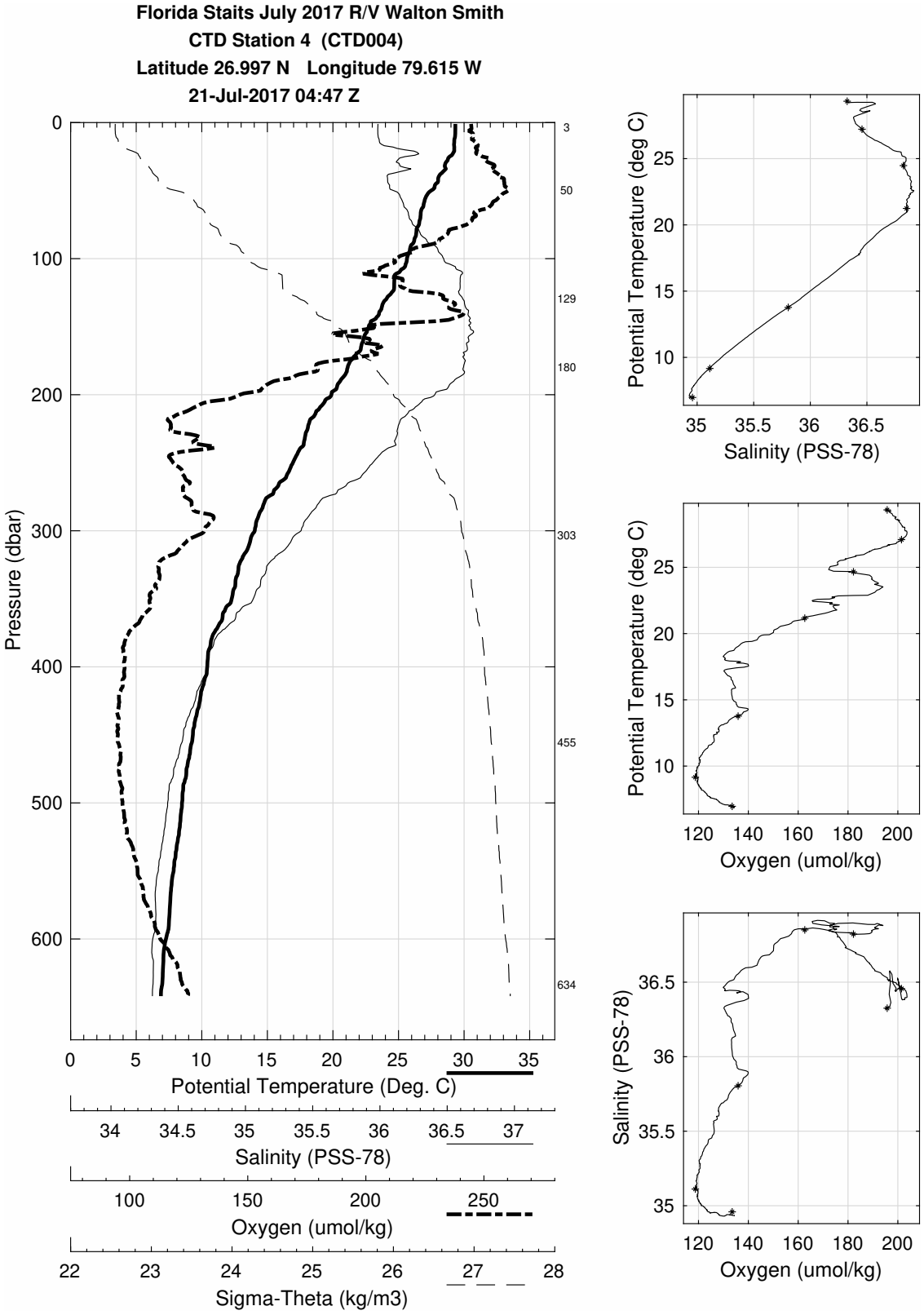
Pressure dbar	Niskin	Temp90 °C	PoTemp90 °C	Salinity PSS-78	Oxygen μmol·kg^{-1}
529	1	7.000	6.949	34.936	133.8
407	2	9.114	9.069	35.114	118.7
303	3	12.296	12.256	35.544	125.5
179	4	20.404	20.370	36.680	139.5
129	5	23.469	23.442	36.797	173.0
50	6	28.788	28.776	36.884	198.2
3	7	29.864	29.863	36.435	192.8


Florida Staits July 2017 R/V Walton Smith
CTD Station 3 (CTD003)
Latitude 26.993 N Longitude 79.683 W
21-Jul-2017 06:20 Z
Pressure (dbar)
Potential Temperature (Deg. C)
Salinity (PSS-78)
Oxygen (umol/kg)
Sigma-Theta (kg/m3)
Potential Temperature (deg C)
Salinity (PSS-78)
Potential Temperature (deg C)
Oxygen (umol/kg)
Salinity (PSS-78)
Oxygen (umol/kg)

Florida Staits July 2017 R/V Walton Smith
CTD Station 4 (CTD004)
Latitude 26.997N Longitude 79.615W
21-Jul-2017 04:47Z

Pressure dbar	Temp90 °C	PoTemp90 °C	Salinity PSS-78	Oxygen μmol·kg^{-1}	DynHt m^2·s^{-2}	SigT kg·m^{-3}
1	29.334	29.334	36.325	195.6	0.005	22.947
10	29.317	29.314	36.325	195.9	0.049	22.954
20	29.254	29.249	36.489	197.0	0.098	23.098
30	28.581	28.573	36.455	199.9	0.144	23.300
50	27.494	27.483	36.421	203.6	0.233	23.633
75	26.577	26.560	36.540	194.6	0.334	24.019
100	25.664	25.642	36.730	179.2	0.427	24.451
125	24.495	24.468	36.823	186.5	0.509	24.882
150	22.765	22.734	36.893	174.7	0.579	25.447
200	19.919	19.882	36.675	145.6	0.694	26.071
250	16.988	16.946	36.293	131.1	0.781	26.520
300	14.084	14.039	35.850	137.9	0.852	26.836
400	10.465	10.417	35.273	120.6	0.968	27.093
500	8.544	8.490	35.028	120.2	1.068	27.221
600	7.326	7.266	34.936	128.4	1.157	27.331

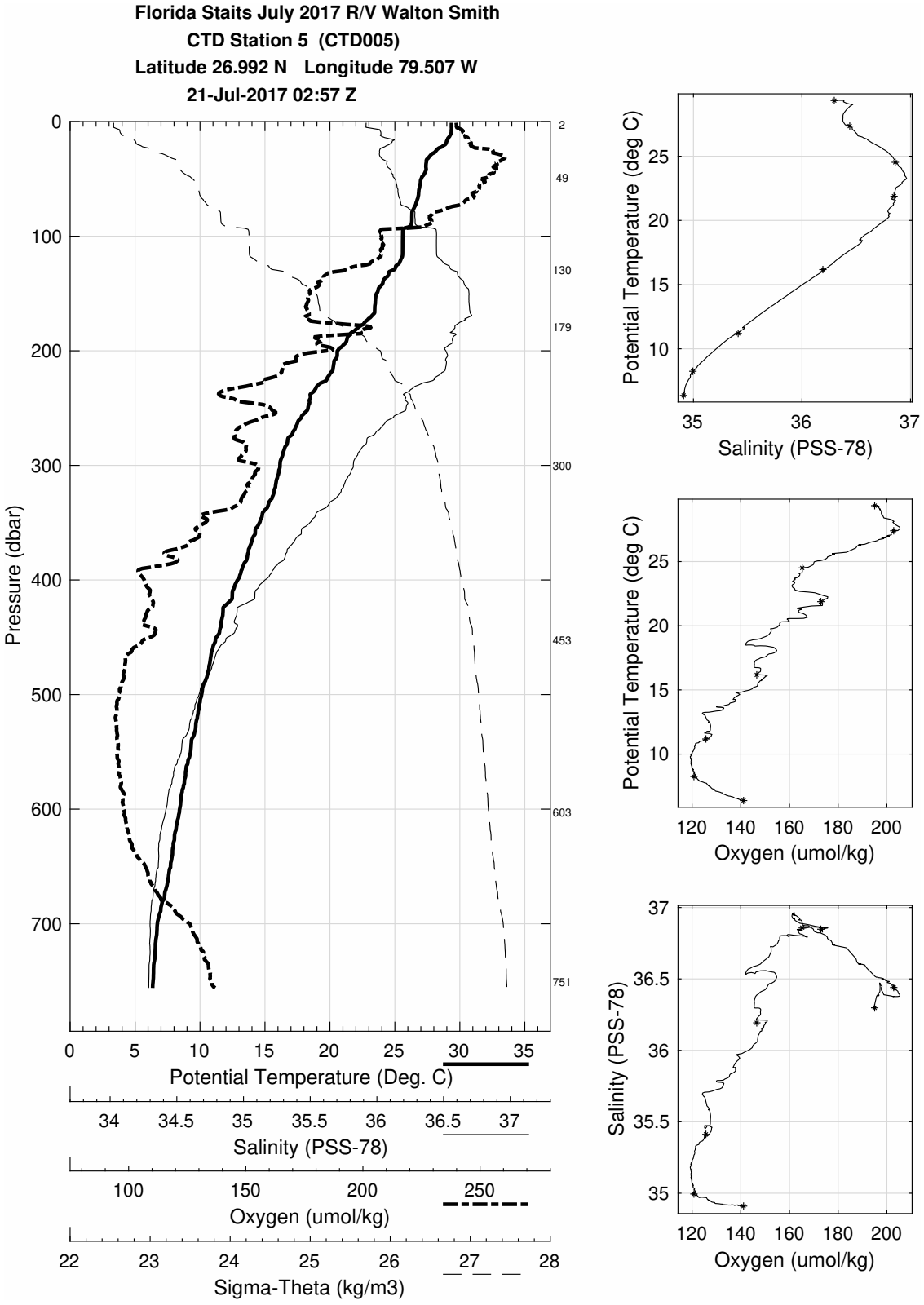
Pressure dbar	Niskin	Temp90 °C	PoTemp90 °C	Salinity PSS-78	Oxygen μmol·kg^{-1}
634	1	7.034	6.973	34.959	133.5
456	2	9.216	9.165	35.112	118.7
304	3	13.817	13.773	35.805	135.9
180	4	21.276	21.241	36.851	162.7
130	5	24.503	24.475	36.823	182.2
50	6	27.231	27.220	36.457	201.5
4	7	29.333	29.332	36.325	195.7


Florida Staits July 2017 R/V Walton Smith
CTD Station 4 (CTD004)
Latitude 26.997 N Longitude 79.615 W
21-Jul-2017 04:47 Z
Pressure (dbar)
Potential Temperature (Deg. C)
Salinity (PSS-78)
Oxygen (umol/kg)
Sigma-Theta (kg/m3)
Potential Temperature (deg C)
Salinity (PSS-78)
Potential Temperature (deg C)
Oxygen (umol/kg)
Salinity (PSS-78)
Oxygen (umol/kg)

Florida Staits July 2017 R/V Walton Smith
CTD Station 5 (CTD005)
Latitude 26.992N Longitude 79.507W
21-Jul-2017 02:57Z

Pressure dbar	Temp90 °C	PoTemp90 °C	Salinity PSS-78	Oxygen μmol·kg^{-1}	DynHt m^2·s^{-2}	SigT kg·m^{-3}
1	29.356	29.355	36.292	194.6	0.005	22.915
10	29.338	29.336	36.386	196.3	0.049	22.992
20	28.882	28.877	36.440	197.7	0.097	23.187
30	27.705	27.698	36.379	205.2	0.142	23.531
50	27.034	27.022	36.475	200.1	0.226	23.822
75	26.505	26.488	36.557	192.9	0.326	24.055
100	25.624	25.602	36.740	178.1	0.419	24.471
125	25.200	25.172	36.807	174.7	0.506	24.655
150	23.620	23.588	36.947	162.3	0.581	25.239
200	20.614	20.576	36.800	165.8	0.707	25.981
250	18.356	18.312	36.547	153.6	0.803	26.379
300	16.204	16.156	36.211	150.7	0.882	26.643
400	12.945	12.889	35.648	125.6	1.019	26.918
500	10.180	10.120	35.229	120.0	1.133	27.110
600	8.496	8.432	35.018	121.0	1.234	27.222
700	6.785	6.718	34.917	135.7	1.323	27.392

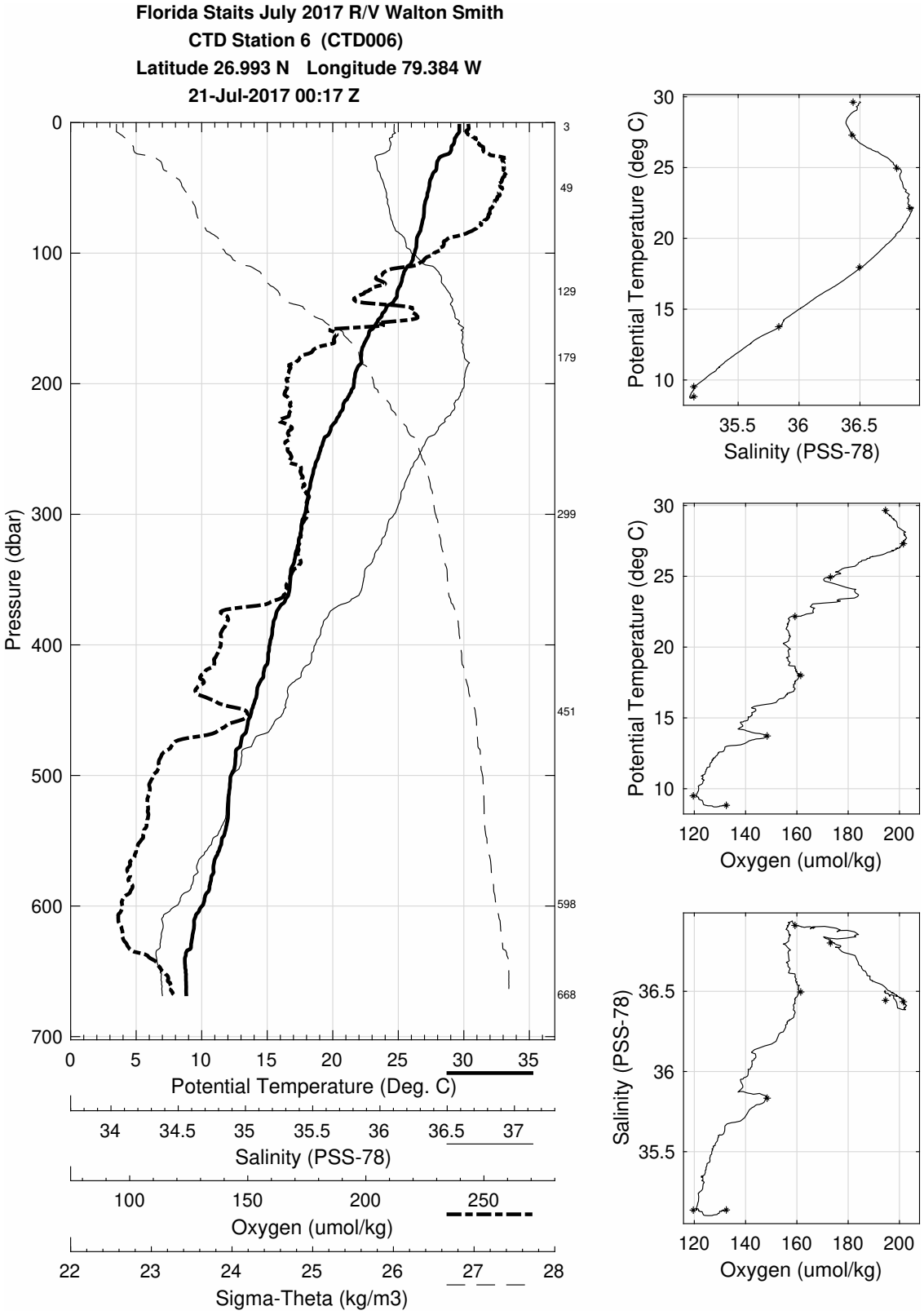
Pressure dbar	Niskin	Temp90 °C	PoTemp90 °C	Salinity PSS-78	Oxygen μmol·kg^{-1}
751	1	6.433	6.363	34.910	141.2
603	2	8.312	8.248	34.995	120.8
453	3	11.255	11.198	35.412	125.7
301	4	16.219	16.170	36.193	146.6
180	5	21.922	21.886	36.848	172.9
130	6	24.557	24.529	36.860	165.2
50	7	27.362	27.351	36.440	202.8
3	13	29.341	29.341	36.298	195.0


Florida Staits July 2017 R/V Walton Smith
CTD Station 5 (CTD005)
Latitude 26.992 N Longitude 79.507 W
21-Jul-2017 02:57 Z
Pressure (dbar)
Potential Temperature (Deg. C)
Salinity (PSS-78)
Oxygen (umol/kg)
Sigma-Theta (kg/m3)
Potential Temperature (deg C)
Salinity (PSS-78)
Potential Temperature (deg C)
Oxygen (umol/kg)
Salinity (PSS-78)
Oxygen (umol/kg)

Florida Staits July 2017 R/V Walton Smith
CTD Station 6 (CTD006)
Latitude 26.993N Longitude 79.384W
21-Jul-2017 00:17Z

Pressure dbar	Temp90 °C	PoTemp90 °C	Salinity PSS-78	Oxygen μmol·kg^{-1}	DynHt m^2·s^{-2}	SigT kg·m^{-3}
1	29.656	29.656	36.498	194.6	0.005	22.967
10	29.443	29.440	36.486	195.3	0.049	23.032
20	29.051	29.046	36.472	197.7	0.096	23.154
30	27.973	27.966	36.394	202.0	0.142	23.455
50	27.347	27.335	36.442	201.9	0.229	23.697
75	26.868	26.851	36.484	197.9	0.332	23.884
100	26.271	26.248	36.599	187.3	0.429	24.162
125	25.171	25.144	36.790	175.7	0.518	24.651
150	23.605	23.573	36.858	183.7	0.595	25.175
200	21.647	21.608	36.908	156.6	0.719	25.779
250	19.121	19.075	36.660	156.5	0.822	26.271
300	17.917	17.865	36.498	160.8	0.909	26.453
400	15.250	15.188	36.035	142.4	1.065	26.728
500	12.307	12.240	35.545	128.1	1.197	26.966
600	10.095	10.023	35.218	121.7	1.314	27.118

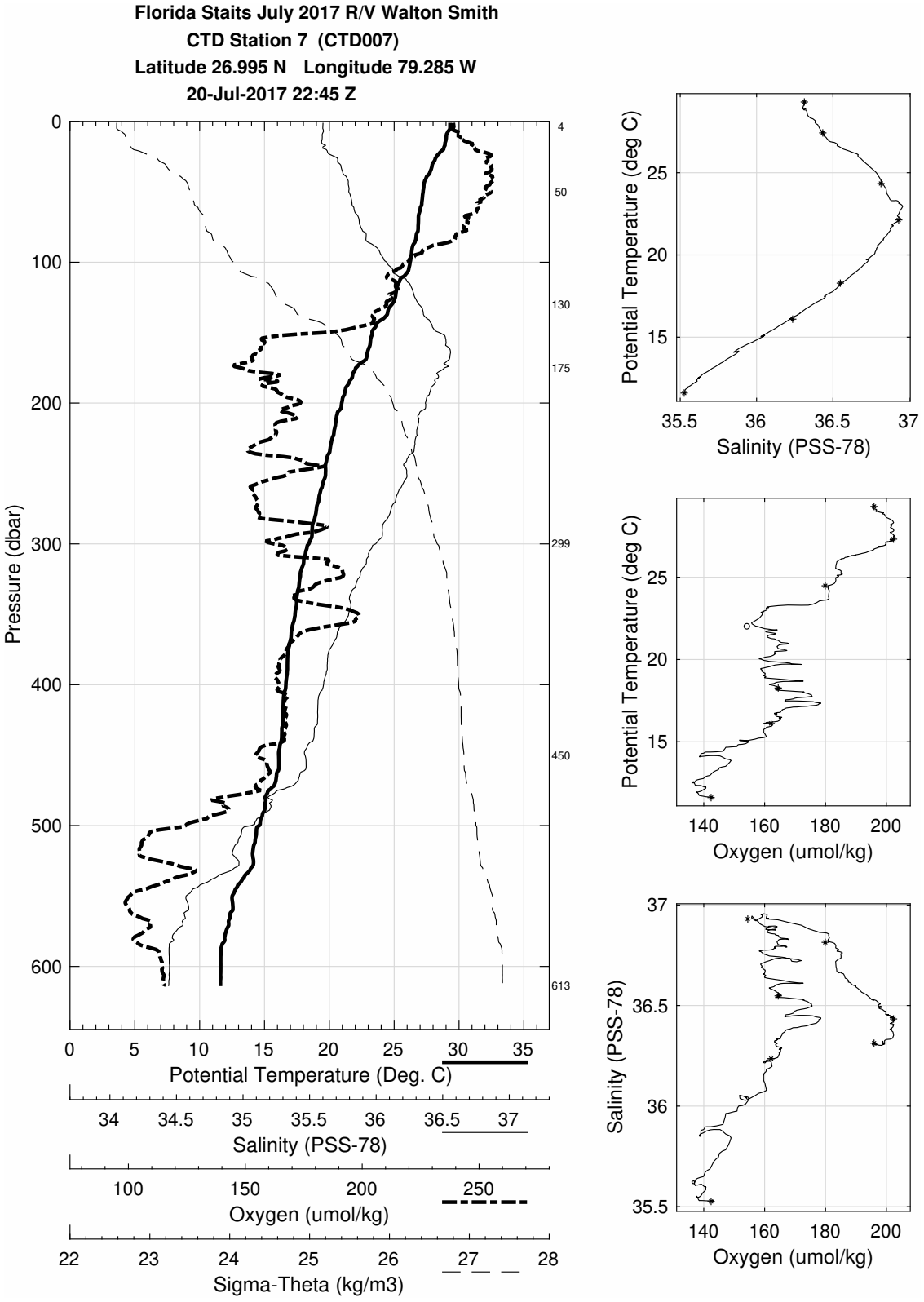
Pressure dbar	Niskin	Temp90 °C	PoTemp90 °C	Salinity PSS-78	Oxygen μmol·kg^{-1}
668	1	8.901	8.826	35.136	132.5
598	2	9.596	9.527	35.135	119.6
451	3	13.827	13.761	35.834	148.4
300	4	18.011	17.959	36.496	161.5
180	5	22.162	22.126	36.911	159.3
129	6	24.991	24.962	36.802	173.1
50	7	27.304	27.292	36.435	201.5
3	13	29.618	29.617	36.444	194.6


Florida Staits July 2017 R/V Walton Smith
CTD Station 6 (CTD006)
Latitude 26.993 N Longitude 79.384 W
21-Jul-2017 00:17 Z
Pressure (dbar)
Potential Temperature (Deg. C)
Salinity (PSS-78)
Oxygen (umol/kg)
Sigma-Theta (kg/m3)
Potential Temperature (deg C)
Salinity (PSS-78)
Potential Temperature (deg C)
Oxygen (umol/kg)
Salinity (PSS-78)
Oxygen (umol/kg)

Florida Staits July 2017 R/V Walton Smith
CTD Station 7 (CTD007)
Latitude 26.995N Longitude 79.285W
20-Jul-2017 22:45Z

Pressure dbar	Temp90 °C	PoTemp90 °C	Salinity PSS-78	Oxygen μmol·kg^{-1}	DynHt m^2·s^{-2}	SigT kg·m^{-3}
1	29.306	29.305	36.309	195.5	0.005	22.945
10	29.029	29.026	36.305	196.2	0.049	23.036
20	28.809	28.804	36.326	199.4	0.097	23.126
30	27.962	27.955	36.393	202.1	0.142	23.457
50	27.243	27.231	36.440	202.4	0.228	23.728
75	26.866	26.849	36.500	197.4	0.330	23.897
100	26.246	26.224	36.633	187.1	0.428	24.195
125	25.108	25.081	36.775	184.3	0.516	24.659
150	23.329	23.298	36.900	172.0	0.592	25.288
200	20.992	20.953	36.828	167.8	0.714	25.899
250	19.755	19.708	36.734	165.6	0.815	26.162
300	18.467	18.414	36.576	163.1	0.907	26.376
400	16.717	16.650	36.312	164.0	1.070	26.605
500	14.674	14.598	35.946	147.0	1.221	26.790
600	11.703	11.624	35.531	142.7	1.348	27.074

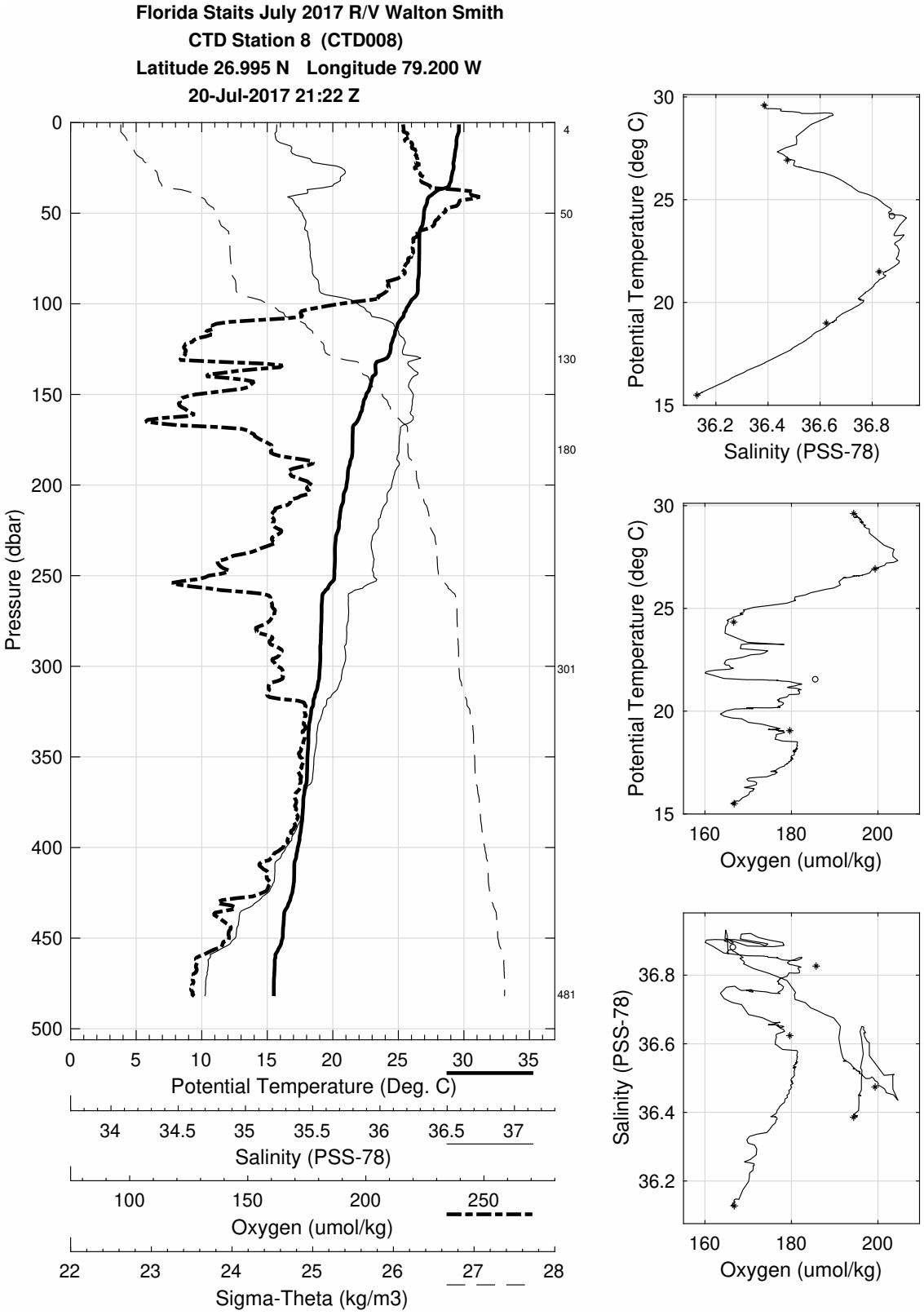
Pressure dbar	Niskin	Temp90 °C	PoTemp90 °C	Salinity PSS-78	Oxygen μmol·kg^{-1}
614	1	11.685	11.604	35.526	142.4
450	2	16.167	16.094	36.236	162.1
300	3	18.336	18.284	36.548	164.5
175	4	22.163	22.127	36.930	154.5
130	5	24.371	24.343	36.814	179.9
50	6	27.433	27.422	36.433	202.3
4	7	29.302	29.301	36.313	195.9


Florida Staits July 2017 R/V Walton Smith
CTD Station 7 (CTD007)
Latitude 26.995 N Longitude 79.285 W
20-Jul-2017 22:45 Z
Pressure (dbar)
Potential Temperature (Deg. C)
Salinity (PSS-78)
Oxygen (umol/kg)
Sigma-Theta (kg/m3)
Potential Temperature (deg C)
Salinity (PSS-78)
Potential Temperature (deg C)
Oxygen (umol/kg)
Salinity (PSS-78)
Oxygen (umol/kg)

Florida Staits July 2017 R/V Walton Smith
CTD Station 8 (CTD008)
Latitude 26.995N Longitude 79.200W
20-Jul-2017 21:22Z

Pressure dbar	Temp90 °C	PoTemp90 °C	Salinity PSS-78	Oxygen μmol·kg^{-1}	DynHt m^2·s^{-2}	SigT kg·m^{-3}
1	29.617	29.617	36.395	194.4	0.005	22.903
10	29.432	29.430	36.395	194.5	0.049	22.967
20	29.257	29.252	36.519	196.3	0.098	23.120
30	29.052	29.045	36.633	197.1	0.144	23.276
50	26.963	26.952	36.490	199.7	0.230	23.856
75	26.607	26.590	36.522	195.0	0.329	23.996
100	25.856	25.834	36.697	186.0	0.426	24.366
125	24.443	24.416	36.865	165.3	0.508	24.929
150	22.573	22.543	36.904	166.7	0.576	25.511
200	21.077	21.038	36.823	182.2	0.692	25.872
250	20.162	20.115	36.755	168.5	0.797	26.071
300	19.073	19.018	36.644	177.6	0.891	26.274
400	17.390	17.322	36.429	178.4	1.064	26.534

Pressure dbar	Niskin	Temp90 °C	PoTemp90 °C	Salinity PSS-78	Oxygen μmol·kg^{-1}
481	1	15.567	15.491	36.127	166.8
302	2	19.048	18.993	36.624	179.6
181	3	21.530	21.494	36.827	185.7
130	4	24.190	24.162	36.879	166.7
50	5	26.939	26.927	36.474	199.3
4	6	29.597	29.596	36.386	194.4

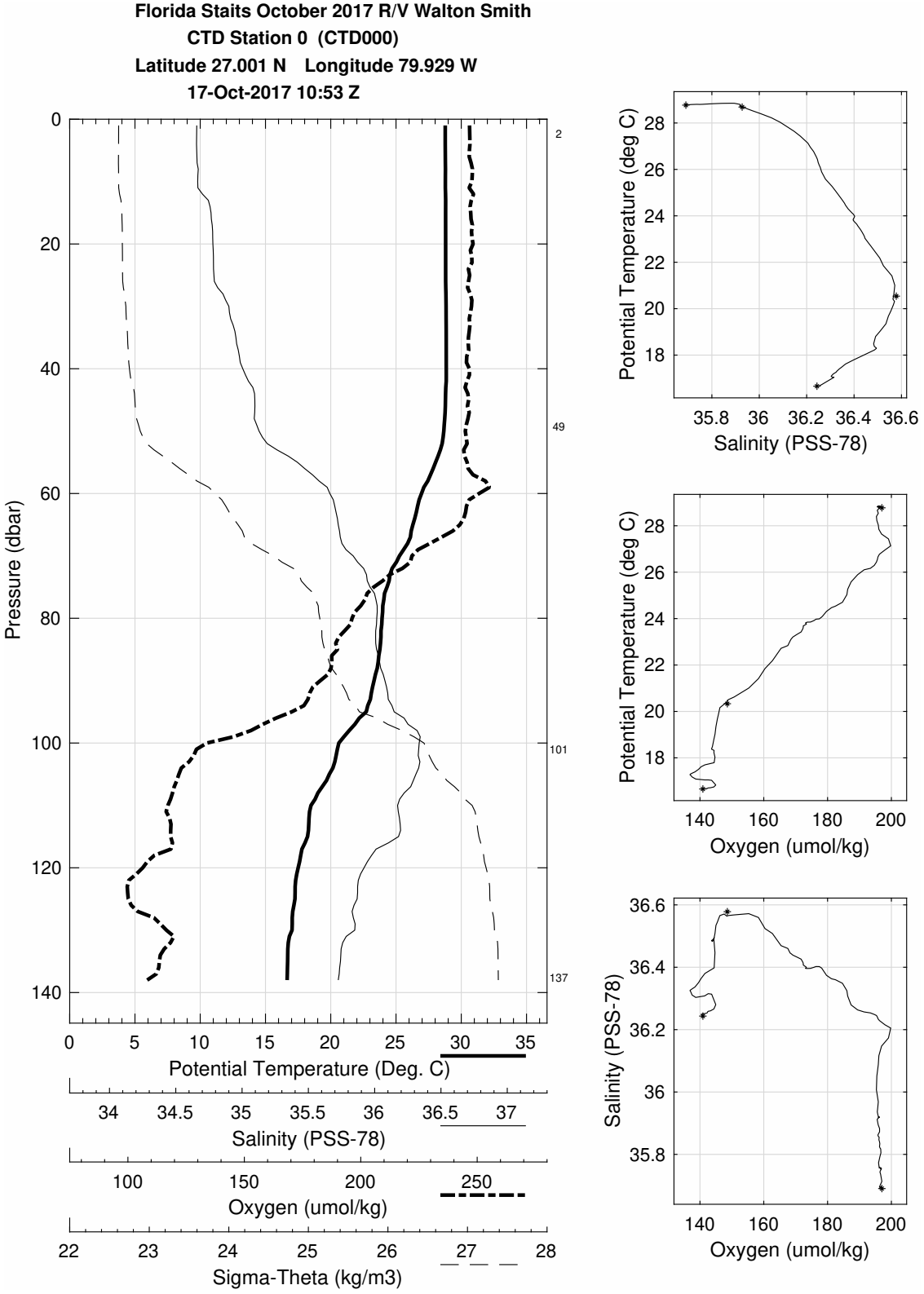

Florida Staits July 2017 R/V Walton Smith
CTD Station 8 (CTD008)
Latitude 26.995 N Longitude 79.200 W
20-Jul-2017 21:22 Z
Pressure (dbar)
Potential Temperature (Deg. C)
Salinity (PSS-78)
Oxygen (umol/kg)
Sigma-Theta (kg/m3)
Potential Temperature (deg C)
Salinity (PSS-78)
Potential Temperature (deg C)
Oxygen (umol/kg)
Salinity (PSS-78)
Oxygen (umol/kg)

A.4 FC1710

Florida Staits October 2017 R/V Walton Smith
CTD Station 0 (CTD000)
Latitude 27.001N Longitude 79.929W
17-Oct-2017 10:53Z

Pressure dbar	Temp90 °C	PoTemp90 °C	Salinity PSS-78	Oxygen μmol·kg^{-1}	DynHt m^2·s^{-2}	SigT kg·m^{-3}
1	28.774	28.773	35.691	196.3	0.005	22.659
10	28.785	28.783	35.695	196.7	0.052	22.658
20	28.808	28.803	35.755	196.9	0.103	22.697
30	28.843	28.836	35.817	196.7	0.155	22.733
50	28.674	28.662	35.937	195.6	0.256	22.880
75	24.327	24.311	36.374	179.7	0.360	24.589
100	20.639	20.620	36.568	150.7	0.435	25.792
125	17.280	17.259	36.323	137.0	0.481	26.468

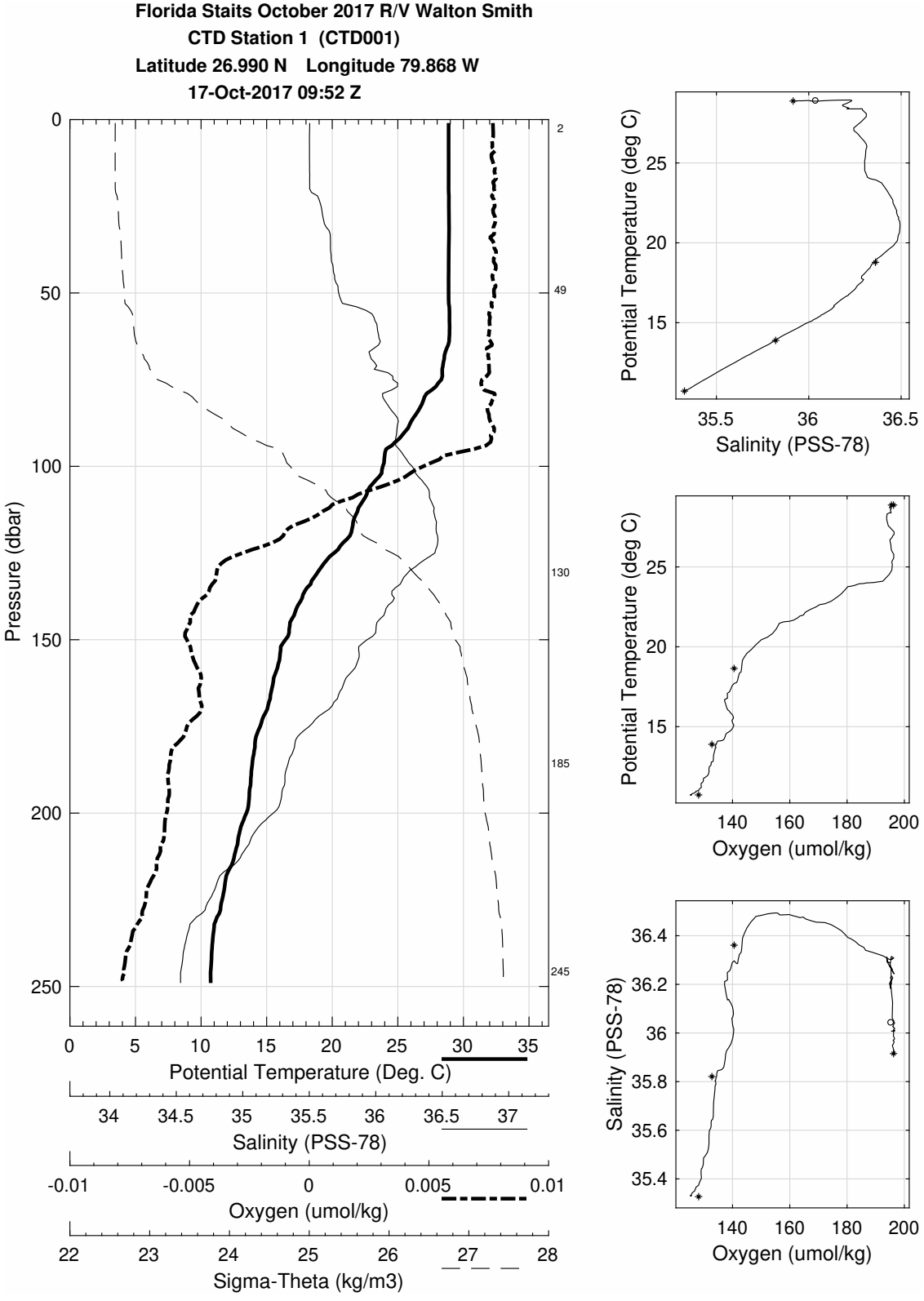
Pressure dbar	Niskin	Temp90 °C	PoTemp90 °C	Salinity PSS-78	Oxygen μmol·kg^{-1}
138	1	16.682	16.660	36.243	140.9
101	2	20.559	20.540	36.578	148.6
49	3	28.698	28.686	35.928	208.9
2	4	28.770	28.770	35.690	197.0


Florida Staits October 2017 R/V Walton Smith
CTD Station 0 (CTD000)
Latitude 27.001 N Longitude 79.929 W
17-Oct-2017 10:53 Z
Pressure (dbar)
Potential Temperature (Deg. C)
Salinity (PSS-78)
Oxygen (umol/kg)
Sigma-Theta (kg/m3)
Potential Temperature (deg C)
Salinity (PSS-78)
Potential Temperature (deg C)
Oxygen (umol/kg)
Salinity (PSS-78)
Oxygen (umol/kg)

Florida Staits October 2017 R/V Walton Smith
CTD Station 1 (CTD001)
Latitude 26.990N Longitude 79.868W
17-Oct-2017 09:52Z

Pressure dbar	Temp90 °C	PoTemp90 °C	Salinity PSS-78	Oxygen μmol·kg^{-1}	DynHt m^2·s^{-2}	SigT kg·m^{-3}
1	28.872	28.872	35.914	196.1	0.005	22.794
10	28.874	28.871	35.913	195.8	0.051	22.793
20	28.876	28.871	35.914	196.3	0.101	22.794
30	28.908	28.901	35.981	196.4	0.152	22.834
50	28.883	28.871	36.045	196.3	0.252	22.892
75	28.334	28.316	36.291	194.0	0.373	23.261
100	23.873	23.852	36.377	182.8	0.469	24.728
125	20.160	20.136	36.480	148.2	0.537	25.855
150	16.452	16.428	36.174	137.6	0.581	26.551
200	13.483	13.455	35.750	133.7	0.647	26.881

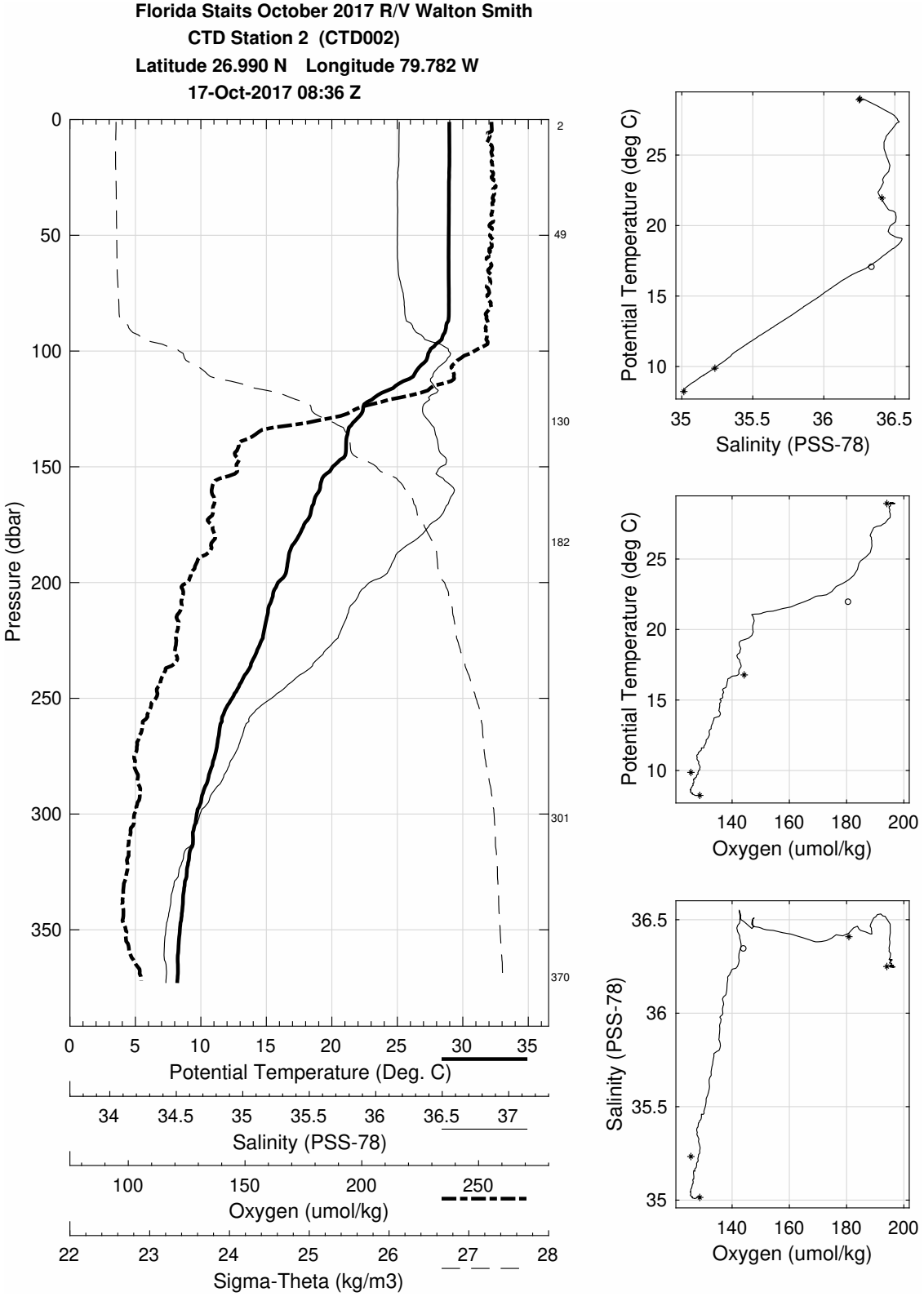
Pressure dbar	Niskin	Temp90 °C	PoTemp90 °C	Salinity PSS-78	Oxygen μmol·kg^{-1}
246	1	10.752	10.722	35.327	128.2
186	2	13.918	13.891	35.821	132.8
131	3	18.806	18.782	36.361	140.5
49	4	28.867	28.855	36.040	195.5
3	5	28.877	28.876	35.915	196.2


Florida Staits October 2017 R/V Walton Smith
CTD Station 1 (CTD001)
Latitude 26.990 N Longitude 79.868 W
17-Oct-2017 09:52 Z
Pressure (dbar)
Potential Temperature (Deg. C)
Salinity (PSS-78)
Oxygen (umol/kg)
Sigma-Theta (kg/m3)
Potential Temperature (deg C)
Salinity (PSS-78)
Potential Temperature (deg C)
Oxygen (umol/kg)
Salinity (PSS-78)
Oxygen (umol/kg)

Florida Staits October 2017 R/V Walton Smith
CTD Station 2 (CTD002)
Latitude 26.990N Longitude 79.782W
17-Oct-2017 08:36Z

Pressure dbar	Temp90 °C	PoTemp90 °C	Salinity PSS-78	Oxygen μmol·kg^{-1}	DynHt m^2·s^{-2}	SigT kg·m^{-3}
1	28.969	28.969	36.258	196.0	0.005	23.020
10	28.977	28.974	36.257	195.1	0.048	23.017
20	28.981	28.977	36.255	196.2	0.097	23.015
30	28.947	28.939	36.248	196.2	0.145	23.021
50	28.936	28.924	36.248	195.6	0.242	23.027
75	28.954	28.935	36.279	195.6	0.364	23.046
100	27.495	27.472	36.520	192.7	0.481	23.711
125	22.412	22.386	36.382	170.1	0.571	25.159
150	20.088	20.060	36.478	147.2	0.634	25.874
200	15.920	15.888	36.099	137.8	0.719	26.619
250	12.424	12.390	35.579	131.8	0.786	26.963
300	9.718	9.684	35.200	127.7	0.838	27.162

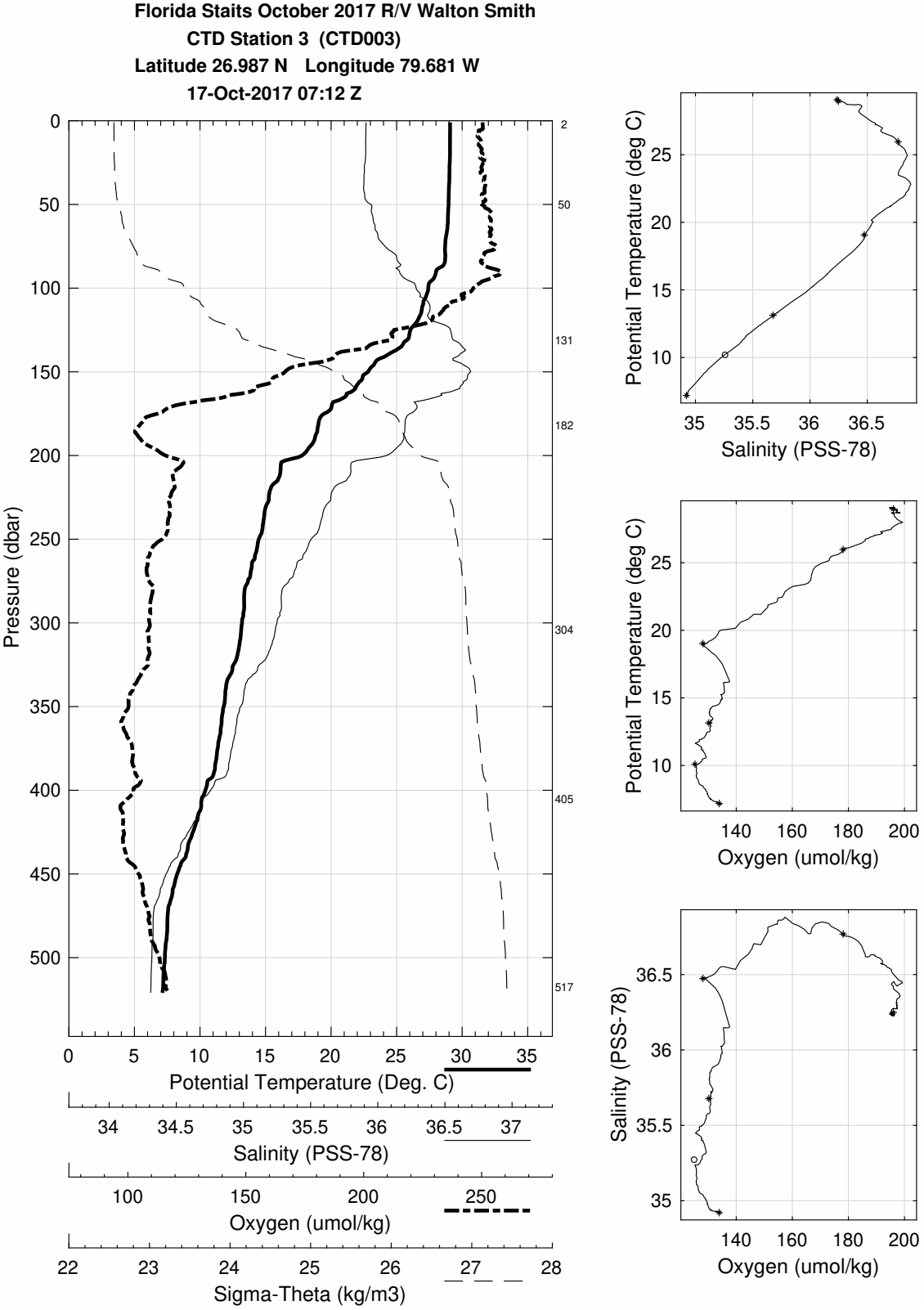
Pressure dbar	Niskin	Temp90 °C	PoTemp90 °C	Salinity PSS-78	Oxygen μmol·kg^{-1}
371	1	8.268	8.229	35.015	128.7
302	2	9.919	9.884	35.233	125.6
183	3	17.044	17.014	36.342	144.2
130	4	21.982	21.956	36.409	180.8
50	5	28.943	28.931	36.250	194.1
3	6	28.985	28.984	36.255	234.7


Florida Staits October 2017 R/V Walton Smith
CTD Station 2 (CTD002)
Latitude 26.990 N Longitude 79.782 W
17-Oct-2017 08:36 Z
Pressure (dbar)
Potential Temperature (Deg. C)
Salinity (PSS-78)
Oxygen (umol/kg)
Sigma-Theta (kg/m3)
Potential Temperature (deg C)
Salinity (PSS-78)
Oxygen (umol/kg)

Florida Staits October 2017 R/V Walton Smith
CTD Station 3 (CTD003)
Latitude 26.987N Longitude 79.681W
17-Oct-2017 07:12Z

Pressure dbar	Temp90 °C	PoTemp90 °C	Salinity PSS-78	Oxygen μmol·kg^{-1}	DynHt m^2·s^{-2}	SigT kg·m^{-3}
1	29.079	29.079	36.240	195.7	0.005	22.969
10	29.077	29.074	36.239	195.0	0.049	22.970
20	29.077	29.072	36.239	195.9	0.098	22.970
30	29.043	29.036	36.230	195.7	0.147	22.976
50	28.980	28.968	36.271	195.5	0.244	23.029
75	28.718	28.700	36.356	198.5	0.364	23.183
100	27.439	27.415	36.547	193.9	0.477	23.749
125	26.082	26.054	36.756	178.4	0.576	24.342
150	22.857	22.826	36.880	157.3	0.655	25.411
200	17.819	17.785	36.366	134.0	0.760	26.372
250	14.521	14.483	35.904	133.4	0.831	26.782
300	13.247	13.205	35.696	130.9	0.895	26.890
400	10.457	10.408	35.289	127.8	1.010	27.107
500	7.372	7.323	34.930	132.9	1.102	27.318

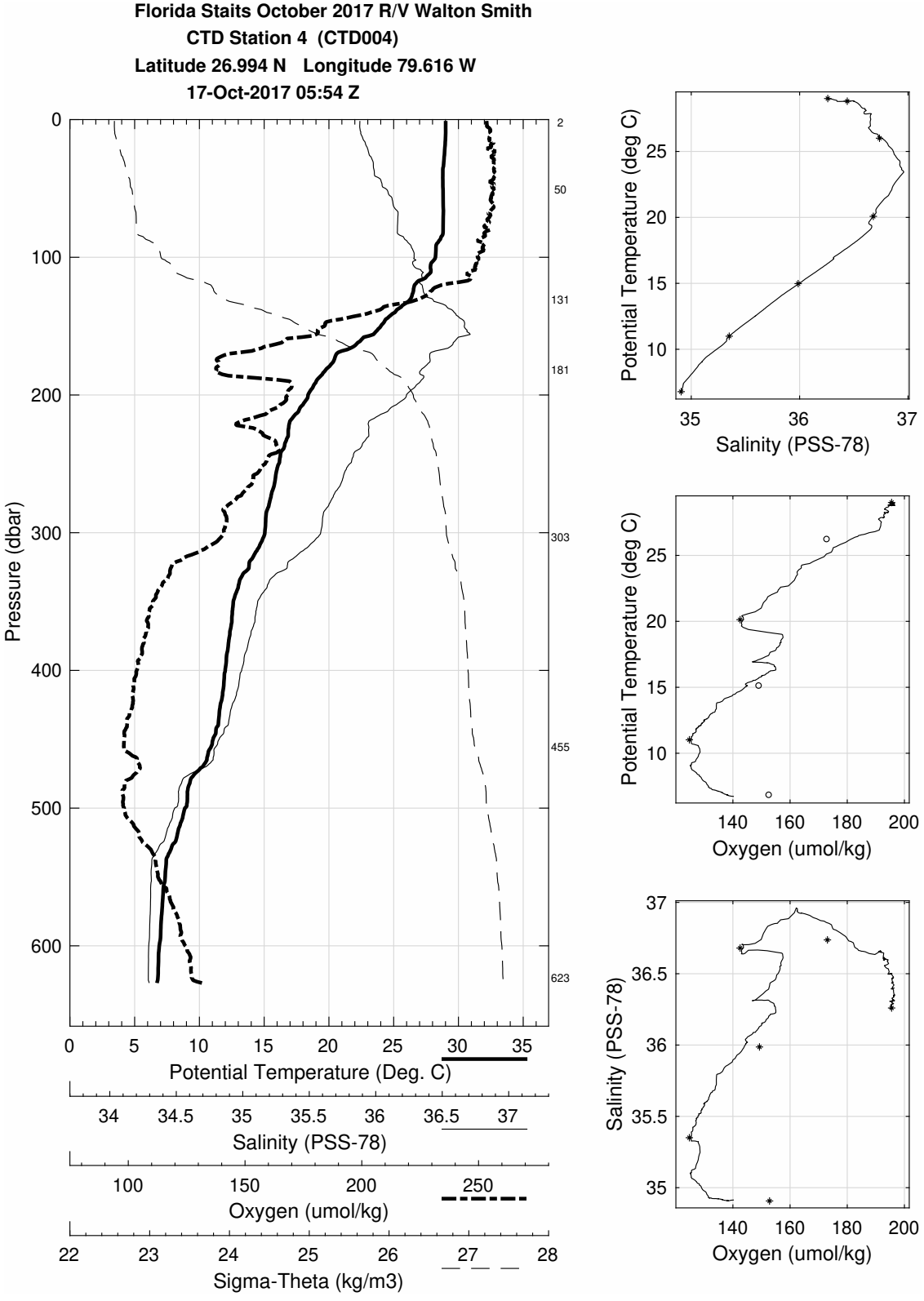
Pressure dbar	Niskin	Temp90 °C	PoTemp90 °C	Salinity PSS-78	Oxygen μmol·kg^{-1}
518	1	7.241	7.191	34.921	133.9
406	2	10.177	10.128	35.266	125.3
304	3	13.162	13.120	35.677	130.2
182	4	19.103	19.070	36.474	128.1
131	5	25.988	25.958	36.769	178.1
50	6	28.973	28.961	36.247	196.0
2	7	29.073	29.072	36.237	233.7


Florida Staits October 2017 R/V Walton Smith
CTD Station 3 (CTD003)
Latitude 26.987 N Longitude 79.681 W
17-Oct-2017 07:12 Z
Pressure (dbar)
Potential Temperature (Deg. C)
Salinity (PSS-78)
Oxygen (umol/kg)
Sigma-Theta (kg/m3)
Potential Temperature (deg C)
Salinity (PSS-78)
Potential Temperature (deg C)
Oxygen (umol/kg)
Salinity (PSS-78)
Oxygen (umol/kg)

Florida Staits October 2017 R/V Walton Smith
CTD Station 4 (CTD004)
Latitude 26.994N Longitude 79.616W
17-Oct-2017 05:54Z

Pressure dbar	Temp90 °C	PoTemp90 °C	Salinity PSS-78	Oxygen μmol·kg^{-1}	DynHt m^2·s^{-2}	SigT kg·m^{-3}
1	29.014	29.013	36.258	194.8	0.005	23.005
10	29.015	29.013	36.263	195.7	0.049	23.008
20	28.959	28.954	36.304	195.8	0.097	23.059
30	28.883	28.876	36.340	196.1	0.145	23.112
50	28.818	28.806	36.421	196.4	0.239	23.196
75	28.838	28.820	36.499	195.3	0.356	23.250
100	28.246	28.222	36.604	193.0	0.469	23.528
125	26.538	26.509	36.663	184.0	0.572	24.128
150	24.039	24.007	36.923	163.8	0.656	25.096
200	18.421	18.386	36.555	156.8	0.765	26.367
250	16.167	16.126	36.193	152.4	0.844	26.636
300	15.096	15.050	36.008	144.6	0.915	26.738
400	12.046	11.993	35.504	127.8	1.039	26.982
500	8.931	8.876	35.076	125.5	1.148	27.198
600	6.958	6.901	34.911	137.2	1.235	27.363

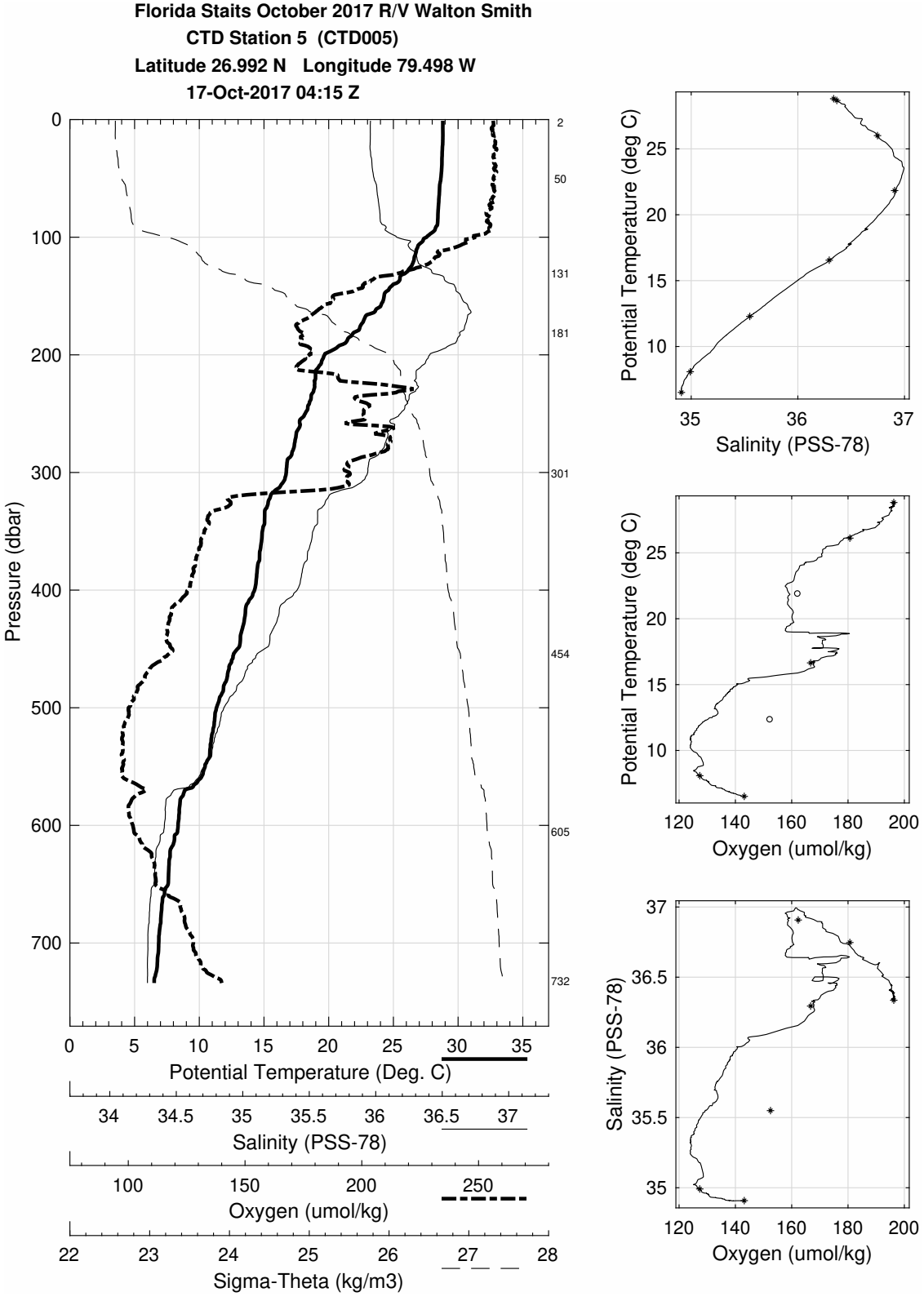
Pressure dbar	Niskin	Temp90 °C	PoTemp90 °C	Salinity PSS-78	Oxygen μmol·kg^{-1}
624	1	6.846	6.787	34.907	152.8
456	2	11.048	10.991	35.350	124.8
303	3	15.024	14.977	35.987	149.3
182	4	20.112	20.078	36.680	142.5
131	5	26.033	26.003	36.737	173.1
51	6	28.824	28.811	36.440	219.9
3	7	29.012	29.012	36.260	195.5


Florida Staits October 2017 R/V Walton Smith
CTD Station 4 (CTD004)
Latitude 26.994 N Longitude 79.616 W
17-Oct-2017 05:54 Z
Pressure (dbar)
Potential Temperature (Deg. C)
Salinity (PSS-78)
Oxygen (umol/kg)
Sigma-Theta (kg/m3)
Potential Temperature (deg C)
Salinity (PSS-78)
Oxygen (umol/kg)

Florida Staits October 2017 R/V Walton Smith
CTD Station 5 (CTD005)
Latitude 26.992N Longitude 79.498W
17-Oct-2017 04:15Z

Pressure dbar	Temp90 °C	PoTemp90 °C	Salinity PSS-78	Oxygen μmol·kg^{-1}	DynHt m^2·s^{-2}	SigT kg·m^{-3}
1	28.822	28.821	36.345	196.0	0.005	23.135
10	28.824	28.821	36.344	195.4	0.047	23.134
20	28.814	28.810	36.343	196.4	0.095	23.137
30	28.774	28.767	36.347	196.2	0.142	23.154
50	28.676	28.664	36.369	196.0	0.236	23.205
75	28.490	28.472	36.402	195.8	0.352	23.294
100	27.584	27.561	36.515	192.6	0.465	23.678
125	26.390	26.361	36.691	182.1	0.564	24.196
150	24.315	24.283	36.928	164.9	0.647	25.017
200	19.720	19.683	36.728	160.3	0.771	26.164
250	18.225	18.181	36.537	170.9	0.862	26.405
300	16.771	16.721	36.328	168.1	0.941	26.601
400	14.328	14.268	35.872	136.8	1.083	26.804
500	11.392	11.328	35.400	125.2	1.208	27.027
600	8.424	8.360	35.016	126.1	1.315	27.232
700	6.931	6.864	34.910	137.8	1.402	27.367

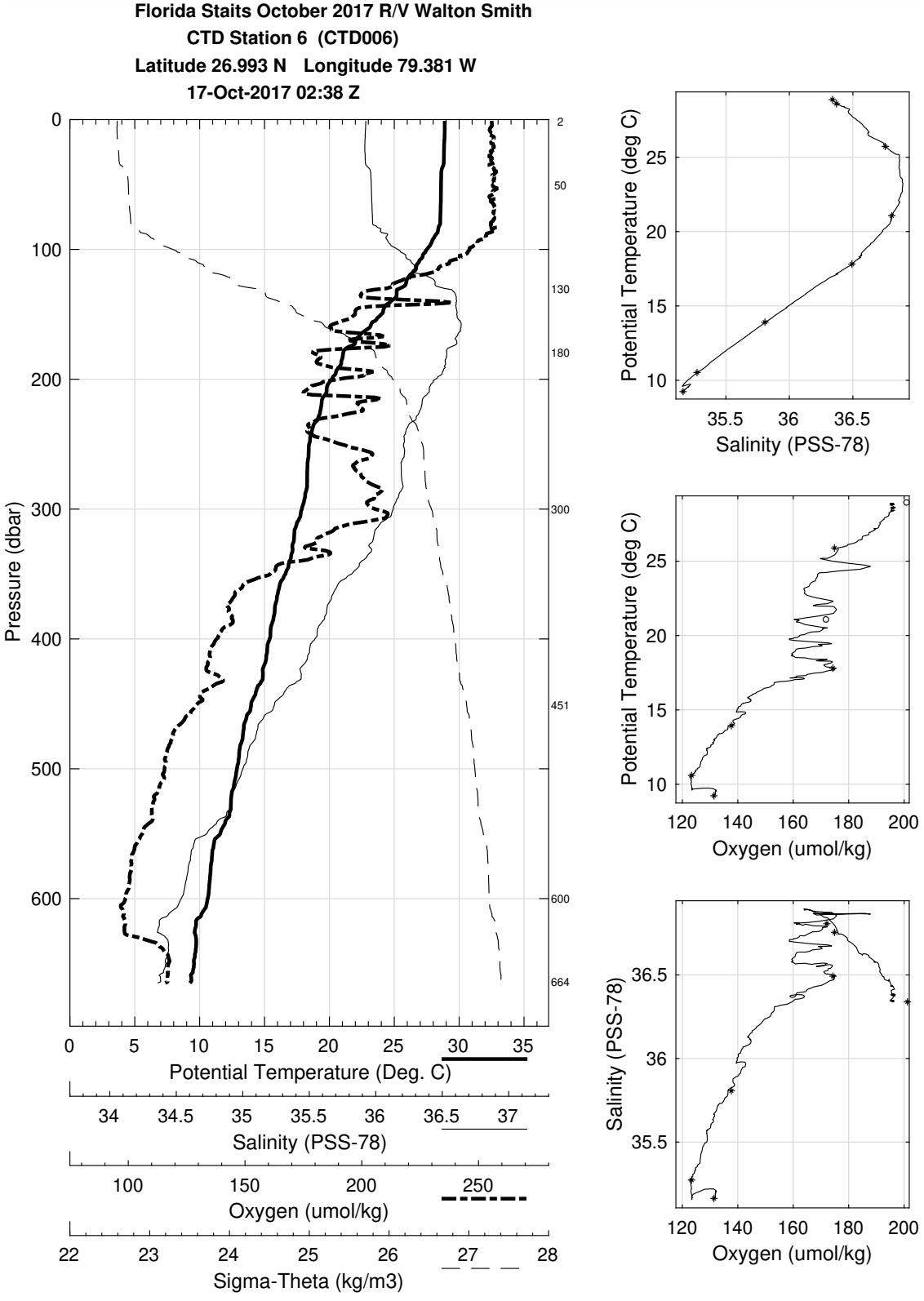
Pressure dbar	Niskin	Temp90 °C	PoTemp90 °C	Salinity PSS-78	Oxygen μmol·kg^{-1}
733	1	6.584	6.515	34.908	143.1
606	2	8.147	8.084	34.991	127.4
455	3	12.346	12.284	35.550	152.5
301	4	16.603	16.554	36.294	166.7
182	5	21.872	21.836	36.907	162.3
131	6	26.035	26.006	36.747	180.7
51	7	28.687	28.675	36.365	203.3
2	13	28.807	28.807	36.336	196.3


Florida Staits October 2017 R/V Walton Smith
CTD Station 5 (CTD005)
Latitude 26.992 N Longitude 79.498 W
17-Oct-2017 04:15 Z
Pressure (dbar)
Potential Temperature (Deg. C)
Salinity (PSS-78)
Oxygen (umol/kg)
Sigma-Theta (kg/m3)
Potential Temperature (deg C)
Salinity (PSS-78)
Oxygen (umol/kg)

Florida Staits October 2017 R/V Walton Smith
CTD Station 6 (CTD006)
Latitude 26.993N Longitude 79.381W
17-Oct-2017 02:38Z

Pressure dbar	Temp90 °C	PoTemp90 °C	Salinity PSS-78	Oxygen μmol·kg^{-1}	DynHt m^2·s^{-2}	SigT kg·m^{-3}
1	28.886	28.886	36.349	195.6	0.005	23.115
10	28.889	28.886	36.346	195.6	0.047	23.113
20	28.845	28.840	36.343	195.8	0.095	23.126
30	28.829	28.822	36.345	195.8	0.142	23.134
50	28.615	28.603	36.380	195.9	0.236	23.233
75	28.568	28.550	36.386	196.0	0.352	23.256
100	27.533	27.510	36.531	191.4	0.465	23.707
125	25.956	25.928	36.745	177.1	0.562	24.373
150	24.023	23.991	36.868	168.8	0.643	25.059
200	20.227	20.190	36.747	165.5	0.762	26.044
250	18.482	18.438	36.565	166.0	0.856	26.361
300	17.930	17.878	36.506	172.8	0.942	26.456
400	15.454	15.392	36.057	141.5	1.098	26.700
500	12.937	12.867	35.645	131.3	1.234	26.920
600	10.699	10.625	35.293	123.6	1.353	27.072

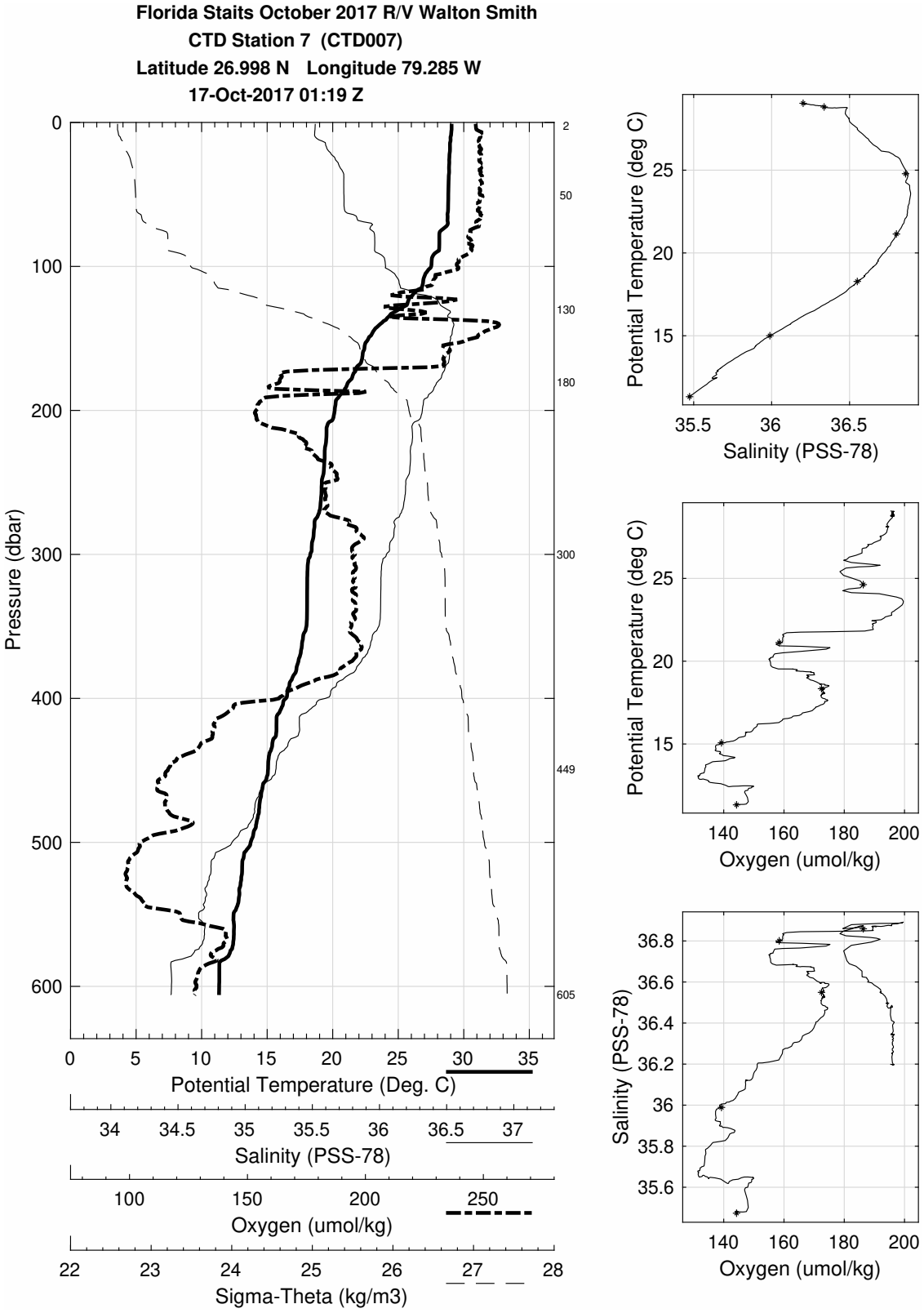
Pressure dbar	Niskin	Temp90 °C	PoTemp90 °C	Salinity PSS-78	Oxygen μmol·kg^{-1}
665	1	9.316	9.240	35.163	131.4
600	2	10.596	10.522	35.273	123.3
451	3	13.972	13.905	35.807	137.7
301	4	17.867	17.815	36.493	174.3
180	5	21.099	21.064	36.806	172.1
131	6	25.756	25.727	36.755	174.9
51	7	28.612	28.600	36.371	206.2
2	13	28.875	28.875	36.339	201.2


Florida Staits October 2017 R/V Walton Smith
CTD Station 6 (CTD006)
Latitude 26.993 N Longitude 79.381 W
17-Oct-2017 02:38 Z
Pressure (dbar)
Potential Temperature (Deg. C)
Salinity (PSS-78)
Oxygen (umol/kg)
Sigma-Theta (kg/m3)
Potential Temperature (deg C)
Salinity (PSS-78)
Oxygen (umol/kg)

Florida Staits October 2017 R/V Walton Smith
CTD Station 7 (CTD007)
Latitude 26.998N Longitude 79.285W
17-Oct-2017 01:19Z

Pressure dbar	Temp90 °C	PoTemp90 °C	Salinity PSS-78	Oxygen μmol·kg^{-1}	DynHt m^2·s^{-2}	SigT kg·m^{-3}
1	29.071	29.071	36.200	195.3	0.005	22.942
10	28.992	28.990	36.200	196.2	0.049	22.969
20	28.948	28.943	36.268	195.9	0.098	23.036
30	28.887	28.880	36.319	195.9	0.146	23.095
50	28.830	28.818	36.343	195.9	0.241	23.134
75	28.287	28.269	36.482	194.2	0.358	23.421
100	27.536	27.513	36.551	192.0	0.467	23.721
125	25.749	25.721	36.817	188.6	0.564	24.492
150	22.759	22.728	36.876	194.7	0.638	25.436
200	20.190	20.152	36.734	155.2	0.753	26.045
250	19.212	19.166	36.652	168.0	0.849	26.241
300	18.340	18.287	36.555	173.3	0.940	26.392
400	16.495	16.430	36.251	159.4	1.107	26.610
500	13.812	13.740	35.785	134.0	1.252	26.849
600	11.414	11.337	35.483	144.4	1.374	27.090

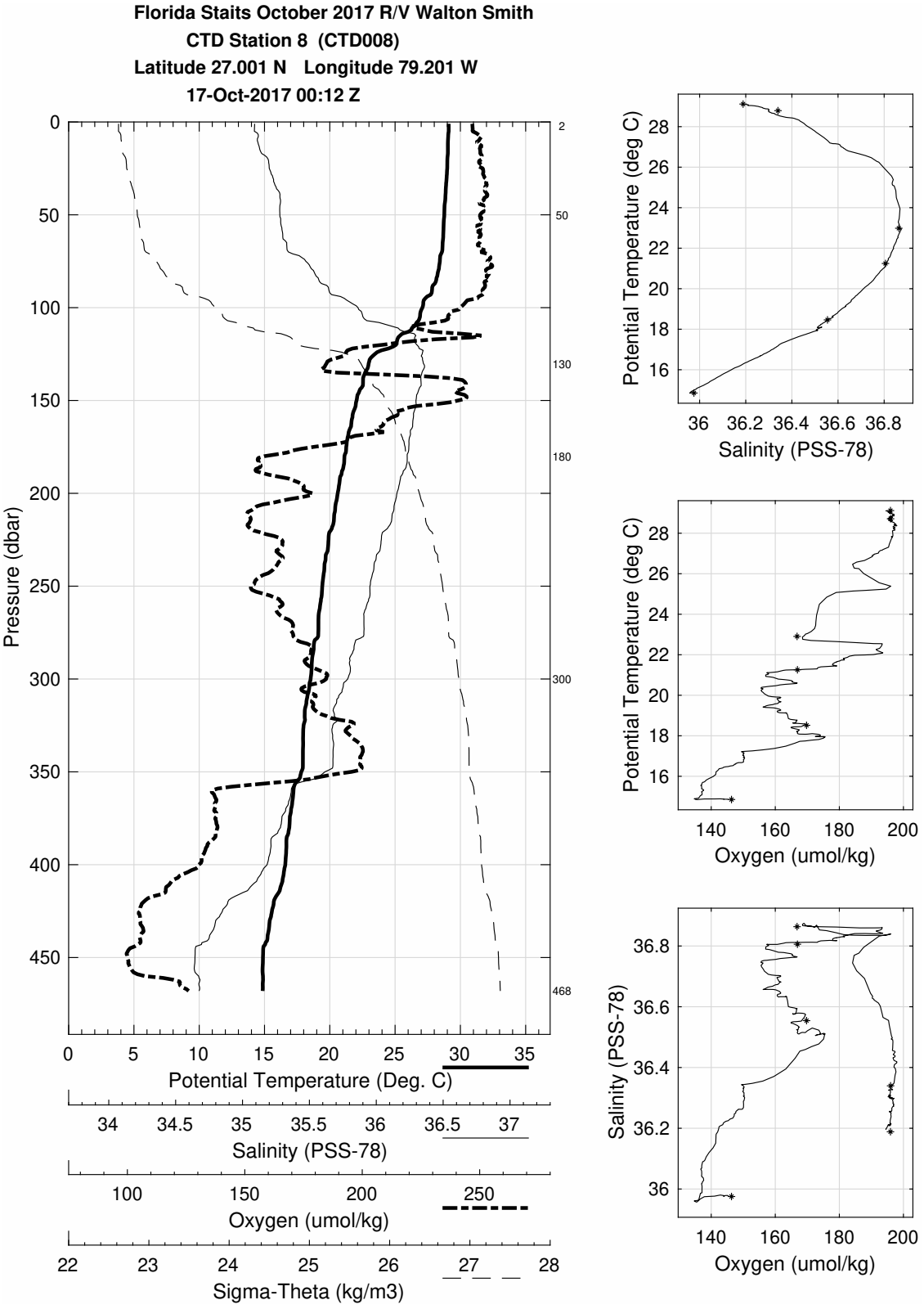
Pressure dbar	Niskin	Temp90 °C	PoTemp90 °C	Salinity PSS-78	Oxygen μmol·kg^{-1}
606	1	11.398	11.319	35.474	144.3
450	2	15.071	15.002	35.989	139.2
300	3	18.332	18.279	36.549	172.4
181	4	21.180	21.145	36.801	158.4
130	5	24.813	24.785	36.859	186.3
51	6	28.828	28.816	36.337	227.6
2	7	29.040	29.040	36.202	247.9


Florida Staits October 2017 R/V Walton Smith
CTD Station 7 (CTD007)
Latitude 26.998 N Longitude 79.285 W
17-Oct-2017 01:19 Z
Pressure (dbar)
Potential Temperature (Deg. C)
Salinity (PSS-78)
Oxygen (umol/kg)
Sigma-Theta (kg/m3)
Potential Temperature (deg C)
Salinity (PSS-78)
Potential Temperature (deg C)
Oxygen (umol/kg)
Salinity (PSS-78)
Oxygen (umol/kg)

Florida Staits October 2017 R/V Walton Smith
CTD Station 8 (CTD008)
Latitude 27.001N Longitude 79.201W
17-Oct-2017 00:12Z

Pressure dbar	Temp90 °C	PoTemp90 °C	Salinity PSS-78	Oxygen μmol·kg^{-1}	DynHt m^2·s^{-2}	SigT kg·m^{-3}
1	29.106	29.106	36.198	194.5	0.005	22.928
10	29.052	29.050	36.208	195.6	0.049	22.955
20	29.009	29.004	36.251	196.2	0.098	23.003
30	28.955	28.948	36.271	196.6	0.147	23.036
50	28.780	28.768	36.298	195.8	0.242	23.117
75	28.448	28.430	36.401	197.0	0.360	23.307
100	27.115	27.092	36.609	192.4	0.469	23.901
125	23.476	23.450	36.865	172.6	0.558	25.217
150	22.080	22.050	36.840	192.0	0.622	25.603
200	20.644	20.606	36.764	166.8	0.735	25.945
250	19.470	19.424	36.657	156.2	0.836	26.178
300	18.584	18.531	36.568	169.2	0.929	26.340
400	16.658	16.592	36.247	147.2	1.097	26.569

Pressure dbar	Niskin	Temp90 °C	PoTemp90 °C	Salinity PSS-78	Oxygen μmol·kg^{-1}
468	1	14.922	14.850	35.975	146.3
300	2	18.514	18.460	36.554	169.8
181	3	21.279	21.244	36.806	166.9
131	4	23.011	22.984	36.864	166.8
50	5	28.801	28.789	36.340	196.0
3	6	29.116	29.116	36.188	196.0

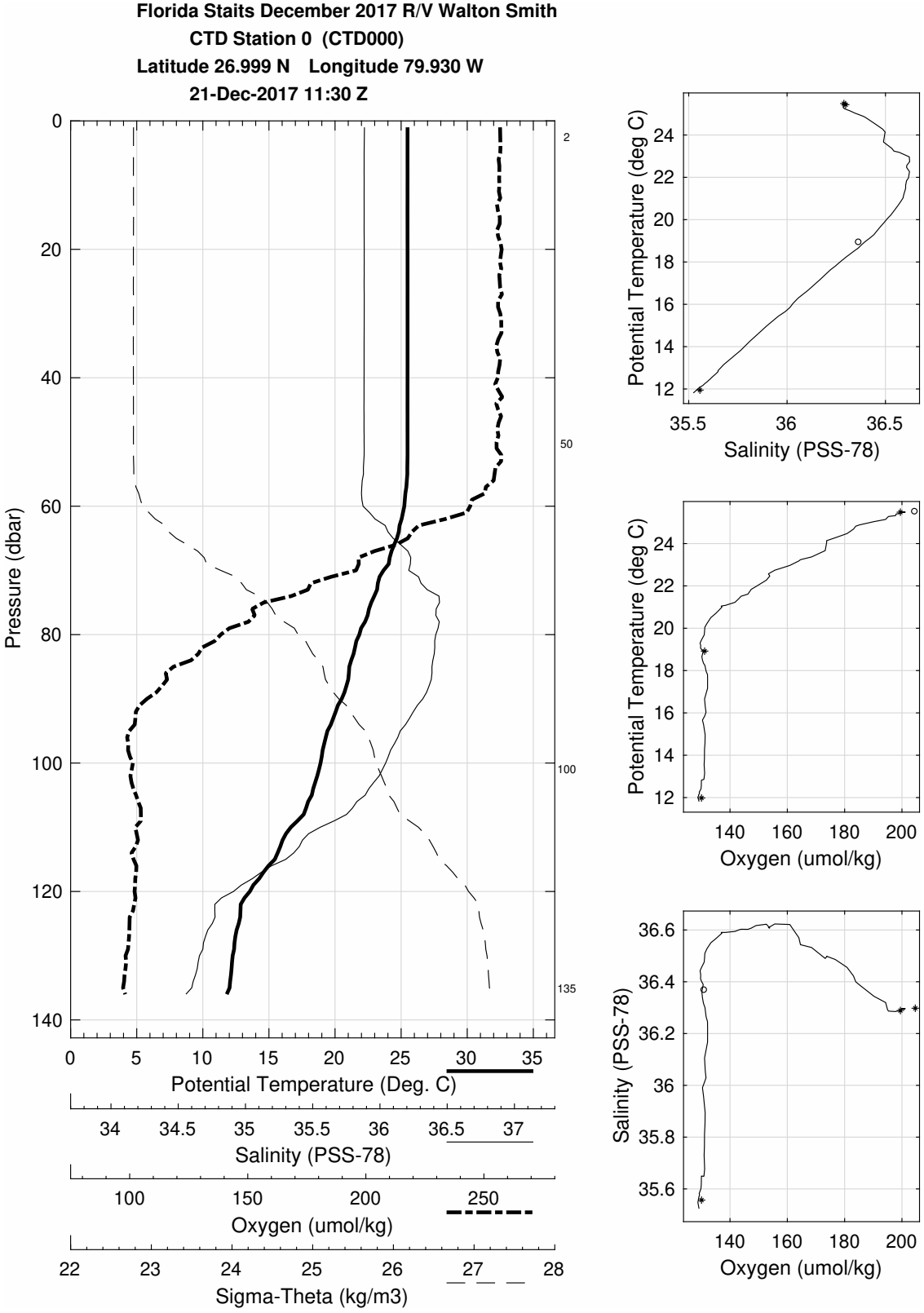

Florida Staits October 2017 R/V Walton Smith
CTD Station 8 (CTD008)
Latitude 27.001 N Longitude 79.201 W
17-Oct-2017 00:12 Z
Pressure (dbar)
Potential Temperature (Deg. C)
Salinity (PSS-78)
Oxygen (umol/kg)
Sigma-Theta (kg/m3)
Potential Temperature (deg C)
Salinity (PSS-78)
Potential Temperature (deg C)
Oxygen (umol/kg)
Salinity (PSS-78)
Oxygen (umol/kg)

A.5 FC1712

Florida Staits December 2017 R/V Walton Smith
CTD Station 0 (CTD000)
Latitude 26.999N Longitude 79.930W
21-Dec-2017 11:30Z

Pressure dbar	Temp90 °C	PoTemp90 °C	Salinity PSS-78	Oxygen μmol·kg^{-1}	DynHt m^2·s^{-2}	SigT kg·m^{-3}
1	25.486	25.486	36.298	200.7	0.004	24.173
10	25.486	25.484	36.296	200.6	0.037	24.172
20	25.491	25.487	36.297	201.0	0.075	24.172
30	25.493	25.487	36.297	200.7	0.112	24.172
50	25.496	25.485	36.296	200.0	0.187	24.172
75	22.756	22.741	36.623	155.6	0.273	25.240
100	18.923	18.905	36.390	130.6	0.330	26.108
125	12.730	12.713	35.638	130.0	0.368	26.945

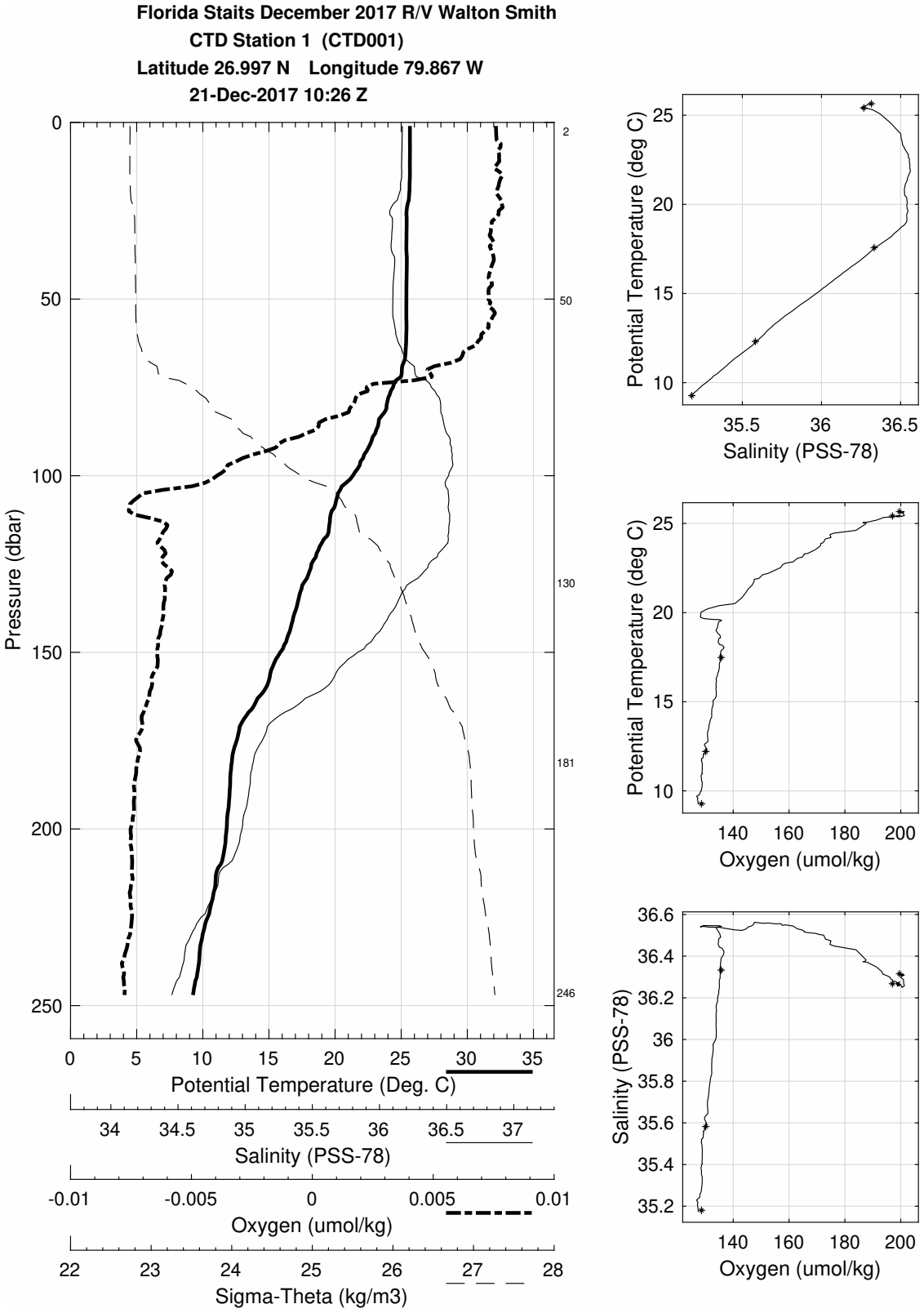
Pressure dbar	Niskin	Temp90 °C	PoTemp90 °C	Salinity PSS-78	Oxygen μmol·kg^{-1}
135	1	11.964	11.946	35.557	130.1
101	2	18.927	18.909	36.366	131.1
50	3	25.443	25.432	36.298	204.6
3	4	25.483	25.483	36.289	199.5


Florida Staits December 2017 R/V Walton Smith
CTD Station 0 (CTD000)
Latitude 26.999 N Longitude 79.930 W
21-Dec-2017 11:30 Z
Pressure (dbar)
Potential Temperature (Deg. C)
Salinity (PSS-78)
Oxygen (umol/kg)
Sigma-Theta (kg/m3)
Potential Temperature (deg C)
Salinity (PSS-78)
Potential Temperature (deg C)
Oxygen (umol/kg)
Salinity (PSS-78)
Oxygen (umol/kg)

Florida Staits December 2017 R/V Walton Smith
CTD Station 1 (CTD001)
Latitude 26.997N Longitude 79.867W
21-Dec-2017 10:26Z

Pressure dbar	Temp90 °C	PoTemp90 °C	Salinity PSS-78	Oxygen μmol·kg^{-1}	DynHt m^2·s^{-2}	SigT kg·m^{-3}
1	25.660	25.660	36.313	200.0	0.004	24.130
10	25.662	25.660	36.310	200.6	0.038	24.128
20	25.616	25.611	36.298	200.0	0.076	24.134
30	25.416	25.410	36.263	199.0	0.113	24.170
50	25.404	25.393	36.266	198.5	0.188	24.178
75	24.393	24.377	36.456	174.6	0.280	24.631
100	21.363	21.343	36.541	145.5	0.352	25.573
125	18.230	18.208	36.443	135.1	0.402	26.326
150	15.879	15.855	36.092	133.9	0.442	26.621
200	11.827	11.801	35.520	128.6	0.501	27.031

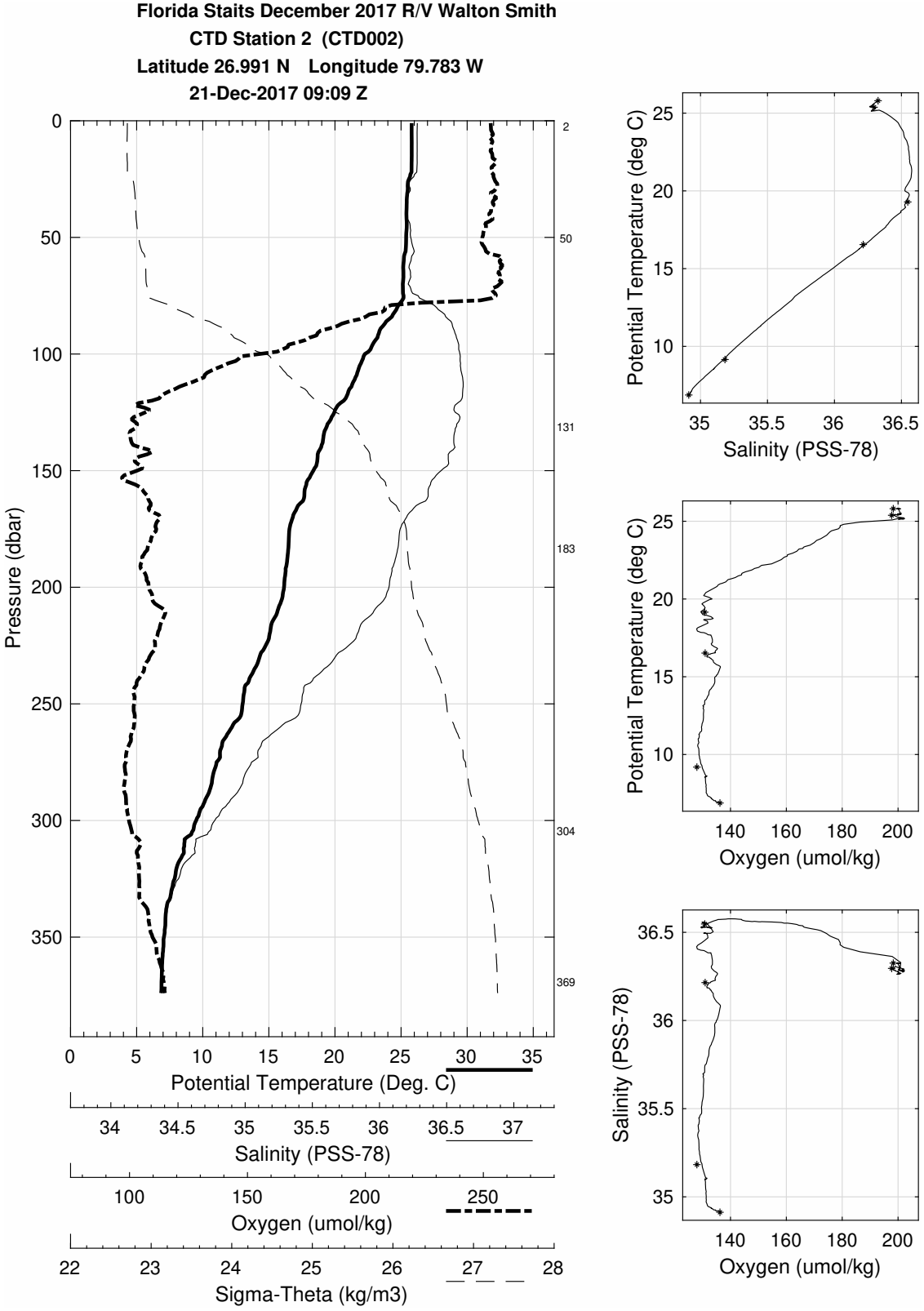
Pressure dbar	Niskin	Temp90 °C	PoTemp90 °C	Salinity PSS-78	Oxygen μmol·kg^{-1}
247	1	9.297	9.269	35.180	128.7
181	2	12.335	12.311	35.582	130.2
131	3	17.592	17.569	36.333	135.7
50	4	25.419	25.408	36.268	197.0
3	5	25.649	25.648	36.315	199.6


Florida Staits December 2017 R/V Walton Smith
CTD Station 1 (CTD001)
Latitude 26.997 N Longitude 79.867 W
21-Dec-2017 10:26 Z
Pressure (dbar)
Potential Temperature (Deg. C)
Salinity (PSS-78)
Oxygen (umol/kg)
Sigma-Theta (kg/m3)
Potential Temperature (deg C)
Salinity (PSS-78)
Potential Temperature (deg C)
Oxygen (umol/kg)
Salinity (PSS-78)
Oxygen (umol/kg)

Florida Staits December 2017 R/V Walton Smith
CTD Station 2 (CTD002)
Latitude 26.991N Longitude 79.783W
21-Dec-2017 09:09Z

Pressure dbar	Temp90 °C	PoTemp90 °C	Salinity PSS-78	Oxygen μmol·kg^{-1}	DynHt m^2·s^{-2}	SigT kg·m^{-3}
1	25.800	25.800	36.324	199.9	0.004	24.095
10	25.808	25.806	36.323	200.0	0.038	24.093
20	25.798	25.794	36.322	200.0	0.076	24.096
30	25.505	25.498	36.285	200.6	0.114	24.160
50	25.396	25.385	36.288	198.3	0.189	24.197
75	25.206	25.190	36.329	201.0	0.282	24.288
100	22.280	22.260	36.559	154.7	0.360	25.329
125	19.980	19.957	36.533	132.5	0.420	25.943
150	18.391	18.364	36.455	130.9	0.467	26.296
200	16.179	16.147	36.168	133.1	0.546	26.613
250	13.051	13.016	35.685	130.3	0.613	26.921
300	9.535	9.501	35.210	129.3	0.665	27.201

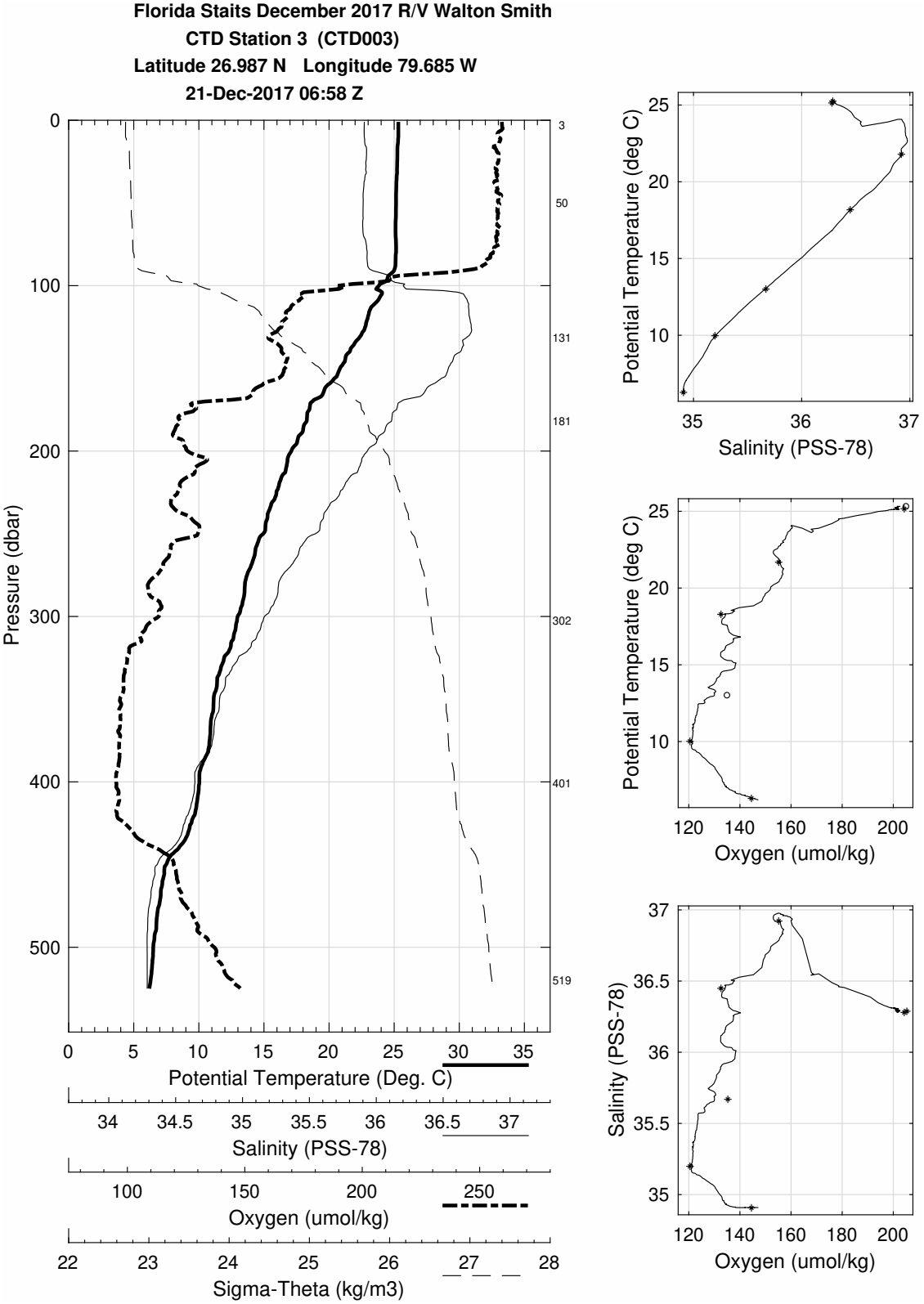
Pressure dbar	Niskin	Temp90 °C	PoTemp90 °C	Salinity PSS-78	Oxygen μmol·kg^{-1}
369	1	6.909	6.874	34.912	136.2
305	2	9.188	9.154	35.183	128.0
184	3	16.578	16.548	36.215	130.9
131	4	19.311	19.287	36.547	130.8
51	5	25.389	25.378	36.295	197.7
2	6	25.799	25.798	36.325	198.3


Florida Staits December 2017 R/V Walton Smith
CTD Station 2 (CTD002)
Latitude 26.991 N Longitude 79.783 W
21-Dec-2017 09:09 Z
Pressure (dbar)
Potential Temperature (Deg. C)
Salinity (PSS-78)
Oxygen (umol/kg)
Sigma-Theta (kg/m3)
Potential Temperature (deg C)
Salinity (PSS-78)
Potential Temperature (deg C)
Oxygen (umol/kg)
Salinity (PSS-78)
Oxygen (umol/kg)

Florida Staits December 2017 R/V Walton Smith
CTD Station 3 (CTD003)
Latitude 26.987N Longitude 79.685W
21-Dec-2017 06:58Z

Pressure dbar	Temp90 °C	PoTemp90 °C	Salinity PSS-78	Oxygen μmol·kg^{-1}	DynHt m^2·s^{-2}	SigT kg·m^{-3}
1	25.320	25.320	36.294	202.4	0.004	24.221
10	25.323	25.321	36.293	201.6	0.037	24.220
20	25.251	25.246	36.307	201.8	0.074	24.254
30	25.225	25.218	36.302	201.4	0.110	24.259
50	25.157	25.146	36.286	201.8	0.184	24.269
75	25.161	25.145	36.306	202.0	0.275	24.284
100	23.854	23.833	36.541	167.8	0.364	24.859
125	22.795	22.770	36.975	155.9	0.432	25.499
150	20.868	20.840	36.829	156.5	0.490	25.931
200	17.137	17.103	36.313	136.0	0.581	26.497
250	14.985	14.947	35.981	138.2	0.654	26.741
300	13.020	12.978	35.656	129.9	0.719	26.906
400	10.085	10.037	35.213	120.9	0.831	27.112
500	6.544	6.498	34.909	141.6	0.918	27.415

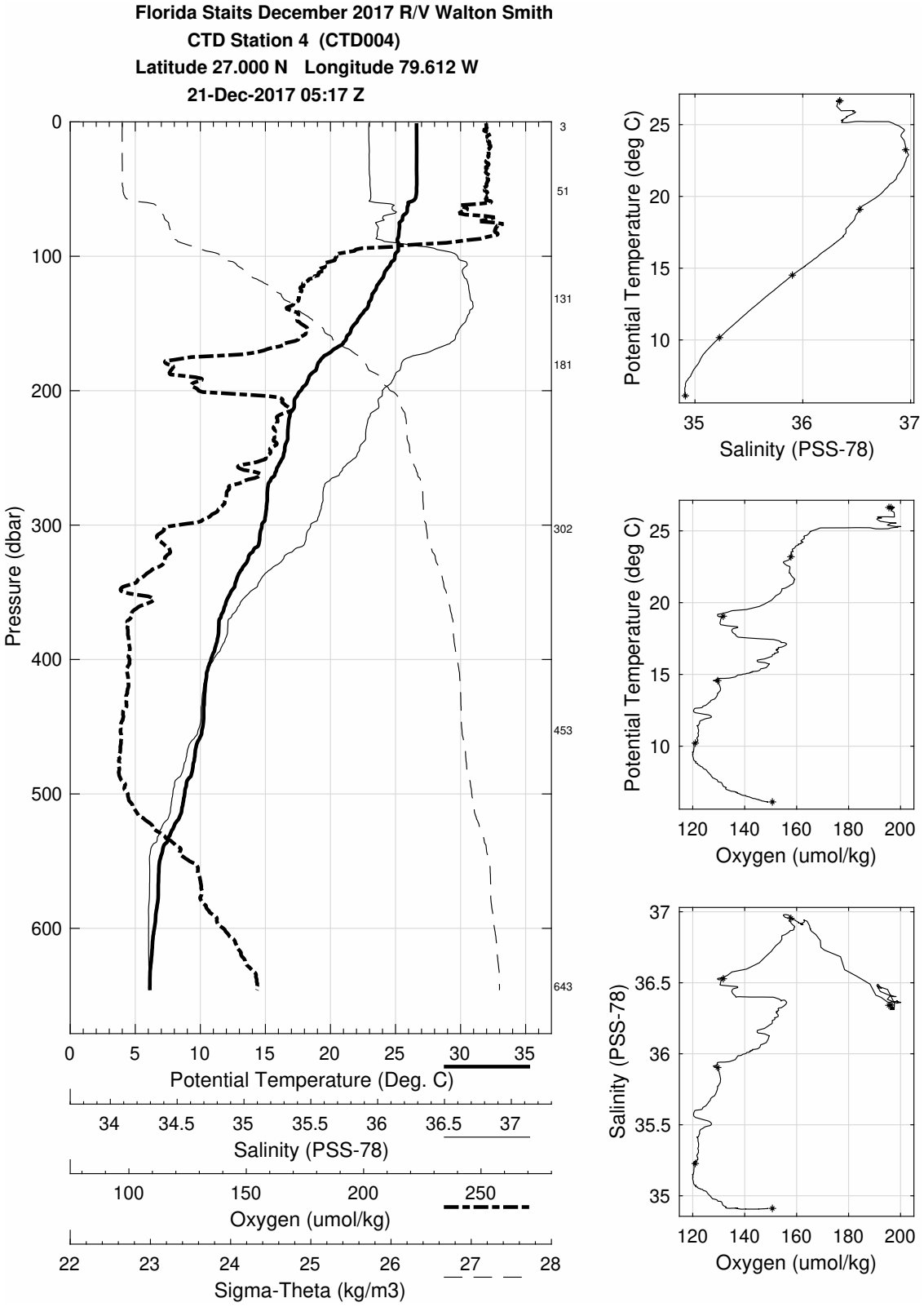
Pressure dbar	Niskin	Temp90 °C	PoTemp90 °C	Salinity PSS-78	Oxygen μmol·kg^{-1}
520	1	6.325	6.278	34.907	144.5
401	2	10.014	9.967	35.198	120.5
303	3	13.050	13.008	35.670	135.3
182	4	18.206	18.174	36.449	132.6
132	5	21.818	21.792	36.921	155.2
50	6	25.147	25.136	36.280	204.3
3	7	25.253	25.252	36.288	205.3


Florida Staits December 2017 R/V Walton Smith
CTD Station 3 (CTD003)
Latitude 26.987 N Longitude 79.685 W
21-Dec-2017 06:58 Z
Pressure (dbar)
Potential Temperature (Deg. C)
Salinity (PSS-78)
Oxygen (umol/kg)
Sigma-Theta (kg/m3)
Potential Temperature (deg C)
Salinity (PSS-78)
Potential Temperature (deg C)
Oxygen (umol/kg)
Salinity (PSS-78)
Oxygen (umol/kg)

Florida Staits December 2017 R/V Walton Smith
CTD Station 4 (CTD004)
Latitude 27.000N Longitude 79.612W
21-Dec-2017 05:17Z

Pressure dbar	Temp90 °C	PoTemp90 °C	Salinity PSS-78	Oxygen μmol·kg^{-1}	DynHt m^2·s^{-2}	SigT kg·m^{-3}
1	26.615	26.615	36.314	196.5	0.004	23.831
10	26.622	26.619	36.314	197.0	0.041	23.829
20	26.628	26.623	36.316	197.3	0.081	23.830
30	26.628	26.621	36.316	196.5	0.122	23.830
50	26.625	26.614	36.324	196.3	0.204	23.839
75	25.308	25.292	36.356	198.5	0.300	24.277
100	24.970	24.949	36.881	165.5	0.388	24.779
125	23.490	23.464	36.953	158.0	0.462	25.280
150	21.938	21.908	36.921	157.9	0.525	25.704
200	17.747	17.712	36.398	136.6	0.625	26.415
250	16.373	16.332	36.227	150.7	0.702	26.614
300	14.768	14.723	35.941	132.2	0.773	26.759
400	10.865	10.816	35.321	122.2	0.894	27.059
500	8.846	8.792	35.061	121.9	0.998	27.199
600	6.521	6.466	34.906	141.8	1.081	27.418

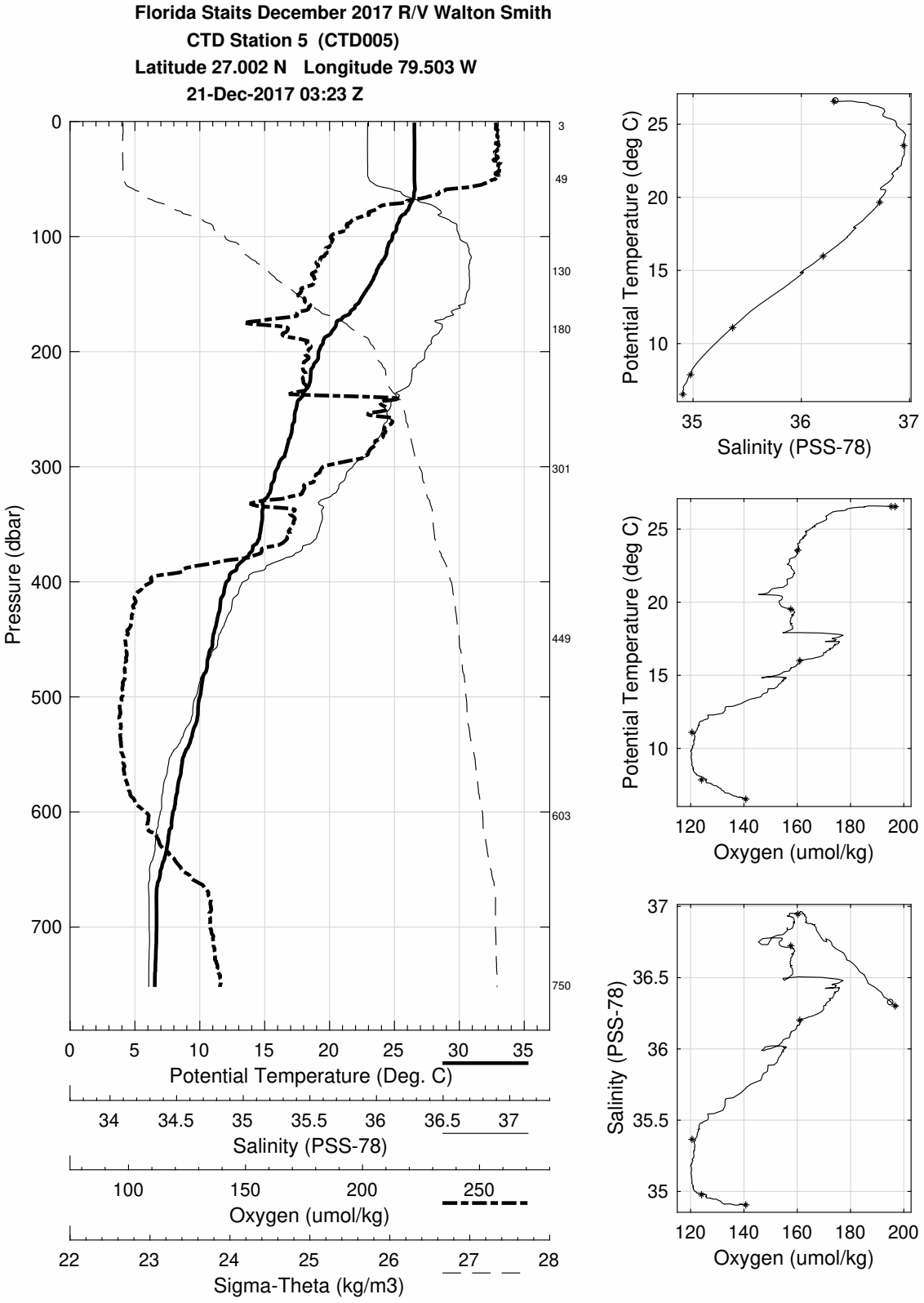
Pressure dbar	Niskin	Temp90 °C	PoTemp90 °C	Salinity PSS-78	Oxygen μmol·kg^{-1}
643	1	6.171	6.113	34.911	150.7
453	2	10.216	10.162	35.227	121.0
303	3	14.560	14.514	35.903	129.6
181	4	19.131	19.098	36.528	131.7
132	5	23.272	23.244	36.954	157.8
51	6	26.658	26.646	36.341	195.5
4	7	26.668	26.667	36.343	196.3


Florida Staits December 2017 R/V Walton Smith
CTD Station 4 (CTD004)
Latitude 27.000 N Longitude 79.612 W
21-Dec-2017 05:17 Z
Pressure (dbar)
0
100
200
300
400
500
600
3
51
131
181
302
453
643
0 5 10 15 20 25 30 35
Potential Temperature (Deg. C)
34 34.5 35 35.5 36 36.5 37
Salinity (PSS-78)
100 150 200 250
Oxygen (umol/kg)
22 23 24 25 26 27 28
Sigma-Theta (kg/m3)
Potential Temperature (deg C)
10 15 20 25
35 36 37
Salinity (PSS-78)
Potential Temperature (deg C)
10 15 20 25
120 140 160 180 200
Oxygen (umol/kg)
Salinity (PSS-78)
35 35.5 36 36.5 37
120 140 160 180 200
Oxygen (umol/kg)

Florida Staits December 2017 R/V Walton Smith
CTD Station 5 (CTD005)
Latitude 27.002N Longitude 79.503W
21-Dec-2017 03:23Z

Pressure dbar	Temp90 °C	PoTemp90 °C	Salinity PSS-78	Oxygen μmol·kg^{-1}	DynHt m^2·s^{-2}	SigT kg·m^{-3}
1	26.535	26.535	36.303	196.7	0.004	23.848
10	26.537	26.535	36.302	196.6	0.040	23.847
20	26.551	26.547	36.301	197.3	0.081	23.843
30	26.552	26.545	36.302	196.9	0.122	23.844
50	26.552	26.541	36.312	196.7	0.203	23.853
75	26.137	26.120	36.743	172.9	0.300	24.312
100	24.863	24.841	36.889	163.1	0.384	24.818
125	23.858	23.832	36.948	160.5	0.459	25.167
150	22.668	22.638	36.931	156.6	0.527	25.504
200	19.197	19.161	36.669	158.4	0.634	26.256
250	17.461	17.419	36.442	174.4	0.720	26.520
300	16.086	16.037	36.208	161.5	0.797	26.669
400	12.112	12.059	35.508	126.6	0.931	26.972
500	10.068	10.008	35.207	120.5	1.043	27.112
600	7.990	7.928	34.979	125.3	1.142	27.268
700	6.733	6.667	34.909	138.5	1.225	27.393

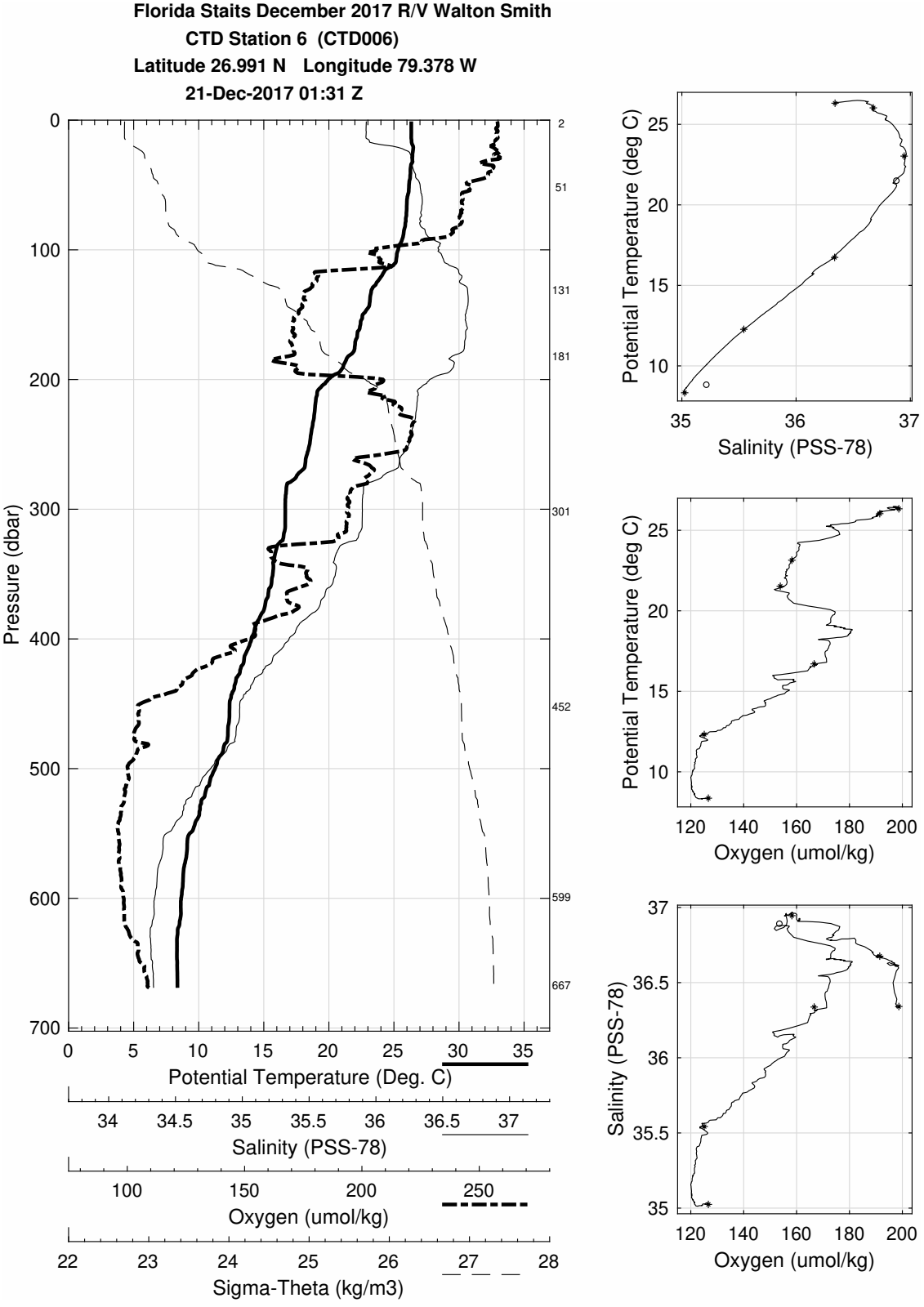
Pressure dbar	Niskin	Temp90 °C	PoTemp90 °C	Salinity PSS-78	Oxygen μmol·kg^{-1}
751	1	6.596	6.526	34.906	140.7
604	2	7.929	7.867	34.977	124.1
450	3	11.144	11.087	35.366	120.5
302	4	16.025	15.976	36.202	161.0
180	5	19.691	19.658	36.724	157.6
130	6	23.567	23.540	36.945	160.3
50	7	26.567	26.556	36.323	195.2
4	13	26.556	26.555	36.301	196.8


Florida Staits December 2017 R/V Walton Smith
CTD Station 5 (CTD005)
Latitude 27.002 N Longitude 79.503 W
21-Dec-2017 03:23 Z
Pressure (dbar)
Potential Temperature (Deg. C)
Salinity (PSS-78)
Oxygen (umol/kg)
Sigma-Theta (kg/m3)
Potential Temperature (deg C)
Salinity (PSS-78)
Potential Temperature (deg C)
Oxygen (umol/kg)
Salinity (PSS-78)
Oxygen (umol/kg)

Florida Staits December 2017 R/V Walton Smith
CTD Station 6 (CTD006)
Latitude 26.991N Longitude 79.378W
21-Dec-2017 01:31Z

Pressure dbar	Temp90 °C	PoTemp90 °C	Salinity PSS-78	Oxygen μmol·kg^{-1}	DynHt m^2·s^{-2}	SigT kg·m^{-3}
1	26.334	26.333	36.340	198.0	0.004	23.940
10	26.337	26.334	36.339	197.7	0.040	23.939
20	26.475	26.470	36.500	196.5	0.079	24.017
30	26.419	26.412	36.617	198.2	0.117	24.124
50	26.169	26.158	36.670	192.4	0.192	24.244
75	25.938	25.921	36.670	190.0	0.283	24.319
100	25.351	25.329	36.786	173.3	0.372	24.591
125	23.707	23.681	36.912	160.4	0.450	25.185
150	22.622	22.591	36.947	156.8	0.516	25.529
200	19.978	19.940	36.729	174.6	0.632	26.097
250	18.567	18.523	36.601	179.6	0.722	26.368
300	16.699	16.650	36.315	167.2	0.803	26.608
400	14.105	14.046	35.866	147.1	0.948	26.847
500	11.313	11.250	35.384	122.1	1.071	27.029
600	8.704	8.639	35.039	121.3	1.175	27.206

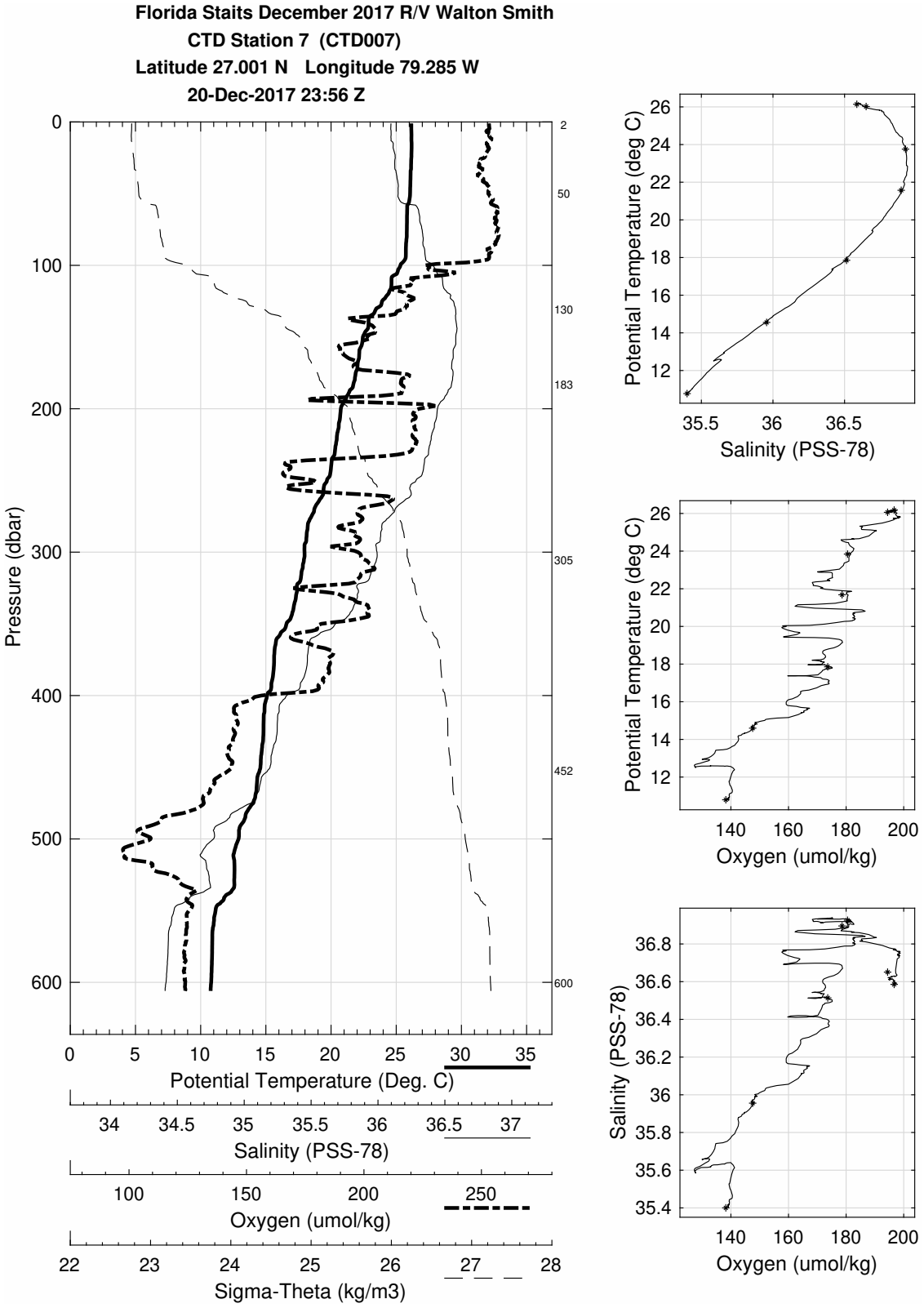
Pressure dbar	Niskin	Temp90 °C	PoTemp90 °C	Salinity PSS-78	Oxygen μmol·kg^{-1}
667	1	8.403	8.331	35.025	126.6
599	2	8.841	8.775	35.222	−999.0
453	3	12.332	12.271	35.543	125.1
302	4	16.788	16.738	36.337	166.7
182	5	21.481	21.445	36.886	153.8
131	6	23.054	23.027	36.946	158.2
52	7	26.035	26.023	36.676	191.5
2	13	26.313	26.313	36.341	198.7


Florida Staits December 2017 R/V Walton Smith
CTD Station 6 (CTD006)
Latitude 26.991 N Longitude 79.378 W
21-Dec-2017 01:31 Z
Pressure (dbar)
Potential Temperature (Deg. C)
Salinity (PSS-78)
Oxygen (umol/kg)
Sigma-Theta (kg/m3)
Potential Temperature (deg C)
Salinity (PSS-78)
Potential Temperature (deg C)
Oxygen (umol/kg)
Salinity (PSS-78)
Oxygen (umol/kg)

Florida Staits December 2017 R/V Walton Smith
CTD Station 7 (CTD007)
Latitude 27.001N Longitude 79.285W
20-Dec-2017 23:56Z

Pressure dbar	Temp90 °C	PoTemp90 °C	Salinity PSS-78	Oxygen μmol·kg^{-1}	DynHt m^2·s^{-2}	SigT kg·m^{-3}
1	26.157	26.157	36.591	196.9	0.004	24.185
10	26.170	26.168	36.591	196.9	0.037	24.182
20	26.178	26.173	36.607	196.6	0.075	24.192
30	26.145	26.138	36.611	195.1	0.112	24.206
50	26.073	26.062	36.629	196.7	0.186	24.244
75	25.831	25.814	36.755	198.5	0.275	24.416
100	25.344	25.322	36.815	184.7	0.363	24.615
125	23.938	23.912	36.921	181.7	0.441	25.123
150	22.471	22.441	36.933	174.1	0.507	25.562
200	20.790	20.752	36.836	183.6	0.624	25.961
250	19.731	19.685	36.723	163.6	0.726	26.160
300	18.019	17.966	36.518	172.0	0.815	26.444
400	15.158	15.096	36.041	153.6	0.970	26.754
500	12.976	12.906	35.656	132.6	1.106	26.920
600	10.882	10.806	35.405	139.1	1.221	27.126

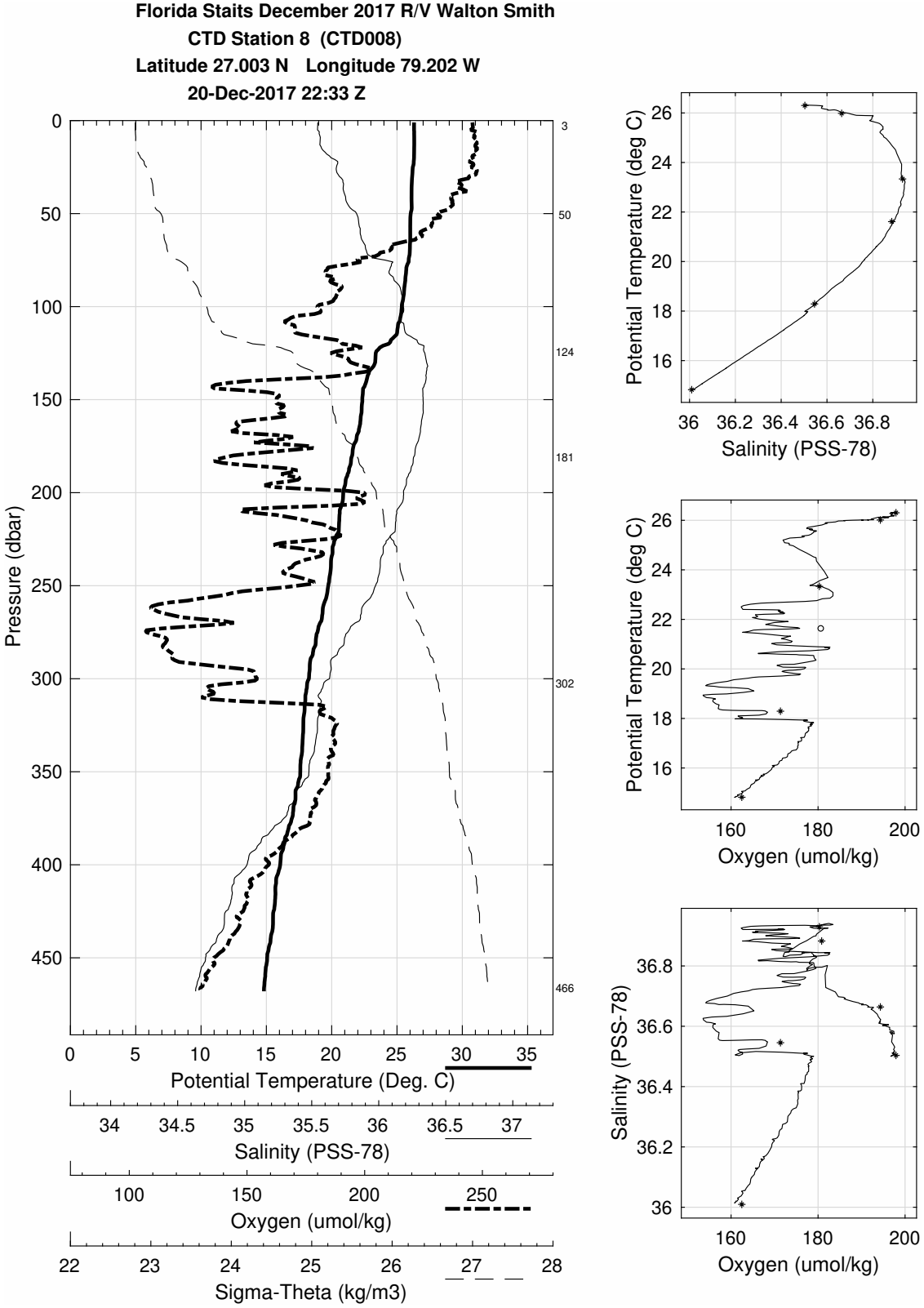
Pressure dbar	Niskin	Temp90 °C	PoTemp90 °C	Salinity PSS-78	Oxygen μmol·kg^{-1}
601	1	10.849	10.774	35.400	138.2
453	2	14.622	14.554	35.956	147.6
306	3	17.906	17.853	36.514	173.6
183	4	21.606	21.570	36.895	178.6
131	5	23.783	23.755	36.926	180.5
50	6	26.031	26.020	36.651	194.4
3	7	26.141	26.140	36.586	196.7


Florida Staits December 2017 R/V Walton Smith
CTD Station 7 (CTD007)
Latitude 27.001 N Longitude 79.285 W
20-Dec-2017 23:56 Z
Pressure (dbar)
Potential Temperature (Deg. C)
Salinity (PSS-78)
Oxygen (umol/kg)
Sigma-Theta (kg/m3)
Potential Temperature (deg C)
Salinity (PSS-78)
Potential Temperature (deg C)
Oxygen (umol/kg)
Salinity (PSS-78)
Oxygen (umol/kg)

Florida Staits December 2017 R/V Walton Smith
CTD Station 8 (CTD008)
Latitude 27.003N Longitude 79.202W
20-Dec-2017 22:33Z

Pressure dbar	Temp90 °C	PoTemp90 °C	Salinity PSS-78	Oxygen μmol·kg^{-1}	DynHt m^2·s^{-2}	SigT kg·m^{-3}
1	26.306	26.305	36.502	196.9	0.004	24.071
10	26.320	26.318	36.511	197.0	0.038	24.074
20	26.307	26.303	36.555	197.0	0.077	24.112
30	26.167	26.160	36.588	196.5	0.114	24.182
50	26.059	26.048	36.657	192.2	0.188	24.269
75	25.910	25.893	36.771	181.6	0.279	24.404
100	25.390	25.368	36.843	176.3	0.365	24.622
125	23.397	23.371	36.929	178.1	0.444	25.289
150	22.374	22.343	36.922	170.9	0.509	25.582
200	20.922	20.883	36.844	182.5	0.625	25.931
250	19.786	19.739	36.732	173.7	0.727	26.153
300	18.308	18.255	36.548	168.4	0.819	26.395
400	16.122	16.057	36.219	169.9	0.982	26.673

Pressure dbar	Niskin	Temp90 °C	PoTemp90 °C	Salinity PSS-78	Oxygen μmol·kg^{-1}
466	1	14.896	14.825	36.009	162.5
303	2	18.341	18.288	36.546	171.4
181	3	21.646	21.610	36.883	180.8
125	4	23.361	23.335	36.930	180.3
51	5	25.995	25.983	36.664	194.3
3	6	26.302	26.301	36.503	197.9


Florida Staits December 2017 R/V Walton Smith
CTD Station 8 (CTD008)
Latitude 27.003 N Longitude 79.202 W
20-Dec-2017 22:33 Z
Pressure (dbar)
Potential Temperature (Deg. C)
Salinity (PSS-78)
Oxygen (umol/kg)
Sigma-Theta (kg/m3)
Potential Temperature (deg C)
Salinity (PSS-78)
Potential Temperature (deg C)
Oxygen (umol/kg)
Salinity (PSS-78)
Oxygen (umol/kg)

B WOCE Summary File

B.1 FC1702

Table 24: Florida Current Cruise – WOCE Summary File

SHIP/CRS EXPOCODE	WOCE SECT	STN	CAST	CAST TYPE	CAST DATE	UTC TIME	EVENT CODE	LAT	LON	NAV	UNC DPH	HT ABV BTM	MAX PRS	NO. BTLS	PARA-METERS
FCTSWS	FC1702	0	1	ROS	02/08/2017	12:09:02	BE	26.994N	79.929W	GPS					
FCTSWS	FC1702	0	1	ROS	02/08/2017	12:13:37	BO	26.997N	79.929W	GPS	140	16	143	4	1,2
FCTSWS	FC1702	0	1	ROS	02/08/2017	12:23:15	EN	27.003N	79.929W	GPS					
FCTSWS	FC1702	1	1	ROS	02/08/2017	11:08:04	BE	26.993N	79.867W	GPS					
FCTSWS	FC1702	1	1	ROS	02/08/2017	11:14:24	BO	26.997N	79.867W	GPS	242	24	249	5	1,2
FCTSWS	FC1702	1	1	ROS	02/08/2017	11:28:07	EN	27.008N	79.867W	GPS					
FCTSWS	FC1702	2	1	ROS	02/08/2017	09:11:11	BE	26.985N	79.784W	GPS					
FCTSWS	FC1702	2	1	ROS	02/08/2017	09:20:22	BO	26.994N	79.783W	GPS	352	39	371	6	1,2
FCTSWS	FC1702	2	1	ROS	02/08/2017	09:40:15	EN	27.012N	79.781W	GPS					
FCTSWS	FC1702	3	1	ROS	02/08/2017	07:26:24	BE	26.977N	79.684W	GPS					
FCTSWS	FC1702	3	1	ROS	02/08/2017	07:39:57	BO	26.992N	79.683W	GPS	518	24	527	7	1,2
FCTSWS	FC1702	3	1	ROS	02/08/2017	08:01:58	EN	27.012N	79.680W	GPS					
FCTSWS	FC1702	4	1	ROS	02/08/2017	05:37:26	BE	26.984N	79.617W	GPS					
FCTSWS	FC1702	4	1	ROS	02/08/2017	05:51:33	BO	26.999N	79.617W	GPS	596	48	615	7	1,2
FCTSWS	FC1702	4	1	ROS	02/08/2017	06:17:20	EN	27.023N	79.614W	GPS					
FCTSWS	FC1702	5	1	ROS	02/08/2017	03:23:23	BE	26.995N	79.498W	GPS					
FCTSWS	FC1702	5	1	ROS	02/08/2017	03:40:30	BO	27.010N	79.496W	GPS	727	32	743	8	1,2
FCTSWS	FC1702	5	1	ROS	02/08/2017	04:08:44	EN	27.034N	79.493W	GPS					
FCTSWS	FC1702	6	1	ROS	02/08/2017	01:24:38	BE	26.994N	79.384W	GPS					
FCTSWS	FC1702	6	1	ROS	02/08/2017	01:39:22	BO	27.005N	79.384W	GPS	626	28	647	10	1,2
FCTSWS	FC1702	6	1	ROS	02/08/2017	02:07:53	EN	27.024N	79.384W	GPS					
FCTSWS	FC1702	7	1	ROS	02/07/2017	23:52:38	BE	26.997N	79.285W	GPS					
FCTSWS	FC1702	7	1	ROS	02/08/2017	00:05:28	BO	27.002N	79.283W	GPS	593	22	601	7	1,2
FCTSWS	FC1702	7	1	ROS	02/08/2017	00:28:30	EN	27.011N	79.283W	GPS					
FCTSWS	FC1702	8	1	ROS	02/07/2017	22:23:28	BE	26.998N	79.203W	GPS					
FCTSWS	FC1702	8	1	ROS	02/07/2017	22:35:53	BO	27.000N	79.201W	GPS	467	19	470	6	1,2
FCTSWS	FC1702	8	1	ROS	02/07/2017	22:56:16	EN	27.004N	79.197W	GPS					

Note:Parameter 1 - salinity sampled, Parameter 2 - oxygen sampled

B.2 FC1706

Table 25: Florida Current Cruise – WOCE Summary File

SHIP/CRS EXPOCODE	WOCE SECT	STN	CAST	CAST TYPE	CAST DATE	UTC TIME	EVENT CODE	LAT	LON	NAV	UNC DPH	HT ABV BTM	MAX PRS	NO. BTLS	PARA-METERS
FCTSWS	FC1706	0	1	ROS	06/16/2017	07:22:06	BE	26.996N	79.929W	GPS					
FCTSWS	FC1706	0	1	ROS	06/16/2017	07:24:24	BO	26.997N	79.929W	GPS	132	23	137	4	1,2
FCTSWS	FC1706	0	1	ROS	06/16/2017	07:30:48	EN	27.001N	79.930W	GPS					
FCTSWS	FC1706	1	1	ROS	06/16/2017	06:26:49	BE	26.992N	79.866W	GPS					
FCTSWS	FC1706	1	1	ROS	06/16/2017	06:30:27	BO	26.995N	79.866W	GPS	245	21	251	5	1,2
FCTSWS	FC1706	1	1	ROS	06/16/2017	06:39:12	EN	27.001N	79.867W	GPS					
FCTSWS	FC1706	2	1	ROS	06/16/2017	05:05:20	BE	26.986N	79.782W	GPS					
FCTSWS	FC1706	2	1	ROS	06/16/2017	05:11:42	BO	26.991N	79.782W	GPS	370	23	379	6	1,2
FCTSWS	FC1706	2	1	ROS	06/16/2017	05:25:19	EN	27.001N	79.782W	GPS					
FCTSWS	FC1706	3	1	ROS	06/16/2017	03:33:56	BE	26.991N	79.683W	GPS					
FCTSWS	FC1706	3	1	ROS	06/16/2017	03:42:50	BO	26.998N	79.682W	GPS	519	21	526	7	1,2
FCTSWS	FC1706	3	1	ROS	06/16/2017	03:58:41	EN	27.009N	79.682W	GPS					
FCTSWS	FC1706	4	1	ROS	06/16/2017	02:15:36	BE	26.987N	79.618W	GPS					
FCTSWS	FC1706	4	1	ROS	06/16/2017	02:26:54	BO	26.997N	79.617W	GPS	621	24	648	7	1,2
FCTSWS	FC1706	4	1	ROS	06/16/2017	02:46:05	EN	27.010N	79.616W	GPS					
FCTSWS	FC1706	5	1	ROS	06/16/2017	00:28:13	BE	26.987N	79.499W	GPS					
FCTSWS	FC1706	5	1	ROS	06/16/2017	00:40:37	BO	26.996N	79.496W	GPS	729	23	737	8	1,2
FCTSWS	FC1706	5	1	ROS	06/16/2017	00:59:49	EN	27.008N	79.494W	GPS					
FCTSWS	FC1706	6	1	ROS	06/15/2017	22:54:28	BE	26.995N	79.386W	GPS					
FCTSWS	FC1706	6	1	ROS	06/15/2017	23:05:45	BO	27.000N	79.384W	GPS	633	18	639	8	1,2
FCTSWS	FC1706	6	1	ROS	06/15/2017	23:23:17	EN	27.007N	79.383W	GPS					
FCTSWS	FC1706	7	1	ROS	06/15/2017	21:25:02	BE	26.997N	79.283W	GPS					
FCTSWS	FC1706	7	1	ROS	06/15/2017	21:35:55	BO	27.000N	79.283W	GPS	598	19	603	7	1,2
FCTSWS	FC1706	7	1	ROS	06/15/2017	21:50:39	EN	27.004N	79.284W	GPS					
FCTSWS	FC1706	8	1	ROS	06/15/2017	20:02:47	BE	26.999N	79.206W	GPS					
FCTSWS	FC1706	8	1	ROS	06/15/2017	20:13:40	BO	27.001N	79.206W	GPS	474	19	478	6	1,2
FCTSWS	FC1706	8	1	ROS	06/15/2017	20:28:44	EN	27.005N	79.205W	GPS					

Note:Parameter 1 - salinity sampled, Parameter 2 - oxygen sampled

B.3 FC1707

Table 26: Florida Current Cruise – WOCE Summary File

SHIP/CRS EXPOCODE	WOCE SECT	STN	CAST	CAST TYPE	CAST DATE	UTC TIME	EVENT CODE	LAT	LON	NAV	UNC DPH	HT ABV BTM	MAX PRS	NO. BTLS	PARA-METERS
FCTSWS	FC1707	0	1	ROS	07/21/2017	11:06:32	BE	26.996N	79.929W	GPS					
FCTSWS	FC1707	0	1	ROS	07/21/2017	11:12:59	BO	27.002N	79.929W	GPS	140	16	146	4	1,2
FCTSWS	FC1707	0	1	ROS	07/21/2017	11:25:39	EN	27.012N	79.928W	GPS					
FCTSWS	FC1707	1	1	ROS	07/21/2017	09:46:38	BE	26.997N	79.867W	GPS					
FCTSWS	FC1707	1	1	ROS	07/21/2017	09:54:30	BO	27.005N	79.867W	GPS	249	16	257	5	1,2
FCTSWS	FC1707	1	1	ROS	07/21/2017	10:11:06	EN	27.019N	79.867W	GPS					
FCTSWS	FC1707	2	1	ROS	07/21/2017	08:15:01	BE	26.991N	79.783W	GPS					
FCTSWS	FC1707	2	1	ROS	07/21/2017	08:24:23	BO	27.000N	79.783W	GPS	371	17	381	6	1,2
FCTSWS	FC1707	2	1	ROS	07/21/2017	08:40:56	EN	27.014N	79.783W	GPS					
FCTSWS	FC1707	3	1	ROS	07/21/2017	06:21:12	BE	26.986N	79.682W	GPS					
FCTSWS	FC1707	3	1	ROS	07/21/2017	06:33:30	BO	26.997N	79.683W	GPS	525	15	534	7	1,2
FCTSWS	FC1707	3	1	ROS	07/21/2017	06:55:50	EN	27.014N	79.683W	GPS					
FCTSWS	FC1707	4	1	ROS	07/21/2017	04:47:39	BE	26.990N	79.615W	GPS					
FCTSWS	FC1707	4	1	ROS	07/21/2017	05:00:41	BO	27.002N	79.615W	GPS	629	19	642	7	1,2
FCTSWS	FC1707	4	1	ROS	07/21/2017	05:23:31	EN	27.018N	79.616W	GPS					
FCTSWS	FC1707	5	1	ROS	07/21/2017	02:58:11	BE	26.986N	79.507W	GPS					
FCTSWS	FC1707	5	1	ROS	07/21/2017	03:13:17	BO	26.997N	79.507W	GPS	745	11	756	8	1,2
FCTSWS	FC1707	5	1	ROS	07/21/2017	03:41:01	EN	27.014N	79.508W	GPS					
FCTSWS	FC1707	6	1	ROS	07/21/2017	00:17:52	BE	26.989N	79.384W	GPS					
FCTSWS	FC1707	6	1	ROS	07/21/2017	00:31:01	BO	26.995N	79.385W	GPS	663	20	669	8	1,2
FCTSWS	FC1707	6	1	ROS	07/21/2017	00:54:55	EN	27.003N	79.387W	GPS					
FCTSWS	FC1707	7	1	ROS	07/20/2017	22:46:04	BE	26.994N	79.284W	GPS					
FCTSWS	FC1707	7	1	ROS	07/20/2017	23:00:15	BO	26.996N	79.285W	GPS	609	11	614	7	1,2
FCTSWS	FC1707	7	1	ROS	07/20/2017	23:20:21	EN	27.000N	79.287W	GPS					
FCTSWS	FC1707	8	1	ROS	07/20/2017	21:22:17	BE	26.996N	79.200W	GPS					
FCTSWS	FC1707	8	1	ROS	07/20/2017	21:35:15	BO	26.995N	79.200W	GPS	478	10	482	6	1,2
FCTSWS	FC1707	8	1	ROS	07/20/2017	21:53:09	EN	26.994N	79.201W	GPS					

Note:Parameter 1 - salinity sampled, Parameter 2 - oxygen sampled

B.4 FC1710

Table 27: Florida Current Cruise – WOCE Summary File

SHIP/CRS EXPOCODE	WOCE SECT	STN	CAST	CAST TYPE	CAST DATE	UTC TIME	EVENT CODE	LAT	LON	NAV	UNC DPH	HT ABV BTM	MAX PRS	NO. BTLS	PARA-METERS
FCTSWS	FC1710	0	1	ROS	10/17/2017	10:53:57	BE	27.000N	79.930W	GPS					
FCTSWS	FC1710	0	1	ROS	10/17/2017	10:57:50	BO	27.001N	79.929W	GPS	137	18	138	4	1,2
FCTSWS	FC1710	0	1	ROS	10/17/2017	11:07:26	EN	27.007N	79.928W	GPS					
FCTSWS	FC1710	1	1	ROS	10/17/2017	09:52:22	BE	26.988N	79.868W	GPS					
FCTSWS	FC1710	1	1	ROS	10/17/2017	09:57:54	BO	26.992N	79.868W	GPS	244	23	249	5	1,2
FCTSWS	FC1710	1	1	ROS	10/17/2017	10:09:04	EN	26.998N	79.867W	GPS					
FCTSWS	FC1710	2	1	ROS	10/17/2017	08:36:54	BE	26.986N	79.782W	GPS					
FCTSWS	FC1710	2	1	ROS	10/17/2017	08:46:00	BO	26.993N	79.782W	GPS	368	22	373	6	1,2
FCTSWS	FC1710	2	1	ROS	10/17/2017	09:00:51	EN	27.003N	79.780W	GPS					
FCTSWS	FC1710	3	1	ROS	10/17/2017	07:12:34	BE	26.983N	79.681W	GPS					
FCTSWS	FC1710	3	1	ROS	10/17/2017	07:21:54	BO	26.990N	79.681W	GPS	513	31	521	7	1,2
FCTSWS	FC1710	3	1	ROS	10/17/2017	07:38:00	EN	27.001N	79.681W	GPS					
FCTSWS	FC1710	4	1	ROS	10/17/2017	05:55:06	BE	26.989N	79.616W	GPS					
FCTSWS	FC1710	4	1	ROS	10/17/2017	06:06:41	BO	26.997N	79.616W	GPS	619	27	627	7	1,2
FCTSWS	FC1710	4	1	ROS	10/17/2017	06:24:58	EN	27.009N	79.615W	GPS					
FCTSWS	FC1710	5	1	ROS	10/17/2017	04:15:34	BE	26.987N	79.498W	GPS					
FCTSWS	FC1710	5	1	ROS	10/17/2017	04:30:23	BO	26.996N	79.497W	GPS	727	23	734	8	1,2
FCTSWS	FC1710	5	1	ROS	10/17/2017	04:50:23	EN	27.006N	79.496W	GPS					
FCTSWS	FC1710	6	1	ROS	10/17/2017	02:38:47	BE	26.991N	79.382W	GPS					
FCTSWS	FC1710	6	1	ROS	10/17/2017	02:52:16	BO	26.995N	79.381W	GPS	659	24	665	8	1,2
FCTSWS	FC1710	6	1	ROS	10/17/2017	03:15:59	EN	27.003N	79.381W	GPS					
FCTSWS	FC1710	7	1	ROS	10/17/2017	01:19:14	BE	26.997N	79.283W	GPS					
FCTSWS	FC1710	7	1	ROS	10/17/2017	01:34:23	BO	26.999N	79.286W	GPS	601	18	606	7	1,2
FCTSWS	FC1710	7	1	ROS	10/17/2017	01:54:54	EN	27.002N	79.288W	GPS					
FCTSWS	FC1710	8	1	ROS	10/17/2017	00:12:20	BE	27.002N	79.201W	GPS					
FCTSWS	FC1710	8	1	ROS	10/17/2017	00:23:32	BO	27.001N	79.201W	GPS	465	19	468	6	1,2
FCTSWS	FC1710	8	1	ROS	10/17/2017	00:39:44	EN	27.000N	79.202W	GPS					

Note:Parameter 1 - salinity sampled, Parameter 2 - oxygen sampled

B.5 FC1712

Table 28: Florida Current Cruise – WOCE Summary File

SHIP/CRS EXPOCODE	WOCE SECT	STN	CAST	CAST TYPE	CAST DATE	UTC TIME	EVENT CODE	LAT	LON	NAV	UNC DPH	HT ABV BTM	MAX PRS	NO. BTLS	PARA-METERS
FCTSWS	FC1712	0	1	ROS	12/21/2017	11:30:19	BE	26.997N	79.931W	GPS					
FCTSWS	FC1712	0	1	ROS	12/21/2017	11:35:10	BO	27.000N	79.930W	GPS	134	19	136	4	1,2
FCTSWS	FC1712	0	1	ROS	12/21/2017	11:44:19	EN	27.007N	79.929W	GPS					
FCTSWS	FC1712	1	1	ROS	12/21/2017	10:27:07	BE	26.994N	79.868W	GPS					
FCTSWS	FC1712	1	1	ROS	12/21/2017	10:34:14	BO	26.999N	79.867W	GPS	245	20	247	5	1,2
FCTSWS	FC1712	1	1	ROS	12/21/2017	10:48:02	EN	27.008N	79.866W	GPS					
FCTSWS	FC1712	2	1	ROS	12/21/2017	09:09:32	BE	26.986N	79.783W	GPS					
FCTSWS	FC1712	2	1	ROS	12/21/2017	09:18:01	BO	26.993N	79.782W	GPS	367	22	374	6	1,2
FCTSWS	FC1712	2	1	ROS	12/21/2017	09:33:52	EN	27.005N	79.778W	GPS					
FCTSWS	FC1712	3	1	ROS	12/21/2017	06:58:29	BE	26.982N	79.688W	GPS					
FCTSWS	FC1712	3	1	ROS	12/21/2017	07:09:37	BO	26.990N	79.684W	GPS	516	22	525	7	1,2
FCTSWS	FC1712	3	1	ROS	12/21/2017	07:28:03	EN	27.005N	79.679W	GPS					
FCTSWS	FC1712	4	1	ROS	12/21/2017	05:17:58	BE	26.992N	79.613W	GPS					
FCTSWS	FC1712	4	1	ROS	12/21/2017	05:32:09	BO	27.005N	79.611W	GPS	638	21	646	7	1,2
FCTSWS	FC1712	4	1	ROS	12/21/2017	05:54:16	EN	27.024N	79.607W	GPS					
FCTSWS	FC1712	5	1	ROS	12/21/2017	03:23:40	BE	26.995N	79.504W	GPS					
FCTSWS	FC1712	5	1	ROS	12/21/2017	03:40:53	BO	27.007N	79.502W	GPS	745	19	752	8	1,2
FCTSWS	FC1712	5	1	ROS	12/21/2017	04:05:07	EN	27.022N	79.499W	GPS					
FCTSWS	FC1712	6	1	ROS	12/21/2017	01:31:56	BE	26.986N	79.380W	GPS					
FCTSWS	FC1712	6	1	ROS	12/21/2017	01:45:39	BO	26.994N	79.376W	GPS	662	19	669	8	1,2
FCTSWS	FC1712	6	1	ROS	12/21/2017	02:07:54	EN	27.005N	79.372W	GPS					
FCTSWS	FC1712	7	1	ROS	12/20/2017	23:57:09	BE	26.996N	79.284W	GPS					
FCTSWS	FC1712	7	1	ROS	12/21/2017	00:10:29	BO	27.005N	79.286W	GPS	596	22	606	7	1,2
FCTSWS	FC1712	7	1	ROS	12/21/2017	00:32:37	EN	27.020N	79.288W	GPS					
FCTSWS	FC1712	8	1	ROS	12/20/2017	22:34:02	BE	27.001N	79.202W	GPS					
FCTSWS	FC1712	8	1	ROS	12/20/2017	22:43:12	BO	27.005N	79.203W	GPS	463	19	468	6	1,2
FCTSWS	FC1712	8	1	ROS	12/20/2017	22:58:55	EN	27.012N	79.202W	GPS					

Note:Parameter 1 - salinity sampled, Parameter 2 - oxygen sampled

C WOCE Bottle Summary File

C.1 FC1702

Table 29: Florida Current Cruise – WOCE Bottle Summary File

SHIP/CRS EXPOCODE	WOCE SECT	STN	CAST	BTL#	BTL# Flag	DATE	UTC TIME	LAT	LON	DEPTH	CTD PRS	CTD TMP	CTD SAL	SAL FLAG	BTL SAL	SAL FLAG	CTD OXY	OXY FLAG	BTL OXY	OXY FLAG
FCTSWS	FC1702	0	1	1	2	20170208	1215	26.998N	79.929W	140	141	11.597	35.459	2	35.487	4	124.4	2	125.6	2
FCTSWS	FC1702	0	1	2	2	20170208	1218	27.000N	79.929W	102	102	19.066	36.223	2	36.258	4	161.4	2	162.4	6
FCTSWS	FC1702	0	1	3	2	20170208	1221	27.002N	79.929W	50	51	24.006	36.501	2	36.490	2	205.1	2	204.1	2
FCTSWS	FC1702	0	1	4	2	20170208	1223	27.004N	79.929W	2	2	25.792	36.389	2	36.389	2	200.5	2	199.9	2
FCTSWS	FC1702	1	1	1	2	20170208	1116	26.999N	79.867W	242	243	9.252	35.135	2	35.129	2	123.9	2	124.5	2
FCTSWS	FC1702	1	1	2	2	20170208	1119	27.001N	79.867W	187	188	13.055	35.656	2	35.656	2	128.2	2	128.6	2
FCTSWS	FC1702	1	1	3	2	20170208	1122	27.003N	79.867W	134	134	17.153	36.086	2	36.094	2	149.0	2	147.8	2
FCTSWS	FC1702	1	1	4	2	20170208	1125	27.006N	79.867W	50	50	24.480	36.473	2	36.476	2	205.0	2	205.5	6
FCTSWS	FC1702	1	1	5	2	20170208	1128	27.009N	79.867W	3	3	26.012	36.394	2	36.400	2	199.5	2	200.1	2
FCTSWS	FC1702	2	1	1	2	20170208	0924	26.997N	79.783W	352	354	7.680	34.946	2	34.941	2	126.4	2	126.0	2
FCTSWS	FC1702	2	1	2	2	20170208	0926	26.999N	79.782W	304	306	9.123	35.119	2	35.123	2	124.9	2	125.1	2
FCTSWS	FC1702	2	1	3	2	20170208	0932	27.004N	79.782W	188	189	15.829	36.023	2	36.034	2	139.2	2	139.7	6
FCTSWS	FC1702	2	1	4	2	20170208	0934	27.006N	79.782W	129	130	22.340	36.686	2	36.684	2	157.6	2	158.1	2
FCTSWS	FC1702	2	1	5	2	20170208	0937	27.010N	79.781W	50	50	26.344	36.424	2	36.426	2	198.3	2	197.8	2
FCTSWS	FC1702	2	1	6	2	20170208	0940	27.014N	79.781W	3	3	26.325	36.425	2	36.422	2	198.2	2	198.1	2
FCTSWS	FC1702	3	1	1	2	20170208	0742	26.994N	79.682W	518	522	7.196	34.921	2	34.914	2	131.4	2	130.5	2
FCTSWS	FC1702	3	1	2	2	20170208	0746	26.997N	79.682W	405	408	10.157	35.230	2	35.234	2	123.2	2	123.2	2
FCTSWS	FC1702	3	1	3	2	20170208	0751	27.001N	79.681W	313	315	12.926	35.632	2	35.639	2	120.4	2	120.2	2
FCTSWS	FC1702	3	1	4	2	20170208	0754	27.005N	79.681W	180	181	19.835	36.713	2	36.717	2	145.8	2	147.7	6
FCTSWS	FC1702	3	1	5	2	20170208	0757	27.007N	79.680W	129	129	22.886	36.870	2	36.876	2	155.4	2	154.7	2
FCTSWS	FC1702	3	1	6	2	20170208	0759	27.010N	79.680W	50	51	26.338	36.407	2	36.407	2	198.6	2	198.3	2
FCTSWS	FC1702	3	1	7	2	20170208	0802	27.013N	79.680W	3	3	26.326	36.407	2	36.406	2	198.3	2	198.6	2
FCTSWS	FC1702	4	1	1	2	20170208	0554	27.002N	79.617W	596	601	7.135	34.918	2	34.917	2	132.9	2	133.7	2
FCTSWS	FC1702	4	1	2	2	20170208	0559	27.006N	79.616W	463	466	10.364	35.231	2	35.232	2	122.0	2	121.2	2
FCTSWS	FC1702	4	1	3	2	20170208	0604	27.011N	79.616W	309	312	14.983	35.973	2	35.971	2	138.4	2	137.0	2
FCTSWS	FC1702	4	1	4	2	20170208	0608	27.015N	79.615W	177	178	20.145	36.755	2	36.753	2	150.2	2	150.2	2
FCTSWS	FC1702	4	1	5	2	20170208	0610	27.017N	79.615W	130	131	23.274	36.921	2	36.917	2	156.5	2	155.6	2
FCTSWS	FC1702	4	1	6	2	20170208	0614	27.021N	79.614W	51	51	26.341	36.393	2	36.391	2	198.5	2	198.1	2
FCTSWS	FC1702	4	1	7	2	20170208	0617	27.024N	79.614W	3	3	26.320	36.392	2	36.392	2	192.3	2	206.8	4
FCTSWS	FC1702	5	1	1	2	20170208	0343	27.012N	79.496W	727	733	6.685	34.912	2	34.907	2	139.7	2	140.5	2
FCTSWS	FC1702	5	1	2	2	20170208	0347	27.015N	79.496W	598	603	9.300	35.095	2	35.100	2	121.5	2	120.6	2
FCTSWS	FC1702	5	1	3	2	20170208	0351	27.019N	79.495W	444	448	12.335	35.532	2	35.530	2	126.8	2	126.5	2
FCTSWS	FC1702	5	1	4	2	20170208	0356	27.023N	79.495W	309	311	16.840	36.291	2	36.293	2	144.6	2	152.5	4
FCTSWS	FC1702	5	1	5	2	20170208	0400	27.027N	79.494W	183	185	20.784	36.827	2	36.826	2	150.5	2	151.3	2
FCTSWS	FC1702	5	1	6	2	20170208	0402	27.029N	79.494W	128	128	24.113	36.899	2	36.891	2	161.2	2	161.6	6
FCTSWS	FC1702	5	1	7	2	20170208	0405	27.032N	79.493W	51	51	26.250	36.401	2	36.399	2	199.1	2	199.1	2
FCTSWS	FC1702	5	1	13	2	20170208	0408	27.035N	79.493W	3	3	26.255	36.403	2	36.401	2	199.0	2	199.0	2
FCTSWS	FC1702	6	1	1	2	20170208	0142	27.007N	79.384W	626	632	9.223	35.091	2	35.086	2	120.9	2	120.4	2
FCTSWS	FC1702	6	1	2	2	20170208	0144	27.008N	79.385W	590	595	10.369	35.239	2	35.242	2	121.4	2	122.4	2
FCTSWS	FC1702	6	1	3	2	20170208	0149	27.012N	79.384W	466	470	12.997	35.639	2	35.636	2	130.8	2	130.4	2
FCTSWS	FC1702	6	1	4	2	20170208	0154	27.015N	79.384W	303	306	18.307	36.555	2	36.552	2	178.0	2	178.1	2
FCTSWS	FC1702	6	1	5	2	20170208	0158	27.018N	79.384W	181	182	20.511	36.686	2	36.687	2	184.5	2	186.0	2
FCTSWS	FC1702	6	1	6	2	20170208	0201	27.020N	79.384W	121	122	24.713	36.761	2	36.764	2	-999.0	9	-999.0	9
FCTSWS	FC1702	6	1	7	2	20170208	0205	27.023N	79.384W	49	49	26.260	36.413	2	36.413	2	197.6	2	198.1	2
FCTSWS	FC1702	6	1	13	2	20170208	0207	27.025N	79.384W	3	3	26.265	36.416	2	36.416	2	197.8	2	198.4	2
FCTSWS	FC1702	6	1	14	2	20170208	0208	27.025N	79.384W	3	3	26.261	36.417	2	-999.000	9	-999.0	9	-999.0	9
FCTSWS	FC1702	6	1	15	2	20170208	0208	27.025N	79.384W	3	3	26.264	36.417	2	-999.000	9	-999.0	9	-999.0	9
FCTSWS	FC1702	7	1	1	2	20170208	0008	27.003N	79.283W	593	598	11.882	35.470	2	35.470	2	127.4	2	128.3	2
FCTSWS	FC1702	7	1	2	2	20170208	0013	27.005N	79.283W	468	472	15.977	36.165	2	36.168	2	156.8	2	156.5	6
FCTSWS	FC1702	7	1	3	2	20170208	0017	27.007N	79.282W	298	300	18.325	36.556	2	36.555	2	176.8	2	177.4	2
FCTSWS	FC1702	7	1	4	2	20170208	0021	27.008N	79.282W	179	180	21.819	36.741	2	36.658	4	179.7	2	195.6	4
FCTSWS	FC1702	7	1	5	2	20170208	0023	27.009N	79.282W	130	131	24.573	36.758	2	36.760	2	200.4	2	200.5	2
FCTSWS	FC1702	7	1	6	2	20170208	0026	27.010N	79.283W	50	50	25.686	36.531	2	36.527	2	200.6	2	200.4	2
FCTSWS	FC1702	7	1	7	2	20170208	0028	27.011N	79.283W	2	2	26.298	36.399	2	36.402	2	199.2	2	201.4	2
FCTSWS	FC1702	8	1	1	2	20170207	2237	27.001N	79.200W	467	470	16.539	36.253	2	36.261	2	156.2	2	156.0	2
FCTSWS	FC1702	8	1	2	2	20170207	2243	27.002N	79.199W	299	301	18.776	36.587	2	36.585	2	183.6	2	183.9	2
FCTSWS	FC1702	8	1	3	2	20170207	2247	27.002N	79.199W	180	182	22.545	36.766	2	36.764	2	190.7	2	189.1	6
FCTSWS	FC1702	8	1	4	2	20170207	2250	27.003N	79.198W	130	131	24.254	36.780	2	36.781	2	199.0	2	196.7	2
FCTSWS	FC1702	8	1	5	2	20170207	2253	27.004N	79.198W	50	51	24.884	36.686	2	36.685	2	203.6	2	203.4	2
FCTSWS	FC1702	8	1	6	2	20170207	2256	27.004N	79.197W	3	3	26.331	36.403	2	36.405	2	199.0	2	198.7	2

C.2 FC1706

Table 30: Florida Current Cruise – WOCE Bottle Summary File

SHIP/CRS EXPOCODE	WOCE SECT	STN	CAST	BTL#	BTL# Flag	DATE	UTC TIME	LAT	LON	DEPTH	CTD PRS	CTD TMP	CTD SAL	SAL FLAG	BTL SAL	SAL FLAG	CTD OXY	OXY FLAG	BTL OXY	OXY FLAG
FCTSWS	FC1706	0	1	1	2	20170616	0726	26.994N	79.929W	132	133	12.492	35.604	2	35.597	2	125.8	2	126.2	2
FCTSWS	FC1706	0	1	2	2	20170616	0726	26.994N	79.929W	104	105	14.390	35.862	2	35.906	4	129.6	2	130.6	6
FCTSWS	FC1706	0	1	3	2	20170616	0726	26.994N	79.929W	49	49	25.095	36.598	2	36.591	2	197.2	2	196.2	2
FCTSWS	FC1706	0	1	4	2	20170616	0726	26.994N	79.929W	2	2	28.504	36.308	2	36.376	4	195.5	2	195.2	2
FCTSWS	FC1706	0	1	5	2	20170616	0726	26.994N	79.929W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
FCTSWS	FC1706	0	1	6	2	20170616	0726	26.994N	79.929W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
FCTSWS	FC1706	0	1	7	2	20170616	0726	26.994N	79.929W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
FCTSWS	FC1706	0	1	8	2	20170616	0726	26.994N	79.929W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
FCTSWS	FC1706	0	1	9	2	20170616	0726	26.994N	79.929W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
FCTSWS	FC1706	0	1	10	2	20170616	0726	26.994N	79.929W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
FCTSWS	FC1706	0	1	11	2	20170616	0726	26.994N	79.929W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
FCTSWS	FC1706	0	1	12	2	20170616	0726	26.994N	79.929W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
FCTSWS	FC1706	0	1	13	2	20170616	0726	26.994N	79.929W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
FCTSWS	FC1706	0	1	14	2	20170616	0726	26.994N	79.929W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
FCTSWS	FC1706	0	1	15	2	20170616	0726	26.994N	79.929W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
FCTSWS	FC1706	0	1	16	2	20170616	0726	26.994N	79.929W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
FCTSWS	FC1706	0	1	17	2	20170616	0726	26.994N	79.929W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
FCTSWS	FC1706	0	1	18	2	20170616	0726	26.994N	79.929W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
FCTSWS	FC1706	0	1	19	2	20170616	0726	26.994N	79.929W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
FCTSWS	FC1706	0	1	20	2	20170616	0726	26.994N	79.929W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
FCTSWS	FC1706	0	1	21	2	20170616	0726	26.994N	79.929W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
FCTSWS	FC1706	0	1	22	2	20170616	0726	26.994N	79.929W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
FCTSWS	FC1706	0	1	23	2	20170616	0726	26.994N	79.929W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
FCTSWS	FC1706	0	1	24	2	20170616	0726	26.994N	79.929W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
FCTSWS	FC1706	1	1	1	2	20170616	0632	26.991N	79.866W	245	247	9.149	35.107	2	35.095	2	119.7	2	119.2	2
FCTSWS	FC1706	1	1	2	2	20170616	0632	26.991N	79.866W	183	185	13.123	35.684	2	35.716	4	128.5	2	127.8	2
FCTSWS	FC1706	1	1	3	2	20170616	0632	26.991N	79.866W	131	132	16.108	35.992	2	35.995	2	139.2	2	139.1	6
FCTSWS	FC1706	1	1	4	2	20170616	0632	26.991N	79.866W	49	49	26.798	36.508	2	36.511	2	196.9	2	196.5	2
FCTSWS	FC1706	1	1	5	2	20170616	0632	26.991N	79.866W	2	2	28.588	36.364	2	36.365	2	195.2	2	194.9	2
FCTSWS	FC1706	1	1	6	2	20170616	0632	26.991N	79.866W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
FCTSWS	FC1706	1	1	7	2	20170616	0632	26.991N	79.866W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
FCTSWS	FC1706	1	1	8	2	20170616	0632	26.991N	79.866W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
FCTSWS	FC1706	1	1	9	2	20170616	0632	26.991N	79.866W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
FCTSWS	FC1706	1	1	10	2	20170616	0632	26.991N	79.866W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
FCTSWS	FC1706	1	1	11	2	20170616	0632	26.991N	79.866W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
FCTSWS	FC1706	1	1	12	2	20170616	0632	26.991N	79.866W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
FCTSWS	FC1706	1	1	13	2	20170616	0632	26.991N	79.866W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
FCTSWS	FC1706	1	1	14	2	20170616	0632	26.991N	79.866W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
FCTSWS	FC1706	1	1	15	2	20170616	0632	26.991N	79.866W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
FCTSWS	FC1706	1	1	16	2	20170616	0632	26.991N	79.866W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
FCTSWS	FC1706	1	1	17	2	20170616	0632	26.991N	79.866W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
FCTSWS	FC1706	1	1	18	2	20170616	0632	26.991N	79.866W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
FCTSWS	FC1706	1	1	19	2	20170616	0632	26.991N	79.866W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
FCTSWS	FC1706	1	1	20	2	20170616	0632	26.991N	79.866W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
FCTSWS	FC1706	1	1	21	2	20170616	0632	26.991N	79.866W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
FCTSWS	FC1706	1	1	22	2	20170616	0632	26.991N	79.866W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
FCTSWS	FC1706	1	1	23	2	20170616	0632	26.991N	79.866W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
FCTSWS	FC1706	1	1	24	2	20170616	0632	26.991N	79.866W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
FCTSWS	FC1706	2	1	1	2	20170616	0513	26.985N	79.782W	370	373	8.472	35.053	2	35.046	2	124.5	2	124.7	2
FCTSWS	FC1706	2	1	2	2	20170616	0513	26.985N	79.782W	300	302	10.526	35.300	2	35.296	2	123.2	2	123.8	2
FCTSWS	FC1706	2	1	3	2	20170616	0513	26.985N	79.782W	181	182	16.345	36.171	2	36.182	2	134.1	2	133.0	2
FCTSWS	FC1706	2	1	4	2	20170616	0513	26.985N	79.782W	130	130	22.350	36.773	2	36.768	2	159.6	2	159.6	2
FCTSWS	FC1706	2	1	5	2	20170616	0513	26.985N	79.782W	49	50	27.169	36.439	2	36.444	2	202.3	2	200.3	2
FCTSWS	FC1706	2	1	6	2	20170616	0513	26.985N	79.782W	2	2	28.669	36.211	2	36.210	2	196.5	2	199.9	4
FCTSWS	FC1706	2	1	7	2	20170616	0513	26.985N	79.782W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
FCTSWS	FC1706	2	1	8	2	20170616	0513	26.985N	79.782W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
FCTSWS	FC1706	2	1	9	2	20170616	0513	26.985N	79.782W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
FCTSWS	FC1706	2	1	10	2	20170616	0513	26.985N	79.782W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
FCTSWS	FC1706	2	1	11	2	20170616	0513	26.985N	79.782W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
FCTSWS	FC1706	2	1	12	2	20170616	0513	26.985N	79.782W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
FCTSWS	FC1706	2	1	13	2	20170616	0513	26.985N	79.782W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9

FCTSWS	FC1706	2	1	14	2	20170616	0513	26.985N	79.782W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
FCTSWS	FC1706	2	1	15	2	20170616	0513	26.985N	79.782W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
FCTSWS	FC1706	2	1	16	2	20170616	0513	26.985N	79.782W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
FCTSWS	FC1706	2	1	17	2	20170616	0513	26.985N	79.782W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
FCTSWS	FC1706	2	1	18	2	20170616	0513	26.985N	79.782W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
FCTSWS	FC1706	2	1	19	2	20170616	0513	26.985N	79.782W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
FCTSWS	FC1706	2	1	20	2	20170616	0513	26.985N	79.782W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
FCTSWS	FC1706	2	1	21	2	20170616	0513	26.985N	79.782W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
FCTSWS	FC1706	2	1	22	2	20170616	0513	26.985N	79.782W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
FCTSWS	FC1706	2	1	23	2	20170616	0513	26.985N	79.782W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
FCTSWS	FC1706	2	1	24	2	20170616	0513	26.985N	79.782W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
FCTSWS	FC1706	3	1	1	2	20170616	0344	26.989N	79.683W	519	523	6.727	34.918	2	34.918	2	137.4	2	137.7	6
FCTSWS	FC1706	3	1	2	2	20170616	0344	26.989N	79.683W	400	403	9.998	35.194	2	35.202	2	116.7	2	117.2	2
FCTSWS	FC1706	3	1	3	2	20170616	0344	26.989N	79.683W	301	303	12.006	35.495	2	35.508	2	125.6	2	125.0	2
FCTSWS	FC1706	3	1	4	2	20170616	0344	26.989N	79.683W	179	180	20.355	36.766	2	36.758	2	149.4	2	148.7	2
FCTSWS	FC1706	3	1	5	2	20170616	0344	26.989N	79.683W	129	130	23.942	36.911	2	36.917	2	165.1	2	165.3	2
FCTSWS	FC1706	3	1	6	2	20170616	0344	26.989N	79.683W	49	50	27.028	36.425	2	36.435	2	202.3	2	203.2	2
FCTSWS	FC1706	3	1	7	2	20170616	0344	26.989N	79.683W	3	3	28.700	36.238	2	36.241	2	195.6	2	194.8	2
FCTSWS	FC1706	3	1	8	2	20170616	0344	26.989N	79.683W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
FCTSWS	FC1706	3	1	9	2	20170616	0344	26.989N	79.683W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
FCTSWS	FC1706	3	1	10	2	20170616	0344	26.989N	79.683W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
FCTSWS	FC1706	3	1	11	2	20170616	0344	26.989N	79.683W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
FCTSWS	FC1706	3	1	12	2	20170616	0344	26.989N	79.683W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
FCTSWS	FC1706	3	1	13	2	20170616	0344	26.989N	79.683W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
FCTSWS	FC1706	3	1	14	2	20170616	0344	26.989N	79.683W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
FCTSWS	FC1706	3	1	15	2	20170616	0344	26.989N	79.683W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
FCTSWS	FC1706	3	1	16	2	20170616	0344	26.989N	79.683W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
FCTSWS	FC1706	3	1	17	2	20170616	0344	26.989N	79.683W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
FCTSWS	FC1706	3	1	18	2	20170616	0344	26.989N	79.683W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
FCTSWS	FC1706	3	1	19	2	20170616	0344	26.989N	79.683W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
FCTSWS	FC1706	3	1	20	2	20170616	0344	26.989N	79.683W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
FCTSWS	FC1706	3	1	21	2	20170616	0344	26.989N	79.683W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
FCTSWS	FC1706	3	1	22	2	20170616	0344	26.989N	79.683W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
FCTSWS	FC1706	3	1	23	2	20170616	0344	26.989N	79.683W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
FCTSWS	FC1706	3	1	24	2	20170616	0344	26.989N	79.683W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
FCTSWS	FC1706	4	1	1	2	20170616	0229	26.986N	79.618W	621	626	6.551	34.907	2	34.933	2	139.0	2	138.4	2
FCTSWS	FC1706	4	1	2	2	20170616	0229	26.986N	79.618W	449	452	9.320	35.104	2	35.110	2	118.0	2	117.7	2
FCTSWS	FC1706	4	1	3	2	20170616	0229	26.986N	79.618W	301	303	14.156	35.838	2	35.851	2	131.2	2	131.5	2
FCTSWS	FC1706	4	1	4	2	20170616	0229	26.986N	79.618W	175	176	21.624	36.901	2	36.898	2	155.3	2	154.6	2
FCTSWS	FC1706	4	1	5	2	20170616	0229	26.986N	79.618W	129	130	24.112	36.904	2	36.899	2	162.6	2	162.3	2
FCTSWS	FC1706	4	1	6	2	20170616	0229	26.986N	79.618W	50	50	26.891	36.416	2	36.424	2	202.0	2	200.7	2
FCTSWS	FC1706	4	1	7	2	20170616	0229	26.986N	79.618W	2	2	28.760	36.233	2	36.233	2	195.4	2	195.5	2
FCTSWS	FC1706	4	1	8	2	20170616	0229	26.986N	79.618W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
FCTSWS	FC1706	4	1	9	2	20170616	0229	26.986N	79.618W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
FCTSWS	FC1706	4	1	10	2	20170616	0229	26.986N	79.618W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
FCTSWS	FC1706	4	1	11	2	20170616	0229	26.986N	79.618W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
FCTSWS	FC1706	4	1	12	2	20170616	0229	26.986N	79.618W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
FCTSWS	FC1706	4	1	13	2	20170616	0229	26.986N	79.618W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
FCTSWS	FC1706	4	1	14	2	20170616	0229	26.986N	79.618W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
FCTSWS	FC1706	4	1	15	2	20170616	0229	26.986N	79.618W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
FCTSWS	FC1706	4	1	16	2	20170616	0229	26.986N	79.618W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
FCTSWS	FC1706	4	1	17	2	20170616	0229	26.986N	79.618W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
FCTSWS	FC1706	4	1	18	2	20170616	0229	26.986N	79.618W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
FCTSWS	FC1706	4	1	19	2	20170616	0229	26.986N	79.618W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
FCTSWS	FC1706	4	1	20	2	20170616	0229	26.986N	79.618W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
FCTSWS	FC1706	4	1	21	2	20170616	0229	26.986N	79.618W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
FCTSWS	FC1706	4	1	22	2	20170616	0229	26.986N	79.618W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
FCTSWS	FC1706	4	1	23	2	20170616	0229	26.986N	79.618W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
FCTSWS	FC1706	4	1	24	2	20170616	0229	26.986N	79.618W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
FCTSWS	FC1706	5	1	1	2	20170616	0043	26.986N	79.499W	729	735	6.916	34.909	2	34.910	2	133.4	2	133.4	2
FCTSWS	FC1706	5	1	2	2	20170616	0043	26.986N	79.499W	597	602	8.830	35.061	2	35.060	2	120.6	2	120.8	2
FCTSWS	FC1706	5	1	3	2	20170616	0043	26.986N	79.499W	449	452	12.210	35.541	2	35.549	2	130.1	2	129.9	2
FCTSWS	FC1706	5	1	4	2	20170616	0043	26.986N	79.499W	300	302	16.972	36.321	2	36.318	2	150.5	2	150.6	2
FCTSWS	FC1706	5	1	5	2	20170616	0043	26.986N	79.499W	180	181	22.724	36.950	2	36.942	2	157.9	2	158.3	6
FCTSWS	FC1706	5	1	6	2	20170616	0043	26.986N	79.499W	127	128	25.579	36.678	2	36.681	2	178.3	2	177.3	2
FCTSWS	FC1706	5	1	7	2	20170616	0043	26.986N	79.499W	50	50	27.240	36.376	2	36.388	2	202.7	2	201.4	2

FCTSWS	FC1706	5	1	8	2	20170616	0043	26.986N	79.499W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
FCTSWS	FC1706	5	1	9	2	20170616	0043	26.986N	79.499W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
FCTSWS	FC1706	5	1	10	2	20170616	0043	26.986N	79.499W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
FCTSWS	FC1706	5	1	11	2	20170616	0043	26.986N	79.499W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
FCTSWS	FC1706	5	1	12	2	20170616	0043	26.986N	79.499W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
FCTSWS	FC1706	5	1	13	2	20170616	0043	26.986N	79.499W	3	3	28.738	36.336	2	36.335	2	194.7	2	195.7	2
FCTSWS	FC1706	5	1	14	2	20170616	0043	26.986N	79.499W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
FCTSWS	FC1706	5	1	15	2	20170616	0043	26.986N	79.499W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
FCTSWS	FC1706	5	1	16	2	20170616	0043	26.986N	79.499W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
FCTSWS	FC1706	5	1	17	2	20170616	0043	26.986N	79.499W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
FCTSWS	FC1706	5	1	18	2	20170616	0043	26.986N	79.499W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
FCTSWS	FC1706	5	1	19	2	20170616	0043	26.986N	79.499W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
FCTSWS	FC1706	5	1	20	2	20170616	0043	26.986N	79.499W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
FCTSWS	FC1706	5	1	21	2	20170616	0043	26.986N	79.499W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
FCTSWS	FC1706	5	1	22	2	20170616	0043	26.986N	79.499W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
FCTSWS	FC1706	5	1	23	2	20170616	0043	26.986N	79.499W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
FCTSWS	FC1706	5	1	24	2	20170616	0043	26.986N	79.499W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
FCTSWS	FC1706	6	1	1	2	20170615	2307	26.994N	79.386W	633	639	8.794	35.057	2	35.050	2	121.8	2	122.2	2
FCTSWS	FC1706	6	1	2	2	20170615	2307	26.994N	79.386W	548	552	9.943	35.183	2	35.179	2	118.6	2	118.7	2
FCTSWS	FC1706	6	1	3	2	20170615	2307	26.994N	79.386W	447	450	14.840	35.997	2	35.989	2	155.5	2	153.6	6
FCTSWS	FC1706	6	1	4	2	20170615	2307	26.994N	79.386W	297	299	17.959	36.519	2	36.503	2	178.1	2	177.4	2
FCTSWS	FC1706	6	1	5	2	20170615	2307	26.994N	79.386W	178	180	21.530	36.790	2	36.787	2	184.7	2	186.9	2
FCTSWS	FC1706	6	1	6	2	20170615	2307	26.994N	79.386W	129	130	25.157	36.753	2	36.761	2	171.1	2	170.6	2
FCTSWS	FC1706	6	1	7	2	20170615	2307	26.994N	79.386W	49	50	27.409	36.370	2	36.367	2	201.9	2	201.8	2
FCTSWS	FC1706	6	1	8	2	20170615	2307	26.994N	79.386W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
FCTSWS	FC1706	6	1	9	2	20170615	2307	26.994N	79.386W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
FCTSWS	FC1706	6	1	10	2	20170615	2307	26.994N	79.386W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
FCTSWS	FC1706	6	1	11	2	20170615	2307	26.994N	79.386W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
FCTSWS	FC1706	6	1	12	2	20170615	2307	26.994N	79.386W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
FCTSWS	FC1706	6	1	13	2	20170615	2307	26.994N	79.386W	2	2	28.739	36.329	2	36.325	2	196.3	2	195.8	2
FCTSWS	FC1706	6	1	14	2	20170615	2307	26.994N	79.386W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
FCTSWS	FC1706	6	1	15	2	20170615	2307	26.994N	79.386W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
FCTSWS	FC1706	6	1	16	2	20170615	2307	26.994N	79.386W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
FCTSWS	FC1706	6	1	17	2	20170615	2307	26.994N	79.386W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
FCTSWS	FC1706	6	1	18	2	20170615	2307	26.994N	79.386W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
FCTSWS	FC1706	6	1	19	2	20170615	2307	26.994N	79.386W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
FCTSWS	FC1706	6	1	20	2	20170615	2307	26.994N	79.386W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
FCTSWS	FC1706	6	1	21	2	20170615	2307	26.994N	79.386W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
FCTSWS	FC1706	6	1	22	2	20170615	2307	26.994N	79.386W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
FCTSWS	FC1706	6	1	23	2	20170615	2307	26.994N	79.386W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
FCTSWS	FC1706	6	1	24	2	20170615	2307	26.994N	79.386W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
FCTSWS	FC1706	7	1	1	2	20170615	2137	26.997N	79.283W	598	603	11.452	35.496	2	35.491	2	142.5	2	142.0	2
FCTSWS	FC1706	7	1	2	2	20170615	2137	26.997N	79.283W	444	448	15.604	36.129	2	36.125	2	167.5	2	166.2	6
FCTSWS	FC1706	7	1	3	2	20170615	2137	26.997N	79.283W	298	300	18.864	36.597	2	36.590	2	185.3	2	184.3	2
FCTSWS	FC1706	7	1	4	2	20170615	2137	26.997N	79.283W	178	180	21.021	36.728	2	36.722	2	200.0	2	198.9	2
FCTSWS	FC1706	7	1	5	2	20170615	2137	26.997N	79.283W	130	131	24.344	36.877	2	36.874	2	201.2	2	199.3	2
FCTSWS	FC1706	7	1	6	2	20170615	2137	26.997N	79.283W	50	50	27.833	36.342	2	36.345	2	198.5	2	200.0	2
FCTSWS	FC1706	7	1	7	2	20170615	2137	26.997N	79.283W	3	3	28.708	36.339	2	36.346	2	196.1	2	196.0	2
FCTSWS	FC1706	7	1	8	2	20170615	2137	26.997N	79.283W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
FCTSWS	FC1706	7	1	9	2	20170615	2137	26.997N	79.283W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
FCTSWS	FC1706	7	1	10	2	20170615	2137	26.997N	79.283W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
FCTSWS	FC1706	7	1	11	2	20170615	2137	26.997N	79.283W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
FCTSWS	FC1706	7	1	12	2	20170615	2137	26.997N	79.283W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
FCTSWS	FC1706	7	1	13	2	20170615	2137	26.997N	79.283W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
FCTSWS	FC1706	7	1	14	2	20170615	2137	26.997N	79.283W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
FCTSWS	FC1706	7	1	15	2	20170615	2137	26.997N	79.283W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
FCTSWS	FC1706	7	1	16	2	20170615	2137	26.997N	79.283W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
FCTSWS	FC1706	7	1	17	2	20170615	2137	26.997N	79.283W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
FCTSWS	FC1706	7	1	18	2	20170615	2137	26.997N	79.283W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
FCTSWS	FC1706	7	1	19	2	20170615	2137	26.997N	79.283W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
FCTSWS	FC1706	7	1	20	2	20170615	2137	26.997N	79.283W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
FCTSWS	FC1706	7	1	21	2	20170615	2137	26.997N	79.283W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
FCTSWS	FC1706	7	1	22	2	20170615	2137	26.997N	79.283W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
FCTSWS	FC1706	7	1	23	2	20170615	2137	26.997N	79.283W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
FCTSWS	FC1706	7	1	24	2	20170615	2137	26.997N	79.283W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
FCTSWS	FC1706	8	1	1	2	20170615	2015	26.999N	79.205W	474	477	15.583	36.130	2	36.140	2	164.3	2	166.2	6

FCTSWS	FC1706	8	1	2	2	20170615	2015	26.999N	79.205W	297	299	18.676	36.579	2	36.572	2	182.9	2	184.9	2
FCTSWS	FC1706	8	1	3	2	20170615	2015	26.999N	79.205W	179	180	21.822	36.782	2	36.772	2	193.7	2	196.8	2
FCTSWS	FC1706	8	1	4	2	20170615	2015	26.999N	79.205W	129	130	23.661	36.849	2	36.841	2	180.7	2	182.4	2
FCTSWS	FC1706	8	1	5	2	20170615	2015	26.999N	79.205W	50	50	27.607	36.368	2	36.366	2	197.5	2	200.6	2
FCTSWS	FC1706	8	1	6	2	20170615	2015	26.999N	79.205W	4	4	28.692	36.364	2	36.357	2	195.0	2	196.1	2
FCTSWS	FC1706	8	1	7	2	20170615	2015	26.999N	79.205W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
FCTSWS	FC1706	8	1	8	2	20170615	2015	26.999N	79.205W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
FCTSWS	FC1706	8	1	9	2	20170615	2015	26.999N	79.205W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
FCTSWS	FC1706	8	1	10	2	20170615	2015	26.999N	79.205W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
FCTSWS	FC1706	8	1	11	2	20170615	2015	26.999N	79.205W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
FCTSWS	FC1706	8	1	12	2	20170615	2015	26.999N	79.205W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
FCTSWS	FC1706	8	1	13	2	20170615	2015	26.999N	79.205W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
FCTSWS	FC1706	8	1	14	2	20170615	2015	26.999N	79.205W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
FCTSWS	FC1706	8	1	15	2	20170615	2015	26.999N	79.205W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
FCTSWS	FC1706	8	1	16	2	20170615	2015	26.999N	79.205W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
FCTSWS	FC1706	8	1	17	2	20170615	2015	26.999N	79.205W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
FCTSWS	FC1706	8	1	18	2	20170615	2015	26.999N	79.205W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
FCTSWS	FC1706	8	1	19	2	20170615	2015	26.999N	79.205W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
FCTSWS	FC1706	8	1	20	2	20170615	2015	26.999N	79.205W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
FCTSWS	FC1706	8	1	21	2	20170615	2015	26.999N	79.205W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
FCTSWS	FC1706	8	1	22	2	20170615	2015	26.999N	79.205W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
FCTSWS	FC1706	8	1	23	2	20170615	2015	26.999N	79.205W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9
FCTSWS	FC1706	8	1	24	2	20170615	2015	26.999N	79.205W	-999	-999	-999.000	-999.000	9	-999.000	9	-999.0	9	-999.0	9

C.3 FC1707

Table 31: Florida Current Cruise – WOCE Bottle Summary File

SHIP/CRS EXPOCODE	WOCE SECT	STN	CAST	BTL#	BTL# Flag	DATE	UTC TIME	LAT	LON	DEPTH	CTD PRS	CTD TMP	CTD SAL	SAL FLAG	BTL SAL	SAL FLAG	CTD OXY	OXY FLAG	BTL OXY	OXY FLAG
FCTSWS	FC1707	0	1	1	2	20170721	1115	27.003N	79.929W	140	141	12.396	35.597	2	35.600	2	123.5	2	124.6	2
FCTSWS	FC1707	0	1	2	2	20170721	1118	27.006N	79.928W	102	103	14.777	35.883	2	35.947	4	124.3	2	133.5	4
FCTSWS	FC1707	0	1	3	2	20170721	1122	27.009N	79.928W	49	50	24.612	36.468	2	36.489	2	208.0	2	207.2	2
FCTSWS	FC1707	0	1	4	2	20170721	1125	27.012N	79.928W	3	3	29.977	36.132	2	36.180	4	193.8	2	193.6	2
FCTSWS	FC1707	1	1	1	2	20170721	0956	27.007N	79.867W	249	251	9.605	35.206	2	35.194	2	122.2	2	120.9	2
FCTSWS	FC1707	1	1	2	2	20170721	1001	27.010N	79.867W	184	185	12.980	35.678	2	35.679	2	125.9	2	126.3	2
FCTSWS	FC1707	1	1	3	2	20170721	1003	27.012N	79.867W	134	135	15.908	36.123	2	36.123	2	131.0	2	130.7	2
FCTSWS	FC1707	1	1	4	2	20170721	1007	27.016N	79.867W	49	50	26.920	36.310	2	36.327	2	205.7	2	204.5	2
FCTSWS	FC1707	1	1	5	2	20170721	1011	27.020N	79.867W	4	4	29.890	36.329	2	36.236	4	191.8	2	192.8	2
FCTSWS	FC1707	2	1	1	2	20170721	0826	27.002N	79.783W	371	374	7.552	34.968	2	34.953	2	126.5	2	126.9	2
FCTSWS	FC1707	2	1	2	2	20170721	0829	27.004N	79.783W	301	304	9.538	35.197	2	35.183	2	123.4	2	123.3	2
FCTSWS	FC1707	2	1	3	2	20170721	0833	27.007N	79.783W	184	185	16.262	36.077	2	36.144	4	131.7	2	131.1	2
FCTSWS	FC1707	2	1	4	2	20170721	0835	27.009N	79.783W	130	131	21.392	36.692	2	36.713	2	149.2	2	149.9	2
FCTSWS	FC1707	2	1	5	2	20170721	0838	27.012N	79.783W	50	51	27.664	36.458	2	36.464	2	195.1	2	179.5	4
FCTSWS	FC1707	2	1	6	2	20170721	0841	27.015N	79.783W	3	3	29.988	36.329	2	36.326	2	192.2	2	192.4	2
FCTSWS	FC1707	3	1	1	2	20170721	0635	26.999N	79.683W	525	529	6.999	34.942	2	34.936	2	132.7	2	133.8	2
FCTSWS	FC1707	3	1	2	2	20170721	0640	27.002N	79.683W	404	407	9.111	35.097	2	35.114	2	119.4	2	118.7	2
FCTSWS	FC1707	3	1	3	2	20170721	0644	27.004N	79.683W	300	303	12.293	35.549	2	35.544	2	124.8	2	125.5	2
FCTSWS	FC1707	3	1	4	2	20170721	0647	27.007N	79.683W	178	179	20.406	36.689	2	36.680	2	139.5	2	139.5	4
FCTSWS	FC1707	3	1	5	2	20170721	0649	27.009N	79.683W	129	129	23.466	36.786	2	36.797	2	171.4	2	173.0	2
FCTSWS	FC1707	3	1	6	2	20170721	0653	27.012N	79.683W	50	50	28.797	36.885	2	36.884	2	198.3	2	198.2	2
FCTSWS	FC1707	3	1	7	2	20170721	0655	27.015N	79.683W	3	3	29.864	36.422	2	36.435	2	193.1	2	192.8	2
FCTSWS	FC1707	4	1	1	2	20170721	0503	27.003N	79.615W	629	634	7.034	34.937	2	34.959	2	133.3	2	133.5	2
FCTSWS	FC1707	4	1	2	2	20170721	0508	27.006N	79.616W	452	456	9.211	35.105	2	35.112	2	119.5	2	118.7	2
FCTSWS	FC1707	4	1	3	2	20170721	0512	27.009N	79.616W	301	304	13.814	35.799	2	35.805	2	135.6	2	135.9	2
FCTSWS	FC1707	4	1	4	2	20170721	0516	27.012N	79.616W	179	180	21.281	36.852	2	36.851	2	162.1	2	162.7	2
FCTSWS	FC1707	4	1	5	2	20170721	0518	27.014N	79.616W	129	130	24.497	36.818	2	36.823	2	181.2	2	182.2	2
FCTSWS	FC1707	4	1	6	2	20170721	0521	27.016N	79.616W	50	50	27.228	36.455	2	36.457	2	201.8	2	201.5	2
FCTSWS	FC1707	4	1	7	2	20170721	0523	27.018N	79.616W	4	4	29.323	36.323	2	36.325	2	195.7	2	195.7	2
FCTSWS	FC1707	5	1	1	2	20170721	0315	26.998N	79.507W	745	751	6.437	34.908	2	34.910	2	140.7	2	141.2	2
FCTSWS	FC1707	5	1	2	2	20170721	0320	27.000N	79.507W	599	603	8.312	34.998	2	34.995	2	121.5	2	120.8	2
FCTSWS	FC1707	5	1	3	2	20170721	0324	27.003N	79.507W	450	453	11.251	35.398	2	35.412	2	125.1	2	125.7	2
FCTSWS	FC1707	5	1	4	2	20170721	0328	27.005N	79.507W	299	301	16.214	36.203	2	36.193	2	148.5	2	146.6	2
FCTSWS	FC1707	5	1	5	2	20170721	0332	27.008N	79.508W	178	180	21.911	36.841	2	36.848	2	173.4	2	172.9	2
FCTSWS	FC1707	5	1	6	2	20170721	0334	27.009N	79.508W	129	130	24.558	36.872	2	36.860	2	165.8	2	165.2	2
FCTSWS	FC1707	5	1	7	2	20170721	0338	27.012N	79.508W	49	50	27.359	36.441	2	36.440	2	203.7	2	202.8	2
FCTSWS	FC1707	5	1	13	2	20170721	0340	27.014N	79.508W	3	3	29.343	36.306	2	36.298	2	194.6	2	195.0	2
FCTSWS	FC1707	6	1	1	2	20170721	0033	26.996N	79.385W	663	668	8.901	35.138	2	35.136	2	132.4	2	132.5	2
FCTSWS	FC1707	6	1	2	2	20170721	0036	26.996N	79.385W	594	598	9.597	35.145	2	35.135	2	120.8	2	119.6	2
FCTSWS	FC1707	6	1	3	2	20170721	0039	26.998N	79.386W	448	451	13.824	35.841	2	35.834	2	148.0	2	148.4	2
FCTSWS	FC1707	6	1	4	2	20170721	0043	26.999N	79.386W	298	300	18.014	36.508	2	36.496	2	160.7	2	161.5	2
FCTSWS	FC1707	6	1	5	2	20170721	0046	27.000N	79.386W	179	180	22.167	36.904	2	36.911	2	159.3	2	159.3	2
FCTSWS	FC1707	6	1	6	2	20170721	0049	27.001N	79.387W	129	129	24.988	36.808	2	36.802	2	173.6	2	173.1	2
FCTSWS	FC1707	6	1	7	2	20170721	0052	27.002N	79.387W	50	50	27.301	36.445	2	36.435	2	201.5	2	201.5	2
FCTSWS	FC1707	6	1	13	2	20170721	0054	27.003N	79.387W	3	3	29.616	36.447	2	36.444	2	194.7	2	194.6	2
FCTSWS	FC1707	7	1	1	2	20170720	2300	26.996N	79.285W	609	614	11.684	35.526	2	35.526	2	143.0	2	142.4	2
FCTSWS	FC1707	7	1	2	2	20170720	2305	26.997N	79.286W	447	450	16.169	36.218	2	36.236	2	161.3	2	162.1	2
FCTSWS	FC1707	7	1	3	2	20170720	2308	26.997N	79.286W	298	300	18.338	36.556	2	36.548	2	165.3	2	164.5	2
FCTSWS	FC1707	7	1	4	2	20170720	2312	26.998N	79.286W	174	175	22.169	36.942	2	36.930	2	154.9	2	154.5	4
FCTSWS	FC1707	7	1	5	2	20170720	2314	26.999N	79.286W	129	130	24.376	36.823	2	36.814	2	181.0	2	179.9	2
FCTSWS	FC1707	7	1	6	2	20170720	2317	26.999N	79.287W	50	50	27.429	36.431	2	36.433	2	202.3	2	202.3	2
FCTSWS	FC1707	7	1	7	2	20170720	2320	27.000N	79.287W	4	4	29.303	36.299	2	36.313	2	195.6	2	195.9	2
FCTSWS	FC1707	8	1	1	2	20170720	2136	26.995N	79.200W	478	481	15.571	36.127	2	36.127	2	166.3	2	166.8	2
FCTSWS	FC1707	8	1	2	2	20170720	2141	26.995N	79.200W	300	302	19.047	36.635	2	36.624	2	173.2	2	179.6	4
FCTSWS	FC1707	8	1	3	2	20170720	2144	26.995N	79.200W	179	181	21.529	36.842	2	36.827	2	172.3	2	185.7	4
FCTSWS	FC1707	8	1	4	2	20170720	2146	26.995N	79.200W	130	130	24.194	36.904	2	36.879	4	165.3	2	166.7	2
FCTSWS	FC1707	8	1	5	2	20170720	2150	26.995N	79.201W	50	50	26.940	36.491	2	36.474	2	199.2	2	199.3	2
FCTSWS	FC1707	8	1	6	2	20170720	2152	26.994N	79.201W	4	4	29.591	36.395	2	36.386	2	194.4	2	194.4	2

C.4 FC1710

Table 32: Florida Current Cruise – WOCE Bottle Summary File

SHIP/CRS EXPOCODE	WOCE SECT	STN	CAST	BTL#	BTL# Flag	DATE	UTC TIME	LAT	LON	DEPTH	CTD PRS	CTD TMP	CTD SAL	SAL FLAG	BTL SAL	SAL FLAG	CTD OXY	OXY FLAG	BTL OXY	OXY FLAG
FCTSWS	FC1710	0	1	1	2	20171017	1059	27.002N	79.929W	137	138	16.681	36.248	2	36.243	2	140.3	2	140.9	2
FCTSWS	FC1710	0	1	2	2	20171017	1101	27.004N	79.929W	100	101	20.549	36.569	2	36.578	2	147.7	2	148.6	2
FCTSWS	FC1710	0	1	3	2	20171017	1104	27.005N	79.928W	49	49	28.695	35.924	2	35.928	2	189.6	2	208.9	4
FCTSWS	FC1710	0	1	4	2	20171017	1106	27.007N	79.928W	2	2	28.768	35.692	2	35.690	2	196.4	2	197.0	2
FCTSWS	FC1710	1	1	1	2	20171017	0959	26.993N	79.868W	244	246	10.760	35.330	2	35.327	2	125.5	2	128.2	2
FCTSWS	FC1710	1	1	2	2	20171017	1001	26.994N	79.868W	184	186	13.931	35.814	2	35.821	2	134.2	2	132.8	6
FCTSWS	FC1710	1	1	3	2	20171017	1004	26.995N	79.867W	130	131	18.823	36.360	2	36.361	2	143.1	2	140.5	2
FCTSWS	FC1710	1	1	4	2	20171017	1006	26.997N	79.867W	49	49	28.862	36.013	2	36.040	4	196.1	2	195.5	2
FCTSWS	FC1710	1	1	5	2	20171017	1008	26.998N	79.867W	3	3	28.876	35.917	2	35.915	2	195.6	2	196.2	2
FCTSWS	FC1710	2	1	1	2	20171017	0847	26.994N	79.781W	368	371	8.272	35.020	2	35.015	2	128.8	2	128.7	6
FCTSWS	FC1710	2	1	2	2	20171017	0850	26.996N	79.781W	300	302	9.921	35.227	2	35.233	2	128.0	2	125.6	2
FCTSWS	FC1710	2	1	3	2	20171017	0853	26.998N	79.781W	181	183	17.069	36.302	2	36.342	4	142.0	2	144.2	2
FCTSWS	FC1710	2	1	4	2	20171017	0855	26.999N	79.781W	130	130	21.975	36.405	2	36.409	2	156.1	2	180.8	4
FCTSWS	FC1710	2	1	5	2	20171017	0857	27.001N	79.780W	49	50	28.941	36.246	2	36.250	2	195.8	2	194.1	2
FCTSWS	FC1710	2	1	6	2	20171017	0900	27.003N	79.780W	3	3	28.983	36.256	2	36.255	2	190.1	2	234.7	4
FCTSWS	FC1710	3	1	1	2	20171017	0723	26.991N	79.681W	513	518	7.242	34.924	2	34.921	2	134.0	2	133.9	2
FCTSWS	FC1710	3	1	2	2	20171017	0726	26.993N	79.681W	403	406	10.169	35.236	2	35.266	4	126.1	2	125.3	2
FCTSWS	FC1710	3	1	3	2	20171017	0729	26.995N	79.681W	302	304	13.166	35.679	2	35.677	2	130.7	2	130.2	2
FCTSWS	FC1710	3	1	4	2	20171017	0732	26.997N	79.681W	181	182	19.110	36.477	2	36.474	2	129.0	2	128.1	2
FCTSWS	FC1710	3	1	5	2	20171017	0734	26.998N	79.681W	131	131	25.986	36.760	2	36.769	2	177.9	2	178.1	2
FCTSWS	FC1710	3	1	6	2	20171017	0736	27.000N	79.681W	50	50	28.974	36.244	2	36.247	2	196.1	2	196.0	2
FCTSWS	FC1710	3	1	7	2	20171017	0738	27.002N	79.680W	2	2	29.069	36.238	2	36.237	2	189.0	2	233.7	4
FCTSWS	FC1710	4	1	1	2	20171017	0608	26.999N	79.616W	619	624	6.847	34.908	2	34.907	2	130.1	2	152.8	4
FCTSWS	FC1710	4	1	2	2	20171017	0612	27.001N	79.616W	452	456	11.048	35.349	2	35.350	2	125.4	2	124.8	2
FCTSWS	FC1710	4	1	3	2	20171017	0616	27.003N	79.615W	301	303	15.022	35.990	2	35.987	2	136.7	2	149.3	4
FCTSWS	FC1710	4	1	4	2	20171017	0619	27.005N	79.615W	180	182	20.100	36.676	2	36.680	2	143.7	2	142.5	2
FCTSWS	FC1710	4	1	5	2	20171017	0620	27.007N	79.615W	130	131	26.012	36.748	2	36.737	4	173.6	2	173.1	4
FCTSWS	FC1710	4	1	6	2	20171017	0623	27.008N	79.615W	50	51	28.824	36.438	2	36.440	2	189.5	2	219.9	4
FCTSWS	FC1710	4	1	7	2	20171017	0625	27.010N	79.615W	3	3	29.010	36.259	2	36.260	2	195.5	2	195.5	2
FCTSWS	FC1710	5	1	1	2	20171017	0431	26.996N	79.497W	727	733	6.585	34.907	2	34.908	2	143.3	2	143.1	2
FCTSWS	FC1710	5	1	2	2	20171017	0434	26.998N	79.497W	601	606	8.147	34.988	2	34.991	2	127.3	2	127.4	2
FCTSWS	FC1710	5	1	3	2	20171017	0438	27.000N	79.497W	451	455	12.344	35.547	2	35.550	2	121.5	2	152.5	4
FCTSWS	FC1710	5	1	4	2	20171017	0441	27.001N	79.497W	299	301	16.594	36.291	2	36.294	2	167.6	2	166.7	6
FCTSWS	FC1710	5	1	5	2	20171017	0444	27.003N	79.496W	180	182	21.873	36.912	2	36.907	2	159.4	2	162.3	2
FCTSWS	FC1710	5	1	6	2	20171017	0446	27.004N	79.496W	130	131	26.025	36.739	2	36.747	2	178.9	2	180.7	2
FCTSWS	FC1710	5	1	7	2	20171017	0448	27.005N	79.496W	50	51	28.681	36.364	2	36.365	2	189.6	2	203.3	4
FCTSWS	FC1710	5	1	13	2	20171017	0450	27.007N	79.496W	2	2	28.809	36.342	2	36.336	2	196.1	2	196.3	2
FCTSWS	FC1710	6	1	1	2	20171017	0253	26.996N	79.381W	659	665	9.302	35.158	2	35.163	2	131.5	2	131.4	2
FCTSWS	FC1710	6	1	2	2	20171017	0256	26.997N	79.381W	595	600	10.598	35.275	2	35.273	2	123.5	2	123.3	2
FCTSWS	FC1710	6	1	3	2	20171017	0300	26.998N	79.381W	448	451	13.974	35.813	2	35.807	2	137.3	2	137.7	6
FCTSWS	FC1710	6	1	4	2	20171017	0304	26.999N	79.381W	298	301	17.872	36.497	2	36.493	2	174.9	2	174.3	2
FCTSWS	FC1710	6	1	5	2	20171017	0307	27.000N	79.381W	179	180	21.102	36.809	2	36.806	2	154.8	2	172.1	4
FCTSWS	FC1710	6	1	6	2	20171017	0309	27.001N	79.381W	130	131	25.753	36.754	2	36.755	2	176.1	2	174.9	2
FCTSWS	FC1710	6	1	7	2	20171017	0312	27.002N	79.381W	50	51	28.611	36.378	2	36.371	2	189.1	2	206.2	4
FCTSWS	FC1710	6	1	13	2	20171017	0315	27.004N	79.381W	2	2	28.879	36.347	2	36.339	2	188.9	2	201.2	4
FCTSWS	FC1710	7	1	1	2	20171017	0134	26.999N	79.286W	601	606	11.402	35.479	2	35.474	2	143.9	2	144.3	2
FCTSWS	FC1710	7	1	2	2	20171017	0139	27.000N	79.286W	446	450	15.069	35.988	2	35.989	2	139.2	2	139.2	6
FCTSWS	FC1710	7	1	3	2	20171017	0143	27.000N	79.287W	298	300	18.335	36.551	2	36.549	2	173.0	2	172.4	2
FCTSWS	FC1710	7	1	4	2	20171017	0146	27.001N	79.287W	179	181	21.176	36.802	2	36.801	2	159.0	2	158.4	2
FCTSWS	FC1710	7	1	5	2	20171017	0148	27.001N	79.288W	130	130	24.809	36.875	2	36.859	4	186.2	2	186.3	2
FCTSWS	FC1710	7	1	6	2	20171017	0151	27.001N	79.288W	50	51	28.828	36.343	2	36.337	2	189.9	2	227.6	4
FCTSWS	FC1710	7	1	7	2	20171017	0154	27.002N	79.289W	2	2	29.042	36.199	2	36.202	2	190.2	2	247.9	4
FCTSWS	FC1710	8	1	1	2	20171017	0024	27.001N	79.201W	465	468	14.924	35.976	2	35.975	2	145.5	2	146.3	6
FCTSWS	FC1710	8	1	2	2	20171017	0028	27.001N	79.201W	298	300	18.519	36.553	2	36.554	2	169.0	2	169.8	2
FCTSWS	FC1710	8	1	3	2	20171017	0031	27.000N	79.201W	179	181	21.282	36.806	2	36.806	2	166.1	2	166.9	2
FCTSWS	FC1710	8	1	4	2	20171017	0033	27.000N	79.202W	130	131	23.013	36.864	2	36.864	2	168.7	2	166.8	2
FCTSWS	FC1710	8	1	5	2	20171017	0036	27.000N	79.202W	50	50	28.803	36.340	2	36.340	2	195.3	2	196.0	2
FCTSWS	FC1710	8	1	6	2	20171017	0039	27.000N	79.202W	3	3	29.118	36.189	2	36.188	2	196.0	2	196.0	2

C.5 FC1712

Table 33: Florida Current Cruise – WOCE Bottle Summary File

SHIP/CRS EXPOCODE	WOCE SECT	STN	CAST	BTL#	BTL# Flag	DATE	UTC TIME	LAT	LON	DEPTH	CTD PRS	CTD TMP	CTD SAL	SAL FLAG	BTL SAL	SAL FLAG	CTD OXY	OXY FLAG	BTL OXY	OXY FLAG
FCTSWS	FC1712	0	1	1	2	20171221	1136	27.001N	79.930W	134	135	11.973	35.525	2	35.557	4	128.9	2	130.1	2
FCTSWS	FC1712	0	1	2	2	20171221	1138	27.003N	79.929W	100	101	18.907	36.373	2	36.366	4	130.6	2	131.1	2
FCTSWS	FC1712	0	1	3	2	20171221	1141	27.006N	79.929W	50	50	25.454	36.266	2	36.298	4	194.7	2	204.6	4
FCTSWS	FC1712	0	1	4	2	20171221	1144	27.008N	79.928W	3	3	25.489	36.295	2	36.289	2	201.0	2	199.5	2
FCTSWS	FC1712	1	1	1	2	20171221	1035	27.000N	79.867W	245	247	9.305	35.177	2	35.180	2	127.5	2	128.7	2
FCTSWS	FC1712	1	1	2	2	20171221	1039	27.002N	79.867W	180	181	12.330	35.588	2	35.582	2	130.0	2	130.2	2
FCTSWS	FC1712	1	1	3	2	20171221	1042	27.004N	79.866W	130	131	17.592	36.339	2	36.333	2	135.4	2	135.7	2
FCTSWS	FC1712	1	1	4	2	20171221	1045	27.007N	79.866W	50	50	25.426	36.268	2	36.268	2	199.5	2	197.0	2
FCTSWS	FC1712	1	1	5	2	20171221	1048	27.009N	79.865W	3	3	25.651	36.309	2	36.315	2	200.3	2	199.6	2
FCTSWS	FC1712	2	1	1	2	20171221	0919	26.995N	79.781W	367	369	6.915	34.918	2	34.912	2	136.1	2	136.2	2
FCTSWS	FC1712	2	1	2	2	20171221	0922	26.997N	79.781W	302	305	9.194	35.174	2	35.183	2	129.9	2	128.0	2
FCTSWS	FC1712	2	1	3	2	20171221	0925	26.999N	79.781W	182	184	16.579	36.221	2	36.215	2	133.8	2	130.9	2
FCTSWS	FC1712	2	1	4	2	20171221	0927	27.001N	79.780W	131	131	19.313	36.545	2	36.547	2	129.5	2	130.8	2
FCTSWS	FC1712	2	1	5	2	20171221	0931	27.004N	79.779W	50	51	25.387	36.296	2	36.295	2	198.2	2	197.7	2
FCTSWS	FC1712	2	1	6	2	20171221	0933	27.006N	79.778W	2	2	25.800	36.324	2	36.325	2	200.1	2	198.3	2
FCTSWS	FC1712	3	1	1	2	20171221	0711	26.992N	79.684W	516	520	6.329	34.909	2	34.907	2	145.5	2	144.5	2
FCTSWS	FC1712	3	1	2	2	20171221	0714	26.994N	79.683W	398	401	10.019	35.202	2	35.198	2	120.9	2	120.5	2
FCTSWS	FC1712	3	1	3	2	20171221	0717	26.997N	79.682W	300	303	13.059	35.662	2	35.670	2	123.8	2	135.3	4
FCTSWS	FC1712	3	1	4	2	20171221	0720	26.999N	79.681W	181	182	18.212	36.447	2	36.449	2	134.3	2	132.6	2
FCTSWS	FC1712	3	1	5	2	20171221	0722	27.001N	79.681W	131	132	21.826	36.924	2	36.921	2	155.8	2	155.2	2
FCTSWS	FC1712	3	1	6	2	20171221	0725	27.004N	79.680W	50	50	25.148	36.278	2	36.280	2	201.3	2	204.3	2
FCTSWS	FC1712	3	1	7	2	20171221	0728	27.006N	79.679W	3	3	25.253	36.291	2	36.288	2	201.5	2	205.3	2
FCTSWS	FC1712	4	1	1	2	20171221	0533	27.006N	79.611W	638	643	6.175	34.909	2	34.911	2	148.8	2	150.7	2
FCTSWS	FC1712	4	1	2	2	20171221	0539	27.011N	79.610W	450	453	10.221	35.228	2	35.227	2	120.4	2	121.0	2
FCTSWS	FC1712	4	1	3	2	20171221	0543	27.014N	79.609W	301	303	14.564	35.903	2	35.903	2	127.9	2	129.6	2
FCTSWS	FC1712	4	1	4	2	20171221	0546	27.017N	79.609W	180	181	19.120	36.521	2	36.528	2	129.8	2	131.7	2
FCTSWS	FC1712	4	1	5	2	20171221	0548	27.019N	79.608W	131	132	23.267	36.955	2	36.954	2	157.5	2	157.8	2
FCTSWS	FC1712	4	1	6	2	20171221	0552	27.023N	79.607W	51	51	26.661	36.341	2	36.341	2	196.6	2	195.5	2
FCTSWS	FC1712	4	1	7	2	20171221	0554	27.025N	79.607W	4	4	26.669	36.337	2	36.343	2	196.3	2	196.3	2
FCTSWS	FC1712	5	1	1	2	20171221	0341	27.007N	79.502W	745	751	6.605	34.906	2	34.906	2	140.5	2	140.7	2
FCTSWS	FC1712	5	1	2	2	20171221	0346	27.009N	79.501W	599	604	7.936	34.973	2	34.977	2	125.9	2	124.1	2
FCTSWS	FC1712	5	1	3	2	20171221	0349	27.011N	79.501W	446	450	11.150	35.361	2	35.366	2	121.7	2	120.5	2
FCTSWS	FC1712	5	1	4	2	20171221	0353	27.014N	79.501W	300	302	16.030	36.197	2	36.202	2	161.3	2	161.0	2
FCTSWS	FC1712	5	1	5	2	20171221	0357	27.017N	79.500W	179	180	19.697	36.727	2	36.724	2	158.2	2	157.6	2
FCTSWS	FC1712	5	1	6	2	20171221	0359	27.018N	79.500W	129	130	23.566	36.948	2	36.945	2	159.2	2	160.3	2
FCTSWS	FC1712	5	1	7	2	20171221	0402	27.021N	79.499W	50	50	26.564	36.284	2	36.323	4	196.7	2	195.2	2
FCTSWS	FC1712	5	1	13	2	20171221	0405	27.023N	79.498W	4	4	26.558	36.302	2	36.301	2	196.8	2	196.8	2
FCTSWS	FC1712	6	1	1	2	20171221	0147	26.995N	79.376W	662	667	8.410	35.026	2	35.025	2	126.2	2	126.6	2
FCTSWS	FC1712	6	1	2	2	20171221	0149	26.996N	79.376W	594	599	8.848	35.041	2	35.222	4	115.2	2	-999.0	9
FCTSWS	FC1712	6	1	3	2	20171221	0153	26.998N	79.375W	449	453	12.338	35.545	2	35.543	2	124.3	2	125.1	2
FCTSWS	FC1712	6	1	4	2	20171221	0157	27.000N	79.374W	300	302	16.792	36.326	2	36.337	2	167.7	2	166.7	2
FCTSWS	FC1712	6	1	5	2	20171221	0200	27.002N	79.373W	181	182	21.492	36.841	2	36.886	4	155.4	2	153.8	2
FCTSWS	FC1712	6	1	6	2	20171221	0202	27.003N	79.373W	130	131	23.060	36.945	2	36.946	2	158.4	2	158.2	2
FCTSWS	FC1712	6	1	7	2	20171221	0205	27.004N	79.372W	52	52	26.041	36.665	2	36.676	2	190.8	2	191.5	2
FCTSWS	FC1712	6	1	13	2	20171221	0208	27.006N	79.371W	2	2	26.315	36.342	2	36.341	2	198.0	2	198.7	2
FCTSWS	FC1712	7	1	1	2	20171221	0012	27.006N	79.286W	596	601	10.859	35.403	2	35.400	2	139.1	2	138.2	2
FCTSWS	FC1712	7	1	2	2	20171221	0016	27.009N	79.287W	449	453	14.631	35.949	2	35.956	2	148.0	2	147.6	2
FCTSWS	FC1712	7	1	3	2	20171221	0020	27.012N	79.287W	304	306	17.912	36.506	2	36.514	2	174.2	2	173.6	2
FCTSWS	FC1712	7	1	4	2	20171221	0024	27.015N	79.287W	182	183	21.612	36.900	2	36.895	2	180.6	2	178.6	2
FCTSWS	FC1712	7	1	5	2	20171221	0026	27.017N	79.287W	130	131	23.787	36.928	2	36.926	2	181.3	2	180.5	2
FCTSWS	FC1712	7	1	6	2	20171221	0030	27.019N	79.288W	50	50	26.036	36.644	2	36.651	2	196.7	2	194.4	2
FCTSWS	FC1712	7	1	7	2	20171221	0032	27.021N	79.288W	2	3	26.145	36.590	2	36.586	2	196.0	2	196.7	2
FCTSWS	FC1712	8	1	1	2	20171220	2245	27.006N	79.203W	463	466	14.905	36.017	2	36.009	2	160.8	2	162.5	2
FCTSWS	FC1712	8	1	2	2	20171220	2249	27.008N	79.202W	301	303	18.348	36.552	2	36.546	2	167.9	2	171.4	2
FCTSWS	FC1712	8	1	3	2	20171220	2252	27.009N	79.202W	180	181	21.651	36.889	2	36.883	2	163.0	2	180.8	4
FCTSWS	FC1712	8	1	4	2	20171220	2253	27.010N	79.202W	124	125	23.357	36.934	2	36.930	2	180.6	2	180.3	2
FCTSWS	FC1712	8	1	5	2	20171220	2256	27.012N	79.202W	50	51	25.997	36.670	2	36.664	2	190.2	2	194.3	2
FCTSWS	FC1712	8	1	6	2	20171220	2259	27.013N	79.202W	3	3	26.302	36.498	2	36.503	2	197.0	2	197.9	2