Laboratoire d'Océanographie Physique et Spatiale
UMR6523 – CNRS-IFREMER-IRD-UBO
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EUREC4A 2020

CTD-O_2 Data report

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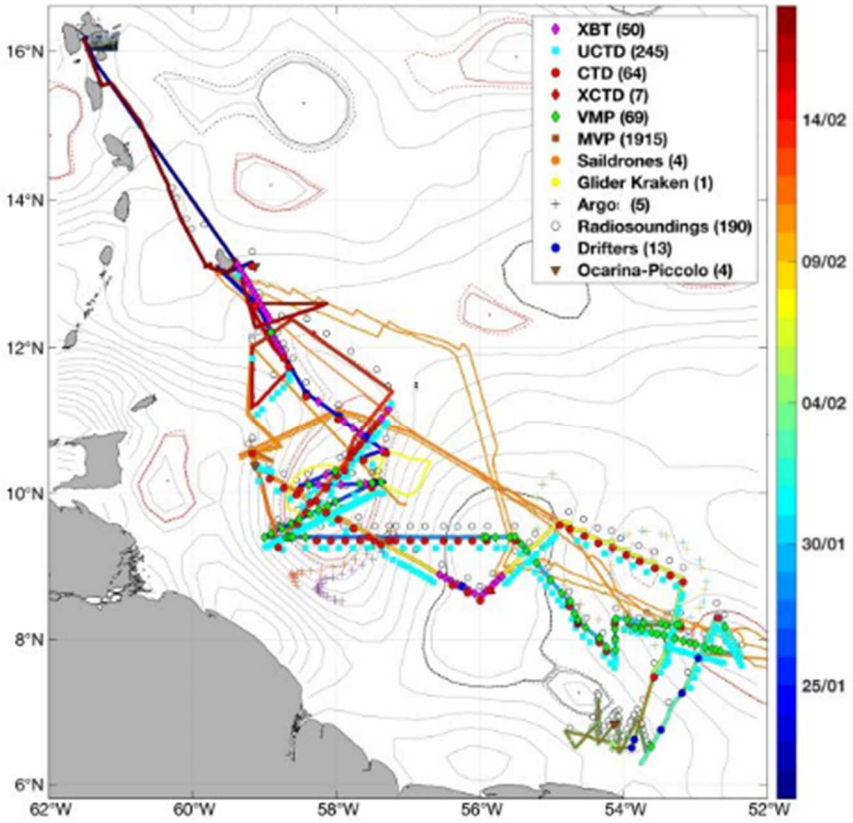

Reference: Int. Rep. LOPS/20-02 (Dec. 2020)

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EUREC4A

CTD-O_2 Data report

19/01/2020 to 19/02/2020

On board N/O L'ATALANTE

Pointe à Pitre (Guadeloupe Island, France) – Pointe à Pitre

ABSTRACT

The EUREC4A-OA oceanographic campaign that took place in January-February 2020 in the tropical North-West Atlantic Ocean aboard the research vessel L'Atalante was a contribution to the broader international research initiative EUREC4A (www.eurec4a.eu). The cruise was carried out in conjunction with the research vessels Maria S. Merian and Meteor (Germany) and the Ron Brown (USA) as well as with the aircraft and UAV operations and continuous observations from the ground site on the island of Barbados (BCO) and the Saildrone© operations as part of the US ATOMIC project.
The overall objective of the EUREC4A-OA campaign was to collect observational data that will enable research on dynamic and thermodynamic processes in the atmosphere and the ocean, in order to better understand the role of fine ocean scales both in the internal dynamics of the ocean and in air-sea interactions. To this end, measurements of oceanic and atmospheric profiles have been carried out to observe the temporal evolution and spatial heterogeneity of the atmospheric and oceanic boundary layers and the properties in these two fluids beyond these layers. Autonomous observation platforms (submarine glider, Argo profiling floats, surface buoys and the OCARINA and PICCOLO prototypes) complemented the observations carried out on board ships.

RESUME

La campagne océanographique EUREC4A-OA qui s'est déroulée en janvier-février 2020 dans l'océan Atlantique Nord-Ouest tropical à bord du navire de recherche L'Atalante était une contribution à l'initiative de recherche internationale plus large EUREC4A (www.eurec4a.eu). La campagne a été menée en collaboration avec les navires de recherche Maria S. Merian et Meteor (Allemagne), le Ron Brown (États-Unis), ainsi qu'avec les opérations aériennes, les drones et les observations continues depuis le site au sol sur l'île de la Barbade (BCO) et les opérations Saildrone© dans le cadre du projet US ATOMIC.
L'objectif global de la campagne EUREC4A-OA était de collecter des données d'observation qui permettront de mener des recherches sur les processus dynamiques et thermodynamiques dans l'atmosphère et l'océan, afin de mieux comprendre le rôle des échelles fines de l'océan, tant dans la dynamique interne de l'océan que dans les interactions air-mer. A cette fin, des mesures de profils océaniques et atmosphériques ont été effectuées pour observer l'évolution temporelle et l'hétérogénéité spatiale des couches limites atmosphériques et océaniques et les propriétés de ces deux fluides au-delà de ces couches. Des plates-formes d'observation autonomes (planeur sous-marin, flotteurs-profileurs Argo, bouées de surface et les prototypes OCARINA et PICCOLO) ont complété les observations effectuées à bord des navires.

SOMMAIRE

1. EUREC4A cruise

1.1. Cruise objectives

The transport by the ocean and the exchanges at the air/sea interface of heat, water and gas is key to regulating the state and evolution of our climate. Recent studies suggest that these phenomena are governed by the ocean small-scale, which has characteristic lengths ranging from 100 m to 100 km and varies in time periods of a few hours to weeks. To initiate and support societal actions as a response to climate change, future projections of the climate system require high-resolution coupled climate model simulations or new parametrization of small-scale processes for coarser-grid models. Indeed, a generic challenge for high-resolution modelling is the need to resolve processes that have typically been parameterized in coarse-grid simulations. Thus, it is becoming evident that a clear lack of process understanding exists to quantitatively evaluate model seamless predictions (from weather to seasonal and decadal forecasts) and projections, and to understand why different models give different answers.

EUREC^{4}A-OA is a large international project that leveraged from and extensively complemented the *ElUcidating the RolE of Clouds-Circulation Coupling in ClimAte* (EUREC^{4}A, www.eurec4a.eu) initiative (Bony et al. 2017) that aims to advance understanding of the interplay between clouds, convection and circulation, and their role in climate change.

The core of **EUREC^{4}A-OA** (and EUREC^{4}A) has been a one-month (Jan/Feb 2020) field study in the western tropical North Atlantic Ocean where high-resolution, synchronized observational data have been collected using cutting-edge technology on airplanes, ships, autonomous vehicles, augmented with the Barbados Cloud Observatory time series. **EUREC^{4}A-OA** constitutes the ocean component of EUREC^{4}A. It investigates heat, momentum, water and CO2 transport within the ocean and exchange across the air/sea interface using innovative high-resolution ocean observations and a hierarchy of numerical simulations. **EUREC^{4}A-OA** focuses on meso- and submesoscale ocean dynamics and related atmospheric boundary layer processes. **EUREC^{4}A-OA** is centered on the tropics where the primary external time scale affecting air-sea exchange is the diurnal cycle. However, the internal ocean and atmosphere dynamics convolute the diurnal, synoptic, seasonal and longer time scales to climate variability.

EUREC^{4}A-OA had made use of significant observing infrastructure investments from the participating countries, augmented with cutting edge third-party autonomous observing platforms (Saildrone), to enable sampling of the upper ocean layers and the air/sea interface at temporal and spatial resolutions far higher than could be achieved through traditional observational approaches. Moreover, the success of **EUREC^{4}A-OA** in observing such processes has been intimately linked to the sampling strategy for all the platforms that was based on a day-to-day analyses of various satellite near-real-time products (in particular multi-satellite altimetry, SST and Chl-a produced by CLS, and SSS from SMOS and SMAP). Such a strategy will also allow a series of in-depth analyses of various combinations of satellite and in-situ data to gain insight in the targeted phenomena and to validate and refine numerical simulations. In fact, the **EUREC^{4}A-OA** consortium has also set up an unparalleled hierarchy of numerical simulations ranging from Large Eddy Simulations (LES), including coupled ocean-atmosphere LES, to global high-resolution ocean-atmosphere simulations and Earth System Models (ESMs). The LES simulations resolve the ocean and the ocean-atmosphere systems explicitly at scales as small as 10 meters and thus allow the direct simulation of the ocean small-scale structures and of their interactions with the atmosphere. These will be used to inform the development and evaluation of the global, coupled Earth System Models.

The **EUREC^{4}A-OA** project connects European and USA specialists of ocean, atmosphere physical and biogeochemical observations and numerical modelling as well as scientists working on numerical parameterization and future projections to address four key objectives: 1) To assess the impact of the diurnal cycle on ocean-atmosphere exchanges of energy, water and CO2 and to quantify how the diurnal cycle and related exchanges vary and are influenced at the small ocean scale; 2) To identify and quantify the processes governing the internal dynamics of the ocean and the ocean-atmosphere exchanges of water, heat, momentum and CO2 at these scales; 3) Identify the different surface ocean processes (diurnal cycle, small-scale ocean dynamics, aerosols) responsible for shallow atmospheric convection and cloud formation; 4) Provide data fields and new numerical parameterizations for global models (ocean-atmosphere and ESM). The project has already received fundings for the realization of the field experiment (from INSU-CNRS, ENS, CNES-TOSCA –within the TOEddies project–, Ifremer, GEOMAR, NOAA, NASA and from the French and German research vessels fleets), and to initiate and run the various ocean and coupled ocean-atmosphere simulations (JPI Ocean & Climate and NOAA). The field experiment that took place in January-February 2020 has been very successful in collecting a wide variety of ocean-atmosphere data resolving the ocean small scales across a vast domain of the Tropical North Atlantic Ocean. This has been possible because of the availability on board of the ships of real-time satellite data as well as numerical atmosphere and ocean predictions that enabled an original adaptive routing of the ships and autonomous vehicles on a daily basis. In particular, satellite altimetry data have been essential in locating the largest mesoscale features. These data have been used together with other satellite NRT fields (SST and Chl-a, surface salinity, wind, sea state etc) distributed by CLS, ODATIS, AERIS, CMEMS, SMOS, SMAP, CATDS, PODACC to locate, also with very high precision, the submesoscale features surrounding mesoscale eddies and fronts. The entire set of satellite data we used during the field experiment are therefore key to the analyses of the collected observations and in understanding the key processes. The analyses of these data used in parallel to the *in situ* ones is at the core of this project.

The project gathers several teams from 10 different French laboratories (LMD, LOCEAN, LATMOS and IPGP in *Ile de France*, LOPS and Lab-STICC in Brest, MIO and IRPHE in Marseille, LEGOS, and CNRM in Toulouse). CLS, the AERIS and ODATIS "database" infrastructures, and the Coriolis service enabled us to obtain all the data (satellite and *in situ*) we needed in near-real time and agreed to collaborate in the implementation of the project analyses. In addition, the data acquired by EUREC^{4}A and therefore **EUREC^{4}A-OA** are already available on DataTerra's AERIS database. The ocean data will be migrated after validation and calibration to the ODATIS database (and will remain mirrored on AERIS).

EUREC^{4}A-OA will deliver novel knowledge to improve seamless ocean-atmosphere numerical predictions and climate projections and will have a significant impact on science and society.

2. The EUREC4A 2020 Cruise

2.1. Introduction

The EUREC4A cruise took place on board N/O L'Atalante from 19th January to 14th February 2020, starting and finishing at Pointe à Pitre (Guadeloupe island, French Caribbean).

Figure 1: N/O L'ATALANTE arriving to Pointe à Pitre.

The working area is at the South East of Barbados Island (see fig. 2).

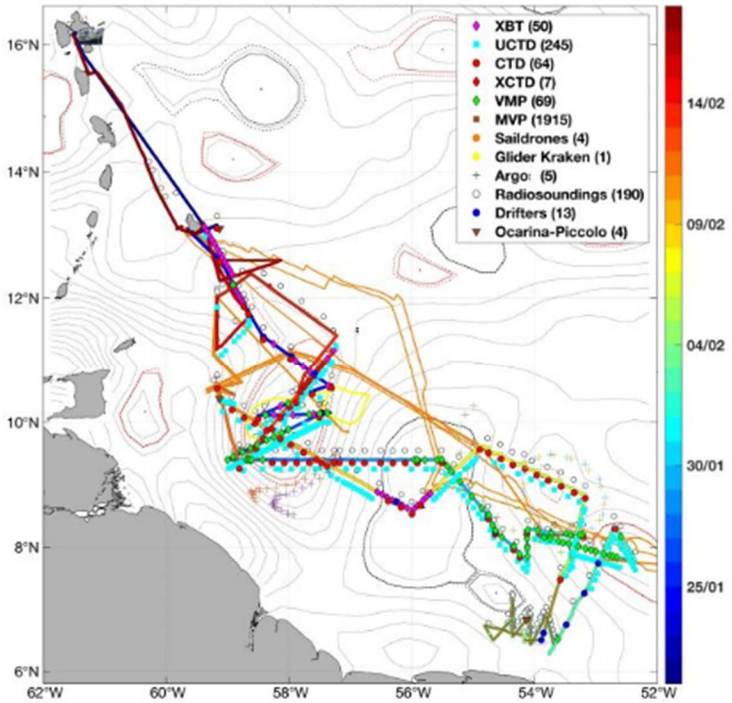


Figure 2: Map of the working area.

The following operations were carried out during the cruise:

- 64 CTD stations (st 0; test station):
- 206 UCTD profiles (between 300 and 450m deep depending of the ship velocity).
- 1915 MVP Profiles (between 150 and 220m deep depending of the ship velocity).
- 69 VMP Profiles (between 200 and 400m deep depending of the ship velocity).
- Atmospheric radiosounding: 165 launches
- 16 Meteo surface drifting buoys deployed.
- 5 DO Argo profiling floats deployed.
- SeaOcean Glider deployment: 831 profiles down to 700m of depth.
- SADCP measurements (Ship Acoustic Doppler Current Profilers, 38 and 150 kHz data acquisition).
- Underway measurements (T, S, pCO_2).
- 2 Ocarina & Piccolo deployments

The instruments are described at chapter 2.5

2.2. Description of cruise operations

The vessel L'Atalante left Pointe à Pitre the 20th January at 7pm (UTC) toward Barbados Island.
During transit, XBT and radiosounding were launched. The 22th at 6pm, CTD test (n° 0) by 2000m depth. Between 21th and 25th, alternation of operations (CTD, UCTD, XBT, radiosounding, MVP, drifters).
The 25th January, deployment of the equipment Occarina & Piccolo after Sargasse algae collect and then the glider is launched from a semi-rigid pneumatic.
The 26th, more intense releases of radiosounding. The 28th, the first Argo float is launched.
Between specific operations, alternation of operations (CTD, UCTD, MVP, VMP, radiosounding).
From 2th February afternoon to beginning of the 3th, new intensive releases of radiosounding.
The 10th feb. second deployment of Occarina & Piccolo. The 12th, end of CTD profiles, the 13th recovering of glider and new Sargasse algae collect.
The 18th, end of all operations, transit to Pointe à Pitre.

NB: details of all operations can be found in the table below.

2.3. All operations timing

The table below shows all the beginning of each operation in chronological order.
Operation colors:

- Radiosounding
- XBT
- CTD
- Trusted buoy
- MVP
- Sargassum algae
- UCTD
- NOAA drifter
- Ocarina & Piccolo
- Glider
- VMP
- Argo float
- XCTD

Date	Hour (UTC)	Latitude	Longitude	Instrument	Action	Operation
21/01/2020	18:58:00	N 13° 31'	W 59° 49'	RADIOSOUNDING	DEPLOY	EUR4RADIOSOUNDING1
22/01/2020	02:18:00	N 13° 7'	W 59° 22'	XBT-SIPPICAN	DTIR	EUR4SIPP2
22/01/2020	02:53:00	N 13° 37'	W 59° 19'	XBT-SIPPICAN	DTIR	EUR4SIPP4
22/01/2020	03:23:00	N 12° 59'	W 59° 17'	XBT-SIPPICAN	DTIR	EUR4SIPP6
22/01/2020	03:53:00	N 12° 55'	W 59° 14'	XBT-SIPPICAN	DTIR	EUR4SIPP7
22/01/2020	04:23:00	N 12° 51'	W 59° 12'	XBT-SIPPICAN	DTIR	EUR4SIPP8
22/01/2020	04:56:00	N 59° 9'	W 12° 46'	XBT-SIPPICAN	DTIR	EUR4SIPP10
22/01/2020	05:25:00	N 12° 42'	W 59° 7'	XBT-SIPPICAN	DTIR	EUR4SIPP11
22/01/2020	05:55:00	N 12° 38'	W 59° 4'	XBT-SIPPICAN	DTIR	EUR4SIPP12
22/01/2020	06:25:00	N 12° 34'	W 59° 2'	XBT-SIPPICAN	DTIR	EUR4SIPP13
22/01/2020	06:52:00	N 12° 30'	W 59° 0'	XBT-SIPPICAN	DTIR	EUR4SIPP14
22/01/2020	07:25:00	N 12° 26'	W 58° 57'	XBT-SIPPICAN	DTIR	EUR4SIPP15
22/01/2020	07:51:00	N 12° 23'	W 58° 55'	XBT-SIPPICAN	DTIR	EUR4SIPP16
22/01/2020	14:45:37	N 13° 4'	W 59° 37'	RADIOSOUNDING	DEPLOY	EUR4RADIOSOUNDING2
22/01/2020	18:20:00	N 13° 9'	W 59° 10'	CTD	MALO	EUR4CTD0
22/01/2020	18:45:51	N 13° 9'	W 59° 10'	RADIOSOUNDING	DEPLOY	EUR4RADIOSOUNDING3
23/01/2020	04:15:45	N 12° 37'	W 59° 7'	CTD	MALO	EUR4CTD1
23/01/2020	06:57:18	N 12° 29'	W 59° 3'	TRUSTED	MALO	EUR4TRUSTED1
23/01/2020	08:56:09	N 12° 14'	W 58° 55'	XBT-SIPPICAN	DTIR	EUR4SIPP17
23/01/2020	09:07:19	N 12° 14'	W 58° 54'	MVP	MALO	EUR4MVP1
23/01/2020	09:38:12	N 12° 13'	W 58° 54'	XBT-SIPPICAN	DTIR	EUR4SIPP18
23/01/2020	10:26:01	N 12° 11'	W 58° 54'	XBT-SIPPICAN	DTIR	EUR4SIPP19
23/01/2020	11:31:51	N 12° 9'	W 58° 53'	XBT-SIPPICAN	DTIR	EUR4SIPP20
23/01/2020	12:32:16	N 12° 7'	W 58° 51'	XBT-SIPPICAN	DTIR	EUR4SIPP21
23/01/2020	13:31:58	N 12° 5'	W 58° 50'	XBT-SIPPICAN	DTIR	EUR4SIPP22
23/01/2020	13:57:57	N 12° 5'	W 58° 50'	TRUSTED	MALO	EUR4TRUSTED3
23/01/2020	14:29:12	N 12° 3'	W 58° 49'	XBT-SIPPICAN	DTIR	EUR4SIPP23
23/01/2020	14:45:27	N 12° 2'	W 58° 48'	RADIOSOUNDING	DEPLOY	EUR4RADIOSOUNDING4
23/01/2020	15:27:34	N 12° 1'	W 58° 47'	XBT-SIPPICAN	DTIR	EUR4SIPP24
23/01/2020	16:10:50	N 11° 58'	W 58° 45'	XBT-SIPPICAN	DTIR	EUR4SIPP25
23/01/2020	16:36:33	N 11° 55'	W 58° 43'	XBT-SIPPICAN	DTIR	EUR4SIPP26
23/01/2020	17:30:29	N 11° 55'	W 58° 44'	XBT-SIPPICAN	DTIR	EUR4SIPP27
23/01/2020	18:05:48	N 11° 54'	W 58° 43'	CTD	MALO	EUR4CTD2
23/01/2020	18:44:59	N 11° 54'	W 58° 43'	RADIOSOUNDING	DEPLOY	EUR4RADIOSOUNDING5

23/01/2020	19:00:00	N 11° 54'	W 58° 43'	sargasse	COLLECT	EUR4SARG1
23/01/2020	19:40:38	N 11° 52'	W 58° 42'	XBT-SIPPICAN	DTIR	EUR4SIPP28
23/01/2020	20:31:53	N 11° 47'	W 58° 39'	CTD	MALO	EUR4CTD3
23/01/2020	21:55:01	N 11° 47'	W 58° 39'	uCTD	LARGAGE	EUR4uCTD2
23/01/2020	22:45:43	N 11° 41'	W 58° 36'	RADIOSOUNDING	DEPLOY	EUR4RADIOSOUNDING6
24/01/2020	01:17:26	N 11° 23'	W 58° 24'	CTD	MALO	EUR4CTD4
24/01/2020	02:43:40	N 11° 23'	W 58° 24'	RADIOSOUNDING	DEPLOY	EUR4RADIOSOUNDING7
24/01/2020	03:15:27	N 11° 22'	W 58° 24'	NOAAdrifter	MALO	EUR4NOAAdrifter1
24/01/2020	06:44:58	N 11° 4'	W 57° 58'	RADIOSOUNDING	DEPLOY	EUR4RADIOSOUNDING8
24/01/2020	06:45:40	N 11° 4'	W 57° 58'	CTD	MALO	EUR4CTD5
24/01/2020	07:26:47	N 11° 4'	W 57° 57'	RADIOSOUNDING	DEPLOY	EUR4RADIOSOUNDING9
24/01/2020	08:00:37	N 11° 4'	W 57° 57'	NOAAdrifter	MALO	EUR4NOAAdrifter2
24/01/2020	09:36:23	N 10° 59'	W 57° 52'	XBT-SIPPICAN	DTIR	EUR4SIPP29
24/01/2020	10:31:34	N 10° 53'	W 57° 45'	XBT-SIPPICAN	DTIR	EUR4SIPP30
24/01/2020	11:24:18	N 10° 48'	W 57° 38'	XBT-SIPPICAN	DTIR	EUR4SIPP31
24/01/2020	12:08:53	N 10° 44'	W 57° 33'	XBT-SIPPICAN	DTIR	EUR4SIPP32
24/01/2020	14:10:36	N 10° 29'	W 673° 43	TRUSTED	MALO	EUR4TRUSTED2
24/01/2020	14:10:58	N 10° 36'	W 57° 18'	CTD	MALO	EUR4CTD6
24/01/2020	14:45:55	N 10° 36'	W 57° 18'	RADIOSOUNDING	DEPLOY	EUR4RADIOSOUNDING10
24/01/2020	15:07:11	N 10° 36'	W 57° 18'	RADIOSOUNDING	DEPLOY	EUR4RADIOSOUNDING11
24/01/2020	16:08:38	N 10° 34'	W 57° 21'	XBT-SIPPICAN	DTIR	EUR4SIPP33
24/01/2020	16:56:14	N 10° 32'	W 57° 29'	uCTD	LARGAGE	EUR4uCTD3
24/01/2020	18:03:51	N 10° 30'	W 57° 36'	CTD	MALO	EUR4CTD7
24/01/2020	19:15:21	N 10° 30'	W 57° 36'	RADIOSOUNDING	DEPLOY	EUR4RADIOSOUNDING12
24/01/2020	21:24:14	N 10° 22'	W 57° 50'	uCTD	LARGAGE	EUR4uCTD4
24/01/2020	21:57:10	N 10° 21'	W 57° 52'	CTD	MALO	EUR4CTD8
24/01/2020	23:02:30	N 10° 21'	W 57° 52'	RADIOSOUNDING	DEPLOY	EUR4RADIOSOUNDING13
25/01/2020	00:33:12	N 10° 18'	W 58° 0'	uCTD	LARGAGE	EUR4uCTD5
25/01/2020	01:37:30	N 10° 15'	W 58° 8'	XBT-SIPPICAN	DTIR	EUR4SIPP34
25/01/2020	02:34:27	N 10° 11'	W 58° 17'	uCTD	LARGAGE	EUR4uCTD6
25/01/2020	03:15:00	N 10° 9'	W 58° 21'	RADIOSOUNDING	DEPLOY	EUR4RADIOSOUNDING14
25/01/2020	03:35:38	N 10° 8'	W 58° 24'	XBT-SIPPICAN	DTIR	EUR4SIPP35
25/01/2020	04:28:53	N 10° 6'	W 58° 29'	CTD	MALO	EUR4CTD9
25/01/2020	06:44:58	N 10° 6'	W 58° 23'	RADIOSOUNDING	DEPLOY	EUR4RADIOSOUNDING15
25/01/2020	06:57:11	N 10° 6'	W 58° 22'	uCTD	LARGAGE	EUR4uCTD7
25/01/2020	07:59:58	N 10° 7'	W 58° 14'	XBT-SIPPICAN	DTIR	EUR4SIPP36
25/01/2020	09:01:24	N 10° 7'	W 58° 4'	uCTD	LARGAGE	EUR4uCTD8
25/01/2020	09:58:17	N 10° 7'	W 57° 55'	XBT-SIPPICAN	DTIR	EUR4SIPP37
25/01/2020	10:47:48	N 10° 7'	W 57° 46'	RADIOSOUNDING	DEPLOY	EUR4RADIOSOUNDING16
25/01/2020	11:00:18	N 10° 7'	W 57° 44'	uCTD	LARGAGE	EUR4uCTD9
25/01/2020	12:00:58	N 10° 7'	W 57° 35'	XBT-SIPPICAN	DTIR	EUR4SIPP38
25/01/2020	12:36:35	N 10° 7'	W 57° 29'	RADIOSOUNDING	DEPLOY	EUR4RADIOSOUNDING17
25/01/2020	12:45:08	N 10° 7'	W 57° 29'	CTD	MALO	EUR4CTD10
25/01/2020	14:40:00	N 10° 7'	W 57° 30'	OCARINA & PICCOLO	DEPLOY	EUR4OCAR1
25/01/2020	14:43:31	N 10° 7'	W 57° 29'	RADIOSOUNDING	DEPLOY	EUR4RADIOSOUNDING18

25/01/2020	15:44:16	N 10° 8'	W 57° 29'	sargasse	COLLECT	EUR4SARG2
25/01/2020	15:50:09	N 10° 8'	W 57° 29'	sargasse	COLLECT	EUR4SARG3
25/01/2020	15:52:36	N 10° 8'	W 57° 29'	sargasse	COLLECT	EUR4SARG4
25/01/2020	15:54:07	N 10° 8'	W 57° 29'	sargasse	COLLECT	EUR4SARG5
25/01/2020	15:56:28	N 10° 8'	W 57° 29'	sargasse	COLLECT	EUR4SARG6
25/01/2020	15:58:43	N 10° 8'	W 57° 29'	sargasse	COLLECT	EUR4SARG7
25/01/2020	16:00:01	N 10° 8'	W 57° 29'	sargasse	COLLECT	EUR4SARG8
25/01/2020	16:02:22	N 10° 8'	W 57° 29'	sargasse	COLLECT	EUR4SARG9
25/01/2020	16:04:55	N 10° 8'	W 57° 29'	sargasse	COLLECT	EUR4SARG10
25/01/2020	16:06:13	N 10° 8'	W 57° 29'	sargasse	COLLECT	EUR4SARG11
25/01/2020	16:08:39	N 10° 8'	W 57° 29'	sargasse	COLLECT	EUR4SARG12
25/01/2020	16:10:15	N 10° 8'	W 57° 29'	sargasse	COLLECT	EUR4SARG13
25/01/2020	16:12:07	N 10° 8'	W 57° 29'	sargasse	COLLECT	EUR4SARG14
25/01/2020	16:14:36	N 10° 8'	W 57° 29'	sargasse	COLLECT	EUR4SARG15
25/01/2020	16:55:41	N 10° 8'	W 57° 29'	GLIDER Kraken	DEPLOYr	EUR4GLID1
25/01/2020	18:59:53	N 10° 9'	W 57° 27'	uCTD	LARGAGE	EUR4uCTD10
25/01/2020	19:21:06	N 10° 9'	W 57° 25'	RADIOSOUNDING	DEPLOY	EUR4RADIOSOUNDING17
25/01/2020	19:26:50	N 10° 9'	W 57° 24'	RADIOSOUNDING	DEPLOY	EUR4RADIOSOUNDING19
25/01/2020	21:42:00	N 10° 9'	W 57° 26'	OCARINA & PICCOLO	END	EUR4OCAR1
25/01/2020	22:00:00	N 10° 9'	W 57° 27'	VMP	MALO	EUR4VMP1
25/01/2020	22:06:21	N 10° 8'	W 57° 27'	NOAAdrifter	MALO	EUR4NOAAdrifter3
25/01/2020	23:33:08	N 10° 7'	W 57° 30'	uCTD	LARGAGE	EUR4uCTD11
26/01/2020	02:40:00	N 9° 57'	W 57° 51'	RADIOSOUNDING	DEPLOY	EUR4RADIOSOUNDING20
26/01/2020	05:38:57	N 9° 47'	W 58° 11'	uCTD	LARGAGE	EUR4uCTD12
26/01/2020	06:59:36	N 9° 43'	W 58° 20'	RADIOSOUNDING	DEPLOY	EUR4RADIOSOUNDING21
26/01/2020	10:48:45	N 9° 29'	W 58° 48'	RADIOSOUNDING	DEPLOY	EUR4RADIOSOUNDING22
26/01/2020	12:50:32	N 9° 23'	W 58° 58'	MVP	MALO	EUR4MVP2
26/01/2020	13:33:24	N 9° 24'	W 58° 53'	RADIOSOUNDING	DEPLOY	EUR4RADIOSOUNDING23
26/01/2020	14:32:52	N 9° 24'	W 58° 47'	RADIOSOUNDING	DEPLOY	EUR4RADIOSOUNDING24
26/01/2020	15:03:21	N 9° 24'	W 58° 46'	RADIOSOUNDING	DEPLOY	EUR4RADIOSOUNDING25
26/01/2020	15:24:18	N 9° 24'	W 58° 45'	RADIOSOUNDING	DEPLOY	EUR4RADIOSOUNDING26
26/01/2020	16:26:56	N 9° 24'	W 58° 42'	RADIOSOUNDING	DEPLOY	EUR4RADIOSOUNDING27
26/01/2020	17:24:29	N 9° 24'	W 58° 40'	RADIOSOUNDING	DEPLOY	EUR4RADIOSOUNDING28
26/01/2020	18:14:25	N 9° 24'	W 58° 38'	RADIOSOUNDING	DEPLOY	EUR4RADIOSOUNDING29
26/01/2020	18:41:57	N 9° 24'	W 58° 37'	RADIOSOUNDING	DEPLOY	EUR4RADIOSOUNDING30
26/01/2020	19:02:42	N 9° 24'	W 58° 36'	RADIOSOUNDING	DEPLOY	EUR4RADIOSOUNDING31
26/01/2020	19:52:57	N 9° 24'	W 58° 33'	RADIOSOUNDING	DEPLOY	EUR4RADIOSOUNDING32
26/01/2020	20:41:40	N 9° 24'	W 58° 31'	RADIOSOUNDING	DEPLOY	EUR4RADIOSOUNDING33
26/01/2020	21:27:33	N 9° 24'	W 58° 29'	RADIOSOUNDING	DEPLOY	EUR4RADIOSOUNDING34
26/01/2020	22:15:33	N 9° 23'	W 58° 27'	RADIOSOUNDING	DEPLOY	EUR4RADIOSOUNDING35
26/01/2020	22:40:08	N 9° 23'	W 58° 26'	RADIOSOUNDING	DEPLOY	EUR4RADIOSOUNDING36
26/01/2020	23:06:11	N 9° 23'	W 58° 25'	uCTD	LARGAGE	EUR4uCTD13
26/01/2020	23:06:11	N 9° 23'	W 58° 25'	uCTD	LARGAGE	EUR4uCTD14
27/01/2020	00:52:14	N 9° 24'	W 58° 16'	CTD	MALO	EUR4CTD11
27/01/2020	03:03:00	N 9° 24'	W 58° 12'	RADIOSOUNDING	DEPLOY	EUR4RADIOSOUNDING37

27/01/2020	03:08:57	N 9° 24'	W 58° 12'	uCTD	LARGAGE	EUR4uCTD15
27/01/2020	03:43:32	N 9° 24'	W 58° 8'	uCTD	LARGAGE	EUR4uCTD16
27/01/2020	04:28:11	N 9° 23'	W 58° 4'	CTD	MALO	EUR4CTD12
27/01/2020	06:54:28	N 9° 24'	W 57° 57'	uCTD	LARGAGE	EUR4uCTD17
27/01/2020	07:30:06	N 9° 23'	W 57° 53'	RADIOSOUNDING	DEPLOY	EUR4RADIOSOUNDING38
27/01/2020	07:48:00	N 9° 23'	W 57° 52'	CTD	MALO	EUR4CTD13
27/01/2020	10:20:56	N 9° 23'	W 57° 46'	uCTD	LARGAGE	EUR4uCTD18
27/01/2020	10:59:24	N 9° 23'	W 57° 41'	RADIOSOUNDING	DEPLOY	EUR4RADIOSOUNDING39
27/01/2020	11:30:02	N 9° 24'	W 57° 39'	CTD	MALO	EUR4CTD14
27/01/2020	13:52:09	N 9° 24'	W 57° 34'	uCTD	LARGAGE	EUR4uCTD19
27/01/2020	14:51:43	N 9° 23'	W 57° 27'	CTD	MALO	EUR4CTD15
27/01/2020	17:17:24	N 9° 23'	W 57° 21'	uCTD	LARGAGE	EUR4uCTD20
27/01/2020	18:23:46	N 9° 24'	W 57° 15'	CTD	MALO	EUR4CTD16
27/01/2020	18:41:42	N 9° 24'	W 57° 15'	RADIOSOUNDING	DEPLOY	EUR4RADIOSOUNDING40
27/01/2020	20:53:59	N 9° 23'	W 57° 9'	CTD	MALO	EUR4CTD17
27/01/2020	21:27:26	N 9° 23'	W 57° 10'	RADIOSOUNDING	DEPLOY	EUR4RADIOSOUNDING41
27/01/2020	22:14:21	N 9° 24'	W 57° 10'	RADIOSOUNDING	DEPLOY	EUR4RADIOSOUNDING42
27/01/2020	22:42:28	N 9° 23'	W 57° 10'	RADIOSOUNDING	DEPLOY	EUR4RADIOSOUNDING43
28/01/2020	00:34:16	N 9° 24'	W 57° 9'	ARGO	MALO	EUR4ARGO1
28/01/2020	00:44:15	N 9° 24'	W 57° 9'	ARGO	MALO	EUR4ARGO2
28/01/2020	01:21:15	N 9° 24'	W 57° 4'	uCTD	LARGAGE	EUR4uCTD21
28/01/2020	02:24:22	N 9° 24'	W 56° 57'	CTD	MALO	EUR4CTD18
28/01/2020	02:40:21	N 9° 24'	W 56° 57'	RADIOSOUNDING	DEPLOY	EUR4RADIOSOUNDING44
28/01/2020	04:53:16	N 9° 23'	W 56° 51'	uCTD	LARGAGE	EUR4uCTD22
28/01/2020	05:54:02	N 9° 24'	W 56° 45'	CTD	MALO	EUR4CTD19
28/01/2020	06:49:50	N 9° 23'	W 56° 45'	RADIOSOUNDING	DEPLOY	EUR4RADIOSOUNDING45
28/01/2020	08:44:00	N 9° 23'	W 56° 36'	uCTD	LARGAGE	EUR4uCTD23
28/01/2020	10:24:19	N 9° 23'	W 56° 30'	CTD	MALO	EUR4CTD20
28/01/2020	10:41:28	N 9° 23'	W 56° 30'	RADIOSOUNDING	DEPLOY	EUR4RADIOSOUNDING46
28/01/2020	12:56:20	N 9° 23'	W 56° 24'	uCTD	LARGAGE	EUR4uCTD24
28/01/2020	13:56:50	N 9° 23'	W 56° 18'	CTD	MALO	EUR4CTD21
28/01/2020	14:42:35	N 9° 23'	W 56° 18'	RADIOSOUNDING	DEPLOY	EUR4RADIOSOUNDING47
28/01/2020	16:39:19	N 9° 23'	W 56° 10'	uCTD	LARGAGE	EUR4uCTD25
28/01/2020	17:22:16	N 9° 24'	W 56° 6'	CTD	MALO	EUR4CTD22
28/01/2020	18:41:17	N 9° 23'	W 56° 6'	RADIOSOUNDING	DEPLOY	EUR4RADIOSOUNDING48
28/01/2020	19:49:36	N 9° 24'	W 56° 0'	uCTD	LARGAGE	EUR4uCTD26
28/01/2020	20:46:43	N 9° 23'	W 55° 54'	CTD	MALO	EUR4CTD23
28/01/2020	22:41:04	N 9° 24'	W 55° 53'	RADIOSOUNDING	DEPLOY	EUR4RADIOSOUNDING49
28/01/2020	23:40:22	N 9° 23'	W 55° 45'	uCTD	LARGAGE	EUR4uCTD27
29/01/2020	00:39:13	N 9° 23'	W 55° 38'	uCTD	LARGAGE	EUR4uCTD28
29/01/2020	01:53:58	N 9° 24'	W 55° 30'	CTD	MALO	EUR4CTD24
29/01/2020	02:47:33	N 9° 24'	W 55° 30'	RADIOSOUNDING	DEPLOY	EUR4RADIOSOUNDING50
29/01/2020	04:38:00	N 9° 24'	W 55° 30'	VMP	MALO	EUR4VMP2
29/01/2020	07:01:09	N 9° 11'	W 55° 19'	uCTD	LARGAGE	EUR4uCTD30
29/01/2020	07:15:13	N 9° 10'	W 55° 18'	RADIOSOUNDING	DEPLOY	EUR4RADIOSOUNDING51

29/01/2020	08:14:39	N 9° 4' 2	W 55° 13'	uCTD	LARGAGE	EUR4uCTD31
29/01/2020	09:14:40	N 8° 58'	W 55° 8'	uCTD	LARGAGE	EUR4uCTD32
29/01/2020	10:15:12	N 8° 53'	W 55° 4'	uCTD	LARGAGE	EUR4uCTD33
29/01/2020	10:41:11	N 8° 50'	W 55° 2'	RADIOSOUNDING	DEPLOY	EUR4RADIOSOUNDING52
29/01/2020	11:17:39	N 8° 47'	W 54° 59'	uCTD	LARGAGE	EUR4uCTD34
29/01/2020	12:19:08	N 8° 41'	W 54° 54'	uCTD	LARGAGE	EUR4uCTD35
29/01/2020	13:07:06	N 8° 36'	W 54° 50'	uCTD	LARGAGE	EUR4uCTD36
29/01/2020	14:30:20	N 8° 30'	W 54° 45'	CTD	MALO	EUR4CTD25
29/01/2020	14:50:57	N 8° 30'	W 54° 45'	RADIOSOUNDING	DEPLOY	EUR4RADIOSOUNDING53
29/01/2020	17:16:00	N 8° 27'	W 54° 43'	VMP	MALO	EUR4VMP3
29/01/2020	18:34:48	N 8° 18'	W 54° 39'	uCTD	LARGAGE	EUR4uCTD38
29/01/2020	18:52:42	N 8° 17'	W 54° 38'	RADIOSOUNDING	DEPLOY	EUR4RADIOSOUNDING54
29/01/2020	19:20:23	N 8° 15'	W 54° 38'	CTD	MALO	EUR4CTD26
29/01/2020	22:09:02	N 8° 11'	W 54° 33'	uCTD	LARGAGE	EUR4uCTD39
29/01/2020	22:43:36	N 8° 8' 4	W 54° 30'	RADIOSOUNDING	DEPLOY	EUR4RADIOSOUNDING55
29/01/2020	23:09:24	N 8° 6' 3	W 54° 27'	uCTD	LARGAGE	EUR4uCTD40
30/01/2020	00:36:59	N 8° 0' 7	W 54° 20'	CTD	MALO	EUR4CTD27
30/01/2020	01:40:00	N 8° 0' 2	W 54° 19'	VMP	MALO	EUR4VMP4
30/01/2020	02:39:30	N 7° 56'	W 54° 16'	RADIOSOUNDING	DEPLOY	EUR4RADIOSOUNDING56
30/01/2020	02:49:50	N 7° 55'	W 54° 16'	uCTD	LARGAGE	EUR4uCTD41
30/01/2020	03:28:23	N 7° 53'	W 54° 14'	CTD	MALO	EUR4CTD28
30/01/2020	05:36:45	N 7° 45'	W 54° 7'	uCTD	LARGAGE	EUR4uCTD43
30/01/2020	06:32:52	N 7° 51'	W 54° 6'	uCTD	LARGAGE	EUR4uCTD44
30/01/2020	06:41:52	N 7° 51'	W 54° 6'	RADIOSOUNDING	DEPLOY	EUR4RADIOSOUNDING57
30/01/2020	07:24:01	N 7° 58'	W 54° 6'	uCTD	LARGAGE	EUR4uCTD45
30/01/2020	08:14:31	N 8° 6' 1	W 54° 6'	uCTD	LARGAGE	EUR4uCTD46
30/01/2020	09:21:10	N 8° 15'	W 54° 7'	CTD	MALO	EUR4CTD29
30/01/2020	10:21:10	N 8° 16'	W 54° 6'	VMP	MALO	EUR4VMP5
30/01/2020	10:42:35	N 8° 16'	W 54° 6'	RADIOSOUNDING	DEPLOY	EUR4RADIOSOUNDING58
30/01/2020	12:07:40	N 8∞ 16,8	W 54∞ 0,2	uCTD	LARGAGE	EUR4uCTD47
30/01/2020	12:56:39	N 8∞ 14,6	W 53∞ 50,	uCTD	LARGAGE	EUR4uCTD48
30/01/2020	13:46:33	N 8∞ 14,5	W 53∞ 45,	uCTD	LARGAGE	EUR4uCTD49
30/01/2020	14:43:43	N 8° 13'	W 53° 40'	RADIOSOUNDING	DEPLOY	EUR4RADIOSOUNDING59
30/01/2020	16:15:51	N 8° 12'	W 53° 29'	uCTD	LARGAGE	EUR4uCTD52
30/01/2020	16:41:22	N 8° 12'	W 53° 26'	RADIOSOUNDING	END	EUR4RADIOSOUNDING59
30/01/2020	17:16:07	N 8° 12'	W 53° 21'	uCTD	LARGAGE	EUR4uCTD53
30/01/2020	18:32:56	N 8° 11'	W 53° 12'	CTD	MALO	EUR4CTD30
30/01/2020	19:45:16	N 8° 12'	W 53° 12'	VMP	MALO	EUR4VMP6
30/01/2020	20:43:42	N 8° 12'	W 53° 12'	RADIOSOUNDING	DEPLOY	EUR4RADIOSOUNDING60
30/01/2020	21:23:29	N 8° 12'	W 53° 11'	MVP	MALO	EUR4MVP3
31/01/2020	00:47:28	N 8° 12'	W 53° 23'	RADIOSOUNDING	DEPLOY	EUR4RADIOSOUNDING61
31/01/2020	04:51:18	N 8° 11'	W 53° 39'	RADIOSOUNDING	DEPLOY	EUR4RADIOSOUNDING62
31/01/2020	08:41:49	N 8° 7' 2	W 53° 53'	RADIOSOUNDING	DEPLOY	EUR4RADIOSOUNDING63
31/01/2020	10:25:00	N 8° 11'	W 53° 50'	VMP	MALO	EUR4VMP7
31/01/2020	10:51:58	N 8° 11'	W 53° 51'	MVP	MALO	EUR4MVP4

31/01/2020	12:07:00	N 8° 11'	W 53° 57'	VMP	MALO	EUR4VMP8
31/01/2020	12:19:23	N 8° 11'	W 53° 57'	MVP	MALO	EUR4MVP5
31/01/2020	12:44:29	N 8° 11'	W 53° 57'	RADIOSOUNDING	DEPLOY	EUR4RADIOSOUNDING64
31/01/2020	14:14:00	N 8° 10'	W 53° 53'	VMP	MALO	EUR4VMP9
31/01/2020	15:33:38	N 8° 9' 4	W 53° 51'	MVP	MALO	EUR4MVP6
31/01/2020	16:44:00	N 8° 8' 3	W 53° 46'	VMP	MALO	EUR4VMP10
31/01/2020	16:44:58	N 8° 8' 3	W 53° 46'	RADIOSOUNDING	DEPLOY	EUR4RADIOSOUNDING65
31/01/2020	17:09:42	N 8° 8' 4	W 53° 46'	MVP	MALO	EUR4MVP7
31/01/2020	19:17:00	N 8° 6' 4	W 53° 37'	VMP	MALO	EUR4VMP11
31/01/2020	19:40:18	N 8° 6' 1	W 53° 36'	MVP	MALO	EUR4MVP8
31/01/2020	20:52:14	N 8° 4' 4	W 53° 32'	RADIOSOUNDING	DEPLOY	EUR4RADIOSOUNDING66
31/01/2020	21:09:00	N 8° 4' 5	W 53° 32'	VMP	MALO	EUR4VMP12
31/01/2020	21:47:56	N 8° 4' 3	W 53° 32'	MVP	MALO	EUR4MVP9
31/01/2020	23:11:00	N 8° 3' 6	W 53° 26'	VMP	MALO	EUR4VMP13
31/01/2020	23:59:47	N 8° 2' 2	W 53° 24'	uCTD	LARGAGE	EUR4uCTD54
01/02/2020	00:30:35	N 8° 1' 3	W 53° 21'	uCTD	LARGAGE	EUR4uCTD55
01/02/2020	00:44:35	N 8° 1' 1	W 53° 20'	RADIOSOUNDING	DEPLOY	EUR4RADIOSOUNDING67
01/02/2020	00:59:32	N 8° 0' 5	W 53° 18'	uCTD	LARGAGE	EUR4uCTD56
01/02/2020	02:28:09	N 7° 59'	W 53° 14'	uCTD	LARGAGE	EUR4uCTD57
01/02/2020	02:30:00	N 7° 59'	W 53° 14'	VMP	MALO	EUR4VMP14
01/02/2020	02:59:55	N 7° 58'	W 53° 11'	uCTD	LARGAGE	EUR4uCTD58
01/02/2020	03:30:20	N 7° 58'	W 53° 8'	uCTD	LARGAGE	EUR4uCTD59
01/02/2020	04:40:47	N 7° 57'	W 53° 5'	RADIOSOUNDING	DEPLOY	EUR4RADIOSOUNDING68
01/02/2020	04:55:00	N 7° 57'	W 53° 4'	VMP	MALO	EUR4VMP15
01/02/2020	05:00:10	N 7° 56'	W 53° 3'	uCTD	LARGAGE	EUR4uCTD60
01/02/2020	05:29:43	N 7° 56'	W 53° 1'	uCTD	LARGAGE	EUR4uCTD61
01/02/2020	06:28:05	N 7° 55'	W 52° 59'	uCTD	LARGAGE	EUR4uCTD62
01/02/2020	06:58:49	N 7° 54'	W 52° 56'	uCTD	LARGAGE	EUR4uCTD63
01/02/2020	07:30:43	N 7° 54'	W 52° 53'	uCTD	LARGAGE	EUR4uCTD64
01/02/2020	08:42:53	N 7° 53'	W 52° 50'	RADIOSOUNDING	DEPLOY	EUR4RADIOSOUNDING69
01/02/2020	08:50:02	N 7° 53'	W 52° 49'	uCTD	LARGAGE	EUR4uCTD65
01/02/2020	10:08:23	N 7° 51'	W 52° 44'	uCTD	LARGAGE	EUR4uCTD66
01/02/2020	10:38:15	N 7° 50'	W 52° 41'	uCTD	LARGAGE	EUR4uCTD67
01/02/2020	11:40:55	N 7° 49'	W 52° 36'	uCTD	LARGAGE	EUR4uCTD68
01/02/2020	12:06:00	N 7° 49'	W 52° 35'	VMP	MALO	EUR4VMP16
01/02/2020	12:15:14	N 7° 49'	W 52° 34'	MVP	MALO	EUR4MVP10
01/02/2020	12:46:09	N 7° 48'	W 52° 34'	RADIOSOUNDING	DEPLOY	EUR4RADIOSOUNDING70
01/02/2020	13:47:00	N 7° 47'	W 52° 29'	VMP	MALO	EUR4VMP17
01/02/2020	14:12:15	N 7° 47'	W 52° 29'	MVP	MALO	EUR4MVP11
01/02/2020	15:09:00	N 7° 46'	W 52° 25'	VMP	MALO	EUR4VMP18
01/02/2020	15:35:22	N 7° 46'	W 52° 24'	MVP	MALO	EUR4MVP12
01/02/2020	16:25:00	N 7° 45'	W 52° 21'	VMP	MALO	EUR4VMP19
01/02/2020	16:52:31	N 7° 46'	W 52° 20'	RADIOSOUNDING	DEPLOY	EUR4RADIOSOUNDING71
01/02/2020	16:56:13	N 7° 46'	W 52° 21'	uCTD	LARGAGE	EUR4uCTD69
01/02/2020	17:27:44	N 7° 50'	W 52° 22'	uCTD	LARGAGE	EUR4uCTD70

01/02/2020	17:58:24	N 7° 53'	W 52° 24'	uCTD	LARGAGE	EUR4uCTD71
01/02/2020	18:31:02	N 7° 57'	W 52° 26'	uCTD	LARGAGE	EUR4uCTD72
01/02/2020	19:02:02	N 8° 0' 2	W 52° 28'	uCTD	LARGAGE	EUR4uCTD73
01/02/2020	19:31:30	N 8° 3' 2	W 52° 30'	uCTD	LARGAGE	EUR4uCTD74
01/02/2020	20:05:32	N 8° 6' 5	W 52° 33'	uCTD	LARGAGE	EUR4uCTD75
01/02/2020	20:43:28	N 8° 10'	W 52° 35'	RADIOSOUNDING	DEPLOY	EUR4RADIOSOUNDING72
01/02/2020	20:48:39	N 8° 11'	W 52° 35'	uCTD	LARGAGE	EUR4uCTD76
01/02/2020	21:05:59	N 8° 12'	W 52° 36'	uCTD	BORD	EUR4uCTD76
01/02/2020	21:32:23	N 8° 15'	W 52° 38'	uCTD	LARGAGE	EUR4uCTD77
01/02/2020	22:19:07	N 8° 20'	W 52° 41'	CTD	MALO	EUR4CTD31
02/02/2020	00:44:20	N 8° 20'	W 52° 42'	RADIOSOUNDING	DEPLOY	EUR4RADIOSOUNDING73
02/02/2020	00:46:26	N 8° 20'	W 52° 42'	VMP	MALO	EUR4VMP20
02/02/2020	01:14:00	N 8° 20'	W 52° 41'	ARGO	MALO	EUR4ARGO3
02/02/2020	01:14:00	N 8° 20'	W 52° 41'	ARGO	MALO	EUR4ARGO4
02/02/2020	01:29:58	N 8° 19'	W 52° 42'	uCTD	LARGAGE	EUR4uCTD78
02/02/2020	02:14:17	N 8° 13'	W 52° 44'	uCTD	LARGAGE	EUR4uCTD79
02/02/2020	02:59:22	N 8° 8' 2	W 52° 46'	uCTD	LARGAGE	EUR4uCTD80
02/02/2020	03:58:32	N 8° 0' 5	W 52° 50'	uCTD	LARGAGE	EUR4uCTD81
02/02/2020	04:40:50	N 7° 55'	W 52° 52'	RADIOSOUNDING	DEPLOY	EUR4RADIOSOUNDING74
02/02/2020	04:58:11	N 7° 53'	W 52° 53'	uCTD	LARGAGE	EUR4uCTD82
02/02/2020	06:05:02	N 7° 44'	W 52° 57'	NOAAdrifter	MALO	EUR4NOAAdrifter4
02/02/2020	06:10:59	N 7° 43'	W 52° 57'	uCTD	LARGAGE	EUR4uCTD83
02/02/2020	06:57:30	N 7° 37'	W 53° 0'	uCTD	LARGAGE	EUR4uCTD84
02/02/2020	08:00:55	N 7° 28'	W 53° 4'	uCTD	LARGAGE	EUR4uCTD85
02/02/2020	08:41:13	N 7° 23'	W 53° 6'	RADIOSOUNDING	DEPLOY	EUR4RADIOSOUNDING75
02/02/2020	10:22:49	N 7° 15'	W 53° 11'	NOAAdrifter	MALO	EUR4NOAAdrifter5
02/02/2020	10:46:45	N 7° 13'	W 53° 12'	MVP	MALO	EUR4MVP13
02/02/2020	12:44:30	N 6° 58'	W 53° 21'	RADIOSOUNDING	DEPLOY	EUR4RADIOSOUNDING76
02/02/2020	14:23:21	N 6° 45'	W 53° 28'	NOAAdrifter	MALO	EUR4NOAAdrifter6
02/02/2020	16:45:02	N 6° 25'	W 53° 39'	RADIOSOUNDING	DEPLOY	EUR4RADIOSOUNDING77
02/02/2020	19:32:13	N 6° 24'	W 53° 40'	RADIOSOUNDING	DEPLOY	EUR4RADIOSOUNDING78
02/02/2020	20:04:59	N 6° 26'	W 53° 40'	MVP	MALO	EUR4MVP14
02/02/2020	20:15:36	N 6° 27'	W 53° 41'	RADIOSOUNDING	DEPLOY	EUR4RADIOSOUNDING79
02/02/2020	21:00:56	N 6° 31'	W 53° 42'	RADIOSOUNDING	DEPLOY	EUR4RADIOSOUNDING80
02/02/2020	21:50:38	N 6° 36'	W 53° 43'	RADIOSOUNDING	DEPLOY	EUR4RADIOSOUNDING81
02/02/2020	22:41:37	N 6° 40'	W 53° 44'	RADIOSOUNDING	DEPLOY	EUR4RADIOSOUNDING82
02/02/2020	22:46:23	N 6° 41'	W 53° 44'	RADIOSOUNDING	DEPLOY	EUR4RADIOSOUNDING83
02/02/2020	23:37:41	N 6° 45'	W 53° 45'	RADIOSOUNDING	DEPLOY	EUR4RADIOSOUNDING84
03/02/2020	00:29:05	N 6° 50'	W 53° 46'	RADIOSOUNDING	DEPLOY	EUR4RADIOSOUNDING85
03/02/2020	01:21:54	N 6° 53'	W 53° 48'	RADIOSOUNDING	DEPLOY	EUR4RADIOSOUNDING86
03/02/2020	01:27:21	N 6° 52'	W 53° 48'	MVP	MALO	EUR4MVP15
03/02/2020	02:04:41	N 6° 48'	W 53° 50'	RADIOSOUNDING	DEPLOY	EUR4RADIOSOUNDING87
03/02/2020	02:41:25	N 6° 44'	W 53° 53'	RADIOSOUNDING	DEPLOY	EUR4RADIOSOUNDING88
03/02/2020	02:55:30	N 6° 42'	W 53° 54'	RADIOSOUNDING	DEPLOY	EUR4RADIOSOUNDING89
03/02/2020	03:46:16	N 6° 36'	W 53° 57'	RADIOSOUNDING	DEPLOY	EUR4RADIOSOUNDING90

03/02/2020	04:37:00	N 6° 30'	W 54° 0'	RADIOSOUNDING	DEPLOY	EUR4RADIOSOUNDING91
03/02/2020	05:33:40	N 6° 26'	W 54° 3'	MVP	MALO	EUR4MVP16
03/02/2020	05:41:50	N 6° 27'	W 54° 4'	RADIOSOUNDING	DEPLOY	EUR4RADIOSOUNDING92
03/02/2020	06:27:36	N 6° 33'	W 54° 3'	RADIOSOUNDING	DEPLOY	EUR4RADIOSOUNDING93
03/02/2020	07:19:21	N 6° 40'	W 54° 4'	RADIOSOUNDING	DEPLOY	EUR4RADIOSOUNDING94
03/02/2020	07:47:01	N 6° 44'	W 54° 3'	RADIOSOUNDING	DEPLOY	EUR4RADIOSOUNDING95
03/02/2020	08:03:21	N 6° 46'	W 54° 4'	RADIOSOUNDING	DEPLOY	EUR4RADIOSOUNDING96
03/02/2020	08:48:13	N 6° 52'	W 54° 4'	RADIOSOUNDING	DEPLOY	EUR4RADIOSOUNDING97
03/02/2020	09:07:41	N 6° 53'	W 54° 4'	MVP	MALO	EUR4MVP17
03/02/2020	09:37:54	N 6° 50'	W 54° 6'	RADIOSOUNDING	DEPLOY	EUR4RADIOSOUNDING98
03/02/2020	10:05:00	N 6° 49'	W 54° 7'	OCARINA & PICCOLO	DEPLOY	EUR4OCAR2
03/02/2020	10:16:35	N 6° 49'	W 54° 7'	MVP	MALO	EUR4MVP18
03/02/2020	10:22:35	N 6° 48'	W 54° 8'	RADIOSOUNDING	DEPLOY	EUR4RADIOSOUNDING99
03/02/2020	10:40:12	N 6° 47'	W 54° 9'	RADIOSOUNDING	DEPLOY	EUR4RADIOSOUNDING100
03/02/2020	11:12:07	N 6° 43'	W 54° 12'	RADIOSOUNDING	DEPLOY	EUR4RADIOSOUNDING101
03/02/2020	11:59:21	N 6° 39'	W 54° 16'	RADIOSOUNDING	DEPLOY	EUR4RADIOSOUNDING102
03/02/2020	12:48:00	N 6° 34'	W 54° 20'	RADIOSOUNDING	DEPLOY	EUR4RADIOSOUNDING103
03/02/2020	13:33:44	N 6° 33'	W 54° 21'	RADIOSOUNDING	DEPLOY	EUR4RADIOSOUNDING104
03/02/2020	13:44:51	N 6° 34'	W 54° 21'	MVP	MALO	EUR4MVP19
03/02/2020	14:26:54	N 6° 39'	W 54° 21'	RADIOSOUNDING	DEPLOY	EUR4RADIOSOUNDING105
03/02/2020	14:45:16	N 6° 42'	W 54° 21'	RADIOSOUNDING	DEPLOY	EUR4RADIOSOUNDING106
03/02/2020	15:13:07	N 6° 45'	W 54° 21'	RADIOSOUNDING	DEPLOY	EUR4RADIOSOUNDING107
03/02/2020	16:02:33	N 6° 49'	W 54° 21'	RADIOSOUNDING	DEPLOY	EUR4RADIOSOUNDING108
03/02/2020	16:13:17	N 6° 50'	W 54° 21'	RADIOSOUNDING	DEPLOY	EUR4RADIOSOUNDING109
03/02/2020	17:22:40	N 7° 0' 7	W 54° 21'	RADIOSOUNDING	DEPLOY	EUR4RADIOSOUNDING110
03/02/2020	18:10:50	N 7° 6' 2	W 54° 21'	RADIOSOUNDING	DEPLOY	EUR4RADIOSOUNDING111
03/02/2020	18:45:46	N 7° 9' 1	W 54° 21'	MVP	MALO	EUR4MVP20
03/02/2020	19:20:36	N 7° 4' 4	W 54° 20'	RADIOSOUNDING	DEPLOY	EUR4RADIOSOUNDING112
03/02/2020	21:06:53	N 6° 51'	W 54° 21'	MVP	MALO	EUR4MVP21
03/02/2020	21:55:00	N 6° 49'	W 54° 21'	OCARINA & PICCOLO	END	EUR4OCAR2
03/02/2020	22:44:10	N 6° 46'	W 54° 25'	RADIOSOUNDING	DEPLOY	EUR4RADIOSOUNDING113
04/02/2020	01:41:02	N 6° 30'	W 54° 40'	MVP	MALO	EUR4MVP22
04/02/2020	02:42:25	N 6° 37'	W 54° 44'	RADIOSOUNDING	DEPLOY	EUR4RADIOSOUNDING114
04/02/2020	03:49:58	N 6° 44'	W 54° 47'	MVP	MALO	EUR4MVP23
04/02/2020	06:42:59	N 6° 38'	W 54° 25'	RADIOSOUNDING	DEPLOY	EUR4RADIOSOUNDING115
04/02/2020	10:41:52	N 6° 30'	W 54° 4'	RADIOSOUNDING	DEPLOY	EUR4RADIOSOUNDING116
04/02/2020	14:41:49	N 6° 28'	W 54° 10'	RADIOSOUNDING	DEPLOY	EUR4RADIOSOUNDING117
04/02/2020	17:43:09	N 6° 29'	W 54° 8'	MVP	MALO	EUR4MVP24
04/02/2020	18:44:33	N 6° 30'	W 54° 5'	RADIOSOUNDING	DEPLOY	EUR4RADIOSOUNDING118
04/02/2020	20:37:28	N 6° 30'	W 53° 52'	NOAAdrifter	MALO	EUR4NOAAdrifter8
04/02/2020	21:53:49	N 6° 36'	W 53° 50'	NOAAdrifter	MALO	EUR4NOAAdrifter7
04/02/2020	22:43:27	N 6° 43'	W 53° 48'	RADIOSOUNDING	DEPLOY	EUR4RADIOSOUNDING119
05/02/2020	01:23:02	N 6° 50'	W 53° 46'	MVP	MALO	EUR4MVP25
05/02/2020	02:44:37	N 7° 1' 1	W 53° 43'	RADIOSOUNDING	DEPLOY	EUR4RADIOSOUNDING120
05/02/2020	06:33:43	N 7° 31'	W 53° 34'	uCTD	LARGAGE	EUR4uCTD86

05/02/2020	06:39:15	N 7° 31'	W 53° 34'	RADIOSOUNDING	DEPLOY	EUR4RADIOSOUNDING121
05/02/2020	06:41:00	N 7° 31'	W 53° 34'	CTD	MALO	EUR4CTD32
05/02/2020	08:46:23	N 7° 41'	W 53° 29'	uCTD	LARGAGE	EUR4uCTD87
05/02/2020	09:44:02	N 7° 46'	W 53° 25'	uCTD	LARGAGE	EUR4uCTD88
05/02/2020	10:41:52	N 7° 49'	W 53° 23'	RADIOSOUNDING	DEPLOY	EUR4RADIOSOUNDING122
05/02/2020	11:01:42	N 7° 49'	W 53° 23'	uCTD	LARGAGE	EUR4uCTD89
05/02/2020	11:51:10	N 7° 49'	W 53° 22'	uCTD	LARGAGE	EUR4uCTD90
05/02/2020	12:50:11	N 7° 49'	W 53° 23'	uCTD	LARGAGE	EUR4uCTD91
05/02/2020	13:22:00	N 7° 49'	W 53° 23'	ARGO	MALO	EUR4ARGO5
05/02/2020	14:33:07	N 7° 49'	W 53° 23'	uCTD	LARGAGE	EUR4uCTD93
05/02/2020	14:47:27	N 7° 49'	W 53° 23'	RADIOSOUNDING	DEPLOY	EUR4RADIOSOUNDING123
05/02/2020	15:47:21	N 7° 50'	W 53° 23'	uCTD	LARGAGE	EUR4uCTD94
05/02/2020	16:30:33	N 7° 56'	W 53° 22'	uCTD	LARGAGE	EUR4uCTD95
05/02/2020	17:03:36	N 8° 0' 2	W 53° 21'	uCTD	LARGAGE	EUR4uCTD96
05/02/2020	17:31:19	N 8° 3' 5	W 53° 20'	uCTD	LARGAGE	EUR4uCTD97
05/02/2020	18:01:26	N 8° 7' 3	W 53° 19'	uCTD	LARGAGE	EUR4uCTD98
05/02/2020	18:30:04	N 8° 11'	W 53° 19'	uCTD	LARGAGE	EUR4uCTD99
05/02/2020	18:45:00	N 8° 12'	W 53° 18'	RADIOSOUNDING	DEPLOY	EUR4RADIOSOUNDING124
05/02/2020	18:59:33	N 8° 14'	W 53° 18'	VMP	MALO	EUR4VMP21
05/02/2020	19:28:22	N 8° 15'	W 53° 17'	uCTD	LARGAGE	EUR4uCTD100
05/02/2020	20:16:50	N 8° 22'	W 53° 16'	uCTD	LARGAGE	EUR4uCTD101
05/02/2020	21:06:41	N 8° 26'	W 53° 15'	VMP	MALO	EUR4VMP22
05/02/2020	21:50:48	N 8° 29'	W 53° 14'	uCTD	LARGAGE	EUR4uCTD102
05/02/2020	22:31:02	N 8° 34'	W 53° 13'	uCTD	LARGAGE	EUR4uCTD103
05/02/2020	22:41:25	N 8° 35'	W 53° 13'	RADIOSOUNDING	DEPLOY	EUR4RADIOSOUNDING125
05/02/2020	23:17:11	N 8° 39'	W 53° 12'	VMP	MALO	EUR4VMP23
05/02/2020	23:53:39	N 8° 39'	W 53° 12'	VMP	MALO	EUR4VMP24
06/02/2020	00:14:42	N 8° 42'	W 53° 11'	uCTD	LARGAGE	EUR4uCTD104
06/02/2020	00:43:40	N 8° 45'	W 53° 11'	uCTD	LARGAGE	EUR4uCTD105
06/02/2020	01:34:19	N 8° 50'	W 53° 10'	VMP	MALO	EUR4VMP25
06/02/2020	02:04:09	N 8° 50'	W 53° 9'	CTD	MALO	EUR4CTD33
06/02/2020	02:42:02	N 8° 50'	W 53° 10'	RADIOSOUNDING	DEPLOY	EUR4RADIOSOUNDING126
06/02/2020	04:20:46	N 8° 52'	W 53° 15'	uCTD	LARGAGE	EUR4uCTD106
06/02/2020	05:04:47	N 8° 55'	W 53° 20'	VMP	MALO	EUR4VMP26
06/02/2020	05:30:50	N 8° 55'	W 53° 20'	CTD	MALO	EUR4CTD34
06/02/2020	06:44:02	N 8° 55'	W 53° 21'	RADIOSOUNDING	DEPLOY	EUR4RADIOSOUNDING127
06/02/2020	07:45:29	N 8° 57'	W 53° 26'	uCTD	LARGAGE	EUR4uCTD107
06/02/2020	08:43:22	N 9° 1' 1	W 53° 33'	VMP	MALO	EUR4VMP27
06/02/2020	09:14:57	N 9° 1' 1	W 53° 33'	CTD	MALO	EUR4CTD35
06/02/2020	10:42:06	N 9° 3' 0	W 53° 33'	RADIOSOUNDING	DEPLOY	EUR4RADIOSOUNDING128
06/02/2020	11:46:22	N 9° 4' 1	W 53° 40'	uCTD	LARGAGE	EUR4uCTD108
06/02/2020	12:38:44	N 9° 7' 4	W 53° 46'	CTD	MALO	EUR4CTD36
06/02/2020	14:14:50	N 9° 7' 3	W 53° 45'	VMP	MALO	EUR4VMP28
06/02/2020	14:43:34	N 9° 8' 1	W 53° 47'	RADIOSOUNDING	DEPLOY	EUR4RADIOSOUNDING129
06/02/2020	15:13:30	N 9° 9' 3	W 53° 51'	uCTD	LARGAGE	EUR4uCTD109

06/02/2020	15:26:16	N 9° 9' 5	W 53° 53'	uCTD	BORD	EUR4uCTD109
06/02/2020	16:03:19	N 9° 11'	W 53° 57'	VMP	MALO	EUR4VMP29
06/02/2020	16:03:32	N 9° 11'	W 53° 57'	VMP	MALO	EUR4VMP30
06/02/2020	16:31:17	N 9° 12'	W 53° 57'	CTD	MALO	EUR4CTD37
06/02/2020	18:44:34	N 9° 13'	W 54° 2'	uCTD	LARGAGE	EUR4uCTD110
06/02/2020	18:45:05	N 9° 13'	W 54° 2'	RADIOSOUNDING	DEPLOY	EUR4RADIOSOUNDING130
06/02/2020	19:40:46	N 9° 16'	W 54° 9'	VMP	MALO	EUR4VMP31
06/02/2020	20:55:28	N 9∞ 18,0	W 54∞ 08,	CTD	MALO	EUR4CTD38
06/02/2020	23:02:48	N 9° 20'	W 54° 9'	RADIOSOUNDING	DEPLOY	EUR4RADIOSOUNDING131
06/02/2020	23:41:56	N 9° 19'	W 54° 15'	uCTD	LARGAGE	EUR4uCTD111
06/02/2020	23:41:56	N 9° 19'	W 54° 15'	uCTD	LARGAGE	EUR4uCTD112
07/02/2020	00:29:38	N 9° 21'	W 54° 20'	VMP	MALO	EUR4VMP32
07/02/2020	00:59:47	N 9° 22'	W 54° 20'	CTD	MALO	EUR4CTD39
07/02/2020	02:43:25	N 9° 22'	W 54° 21'	RADIOSOUNDING	DEPLOY	EUR4RADIOSOUNDING132
07/02/2020	04:07:43	N 9° 26'	W 54° 31'	uCTD	LARGAGE	EUR4uCTD113
07/02/2020	04:26:07	N 9° 27'	W 54° 32'	VMP	MALO	EUR4VMP33
07/02/2020	04:55:14	N 9° 27'	W 54° 32'	CTD	MALO	EUR4CTD40
07/02/2020	06:44:20	N 9° 29'	W 54° 33'	RADIOSOUNDING	DEPLOY	EUR4RADIOSOUNDING133
07/02/2020	07:20:04	N 9° 29'	W 54° 38'	uCTD	LARGAGE	EUR4uCTD114
07/02/2020	08:14:28	N 9° 32'	W 54° 44'	VMP	MALO	EUR4VMP34
07/02/2020	08:41:26	N 9° 33'	W 54° 44'	CTD	MALO	EUR4CTD41
07/02/2020	10:41:33	N 9° 35'	W 54° 45'	RADIOSOUNDING	DEPLOY	EUR4RADIOSOUNDING134
07/02/2020	11:40:20	N 9° 36'	W 54° 53'	VMP	MALO	EUR4VMP35
07/02/2020	12:13:31	N 9° 36'	W 54° 53'	CTD	MALO	EUR4CTD42
07/02/2020	14:29:15	N 9° 33'	W 54° 56'	uCTD	LARGAGE	EUR4uCTD115
07/02/2020	14:56:56	N 9° 31'	W 54° 58'	RADIOSOUNDING	DEPLOY	EUR4RADIOSOUNDING135
07/02/2020	14:59:24	N 9° 31'	W 54° 58'	VMP	MALO	EUR4VMP36
07/02/2020	15:29:58	N 9° 31'	W 54° 59'	uCTD	LARGAGE	EUR4uCTD116
07/02/2020	15:59:27	N 9° 29'	W 55° 1'	uCTD	LARGAGE	EUR4uCTD117
07/02/2020	16:28:36	N 9° 26'	W 55° 4'	uCTD	LARGAGE	EUR4uCTD118
07/02/2020	17:01:49	N 9° 25'	W 55° 6'	VMP	MALO	EUR4VMP37
07/02/2020	17:34:35	N 9° 24'	W 55° 7'	uCTD	LARGAGE	EUR4uCTD119
07/02/2020	18:31:27	N 9° 19'	W 55° 12'	uCTD	LARGAGE	EUR4uCTD120
07/02/2020	18:44:03	N 9° 18'	W 55° 13'	RADIOSOUNDING	DEPLOY	EUR4RADIOSOUNDING136
07/02/2020	19:01:24	N 9° 17'	W 55° 14'	VMP	MALO	EUR4VMP38
07/02/2020	19:29:36	N 9° 16'	W 55° 15'	uCTD	LARGAGE	EUR4uCTD121
07/02/2020	20:01:39	N 9° 13'	W 55° 18'	uCTD	LARGAGE	EUR4uCTD122
07/02/2020	20:30:33	N 9° 11'	W 55° 20'	uCTD	LARGAGE	EUR4uCTD123
07/02/2020	20:58:46	N 9° 10'	W 55° 22'	VMP	MALO	EUR4VMP39
07/02/2020	21:50:34	N 9° 7' 2	W 55° 26'	uCTD	LARGAGE	EUR4uCTD124
07/02/2020	22:24:57	N 9° 4' 4	W 55° 28'	uCTD	LARGAGE	EUR4uCTD125
07/02/2020	22:42:36	N 9° 3' 3	W 55° 29'	RADIOSOUNDING	DEPLOY	EUR4RADIOSOUNDING137
07/02/2020	23:10:48	N 9° 0' 5	W 55° 32'	uCTD	LARGAGE	EUR4uCTD126
07/02/2020	23:43:11	N 8° 59'	W 55° 33'	VMP	MALO	EUR4VMP40
08/02/2020	00:28:50	N 8° 57'	W 55° 35'	uCTD	LARGAGE	EUR4uCTD127

08/02/2020	00:59:27	N 8° 54'	W 55° 38'	uCTD	LARGAGE	EUR4uCTD128
08/02/2020	01:57:47	N 8° 50'	W 55° 42'	XBT-SIPPICAN	DTIR	EUR4SIPP39
08/02/2020	02:25:23	N 8° 47'	W 55° 46'	XBT-SIPPICAN	DTIR	EUR4SIPP40
08/02/2020	02:47:45	N 8° 44'	W 55° 48'	RADIOSOUNDING	DEPLOY	EUR4RADIOSOUNDING138
08/02/2020	02:51:41	N 8° 44'	W 55° 49'	XBT-SIPPICAN	DTIR	EUR4SIPP41
08/02/2020	03:12:35	N 8° 42'	W 55° 51'	VMP	MALO	EUR4VMP41
08/02/2020	03:42:01	N 8° 42'	W 55° 50'	CTD	MALO	EUR4CTD43
08/02/2020	05:13:58	N 8° 40'	W 55° 54'	XBT-SIPPICAN	DTIR	EUR4SIPP42
08/02/2020	05:41:57	N 8° 36'	W 55° 57'	XBT-SIPPICAN	DTIR	EUR4SIPP43
08/02/2020	06:10:29	N 8° 34'	W 55° 59'	VMP	MALO	EUR4VMP42
08/02/2020	06:34:23	N 8° 34'	W 55° 59'	CTD	MALO	EUR4CTD44
08/02/2020	06:44:32	N 8° 34'	W 55° 59'	RADIOSOUNDING	DEPLOY	EUR4RADIOSOUNDING139
08/02/2020	08:57:16	N 8° 37'	W 56° 4'	XBT-SIPPICAN	DTIR	EUR4SIPP44
08/02/2020	09:31:55	N 8° 39'	W 56° 8'	XBT-SIPPICAN	DTIR	EUR4SIPP45
08/02/2020	09:57:26	N 8° 40'	W 56° 10'	VMP	MALO	EUR4VMP43
08/02/2020	10:24:01	N 8° 41'	W 56° 10'	CTD	MALO	EUR4CTD45
08/02/2020	10:53:36	N 8° 41'	W 56° 10'	RADIOSOUNDING	DEPLOY	EUR4RADIOSOUNDING140
08/02/2020	11:37:39	N 8° 42'	W 56° 13'	XBT-SIPPICAN	DTIR	EUR4SIPP46
08/02/2020	11:56:59	N 8° 43'	W 56° 15'	XBT-SIPPICAN	DTIR	EUR4SIPP47
08/02/2020	11:59:00	N 8° 43'	W 56° 15'	NOAAdrifter	MALO	EUR4NOAAdrifter9
08/02/2020	12:27:58	N 8° 44'	W 56° 18'	XBT-SIPPICAN	DTIR	EUR4SIPP48
08/02/2020	13:07:01	N 8° 47'	W 56° 22'	CTD	MALO	EUR4CTD46
08/02/2020	13:58:15	N 8° 48'	W 56° 24'	XBT-SIPPICAN	DTIR	EUR4SIPP49
08/02/2020	14:24:52	N 8° 50'	W 56° 28'	XBT-SIPPICAN	DTIR	EUR4SIPP50
08/02/2020	14:47:27	N 8° 52'	W 56° 31'	RADIOSOUNDING	DEPLOY	EUR4RADIOSOUNDING141
08/02/2020	14:55:23	N 8° 53'	W 56° 33'	XBT-SIPPICAN	DTIR	EUR4SIPP51
08/02/2020	15:34:51	N 8° 55'	W 56° 38'	VMP	MALO	EUR4VMP44
08/02/2020	15:58:29	N 8° 55'	W 56° 38'	uCTD	LARGAGE	EUR4uCTD129
08/02/2020	16:28:07	N 8° 57'	W 56° 41'	uCTD	LARGAGE	EUR4uCTD130
08/02/2020	17:01:48	N 9° 0' 1	W 56° 45'	uCTD	LARGAGE	EUR4uCTD131
08/02/2020	17:30:46	N 9° 2' 0	W 56° 48'	VMP	MALO	EUR4VMP45
08/02/2020	18:02:36	N 9° 2' 3	W 56° 48'	uCTD	LARGAGE	EUR4uCTD132
08/02/2020	18:30:12	N 9° 4' 8	W 56° 52'	uCTD	LARGAGE	EUR4uCTD133
08/02/2020	18:42:39	N 9° 4' 4	W 56° 53'	RADIOSOUNDING	DEPLOY	EUR4RADIOSOUNDING142
08/02/2020	19:00:52	N 9° 6' 4	W 56° 56'	uCTD	LARGAGE	EUR4uCTD134
08/02/2020	19:30:39	N 9° 7' 4	W 56° 59'	VMP	MALO	EUR4VMP46
08/02/2020	20:03:12	N 9° 8' 2	W 57° 0'	uCTD	LARGAGE	EUR4uCTD135
08/02/2020	20:33:29	N 9° 10'	W 57° 3'	uCTD	LARGAGE	EUR4uCTD136
08/02/2020	21:01:01	N 9° 11'	W 57° 6'	uCTD	LARGAGE	EUR4uCTD137
08/02/2020	21:33:03	N 9° 12'	W 57° 9'	VMP	MALO	EUR4VMP47
08/02/2020	22:17:36	N 9° 14'	W 57° 12'	uCTD	LARGAGE	EUR4uCTD138
08/02/2020	22:17:36	N 9° 14'	W 57° 12'	uCTD	LARGAGE	EUR4uCTD139
08/02/2020	23:05:06	N 9° 17'	W 57° 17'	RADIOSOUNDING	DEPLOY	EUR4RADIOSOUNDING143
08/02/2020	23:19:21	N 9° 17'	W 57° 18'	uCTD	LARGAGE	EUR4uCTD140
09/02/2020	00:05:34	N 9° 20'	W 57° 22'	VMP	MALO	EUR4VMP48

09/02/2020	00:31:46	N 9° 20'	W 57° 22'	CTD	MALO	EUR4CTD47
09/02/2020	02:47:08	N 9° 24'	W 57° 27'	RADIOSOUNDING	DEPLOY	EUR4RADIOSOUNDING144
09/02/2020	03:04:40	N 9° 25'	W 57° 29'	uCTD	LARGAGE	EUR4uCTD141
09/02/2020	03:38:52	N 9° 27'	W 57° 32'	VMP	MALO	EUR4VMP49
09/02/2020	04:04:23	N 9° 27'	W 57° 32'	CTD	MALO	EUR4CTD48
09/02/2020	06:23:16	N 9° 30'	W 57° 38'	uCTD	LARGAGE	EUR4uCTD142
09/02/2020	06:44:18	N 9° 31'	W 57° 41'	RADIOSOUNDING	DEPLOY	EUR4RADIOSOUNDING145
09/02/2020	07:20:17	N 9° 34'	W 57° 45'	VMP	MALO	EUR4VMP50
09/02/2020	07:50:34	N 9° 34'	W 57° 45'	CTD	MALO	EUR4CTD49
09/02/2020	10:14:15	N 9° 37'	W 57° 51'	uCTD	LARGAGE	EUR4uCTD143
09/02/2020	10:43:46	N 9° 39'	W 57° 54'	RADIOSOUNDING	DEPLOY	EUR4RADIOSOUNDING146
09/02/2020	11:18:38	N 9° 41'	W 57° 57'	VMP	MALO	EUR4VMP51
09/02/2020	11:45:25	N 9° 41'	W 57° 57'	CTD	MALO	EUR4CTD50
09/02/2020	14:24:15	N 9° 44'	W 58° 2'	uCTD	LARGAGE	EUR4uCTD144
09/02/2020	14:46:22	N 9° 45'	W 58° 5'	RADIOSOUNDING	DEPLOY	EUR4RADIOSOUNDING147
09/02/2020	15:11:10	N 9° 47'	W 58° 8'	VMP	MALO	EUR4VMP52
09/02/2020	15:37:32	N 9° 47'	W 58° 8'	CTD	MALO	EUR4CTD51
09/02/2020	18:03:10	N 9° 50'	W 58° 15'	uCTD	LARGAGE	EUR4uCTD145
09/02/2020	18:46:26	N 9° 54'	W 58° 20'	RADIOSOUNDING	DEPLOY	EUR4RADIOSOUNDING148
09/02/2020	18:46:32	N 9° 54'	W 58° 20'	VMP	MALO	EUR4VMP53
09/02/2020	19:18:22	N 9° 54'	W 58° 21'	CTD	MALO	EUR4CTD52
09/02/2020	21:47:04	N 9° 58'	W 58° 27'	uCTD	LARGAGE	EUR4uCTD146
09/02/2020	22:34:54	N 10° 1'	W 58° 32'	VMP	MALO	EUR4VMP54
09/02/2020	23:00:18	N 10° 1'	W 58° 32'	CTD	MALO	EUR4CTD53
09/02/2020	23:10:35	N 10° 1'	W 58° 33'	RADIOSOUNDING	DEPLOY	EUR4RADIOSOUNDING149
10/02/2020	01:23:26	N 10° 4'	W 58° 37'	uCTD	LARGAGE	EUR4uCTD147
10/02/2020	02:14:04	N 10° 7'	W 58° 43'	VMP	MALO	EUR4VMP55
10/02/2020	02:43:04	N 10° 7'	W 58° 43'	CTD	MALO	EUR4CTD54
10/02/2020	02:54:54	N 10° 7'	W 58° 43'	RADIOSOUNDING	DEPLOY	EUR4RADIOSOUNDING150
10/02/2020	05:00:47	N 10° 10'	W 58° 48'	uCTD	LARGAGE	EUR4uCTD148
10/02/2020	05:59:44	N 10° 14'	W 58° 55'	VMP	MALO	EUR4VMP56
10/02/2020	06:27:17	N 10° 14'	W 58° 55'	CTD	MALO	EUR4CTD55
10/02/2020	06:44:41	N 10° 15'	W 58° 55'	RADIOSOUNDING	DEPLOY	EUR4RADIOSOUNDING151
10/02/2020	09:19:21	N 10° 19'	W 59° 4'	uCTD	LARGAGE	EUR4uCTD149
10/02/2020	10:37:00	N 10° 22'	W 59° 7'	OCARINA & PICCOLO	DEPLOY	EUR4OCAR3
10/02/2020	10:52:38	N 10° 24'	W 59° 7'	RADIOSOUNDING	DEPLOY	EUR4RADIOSOUNDING152
10/02/2020	12:12:13	N 10° 35'	W 59° 11'	MVP	MALO	EUR4MVP26
10/02/2020	15:03:41	N 10° 27'	W 58° 55'	RADIOSOUNDING	DEPLOY	EUR4RADIOSOUNDING153
10/02/2020	15:39:16	N 10° 26'	W 58° 53'	uCTD	LARGAGE	EUR4uCTD150
10/02/2020	16:14:28	N 10° 27'	W 58° 57'	uCTD	LARGAGE	EUR4uCTD151
10/02/2020	16:38:45	N 10° 28'	W 59° 0'	uCTD	LARGAGE	EUR4uCTD152
10/02/2020	17:12:38	N 10° 29'	W 59° 4'	uCTD	LARGAGE	EUR4uCTD153
10/02/2020	17:40:34	N 10° 30'	W 59° 6'	uCTD	LARGAGE	EUR4uCTD154
10/02/2020	18:44:11	N 10° 31'	W 59° 13'	RADIOSOUNDING	DEPLOY	EUR4RADIOSOUNDING154
10/02/2020	21:40:09	N 10° 35'	W 59° 9'	CTD	MALO	EUR4CTD56

10/02/2020	21:48:09	N 10° 35'	W 59° 9'	uCTD	LARGAGE	EUR4uCTD155
10/02/2020	22:00:54	N 10° 35'	W 59° 9'	RADIOSOUNDING	DEPLOY	EUR4RADIOSOUNDING155
10/02/2020	22:39:50	N 10° 36'	W 59° 9'	RADIOSOUNDING	DEPLOY	EUR4RADIOSOUNDING156
11/02/2020	10:06:07	N 9° 18'	W 58° 48'	VMP	MALO	EUR4VMP57
11/02/2020	10:42:35	N 9° 18'	W 58° 48'	RADIOSOUNDING	DEPLOY	EUR4RADIOSOUNDING157
11/02/2020	10:42:45	N 9° 18'	W 58° 48'	CTD	MALO	EUR4CTD57
11/02/2020	12:34:16	N 9° 22'	W 58° 44'	uCTD	LARGAGE	EUR4uCTD156
11/02/2020	13:31:46	N 9° 27'	W 58° 40'	VMP	MALO	EUR4VMP58
11/02/2020	14:43:50	N 9° 27'	W 58° 40'	RADIOSOUNDING	DEPLOY	EUR4RADIOSOUNDING158
11/02/2020	15:34:08	N 9° 27'	W 58° 40'	CTD	MALO	EUR4CTD58
11/02/2020	17:26:36	N 9° 32'	W 58° 36'	uCTD	LARGAGE	EUR4uCTD157
11/02/2020	18:32:27	N 9° 37'	W 58° 31'	VMP	MALO	EUR4VMP59
11/02/2020	18:45:31	N 9° 37'	W 58° 32'	RADIOSOUNDING	DEPLOY	EUR4RADIOSOUNDING159
11/02/2020	19:01:22	N 9° 37'	W 58° 32'	CTD	MALO	EUR4CTD59
11/02/2020	20:56:58	N 9° 42'	W 58° 28'	uCTD	LARGAGE	EUR4uCTD158
11/02/2020	21:29:08	N 9° 44'	W 58° 26'	MVP	MALO	EUR4MVP27
11/02/2020	22:29:54	N 9° 47'	W 58° 24'	VMP	MALO	EUR4VMP60
11/02/2020	22:49:03	N 9° 47'	W 58° 24'	CTD	MALO	EUR4CTD60
11/02/2020	22:51:02	N 9° 47'	W 58° 24'	RADIOSOUNDING	DEPLOY	EUR4RADIOSOUNDING160
12/02/2020	00:48:59	N 9° 51'	W 58° 20'	uCTD	LARGAGE	EUR4uCTD159
12/02/2020	01:58:46	N 9° 56'	W 58° 16'	VMP	MALO	EUR4VMP61
12/02/2020	02:16:41	N 9° 56'	W 58° 16'	CTD	MALO	EUR4CTD61
12/02/2020	02:50:27	N 9° 56'	W 58° 16'	RADIOSOUNDING	DEPLOY	EUR4RADIOSOUNDING161
12/02/2020	04:08:21	N 10° 1'	W 58° 12'	uCTD	LARGAGE	EUR4uCTD160
12/02/2020	05:29:32	N 10° 6'	W 58° 7'	VMP	MALO	EUR4VMP62
12/02/2020	05:48:59	N 10° 7'	W 58° 8'	CTD	MALO	EUR4CTD62
12/02/2020	07:12:52	N 10° 8'	W 58° 6'	RADIOSOUNDING	DEPLOY	EUR4RADIOSOUNDING162
12/02/2020	07:48:52	N 10° 11'	W 58° 3'	uCTD	LARGAGE	EUR4uCTD161
12/02/2020	08:58:25	N 10° 17'	W 57° 59'	VMP	MALO	EUR4VMP63
12/02/2020	09:21:14	N 10° 17'	W 57° 59'	CTD	MALO	EUR4CTD63
12/02/2020	10:59:02	N 10° 20'	W 57° 56'	RADIOSOUNDING	DEPLOY	EUR4RADIOSOUNDING163
12/02/2020	11:18:19	N 10° 22'	W 57° 54'	uCTD	LARGAGE	EUR4uCTD162
12/02/2020	12:23:59	N 10° 27'	W 57° 50'	VMP	MALO	EUR4VMP64
12/02/2020	12:34:51	N 10° 28'	W 57° 50'	uCTD	LARGAGE	EUR4uCTD163
12/02/2020	13:50:39	N 10° 32'	W 57° 46'	uCTD	LARGAGE	EUR4uCTD164
12/02/2020	14:23:17	N 10° 34'	W 57° 45'	XCTD	Tir	EUR4XCTD2
12/02/2020	15:07:03	N 10° 37'	W 57° 42'	RADIOSOUNDING	DEPLOY	EUR4RADIOSOUNDING164
12/02/2020	15:10:34	N 10° 37'	W 57° 42'	VMP	MALO	EUR4VMP65
12/02/2020	15:20:46	N 10° 37'	W 57° 42'	sargasse	COLLECT	EUR4SARG16
12/02/2020	15:23:22	N 10° 37'	W 57° 42'	uCTD	LARGAGE	EUR4uCTD165
12/02/2020	15:24:17	N 10° 37'	W 57° 42'	Photos Sargasses	PHOTO	EUR4PHOSAR1
12/02/2020	15:24:17	N 10° 37'	W 57° 42'	Photos Sargasses	PHOTO	EUR4PHOSAR2
12/02/2020	15:24:38	N 10° 37'	W 57° 42'	Photos Sargasses	PHOTO	EUR4PHOSAR3
12/02/2020	15:24:56	N 10° 37'	W 57° 42'	Photos Sargasses	PHOTO	EUR4PHOSAR4
12/02/2020	15:25:01	N 10° 37'	W 57° 42'	Photos Sargasses	PHOTO	EUR4PHOSAR5

12/02/2020	15:25:18	N 10° 37'	W 57° 42'	Photos Sargasses	PHOTO	EUR4PHOSAR6
12/02/2020	15:25:42	N 10° 37'	W 57° 42'	Photos Sargasses	PHOTO	EUR4PHOSAR7
12/02/2020	15:26:06	N 10° 37'	W 57° 42'	sargasse	COLLECT	EUR4SARG17
12/02/2020	15:28:05	N 10° 37'	W 57° 42'	Photos Sargasses	PHOTO	EUR4PHOSAR8
12/02/2020	15:28:34	N 10° 37'	W 57° 42'	Photos Sargasses	PHOTO	EUR4PHOSAR9
12/02/2020	15:29:24	N 10° 37'	W 57° 42'	Photos Sargasses	PHOTO	EUR4PHOSAR10
12/02/2020	15:29:40	N 10° 37'	W 57° 42'	Photos Sargasses	PHOTO	EUR4PHOSAR11
12/02/2020	16:05:54	N 10° 39'	W 57° 40'	XCTD	Tir	EUR4XCTD3
12/02/2020	16:24:07	N 10° 40'	W 57° 40'	Photos Sargasses	PHOTO	EUR4PHOSAR12
12/02/2020	16:24:32	N 10° 40'	W 57° 40'	Photos Sargasses	PHOTO	EUR4PHOSAR13
12/02/2020	16:43:40	N 10° 42'	W 57° 38'	uCTD	LARGAGE	EUR4uCTD166
12/02/2020	17:02:55	N 10° 42'	W 57° 38'	uCTD	BORD	EUR4uCTD166
12/02/2020	17:26:32	N 10° 44'	W 57° 36'	XCTD	Tir	EUR4XCTD4
12/02/2020	17:54:37	N 10° 46'	W 57° 34'	NOAAdrifter	MALO	EUR4NOAAdrifter10
12/02/2020	18:06:06	N 10° 47'	W 57° 34'	VMP	MALO	EUR4VMP66
12/02/2020	18:20:32	N 10° 47'	W 57° 33'	uCTD	LARGAGE	EUR4uCTD167
12/02/2020	18:44:29	N 10° 48'	W 57° 33'	RADIOSOUNDING	DEPLOY	EUR4RADIOSOUNDING165
12/02/2020	19:10:45	N 10° 50'	W 57° 31'	XCTD	Tir	EUR4XCTD5
12/02/2020	19:48:04	N 10° 53'	W 57° 29'	uCTD	LARGAGE	EUR4uCTD168
12/02/2020	20:01:01	N 10° 53'	W 57° 29'	Photos Sargasses	PHOTO	EUR4PHOSAR14
12/02/2020	20:02:16	N 10° 53'	W 57° 29'	Photos Sargasses	PHOTO	EUR4PHOSAR15
12/02/2020	20:07:19	N 10° 53'	W 57° 29'	uCTD	BORD	EUR4uCTD168
12/02/2020	20:37:48	N 10° 55'	W 57° 27'	XCTD	Tir	EUR4XCTD6
12/02/2020	20:46:33	N 10° 55'	W 57° 27'	uCTD	LARGAGE	EUR4uCTD169
12/02/2020	21:35:39	N 10° 58'	W 57° 24'	VMP	MALO	EUR4VMP67
12/02/2020	21:48:48	N 10° 58'	W 57° 24'	uCTD	LARGAGE	EUR4uCTD170
12/02/2020	22:42:05	N 11° 1'	W 57° 22'	RADIOSOUNDING	DEPLOY	EUR4RADIOSOUNDING166
12/02/2020	23:12:15	N 11° 4'	W 57° 20'	VMP	MALO	EUR4VMP68
12/02/2020	23:25:01	N 11° 4'	W 57° 19'	uCTD	LARGAGE	EUR4uCTD171
13/02/2020	00:40:37	N 11° 7'	W 57° 17'	uCTD	LARGAGE	EUR4uCTD172
13/02/2020	00:59:51	N 11° 7'	W 57° 17'	VMP	MALO	EUR4VMP69
13/02/2020	02:44:03	N 11° 2'	W 57° 21'	RADIOSOUNDING	DEPLOY	EUR4RADIOSOUNDING167
13/02/2020	07:07:50	N 10° 26'	W 57° 48'	RADIOSOUNDING	DEPLOY	EUR4RADIOSOUNDING168
13/02/2020	09:45:58	N 10° 19'	W 57° 53'	sargasse	COLLECT	EUR4SARG18
13/02/2020	09:47:12	N 10° 19'	W 57° 53'	sargasse	COLLECT	EUR4SARG19
13/02/2020	09:49:35	N 10° 19'	W 57° 53'	sargasse	COLLECT	EUR4SARG20
13/02/2020	09:50:07	N 10° 19'	W 57° 53'	GLIDER Kraken	END	EUR4GLID1
13/02/2020	09:51:01	N 10° 19'	W 57° 53'	sargasse	COLLECT	EUR4SARG21
13/02/2020	09:53:15	N 10° 19'	W 57° 53'	sargasse	COLLECT	EUR4SARG22
13/02/2020	09:55:30	N 10° 19'	W 57° 53'	sargasse	COLLECT	EUR4SARG23
13/02/2020	09:57:47	N 10° 19'	W 57° 53'	sargasse	COLLECT	EUR4SARG24
13/02/2020	09:59:12	N 10° 19'	W 57° 53'	sargasse	COLLECT	EUR4SARG25
13/02/2020	10:01:27	N 10° 19'	W 57° 53'	sargasse	COLLECT	EUR4SARG26
13/02/2020	10:03:42	N 10° 19'	W 57° 53'	sargasse	COLLECT	EUR4SARG27
13/02/2020	10:03:58	N 10° 19'	W 57° 53'	sargasse	COLLECT	EUR4SARG28

13/02/2020	10:04:28	N 10° 19'	W 57° 53'	sargasse	COLLECT	EUR4SARG29
13/02/2020	10:04:46	N 10° 19'	W 57° 53'	sargasse	COLLECT	EUR4SARG30
13/02/2020	10:04:57	N 10° 19'	W 57° 53'	sargasse	COLLECT	EUR4SARG31
13/02/2020	10:05:19	N 10° 19'	W 57° 53'	sargasse	COLLECT	EUR4SARG32
13/02/2020	10:05:22	N 10° 19'	W 57° 53'	sargasse	COLLECT	EUR4SARG33
13/02/2020	10:05:57	N 10° 19'	W 57° 53'	sargasse	COLLECT	EUR4SARG34
13/02/2020	10:06:42	N 10° 19'	W 57° 53'	sargasse	COLLECT	EUR4SARG35
13/02/2020	10:06:52	N 10° 19'	W 57° 53'	sargasse	COLLECT	EUR4SARG36
13/02/2020	10:53:04	N 10° 23'	W 57° 52'	RADIOSOUNDING	DEPLOY	EUR4RADIOSOUNDING169
13/02/2020	14:12:02	N 10° 48'	W 57° 41'	Photos Sargasses	PHOTO	EUR4PHOSAR16
13/02/2020	14:12:13	N 10° 48'	W 57° 41'	Photos Sargasses	PHOTO	EUR4PHOSAR18
13/02/2020	14:12:19	N 10° 48'	W 57° 41'	Photos Sargasses	PHOTO	EUR4PHOSAR17
13/02/2020	14:46:34	N 10° 52'	W 57° 38'	RADIOSOUNDING	DEPLOY	EUR4RADIOSOUNDING170
13/02/2020	18:50:12	N 11° 19'	W 57° 16'	RADIOSOUNDING	DEPLOY	EUR4RADIOSOUNDING171
13/02/2020	19:20:57	N 11° 23'	W 57° 13'	uCTD	LARGAGE	EUR4uCTD173
13/02/2020	19:55:01	N 11° 23'	W 57° 12'	Photos Sargasses	PHOTO	EUR4PHOSAR19
13/02/2020	20:16:18	N 11° 24'	W 57° 13'	MVP	MALO	EUR4MVP28
13/02/2020	22:43:14	N 11° 33'	W 57° 25'	RADIOSOUNDING	DEPLOY	EUR4RADIOSOUNDING172
14/02/2020	02:56:11	N 11° 48'	W 57° 47'	RADIOSOUNDING	DEPLOY	EUR4RADIOSOUNDING173
14/02/2020	06:50:56	N 12° 2'	W 58° 7'	RADIOSOUNDING	DEPLOY	EUR4RADIOSOUNDING174
14/02/2020	09:00:01	N 12° 10'	W 58° 19'	sargasse	COLLECT	EUR4SARG37
14/02/2020	09:54:30	N 12° 11'	W 58° 19'	MVP	MALO	EUR4MVP29
14/02/2020	10:16:08	N 12° 12'	W 58° 21'	Photos Sargasses	PHOTO	EUR4PHOSAR20
14/02/2020	10:20:15	N 12° 12'	W 58° 21'	Photos Sargasses	PHOTO	EUR4PHOSAR21
14/02/2020	10:20:26	N 12° 12'	W 58° 21'	Photos Sargasses	PHOTO	EUR4PHOSAR22
14/02/2020	10:26:02	N 12° 12'	W 58° 22'	Photos Sargasses	PHOTO	EUR4PHOSAR23
14/02/2020	10:27:23	N 12° 12'	W 58° 22'	Photos Sargasses	PHOTO	EUR4PHOSAR24
14/02/2020	10:27:27	N 12° 12'	W 58° 22'	Photos Sargasses	PHOTO	EUR4PHOSAR25
14/02/2020	10:27:33	N 12° 12'	W 58° 22'	Photos Sargasses	PHOTO	EUR4PHOSAR26
14/02/2020	10:27:35	N 12° 12'	W 58° 22'	Photos Sargasses	PHOTO	EUR4PHOSAR27
14/02/2020	10:29:12	N 12° 13'	W 58° 22'	Photos Sargasses	PHOTO	EUR4PHOSAR28
14/02/2020	10:29:24	N 12° 13'	W 58° 22'	Photos Sargasses	PHOTO	EUR4PHOSAR29
14/02/2020	10:29:34	N 12° 13'	W 58° 22'	Photos Sargasses	PHOTO	EUR4PHOSAR30
14/02/2020	10:29:38	N 12° 13'	W 58° 22'	Photos Sargasses	PHOTO	EUR4PHOSAR31
14/02/2020	10:29:38	N 12° 13'	W 58° 22'	Photos Sargasses	PHOTO	EUR4PHOSAR33
14/02/2020	10:29:39	N 12° 13'	W 58° 22'	Photos Sargasses	PHOTO	EUR4PHOSAR32
14/02/2020	10:29:45	N 12° 13'	W 58° 22'	Photos Sargasses	PHOTO	EUR4PHOSAR34
14/02/2020	10:30:18	N 12° 13'	W 58° 22'	Photos Sargasses	PHOTO	EUR4PHOSAR35
14/02/2020	10:30:31	N 12° 13'	W 58° 22'	Photos Sargasses	PHOTO	EUR4PHOSAR36
14/02/2020	10:30:37	N 12° 13'	W 58° 22'	Photos Sargasses	PHOTO	EUR4PHOSAR37
14/02/2020	10:31:02	N 12° 13'	W 58° 22'	Photos Sargasses	PHOTO	EUR4PHOSAR38
14/02/2020	10:31:21	N 12° 13'	W 58° 22'	Photos Sargasses	PHOTO	EUR4PHOSAR40
14/02/2020	10:31:26	N 12° 13'	W 58° 22'	Photos Sargasses	PHOTO	EUR4PHOSAR39
14/02/2020	10:31:42	N 12° 13'	W 58° 22'	Photos Sargasses	PHOTO	EUR4PHOSAR42
14/02/2020	10:35:27	N 12° 13'	W 58° 22'	sargasse	COLLECT	EUR4SARG38

14/02/2020	10:50:31	N 12° 14'	W 58° 24'	RADIOSOUNDING	DEPLOY	EUR4RADIOSOUNDING175
14/02/2020	13:17:42	N 12° 23'	W 58° 37'	MVP	MALO	EUR4MVP30
14/02/2020	14:57:13	N 12° 17'	W 58° 45'	RADIOSOUNDING	DEPLOY	EUR4RADIOSOUNDING176
14/02/2020	15:55:43	N 12° 13'	W 58° 50'	sargasse	COLLECT	EUR4SARG39
14/02/2020	15:57:35	N 12° 13'	W 58° 50'	sargasse	COLLECT	EUR4SARG41
14/02/2020	15:57:46	N 12° 13'	W 58° 50'	sargasse	COLLECT	EUR4SARG42
14/02/2020	15:57:51	N 12° 13'	W 58° 50'	sargasse	COLLECT	EUR4SARG40
14/02/2020	16:02:05	N 12° 13'	W 58° 50'	sargasse	COLLECT	EUR4SARG43
14/02/2020	16:02:20	N 12° 13'	W 58° 50'	sargasse	COLLECT	EUR4SARG44
14/02/2020	16:06:35	N 12° 13'	W 58° 51'	sargasse	COLLECT	EUR4SARG45
14/02/2020	16:06:46	N 12° 13'	W 58° 51'	sargasse	COLLECT	EUR4SARG46
14/02/2020	16:08:58	N 12° 12'	W 58° 51'	sargasse	COLLECT	EUR4SARG47
14/02/2020	16:12:20	N 12° 12'	W 58° 51'	sargasse	COLLECT	EUR4SARG50
14/02/2020	16:12:35	N 12° 12'	W 58° 51'	sargasse	COLLECT	EUR4SARG51
14/02/2020	16:12:35	N 12° 12'	W 58° 51'	sargasse	COLLECT	EUR4SARG52
14/02/2020	16:12:38	N 12° 12'	W 58° 51'	sargasse	COLLECT	EUR4SARG48
14/02/2020	16:12:52	N 12° 12'	W 58° 51'	sargasse	COLLECT	EUR4SARG49
14/02/2020	16:28:06	N 12° 11'	W 58° 53'	Photos Sargasses	PHOTO	EUR4PHOSAR43
14/02/2020	16:28:16	N 12° 11'	W 58° 53'	Photos Sargasses	PHOTO	EUR4PHOSAR44
14/02/2020	16:28:35	N 12° 11'	W 58° 53'	Photos Sargasses	PHOTO	EUR4PHOSAR45
14/02/2020	18:44:31	N 12° 3'	W 59° 4'	RADIOSOUNDING	DEPLOY	EUR4RADIOSOUNDING177
14/02/2020	21:31:30	N 12° 0'	W 59° 10'	uCTD	LARGAGE	EUR4uCTD174
14/02/2020	22:41:54	N 12° 0'	W 59° 9'	RADIOSOUNDING	DEPLOY	EUR4RADIOSOUNDING178
15/02/2020	01:40:27	N 12° 0'	W 59° 10'	sargasse	COLLECT	EUR4SARG53
15/02/2020	01:40:53	N 12° 0'	W 59° 10'	sargasse	COLLECT	EUR4SARG54
15/02/2020	01:46:59	N 12° 0'	W 59° 10'	uCTD	LARGAGE	EUR4uCTD175
15/02/2020	02:46:09	N 11° 57'	W 59° 9'	RADIOSOUNDING	DEPLOY	EUR4RADIOSOUNDING179
15/02/2020	06:44:18	N 11° 33'	W 59° 10'	RADIOSOUNDING	DEPLOY	EUR4RADIOSOUNDING180
15/02/2020	10:50:31	N 11° 11'	W 59° 10'	RADIOSOUNDING	DEPLOY	EUR4RADIOSOUNDING181
15/02/2020	11:45:55	N 11° 14'	W 59° 5'	uCTD	LARGAGE	EUR4uCTD176
15/02/2020	12:32:53	N 11° 18'	W 59° 1'	uCTD	LARGAGE	EUR4uCTD177
15/02/2020	14:30:39	N 11° 27'	W 58° 53'	uCTD	LARGAGE	EUR4uCTD178
15/02/2020	14:50:30	N 11° 28'	W 58° 51'	RADIOSOUNDING	DEPLOY	EUR4RADIOSOUNDING182
15/02/2020	15:21:41	N 11° 31'	W 58° 49'	uCTD	LARGAGE	EUR4uCTD179
15/02/2020	16:39:40	N 11° 36'	W 58° 44'	uCTD	LARGAGE	EUR4uCTD180
15/02/2020	17:41:05	N 11° 42'	W 58° 38'	uCTD	LARGAGE	EUR4uCTD181
15/02/2020	18:48:24	N 11° 49'	W 58° 42'	RADIOSOUNDING	DEPLOY	EUR4RADIOSOUNDING183
15/02/2020	22:43:58	N 12° 11'	W 58° 58'	RADIOSOUNDING	DEPLOY	EUR4RADIOSOUNDING184
16/02/2020	01:29:40	N 12° 35'	W 59° 11'	MVP	MALO	EUR4MVP31
16/02/2020	02:43:46	N 12° 35'	W 59° 4'	RADIOSOUNDING	DEPLOY	EUR4RADIOSOUNDING185
17/02/2020	21:56:15	N 13° 28'	W 60° 0'	RADIOSOUNDING	DEPLOY	EUR4RADIOSOUNDING186
17/02/2020	22:45:24	N 13° 35'	W 60° 4'	RADIOSOUNDING	DEPLOY	EUR4RADIOSOUNDING187
18/02/2020	00:30:22	N 13° 52'	W 60° 12'	RADIOSOUNDING	DEPLOY	EUR4RADIOSOUNDING188
18/02/2020	01:19:52	N 14° 0'	W 60° 16'	RADIOSOUNDING	DEPLOY	EUR4RADIOSOUNDING189
18/02/2020	10:31:36	N 15° 27'	W 61° 2'	Photos Sargasses	PHOTO	EUR4PHOSAR41

2.4. Cruise participants

The scientists came from the following laboratories:
LMD/IPSL (Paris; France), LOCEAN/IPSL (Paris; France), LOPS (Brest; France) DT-INSU (Brest, Meudon, Toulon; France), MIO (Marseille; France), OSU Phyteas (Marseille; France), IRPHE (Marseille; France), CIMA (Savona, Italy), UNIMIB (Milan, Italy), MPI (Hambourg, Germany), FSU (Tallahassee, USA).

Surname	First name	Nationality	Function	Organism	Position
Speich	Sabrina	Italian	Chief scientist	LMD-ENS Paris	Professor.
Manta	Gaston	Uruguayan	CTD watch	LMD-ENS Paris	PhD student
Chen	Yanxu	Chinese	CTD watch	LMD-ENS Paris	PhD student
Subirade	Corentin	French	Radiosounding	LMD-ENS Paris	Master student
Labaste	Matthieu	French	MVP, VMP, surdrift	LOCEAN Paris	Engineer
Demange	Jérôme	French	Radiosounding	LOCEAN Paris	Engineer
Olivier	Léa	French	pCO2	LOCEAN Paris	PhD student
Masson	Sébastien	French	Radiosounding	LOCEAN Paris	Engineer
Branellec	Pierre	French	Oxygen, CTD monitoring	LOPS Brest	Engineer
Le Bihan	Caroline	French	Salinity, CTD monitoring	LOPS Brest	Engineer
Le Bot	Philippe	French	CTD watch, µCTD	LOPS Brest	Engineer
Leizour	Stéphane	French	CTD watch, µCTD	LOPS Brest	Engineer
Carton	Xavier	French	CTD watch, µCTD	LOPS Brest	Professor
L'hégaret	Pierre	French	CTD watch	LOPS Brest	Postdoc res.
Le Gal	Alex	French	CTD watch	LOPS Brest	PhD student
Tarot	Stéphane	French	Data monitoring	Sismer Brest	Engineer
Geyskens	Nicolas	French	Atmospheric measurement	INSU Meudon	Engineer
Luneau	Christopher	French	Ocarina Piccolo	OSU Pytheas Luminy	Engineer
Branger	Hubert	French	Ocarina Piccolo	IRPHE Luminy	Researcher
Person	Renaud	French	Radiosounding	LOCEAN Paris	Engineer
Noisel	Christophe	French	CTD watch	LOCEAN Paris	Engineer
Sadoulet	Pauline	French	Meteo, Radiosounding	Météo France	Engineer
Losi	Niccolo	Italian	Atmospheric Data monitoring	Univ. Milan-Bicocca	Researcher
Meroni	Agostino	Italian	CTD watch	CIMA foundation Genoa	Postdoc res.
Napoli	Anna	Italian	CTD watch	Univ. Milan-Bicocca	PhD student
Laxenaire	Rémi	French	Data monitoring	Florida State Univ.	Postdoc res.
Wright	Ethan	American	Meteo, Radiosounding	COAPS Tallahassee	PhD student
Daubut	Thibaut	French	Meteo, Radiosounding	Max Plant Inst. Hambourg	Researcher

The researcher Dr. Isabelle Gouirand from the University of West Indies at Bridgetown (Barbados) was invited to spend a day on board.

Figure 3: Scientific team and crew members.

2.5. Technical operations

The EUREC4A 2020 program is an international program which implements various supports for the acquisition of data (ships, aircraft, drones, drifters, atmospheric ballons, …).
The picture bellows shows many supports used during the cruise.

We will describe briefly, below, only the equipments on board N/O L'Atalante.

2.5.1. CTD

Some pictures of the different parts of the CTD activity. The launching and recovering of the frame is carried out by the sailors. The downcast and upcast is carried by the CTD watch in our CTD acquisition container.
When the CTD returns to the bridge, chemists are busy collecting samples.

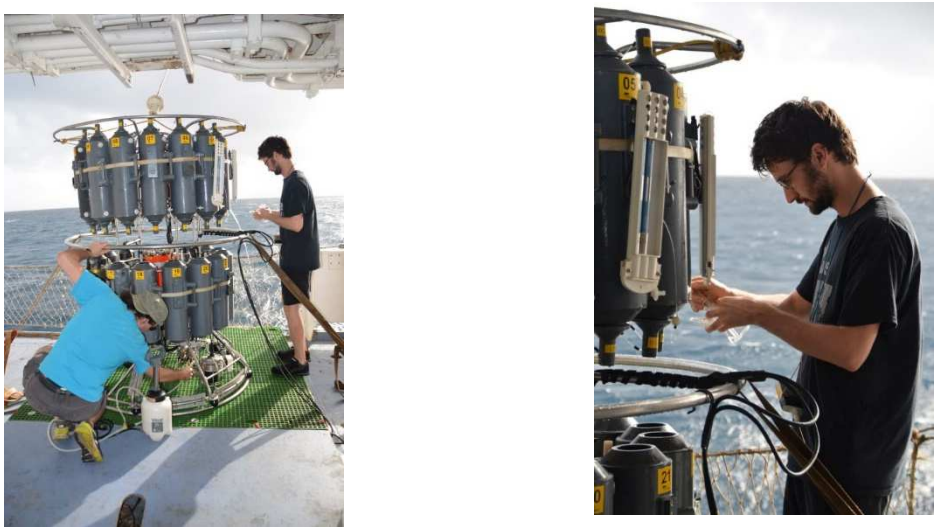


Figure 4: CTD activity.

2.5.2. LADCP

The CTD frame is equipped with two LADCP (Lowered Acoustic Doppler Current Profiler), one 300 kHz looking downward and a 300 kHz looking upward.
These equipments allow us to record a current profile from the surface to the bottom.

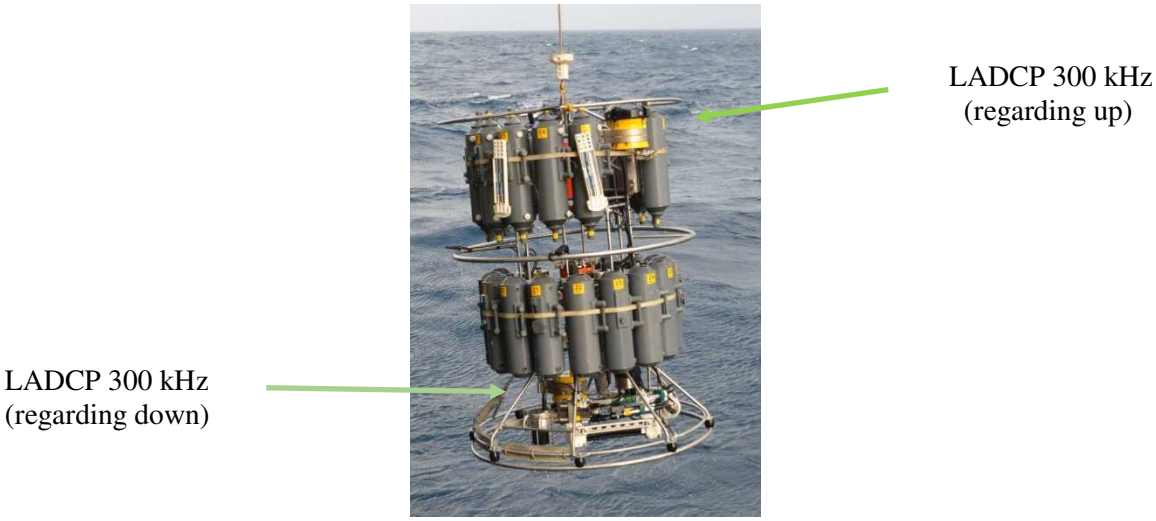


Figure 5: LADCP on CTD frame.

The monitoring of the LADCP was carried out by S. Tarot during the cruise.

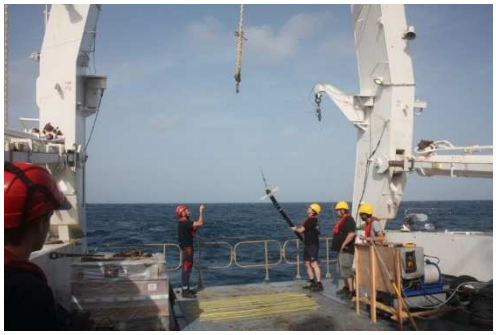
2.5.3. UCTD

The UCTD was installed at the rear (portside) of the boat. The probe samples temperature, conductivity and depth during the downcast. We made profiles from surface to 300-450 m depth depending of ship speed.



2.5.4. VMP

The VMP (Vertical Microstructure Profiler) has been deployed from the rear of the ship. The probe realize vertical microstructure turbulence profiles.

2.5.5. MVP

The MVP (Moving Vessel Profiler) was deployed from the rear of the ship. The probe realise automatically multiparameter profiles depending of sensors installed on the fish.


2.5.6. Radiosounding

The equipment for radiosounding was installed over the bridge. The ballons are realesed at regular intervals and sometimes at a sustained rate.

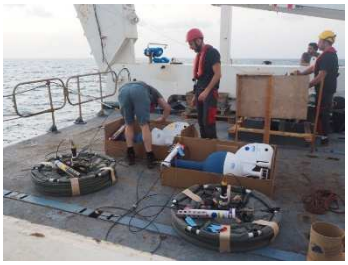


2.5.7. Glider

An underwater glider (Seaexplorer) was deployed at the beginning of the cruise and recovered at the end.

2.5.8. Meteo buoys

16 Meteo buoys were launched.



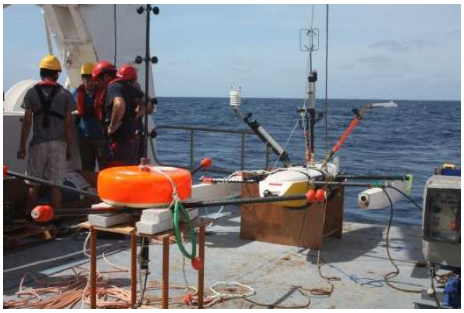
2.5.9. Argo floats

Drifting floats are dropped regularly as part of international Argo program. During the cruise, five Argo floats were launched.

PROVOR - SORTIE 15h	PROVOR - SORTIE 3h	PROVOR - SORTIE 3h	PROVOR - SORTIE 3h	PROVOR - SORTIE 15h
P32826-17FR011	P32826-19FR002	P32826-19FR003	P32826-19FR009	P32826-19FR011
6902878	6902957	6902958	6902964	6902966
300234065422790	300234067578890	300234067574890	300234067574920	300234067578990
OK	OK	OK	OK	OK
OK	OK	OK	OK	OK
EUREC4-OA	EUREC4-OA	EUREC4-OA	EUREC4-OA	EUREC4-OA
ATALANTE	ATALANTE	ATALANTE	ATALANTE	ATALANTE
sleizour	sleizour	sleizour	sleizour	sleizour
yes	*yes*	*yes*	*yes*	*yes*
28/01/2020 00:20	*02/02/2020 01:05:00*	*28/01/2020 00:20*	*05/02/2020 13:22*	*02/02/2020 01:05:00*
OK	*OK*	*OK*	*OK*	*OK*
28/01/2020 00:35	*02/02/2020 01:14:00*	*28/01/2020 00:35*	*05/02/2020 13:34*	*02/02/2020 01:14:00*
09°24,638 N	08°20,555 N	09°24,638 N	07°49,878 N	08°20,555 N
057°09,729 W	052°41,527 W	057°09,729 W	053°23,347 W	052°41,527 W
OK	*OK*	*OK*	*OK*	*OK*
MANUAL	*MANUAL*	*MANUAL*	*MANUAL*	*MANUAL*
2	2	2	2	2
2	2	2	2	2
3	5	3	3	5
slight	rough	slight	slight	rough
3198	3129	3198	1095	3129
17	31	17	UCTD 92	31

2.5.10. Ocarina & Piccolo

Ocarina & Piccolo are drifters making measurements at the ocean-atmosphere interface.



2.5.11. Sargassum algae

Several times during the cruise, Sargassum algaes were collected at the surface of the sea, located and photographed.

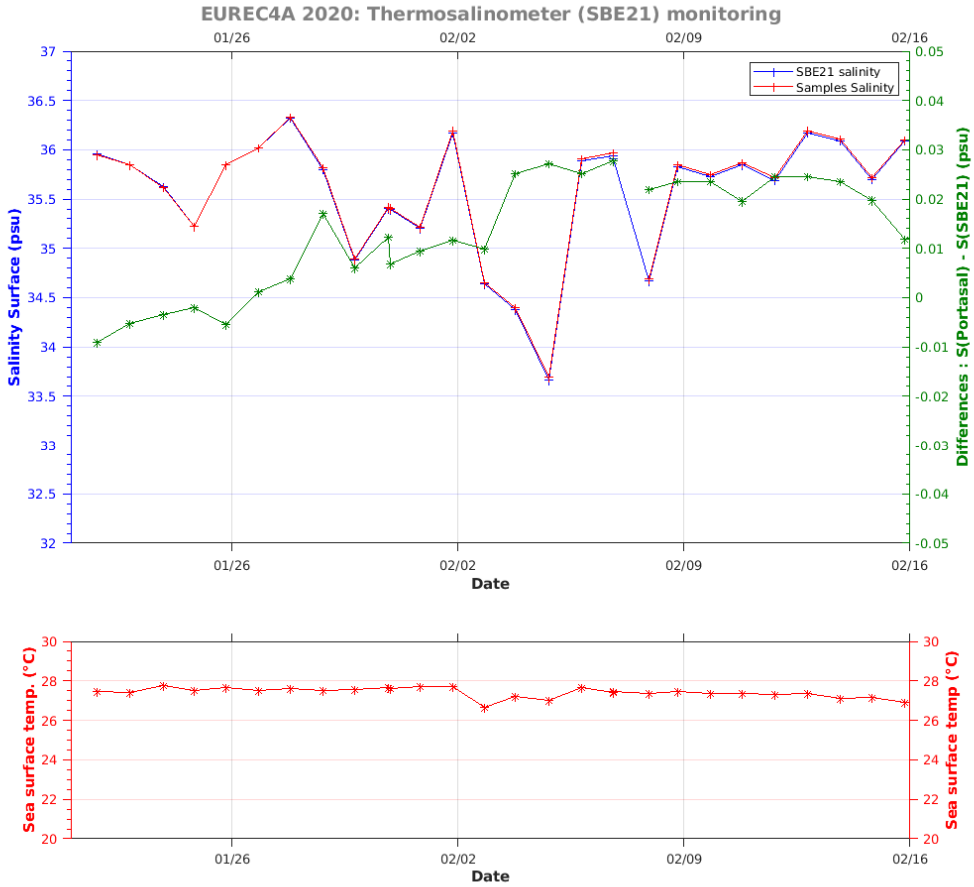
2.5.12. Underway measurements

SADCP

The vessel is equipped with two RDI SADCP (Ship Acoustic Doppler Current Profiler): an Ocean Surveyor 38 kHz and an Ocean Surveyor 150 kHz. Below, picture of the SADCP OS38 under N/O L'Atalante. During the cruise all underway profiles were recorded and validated.

Thermosalinometer

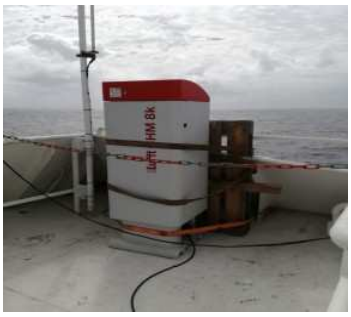
A Seabird thermosalinograph (SBE21) records sea surface temperature and conductivity from underway vessels. An equipment measuring pCO2 was added on the seawater circuit (cf. picture below).
Each day we took salinity samples in the SBE21 circuit. Samples were analysed aboard on a Portasal salinometer the next day (cf. plot below). This samples will be used to adjust the measurements of the SBE21.



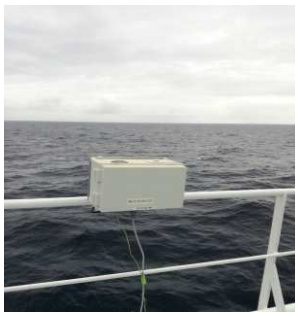
Meteo measurements

Flux mast:
Some equipments, measuring aerosol concentration and solar radiation, were installed on a mast at the front of the vessel.

Other equipments (ceilometer, cloud-camera, sunphotometer, …) on the upper deck of the vessel. These three remote sensing instruments contributed to characterise the properties of aerosol, clouds and even water vapor in the atmosphere.



Ceilometer



cloud-camera

sunphotometer

3. CTD-O_2 measurement calibration

3.1. CTD-O_2 data acquisition

For hydrology acquisition, we used our LOPS frame (28 bottles of 8 liters on two levels) with only 14 bottles on the high level, the bottles on the low level hadn't caps. The frame is also equipped with a SBE911+ CTD, 2 LADCP, electronic reversing sensors and other sensors.
The control of the CTD is carried out from our computer container.

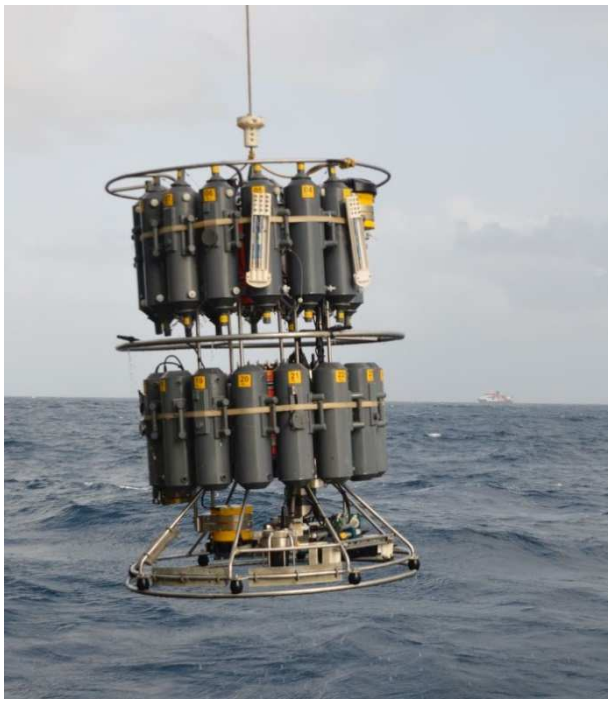


Figure 6: LOPS CTD frame.

3.1.1. Detailed map of the cruise

The map below (see fig. 7) shows the geographical position of the CTD stations, uCTD and MVP.

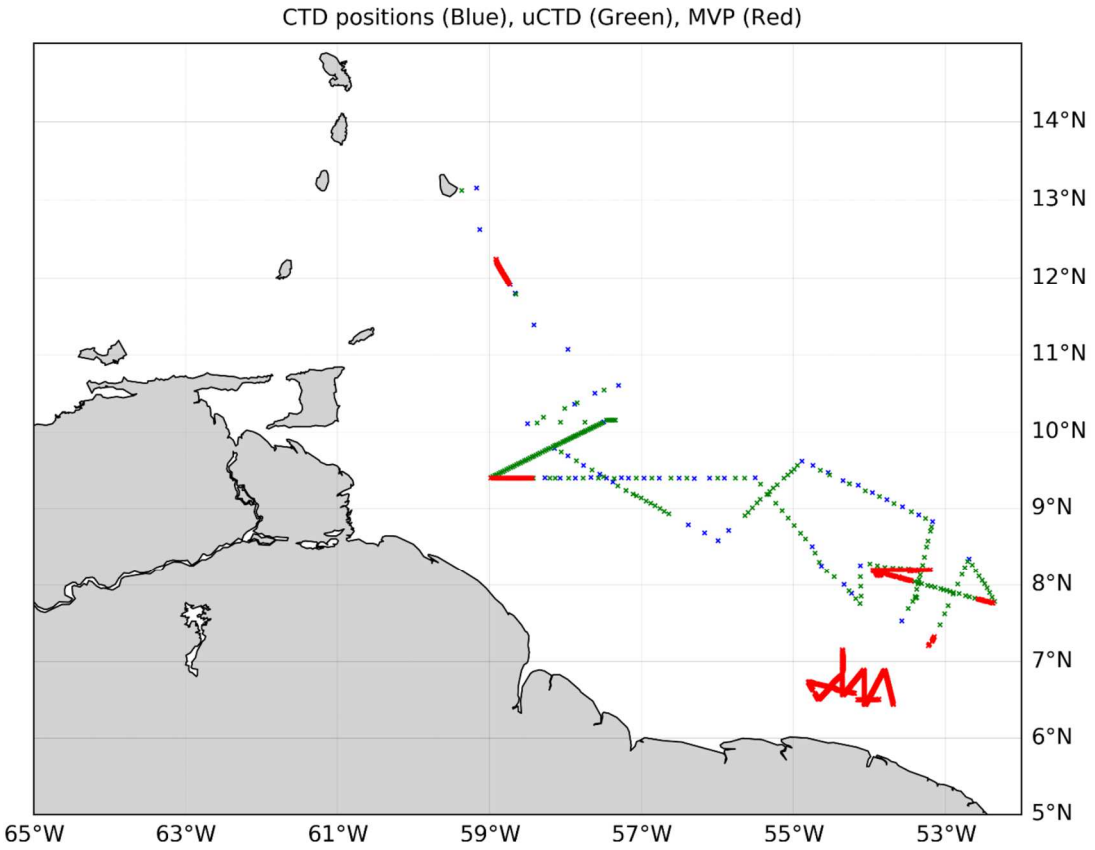


Figure 7: Detailed map of the Eurec4a cruise for CTD, uCTD and MVP

3.1.2. Technical summary

The same Seabird 911+ CTD probe (s/n. 813) was used throughout the cruise. It was equipped with two sets of T, C, and O2 sensors. We found also on the frame, 2 LADCP (RDI 300 kHz), 4 SIS reversing sensors (Pressure and Temperature), a Wet labs transmissometer, a Chelsea fluorometer, a Par & Spar and an IXSEA pinger.

The CTD sensors used are as follows:

	Primary sensors	Secondary sensors
Temperature (SBE3+)	s/n 2911	s/n 4594
Conductivity (SBE4c)	s/n 3194	s/n 3166
Oxygen (SBE43)	s/n 1402	s/n 526

Electronics mounted on the LOPS frame:

PASH 6000 Rosette, top	s/n 462	PASH 6000 Rosette, bottom	s/n 461
IXSEA Pinger	s/n 530		

Downward-looking ADCP:	s/n 2002	RDI 300 kHz WorkHorse	
Upward-looking ADCP:	s/n 12492	RDI 300 kHz WorkHorse	
SIS sensors	BT3	BT5	
reversing pressure meter	s/n 6664	s/n 6665	RPM 6000 X
reversing thermometer	s/n 1751	s/n 1752	RTM 4002 X

Fluorometer Chelsea Aqua 3: s/n 09-7117-003 Transmisso. Wet Labs C-Star s/n 372DR
Par Biospherical Licor Chelsea: s/n 70494 Spar Surface Irradiance: s/n 6301

The CTD casts start with a round trip at a depth of 30 m to remove the air bubbles in the 2 circuits of the sensors. The CTD profile then begins from the surface down to 2000 dbar depth. A few profiles went to a distance of about 15 meters above the bottom. At each cast, the electro-mechanical cable is unwound and wound at a speed of 1 meter per second (0.5 m/s for the first 100 meters).

The downcast of the probe is monitored on a screen with the Sepia software that traces the echoes of the pinger mounted on the frame, allowing a continuous positioning of the probe relative to the bottom.

During the upcast, the frame is stopped at predefined levels of closure of the 14 sampling bottles.

In addition to these instruments, two ADCP (Acoustic Doppler Current Profiler) 300 kHz WorkHorse are mounted on the frame to obtain vertical profiles of current velocity, a downward-looking (LOPS s/n 2002, master) and an upward-looking (LOPS s/n 12492, slave).

Figure 8: Upper LADCP on CTD frame.

3.1.3. Technical problems during the cruise

20/01 At the beginning of the cruise, connexion problem with the SBE9 CTD and the SBE11 deck unit through the CTD cable, repaired by the crew (winch electrical slip ring).

3.1.4. Data processing

The CTD-O_2 sensor signals are transmitted to the LOPS Hydrology acquisition system (see the picture below). This system is designed to run on a PC running Windows 7 for acquisition, visualization and preprocessing with the manufacturer's software (SBE seasave).

Figure 9: CTD data acquisition station

This system allows the real time visualization of the different parameters measured and calculated on the profiles, while controlling the quality of the signal transmitted by the probe. All of the data transmitted by the probe, at the rate of 24 cycles per second, is saved on a disk.

On board, the probe data were pre-calibrated with Seabird post-processing software and the LOPS calibration suite developed in Matlab (CADHYAC).

3.2. Sampling at the sea

The LOPS CTD frame have 28 bottles of 8 liters when the frame is equipped with two LADCP, 32 otherwise. For this cruise, we only used the up level of bottles (14 bottles of 8 liters).

The bottles are closed during the upcast of the probe after stopping at the sampling levels. We wait 30 seconds before closing the bottle and the CTD signal is recorded during 8 seconds to generate bottles files. These levels are distributed over the full height of the profile in order to sample all the water masses and the standard levels.

The following picture shows all sampling levels for the Eurec4a cruise.

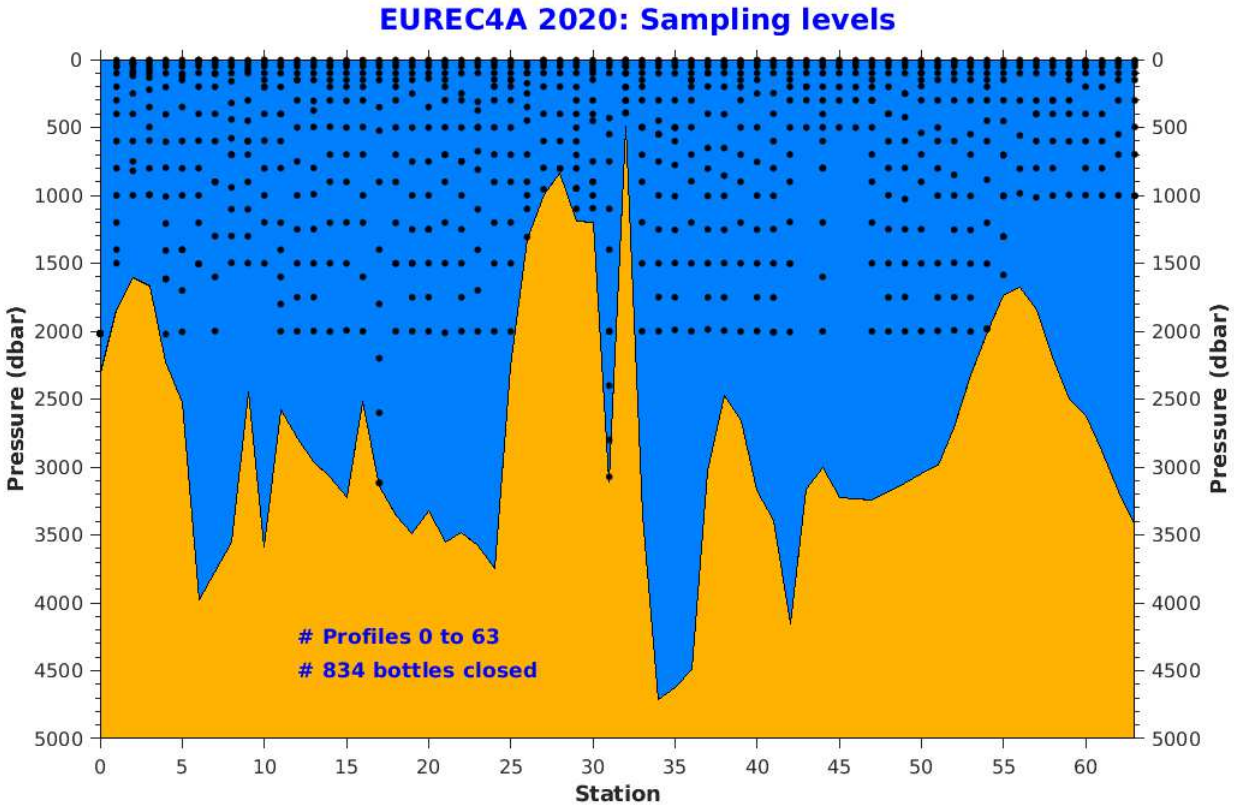


Figure 10: Synoptic chart indicating the sampling levels for CTD

As soon as they reach the surface, the samples were taken from each bottle for the numerous analyses performed on board, in the order recommended by the WOCE instructions. The bottles were sampled according to their chronology from 3 to 16, which means from the deepest to the shallowest levels.
The salinity and oxygen samples will be used to calibrate the salinity and dissolved oxygen CTD profiles.

Figure 11: Sampling after CTD profile.

During the cruise, 834 bottles were closed, 828 salinity analyses and 828 oxygen analyses were performed.

To estimate the error of the analytical methods, replicates were conducted at some casts by triggering the closure of two bottles at the same sampling level. We thus have 63 salinity and 85 oxygen validated replicates.

3.3. Analysis of salinity and dissolved oxygen samples

All the salinity and dissolved oxygen samples are analysed on board, during the cruise, in the LOPS chemical analysis container, which has Metrohm 798 titrinos and Guildline Portasal salinometers. Air conditioning allows regulation of the room temperature (22 °C ± 0.5 °C) and the temperature of the salinometer bath is set to 23 °C.
These analyses will serve to adjust CTD salinity and oxygen profiles.

The daily standardization of the measuring instruments (salinometers and tritrinos) was performed by Pierre Branellec and Caroline Le Bihan, all salinity analyses were performed by C. Le Bihan, and oxygen analyses by P. Branellec.

Figure 12: Salinity analyses in the LOPS chemistry container.

3.3.1. Standardization of salinometers

All salinity measurements taken during the OVIDE cruise were performed on the same Portasal salinometer (s/n: 72649).

This salinometer was standardized using one batch of standard seawater bottles (IAPSO Standard Seawater): batch P161 (expiration date: 03th may 2020). The standardization was verified every morning and after analysis of two casts (28 samples). The standardization results were recorded on salinity analysis sheets.
The salinometer was very stable throughout the cruise and the standardization was adjusted only rarely.

Figure 13: Standard seawater.

3.3.2. Salinity analysis

The samples are collected after three successive rinses in 125 ml bottles, which water tightness is guaranteed by a rubber seal. As soon as the collection is finished, the samples are placed in the analysis container with a controlled temperature set to 22 °C (± 0.5 °C). The samples are analysed 20 to 30 hours after collection to allow them to achieve a thermal equilibrium.

The salinity of the samples is determined according to the equation PSS 78 (UNESCO 1981). Throughout the cruise, the temperature of the thermostatic bath is fixed at 23 °C.

For each sample, three successive rinses of the cell are performed before making three readings separated each time by a rinse.

The salinometer Guildline was connected to a PC and all the analysis were saved directly on computer with a new software 'easysal' developed by us under python language.

During the cruise, we analysed 828 salinity samples.

Figure 14 shows the differences in salinity obtained on the replicates validated by the calibration. They were performed at sampling levels between the surface and the bottom and were collected from profile 0 to profile 63. The differences between two salinity measurements were studied for 63 validated replicates: figure 15 shows the histograms.

We observe that, in 42.9 % of the cases, the difference in salinity measured on the two bottles is less than 0.001 and in 82.5 % of the cases it is less than 0.003.
The standard deviation is 0.003 for all validated replicates, and considering only the replicates performed at a pressure greater than 980 dbar, the standard deviation is 0.004.

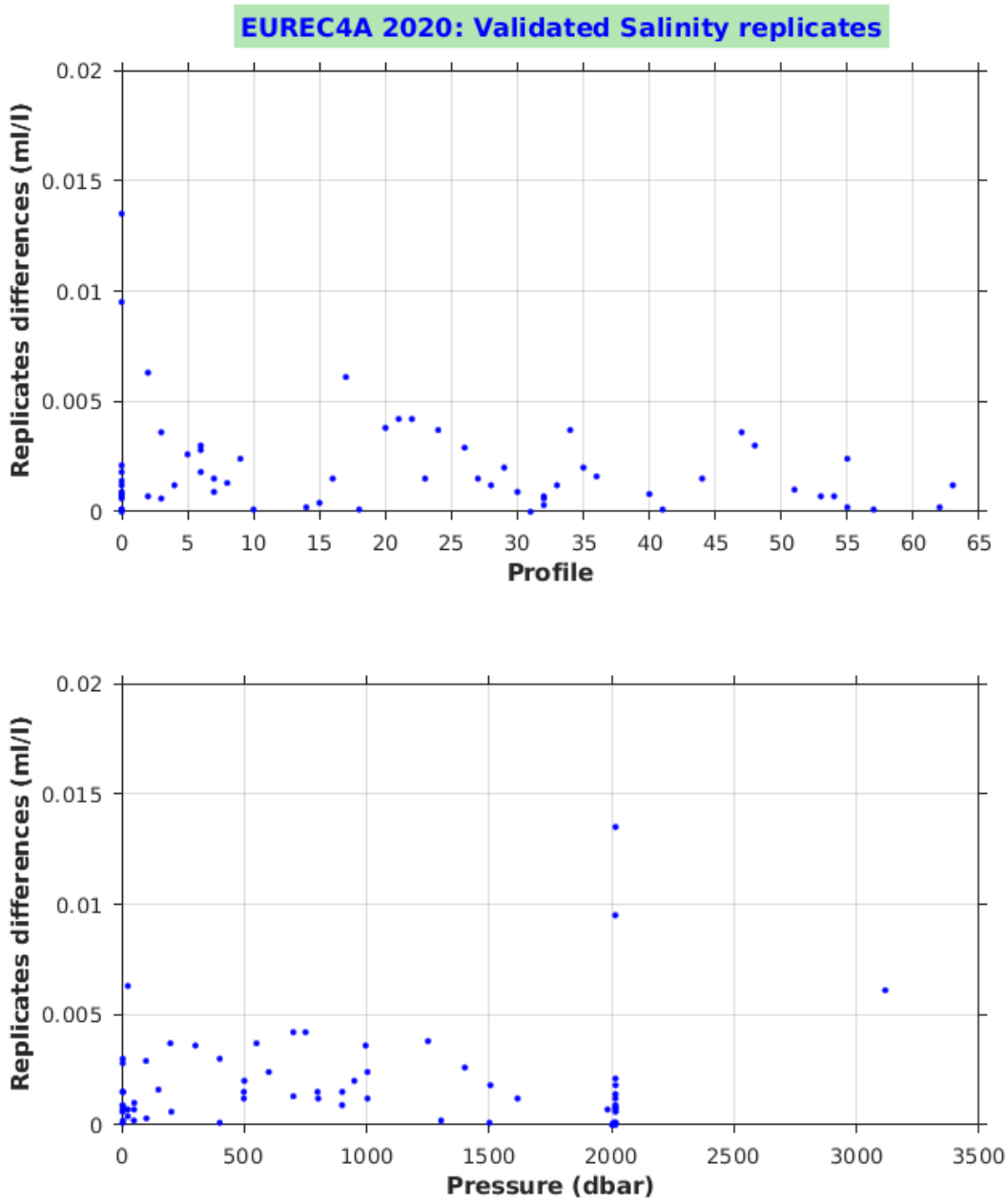


Figure 14: Differences in salinity between two bottles closed at the same level:
a) as a function of the profile number of the replicates,
b) as a function of the pressure at which the replicate was sampled.

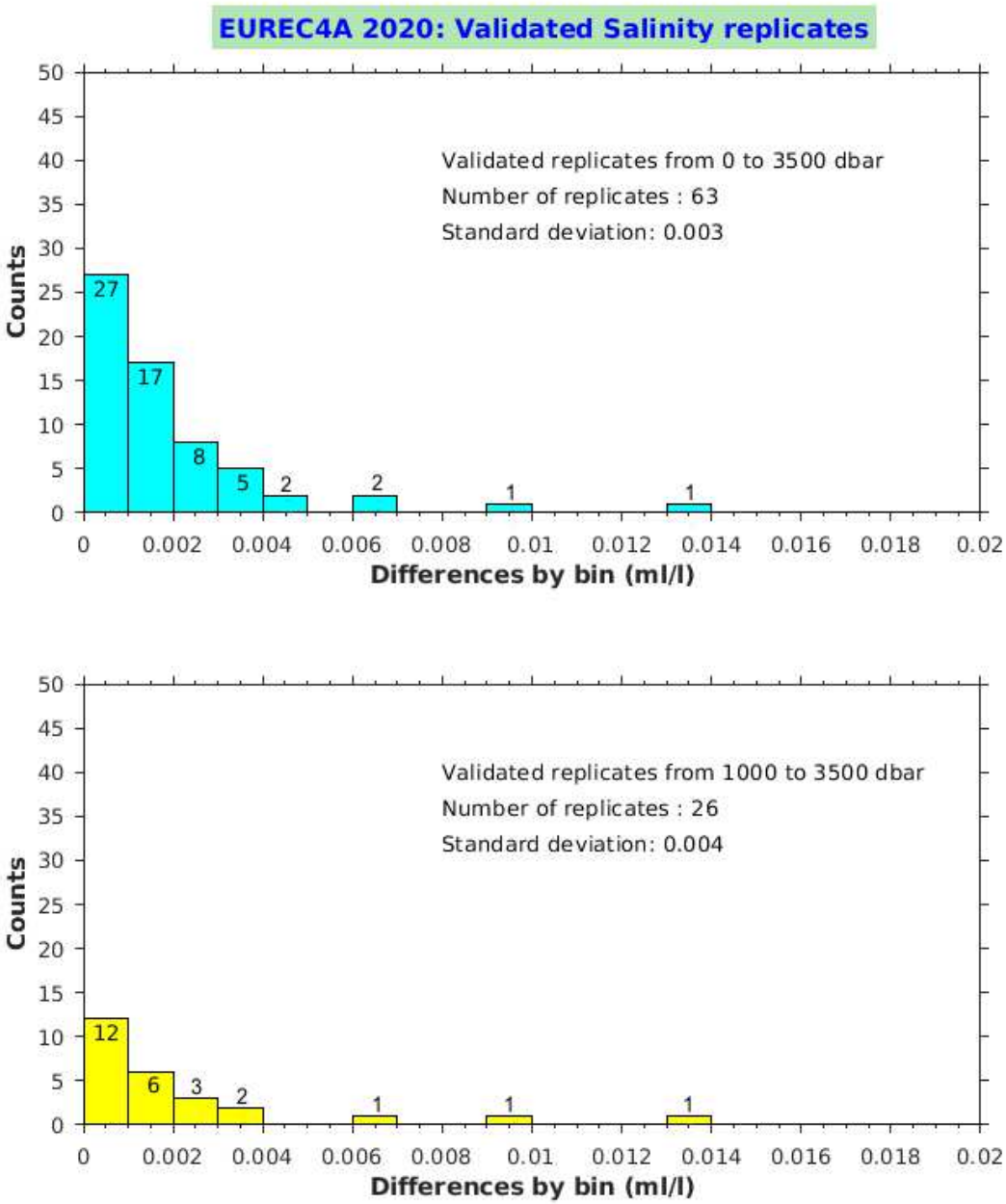


Figure 15: Histogram of the Salinity differences on the replicates:
a) for the 63 validated replicates of the cruise,
b) for the 26 validated replicates sampled at a pressure greater than 980 dbar.

3.3.3. Dissolved oxygen

To determine the dissolved oxygen concentration of seawater, water samples are collected in 120 ml bottles with a plunger cap. After filling the bottle, the temperature of the sample is recorded during overflowing a volume of water three times equivalent of the bottle.
Two reagents ($MnCl_2$ and NaOH-NaI) are then added successively and the bottle is capped. Finally, the bottle is shaken for 30 seconds to capture the oxygen seawater in the precipitate. Once all the samples are taken, the bottles are turned over one by one to suspend the precipitate another time and a little quantity of distilled water is poured in the collar of the bottle to assure the sealing until the analysis.

The samples are stored in the laboratory container at a temperature of 22 °C and analysed after a delay of 4 to 24 hours.

The operating conditions and the analysis method conform to the recommendations of WOCE (WOCE Operations Manual, 1991). After acidification in the sampling bottle, the liberated iodine is dosed with a solution of sodium thiosulfate which normality is of the order of 0.02 N. Its normality is determined daily, before the start of the analysis series, by comparison to a potassium iodate solution, which normality, obtained by weighing, is 0.019998.

The dosage is controlled by a 798 Metrohm titrino, a platinum titrode measures the reaction potential and a 20 ml burette delivers the sodium thiosulfate. The volume of thiosulfate necessary for the reduction of the iodine is subtracted from the automatic determination of the inflection point on the potential curve at equivalence.

The titrino was connected to a PC and all the analysis were saved directly on computer with a new software ‘easytitrino’ developed by ourselves under python language.

During the cruise, we analysed 828 oxygen samples.

Figure 16 shows the differences obtained between the measurements performed on the 83 validated replicates and figures 17 and 18 show the histograms (ml/l and µmol/kg).
For all the replicates collected between the bottom and the surface and collected from profile 0 to profile 63, 60.2.% of the differences are less than 0.01 ml/l and 80.7 % are less than 0.02 ml/l for a standard deviation of 0.023 ml/l (1.02 µmol/kg). By eliminating the levels between the surface and 980 dbar, the standard deviation is 0.017 ml/l (0.73 µmol/kg).

Note:
To be sure of the quality of our oxygen measurements, the laboratory participates annually in regional or national intercomparison oxygen exercises between different laboratories and obtains very good results (cf Winklex report 2018, LEFE-GMMC).

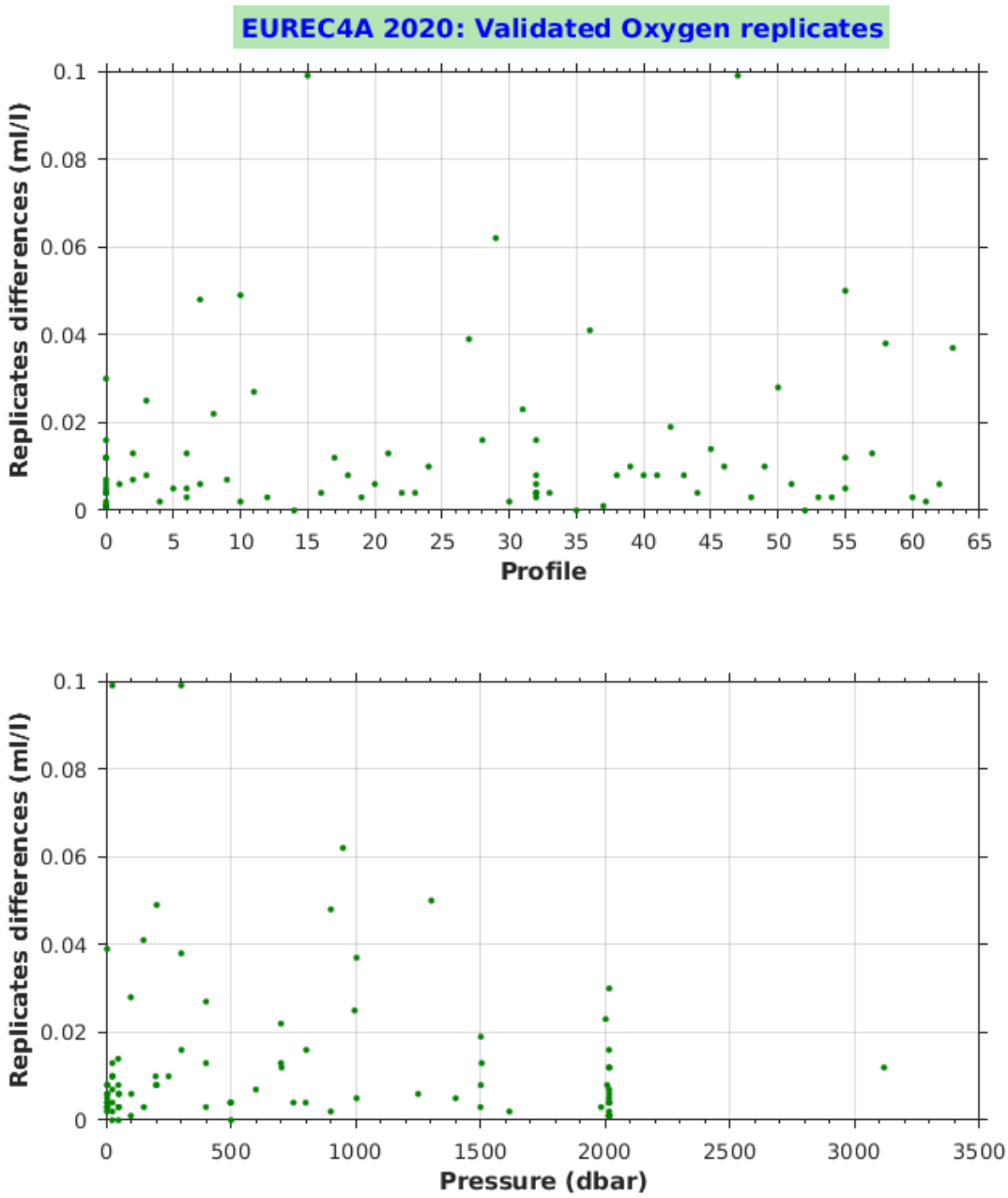


Figure 16: Differences in oxygen between two bottles closed at the same level:
a) as a function of the profile number of the replicate,
b) as a function of the pressure at which the replicate was sampled.

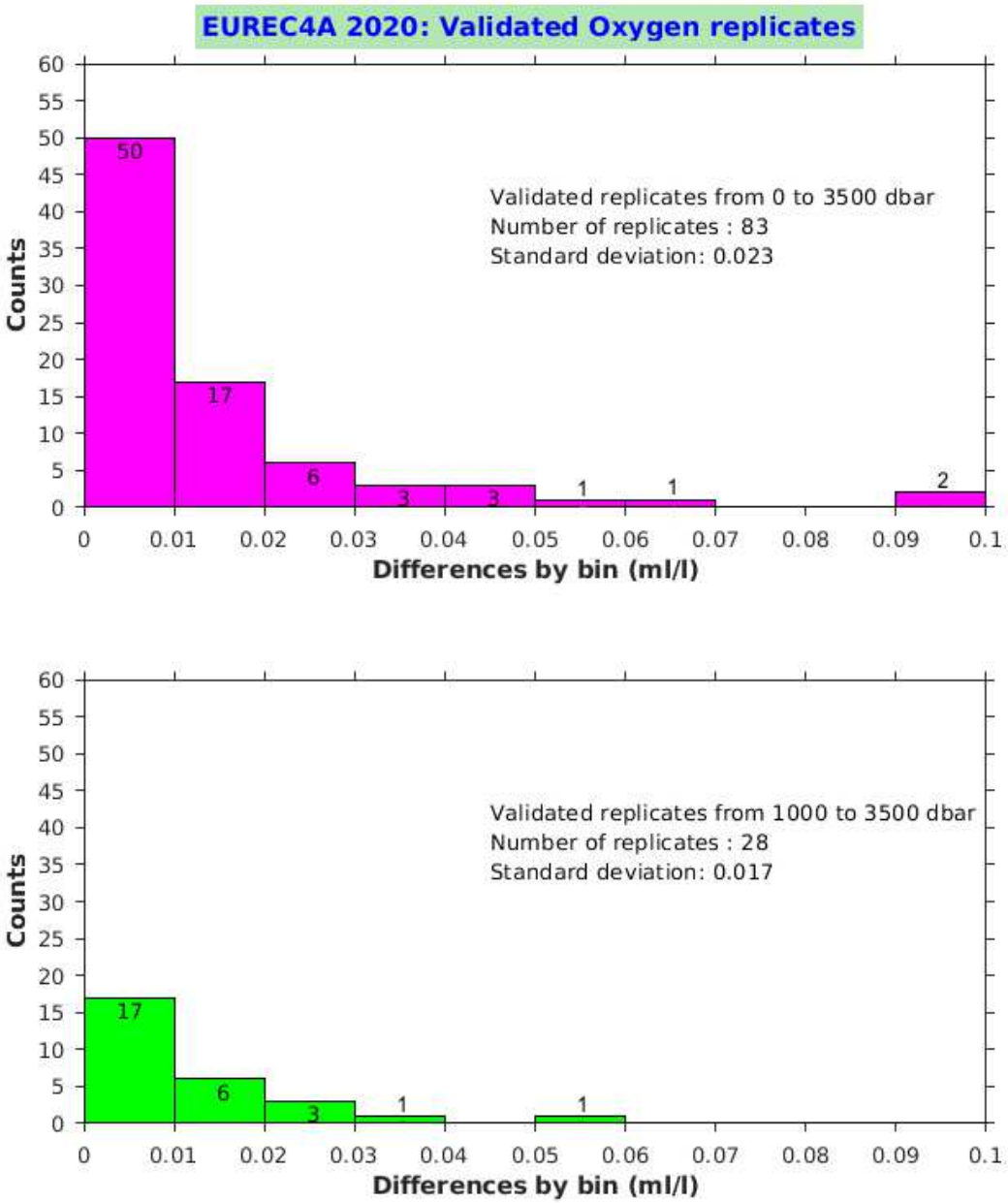


Figure 17: Histogram of the Oxygen differences (ml/l) of the replicates:
a) for the 83 validated replicates of the cruise,
b) for the 28 validated replicates sampled at a pressure greater than 980 dbar.

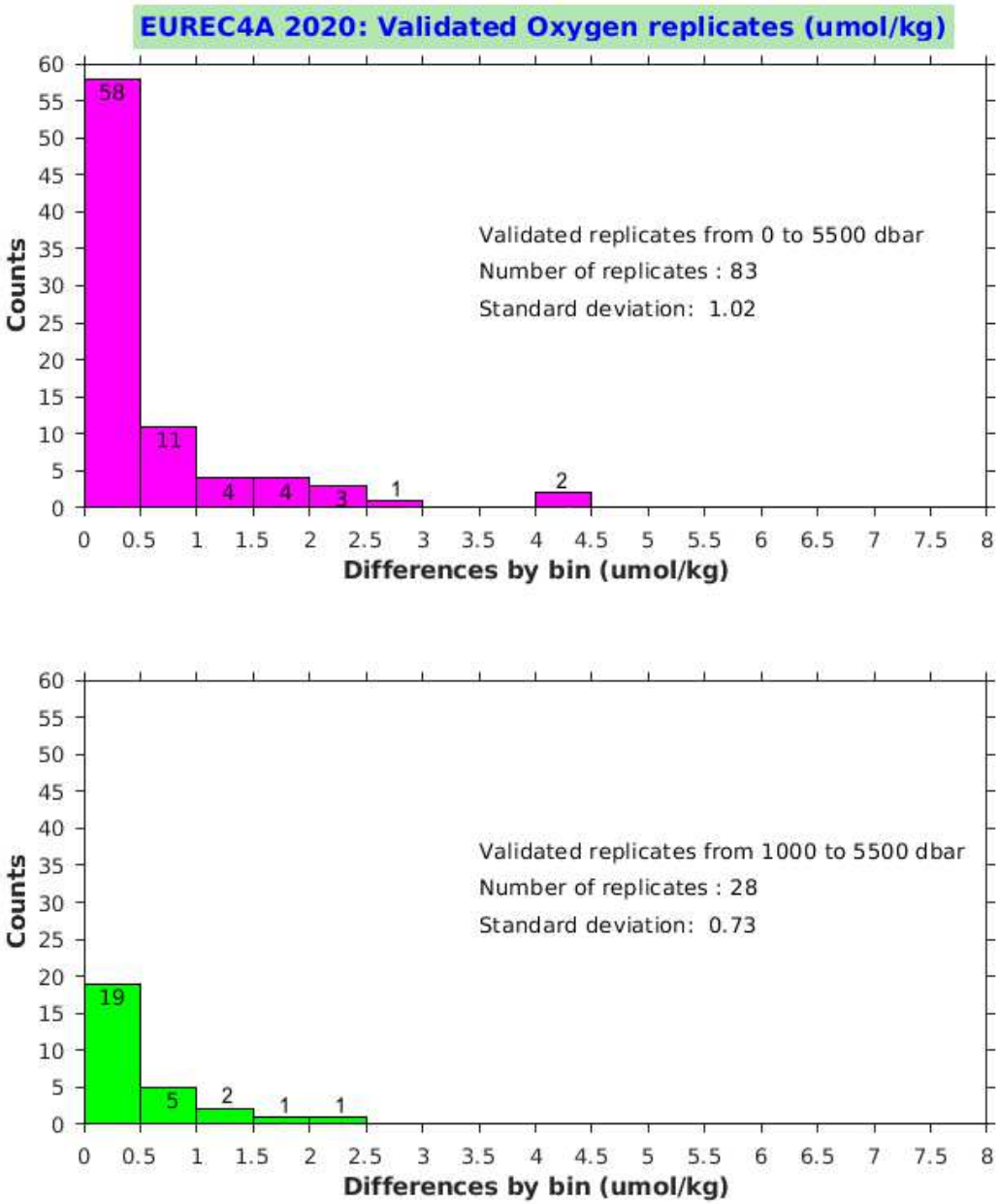


Figure 18: Histogram of the oxygen differences (µmol/kg) of the replicates:
a) for the 83 validated replicates of the cruise,
b) for the 28 validated replicates sampled at a pressure greater than 980 dbar.

3.4. Data preparation before calibration

3.4.1. Data cleaning with Hydro_nett

The Hydro_nett software is first used to correct aberrant pressure measurements in the .cnv files. Then, all measurements are cleaned in using to thresholds and median deviation tests.
The values chosen for EUREC4A are shown in the following figure. Hydro_nett is applied to the probe measurements after decoding by datcnv to create eu20st*T1.cnv files.

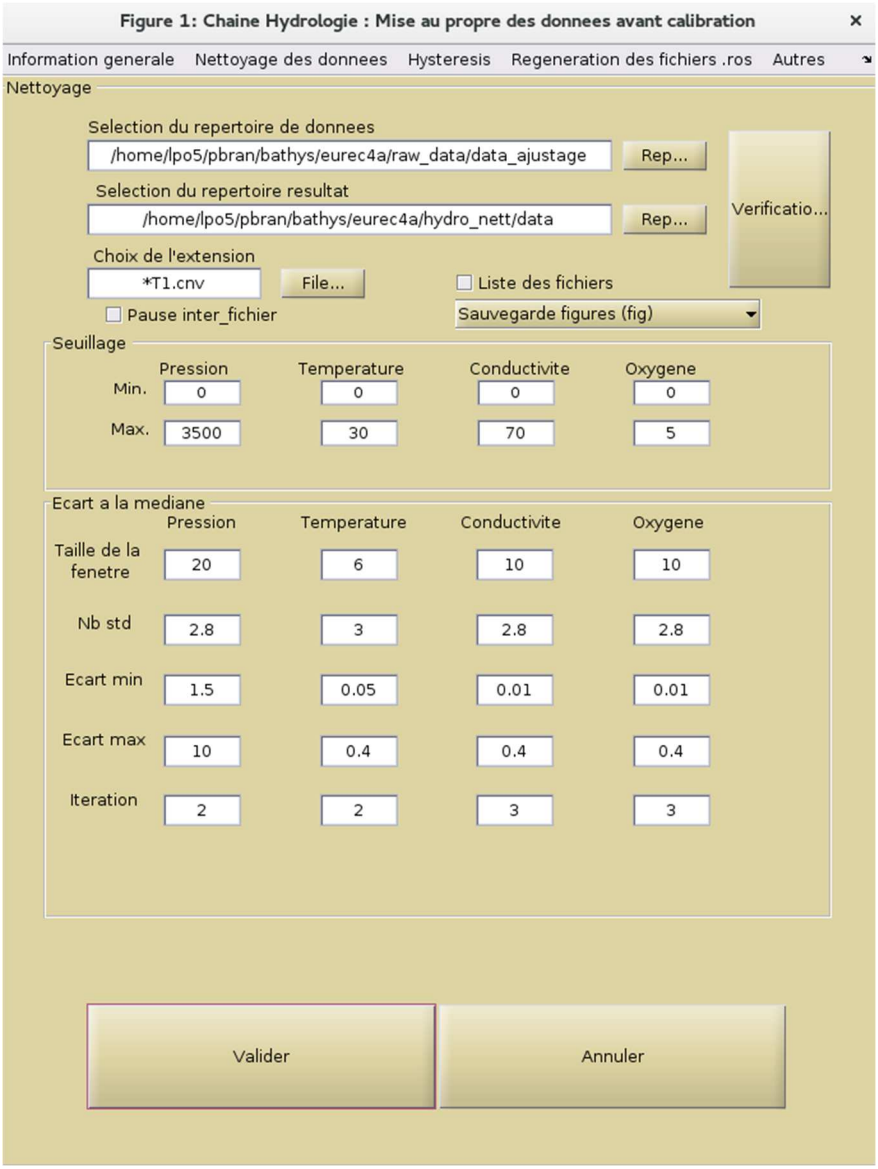


Figure 19: Hydro_nett options used for EUREC4A.

3.4.2. Correction for hysteresis

The principle of hysteresis correction on the SBE 43 sensor from Seabird is described in the application note SBE 64-3 and was coded in Matlab.
The hysteresis correction depends on three coefficients: H_1, H_2 and H_3. The default values of these coefficients are provided by Seabird. However, the coefficients H_1 and H_3 can be adjusted by minimizing the difference between the downcast and upcast profiles (see Bradley et al., 2010).

Using Hydro_nett, after a few tests, new coefficients were estimated for EUREC4A:

For stations 0 to 63:

	Primary sensor	Secondary sensor
H1	-0.0410	-0.0350
H2	5000	5000
H3	1450	1450

The resulting files are called eu20st*T1_trait_hyst.cnv.

3.4.3. Bottle file

After cleaning and correcting the pressure, temperature, conductivity and dissolved oxygen profiles from the probe (referred to as $CTDO_2$ profiles in the following), we create a new bottle file with $CTDO_2$ values corrected. The chemical values do not change.

3.4.4. Processing with Seabird routines

Seabird developed a bunch of routines in its Seasoft V2 (SBEDataPostprocessing) software suite in order to improve the recorded probe measurements. The sequence of programs chosen by the LOPS is the result of a study performed on the 2008 CTD cruises (see C. Kermabon, M. Arhan, "*Validation et Réduction des données de la sonde 9+*", June 2008). The Seabird programs are applied on the measurements output from Hydro_nett. The input files in hydro_nett are the previously created files: eu20st*.T1_trait_hyst.cnv.

Seabird processing:

Filter: filters the pressure measurements.
Low pass filter B, time constant (s) = 0.15

Alignctd: applies a delay of 2 seconds on the primary and secondary oxygen measurements.

Celltm: takes into account the effect of the thermal mass of the conductivity cell using a recursive filter.

Thermal anomaly amplitude (alpha) =	0.03
Thermal anomaly time constant (1/beta) =	7

Loopedit: flags the cycles compared to the speed of the probe.

Minimum velocity type =	fixed minimum velocity
Minimum CTD velocity (m/s) =	0
Remove surface soak	not selected
Exclude scans marked bad	selected

Derive: new calculation of O2 ml/l and salinity.

At the end, the corrected files are named eu20st*_T5_final.cnv.

3.5. Calibration of Pressure measurement

The SBE9+ probe is equipped with a Paroscientific digiquartz pressure sensor, which accuracy is claimed by the manufacturer to be 0.015 % of the full scale (10000 psi), or in our case ± 1.5 psi or ± 1.0 dbar, the claimed resolution being 0.001 %, i.e. 0.1 psi or 0.07 dbar.

Due to lack of time, we could not have our probes (pressure and temperature sensors) adjusted by Seabird before the cruise, only oxygen sensors (SBE43) have been adjusted.

The pressure sensor was calibrated before and after the cruise at the IFREMER Laboratory of Metrology, accredited by the French Committee of Accreditation (COFRAC) which assure the traceability of the measurements to the SI units. The sensor is connected to a Desgranges and Huot bench-top balance, which delivers a reference pressure with a maximum error of 0.93 dbar at the 6000 dbar level.

3.5.1. Calibration of the sensor under laboratory conditions at 20 °C

Three cycles of increasing and decreasing pressure, by successive increments of 600 dbar, from 0 to 6000 dbar, are performed at laboratory temperature, i.e. 20 °C (± 2 °C). The results obtained are shown in figure 20, in the form of mean differences between the reference pressure delivered by the bench-top balance and the equivalent pressure indicated by the sensor in the increasing pressure cycles (downcast profile of the probe) and decreasing pressure (upcast profile).

The distribution of points resulting from the pre- and post-cruise calibrations can be corrected by a polynomial of degree 4. These results highlight a good stability of the sensor: compared to the polynomial correction, the maximum difference observed (pre-and post-cruise; downcast and upcast) is ± 0.12 dbar at 20 °C.

3.5.2. Influence of the the static temperature

Due to a lack of time and because previous calibrations suggested that the temperature does not influence the pressure sensor, we decided to not realize this test.

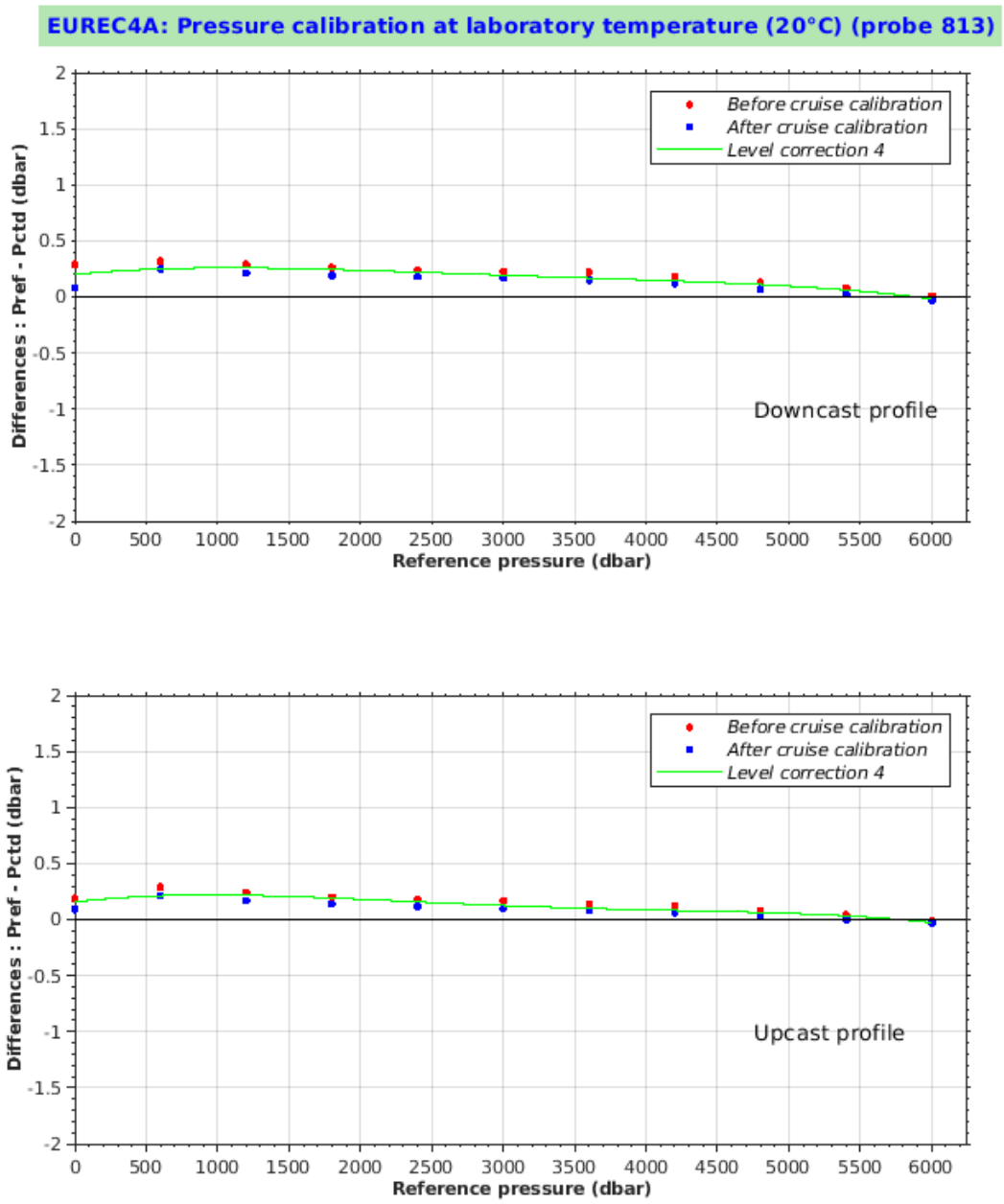


Figure 20: Pressure calibration at 20 °C

Distribution of the mean differences, every 600 dbar, between the reference pressure and the pressure indicated by the Seabird sensor during pre and post-cruise calibrations at laboratory temperature (20 °C):

a) increasing pressure cycles (downcast profile),

b) decreasing pressure cycles (upcast profile).

The curve of degree 4 that reduces the differences is represented.

3.5.3. Influence of the dynamic temperature effect

The crossing of the thermocline, during the downcast and the upcast, causes an abrupt variation in temperature. This thermal shock, called the dynamic temperature effect, is simulated in the laboratory in order to study the behavior of the pressure sensor, which depends mainly on the quality of its insulation.

The sensor was submitted to a series of thermal shocks by suddenly immersing the probe, after a certain period at a given temperature, in a hotter or colder bath as appropriate. The parameters transmitted by the sensor (pressure, in situ temperature and internal temperature of the pressure sensor) were recorded during a time period sufficiently long to study the behavior of the sensor after this phenomenon (see Technical Note LPO-GT09-01, P. Branellec, M. Hamon).

These experiments allow us to conclude that the response of the Paroscientific pressure sensor is not influenced by this thermal shock. Consequently, no dynamic correction is made.

3.5.4. Correction of the pressure measurement on the CTD profiles

Taking into account the results of the laboratory calibrations, the pressure sensor of LOPS probe (s/n 813) is corrected by a pressure polynomial of degree 4 (fig. 20).

Finally, we can consider that the uncertainty in the pressure measurement is of the order of the sensor accuracy: 1 dbar.

3.5.5. Validation of the CTD pressure measurement

Monitoring of the pressure sensor during the cruise

On the CTD, we had only one pressure sensor, so we followed the response of the CTD pressure sensor, during the cruise, by different ways.

First, we noted the value of the sensor in the air (Hz) before each station (see fig. 21), the value of the sensor (dbar) at the beginning of the downcast and at the end of the upcast.

Secondly, the frame is equipped with reversing pressure meter sensor (SIS RPM 6000X) on bottle 3 (P_{6664}) and bottle 5 (P_{6665}) and we compared the values of the CTD sensor and SIS sensors at the bottom (see fig. 22) to detect any drift.
The SIS pressiometers have not been calibrated since we bought them, so we followed relative relation.

All this indications show that the pressure sensor didn't drift during the cruise.

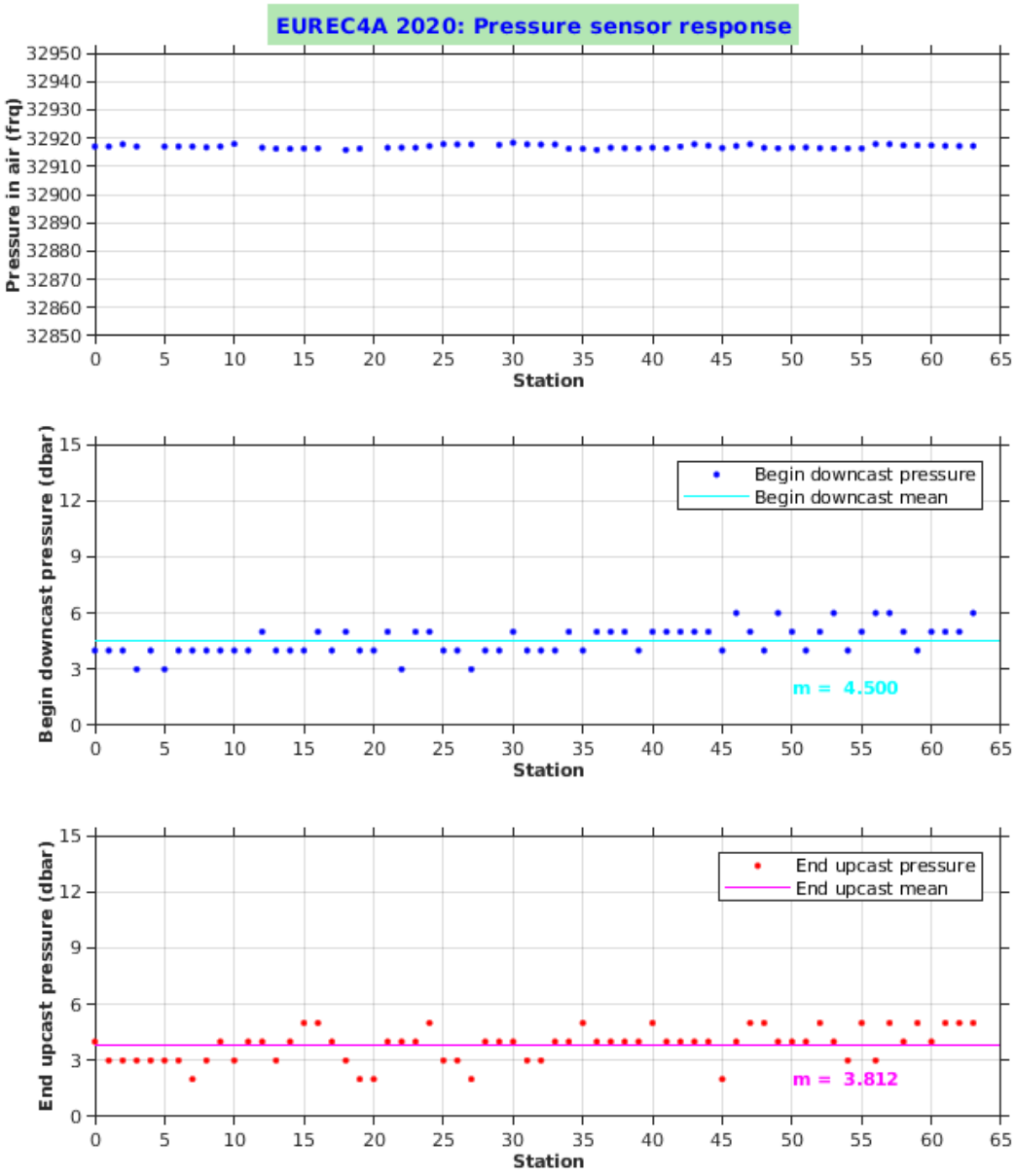


Figure 21: Monitoring of the pressure sensor:
a) in air, at the start of the cast (value in Hertz),
b) at the start of the donwcast,
c) at the end of the downcast.
Means values are shown as solid lines.

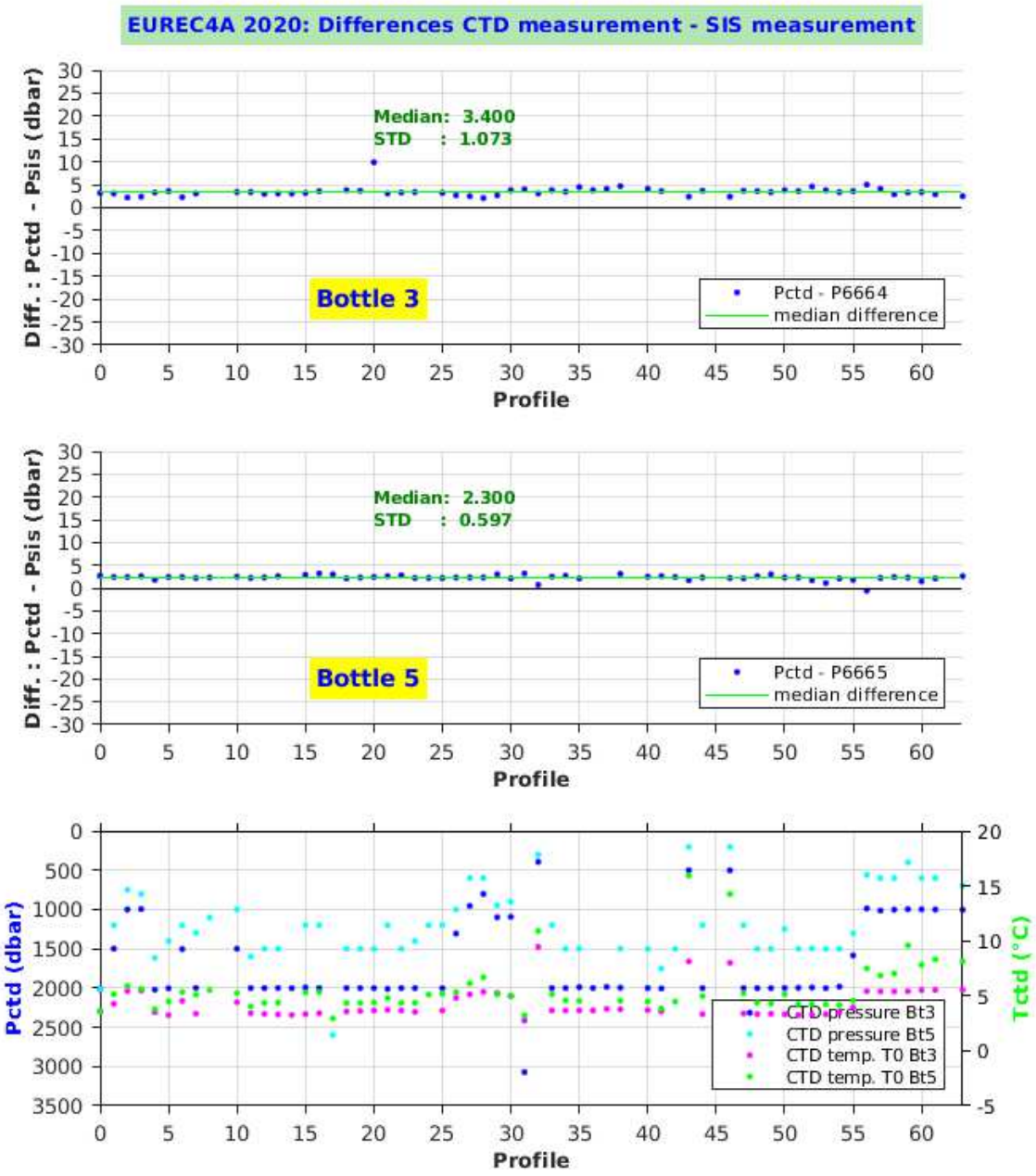


Figure 22: Comparison CTD pressure and SIS pressure.

3.6. Calibration of the Temperature measurement

Our SBE9+ probes are equipped with two sets of temperature (T_0, T_1) and conductivity (C_0, C_1) sensors. The temperature sensors are SBE3+ sensors from Seabird, the measurement resolution is 0.0003 °C and the accuracy claimed by the manufacturer is 0.001 °C.

Due to lack of time we could not have our probes (pressure and temperature sensors) adjusted by Seabird before the cruise, only oxygen sensors (SBE43) have been adjusted.

We verified the temperature sensors at Ifremer laboratory of metrology before and after the cruise.

3.6.1. Calibration of the sensors at Ifremer laboratory

The LOPS's probes are regularly calibrated in the IFREMER laboratory of metrology, before and after each cruise. The probe is fully immersed in a thermostat seawater bath which temperature stability is strictly controlled. The reference temperature of the bath is provided by a Rosemount-type platinum resistance, placed in close proximity to the CTD sensor. This thermometer is periodically checked and certified by the "*Laboratoire National de Métrologie et d'Essais*" (LNE). The measured temperature is expressed on the EIT 90 scale. Several measurement points are thus tested by recording the temperature indicated by the CTD and comparing it to the reference temperature of the bath at several points between 0 and 30 °C.

The figure 23 shows the calibration before and after cruise. The temperature measurements obtained on the cruise profiles are corrected by applying a polynomial of degree 3. This curve minimizes the differences (reference temperature - probe temperature) obtained during the calibration performed before and after the cruise. The maximum error on the primary sensor is ± 0.0004 °C and the standard deviation is 0.0003 °C.

Finally, we consider that the uncertainty in the temperature measurement is of the order of the sensor accuracy: 0.0010 °C.

3.6.2. Calibration of the CTD measurement

The reduced files only conserve a single dataset by sensor (T, C, O_2). The choice between the primary and secondary dataset is made by visualizing histogram of all raw measurements of the probe at 24 Hz. In the case of the EUREC4A cruise, the choice is made to use the primary temperature (T_0) for the complete calibration phase.

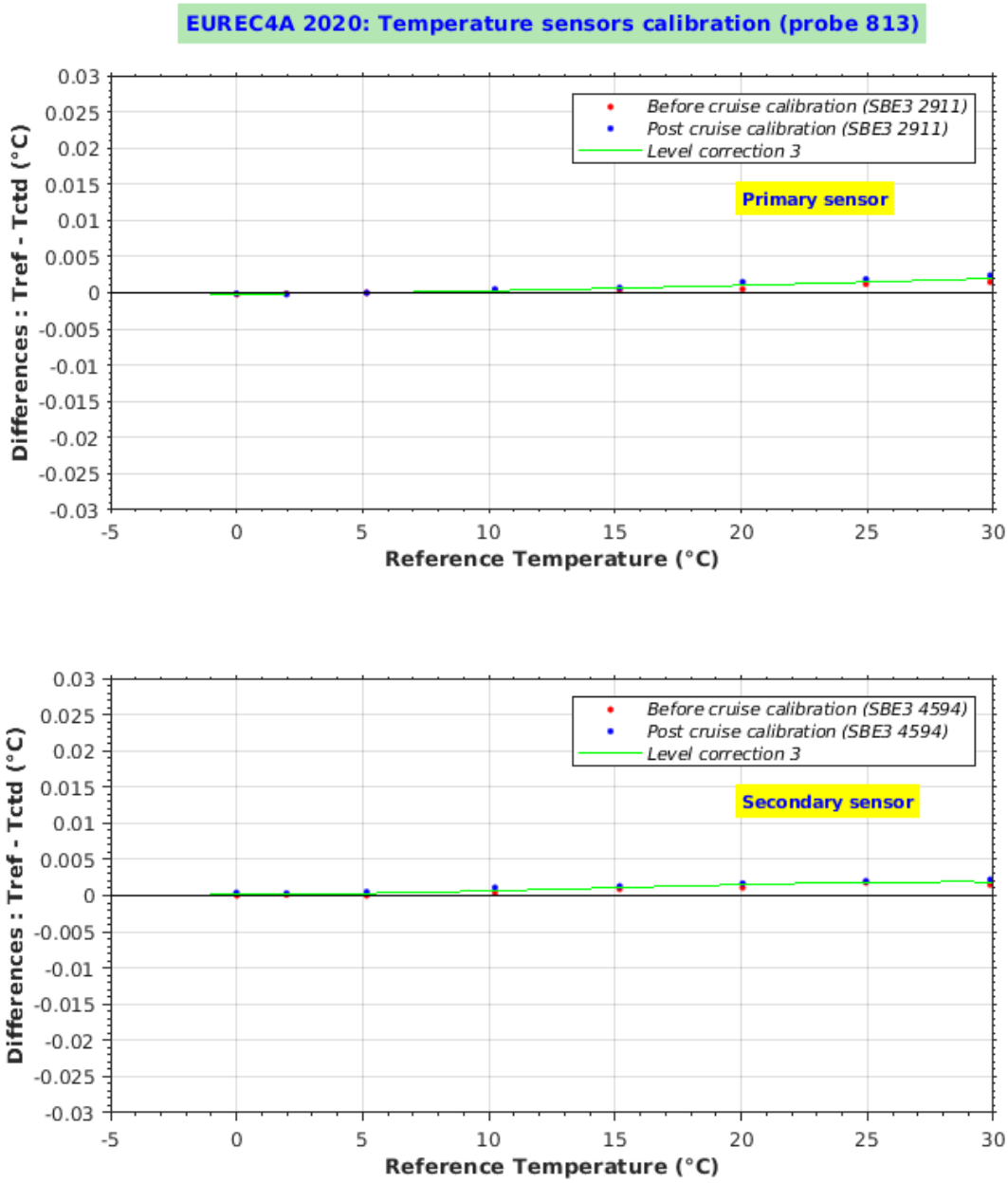


Figure 23: Final Temperature calibration

3.6.3. Monitoring of the Temperature measurement

The LOPS CTD frame is equipped with two reversing thermometers (SIS RTM 4002X) on bottle 3 (T_{1751}) and bottle 5 (T_{1752}). The bottle 3 is always closed at the deepest depth. The SIS thermometers have not been calibrated since we bought them, so we followed relative relation.
During the cruise we compared the indications of the SIS thermometers with the SBE9 temperature. The figure 24 shows this comparison.

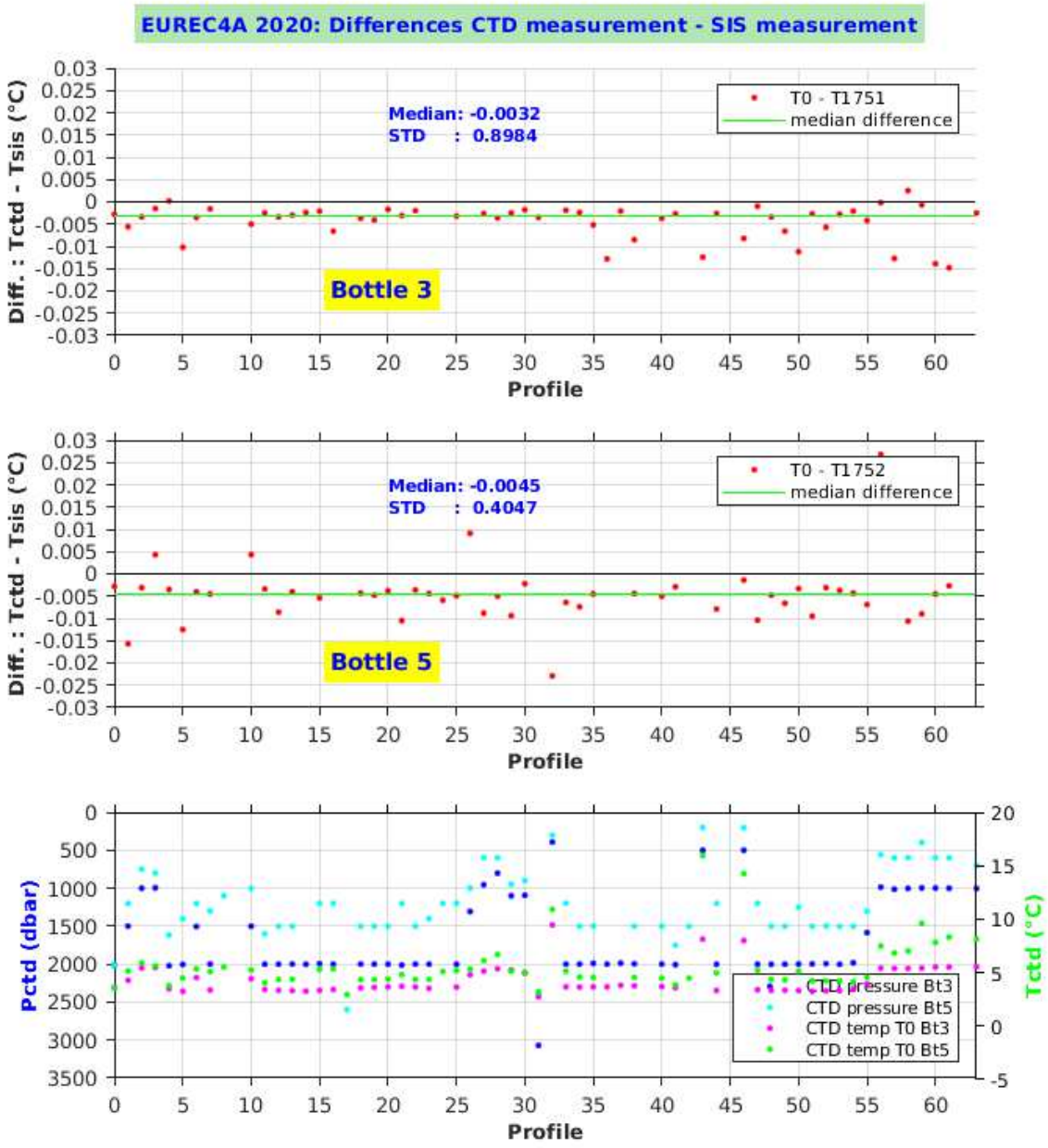


Figure 24: Temperature comparison

3.7. Calibration of the Conductivity

The SBE9+ probe is equipped with two SBE4 conductivity sensors (C_0, C_1), with a range of measurements from 0 to 70 mS/cm. The accuracy claimed by the manufacturer is 0.003 mS/cm and the resolution 0.0004 mS/cm. The serial number of the sensors, used during the cruise, are given in section 3.1.1 Technical summary.

The reduced files only conserve a single conductivity. The choice between the primary (C_0) and secondary (C_1) conductivity is made before, by visualizing histogram of the raw measurements of the probe at 24 Hz. In the case of the EUREC4A 2020 cruise, the choice is made to use the primary conductivity (C_0).

3.7.1. Operating mode

The new calibration procedure for the conductivity measurements (COs), written according to the recommendations of the GO-SHIP group, first involves the conversion of the chemical salinity to chemical conductivity (CO_H) using the corrected values of the pressure and temperature sensors, at the sampling level.
Then, the different corrections to be applied are calculated to minimize the differences:

$$\Delta C = CO_H - CO_S$$

- Correction as a function of time to take into account a potential slow drift of the conductivity sensor.

- Correction as a function of the conductivity. The selected coefficients result from successive iterations on the considered group of samples. The process is stopped when no additional sample is removed at the end of the current iteration. It follows that, at the end of the last iteration, all the differences ΔC are lower than the value:
  $$\Delta C_{max} = 2.8 * \text{standard-deviation}$$
  for the samples used in the calculation process.

- Correction as a function of the pressure on the conductivity or the salinity.

3.7.2. Analysis of the initial results and strategy adopted

The figure 25 shows the conductivity differences between conductivity bottle and raw conductivity sensor without any correction or offset.
The figure 26 shows the results of the adjustment of the conductivity sensor for all the casts together. All the dots are plotted (blue dots kept, red dots rejected).

Because of the distribution of the samples according to the depth (0-1000 dbar: ~650 samples; 1000-max depth: ~180 samples), we decided to apply a weight 3 on samples greather than 1000 dbar.

The correction by group of stations (0-3; 4; 5; 6-10; 11-31; 32-63) gave better results when considering the statistics and the visual control of the comparison between the corrected profiles and the salinity samples.

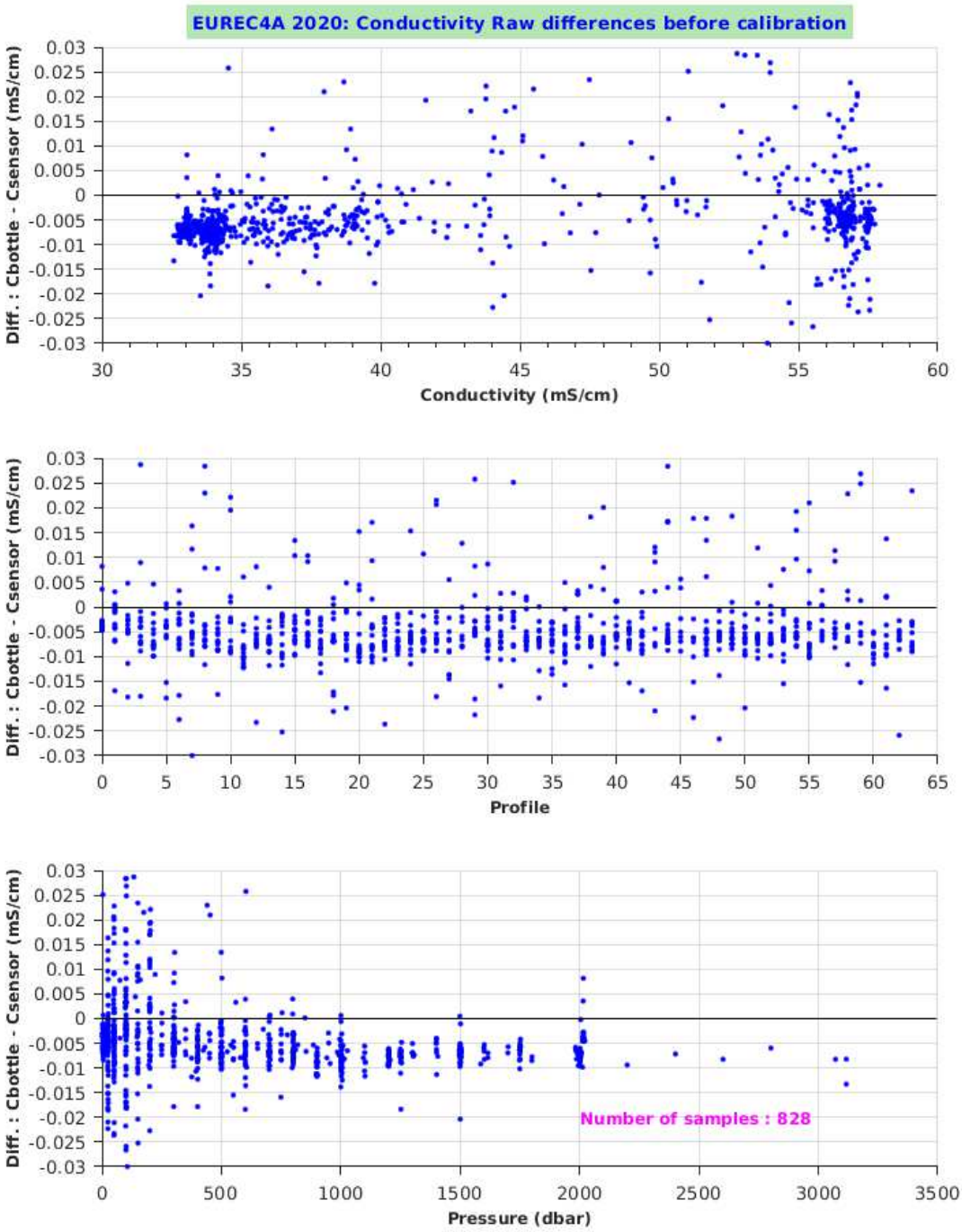


Figure 25: Conductivity raw differences.

Bottle salinity is converted to bottle conductivity. The differences are the result of raw bottle conductivity minus raw sensor conductivity.

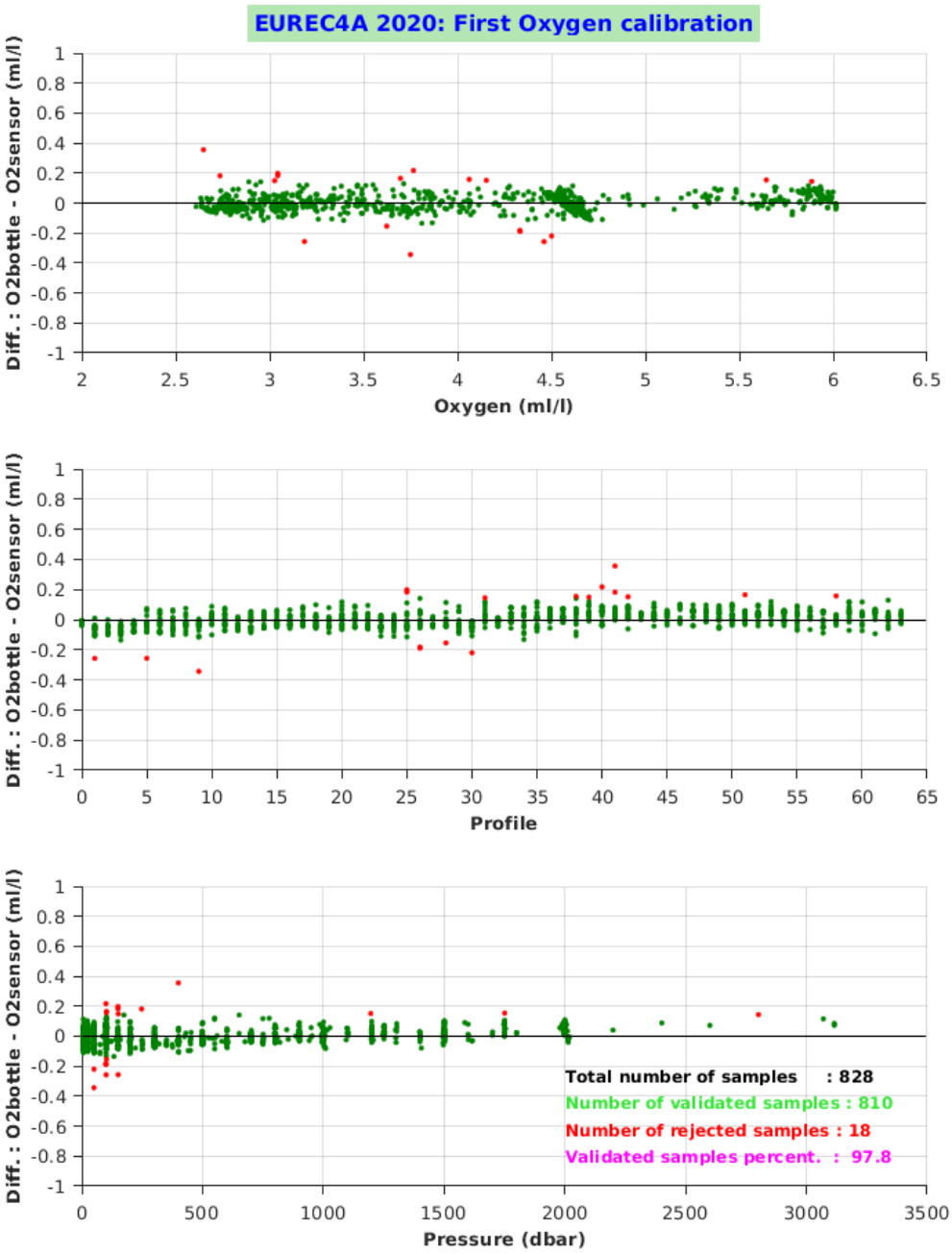


Figure 26: First Conductivity calibration.

Differences between the conductivity of the samples and the corrected probe conductivity at each sampling level:

a) as a function of the conductivity,
b) as a function of the profile number,
c) as a function of the pressure of the sampling level.

These differences are the result of a conductivity calibration on all the cruise samples, without temporal correction, with grouping casts and without pressure correction.
The blue dots are kept by the calculation, the red dots are rejected.

3.7.3. Assessment of the calibration of the conductivity profiles

The table below shows the results of the calibration of the conductivity measurements for the EUREC4A 2020 cruise:

Profile or group of profiles	Number of samples considered without weight	Number of samples considered with weight	Number of samples conserved in the calculation	Standard deviation (0-3500 dbar)
0 -3	55	93	86 (92.5 %)	0.00417
4	14	26	24 (92.3 %)	0.00229
5	14	24	22 (91.7 %)	0.00621
6 - 10	70	100	81 (81.0 %)	0.00185
11 - 31	281	431	365 (84.7 %)	0.00191
32 - 63	394	576	466 (80.9 %)	0.00176
0 - 63	828	1250	1044 (83.5 %)	0.00229

The table shows, for all the cast, the number of samples used for the calculation, the number of samples conserved by the process, as well as the resulting standard deviation for the group considered.

During the cruise, 828 salinity samples were measured, with the weights we obtained 1250 samples. The calculation process validated 1044 of them, i.e. 83.5 %.

A pressure effect correction (degree 1) were applied.

Figure 27 shows the remaining differences in conductivity after final conductivity calibration of all casts.

The histograms in figure 28 confirm that the distribution of the differences is satisfactory. In 45.4 % of cases, the differences in conductivity are lower than ± 0.0010 mS/cm, while in 85.7 %, they are less than ± 0.0030 mS/cm, the standard deviation in conductivity is 0.0023 mS/cm.

The overall assessment can be established as follows: the conductivity values of 1044 validated samples indicate a standard deviation between the sensor data and the chemistry data, for the whole cruise, of 0.0023 mS/cm.

The histograms of differences in salinity after optimization are shown in figure 29: the standard deviation in salinity is 0.0023.

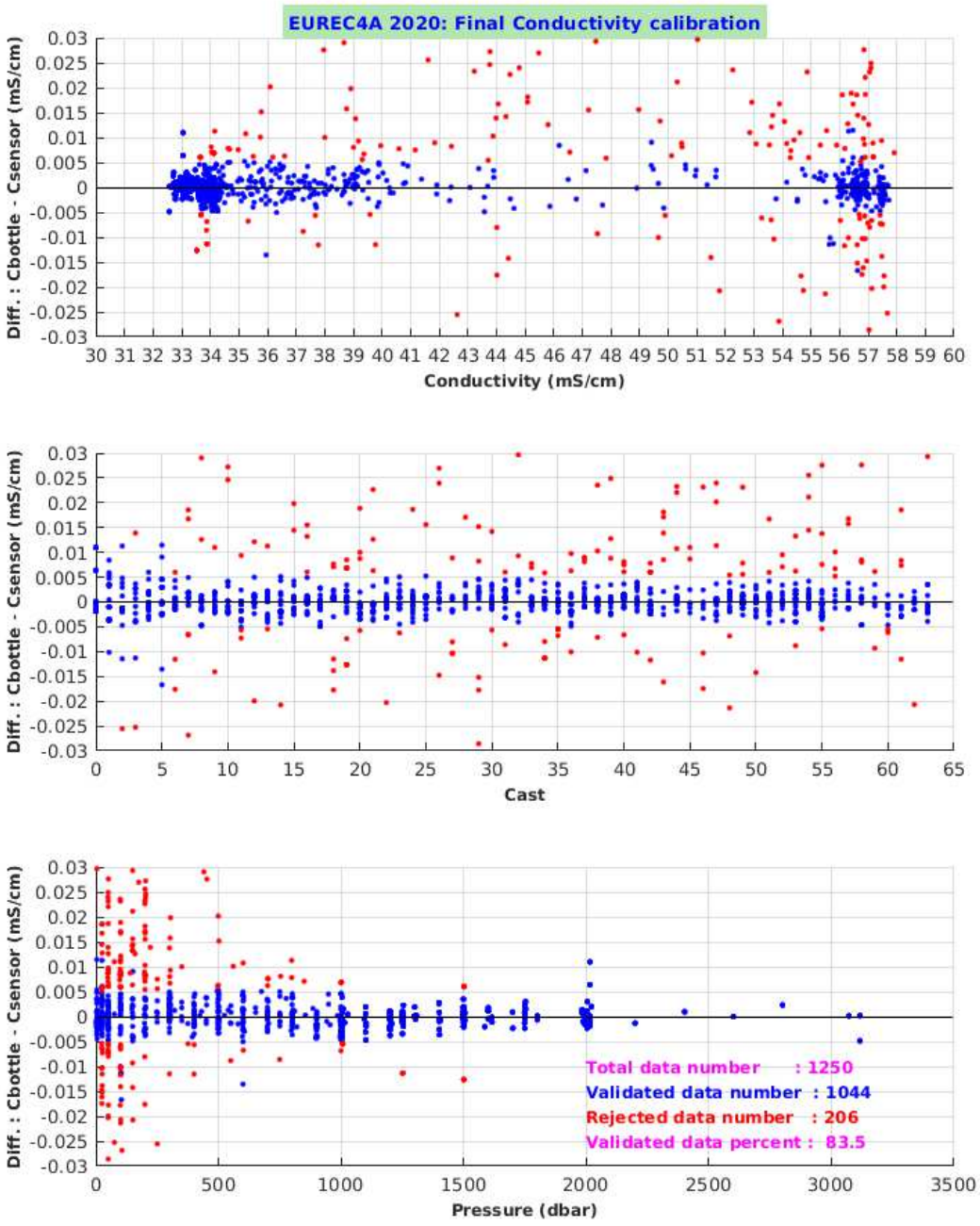


Figure 27: Final Conductivity calibration for EUREC4A 2020.

Differences between the conductivity of 1044 validated samples and the probe conductivity corrected at each sampling level:

a) as a function of the conductivity,

b) as a function of the profile number,

c) as a function of the pressure at the sampling level.

These differences are the result of a conductivity calibration on all the cruise samples, without temporal correction, with grouping casts and with pressure effect correction.

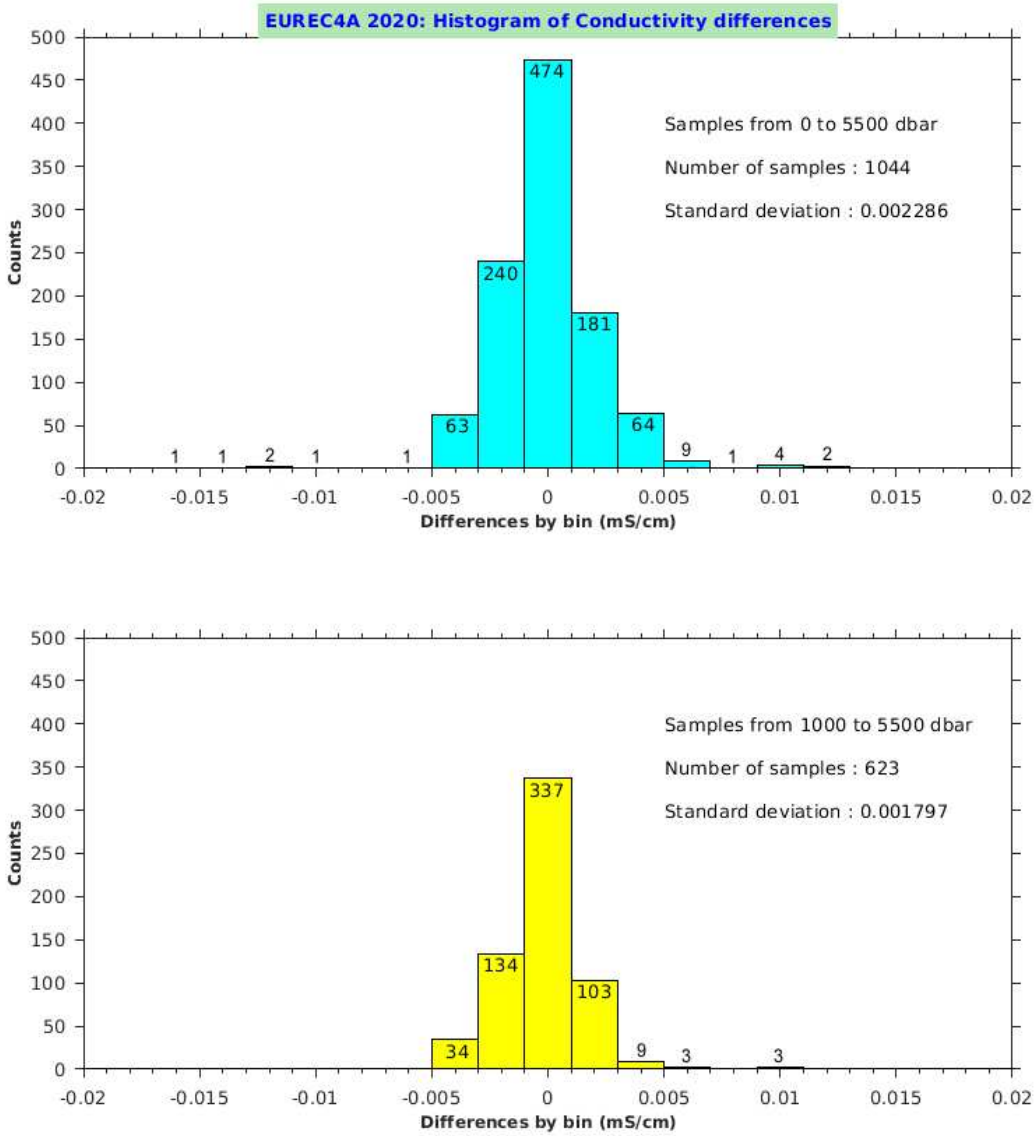


Figure 28: Histograms of final conductivity calibration.

Histograms of the differences between the conductivity of the validated samples and the CTD conductivity at the sampling level:

a) for all the 1044 validated cruise samples,

b) for the 623 validated samples collected at a pressure greater than 980 dbar.

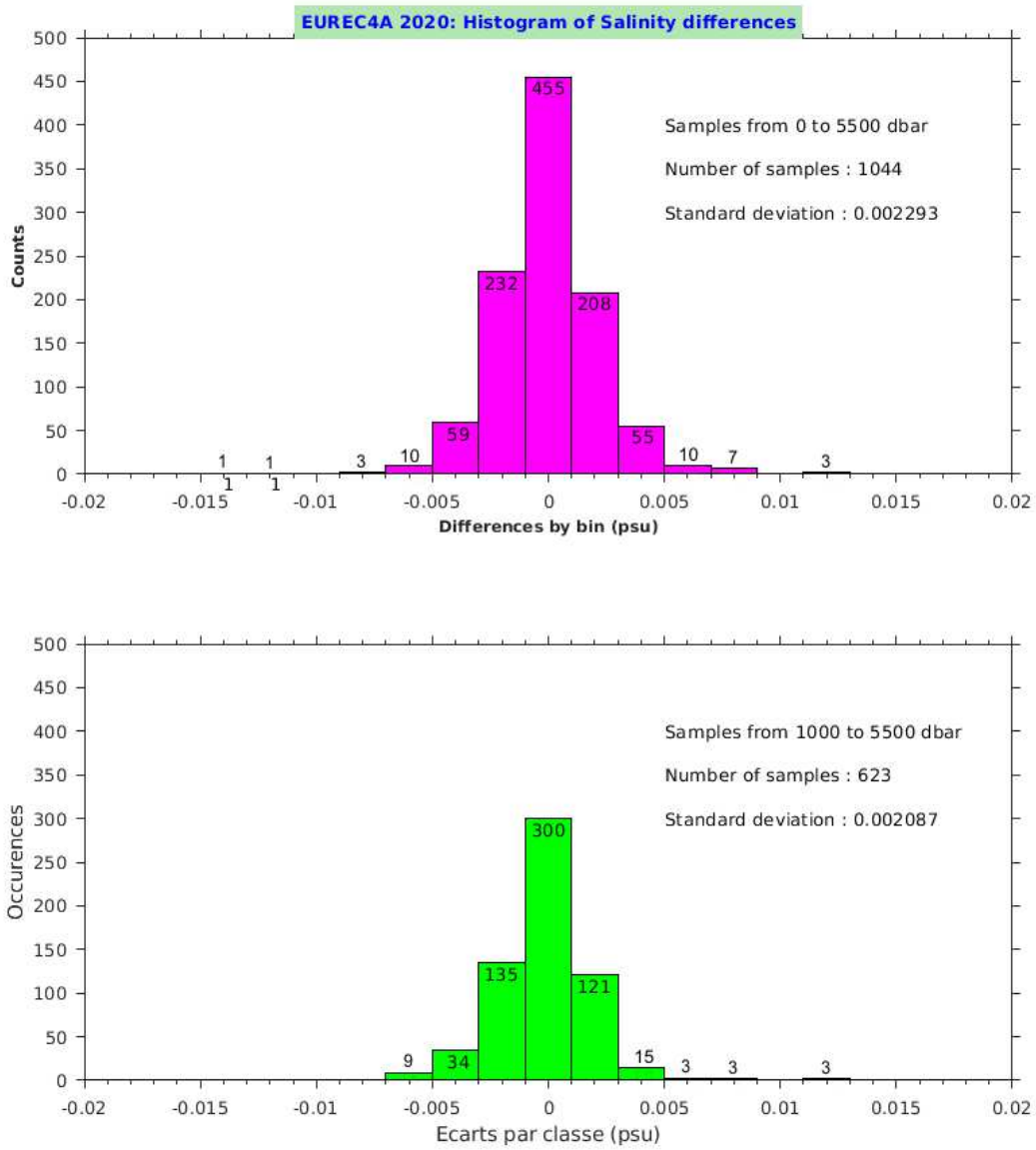


Figure 29: Histograms of final Salinity calibration.

Figure 30 shows all the Theta-S of the EUREC4A 2020 cruise.

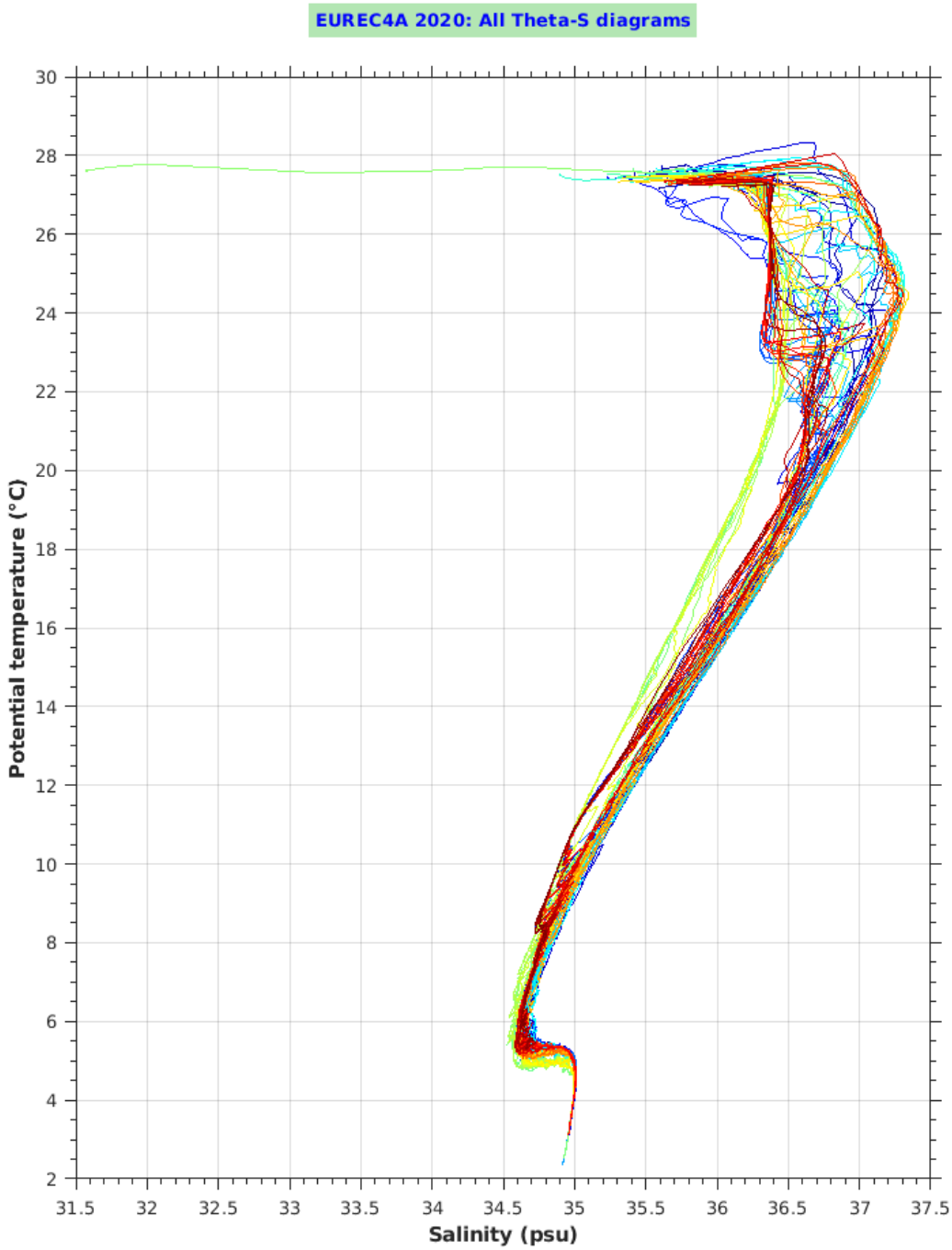


Figure 30: All Theta-S for EUREC4A cruise.

The color of the profiles changes gradually
from blue to red, from profile 0 to profile 63.

3.8. Calibration of dissolved oxygen profiles

The SBE9+ probe is equipped with two SBE43 dissolved oxygen sensors with a range of measurements from 0 to 120 % of the surface saturation. The accuracy claimed by the manufacturer is 2 % of the saturation. The serial numbers of the sensors, used during the cruise, are given in the section 3.1.1 Technical summary.

The choice between the primary (Ox_0) and secondary (Ox_1) oxygen is made before calibration by visualizing (histogram) the raw measurements of the probe at 24 Hz. The reduced files only conserve a single oxygen measurement. In the case of the EUREC4A 2020 cruise, the choice was made to use the primary oxygen (Ox_0).

3.8.1. Operating mode

The dissolved oxygen content, OXYSBE, expressed in ml/l, is calculated from the Vr information transmitted by the sensor using the formula proposed by Millard (1982).

$$OXYSBE\ (ml/l) = soc * (Vr + Voffset + tau\ (T, P) * \delta V/\delta t) * oxsol\ (T, S) * (1.0 + A*T + B*T^2 * C*T^3) * e^{(E*P/K)}$$

Vr: O_2 measurement in volts
δV/δt: derivative of the signal SBE43 (volt/sec)
Oxsol: function for the calculation of the oxygen solubility (Garcia & Gordon 1992)
P: probe pressure (dbar)
T: probe temperature (°C)
K: probe temperature (°K)
S: probe salinity (psu)
Soc, Voffset, A, B, C, E, tau: characteristics of the Seabird sensor

In practice, the term associated with tau is neglected because it adds noise when the profile is homogenous vertically (see Application note n° 64; Nov 2008). The goal of the calibration is the determination of a new Soc and Voffset.

The oxygen in volts is corrected for hysteresis by the Hydro_nett program in .cnv files (section 3.4.2).

For the calibration, the probe oxygen (OXYS) is obtained by calculating a mean on a water column of 15 dbar on the downcast profile, at the sampling level, based on the probe measurements in volts before the hysteresis correction. So we don't use the bottle files provided by SeaBird processing software for this calibration.

The method used for the calibration of the probe measurements from the chemistry measurements (OXYC in ml/l) involves the determination of the coefficients M and B of the equation below to minimize the differences between (OXYC / phi) and (OXYS * M + B).

$$OXYC\ (ml/l) / phi = OXYS\ (volt) * M + B$$

where:

. phi = Oxsol(T,S) * (1.0 + A*T +B*T^2 * C*T^3) * $e^{(E*P/K)}$

. M = soc

. B = Voffset * soc thus Voffset = B / soc

The Soc and Voffset coefficients (deduced from the values of M and B) of the Seabird sensor characteristics are determined for a set of samples, using successive iterations based on a principle similar to that for the conductivity.

3.8.2. Dissolved oxygen units

The unit used in the calibration procedure and in graphical representations of this report is the milliliter per liter (ml/l).

The water temperature, at the time of sampling from the bottles, was taken with an Ebro thermometer (accuracy = ± 0.3 °C) before fixing of the oxygen by the reagents. We then deduce the density of the seawater sample, and the dissolved oxygen content can be converted to micromoles per kilogram (µmol/kg) (see Mercier et al. 1992).

The dissolved oxygen data of the SBE43 sensor are therefore provided in both units.

3.8.3. Analysis of the initial results and strategy adopted

The figure 31 shows the oxygen raw differences between oxygen bottle and raw oxygen sensor taken on downcast. The oxygen sensor was first corrected with hydro_nett (see sections 3.4.1 and 3.4.2).

Figure 32 shows the distribution of the differences obtained after this initial global determination of Soc and Voffset coefficients.

Because of the distribution of the samples according to the depth (0-1000 dbar: ~650 samples; 1000-max depth: ~180 samples), we decided to apply a weight 3 on samples greather than 1000 dbar.

A detailed analysis shows that dividing the casts into groups (0-4; 5-10; 11-19; 20-22;23-30; 31-41; 42-49; 49-63) would improve the distribution of differences. Also, a correction of the pressure effect with a polynomial of degree 1 improves the results. Thus, each of these phases should be considered separately. Their identification and then a specific calculation is used to obtain, for each cast, a dissolved oxygen profile that fits well on the oxygen values obtained by chemical analysis.

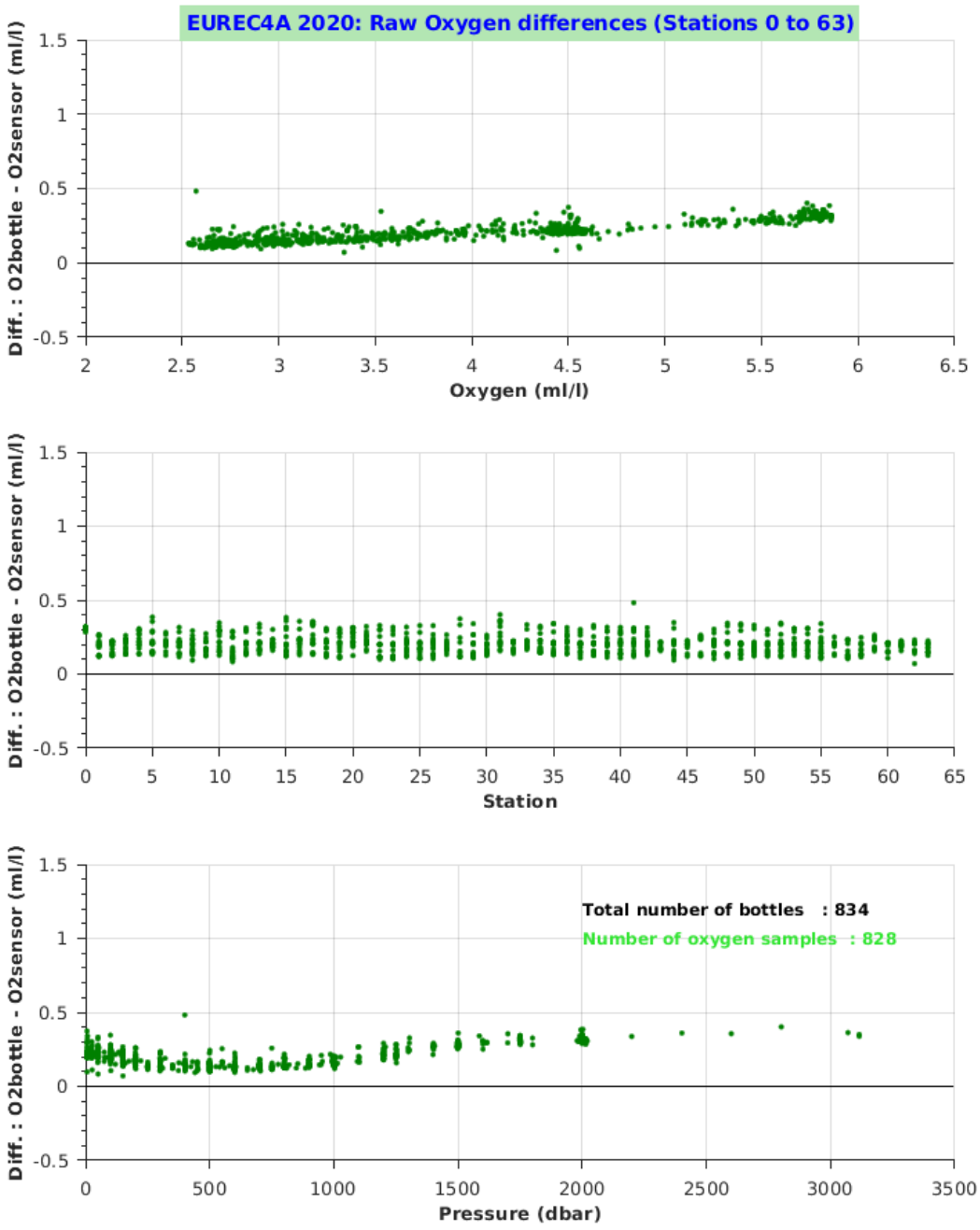


Figure 31: Oxygen raw differences.

Oxygen raw differences (O_2 bottle - O_2 sensor) without calibration.

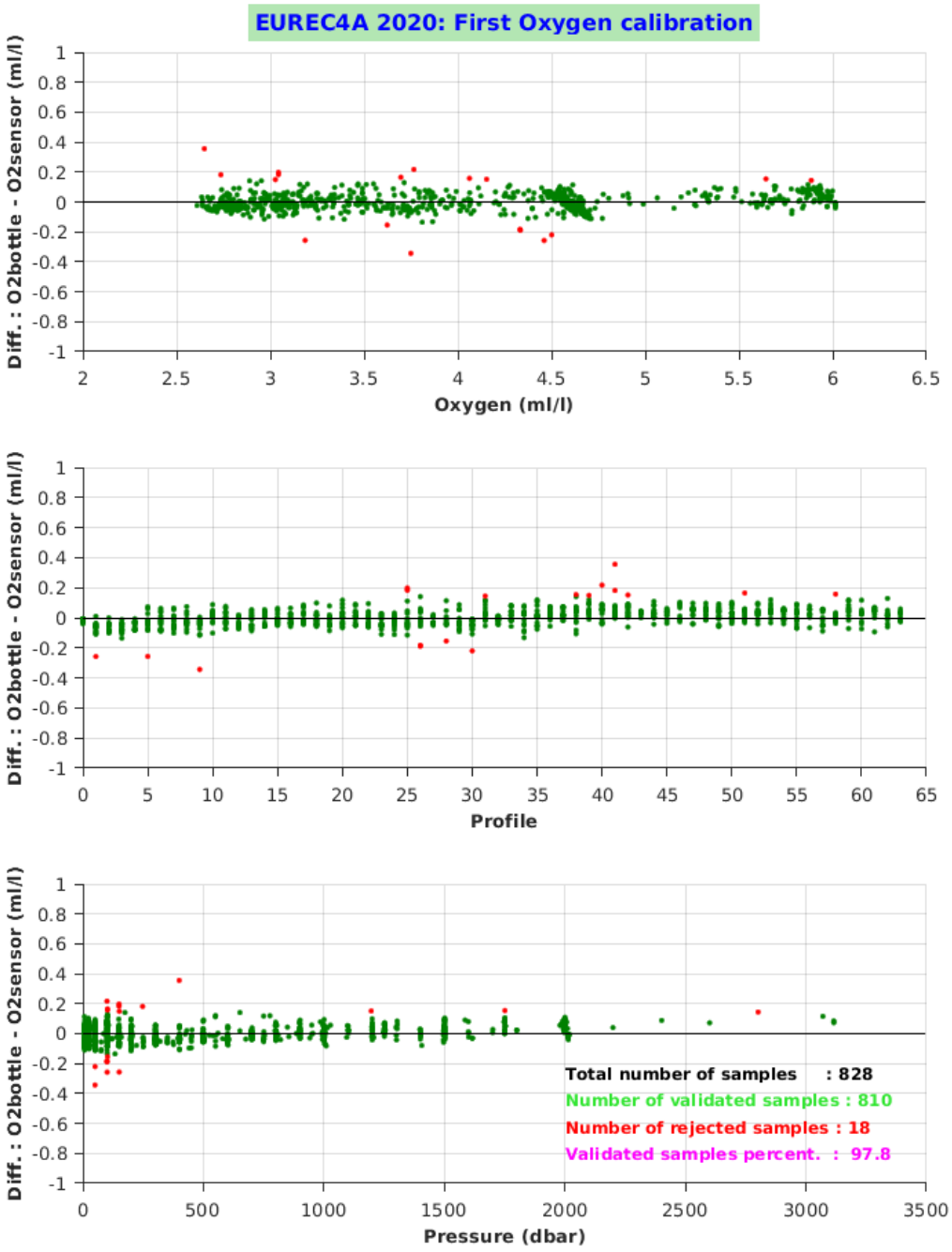


Figure 32: First Oxygen calibration.

Differences between the oxygen values measured in the samples and that of the CTD downcast profile at the sampling pressure:

a) as a function of the oxygen,
b) as a function of the number of the profile concerned,
c) as a function of the pressure at the sampling level.

These differences are the result of a calculation performed on all the cruise samples with no grouping and no correction for a pressure effect.

3.8.4. Assessment of the calibration of the dissolved oxygen profiles

The table below shows for all groups of casts, the number of oxygen samples considered, the number of validated samples and the standard deviation in three pressure intervals, as well as the calculated parameters of the sensor Soc and Voffset.

Assessment of the calibration of the dissolved oxygen profiles of the EUREC4A 2020 cruise:

Profile or group of profiles	Number of samples considered	Number of samples considered with weight	Number of samples conserved in the calculation	Standard deviation			Coefficients	
				0 à 3500	0 à 1000	1000 à 3500	Soc	Voffset
0 - 4	69	117	116 (99.1%)	0.0369	0.0281	0.0251	0.375435	-0.437591
5 - 10	84	124	122 (98.4 %)	0.0439	0.0506	0.0299	0.379938	-0.449667
11 - 19	122	198	198 (100 %)	0.0372	0.0401	0.0232	0.379672	-0.442348
20 - 22	42	70	70 (100 %)	0.0369	0.0483	0.0253	0.378702	-0.433683
23 - 30	102	132	123 (93.2 %)	0.0450	0.0373	0.0327	0.381622	-0.458376
31 - 41	153	247	240 (97.2 %)	0.0416	0.0431	0.0336	0.386424	-0.457655
42 - 48	80	108	104 (96.3 %)	0.0270	0.0281	0.0193	0.390991	-0.472952
49 - 63	176	244	239 (98.0 %)	0.0259	0.0295	0.0198	0.390767	-0.477864
0 - 63	828	1240	1212 (97.7 %)	0.0334				

Figure 33 shows the final differences, after calibration. The distribution of these differences is correctly centered and acceptable for each of the cruise profiles. The distribution of the differences presented as a function of the pressure shows that it is also acceptable for all sampling levels.

The histograms in figure 34 allow us to visualize the distribution of differences in a different way and to verify that this distribution is properly centered.

For the complete EUREC4A 2020 cruise, 828 samples were analysed, with the weights we obtained 1240 samples. The calculation process validated 1212 of them, i.e. 97.7 %.
The differences in oxygen are less than ± 0.010 ml/l in 30.0 % of cases and less than ± 0.030 ml/l for 75.2 %, giving a standard deviation of 0.033 ml/l.

Considering only the part of the oxygen profile greater than 980 dbar, i.e. 628 samples, the differences are less than ± 0.010 ml/l for 34.9 % and less than ± 0.030 ml/l for 79.6 %. The resulting standard deviation is 0.025 ml/l.

Figure 35 shows the histograms for oxygen, in µmol/kg (without the weights). The differences in oxygen are less than ±1 µmol/kg in 54.0 % of cases and less than ±3 µmol/kg for 92.6 %, giving a standard deviation of 1.60 µmol/kg.

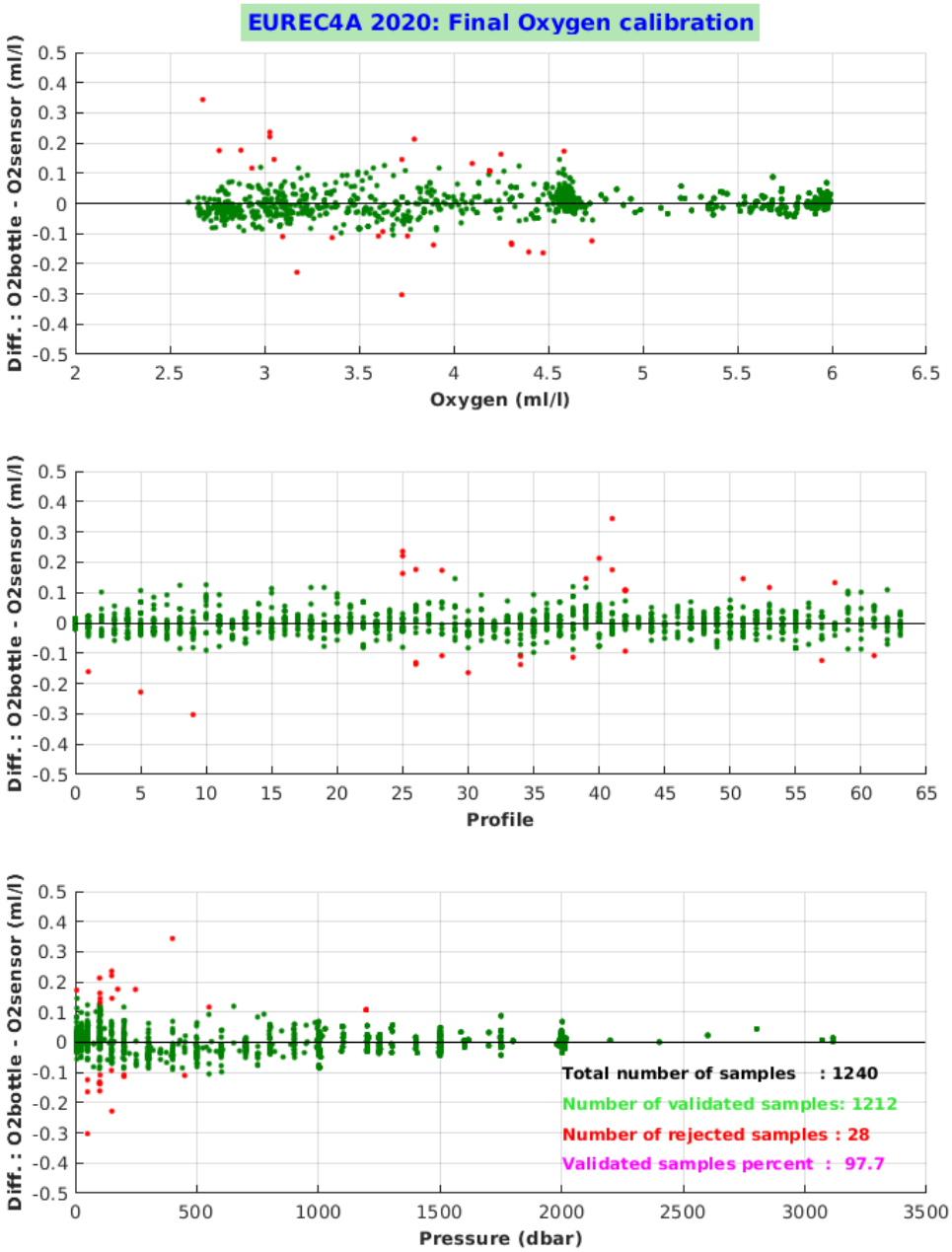


Figure 33: Final Oxygen calibration.

Differences between the oxygen value measured on the 1212 validated samples and that of the CTD downcast profile around the sampling pressure (averaged over a 15 dbar interval):

a) as a function of the oxygen
b) as a function of the number of the profile concerned,
c) as a function of the pressure at the sampling level.

These differences are obtained after a specific calculation performed by group of casts. A polynomial of degree 1 eliminates the dependence of the differences on the pressure.

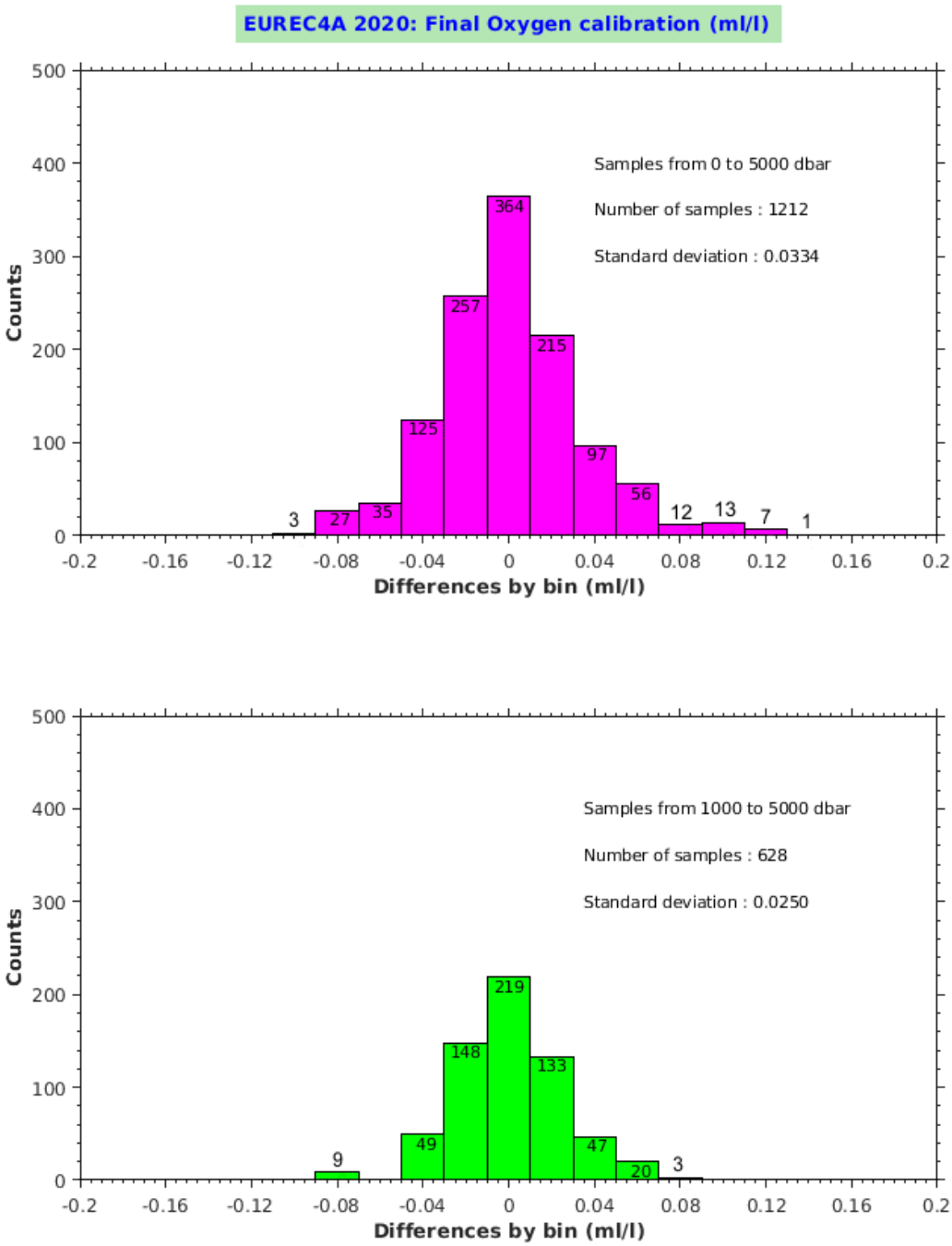


Figure 34: Histogram of the Oxygen differences.

Histograms of oxygen differences (ml/l) between the value measured on the validated samples and that of the CTD downcast profile at the sampling pressure (final measurements):

a) for all the 1212 validated samples on the cruise,

b) for the 628 validated samples collected at a pressure greater than 980 dbar.

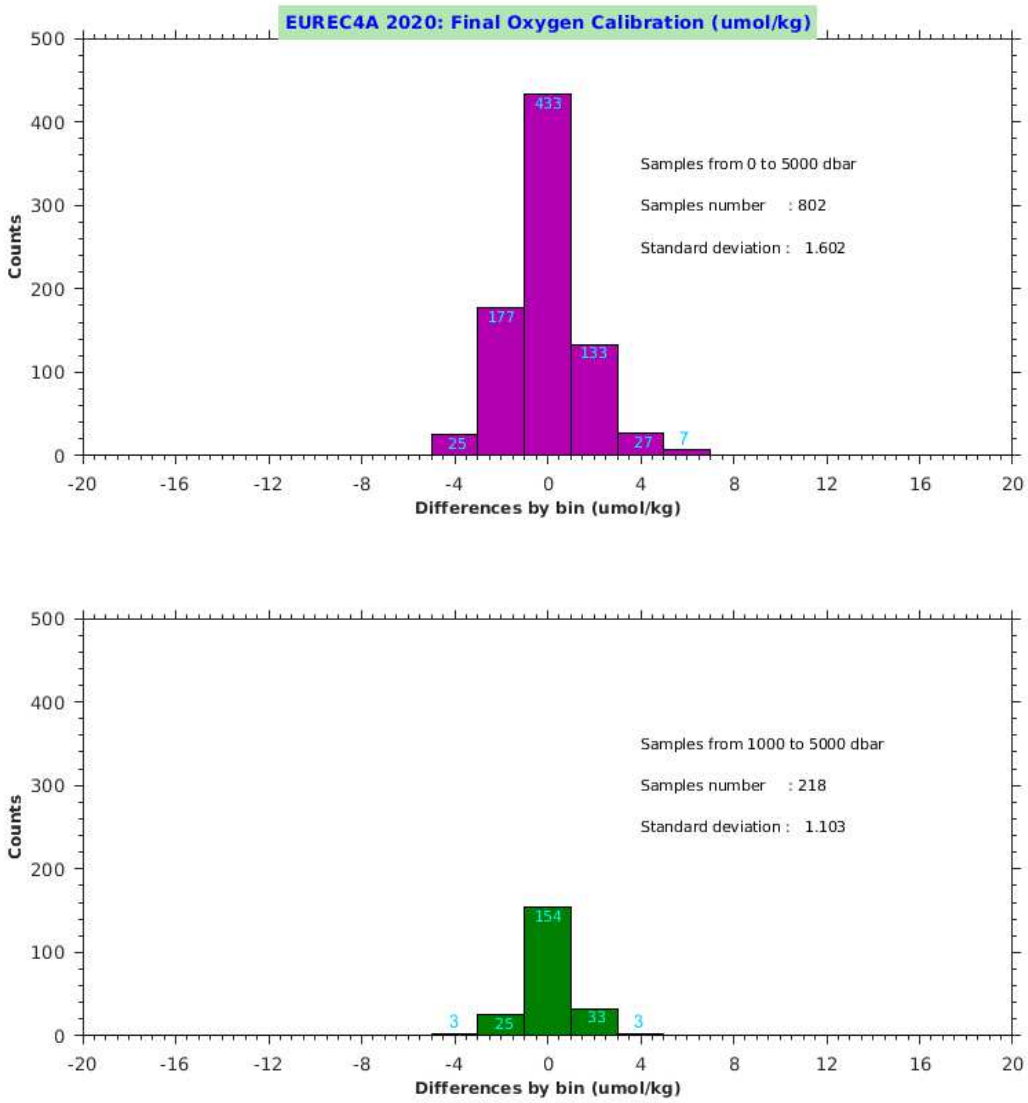


Figure 35: Histogram of the Oxygen differences (µmol/kg).

Histograms of the oxygen differences (µmol/kg) between the values measured on the validated samples and that of the CTD downcast profile at the sampling pressure (final measurements):

a) for all the 802 validated samples (µmol/kg) on the cruise,

b) for the 218 validated samples collected at a pressure greater than 980 dbar.

Figure 36 shows all theta-O_2 for EUREC4A 2020.

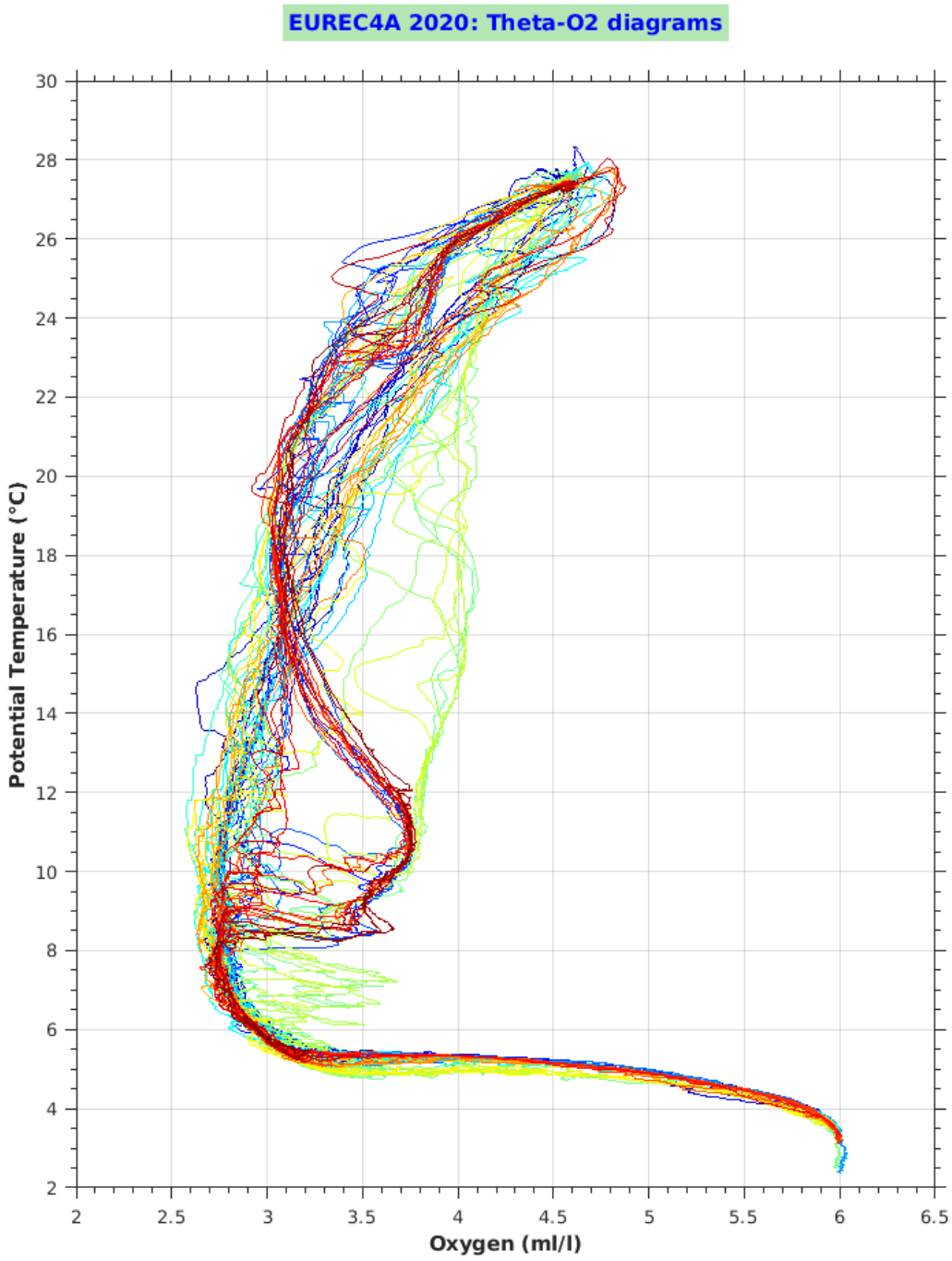


Figure 36: Theta-O_2 diagrams

Theta-O_2 diagrams for stations 0 to 63 of the EUREC4A 2020 cruise. The color of the profiles changes gradually from blue to red according to the station number.

3.9. Data reduction

All of the calibration part of the data processing is done based on the total probe measurements at 24 Hz. The data are then reduced to one measurement per decibar and we conserve only the set of sensors (primary or secondary) used during the calibration (for Eurec4a 2020, primary sensors).

The elimination of non-validated cycles and the data reduction was carried out using the parameter gradients as elimination criteria:

abs((ParamCycle(N)-ParamCycle(N-1))/(PressionCycle(N)-PressionCycle(N-1)))

A cycle is validated if the values of the gradients are lower than the selected thresholds. Initially, a determination of the gradient histograms allows us to choose threshold values beyond which the parameters will be rejected. After removal of non-validated cycles, the decimation of the data is performed by calculating, for each integer pressure value, the mean of the parameters on a 1 dbar-layer centered on this value.

The set of criteria used to reduce the probe measurements is described in the document: "Validation et Réduction des données de la sonde SBE9+", C. Kermabon, M. Arhan, Nov 2008.

The options used for the EUREC4A 2020 cruise are shown below:

primary sensors.

Threshold values for stations 0 to 63:

Echant.	1	Nb val min	6
Seuil P	0.5		
Seuil T, C surf	1.0	Seuil T,C fond	0.19
Seuil O (Volt) surf	1.0	Seuil O (Volt) fond	0.44

The downcast and upcast files were generated in netcdf format:

. eu20d*_cli.nc for the downcasts
. eu20a*_cli.nc for the upcasts

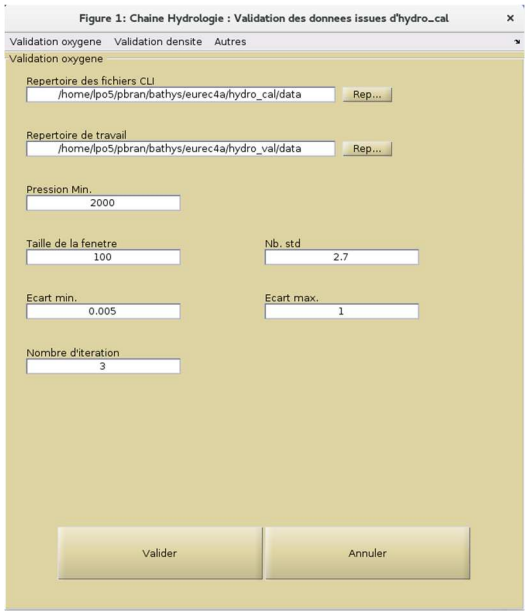
3.10. Validation of the profiles

The Hydro_val software (see Hydro_val: CTD data validation software) first flags as 'bad' (QC = 4), the small number of oxygen peaks which were not eliminated during the data reduction.

The second function of hydro_val is to analyse the density inversions in order to flag the corresponding T, S, O_2 data as bad, if necessary.

3.10.1. Validation of the Oxygen profiles

The window on the right shows the options used to correct the dissolved oxygen profiles (downcast and upcast) from stations 0 to 63.



List of corrected stations and levels for downcast:

```
-----------------------------------------------
| Cruise : EUREC4A 2020                       |
| List of Oxygen data flagged to 4            |
-----------------------------------------------

                  **** Invalidation of Oxygen data (downcast)) ****

-------------------------------------------------------------------
| Values of used options                                          |
-------------------------------------------------------------------
| Station  min.        |      0  | Station max.         |     63  |
| Pressure min.        |   2000  |                      |         |
| Windows size         |    100  | Std number           |    2.7  |
| Min. gap .           |  0.005  | Max gap.             |      1  |
| Number of iterations |      3  |                      |         |
-------------------------------------------------------------------

Number of Oxy flag to 4      : 24
Number of corrected stations : 6
List of corrected stations   :
 0   17   31

----------------------   ----------------------
| Station | Pressure |   | Station | Pressure |
----------------------   ----------------------
|     0   |   2004   |   |    31   |   2716   |
|    17   |   2889   |   |    31   |   2843   |
|    17   |   2897   |   |    31   |   2844   |
|    17   |   2898   |   |    31   |   2850   |
|    17   |   2899   |   |     0   |          |
|    17   |   2986   |   |     0   |          |
----------------------   ----------------------
```

List of corrected stations and levels for upcast:

```
-----------------------------------------------
| Cruise : EUREC4A 2020                       |
| List of Oxygen data flagged to 4            |
-----------------------------------------------

                  **** Invalidation of Oxygen data (upcast)) ****

-------------------------------------------------------------------
| Values of used options                                          |
-------------------------------------------------------------------
| Station  min.        |      0  | Station max.         |     63  |
| Pressure min.        |   2000  |                      |         |
| Windows size         |    100  | Std number           |    2.7  |
| Min. gap .           |  0.005  | Max gap.             |      1  |
| Number of iterations |      3  |                      |         |
-------------------------------------------------------------------

Number of Oxy flag to 4      : 21
Number of corrected stations : 7
List of corrected stations   :
 0   14   19   20   21   25   41

----------------------   ----------------------   ----------------------   ----------------------
| Station | Pressure |   | Station | Pressure |   | Station | Pressure |   | Station | Pressure |
----------------------   ----------------------   ----------------------   ----------------------
|     0   |   2013   |   |    19   |   2002   |   |    41   |   2001   |   |    41   |   2007   |
|     0   |   2015   |   |    20   |   2002   |   |    41   |   2002   |   |    41   |   2008   |
|     0   |   2016   |   |    20   |   2003   |   |    41   |   2003   |   |    41   |   2009   |
|     0   |   2017   |   |    21   |   2006   |   |    41   |   2004   |   |     0   |      0   |
|     0   |   2018   |   |    21   |   2014   |   |    41   |   2005   |   |     0   |      0   |
|    14   |   2004   |   |    25   |   2003   |   |    41   |   2006   |   |     0   |      0   |
----------------------   ----------------------   ----------------------   ----------------------
```

3.10.2. Density inversions

By superposing the reduced file, the adjusted file at 24 Hz and the file before loopedit at 24 Hz on the same graph, we can detect density inversions related to the drag of the probe.

We can see on the graph below (figure 37) that the peak at 1971 and 1972 dbar in T and C corresponds to the measurements recorded by the probe 4.0 dbar previously. This crossed water (blue arrows) was drawn in by the frame and pollutes the sensors when the probe slows down. These inversions are not at all physical: they must be identified and the quality flag is set to 4 (QC = 4) for all the parameters. During the transfer to the.clc.nc files (intermediate format before the multi-cast format), a linear interpolation will be performed at these locations.

The reduced profile is shown in red, the adjusted data at 24 Hz in black, and the data at 24 Hz before loopedit in grey.

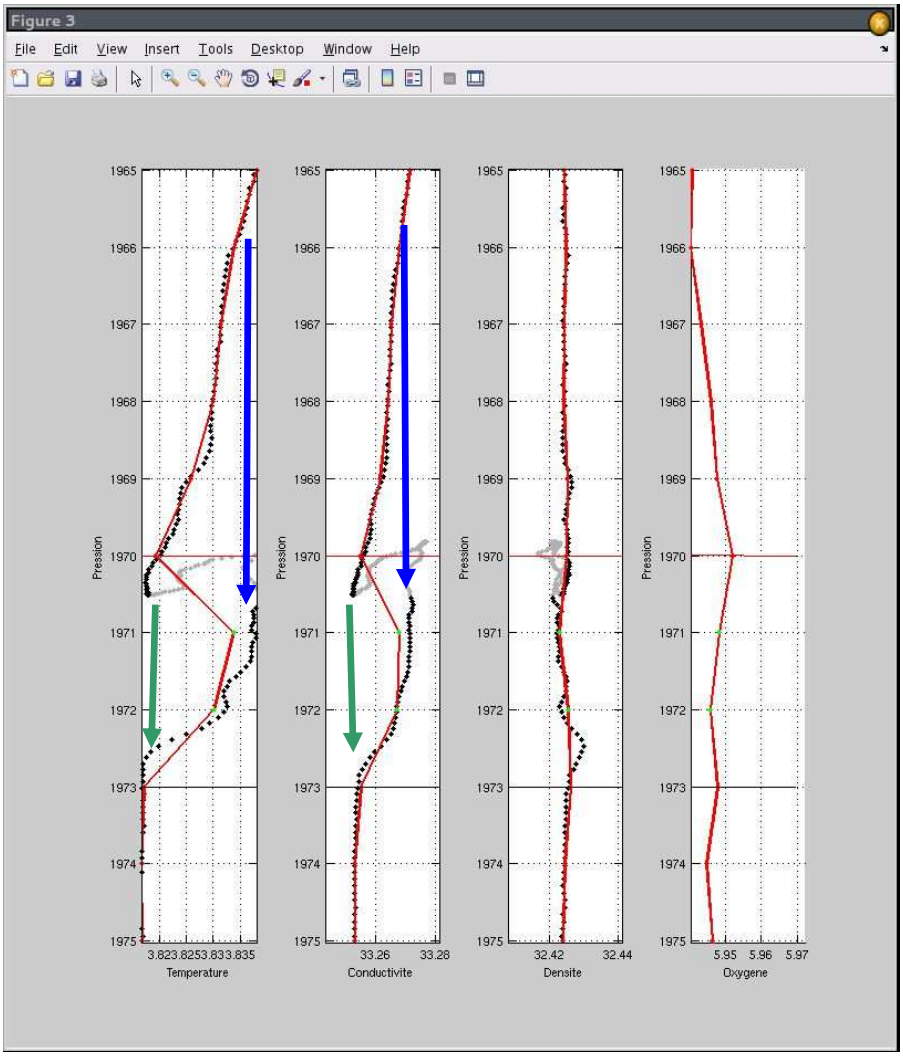


Figure 37: Example of invalidation of density inversions.

Hydro_val allows to remove the sensor value (T, C, O2) that will be replaced by a linear interpolation between 1970 dbar and 1973 dbar as shown by the green arrows.

For EUREC4A 2020 cruise, we corrected only downcast profiles. Below, the list of stations and levels.

```
----------------------------------------
| Cruise : EUREC4A 2020                |
| List of density anomalies corrections |
----------------------------------------

                  **** Density anomalies (downcast) ****

number of stations involved: 15
number of density anomalies: 26
```

Station	Pressure	Station	Pressure	Station	Pressure	Station	Pressure
0	103	19	213	31	1522	35	695
6	111	21	261	31	1529	42	279
9	88	24	198	31	1530	42	1535
15	292	26	436	31	1537	43	161
18	210	26	702	31	1641	60	236
18	215	31	1040	34	210		
18	402	31	1092	35	621		

3.11. Corrections of Eurec4a 2020 profiles

Some corrections have been made directly on CTD profiles. Here is the list of corrections.

. station 0		
T_1	scan 26985	linear interpolation
	scan 28140 to 28141	linear interpolation
	scan 29592 to 41190	replacement by temperature T_0
	scan 113269	linear interpolation
	scan 113470 to 115824	replacement by temperature T_0
	scan 115925 to 115926	linear interpolation
$C_0 - C_1$	scan 40031 to 40032	linear interpolation
	scan 40202	linear interpolation on C_1
	scan 41085 to 41086	linear interpolation
. station 1		
T_0	scan 10483	linear interpolation
	scan 11132	linear interpolation
	scan 11282	linear interpolation
	scan 11468	linear interpolation
	scan 11485	linear interpolation
T_1	scan 23992	linear interpolation
	scan 24535 to 31875	replacement by temperature T_0
	scan 96850 to 96944	replacement by temperature T_0
	scan 99056	linear interpolation
	scan 99067 to 99068	linear interpolation
	scan 99087	linear interpolation
	scan 99095	linear interpolation
	scan 99273 to 99274	linear interpolation
. station 7		
	scan 132749 to end	cut end of surface upcast profile
. station 9		
T_0	scan 11340 to 11409	replacement by temperature T_1
C_0	scan 655 to 656	linear interpolation
	scan 11340 to 11409	replacement by temperature C_1
. station 11		
T_0	scan 13987	linear interpolation
	scan 13990 to 13991	linear interpolation
	scan 13997	linear interpolation
	scan 14001	linear interpolation
	scan 14169 to 14232	replacement by temperature T_1
	scan 15802	linear interpolation
	scan 16064 to 16066	linear interpolation
	scan 16076	linear interpolation
	scan 16079	linear interpolation
	scan 16103	linear interpolation

	scan 16116 to 16182	replacement by temperature T_1
T_1	scan 14171	linear interpolation
C_0	scan 13999 to 14000	linear interpolation
	scan 16077 to 16078	linear interpolation
	scan 16115 to 16116	linear interpolation
	scan 27794 to 27796	linear interpolation
O_2v_1	scan 55491 to 55512	Replacement of volt oxygen values by O_2v_0 – 0.0122
	scan 56875 to 56915	Replacement of volt oxygen values by O_2v_0 – 0.0098
	scan 58238 to 58321	Replacement of volt oxygen values by O_2v_1 – 0.0110
. station 17		
O_2v_0	scan 72424 to 72461	linear interpolation
	scan 80050 to 80059	linear interpolation
. station 25		
	scan 125680 to end	cut end of surface upcast profile
. station 26		
C_0	scan 17795 to 17798	linear interpolation
	scan 30911 to 30913	linear interpolation
. station 29		
C_0	scan 3226 to 3229	linear interpolation
	scan 23113 to 23119	linear interpolation
C_1	scan 2608 to 2612	linear interpolation
. station 31		
T_0	scan 9636	linear interpolation
	scan 9641	linear interpolation
	scan 10260 to 10266	linear interpolation
	scan 11048	linear interpolation
C_0	scan 10262 to 10264	linear interpolation
. station 33		
T_0	scan 7462	linear interpolation
	scan 7477	linear interpolation
	scan 7482	linear interpolation
	scan 8298	linear interpolation
	scan 8304	linear interpolation
	scan 8306	linear interpolation
	scan 8310 to 8311	linear interpolation
	scan 8319	linear interpolation
	scan 8328 to 8329	linear interpolation
	scan 8466 to 8467	linear interpolation
	scan 8470	linear interpolation
	scan 8472	linear interpolation
	scan 8474 to 8477	linear interpolation
	scan 8486	linear interpolation

scan 8490	linear interpolation
scan 8494	linear interpolation
scan 8497	linear interpolation
scan 8503	linear interpolation
scan 8663	linear interpolation
scan 8838	linear interpolation
scan 9383	linear interpolation
scan 10248 to 10249	linear interpolation
scan 10252	linear interpolation
scan 10254	linear interpolation
scan 10259	linear interpolation

3.12. Accuracy of the EUREC4A 2020 measurements

The calibration of the CTD measurements ends with the determination of the accuracy of the different types of measurements (probe, chemistry).
The accuracy given by the manufactuer for the different CTD sensors is:

Pressure	1.0 dbar
Temperature	0.001 °C
Conductivity	0.003 mS/cm
Oxygen	± 2 % of saturation

During the calibration, we determine the accuracy for each sensor from statistical calculation between reference measurements and probe measurements.
The table below shows the accuracies obtained for Eurec4a:

Probe Param.	Value	Unit	Chemical Param.	Value	Unit
PRES	1.0	dbar			
TEMP	0.0010	°C			
COND	0.0023	mS/cm			
PSAL	0.0008	psu	CHPSALB	0.003	psu
OXY	0.033	ml/l	CHOXYLB	0.023	ml/l
OXYK	1.60	µmol/kg	CHOXYKB	1.02	µmol/kg
			CHTMPOB	0.3	°C

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5. Listings and figures of the CTD parameters

Figures of the various sections generated from the cruise data are presented below, followed by listings and detailed figures profile by profile.

5.1. Remarks

a) Description of the profiles:

1. The latitude and longitude indicate the positioning of the ship at the beginning of the descent profile.
2. The depth indicated is a calculation obtained by summing the maximum pressure (in meters) reached by the CTD and the bottom-pinger distance.

b) The temperature, salinity and dissolved oxygen measurements come from the downcast profile of the ctd.

c) The measurements shown are extracted from the files of type **_clc.nc**, the listed levels are:
. the first level
. every 10 dbar up to 50 dbar
. every 50 dbar from 50 dbar to the bottom
. the last level

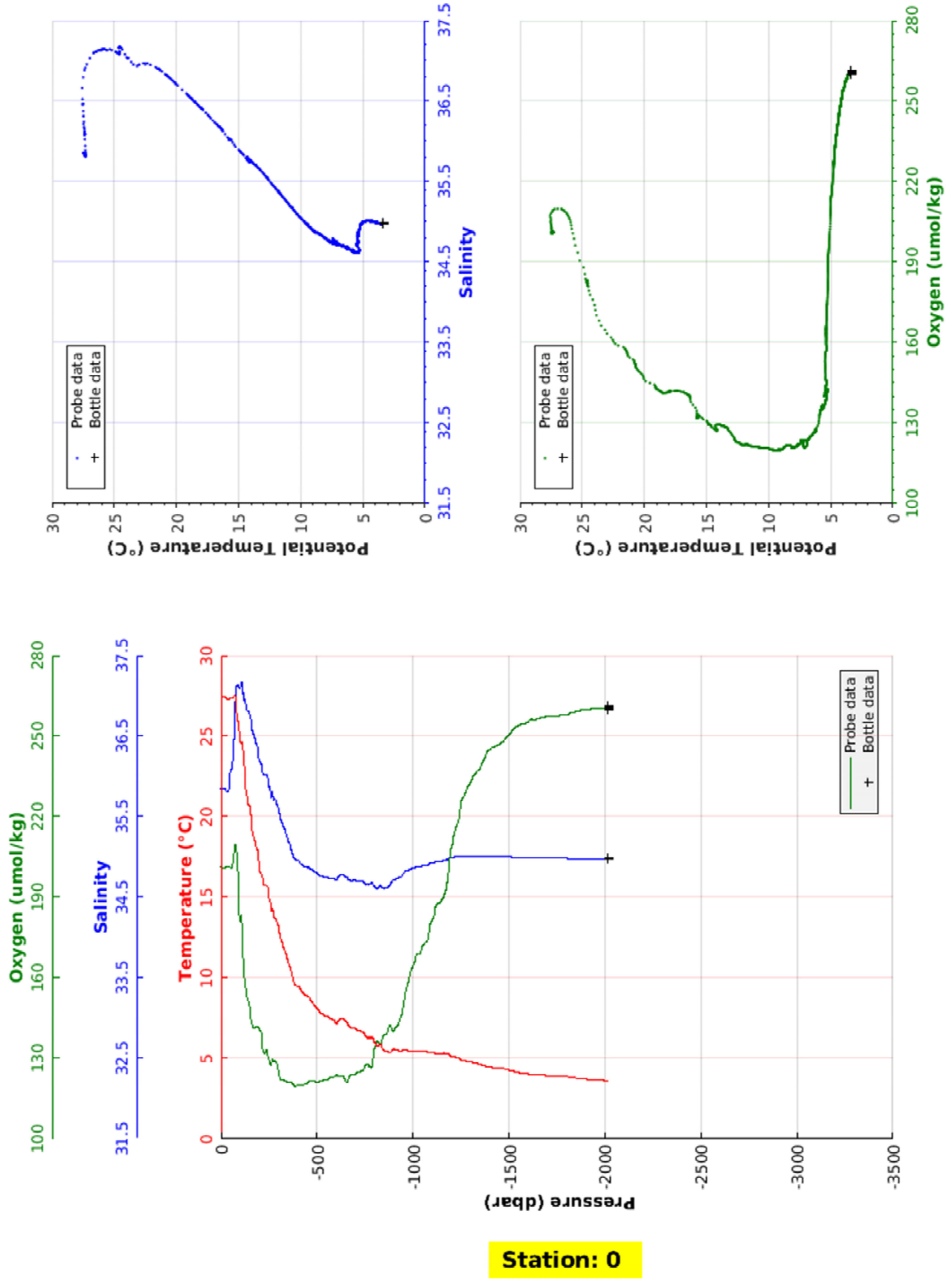
d) For the missing pressure levels (mean not calculated in the data acquisition), the measurements are interpolated. Near the surface, the measures are extrapolated up to level 1 by copying those of the first reduced level.

e) Listings and plots show the results as a function of the pressure (expressed in dbar).

f) The profiles are numbered sequentially from 0 to 63.

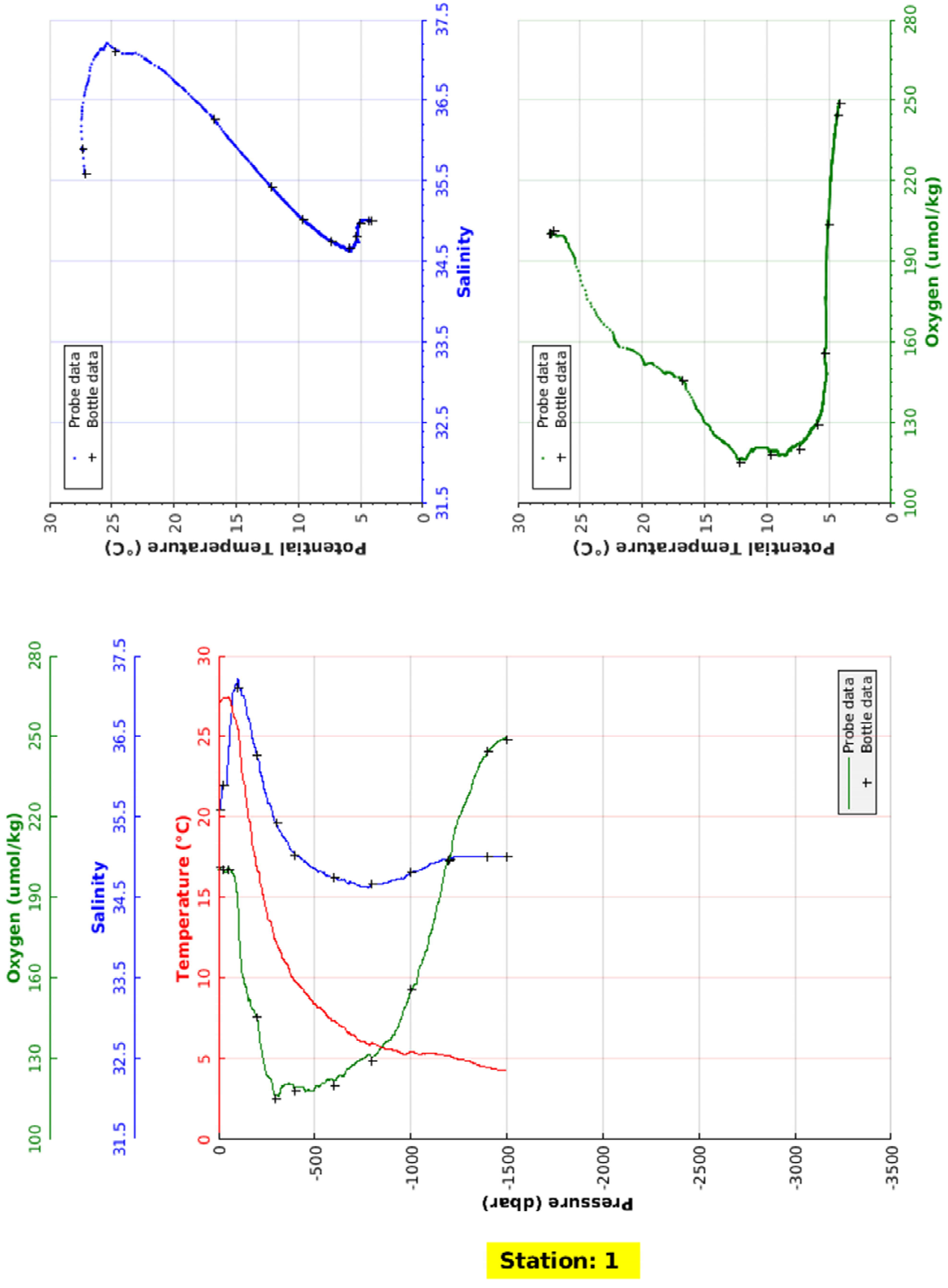
Cruise	: EUREC4A 2020		
Station	: 0	Cast	: 1
Date	: 22/01/2020	Ship	: N/O L'ATALANTE
Depth	: 2280 m	Organism	: ENS Paris; IFREMER
Position	: N 13 9.13 W 059 10.23		

PRESSURE	TEMPERATURE	SALINITY	DISSOLV. OXYGEN	POTENT. TEMP.
dbar	deg.cels.	psu	umol/kg	deg.cels.
0.0	27.453	35.851	201.2	27.453
10.0	27.462	35.851	201.0	27.460
20.0	27.461	35.850	200.8	27.457
30.0	27.351	35.822	201.3	27.344
40.0	27.320	35.821	200.9	27.311
50.0	27.391	36.079	201.2	27.379
100.0	24.613	37.082	180.5	24.591
150.0	20.624	36.795	150.3	20.595
200.0	16.798	36.213	141.5	16.765
250.0	14.938	35.877	129.8	14.900
300.0	13.057	35.602	126.3	13.015
350.0	10.976	35.211	121.1	10.933
400.0	9.469	34.960	120.0	9.423
450.0	8.874	34.871	120.7	8.825
500.0	8.127	34.802	120.8	8.076
550.0	7.654	34.751	122.0	7.598
600.0	7.175	34.713	123.5	7.116
650.0	7.267	34.755	121.7	7.203
700.0	6.872	34.711	124.0	6.805
750.0	6.384	34.667	126.9	6.315
800.0	5.979	34.638	133.4	5.908
850.0	5.465	34.614	138.7	5.392
900.0	5.586	34.722	140.0	5.507
950.0	5.531	34.796	149.0	5.448
1000.0	5.470	34.864	163.9	5.383
1050.0	5.424	34.888	171.3	5.333
1100.0	5.347	34.924	181.2	5.251
1150.0	5.307	34.948	188.8	5.207
1200.0	5.140	34.991	208.1	5.036
1250.0	4.885	35.006	223.6	4.779
1300.0	4.779	35.013	232.4	4.669
1350.0	4.649	35.012	237.7	4.535
1400.0	4.463	35.008	245.2	4.347
1450.0	4.395	35.006	247.0	4.275
1500.0	4.276	35.002	250.5	4.152
1550.0	4.138	34.996	253.9	4.012
1600.0	4.045	34.992	255.2	3.915
1650.0	4.008	34.990	256.4	3.874
1700.0	3.949	34.988	257.4	3.811
1750.0	3.923	34.986	257.5	3.780
1800.0	3.895	34.985	258.0	3.748
1850.0	3.787	34.980	259.1	3.637
1900.0	3.720	34.977	260.0	3.567
1950.0	3.643	34.974	260.3	3.485
2000.0	3.608	34.972	260.5	3.447
2018.0	3.596	34.971	260.4	3.433


Potential Temperature (°C)
Salinity
Probe data
Bottle data
Potential Temperature (°C)
Oxygen (umol/kg)
Probe data
Bottle data
Oxygen (umol/kg)
Salinity
Temperature (°C)
Pressure (dbar)
Probe data
Bottle data
Station: 0

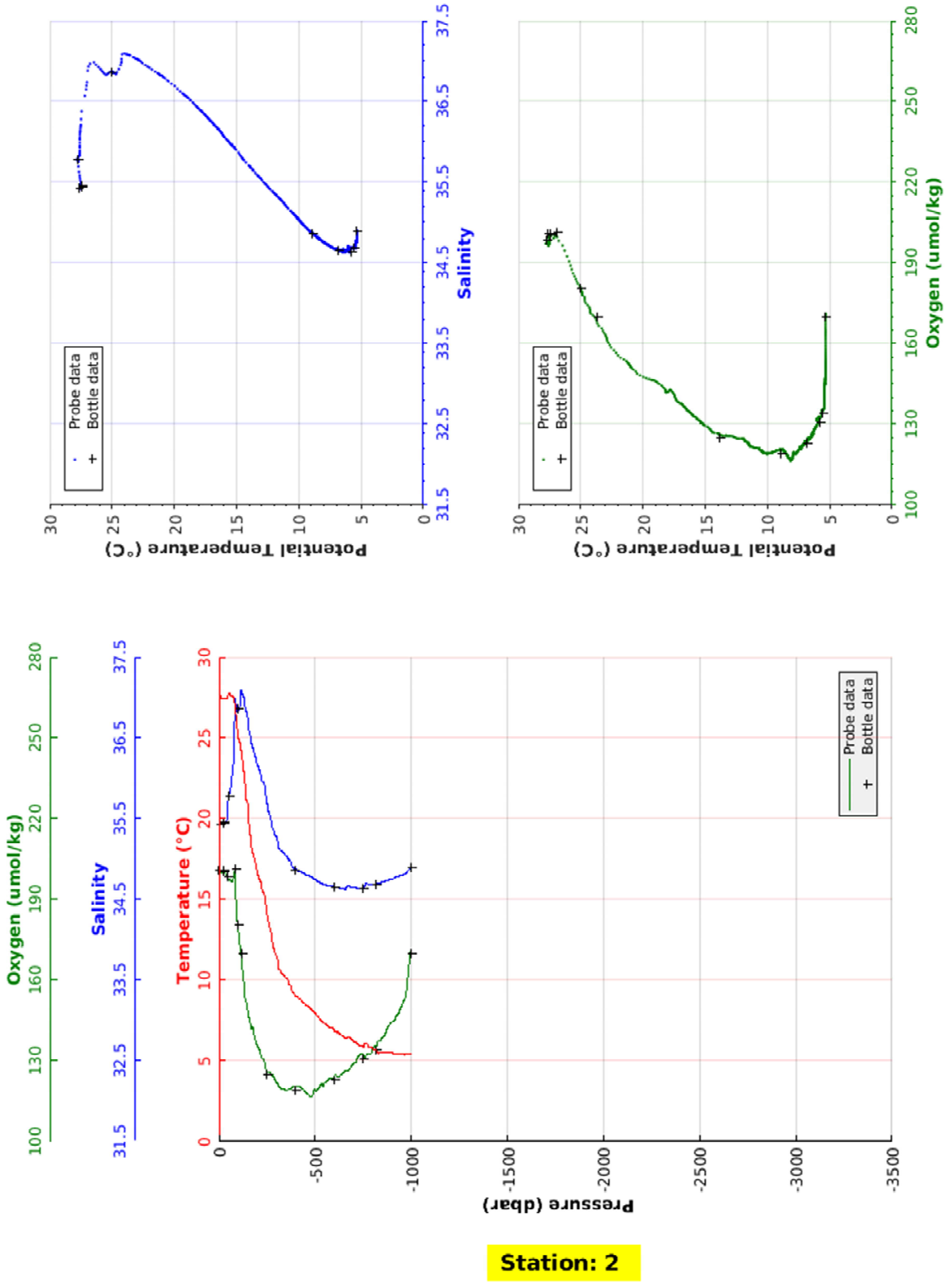
Cruise	: EUREC4A 2020		
Station	: 1	Cast	: 1
Date	: 23/01/2020	Ship	: N/O L'ATALANTE
Depth	: 1825 m	Organism	: ENS Paris; IFREMER
Position	: N 12 37.54 W 059 7.56		

PRESSURE	TEMPERATURE	SALINITY	DISSOLV. OXYGEN	POTENT. TEMP.
dbar	deg.cels.	psu	umol/kg	deg.cels.
0.0	27.156	35.590	200.2	27.156
10.0	27.170	35.598	200.8	27.168
20.0	27.336	35.881	200.7	27.331
30.0	27.350	35.893	199.8	27.343
40.0	27.354	35.897	199.5	27.345
50.0	27.460	36.184	200.7	27.448
100.0	25.468	37.202	191.5	25.445
150.0	20.245	36.782	155.3	20.217
200.0	16.970	36.292	146.4	16.937
250.0	14.134	35.767	125.1	14.098
300.0	12.202	35.423	116.6	12.162
350.0	10.963	35.221	120.5	10.920
400.0	9.782	35.037	119.3	9.736
450.0	9.170	34.960	118.6	9.120
500.0	8.434	34.862	118.3	8.381
550.0	7.961	34.808	121.1	7.904
600.0	7.401	34.753	122.1	7.342
650.0	6.960	34.723	123.8	6.898
700.0	6.479	34.686	127.7	6.414
750.0	6.050	34.637	130.0	5.983
800.0	5.980	34.671	130.6	5.908
850.0	5.687	34.675	134.0	5.613
900.0	5.568	34.708	137.5	5.489
950.0	5.381	34.740	144.8	5.299
1000.0	5.437	34.813	154.5	5.350
1050.0	5.301	34.843	164.3	5.210
1100.0	5.363	34.918	176.1	5.267
1150.0	5.304	34.952	189.1	5.204
1200.0	5.167	34.987	204.2	5.063
1250.0	4.988	35.008	219.5	4.880
1300.0	4.856	35.013	227.7	4.745
1350.0	4.653	35.012	237.4	4.540
1400.0	4.469	35.008	243.7	4.353
1450.0	4.353	35.005	247.8	4.233
1500.0	4.286	35.002	249.8	4.163


Potential Temperature (°C)
Salinity
Probe data
Bottle data
Oxygen (umol/kg)
Temperature (°C)
Pressure (dbar)
Station: 1

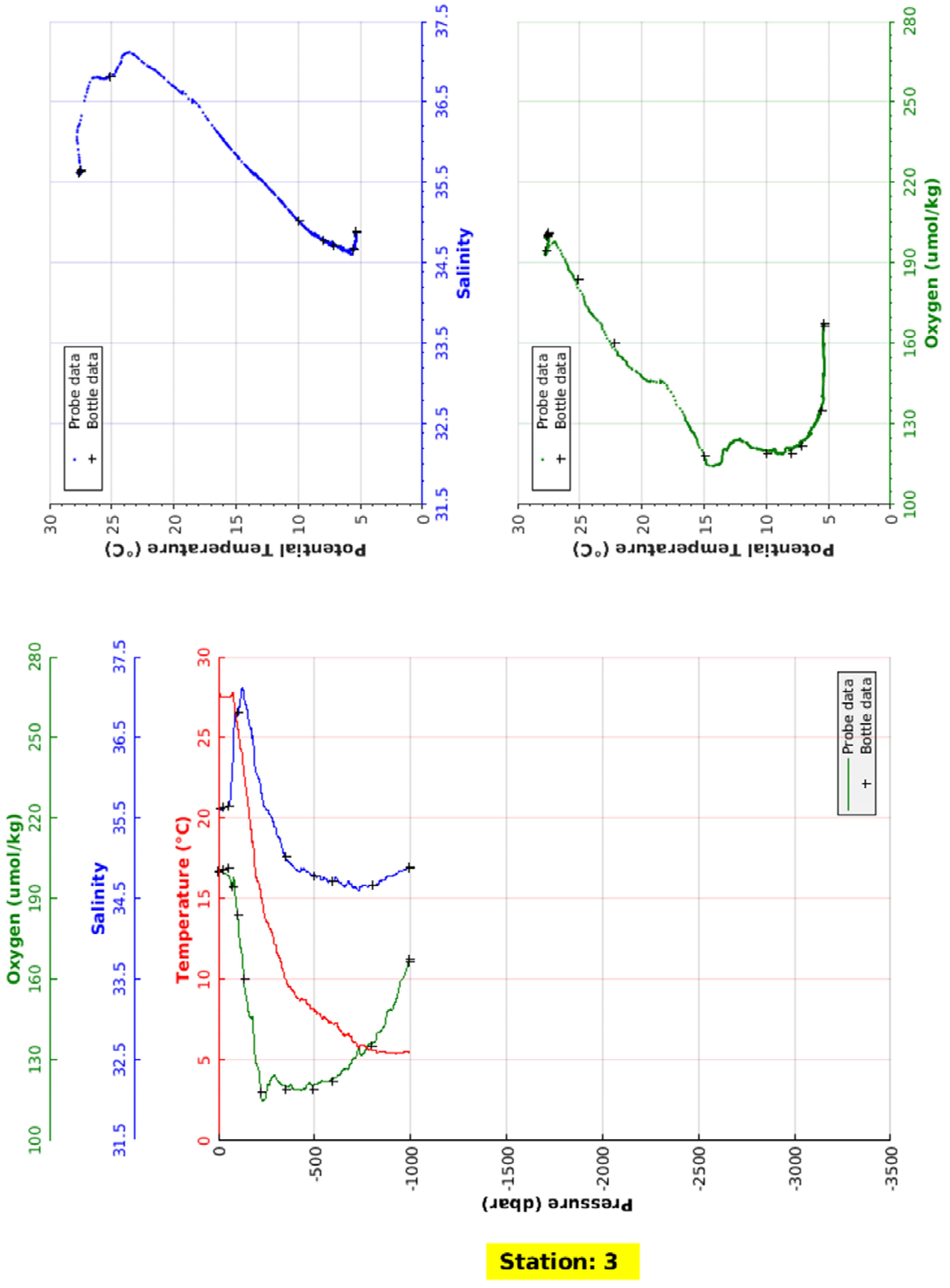
Cruise : EUREC4A 2020			
Station : 2	Cast : 1		
Date : 23/01/2020	Ship : N/O L'ATALANTE		
Depth : 1590 m	Organism : ENS Paris; IFREMER		
Position : N 11 54.50 W 058 43.73			

PRESSURE dbar	TEMPERATURE deg.cels.	SALINITY psu	DISSOLV. OXYGEN umol/kg	POTENT. TEMP. deg.cels.
0.0	27.610	35.424	200.2	27.610
10.0	27.559	35.423	200.2	27.557
20.0	27.468	35.431	200.0	27.463
30.0	27.461	35.436	200.0	27.454
40.0	27.481	35.454	199.5	27.472
50.0	27.744	35.754	197.3	27.733
100.0	25.022	36.876	180.3	25.000
150.0	20.777	36.787	150.9	20.749
200.0	16.629	36.180	136.1	16.596
250.0	14.065	35.709	126.7	14.028
300.0	11.476	35.280	122.3	11.438
350.0	10.093	35.044	119.1	10.052
400.0	9.023	34.875	120.6	8.979
450.0	8.486	34.810	118.7	8.438
500.0	7.953	34.748	119.7	7.901
550.0	7.315	34.684	121.5	7.261
600.0	6.905	34.655	123.5	6.848
650.0	6.503	34.636	125.6	6.442
700.0	6.250	34.655	128.6	6.187
750.0	5.877	34.635	132.6	5.811
800.0	5.723	34.682	133.8	5.653
850.0	5.530	34.716	138.6	5.456
900.0	5.494	34.753	144.2	5.416
950.0	5.424	34.801	149.9	5.342
1000.0	5.431	34.897	171.5	5.344
1002.0	5.436	34.894	171.0	5.349


Potential Temperature (°C)
Salinity
Probe data
Bottle data
Potential Temperature (°C)
Oxygen (umol/kg)
Probe data
Bottle data
Oxygen (umol/kg)
Salinity
Temperature (°C)
Pressure (dbar)
Probe data
Bottle data
Station: 2

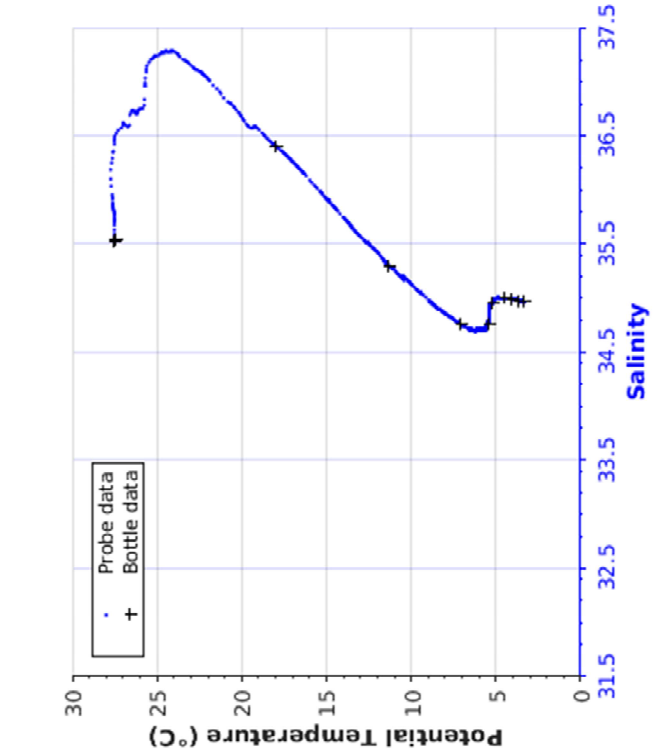
Cruise	: EUREC4A 2020		
Station	: 3	Cast	: 1
Date	: 23/01/2020	Ship	: N/O L'ATALANTE
Depth	: 1656 m	Organism	: ENS Paris; IFREMER
Position	: N 11 47.70 W 058 39.61		

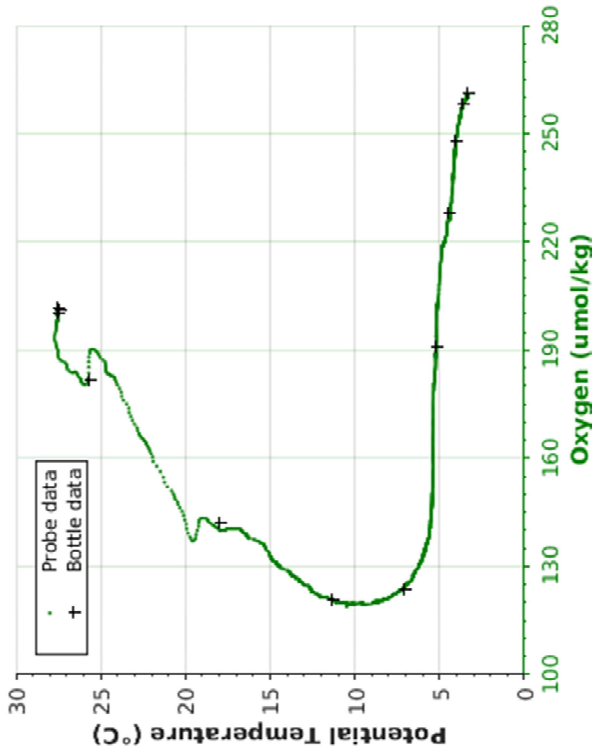
PRESSURE	TEMPERATURE	SALINITY	DISSOLV. OXYGEN	POTENT. TEMP.
dbar	deg.cels.	psu	umol/kg	deg.cels.
0.0	27.737	35.616	199.6	27.737
10.0	27.668	35.610	199.7	27.665
20.0	27.539	35.611	199.8	27.534
30.0	27.553	35.625	199.5	27.546
40.0	27.558	35.631	199.3	27.549
50.0	27.552	35.639	199.2	27.541
100.0	25.638	36.785	185.8	25.616
150.0	21.254	36.860	152.8	21.224
200.0	16.192	36.060	129.0	16.159
250.0	13.604	35.604	116.0	13.568
300.0	12.082	35.383	123.9	12.043
350.0	10.049	35.029	120.4	10.008
400.0	9.015	34.875	119.2	8.971
450.0	8.733	34.868	119.4	8.684
500.0	8.042	34.780	120.7	7.991
550.0	7.660	34.762	121.8	7.605
600.0	7.207	34.720	123.2	7.148
650.0	6.624	34.676	125.9	6.564
700.0	6.166	34.646	130.1	6.103
750.0	5.964	34.667	131.8	5.897
800.0	5.628	34.665	136.0	5.559
850.0	5.516	34.724	141.1	5.442
900.0	5.460	34.782	148.9	5.382
950.0	5.476	34.851	159.5	5.394
997.0	5.483	34.889	167.3	5.395

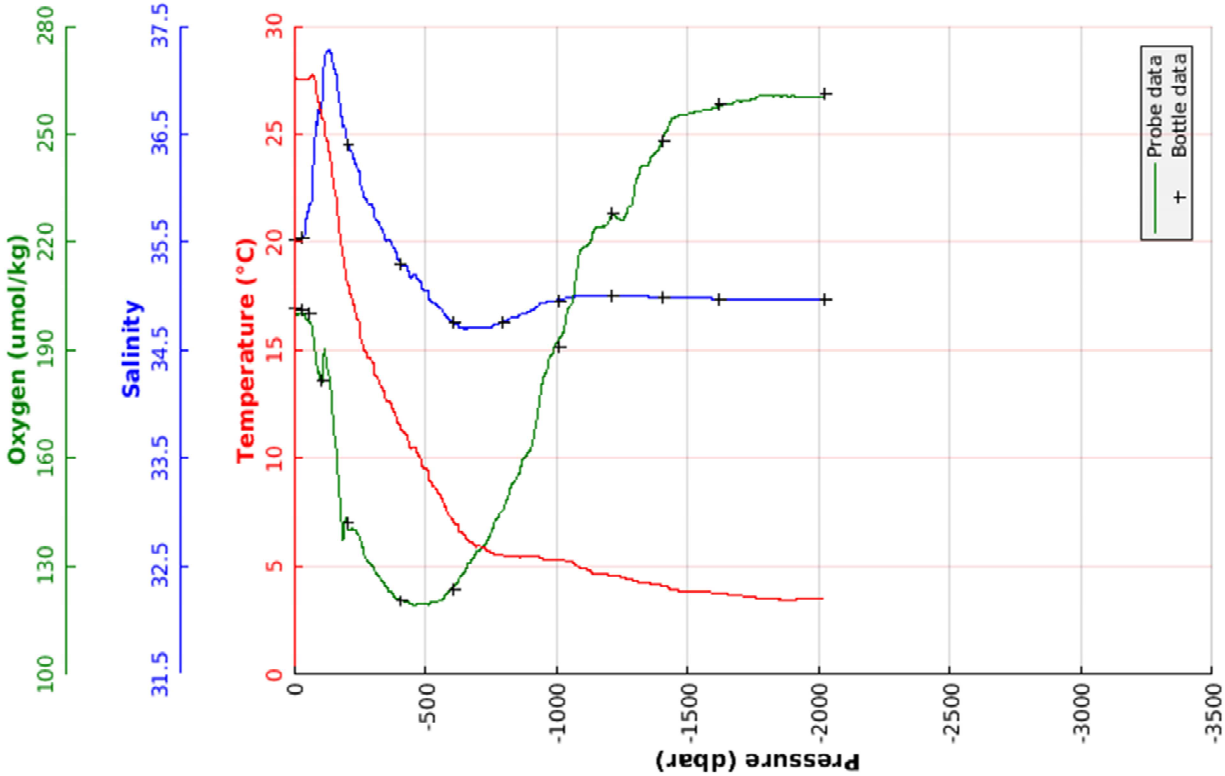

Potential Temperature (°C)
Salinity
Probe data
Bottle data
Potential Temperature (°C)
Oxygen (umol/kg)
Probe data
Bottle data
Oxygen (umol/kg)
Salinity
Temperature (°C)
Pressure (dbar)
Probe data
Bottle data
Station: 3

Cruise : EUREC4A 2020			
Station : 4	Cast : 1		
Date : 24/01/2020	Ship : N/O L'ATALANTE		
Depth : 2203 m	Organism : ENS Paris; IFREMER		
Position : N 11 23.05 W 058 24.77			

PRESSURE dbar	TEMPERATURE deg.cels.	SALINITY psu	DISSOLV. OXYGEN umol/kg	POTENT. TEMP. deg.cels.
0.0	27.603	35.528	200.2	27.603
10.0	27.596	35.529	200.1	27.594
20.0	27.514	35.530	200.3	27.509
30.0	27.510	35.536	200.1	27.503
40.0	27.533	35.634	198.9	27.523
50.0	27.539	35.774	198.7	27.527
100.0	26.162	36.727	181.6	26.139
150.0	22.774	37.117	166.6	22.743
200.0	18.316	36.445	141.2	18.281
250.0	16.022	36.092	137.8	15.982
300.0	14.489	35.825	130.2	14.445
350.0	12.719	35.518	124.3	12.671
400.0	11.575	35.332	121.2	11.523
450.0	10.533	35.192	119.4	10.478
500.0	9.541	35.053	119.7	9.484
550.0	8.432	34.903	120.7	8.373
600.0	7.210	34.764	123.9	7.151
650.0	6.499	34.710	128.6	6.439
700.0	5.945	34.709	134.4	5.883
750.0	5.644	34.718	139.9	5.579
800.0	5.524	34.771	146.9	5.455
850.0	5.479	34.815	155.2	5.406
900.0	5.477	34.858	162.5	5.399
950.0	5.356	34.942	182.6	5.274
1000.0	5.309	34.963	192.3	5.223
1050.0	5.229	34.985	202.4	5.139
1100.0	4.939	35.003	218.6	4.846
1150.0	4.658	35.000	224.2	4.563
1200.0	4.596	35.000	226.4	4.497
1250.0	4.520	34.997	226.2	4.417
1300.0	4.327	34.997	236.6	4.221
1350.0	4.272	34.997	241.5	4.163
1400.0	4.144	34.993	248.2	4.031
1450.0	3.920	34.984	254.4	3.805
1500.0	3.880	34.983	255.6	3.761
1550.0	3.849	34.981	256.5	3.726
1600.0	3.795	34.978	257.4	3.668
1650.0	3.748	34.976	258.1	3.617
1700.0	3.679	34.973	259.0	3.544
1750.0	3.624	34.970	259.6	3.486
1800.0	3.535	34.966	260.6	3.393
1850.0	3.496	34.965	260.5	3.350
1900.0	3.495	34.965	260.5	3.344
1950.0	3.499	34.965	260.3	3.343
2000.0	3.504	34.965	260.3	3.344
2023.0	3.505	34.965	260.3	3.342


Potential Temperature (°C)
Salinity
Probe data
Bottle data

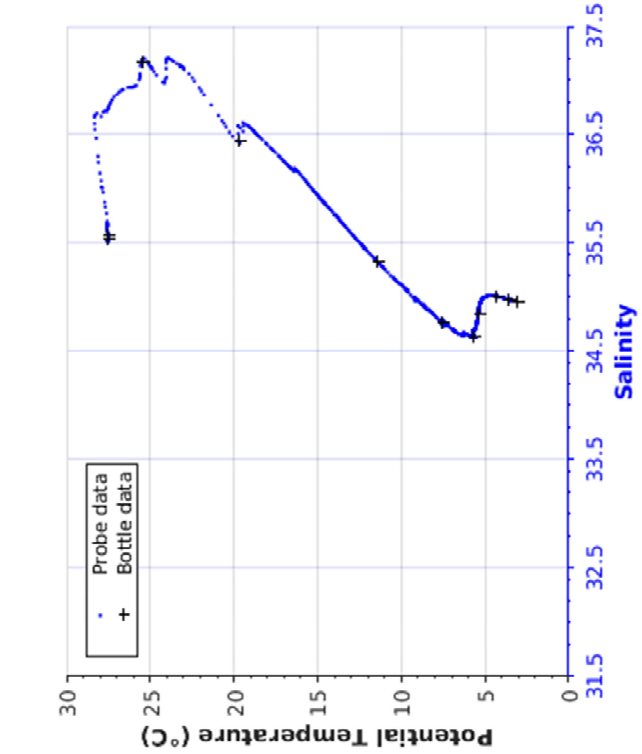

Potential Temperature (°C)
Oxygen (umol/kg)
Probe data
Bottle data

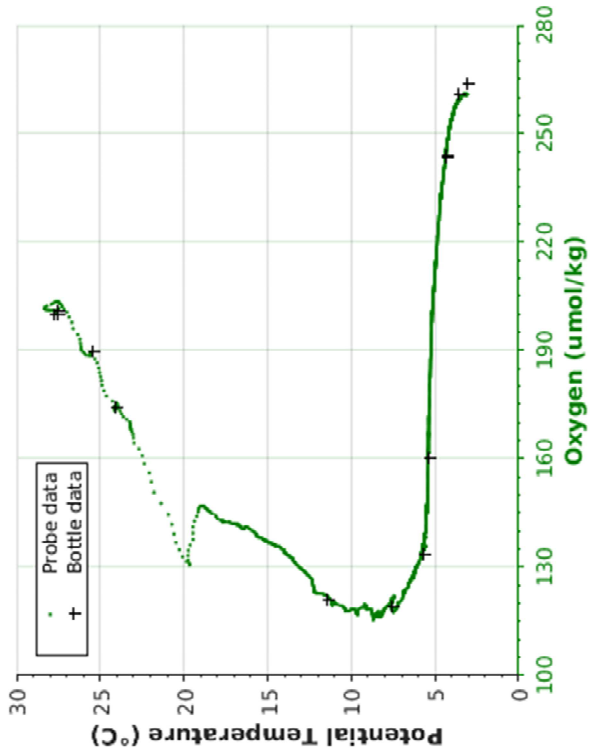

Oxygen (umol/kg)
Salinity
Temperature (°C)
Pressure (dbar)
Probe data
Bottle data

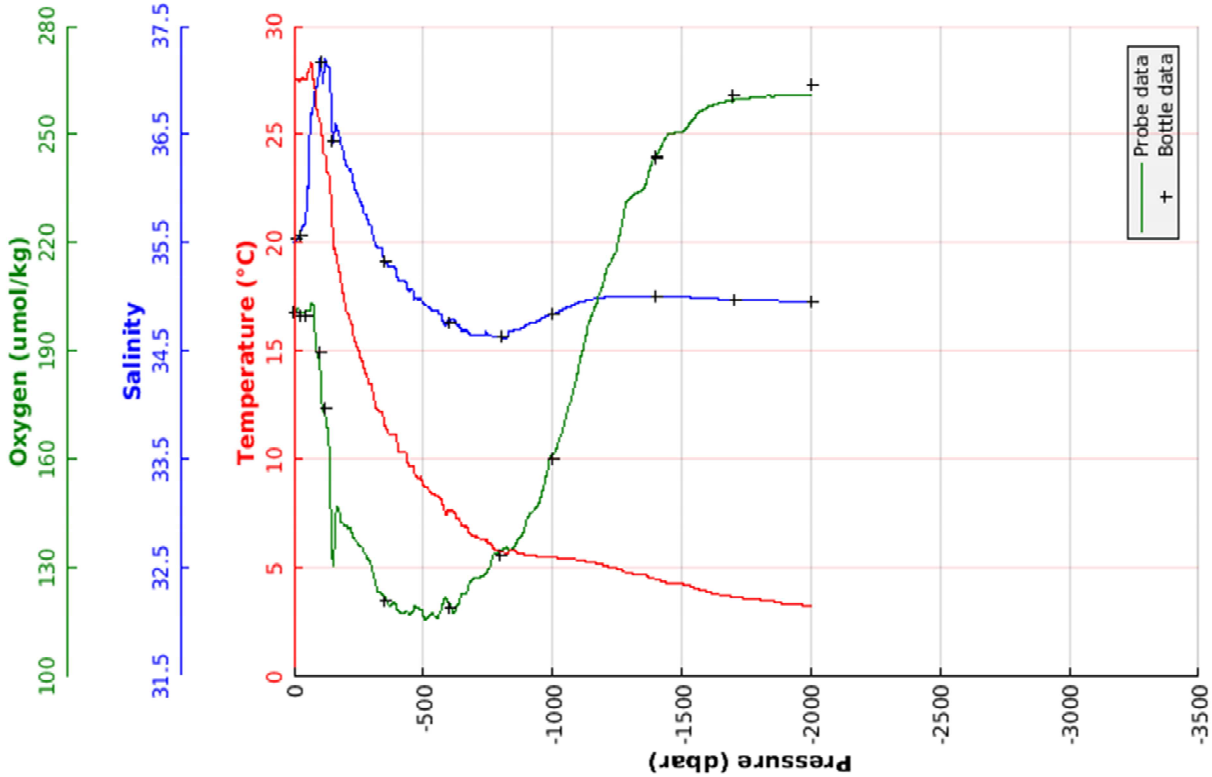
Station: 4

Cruise	: EUREC4A 2020		
Station	: 5	Cast	: 1
Date	: 24/01/2020	Ship	: N/O L'ATALANTE
Depth	: 2500 m	Organism	: ENS Paris; IFREMER
Position	: N 11 4.07 W 057 58.06		

PRESSURE	TEMPERATURE	SALINITY	DISSOLV. OXYGEN	POTENT. TEMP.
dbar	deg.cels.	psu	umol/kg	deg.cels.
0.0	27.531	35.516	201.4	27.531
10.0	27.526	35.521	201.6	27.524
20.0	27.493	35.555	201.7	27.488
30.0	27.576	35.622	201.3	27.569
40.0	27.565	35.652	200.6	27.556
50.0	27.693	35.833	200.8	27.682
100.0	25.608	37.134	190.0	25.586
150.0	20.494	36.572	136.8	20.466
200.0	17.034	36.254	142.0	17.001
250.0	15.026	35.938	137.2	14.988
300.0	13.417	35.658	131.5	13.375
350.0	11.635	35.356	122.4	11.590
400.0	10.707	35.201	119.5	10.658
450.0	9.698	35.059	117.0	9.646
500.0	8.865	34.941	118.5	8.810
550.0	8.373	34.879	116.6	8.315
600.0	7.584	34.766	120.7	7.524
650.0	6.946	34.689	123.1	6.883
700.0	6.465	34.651	127.2	6.400
750.0	6.224	34.663	129.3	6.155
800.0	5.764	34.630	135.0	5.694
850.0	5.820	34.690	135.4	5.744
900.0	5.590	34.744	142.9	5.511
950.0	5.550	34.786	147.9	5.467
1000.0	5.490	34.852	161.2	5.402
1050.0	5.467	34.899	170.6	5.375
1100.0	5.382	34.946	184.0	5.286
1150.0	5.281	34.983	199.4	5.180
1200.0	5.139	34.998	209.2	5.035
1250.0	5.003	35.006	217.9	4.896
1300.0	4.772	35.014	232.3	4.663
1350.0	4.719	35.014	234.7	4.605
1400.0	4.494	35.011	243.9	4.377
1450.0	4.307	35.005	250.2	4.188
1500.0	4.281	35.004	250.9	4.157
1550.0	4.109	34.997	254.4	3.983
1600.0	3.917	34.988	257.4	3.788
1650.0	3.784	34.983	258.9	3.653
1700.0	3.689	34.979	259.1	3.554
1750.0	3.596	34.975	260.1	3.457
1800.0	3.560	34.974	260.3	3.417
1850.0	3.502	34.971	260.6	3.356
1900.0	3.367	34.967	260.9	3.218
1950.0	3.317	34.964	261.0	3.164
2000.0	3.261	34.962	260.8	3.104
2006.0	3.253	34.961	260.9	3.096


Potential Temperature (°C)
Salinity
Probe data
Bottle data

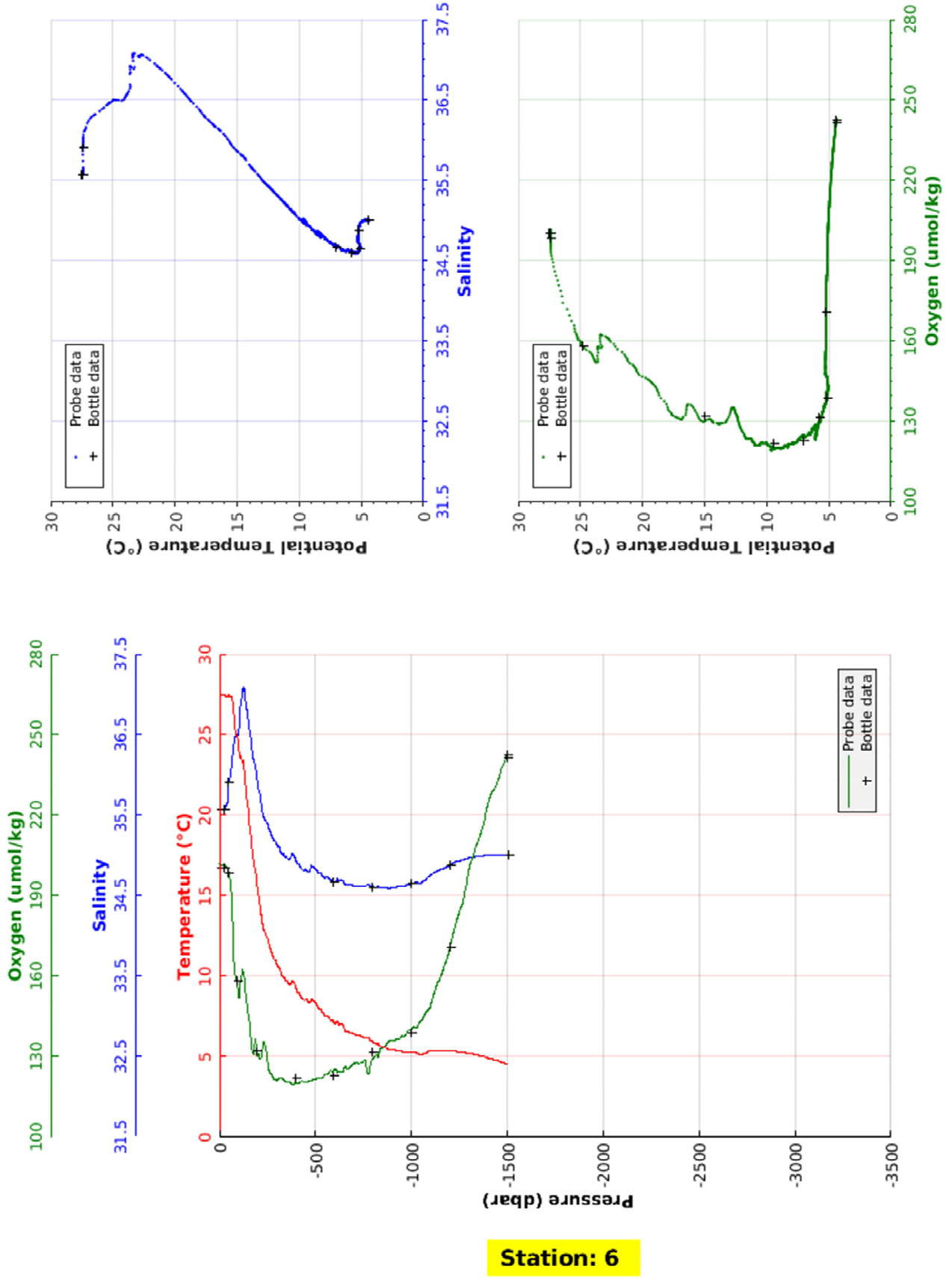

Potential Temperature (°C)
Oxygen (umol/kg)
Probe data
Bottle data


Oxygen (umol/kg)
Salinity
Temperature (°C)
Pressure (dbar)
Probe data
Bottle data

Station: 5

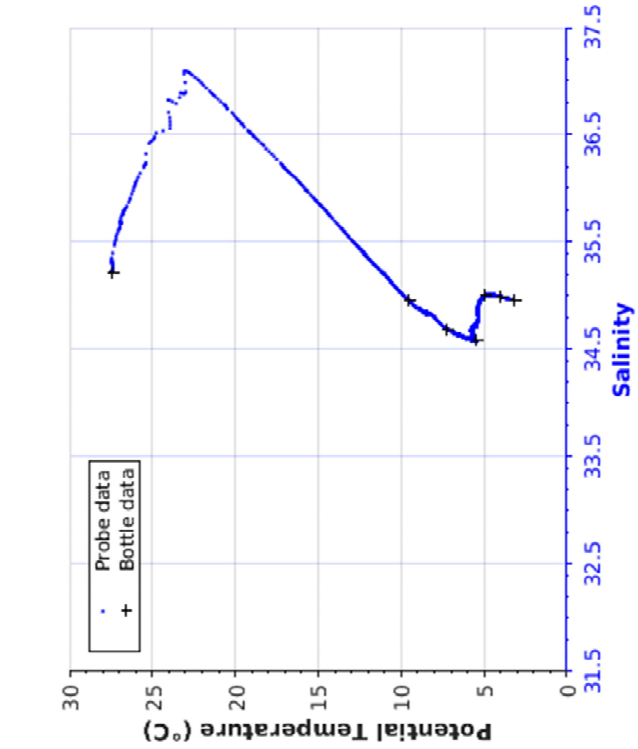
Cruise	: EUREC4A 2020		
Station	: 6	Cast	: 1
Date	: 24/01/2020	Ship	: N/O L'ATALANTE
Depth	: 3921 m	Organism	: ENS Paris; IFREMER
Position	: N 10 36.03 W 057 18.05		

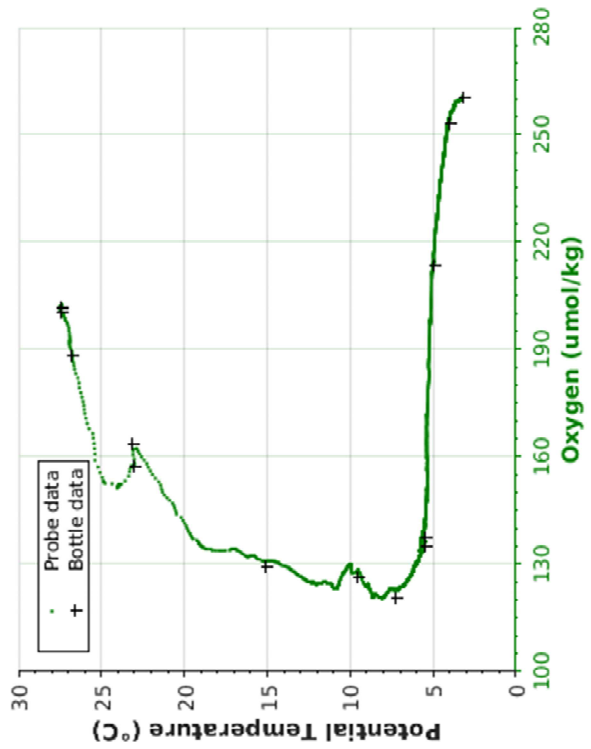
PRESSURE	TEMPERATURE	SALINITY	DISSOLV. OXYGEN	POTENT. TEMP.
dbar	deg.cels.	psu	umol/kg	deg.cels.
0.0	27.456	35.574	201.8	27.456
10.0	27.458	35.574	201.5	27.455
20.0	27.456	35.575	201.4	27.452
30.0	27.414	35.593	201.6	27.407
40.0	27.387	35.634	201.1	27.378
50.0	27.438	35.920	199.5	27.426
100.0	24.024	36.540	154.2	24.003
150.0	20.294	36.753	147.5	20.266
200.0	15.260	35.904	129.8	15.229
250.0	12.355	35.404	131.1	12.322
300.0	10.694	35.135	121.2	10.657
350.0	9.734	34.989	120.8	9.694
400.0	9.195	34.929	120.4	9.150
450.0	8.567	34.828	120.6	8.518
500.0	8.334	34.834	121.5	8.281
550.0	7.540	34.724	123.3	7.485
600.0	7.112	34.671	124.8	7.054
650.0	6.752	34.655	125.2	6.691
700.0	6.404	34.626	127.5	6.339
750.0	6.212	34.626	127.8	6.144
800.0	5.928	34.613	128.9	5.857
850.0	5.641	34.604	132.9	5.567
900.0	5.420	34.599	136.2	5.342
950.0	5.327	34.620	137.5	5.245
1000.0	5.258	34.649	140.1	5.172
1050.0	5.144	34.660	143.2	5.055
1100.0	5.378	34.751	148.1	5.282
1150.0	5.344	34.818	158.8	5.244
1200.0	5.340	34.878	169.6	5.235
1250.0	5.293	34.933	183.4	5.183
1300.0	5.214	34.970	199.0	5.100
1350.0	5.086	34.990	210.3	4.968
1400.0	4.907	35.005	223.7	4.786
1450.0	4.768	35.009	232.0	4.644
1500.0	4.547	35.007	242.3	4.421
1506.0	4.534	35.007	243.1	4.407

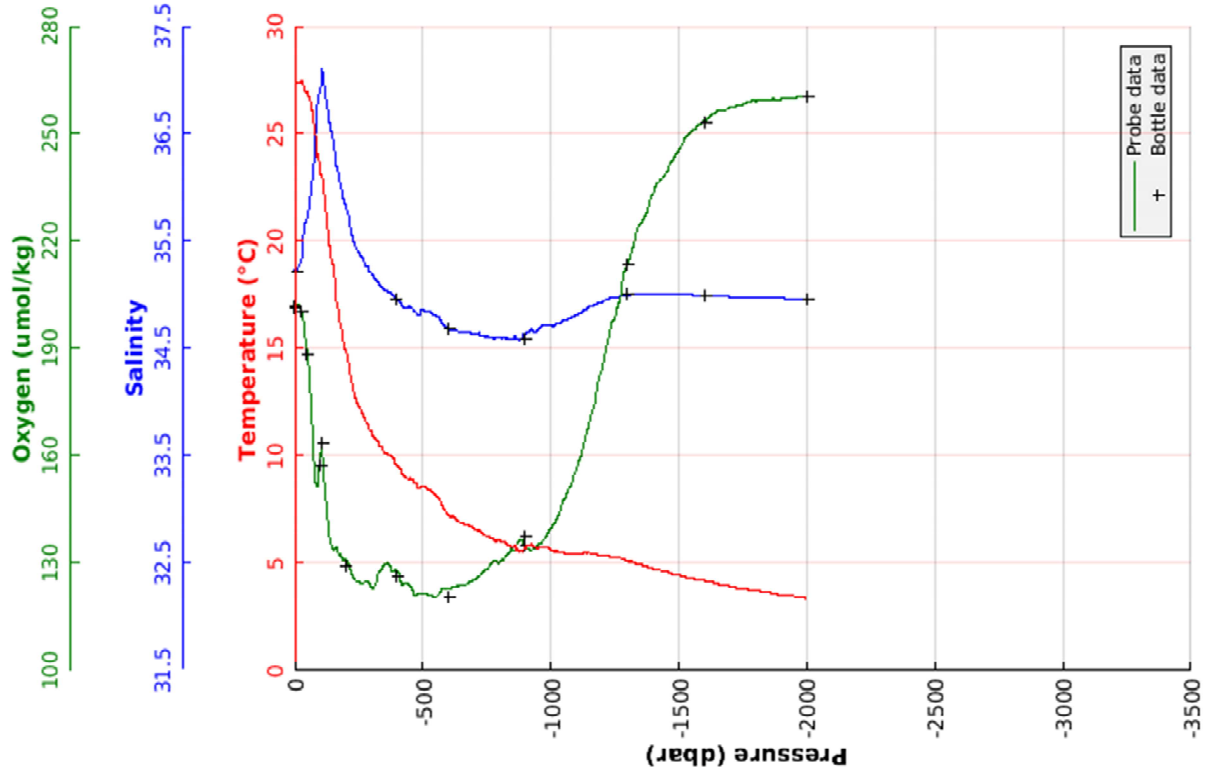

Potential Temperature (°C)
Salinity
Probe data
Bottle data
Oxygen (umol/kg)
Temperature (°C)
Pressure (dbar)
Station: 6

Cruise	: EUREC4A 2020		
Station	: 7	Cast	: 1
Date	: 24/01/2020	Ship	: N/O L'ATALANTE
Depth	: 3717 m	Organism	: ENS Paris; IFREMER
Position	: N 10 30.05 W 057 36.91		

PRESSURE dbar	TEMPERATURE deg.cels.	SALINITY psu	DISSOLV. OXYGEN umol/kg	POTENT. TEMP. deg.cels.
0.0	27.459	35.231	201.8	27.459
10.0	27.384	35.241	202.4	27.382
20.0	27.409	35.278	202.3	27.404
30.0	27.457	35.352	201.0	27.450
40.0	26.978	35.628	196.4	26.969
50.0	26.914	35.727	191.1	26.903
100.0	23.197	36.884	157.9	23.176
150.0	18.828	36.474	134.6	18.802
200.0	14.888	35.844	131.2	14.858
250.0	12.283	35.397	125.0	12.250
300.0	11.065	35.207	123.6	11.027
350.0	10.180	35.046	129.5	10.139
400.0	9.547	34.954	128.4	9.502
450.0	8.968	34.889	123.9	8.918
500.0	8.596	34.858	121.7	8.542
550.0	8.172	34.816	120.6	8.115
600.0	7.270	34.687	122.9	7.212
650.0	6.886	34.654	124.0	6.824
700.0	6.634	34.637	125.1	6.568
750.0	6.244	34.611	128.5	6.176
800.0	6.072	34.608	130.0	6.000
850.0	5.735	34.582	134.0	5.660
900.0	5.719	34.625	134.5	5.640
950.0	5.714	34.670	135.0	5.630
1000.0	5.666	34.719	139.5	5.577
1050.0	5.488	34.759	147.5	5.395
1100.0	5.460	34.810	155.8	5.363
1150.0	5.491	34.889	168.8	5.389
1200.0	5.359	34.933	183.6	5.253
1250.0	5.276	34.974	198.3	5.166
1300.0	5.111	34.999	213.5	4.998
1350.0	4.927	35.007	224.6	4.810
1400.0	4.758	35.009	232.9	4.639
1450.0	4.631	35.009	238.6	4.508
1500.0	4.452	35.005	245.2	4.327
1550.0	4.296	35.000	250.7	4.168
1600.0	4.190	34.996	253.7	4.058
1650.0	4.063	34.990	256.3	3.928
1700.0	3.930	34.984	257.2	3.792
1750.0	3.846	34.980	258.1	3.704
1800.0	3.747	34.977	259.3	3.603
1850.0	3.643	34.973	259.3	3.495
1900.0	3.520	34.968	259.7	3.369
1950.0	3.467	34.967	259.9	3.312
2000.0	3.376	34.963	260.2	3.218
2001.0	3.373	34.963	260.0	3.215


Potential Temperature (°C)
Salinity
Probe data
Bottle data

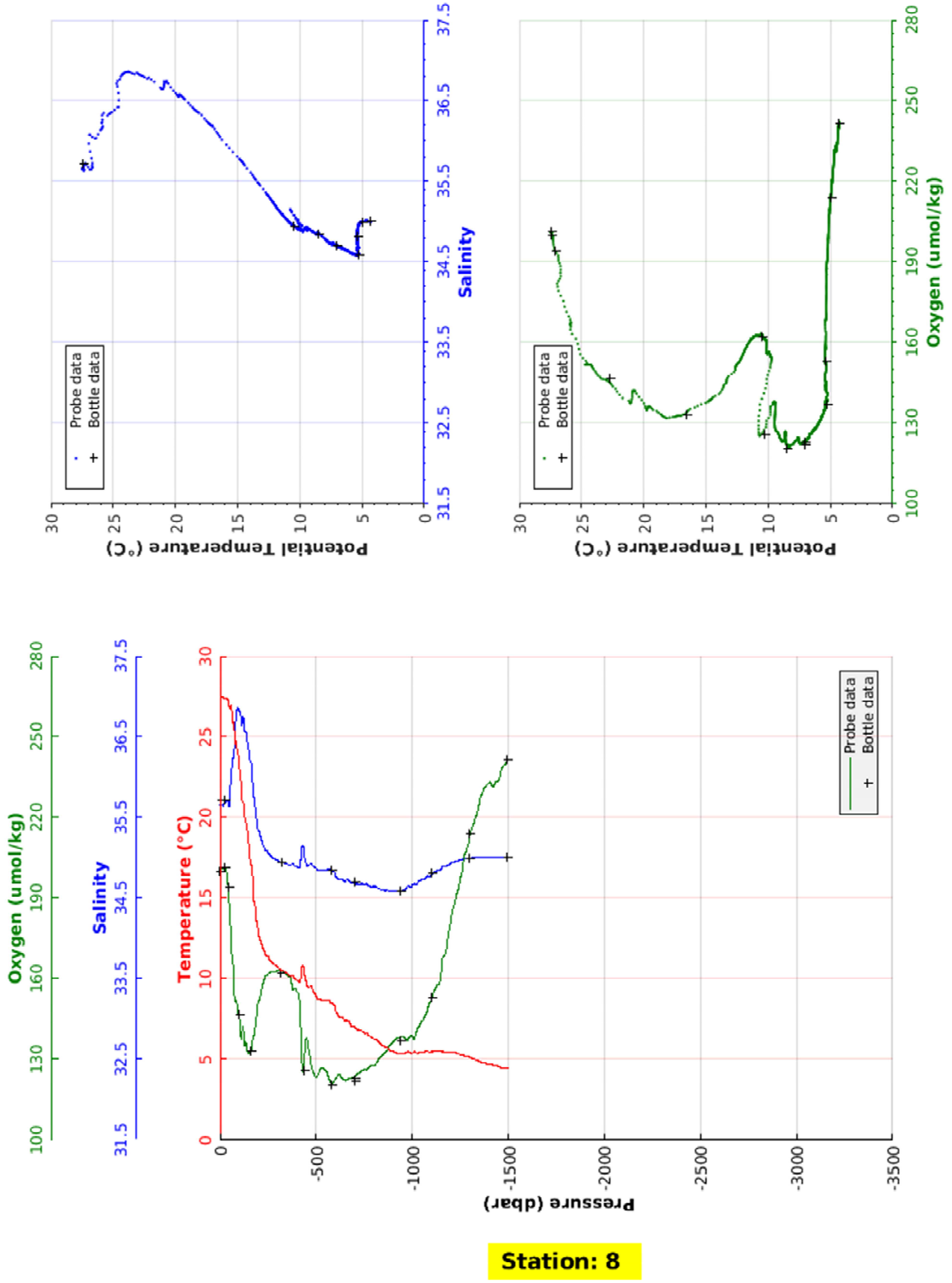

Potential Temperature (°C)
Oxygen (umol/kg)
Probe data
Bottle data


Oxygen (umol/kg)
Salinity
Temperature (°C)
Pressure (dbar)
Probe data
Bottle data

Station: 7

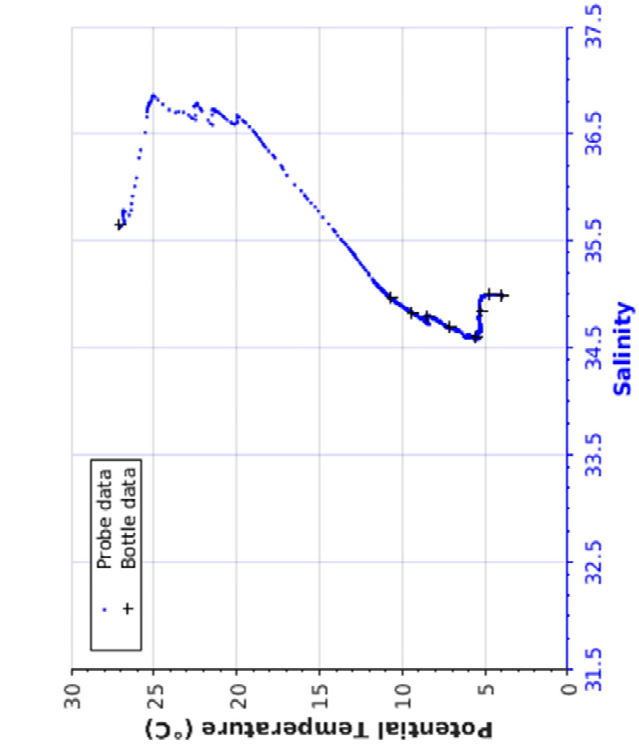
Cruise	: EUREC4A 2020		
Station	: 8	Cast	: 1
Date	: 24/01/2020	Ship	: N/O L'ATALANTE
Depth	: 3500 m	Organism	: ENS Paris; IFREMER
Position	: N 10 21.55 W 057 52.80		

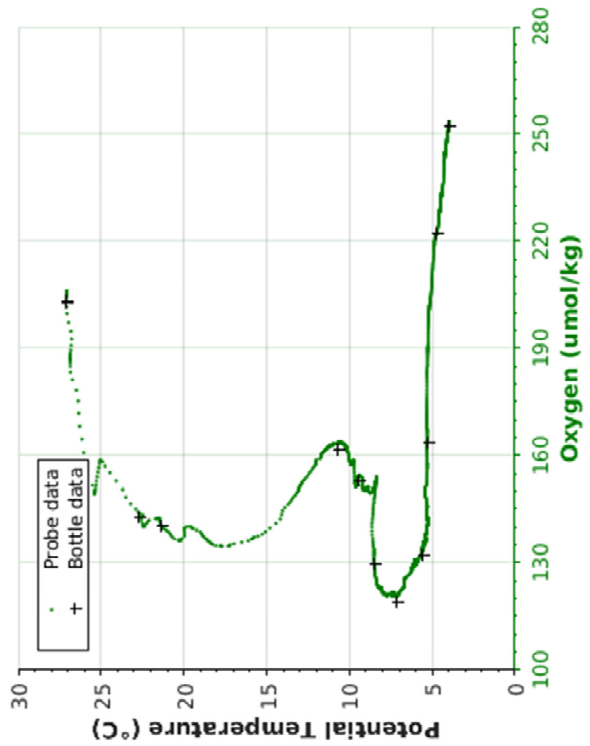
PRESSURE	TEMPERATURE	SALINITY	DISSOLV. OXYGEN	POTENT. TEMP.
dbar	deg.cels.	psu	umol/kg	deg.cels.
0.0	27.451	35.651	201.3	27.451
10.0	27.452	35.657	201.3	27.450
20.0	27.349	35.640	201.3	27.345
30.0	27.406	35.692	201.0	27.399
40.0	27.310	35.709	199.0	27.301
50.0	26.785	35.643	190.0	26.774
100.0	23.115	36.846	146.8	23.095
150.0	18.220	36.356	131.9	18.194
200.0	12.653	35.341	150.9	12.626
250.0	11.437	35.088	161.2	11.405
300.0	10.731	34.972	162.9	10.695
350.0	10.344	34.928	161.6	10.302
400.0	9.906	34.889	156.0	9.860
450.0	9.662	34.917	137.7	9.610
500.0	8.950	34.872	123.4	8.895
550.0	8.664	34.846	126.1	8.605
600.0	8.044	34.787	122.4	7.981
650.0	7.402	34.707	122.5	7.338
700.0	7.078	34.705	123.5	7.010
750.0	6.688	34.672	126.1	6.618
800.0	6.272	34.642	128.1	6.199
850.0	5.830	34.598	131.7	5.755
900.0	5.496	34.591	136.1	5.418
950.0	5.338	34.595	138.6	5.257
1000.0	5.389	34.645	139.2	5.302
1050.0	5.477	34.727	143.9	5.385
1100.0	5.459	34.786	151.8	5.362
1150.0	5.486	34.861	160.4	5.385
1200.0	5.418	34.928	180.4	5.311
1250.0	5.304	34.971	195.7	5.194
1300.0	5.120	34.998	212.5	5.006
1350.0	4.893	35.006	224.7	4.777
1400.0	4.717	35.007	232.9	4.598
1450.0	4.583	35.004	233.5	4.461
1500.0	4.434	35.003	242.1	4.308
1501.0	4.432	35.003	242.2	4.307

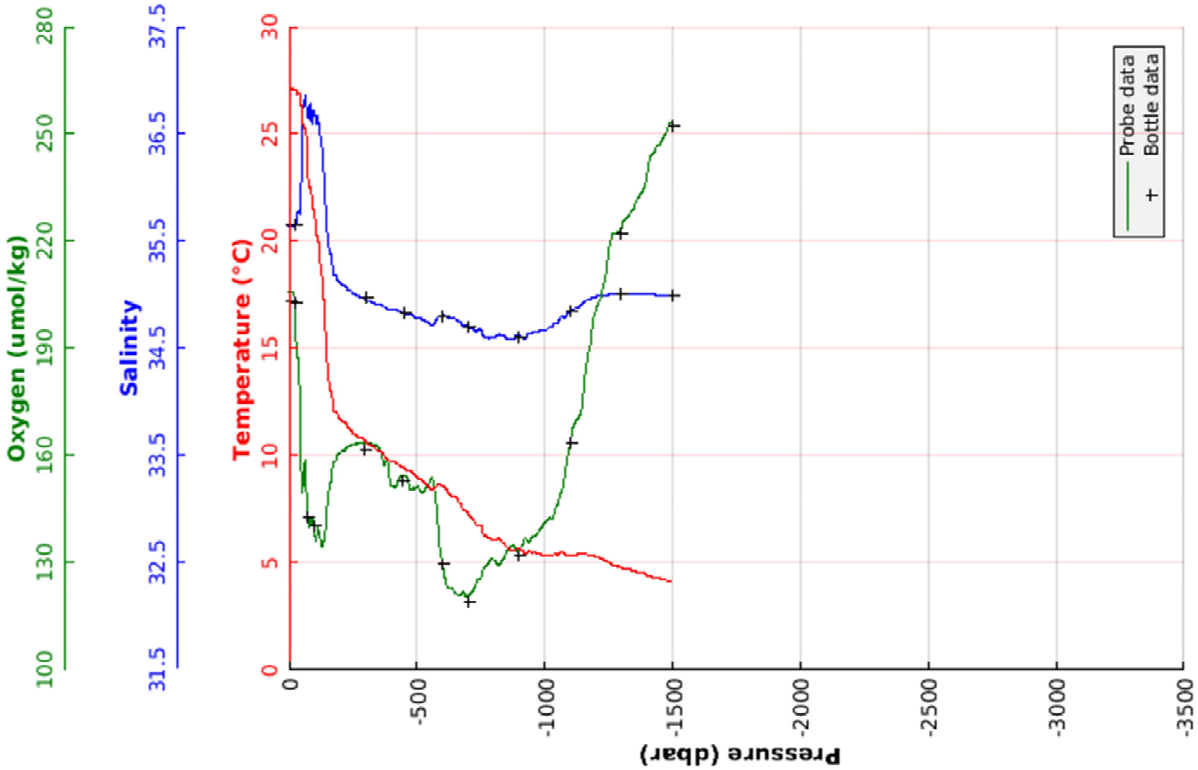

Potential Temperature (°C)
Salinity
Probe data
Bottle data
Potential Temperature (°C)
Oxygen (umol/kg)
Probe data
Bottle data
Oxygen (umol/kg)
Salinity
Temperature (°C)
Pressure (dbar)
Probe data
Bottle data
Station: 8

Cruise	: EUREC4A 2020		
Station	: 9	Cast	: 1
Date	: 25/01/2020	Ship	: N/O L'ATALANTE
Depth	: 2422 m	Organism	: ENS Paris; IFREMER
Position	: N 10 6.22 W 058 29.96		

PRESSURE dbar	TEMPERATURE deg.cels.	SALINITY psu	DISSOLV. OXYGEN umol/kg	POTENT. TEMP. deg.cels.
0.0	27.101	35.637	205.8	27.101
10.0	27.094	35.637	205.9	27.092
20.0	27.096	35.637	205.8	27.092
30.0	26.824	35.662	192.2	26.817
40.0	26.860	35.771	186.7	26.851
50.0	26.068	36.090	161.5	26.057
100.0	21.258	36.715	139.9	21.239
150.0	14.107	35.594	144.4	14.085
200.0	11.699	35.121	160.7	11.673
250.0	11.029	35.009	163.3	10.998
300.0	10.669	34.960	163.6	10.632
350.0	10.240	34.913	162.6	10.198
400.0	9.700	34.862	152.1	9.654
450.0	9.427	34.827	154.3	9.376
500.0	8.997	34.785	151.4	8.942
550.0	8.477	34.730	152.0	8.418
600.0	8.587	34.801	131.5	8.522
650.0	8.077	34.777	121.9	8.010
700.0	7.305	34.704	120.9	7.235
750.0	6.747	34.682	125.5	6.675
800.0	6.080	34.600	131.1	6.008
850.0	5.753	34.594	132.6	5.678
900.0	5.674	34.615	133.3	5.595
950.0	5.473	34.636	136.9	5.391
1000.0	5.346	34.664	140.8	5.259
1050.0	5.396	34.737	145.9	5.304
1100.0	5.401	34.841	162.4	5.305
1150.0	5.432	34.915	174.8	5.331
1200.0	5.309	34.983	200.1	5.203
1250.0	5.015	35.002	215.6	4.908
1300.0	4.817	35.003	223.1	4.706
1350.0	4.635	35.003	229.0	4.522
1400.0	4.426	35.002	237.9	4.310
1450.0	4.295	35.000	246.8	4.176
1500.0	4.107	34.992	253.4	3.985


Potential Temperature (°C)
Salinity
Probe data
Bottle data

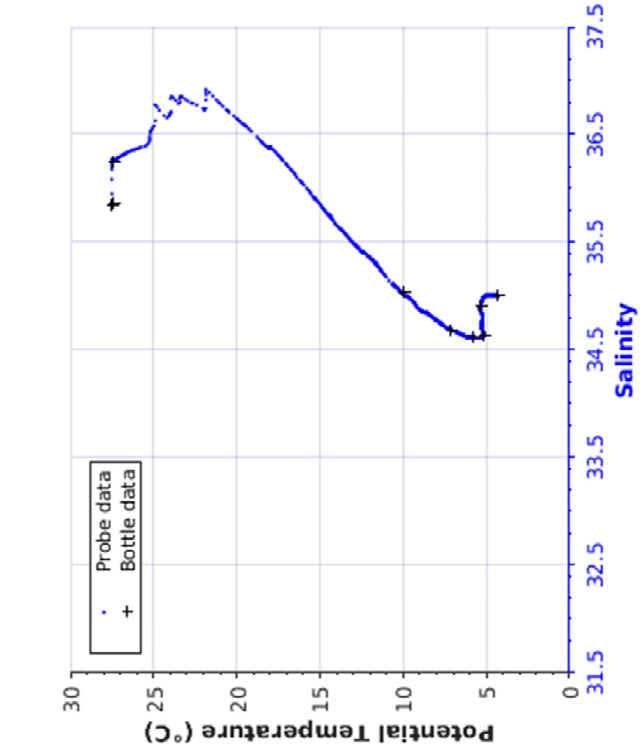

Potential Temperature (°C)
Oxygen (umol/kg)
Probe data
Bottle data

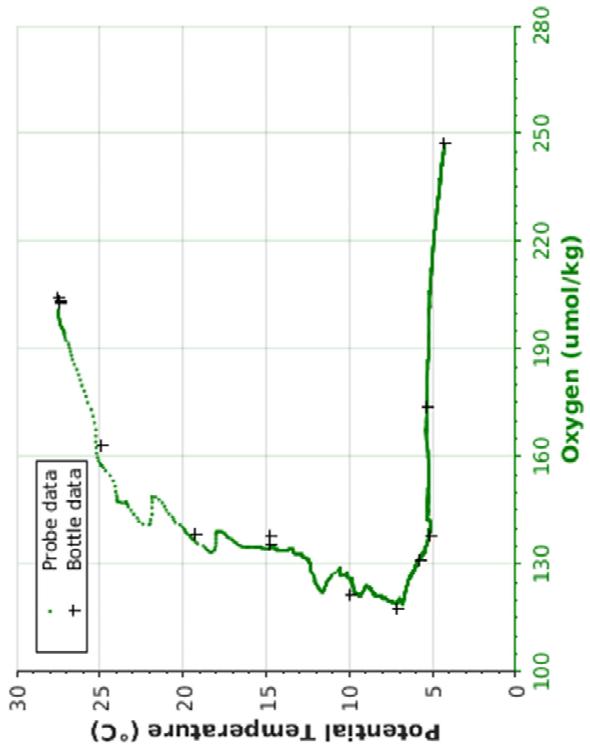

Oxygen (umol/kg)
Salinity
Temperature (°C)
Pressure (dbar)
Probe data
Bottle data

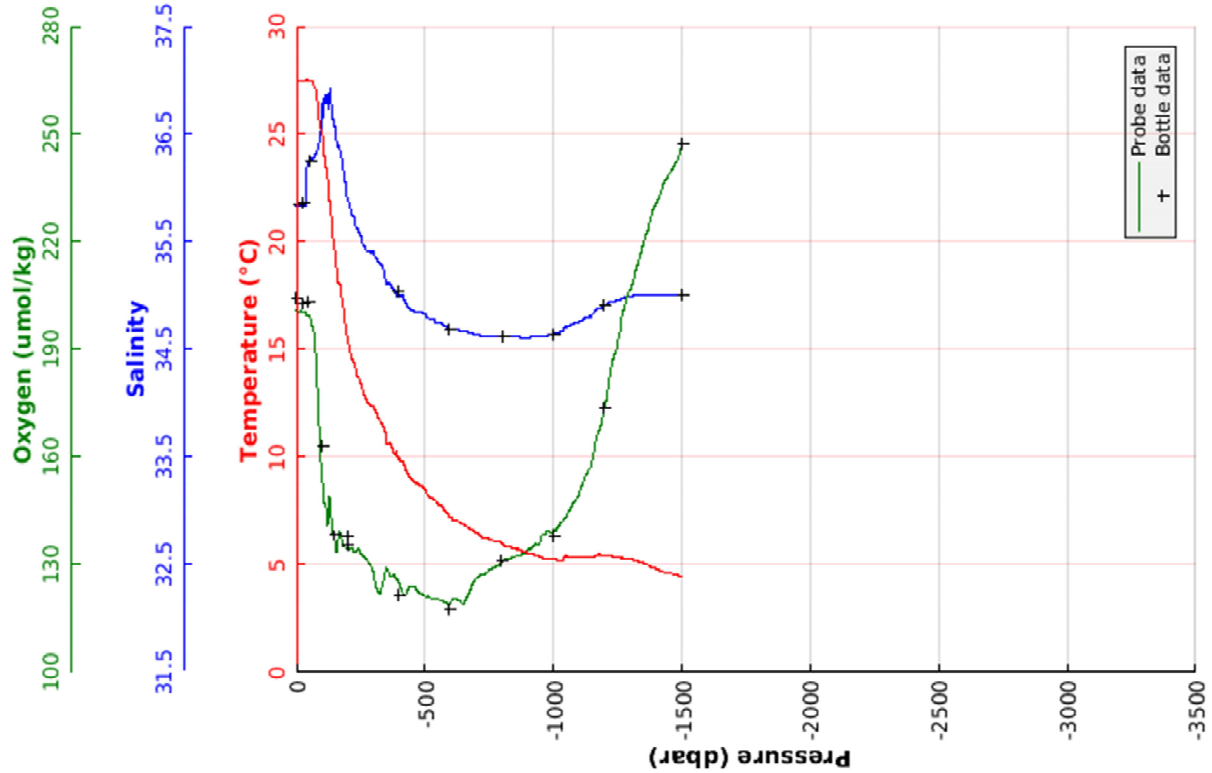
Station: 9

Cruise	: EUREC4A 2020		
Station	: 10	Cast	: 1
Date	: 25/01/2020	Ship	: N/O L'ATALANTE
Depth	: 3539 m	Organism	: ENS Paris; IFREMER
Position	: N 10 7.80 W 057 29.94		

PRESSURE	TEMPERATURE	SALINITY	DISSOLV. OXYGEN	POTENT. TEMP.
dbar	deg.cels.	psu	umol/kg	deg.cels.
0.0	27.470	35.829	200.8	27.470
10.0	27.463	35.827	200.3	27.461
20.0	27.467	35.828	200.7	27.462
30.0	27.470	35.829	200.3	27.463
40.0	27.517	35.948	200.3	27.508
50.0	27.492	36.253	199.6	27.480
100.0	24.933	36.631	155.8	24.911
150.0	19.509	36.583	137.6	19.482
200.0	15.355	35.907	134.8	15.324
250.0	13.444	35.563	134.1	13.409
300.0	12.363	35.406	128.8	12.323
350.0	10.642	35.099	129.2	10.600
400.0	9.930	35.005	125.4	9.883
450.0	8.949	34.866	124.0	8.900
500.0	8.489	34.829	121.6	8.436
550.0	7.842	34.752	120.5	7.786
600.0	7.209	34.691	119.3	7.150
650.0	6.876	34.674	118.9	6.814
700.0	6.472	34.637	126.1	6.408
750.0	6.172	34.622	128.3	6.104
800.0	6.011	34.626	130.3	5.939
850.0	5.735	34.614	132.3	5.660
900.0	5.542	34.609	134.0	5.464
950.0	5.380	34.623	136.2	5.298
1000.0	5.260	34.645	139.4	5.175
1050.0	5.413	34.713	143.0	5.322
1100.0	5.361	34.756	149.4	5.265
1150.0	5.339	34.817	157.5	5.238
1200.0	5.465	34.908	173.6	5.358
1250.0	5.358	34.959	190.1	5.247
1300.0	5.269	34.994	206.4	5.154
1350.0	5.067	35.009	219.0	4.950
1400.0	4.830	35.011	230.5	4.710
1450.0	4.627	35.008	238.7	4.505
1500.0	4.434	35.006	246.8	4.309
1501.0	4.432	35.006	247.0	4.307


Potential Temperature (°C)
Salinity
Probe data
Bottle data

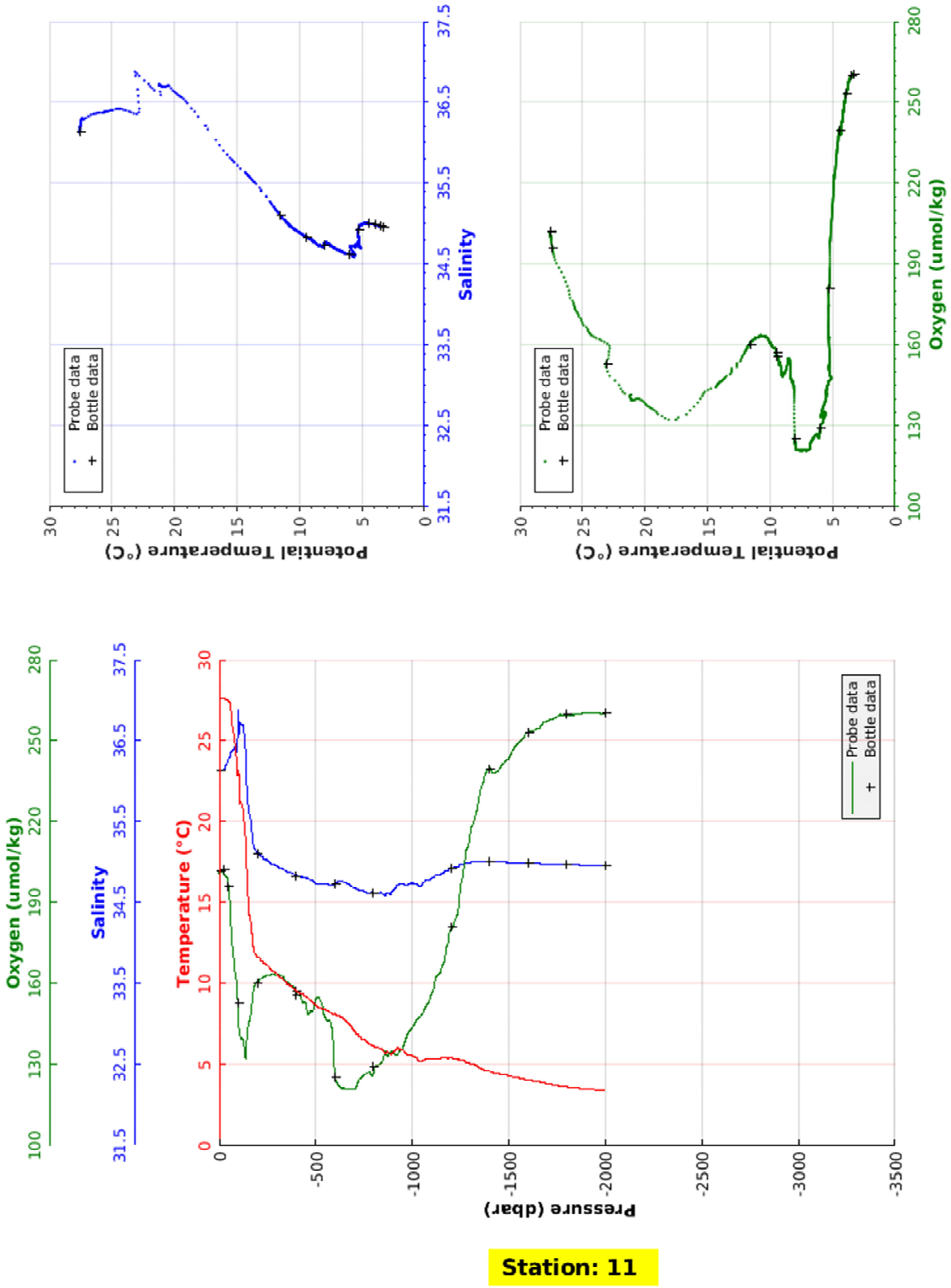

Potential Temperature (°C)
Oxygen (umol/kg)
Probe data
Bottle data


Oxygen (umol/kg)
Salinity
Temperature (°C)
Pressure (dbar)
Probe data
Bottle data

Station: 10

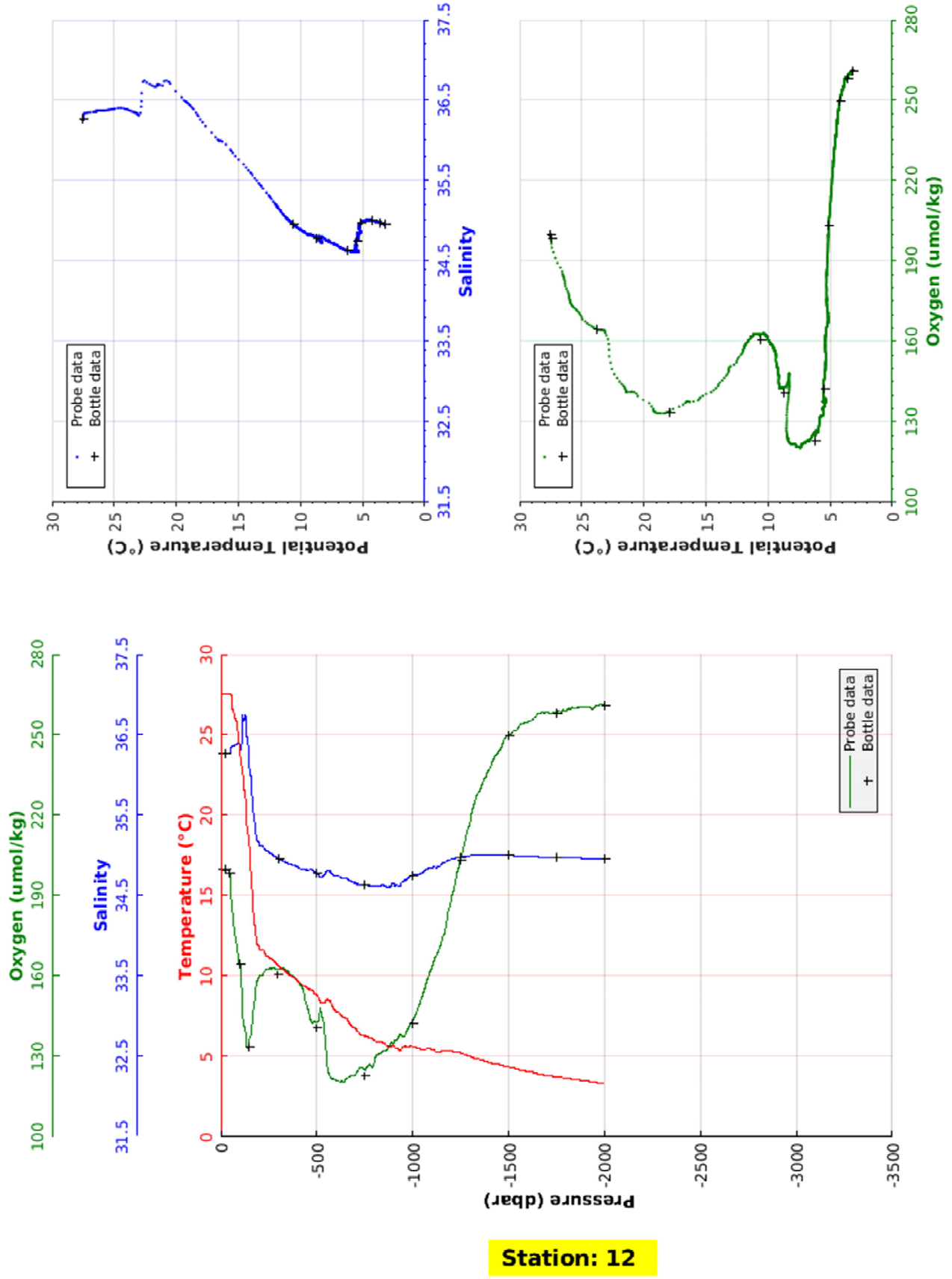
Cruise	: EUREC4A 2020		
Station	: 11	Cast	: 1
Date	: 27/01/2020	Ship	: N/O L'ATALANTE
Depth	: 2547 m	Organism	: ENS Paris; IFREMER
Position	: N 09 24.10 W 058 16.13		

PRESSURE	TEMPERATURE	SALINITY	DISSOLV. OXYGEN	POTENT. TEMP.
dbar	deg.cels.	psu	umol/kg	deg.cels.
0.0	27.576	36.139	201.0	27.576
10.0	27.585	36.140	201.0	27.582
20.0	27.584	36.138	201.0	27.579
30.0	27.558	36.150	200.7	27.551
40.0	27.523	36.213	199.4	27.514
50.0	27.469	36.284	197.8	27.457
100.0	23.170	36.878	152.5	23.149
150.0	15.239	35.758	142.9	15.215
200.0	11.632	35.121	160.5	11.607
250.0	11.135	35.030	162.9	11.104
300.0	10.608	34.955	163.4	10.571
350.0	10.040	34.892	160.8	9.999
400.0	9.540	34.840	157.3	9.495
450.0	9.219	34.807	153.0	9.168
500.0	8.636	34.745	153.6	8.582
550.0	8.392	34.733	147.8	8.333
600.0	8.087	34.744	127.5	8.025
650.0	7.745	34.751	121.4	7.679
700.0	7.091	34.685	121.1	7.023
750.0	6.546	34.645	126.0	6.476
800.0	6.121	34.624	126.5	6.048
850.0	5.833	34.608	131.5	5.758
900.0	5.759	34.643	134.8	5.679
950.0	5.951	34.730	135.7	5.865
1000.0	5.555	34.741	143.6	5.467
1050.0	5.192	34.710	148.4	5.102
1100.0	5.353	34.804	155.9	5.257
1150.0	5.424	34.863	164.7	5.322
1200.0	5.419	34.925	180.0	5.313
1250.0	5.309	34.971	194.7	5.198
1300.0	5.068	34.998	214.7	4.955
1350.0	4.805	35.007	229.9	4.690
1400.0	4.602	35.008	240.0	4.484
1450.0	4.438	35.001	239.0	4.318
1500.0	4.336	34.999	243.3	4.212
1550.0	4.199	34.995	248.9	4.072
1600.0	4.048	34.989	253.4	3.918
1650.0	3.974	34.986	254.4	3.840
1700.0	3.863	34.981	257.3	3.726
1750.0	3.737	34.975	258.9	3.597
1800.0	3.634	34.972	259.3	3.491
1850.0	3.579	34.969	259.8	3.432
1900.0	3.508	34.966	260.4	3.357
1950.0	3.465	34.964	260.4	3.310
2000.0	3.422	34.963	260.0	3.263
2002.0	3.420	34.963	260.1	3.261


Potential Temperature (°C)
Salinity
Probe data
Bottle data
Potential Temperature (°C)
Oxygen (umol/kg)
Probe data
Bottle data
Oxygen (umol/kg)
Salinity
Temperature (°C)
Pressure (dbar)
Probe data
Bottle data
Station: 11

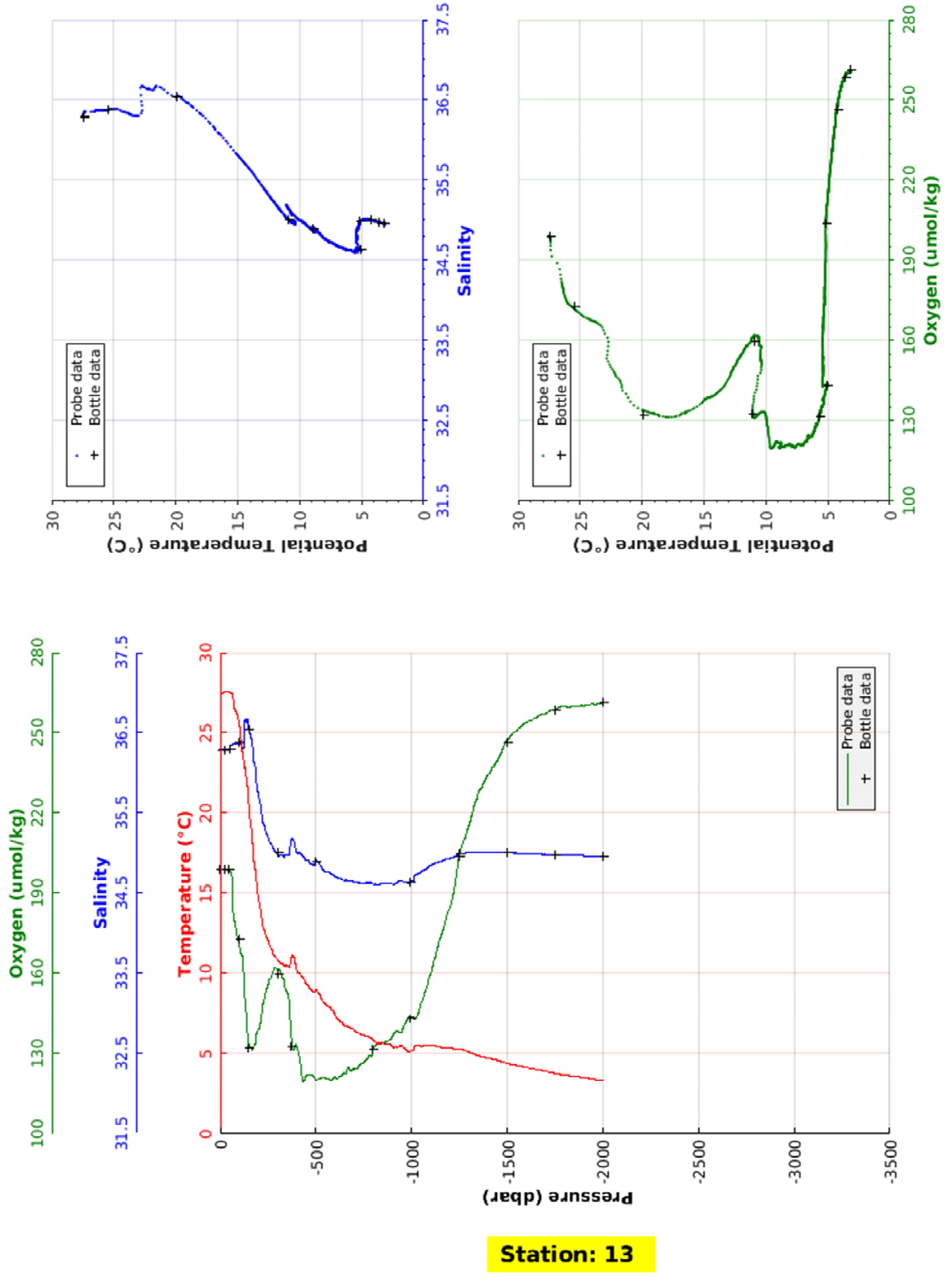
Cruise	: EUREC4A 2020		
Station	: 12	Cast	: 1
Date	: 27/01/2020	Ship	: N/O L'ATALANTE
Depth	: 2758 m	Organism	: ENS Paris; IFREMER
Position	: N 09 23.98 W 058 4.15		

PRESSURE	TEMPERATURE	SALINITY	DISSOLV. OXYGEN	POTENT. TEMP.
dbar	deg.cels.	psu	umol/kg	deg.cels.
0.0	27.538	36.264	199.9	27.538
10.0	27.542	36.264	200.1	27.539
20.0	27.542	36.264	199.5	27.537
30.0	27.542	36.263	199.5	27.535
40.0	27.551	36.264	199.4	27.542
50.0	27.507	36.275	199.3	27.495
100.0	23.797	36.374	164.2	23.776
150.0	17.663	36.175	133.9	17.638
200.0	11.833	35.163	159.0	11.808
250.0	11.157	35.036	162.7	11.126
300.0	10.655	34.963	162.6	10.619
350.0	10.139	34.903	162.1	10.098
400.0	9.705	34.858	158.7	9.659
450.0	9.273	34.822	149.6	9.222
500.0	8.850	34.795	142.6	8.795
550.0	8.541	34.794	133.9	8.482
600.0	7.821	34.748	121.5	7.759
650.0	7.392	34.722	121.2	7.328
700.0	6.768	34.662	122.8	6.702
750.0	6.280	34.629	125.7	6.211
800.0	5.998	34.621	127.3	5.926
850.0	5.844	34.629	132.1	5.769
900.0	5.718	34.651	134.7	5.639
950.0	5.625	34.676	137.5	5.542
1000.0	5.622	34.748	143.1	5.534
1050.0	5.466	34.787	152.1	5.374
1100.0	5.460	34.853	162.6	5.363
1150.0	5.351	34.890	172.0	5.250
1200.0	5.356	34.952	187.4	5.250
1250.0	5.232	34.983	203.3	5.122
1300.0	5.036	34.998	216.4	4.924
1350.0	4.834	35.008	229.1	4.719
1400.0	4.662	35.009	237.1	4.544
1450.0	4.524	35.008	243.8	4.403
1500.0	4.366	35.004	250.0	4.242
1550.0	4.219	34.997	252.2	4.092
1600.0	4.086	34.991	254.7	3.955
1650.0	3.951	34.984	257.7	3.817
1700.0	3.843	34.980	258.5	3.706
1750.0	3.757	34.977	258.3	3.617
1800.0	3.675	34.974	258.9	3.531
1850.0	3.583	34.970	260.0	3.435
1900.0	3.502	34.967	260.3	3.351
1950.0	3.398	34.962	260.3	3.244
2000.0	3.356	34.959	261.1	3.198
2002.0	3.354	34.959	260.9	3.196


Station: 12
Pressure (dbar)
Temperature (°C)
Salinity
Oxygen (umol/kg)
Probe data
Bottle data
Potential Temperature (°C)
Salinity
Probe data
Bottle data
Potential Temperature (°C)
Oxygen (umol/kg)
Probe data
Bottle data

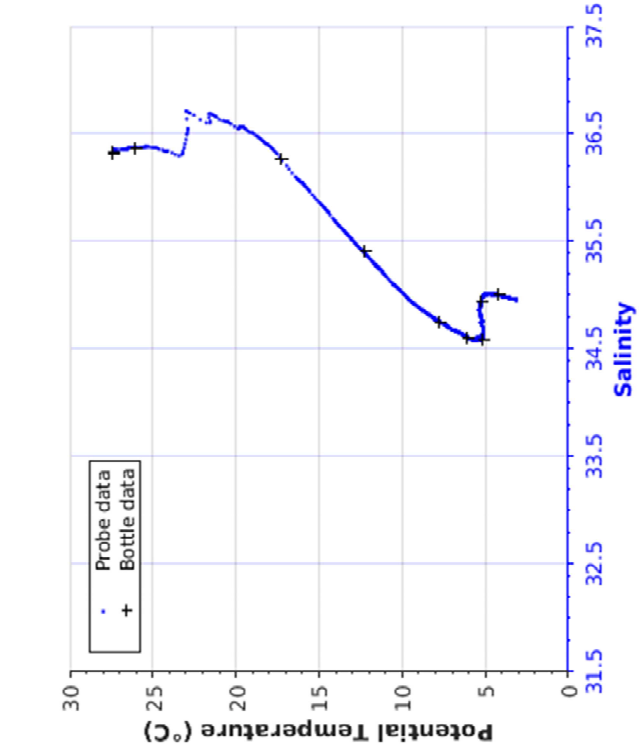
Cruise	: EUREC4A 2020		
Station	: 13	Cast	: 1
Date	: 27/01/2020	Ship	: N/O L'ATALANTE
Depth	: 2927 m	Organism	: ENS Paris; IFREMER
Position	: N 09 23.96 W 057 52.19		

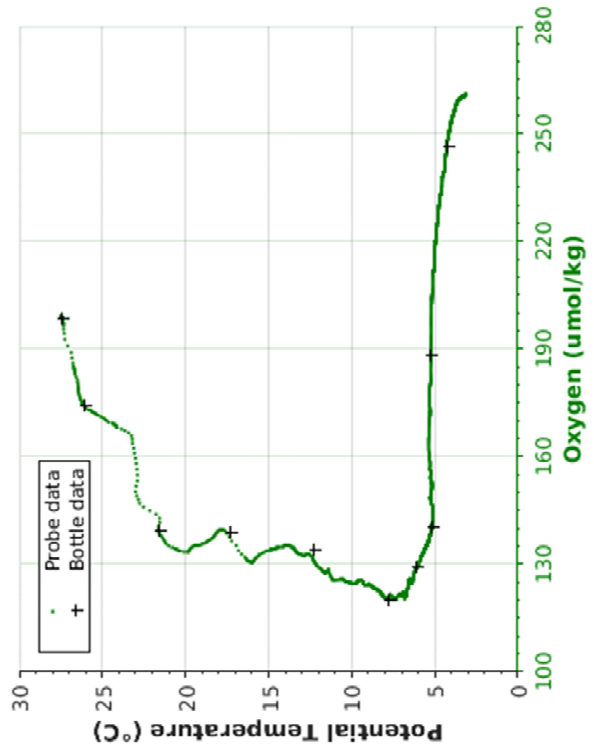
PRESSURE	TEMPERATURE	SALINITY	DISSOLV. OXYGEN	POTENT. TEMP.
dbar	deg.cels.	psu	umol/kg	deg.cels.
0.0	27.488	36.294	199.3	27.488
10.0	27.498	36.294	198.7	27.495
20.0	27.501	36.294	199.0	27.497
30.0	27.504	36.294	199.0	27.497
40.0	27.504	36.295	198.2	27.495
50.0	27.496	36.301	199.3	27.485
100.0	25.452	36.379	171.9	25.429
150.0	19.994	36.533	133.0	19.966
200.0	14.695	35.750	138.7	14.665
250.0	12.063	35.220	154.6	12.030
300.0	10.845	34.994	162.0	10.808
350.0	10.461	34.977	153.2	10.419
400.0	10.236	35.020	133.6	10.188
450.0	9.302	34.914	121.5	9.251
500.0	8.989	34.913	120.2	8.934
550.0	8.065	34.774	120.9	8.008
600.0	7.439	34.720	121.4	7.380
650.0	6.762	34.659	122.8	6.701
700.0	6.429	34.640	124.3	6.364
750.0	6.154	34.628	126.5	6.086
800.0	5.815	34.613	130.8	5.744
850.0	5.664	34.619	133.9	5.589
900.0	5.474	34.615	136.0	5.397
950.0	5.487	34.657	137.8	5.404
1000.0	5.212	34.651	143.6	5.127
1050.0	5.480	34.767	148.3	5.388
1100.0	5.524	34.845	159.4	5.426
1150.0	5.411	34.897	172.9	5.310
1200.0	5.348	34.935	183.9	5.243
1250.0	5.295	34.990	203.9	5.185
1300.0	5.097	35.002	215.0	4.984
1350.0	4.858	35.009	227.4	4.742
1400.0	4.713	35.008	234.3	4.595
1450.0	4.586	35.007	239.4	4.464
1500.0	4.399	35.004	247.1	4.274
1550.0	4.273	35.000	250.6	4.145
1600.0	4.125	34.992	253.8	3.994
1650.0	4.025	34.988	255.7	3.891
1700.0	3.912	34.984	257.1	3.774
1750.0	3.775	34.977	258.7	3.634
1800.0	3.673	34.972	260.0	3.529
1850.0	3.591	34.971	259.8	3.443
1900.0	3.518	34.968	260.0	3.367
1950.0	3.408	34.963	260.7	3.253
2000.0	3.308	34.959	260.8	3.151
2001.0	3.306	34.959	260.7	3.149

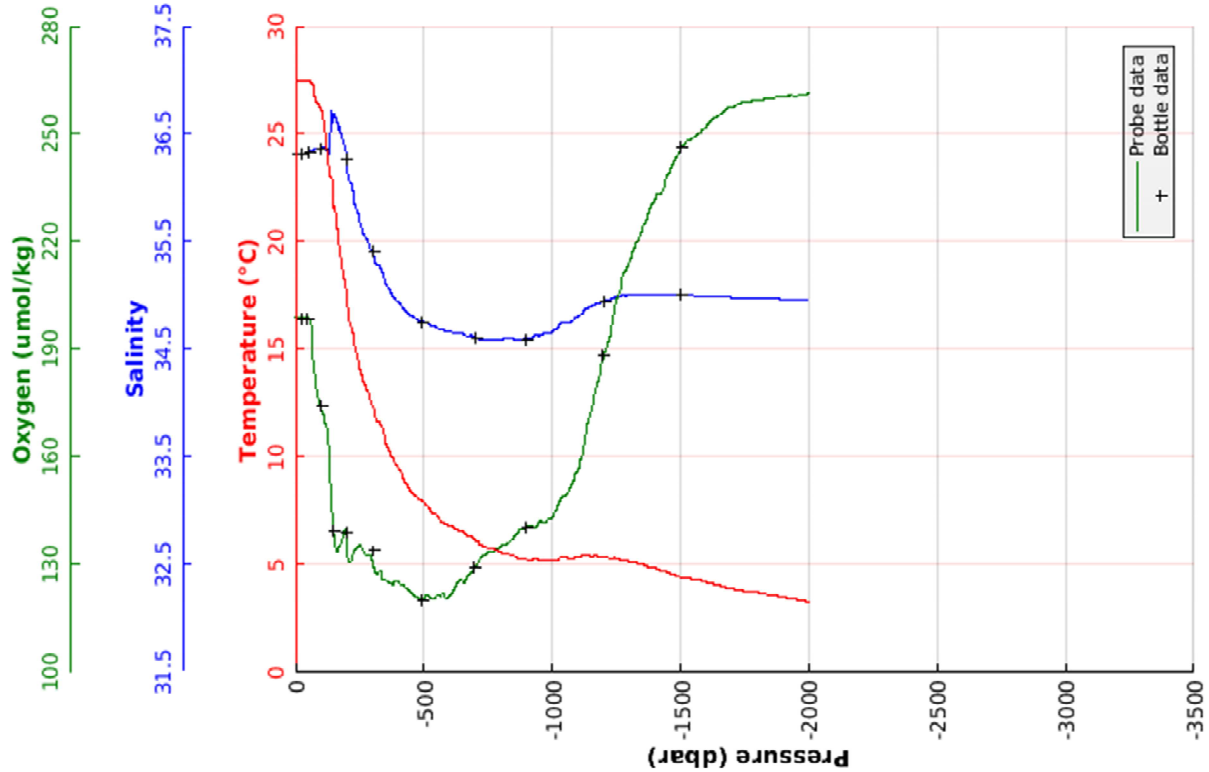

Potential Temperature (°C)
Salinity
Probe data
Bottle data
Potential Temperature (°C)
Oxygen (umol/kg)
Probe data
Bottle data
Oxygen (umol/kg)
Salinity
Temperature (°C)
Pressure (dbar)
Probe data
Bottle data
Station: 13

Cruise	: EUREC4A 2020		
Station	: 14	Cast	: 1
Date	: 27/01/2020	Ship	: N/O L'ATALANTE
Depth	: 3039 m	Organism	: ENS Paris; IFREMER
Position	: N 09 24.35 W 057 39.87		

PRESSURE	TEMPERATURE	SALINITY	DISSOLV. OXYGEN	POTENT. TEMP.
dbar	deg.cels.	psu	umol/kg	deg.cels.
0.0	27.457	36.317	199.1	27.457
10.0	27.450	36.318	199.0	27.448
20.0	27.455	36.318	199.2	27.450
30.0	27.458	36.318	198.8	27.451
40.0	27.459	36.318	198.7	27.449
50.0	27.449	36.325	198.7	27.438
100.0	26.107	36.369	174.3	26.085
150.0	21.644	36.650	140.3	21.615
200.0	17.546	36.313	139.6	17.512
250.0	14.098	35.694	135.1	14.062
300.0	12.354	35.401	131.4	12.314
350.0	10.737	35.127	126.0	10.694
400.0	9.503	34.943	125.6	9.457
450.0	8.372	34.812	122.4	8.325
500.0	7.909	34.754	120.4	7.858
550.0	7.281	34.705	121.2	7.227
600.0	6.809	34.664	121.2	6.752
650.0	6.556	34.651	126.0	6.496
700.0	6.138	34.608	129.2	6.075
750.0	5.781	34.589	133.1	5.715
800.0	5.579	34.589	134.9	5.510
850.0	5.428	34.600	137.1	5.355
900.0	5.246	34.599	140.1	5.170
950.0	5.174	34.626	141.9	5.094
1000.0	5.190	34.663	143.1	5.105
1050.0	5.348	34.748	149.1	5.257
1100.0	5.337	34.794	156.0	5.241
1150.0	5.388	34.891	172.0	5.287
1200.0	5.341	34.944	187.4	5.236
1250.0	5.297	34.988	203.1	5.187
1300.0	5.156	35.003	213.6	5.042
1350.0	5.027	35.012	222.7	4.910
1400.0	4.842	35.012	231.3	4.722
1450.0	4.650	35.010	238.4	4.528
1500.0	4.417	35.003	245.5	4.292
1550.0	4.323	35.000	248.9	4.194
1600.0	4.217	34.997	251.7	4.085
1650.0	4.042	34.990	255.1	3.908
1700.0	3.895	34.984	257.4	3.757
1750.0	3.785	34.979	258.9	3.644
1800.0	3.718	34.976	259.2	3.573
1850.0	3.601	34.971	260.0	3.453
1900.0	3.489	34.966	260.5	3.338
1950.0	3.393	34.963	260.4	3.239
2000.0	3.268	34.956	261.2	3.111
2004.0	3.267	34.956	261.0	3.110


Potential Temperature (°C)
Salinity
Probe data
Bottle data

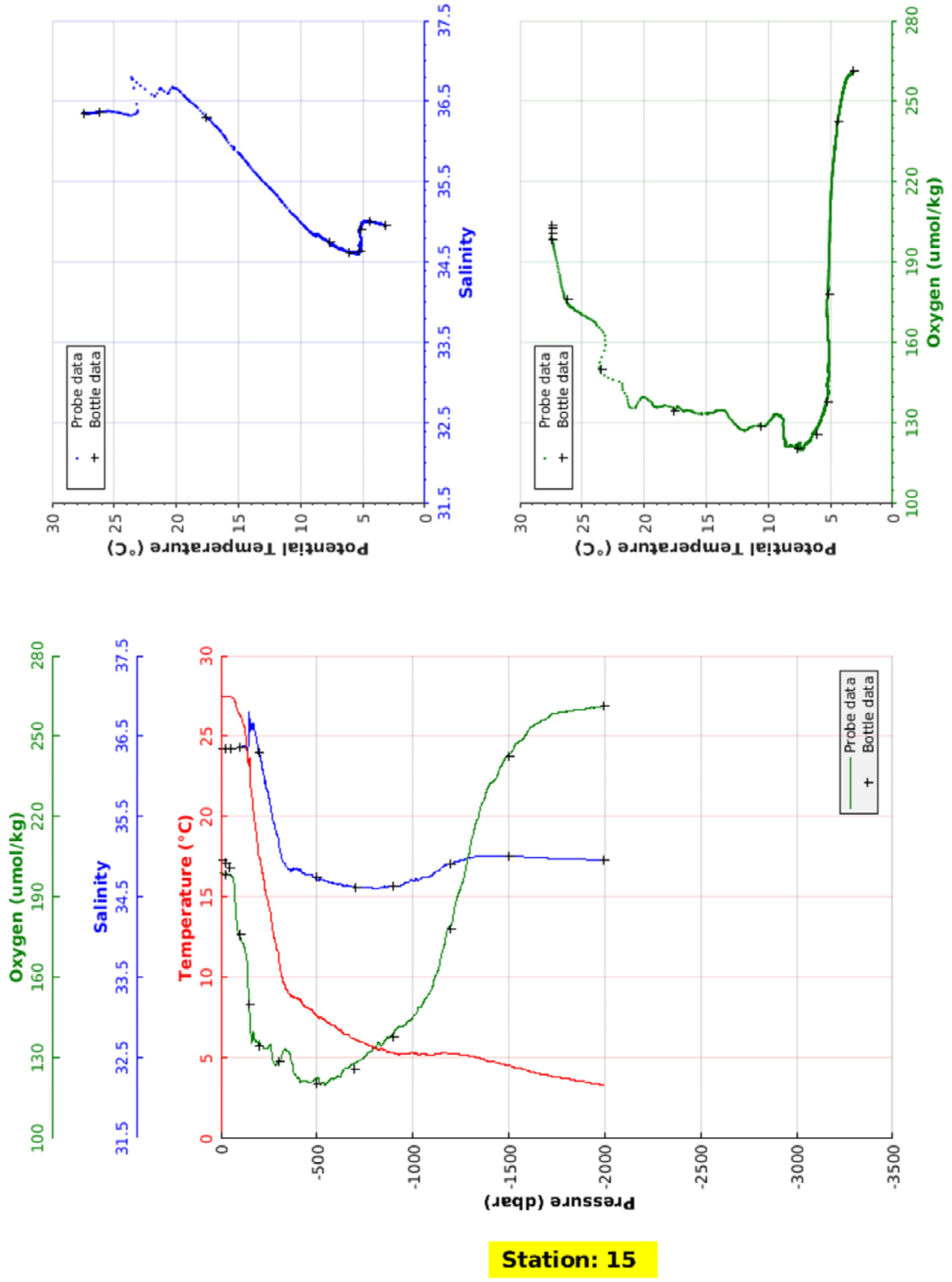

Potential Temperature (°C)
Oxygen (umol/kg)
Probe data
Bottle data


Oxygen (umol/kg)
Salinity
Temperature (°C)
Pressure (dbar)
Probe data
Bottle data

Station: 14

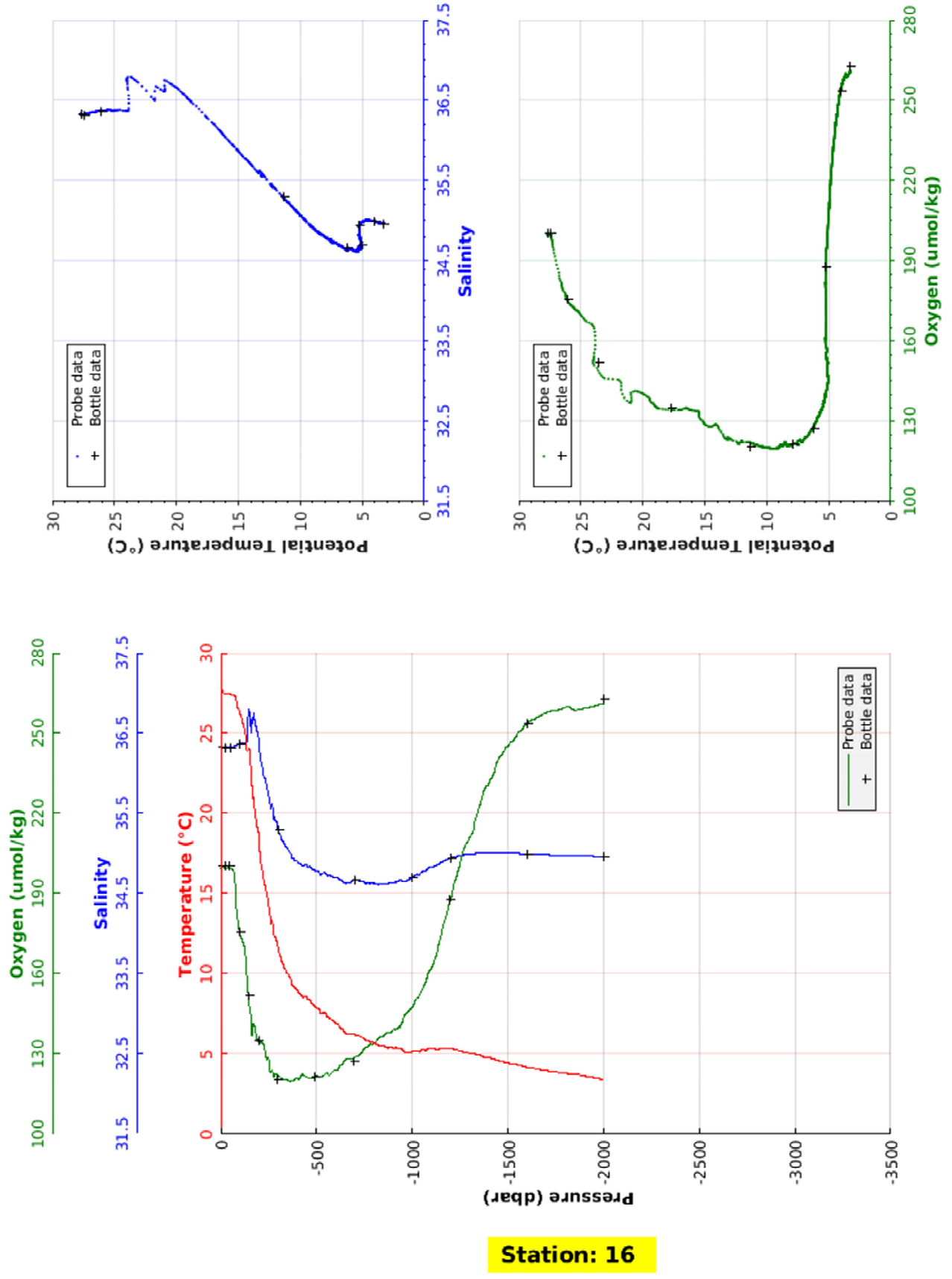
Cruise	: EUREC4A 2020		
Station	: 15	Cast	: 1
Date	: 27/01/2020	Ship	: N/O L'ATALANTE
Depth	: 3181 m	Organism	: ENS Paris; IFREMER
Position	: N 09 23.89 W 057 27.72		

PRESSURE	TEMPERATURE	SALINITY	DISSOLV. OXYGEN	POTENT. TEMP.
dbar	deg.cels.	psu	umol/kg	deg.cels.
0.0	27.481	36.352	199.0	27.481
10.0	27.478	36.352	198.9	27.475
20.0	27.456	36.351	198.8	27.451
30.0	27.449	36.351	198.6	27.442
40.0	27.439	36.351	198.7	27.430
50.0	27.429	36.351	198.3	27.418
100.0	26.249	36.365	175.4	26.226
150.0	23.528	36.776	148.5	23.497
200.0	17.514	36.291	134.5	17.480
250.0	14.453	35.754	134.0	14.415
300.0	11.474	35.238	128.6	11.436
350.0	9.130	34.860	132.8	9.092
400.0	8.726	34.850	122.2	8.683
450.0	8.137	34.781	121.4	8.090
500.0	7.623	34.727	122.4	7.573
550.0	7.240	34.699	120.3	7.187
600.0	6.930	34.669	122.7	6.873
650.0	6.485	34.640	126.2	6.425
700.0	6.190	34.630	128.0	6.126
750.0	5.905	34.620	130.3	5.839
800.0	5.660	34.613	133.7	5.591
850.0	5.520	34.628	135.8	5.447
900.0	5.378	34.641	139.1	5.300
950.0	5.249	34.656	142.1	5.169
1000.0	5.355	34.714	144.8	5.268
1050.0	5.280	34.744	149.9	5.190
1100.0	5.193	34.774	155.7	5.099
1150.0	5.352	34.867	168.4	5.252
1200.0	5.290	34.908	179.3	5.185
1250.0	5.231	34.956	192.9	5.121
1300.0	5.132	34.991	208.0	5.018
1350.0	4.983	35.009	222.0	4.866
1400.0	4.790	35.011	231.7	4.670
1450.0	4.677	35.009	236.9	4.553
1500.0	4.546	35.008	243.1	4.419
1550.0	4.378	35.003	247.6	4.249
1600.0	4.218	34.997	251.6	4.086
1650.0	4.076	34.991	254.8	3.941
1700.0	3.966	34.985	256.7	3.827
1750.0	3.811	34.978	258.7	3.670
1800.0	3.738	34.976	259.2	3.593
1850.0	3.621	34.971	259.9	3.473
1900.0	3.539	34.968	260.2	3.387
1950.0	3.422	34.963	260.7	3.268
2000.0	3.339	34.959	261.2	3.181
2002.0	3.338	34.959	261.2	3.180


Potential Temperature (°C)
Salinity
Probe data
Bottle data
Oxygen (umol/kg)
Temperature (°C)
Pressure (dbar)
Station: 15

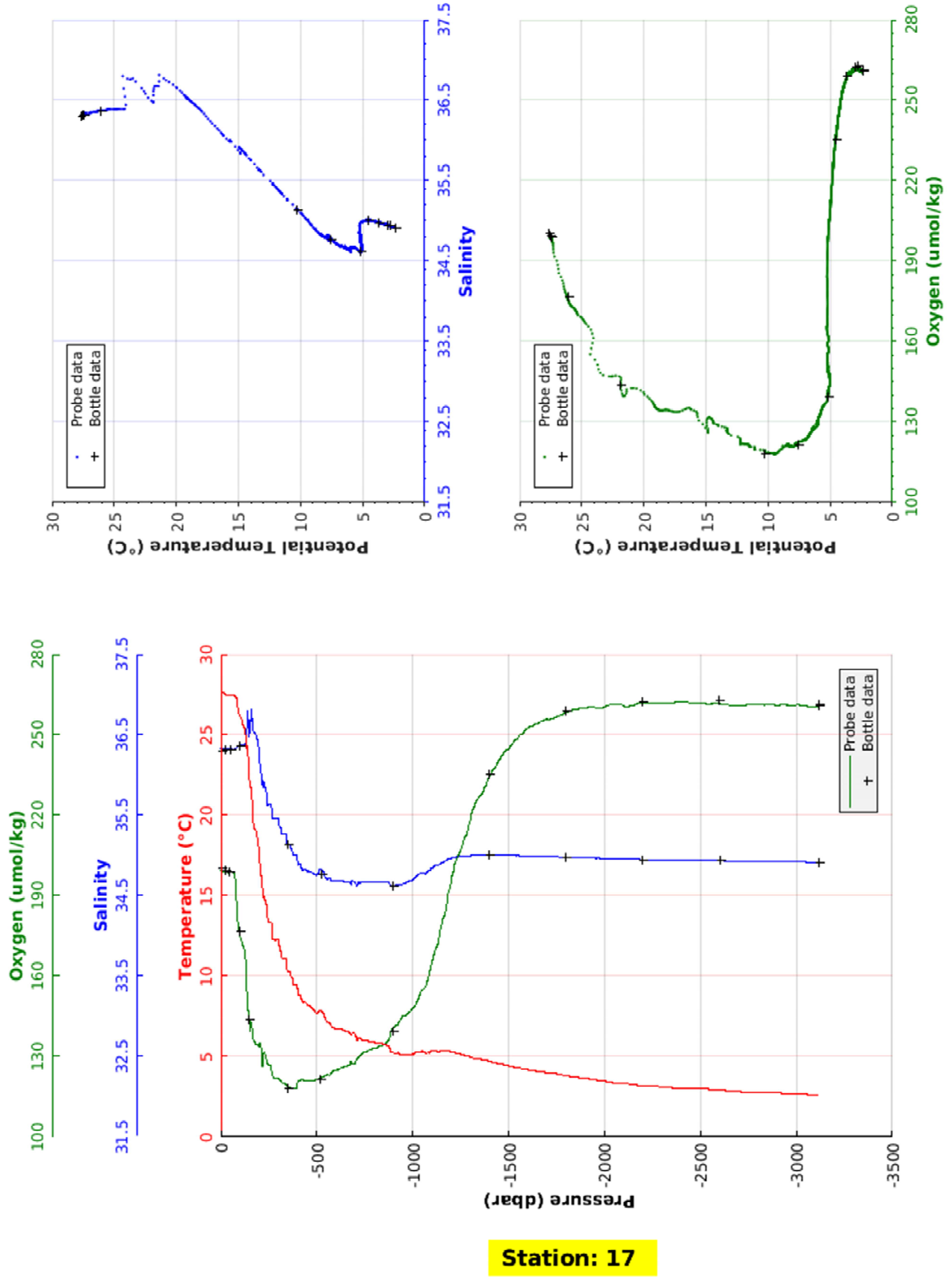
Cruise	: EUREC4A 2020		
Station	: 16	Cast	: 1
Date	: 27/01/2020	Ship	: N/O L'ATALANTE
Depth	: 2487 m	Organism	: ENS Paris; IFREMER
Position	: N 09 24.14 W 057 15.77		

PRESSURE	TEMPERATURE	SALINITY	DISSOLV. OXYGEN	POTENT. TEMP.
dbar	deg.cels.	psu	umol/kg	deg.cels.
0.0	27.692	36.328	199.7	27.692
10.0	27.709	36.329	199.9	27.706
20.0	27.445	36.323	199.5	27.440
30.0	27.430	36.324	199.6	27.423
40.0	27.424	36.324	199.9	27.415
50.0	27.420	36.325	199.5	27.408
100.0	26.200	36.369	175.8	26.177
150.0	23.712	36.796	150.1	23.681
200.0	18.200	36.395	134.6	18.165
250.0	14.218	35.739	129.0	14.181
300.0	11.474	35.302	122.2	11.436
350.0	10.009	35.065	120.3	9.968
400.0	8.960	34.904	121.1	8.916
450.0	8.521	34.850	121.4	8.473
500.0	7.892	34.784	121.8	7.841
550.0	7.540	34.756	122.6	7.485
600.0	6.933	34.703	124.2	6.876
650.0	6.349	34.635	127.4	6.290
700.0	6.243	34.667	128.6	6.179
750.0	5.959	34.649	131.7	5.892
800.0	5.694	34.629	133.9	5.624
850.0	5.529	34.628	136.7	5.455
900.0	5.394	34.640	138.9	5.316
950.0	5.242	34.655	141.6	5.162
1000.0	5.168	34.698	147.3	5.083
1050.0	5.262	34.769	153.5	5.171
1100.0	5.351	34.827	161.9	5.255
1150.0	5.334	34.887	173.7	5.233
1200.0	5.350	34.943	186.9	5.244
1250.0	5.220	34.974	200.2	5.110
1300.0	5.069	34.988	210.5	4.956
1350.0	4.928	35.004	222.1	4.812
1400.0	4.795	35.008	230.6	4.675
1450.0	4.601	35.008	239.6	4.478
1500.0	4.449	35.004	244.9	4.324
1550.0	4.330	35.001	249.6	4.201
1600.0	4.181	34.995	253.7	4.050
1650.0	4.070	34.990	255.8	3.935
1700.0	3.964	34.985	257.6	3.825
1750.0	3.883	34.981	258.6	3.741
1800.0	3.801	34.977	259.6	3.656
1850.0	3.741	34.977	258.6	3.592
1900.0	3.636	34.972	259.3	3.483
1950.0	3.534	34.968	260.1	3.378
2000.0	3.426	34.963	261.0	3.267
2002.0	3.420	34.963	260.6	3.261


Potential Temperature (°C)
Salinity
Probe data
Bottle data
Potential Temperature (°C)
Oxygen (umol/kg)
Probe data
Bottle data
Oxygen (umol/kg)
Salinity
Temperature (°C)
Pressure (dbar)
Probe data
Bottle data
Station: 16

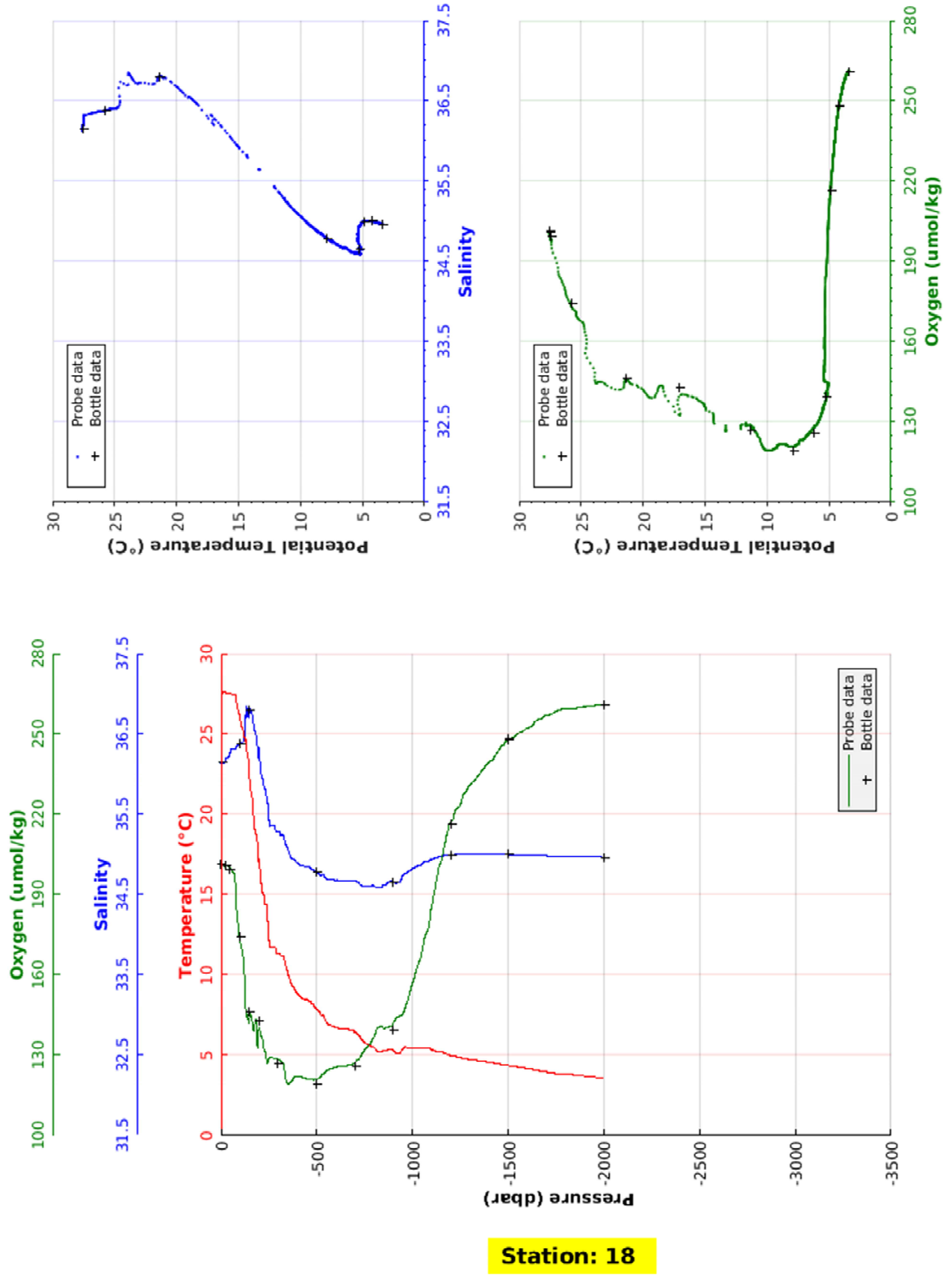
Cruise : EUREC4A 2020			
Station : 17	Cast : 1		
Date : 27/01/2020	Ship : N/O L'ATALANTE		
Depth : 3106 m	Organism : ENS Paris; IFREMER		
Position : N 09 24.04 W 057 10.29			

PRESSURE	TEMPERATURE	SALINITY	DISSOLV. OXYGEN	POTENT. TEMP.	PRESSURE	TEMPERATURE	SALINITY	DISSOLV. OXYGEN	POTENT. TEMP.
dbar	deg.cels.	psu	umol/kg	deg.cels.	dbar	deg.cels.	psu	umol/kg	deg.cels.
0.0	27.621	36.329	199.5	27.621	3050.0	2.664	34.919	260.8	2.416
10.0	27.630	36.330	199.5	27.628	3100.0	2.639	34.918	260.6	2.386
20.0	27.549	36.327	199.0	27.544	3119.0	2.636	34.917	260.6	2.381
30.0	27.449	36.323	199.3	27.442					
40.0	27.440	36.323	199.3	27.431					
50.0	27.435	36.323	198.6	27.423					
100.0	26.198	36.368	176.2	26.176					
150.0	21.886	36.473	148.1	21.857					
200.0	17.641	36.301	133.8	17.607					
250.0	13.343	35.627	127.0	13.308					
300.0	12.245	35.457	121.9	12.205					
350.0	10.297	35.139	119.1	10.256					
400.0	9.200	34.956	119.0	9.156					
450.0	8.286	34.820	121.0	8.238					
500.0	7.694	34.755	121.4	7.644					
550.0	7.183	34.718	123.1	7.129					
600.0	6.749	34.678	125.1	6.693					
650.0	6.571	34.670	126.4	6.511					
700.0	6.384	34.665	127.3	6.320					
750.0	6.020	34.674	131.7	5.953					
800.0	5.893	34.670	132.9	5.822					
850.0	5.781	34.673	134.5	5.706					
900.0	5.243	34.619	140.8	5.167					
950.0	5.087	34.645	145.0	5.007					
1000.0	5.189	34.707	147.6	5.103					
1050.0	5.325	34.783	154.6	5.234					
1100.0	5.372	34.854	164.7	5.276					
1150.0	5.324	34.905	178.1	5.223					
1200.0	5.313	34.966	194.0	5.207					
1250.0	5.149	34.986	206.5	5.040					
1300.0	4.995	34.999	217.5	4.883					
1350.0	4.855	35.007	226.8	4.740					
1400.0	4.714	35.009	234.4	4.596					
1450.0	4.557	35.006	240.4	4.435					
1500.0	4.442	35.004	244.7	4.317					
1550.0	4.319	35.000	248.7	4.190					
1600.0	4.189	34.995	252.5	4.057					
1650.0	4.099	34.992	254.3	3.964					
1700.0	4.018	34.988	255.8	3.879					
1750.0	3.951	34.985	256.5	3.809					
1800.0	3.820	34.979	258.5	3.674					
1850.0	3.744	34.975	259.3	3.594					
1900.0	3.658	34.971	260.1	3.505					
1950.0	3.579	34.968	260.2	3.423					
2000.0	3.478	34.964	260.4	3.319					
2050.0	3.386	34.959	261.4	3.223					
2100.0	3.346	34.960	260.7	3.179					
2150.0	3.264	34.955	261.0	3.093					
2200.0	3.202	34.951	261.8	3.028					
2250.0	3.160	34.949	261.7	2.982					
2300.0	3.128	34.947	262.0	2.945					
2350.0	3.072	34.945	262.0	2.886					
2400.0	3.054	34.943	262.1	2.863					
2450.0	3.034	34.942	261.9	2.838					
2500.0	3.005	34.941	262.1	2.805					
2550.0	2.974	34.939	261.6	2.769					
2600.0	2.950	34.938	261.6	2.741					
2650.0	2.872	34.934	261.0	2.660					
2700.0	2.839	34.932	260.9	2.622					
2750.0	2.812	34.930	261.3	2.591					
2800.0	2.790	34.928	261.5	2.564					
2850.0	2.779	34.927	261.2	2.548					
2900.0	2.760	34.926	260.8	2.524					
2950.0	2.722	34.923	261.1	2.483					
3000.0	2.675	34.920	261.2	2.431					


Potential Temperature (°C)
Salinity
Probe data
Bottle data
Oxygen (umol/kg)
Temperature (°C)
Pressure (dbar)
Station: 17

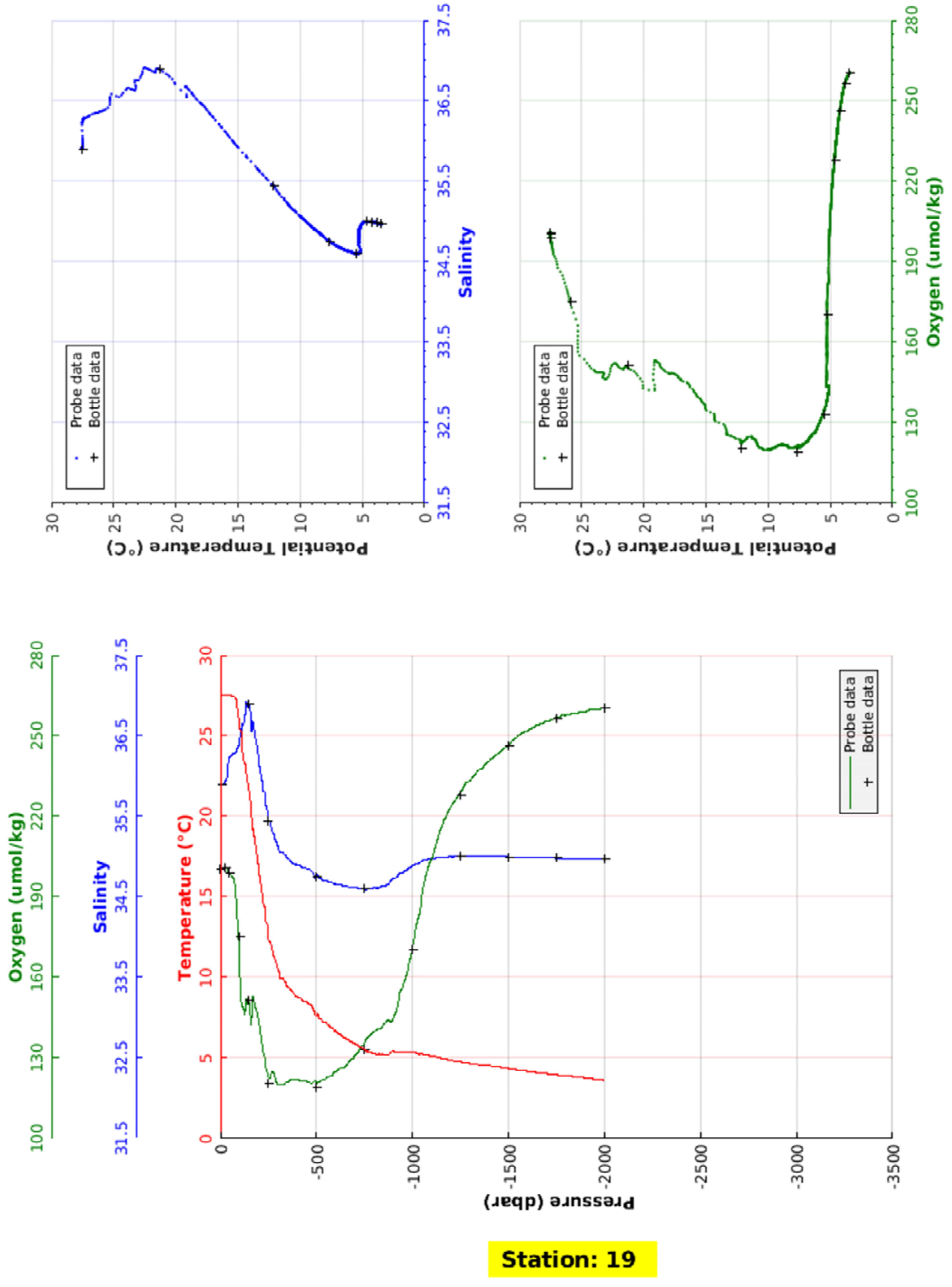
Cruise	: EUREC4A 2020		
Station	: 18	Cast	: 1
Date	: 28/01/2020	Ship	: N/O L'ATALANTE
Depth	: 3316 m	Organism	: ENS Paris; IFREMER
Position	: N 09 24.05 W 056 57.92		

PRESSURE	TEMPERATURE	SALINITY	DISSOLV. OXYGEN	POTENT. TEMP.
dbar	deg.cels.	psu	umol/kg	deg.cels.
0.0	27.578	36.136	200.8	27.578
10.0	27.580	36.136	200.9	27.577
20.0	27.595	36.151	200.5	27.590
30.0	27.545	36.198	200.4	27.538
40.0	27.509	36.216	201.0	27.499
50.0	27.506	36.271	200.2	27.494
100.0	25.863	36.377	173.7	25.840
150.0	21.807	36.715	140.7	21.777
200.0	17.148	36.306	141.0	17.115
250.0	12.135	35.426	128.8	12.102
300.0	11.356	35.283	128.5	11.318
350.0	10.186	35.083	119.3	10.144
400.0	8.814	34.892	121.8	8.771
450.0	8.453	34.851	121.3	8.405
500.0	7.893	34.784	120.9	7.842
550.0	7.064	34.704	123.6	7.011
600.0	6.743	34.675	125.3	6.687
650.0	6.643	34.676	126.1	6.582
700.0	6.422	34.667	127.1	6.357
750.0	5.808	34.608	131.4	5.742
800.0	5.443	34.605	136.4	5.375
850.0	5.280	34.619	140.1	5.208
900.0	5.254	34.654	141.6	5.178
950.0	5.412	34.735	145.1	5.330
1000.0	5.442	34.818	156.3	5.355
1050.0	5.441	34.882	168.0	5.349
1100.0	5.355	34.938	184.5	5.259
1150.0	5.185	34.975	202.0	5.086
1200.0	4.983	34.996	217.1	4.881
1250.0	4.880	35.001	223.1	4.774
1300.0	4.738	35.004	230.8	4.629
1350.0	4.670	35.005	234.6	4.556
1400.0	4.565	35.004	239.3	4.448
1450.0	4.461	35.003	243.5	4.341
1500.0	4.358	35.001	247.6	4.234
1550.0	4.259	34.997	250.0	4.131
1600.0	4.166	34.993	252.2	4.035
1650.0	4.054	34.989	255.0	3.919
1700.0	3.956	34.984	257.0	3.818
1750.0	3.859	34.980	258.3	3.717
1800.0	3.798	34.977	259.4	3.652
1850.0	3.776	34.976	259.4	3.626
1900.0	3.704	34.972	260.2	3.550
1950.0	3.652	34.970	260.6	3.494
2000.0	3.575	34.966	261.0	3.414
2003.0	3.569	34.966	261.2	3.407


Potential Temperature (°C)
Salinity
Probe data
Bottle data
Potential Temperature (°C)
Oxygen (umol/kg)
Probe data
Bottle data
Oxygen (umol/kg)
Salinity
Temperature (°C)
Pressure (dbar)
Probe data
Bottle data
Station: 18

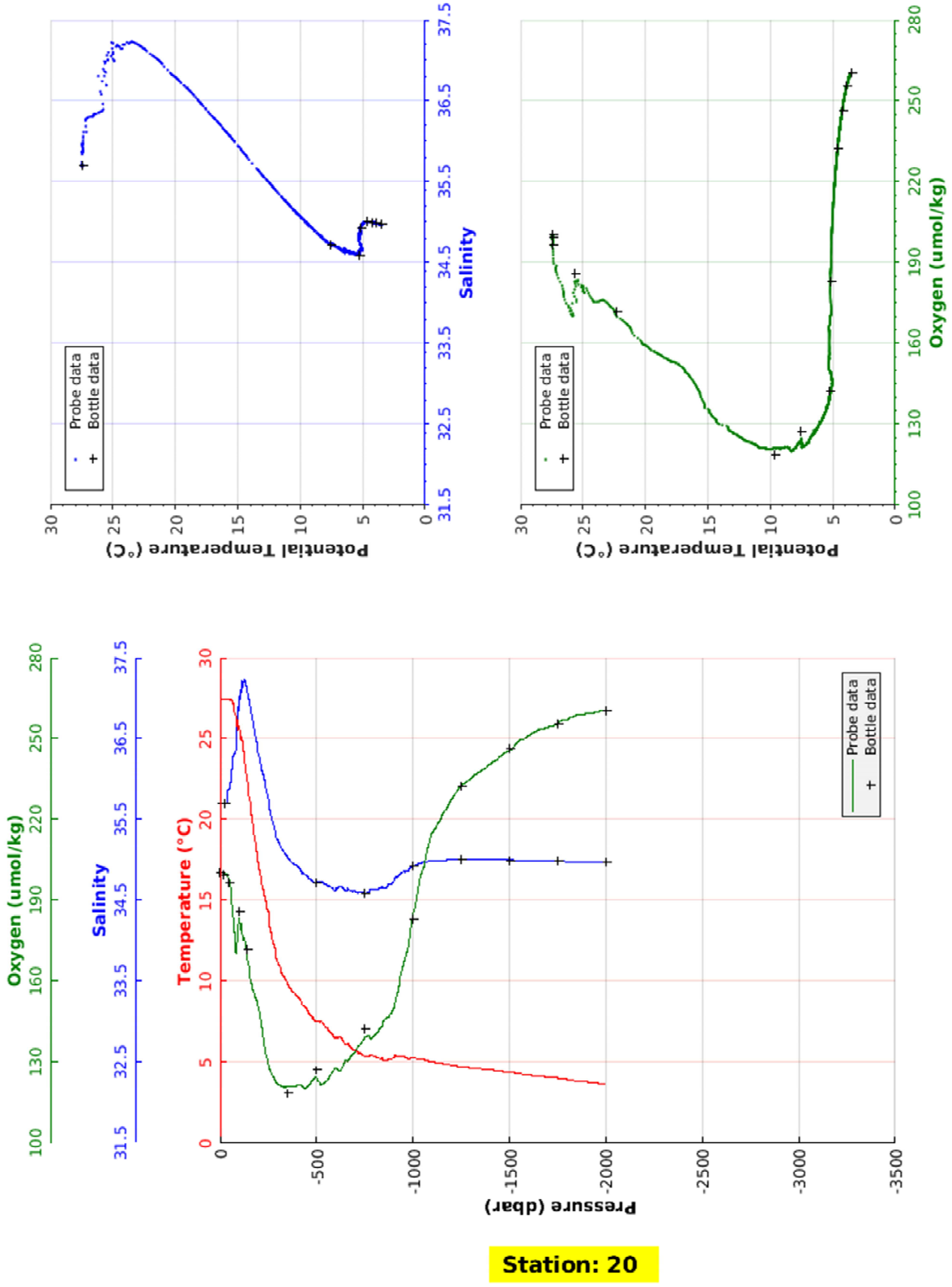
Cruise	: EUREC4A 2020		
Station	: 19	Cast	: 1
Date	: 28/01/2020	Ship	: N/O L'ATALANTE
Depth	: 3444 m	Organism	: ENS Paris; IFREMER
Position	: N 09 23.98 W 056 45.86		

PRESSURE	TEMPERATURE	SALINITY	DISSOLV. OXYGEN	POTENT. TEMP.
dbar	deg.cels.	psu	umol/kg	deg.cels.
0.0	27.570	35.899	201.0	27.570
10.0	27.571	35.899	200.6	27.569
20.0	27.550	35.913	200.7	27.546
30.0	27.510	35.945	201.0	27.503
40.0	27.517	36.038	200.5	27.507
50.0	27.528	36.239	199.1	27.516
100.0	25.676	36.395	171.9	25.654
150.0	21.544	36.905	151.4	21.514
200.0	16.578	36.213	145.6	16.545
250.0	12.368	35.470	123.9	12.335
300.0	10.517	35.140	120.5	10.481
350.0	9.457	34.988	121.2	9.418
400.0	8.807	34.898	121.8	8.763
450.0	8.467	34.854	121.3	8.420
500.0	7.624	34.738	121.8	7.574
550.0	7.215	34.708	122.2	7.162
600.0	6.620	34.660	124.8	6.564
650.0	6.248	34.636	126.5	6.189
700.0	5.890	34.623	130.6	5.828
750.0	5.543	34.610	135.0	5.479
800.0	5.278	34.613	139.9	5.211
850.0	5.184	34.635	142.2	5.113
900.0	5.426	34.729	144.3	5.349
950.0	5.351	34.803	156.0	5.270
1000.0	5.354	34.888	169.9	5.268
1050.0	5.240	34.948	189.2	5.150
1100.0	5.137	34.975	204.1	5.043
1150.0	4.998	34.993	215.5	4.900
1200.0	4.869	35.000	223.4	4.768
1250.0	4.772	35.002	228.8	4.666
1300.0	4.675	35.002	233.3	4.566
1350.0	4.585	35.003	237.4	4.472
1400.0	4.531	35.004	240.7	4.415
1450.0	4.450	35.002	243.5	4.330
1500.0	4.353	35.000	246.6	4.229
1550.0	4.243	34.996	250.1	4.115
1600.0	4.183	34.994	251.7	4.051
1650.0	4.096	34.990	254.1	3.961
1700.0	4.039	34.988	255.5	3.900
1750.0	3.957	34.984	257.0	3.814
1800.0	3.908	34.981	257.8	3.761
1850.0	3.841	34.978	258.6	3.690
1900.0	3.769	34.975	259.1	3.614
1950.0	3.701	34.972	259.9	3.542
2000.0	3.624	34.969	260.6	3.462
2002.0	3.622	34.968	260.4	3.460


Potential Temperature (°C)
Salinity
Probe data
Bottle data
Oxygen (umol/kg)
Temperature (°C)
Pressure (dbar)
Station: 19

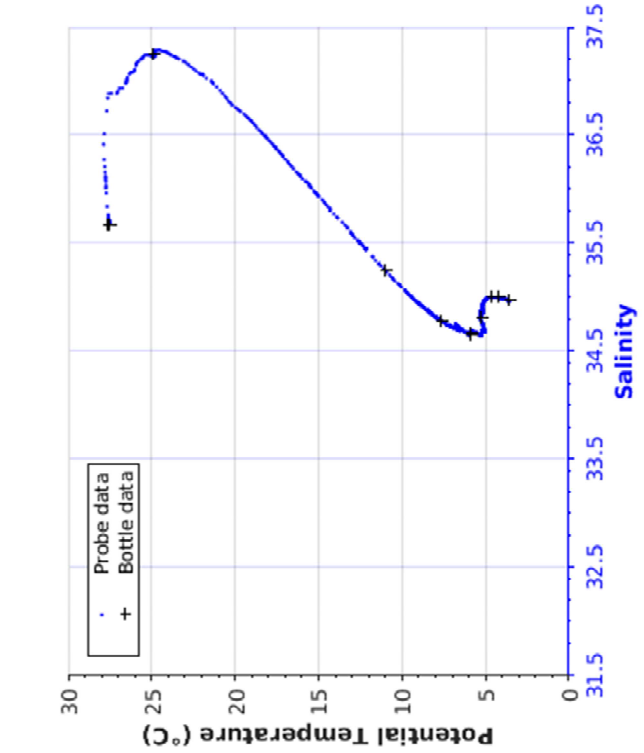
Cruise	: EUREC4A 2020		
Station	: 20	Cast	: 1
Date	: 28/01/2020	Ship	: N/O L'ATALANTE
Depth	: 3281 m	Organism	: ENS Paris; IFREMER
Position	: N 09 23.97 W 056 30.04		

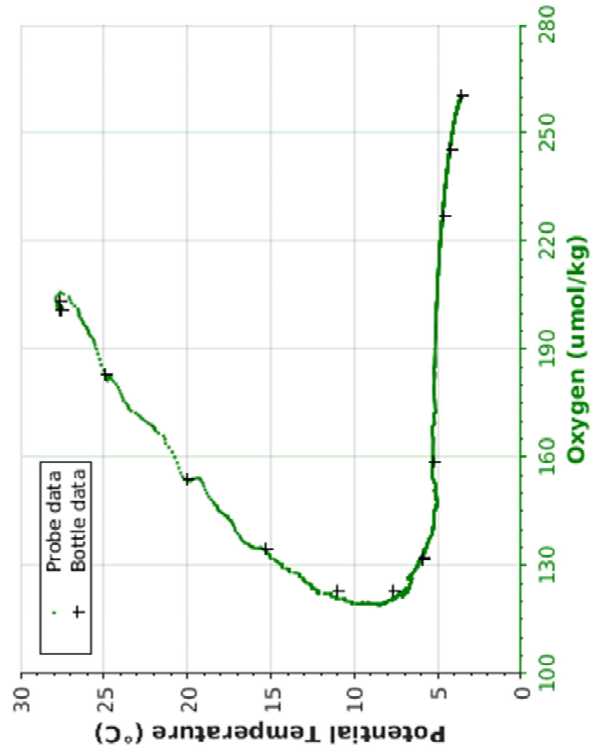
PRESSURE dbar	TEMPERATURE deg.cels.	SALINITY psu	DISSOLV. OXYGEN umol/kg	POTENT. TEMP. deg.cels.
0.0	27.444	35.700	200.4	27.444
10.0	27.447	35.699	200.3	27.445
20.0	27.448	35.700	200.1	27.443
30.0	27.459	35.706	199.7	27.452
40.0	27.462	35.836	199.5	27.452
50.0	27.406	35.880	197.6	27.395
100.0	25.690	36.988	184.4	25.668
150.0	21.412	37.009	166.5	21.383
200.0	17.041	36.305	150.9	17.007
250.0	14.342	35.814	131.0	14.305
300.0	11.099	35.243	122.2	11.061
350.0	9.896	35.045	121.0	9.855
400.0	9.052	34.923	121.4	9.008
450.0	8.269	34.806	120.1	8.222
500.0	7.561	34.720	124.6	7.511
550.0	7.142	34.694	122.9	7.089
600.0	6.471	34.622	128.0	6.416
650.0	6.102	34.621	130.3	6.044
700.0	5.763	34.617	133.4	5.702
750.0	5.367	34.597	138.5	5.303
800.0	5.376	34.635	139.7	5.308
850.0	5.146	34.660	145.2	5.075
900.0	5.269	34.731	149.6	5.193
950.0	5.384	34.855	165.4	5.302
1000.0	5.270	34.924	183.6	5.184
1050.0	5.177	34.969	200.7	5.087
1100.0	5.022	34.991	214.8	4.929
1150.0	4.926	34.998	221.1	4.828
1200.0	4.819	35.002	227.4	4.717
1250.0	4.720	35.005	232.5	4.615
1300.0	4.670	35.005	235.0	4.561
1350.0	4.606	35.005	237.5	4.493
1400.0	4.541	35.004	240.5	4.424
1450.0	4.469	35.002	243.1	4.348
1500.0	4.403	35.001	245.4	4.278
1550.0	4.291	34.998	249.4	4.163
1600.0	4.218	34.995	251.1	4.086
1650.0	4.133	34.991	253.4	3.997
1700.0	4.101	34.990	254.1	3.961
1750.0	4.028	34.987	255.8	3.884
1800.0	3.944	34.983	257.3	3.796
1850.0	3.850	34.978	258.7	3.699
1900.0	3.793	34.976	259.2	3.638
1950.0	3.728	34.973	259.7	3.569
2000.0	3.676	34.971	260.3	3.513
2003.0	3.669	34.970	260.4	3.506

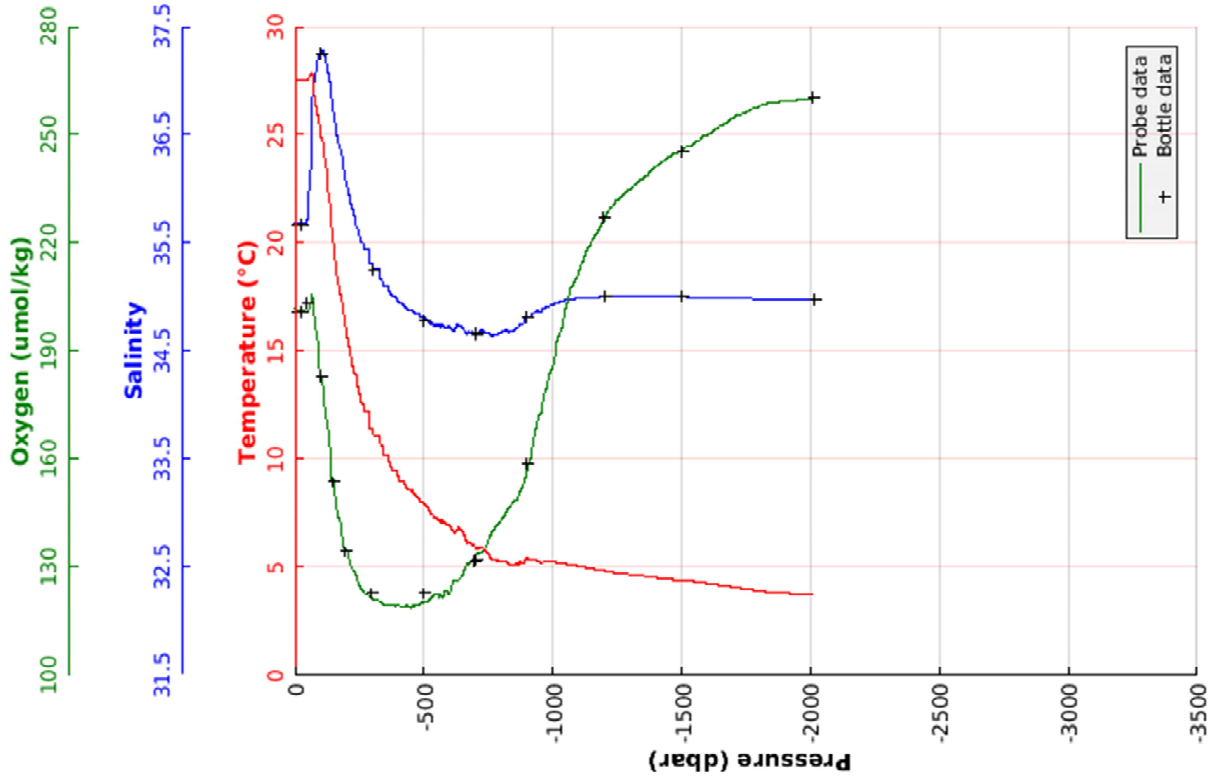

Potential Temperature (°C)
Salinity
Probe data
Bottle data
Potential Temperature (°C)
Oxygen (umol/kg)
Probe data
Bottle data
Oxygen (umol/kg)
Salinity
Temperature (°C)
Pressure (dbar)
Probe data
Bottle data
Station: 20

Cruise : EUREC4A 2020			
Station : 21	Cast : 1		
Date : 28/01/2020	Ship : N/O L'ATALANTE		
Depth : 3506 m	Organism : ENS Paris; IFREMER		
Position : N 09 23.79 W 056 18.13			

PRESSURE dbar	TEMPERATURE deg.cels.	SALINITY psu	DISSOLV. OXYGEN umol/kg	POTENT. TEMP. deg.cels.
0.0	27.566	35.685	201.8	27.566
10.0	27.577	35.685	201.0	27.575
20.0	27.549	35.683	201.1	27.545
30.0	27.534	35.681	201.5	27.527
40.0	27.535	35.685	201.1	27.526
50.0	27.575	35.719	200.7	27.564
100.0	24.900	37.218	181.2	24.879
150.0	19.799	36.732	153.5	19.771
200.0	15.768	36.068	134.9	15.736
250.0	13.040	35.587	125.7	13.005
300.0	11.415	35.312	121.7	11.377
350.0	10.193	35.112	119.5	10.152
400.0	9.197	34.965	119.6	9.153
450.0	8.551	34.882	119.3	8.503
500.0	7.970	34.816	120.2	7.918
550.0	7.260	34.739	122.4	7.207
600.0	6.911	34.725	122.4	6.854
650.0	6.645	34.723	127.5	6.584
700.0	5.906	34.661	133.0	5.844
750.0	5.622	34.674	136.8	5.557
800.0	5.298	34.672	143.0	5.231
850.0	5.136	34.694	148.2	5.065
900.0	5.415	34.809	156.0	5.338
950.0	5.230	34.870	172.7	5.149
1000.0	5.274	34.926	185.0	5.188
1050.0	5.175	34.971	201.3	5.085
1100.0	5.070	34.986	211.0	4.976
1150.0	4.949	34.997	220.2	4.851
1200.0	4.836	35.001	226.0	4.735
1250.0	4.733	35.004	231.7	4.628
1300.0	4.670	35.004	234.8	4.561
1350.0	4.600	35.004	237.9	4.487
1400.0	4.522	35.003	241.0	4.405
1450.0	4.461	35.002	243.7	4.340
1500.0	4.409	35.001	245.6	4.285
1550.0	4.343	34.999	247.7	4.214
1600.0	4.267	34.997	250.0	4.134
1650.0	4.175	34.993	252.6	4.039
1700.0	4.089	34.990	254.9	3.949
1750.0	4.007	34.986	256.1	3.863
1800.0	3.914	34.982	257.9	3.767
1850.0	3.843	34.978	259.0	3.693
1900.0	3.811	34.977	259.3	3.656
1950.0	3.766	34.975	259.8	3.607
2000.0	3.728	34.973	260.0	3.564
2015.0	3.713	34.972	260.0	3.548


Potential Temperature (°C)
Salinity
Probe data
Bottle data

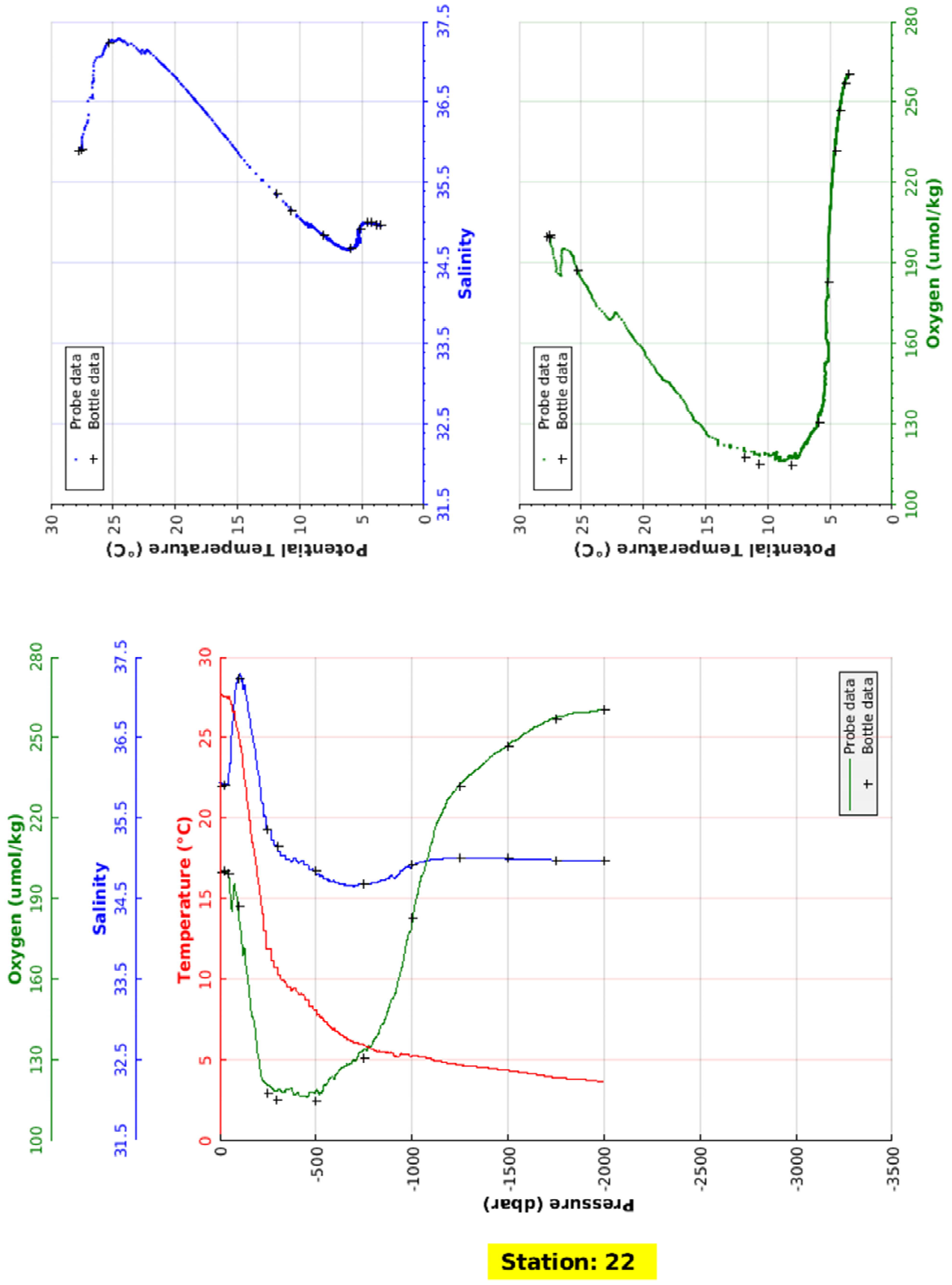

Potential Temperature (°C)
Oxygen (umol/kg)
Probe data
Bottle data


Oxygen (umol/kg)
Salinity
Temperature (°C)
Pressure (dbar)
Probe data
Bottle data

Station: 21

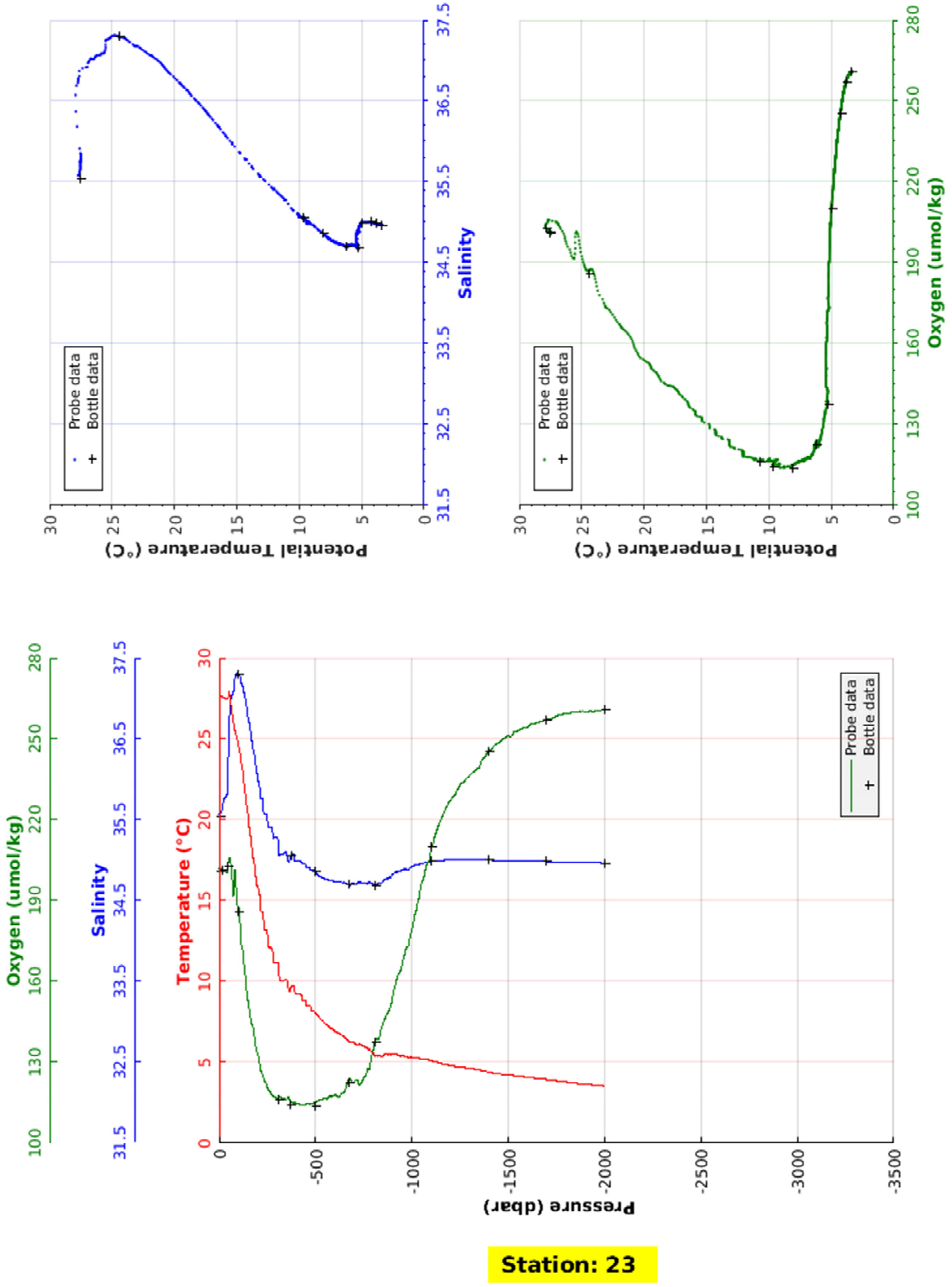
Cruise	: EUREC4A 2020		
Station	: 22	Cast	: 1
Date	: 28/01/2020	Ship	: N/O L'ATALANTE
Depth	: 3436 m	Organism	: ENS Paris; IFREMER
Position	: N 09 23.98 W 056 6.09		

PRESSURE dbar	TEMPERATURE deg.cels.	SALINITY psu	DISSOLV. OXYGEN umol/kg	POTENT. TEMP. deg.cels.
0.0	27.685	35.938	200.0	27.685
10.0	27.659	35.937	199.7	27.657
20.0	27.517	35.923	200.1	27.512
30.0	27.506	35.926	200.2	27.499
40.0	27.497	35.929	199.5	27.488
50.0	27.499	36.065	199.0	27.488
100.0	25.095	37.269	185.2	25.073
150.0	20.289	36.854	159.3	20.261
200.0	16.018	36.075	132.5	15.986
250.0	11.921	35.363	120.9	11.888
300.0	10.731	35.164	118.4	10.694
350.0	9.561	34.988	119.4	9.521
400.0	9.258	34.978	117.3	9.213
450.0	8.734	34.922	116.6	8.685
500.0	8.123	34.846	117.5	8.071
550.0	7.360	34.754	121.0	7.306
600.0	6.882	34.714	122.9	6.825
650.0	6.396	34.672	127.8	6.337
700.0	6.070	34.660	130.4	6.007
750.0	5.973	34.689	133.8	5.906
800.0	5.674	34.702	136.9	5.605
850.0	5.516	34.731	143.6	5.442
900.0	5.456	34.794	152.9	5.378
950.0	5.357	34.850	164.3	5.275
1000.0	5.267	34.908	179.0	5.181
1050.0	5.202	34.963	198.1	5.112
1100.0	5.072	34.986	210.2	4.978
1150.0	4.928	34.998	220.7	4.831
1200.0	4.802	35.004	228.1	4.701
1250.0	4.713	35.004	232.6	4.608
1300.0	4.644	35.005	236.1	4.536
1350.0	4.581	35.004	238.6	4.469
1400.0	4.507	35.003	241.9	4.390
1450.0	4.431	35.002	244.8	4.310
1500.0	4.359	35.000	247.2	4.234
1550.0	4.277	34.997	249.2	4.149
1600.0	4.205	34.994	252.0	4.074
1650.0	4.111	34.991	254.1	3.976
1700.0	4.017	34.987	255.8	3.878
1750.0	3.934	34.983	257.5	3.792
1800.0	3.873	34.980	258.3	3.726
1850.0	3.812	34.977	259.3	3.661
1900.0	3.793	34.976	259.6	3.638
1950.0	3.733	34.973	259.9	3.574
2000.0	3.665	34.971	260.3	3.503
2002.0	3.663	34.971	260.4	3.501


Station: 22
Pressure (dbar)
Temperature (°C)
Salinity
Oxygen (umol/kg)
Probe data
Bottle data
Potential Temperature (°C)
Salinity
Probe data
Bottle data
Potential Temperature (°C)
Oxygen (umol/kg)
Probe data
Bottle data

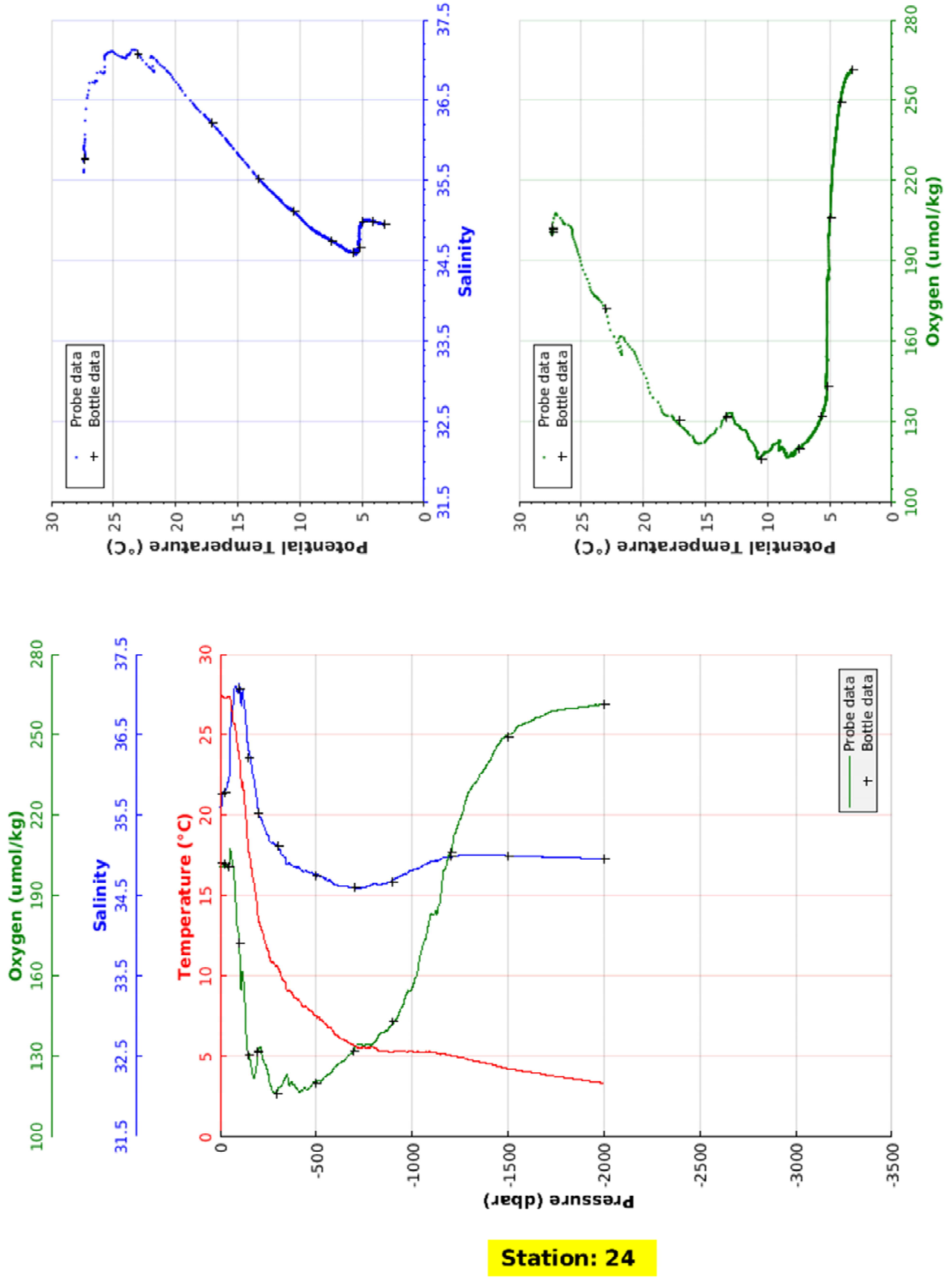
Cruise	: EUREC4A 2020		
Station	: 23	Cast	: 1
Date	: 28/01/2020	Ship	: N/O L'ATALANTE
Depth	: 3533 m	Organism	: ENS Paris; IFREMER
Position	: N 09 23.94 W 055 54.22		

PRESSURE	TEMPERATURE	SALINITY	DISSOLV. OXYGEN	POTENT. TEMP.
dbar	deg.cels.	psu	umol/kg	deg.cels.
0.0	27.653	35.579	201.9	27.653
10.0	27.644	35.586	201.8	27.641
20.0	27.541	35.678	201.9	27.537
30.0	27.523	35.760	201.0	27.516
40.0	27.499	35.794	201.0	27.490
50.0	27.896	36.366	203.5	27.884
100.0	24.646	37.306	187.1	24.625
150.0	20.104	36.800	153.9	20.076
200.0	15.893	36.066	134.3	15.861
250.0	12.911	35.530	121.4	12.877
300.0	11.157	35.278	116.8	11.119
350.0	10.158	35.107	116.3	10.117
400.0	9.209	34.993	115.3	9.165
450.0	8.614	34.924	114.3	8.565
500.0	8.034	34.845	115.1	7.983
550.0	7.395	34.770	116.7	7.341
600.0	6.946	34.736	117.9	6.888
650.0	6.555	34.721	118.9	6.495
700.0	6.232	34.710	122.2	6.169
750.0	6.001	34.721	123.7	5.934
800.0	5.565	34.702	134.3	5.495
850.0	5.419	34.734	143.6	5.346
900.0	5.519	34.824	153.3	5.441
950.0	5.414	34.872	165.8	5.332
1000.0	5.318	34.914	178.2	5.232
1050.0	5.211	34.959	195.9	5.121
1100.0	5.097	34.990	208.3	5.002
1150.0	4.926	34.998	219.5	4.828
1200.0	4.802	35.003	227.0	4.701
1250.0	4.701	35.005	232.4	4.597
1300.0	4.631	35.005	236.3	4.523
1350.0	4.552	35.004	239.3	4.440
1400.0	4.408	35.001	245.1	4.293
1450.0	4.301	34.998	248.4	4.182
1500.0	4.226	34.996	251.3	4.103
1550.0	4.165	34.993	252.9	4.039
1600.0	4.083	34.990	254.2	3.952
1650.0	4.009	34.986	256.0	3.875
1700.0	3.947	34.984	257.3	3.809
1750.0	3.866	34.980	258.3	3.724
1800.0	3.794	34.977	259.3	3.648
1850.0	3.718	34.973	260.0	3.569
1900.0	3.663	34.972	259.9	3.510
1950.0	3.610	34.969	260.2	3.453
2000.0	3.542	34.966	261.1	3.381
2002.0	3.541	34.966	261.1	3.380


Potential Temperature (°C)
Salinity
Probe data
Bottle data
Potential Temperature (°C)
Oxygen (umol/kg)
Probe data
Bottle data
Oxygen (umol/kg)
Salinity
Temperature (°C)
Pressure (dbar)
Probe data
Bottle data
Station: 23

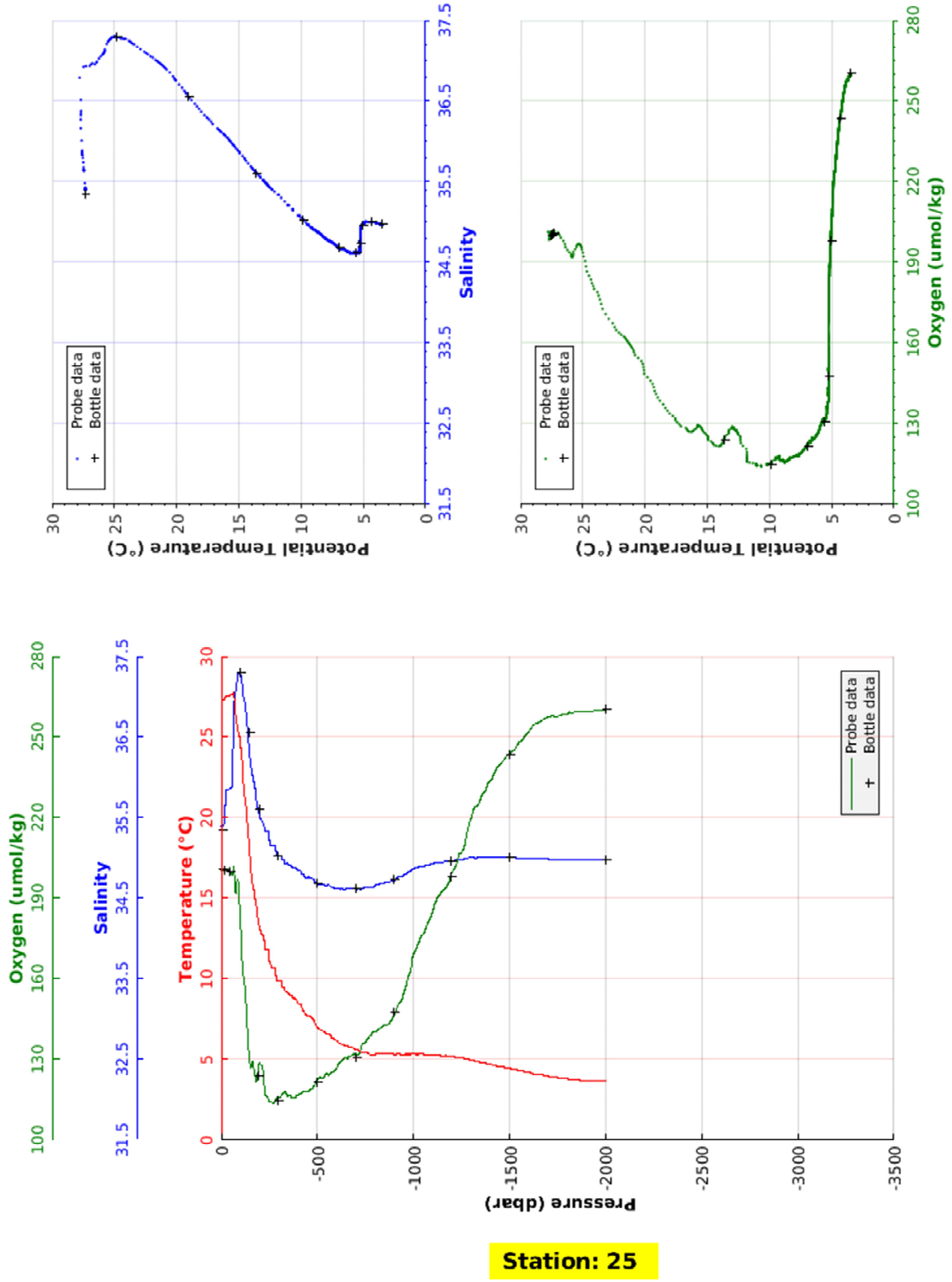
Cruise	: EUREC4A 2020		
Station	: 24	Cast	: 1
Date	: 29/01/2020	Ship	: N/O L'ATALANTE
Depth	: 3697 m	Organism	: ENS Paris; IFREMER
Position	: N 09 24.04 W 055 30.09		

PRESSURE dbar	TEMPERATURE deg.cels.	SALINITY psu	DISSOLV. OXYGEN umol/kg	POTENT. TEMP. deg.cels.
0.0	27.358	35.608	200.7	27.358
10.0	27.378	35.638	201.0	27.375
20.0	27.287	35.792	200.9	27.282
30.0	27.272	35.810	200.8	27.265
40.0	27.364	35.897	201.0	27.355
50.0	27.323	36.002	200.0	27.312
100.0	23.657	37.093	176.0	23.636
150.0	17.667	36.312	132.3	17.642
200.0	13.531	35.557	131.1	13.502
250.0	11.589	35.256	124.5	11.557
300.0	10.573	35.127	116.9	10.537
350.0	9.085	34.896	123.4	9.046
400.0	8.610	34.851	118.3	8.567
450.0	8.139	34.818	117.8	8.092
500.0	7.528	34.757	120.7	7.479
550.0	7.028	34.709	122.3	6.975
600.0	6.362	34.639	126.3	6.307
650.0	6.016	34.622	128.8	5.959
700.0	5.673	34.599	132.7	5.612
750.0	5.571	34.606	134.1	5.507
800.0	5.568	34.646	134.9	5.499
850.0	5.354	34.649	139.0	5.282
900.0	5.305	34.685	142.2	5.228
950.0	5.343	34.756	148.8	5.261
1000.0	5.333	34.822	154.9	5.247
1050.0	5.295	34.868	169.0	5.204
1100.0	5.297	34.926	183.3	5.202
1150.0	5.161	34.952	188.0	5.062
1200.0	5.092	34.984	206.3	4.989
1250.0	4.968	35.001	218.2	4.861
1300.0	4.806	35.007	228.8	4.695
1350.0	4.679	35.007	234.0	4.566
1400.0	4.555	35.006	239.7	4.438
1450.0	4.416	35.004	246.2	4.296
1500.0	4.263	34.998	250.1	4.140
1550.0	4.137	34.993	253.2	4.011
1600.0	4.084	34.992	254.7	3.953
1650.0	3.967	34.986	256.6	3.834
1700.0	3.865	34.981	257.9	3.728
1750.0	3.783	34.977	258.9	3.643
1800.0	3.697	34.973	259.7	3.553
1850.0	3.608	34.970	260.0	3.461
1900.0	3.516	34.966	260.4	3.365
1950.0	3.449	34.963	261.0	3.295
2000.0	3.362	34.959	261.4	3.204
2003.0	3.361	34.959	261.5	3.203


Potential Temperature (°C)
Salinity
Probe data
Bottle data
Potential Temperature (°C)
Oxygen (umol/kg)
Probe data
Bottle data
Oxygen (umol/kg)
Salinity
Temperature (°C)
Pressure (dbar)
Probe data
Bottle data
Station: 24

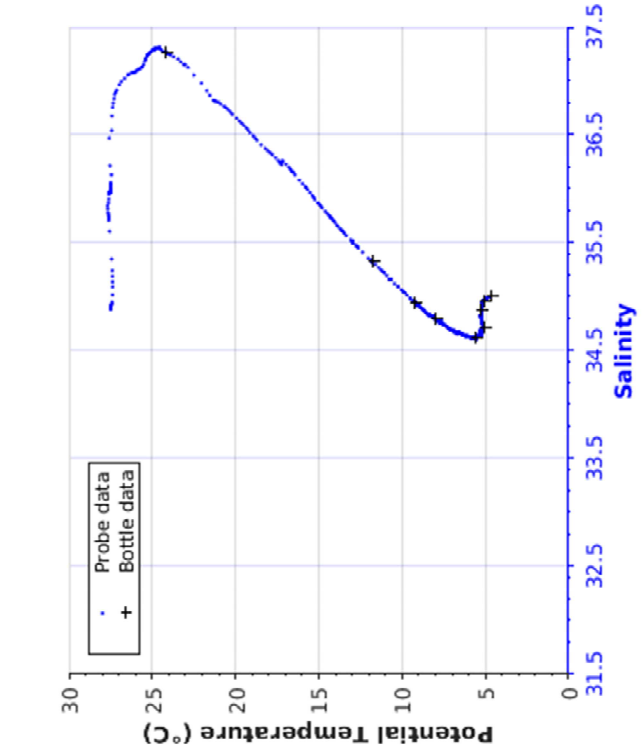
Cruise	: EUREC4A 2020		
Station	: 25	Cast	: 1
Date	: 29/01/2020	Ship	: N/O L'ATALANTE
Depth	: 2236 m	Organism	: ENS Paris; IFREMER
Position	: N 08 30.21 W 054 45.05		

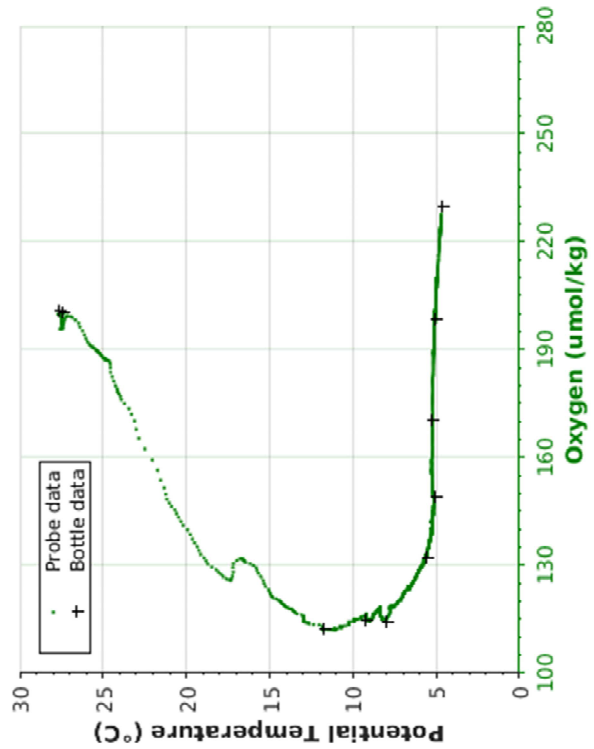
PRESSURE	TEMPERATURE	SALINITY	DISSOLV. OXYGEN	POTENT. TEMP.
dbar	deg.cels.	psu	umol/kg	deg.cels.
0.0	27.337	35.403	200.3	27.337
10.0	27.333	35.399	200.6	27.331
20.0	27.456	35.649	200.9	27.452
30.0	27.575	35.846	200.9	27.568
40.0	27.575	35.853	200.5	27.566
50.0	27.587	35.862	200.2	27.575
100.0	24.525	37.278	184.1	24.503
150.0	17.427	36.274	130.8	17.402
200.0	13.099	35.522	128.2	13.071
250.0	11.072	35.211	114.8	11.041
300.0	9.871	35.029	115.9	9.836
350.0	9.142	34.923	116.2	9.103
400.0	8.461	34.846	116.7	8.419
450.0	7.719	34.753	118.3	7.674
500.0	6.998	34.679	122.4	6.951
550.0	6.597	34.656	124.8	6.546
600.0	6.157	34.622	126.4	6.104
650.0	5.832	34.614	130.9	5.776
700.0	5.623	34.614	131.9	5.563
750.0	5.444	34.630	136.4	5.380
800.0	5.292	34.649	140.4	5.225
850.0	5.335	34.693	142.7	5.263
900.0	5.304	34.724	146.2	5.227
950.0	5.316	34.785	154.4	5.234
1000.0	5.326	34.866	168.5	5.240
1050.0	5.324	34.897	176.4	5.232
1100.0	5.290	34.927	184.4	5.194
1150.0	5.236	34.947	192.2	5.136
1200.0	5.178	34.965	199.2	5.074
1250.0	5.098	34.978	206.7	4.990
1300.0	4.981	35.003	219.2	4.869
1350.0	4.804	35.002	226.7	4.689
1400.0	4.687	35.004	233.6	4.569
1450.0	4.559	35.004	239.6	4.438
1500.0	4.463	35.003	243.7	4.338
1550.0	4.313	34.998	248.0	4.185
1600.0	4.213	34.996	251.7	4.081
1650.0	4.059	34.989	255.3	3.924
1700.0	3.965	34.985	257.3	3.826
1750.0	3.874	34.981	257.7	3.732
1800.0	3.802	34.978	258.6	3.657
1850.0	3.738	34.975	259.3	3.588
1900.0	3.690	34.973	259.4	3.537
1950.0	3.669	34.972	259.8	3.512
2000.0	3.650	34.971	259.8	3.487
2004.0	3.648	34.971	259.8	3.485

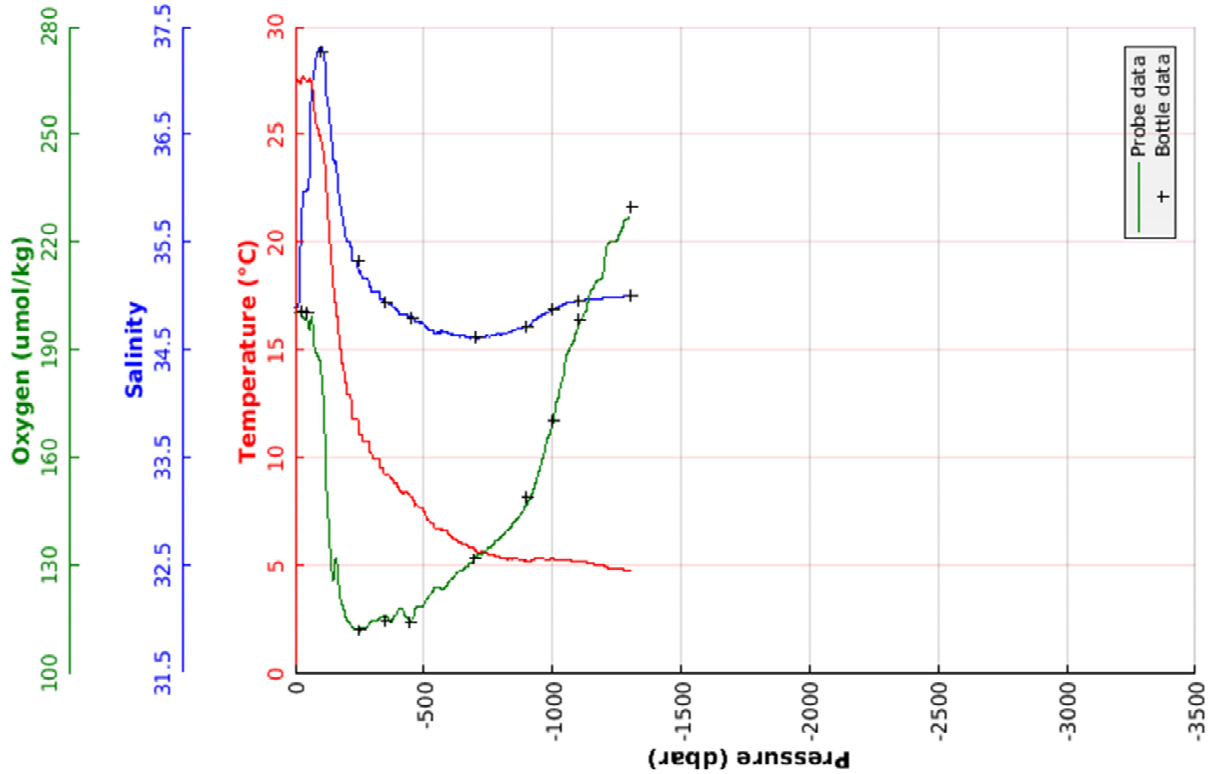

Potential Temperature (°C)
Salinity
Probe data
Bottle data
Oxygen (umol/kg)
Temperature (°C)
Pressure (dbar)
Station: 25

Cruise	: EUREC4A 2020		
Station	: 26	Cast	: 1
Date	: 29/01/2020	Ship	: N/O L'ATALANTE
Depth	: 1315 m	Organism	: ENS Paris; IFREMER
Position	: N 08 15.25 W 054 37.98		

PRESSURE	TEMPERATURE	SALINITY	DISSOLV. OXYGEN	POTENT. TEMP.
dbar	deg.cels.	psu	umol/kg	deg.cels.
0.0	27.523	34.892	200.4	27.523
10.0	27.509	34.896	200.3	27.507
20.0	27.391	35.189	200.9	27.386
30.0	27.676	35.842	199.9	27.669
40.0	27.502	35.975	198.6	27.493
50.0	27.499	35.997	198.6	27.487
100.0	24.790	37.306	187.6	24.768
150.0	17.624	36.293	126.3	17.598
200.0	12.965	35.505	115.9	12.937
250.0	11.124	35.225	112.4	11.093
300.0	9.933	35.045	114.8	9.898
350.0	9.230	34.942	116.2	9.191
400.0	8.651	34.863	117.0	8.608
450.0	8.198	34.812	114.6	8.151
500.0	7.548	34.745	118.7	7.498
550.0	6.736	34.660	124.1	6.685
600.0	6.437	34.653	125.4	6.382
650.0	6.036	34.632	129.0	5.979
700.0	5.754	34.622	132.0	5.693
750.0	5.567	34.632	134.5	5.502
800.0	5.386	34.644	137.8	5.318
850.0	5.349	34.686	141.8	5.276
900.0	5.181	34.714	147.0	5.105
950.0	5.360	34.813	156.3	5.278
1000.0	5.333	34.872	168.7	5.247
1050.0	5.264	34.934	186.0	5.173
1100.0	5.198	34.957	195.9	5.103
1150.0	5.089	34.979	206.5	4.990
1200.0	5.021	34.988	211.8	4.918
1250.0	4.909	34.996	220.2	4.803
1300.0	4.801	35.002	227.0	4.691
1309.0	4.796	35.002	227.3	4.685


Potential Temperature (°C)
Salinity
Probe data
Bottle data

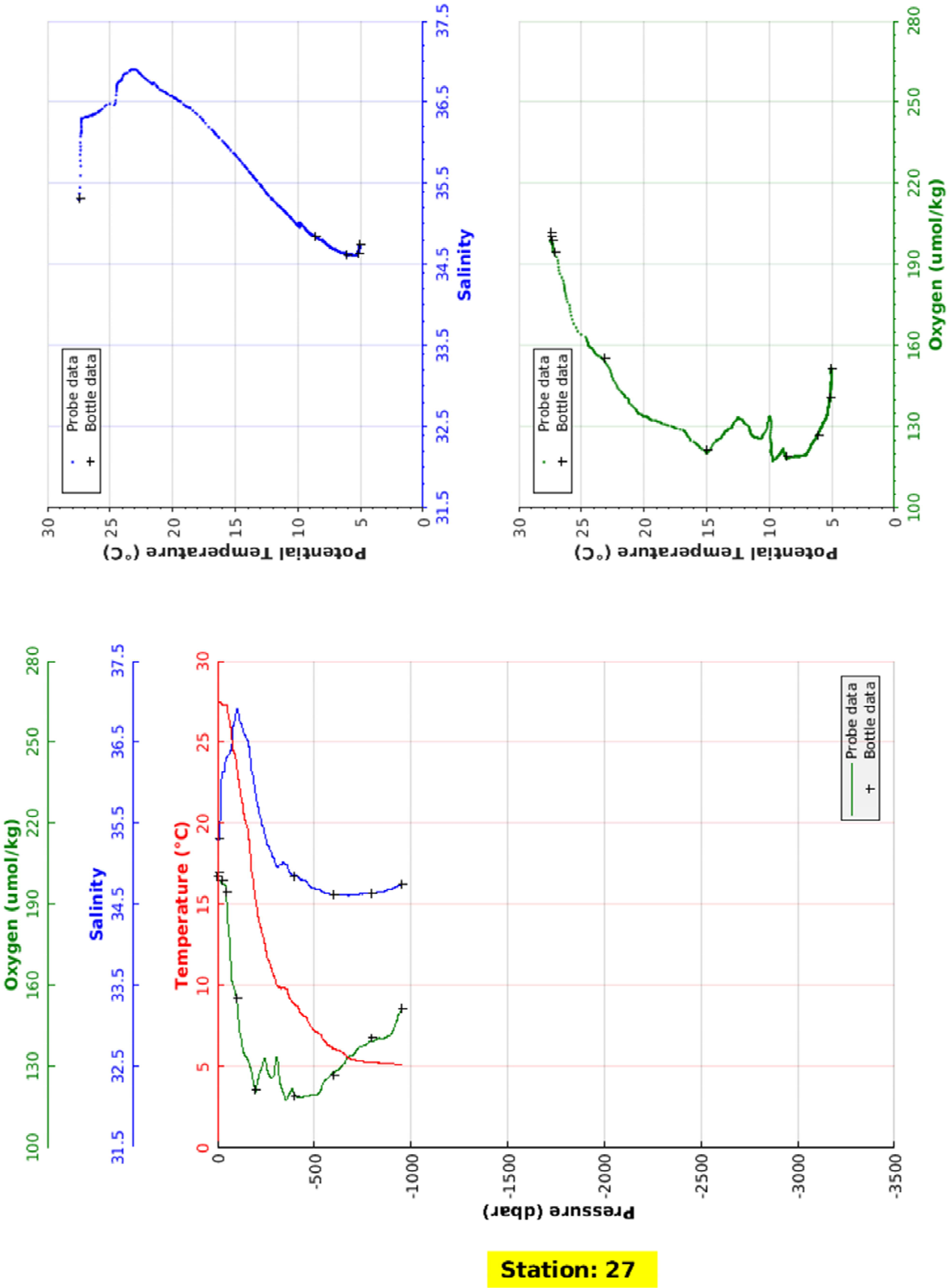

Potential Temperature (°C)
Oxygen (umol/kg)
Probe data
Bottle data


Oxygen (umol/kg)
Salinity
Temperature (°C)
Pressure (dbar)
Probe data
Bottle data

Station: 26

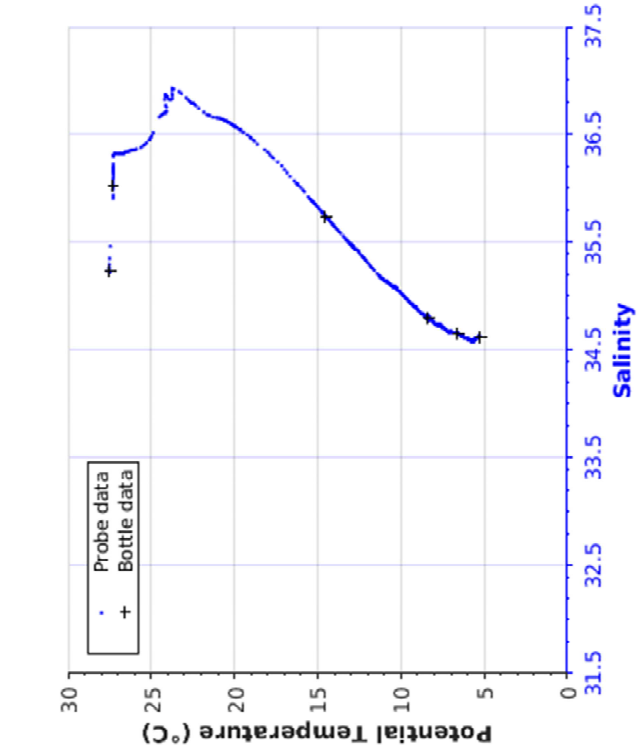
Cruise	: EUREC4A 2020		
Station	: 27	Cast	: 1
Date	: 30/01/2020	Ship	: N/O L'ATALANTE
Depth	: 988 m	Organism	: ENS Paris; IFREMER
Position	: N 08 0.14 W 054 20.05		

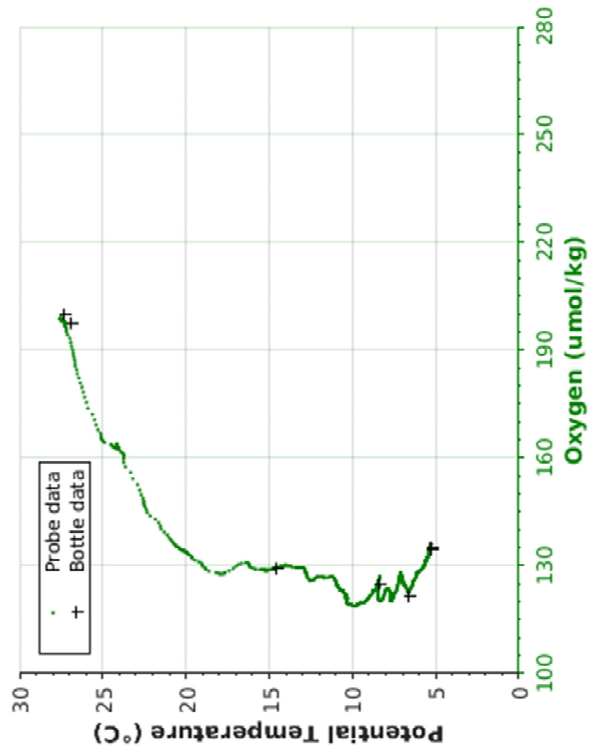
PRESSURE	TEMPERATURE	SALINITY	DISSOLV. OXYGEN	POTENT. TEMP.
dbar	deg.cels.	psu	umol/kg	deg.cels.
0.0	27.461	35.303	198.8	27.461
10.0	27.464	35.303	198.7	27.461
20.0	27.351	35.910	197.8	27.347
30.0	27.312	36.133	197.5	27.305
40.0	27.299	36.190	197.3	27.289
50.0	27.001	36.318	192.3	26.989
100.0	23.407	36.892	155.5	23.386
150.0	19.868	36.554	133.8	19.840
200.0	15.054	35.858	120.1	15.023
250.0	12.126	35.312	132.3	12.093
300.0	10.206	35.008	130.1	10.171
350.0	9.784	35.000	118.5	9.744
400.0	8.841	34.861	119.9	8.797
450.0	8.133	34.805	119.0	8.086
500.0	7.239	34.695	119.6	7.191
550.0	6.617	34.649	124.0	6.566
600.0	6.126	34.628	127.8	6.072
650.0	5.836	34.624	130.7	5.779
700.0	5.457	34.615	134.2	5.397
750.0	5.324	34.629	137.6	5.261
800.0	5.261	34.641	139.5	5.193
850.0	5.228	34.658	140.4	5.156
900.0	5.185	34.689	141.9	5.109
950.0	5.137	34.744	150.5	5.057
956.0	5.141	34.751	151.7	5.061

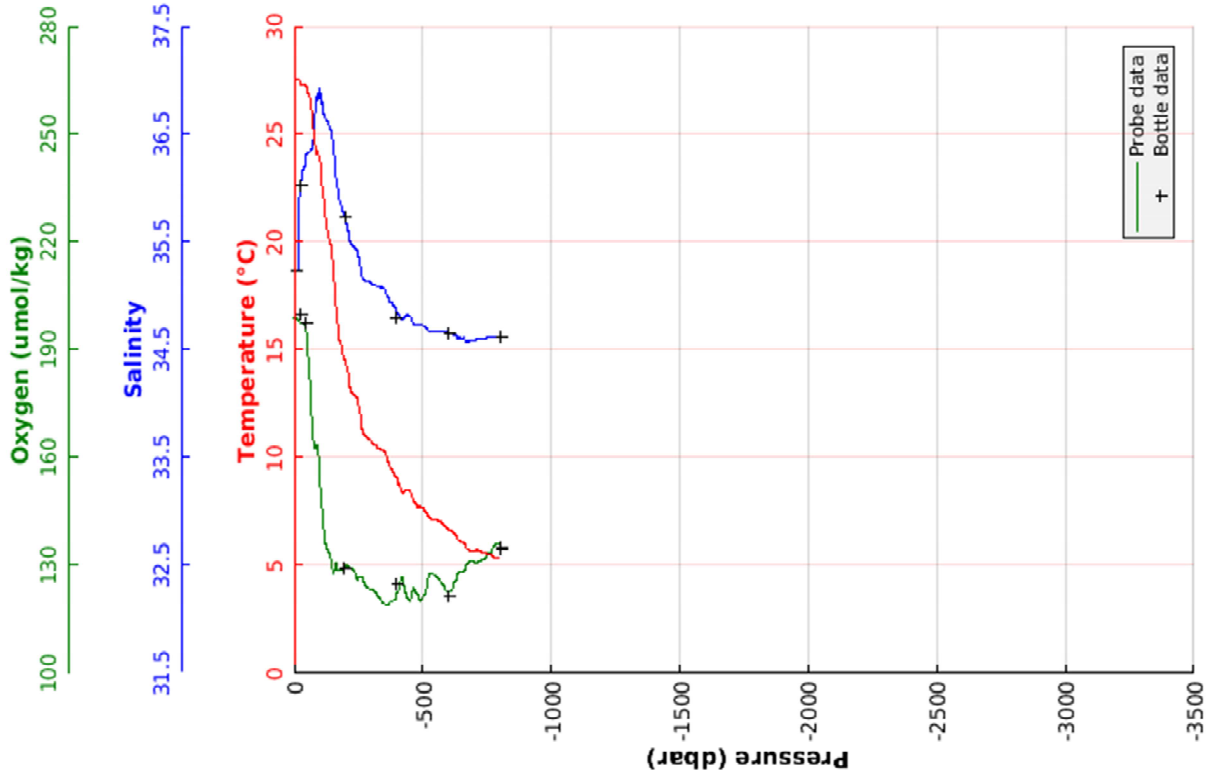

Potential Temperature (°C)
Salinity
Probe data
Bottle data
Oxygen (umol/kg)
Temperature (°C)
Pressure (dbar)
Station: 27

Cruise	: EUREC4A 2020		
Station	: 28	Cast	: 1
Date	: 30/01/2020	Ship	: N/O L'ATALANTE
Depth	: 826 m	Organism	: ENS Paris; IFREMER
Position	: N 07 53.16 W 054 14.07		

PRESSURE	TEMPERATURE	SALINITY	DISSOLV. OXYGEN	POTENT. TEMP.
dbar	deg.cels.	psu	umol/kg	deg.cels.
0.0	27.524	35.227	199.0	27.524
10.0	27.529	35.229	198.5	27.527
20.0	27.506	35.349	198.2	27.502
30.0	27.298	36.088	197.5	27.291
40.0	27.279	36.181	197.4	27.270
50.0	27.209	36.321	196.4	27.198
100.0	23.779	36.911	160.6	23.758
150.0	19.066	36.474	130.3	19.038
200.0	14.453	35.725	129.6	14.424
250.0	12.498	35.393	125.6	12.465
300.0	10.785	35.127	123.5	10.749
350.0	10.330	35.079	119.5	10.288
400.0	9.062	34.880	121.2	9.018
450.0	8.451	34.819	120.7	8.403
500.0	7.706	34.733	120.5	7.655
550.0	7.119	34.666	127.6	7.066
600.0	6.689	34.661	122.9	6.633
650.0	6.085	34.607	128.3	6.027
700.0	5.713	34.591	131.1	5.652
750.0	5.551	34.612	132.4	5.486
800.0	5.363	34.628	136.0	5.296
804.0	5.362	34.628	136.1	5.294


Potential Temperature (°C)
Salinity
Probe data
Bottle data

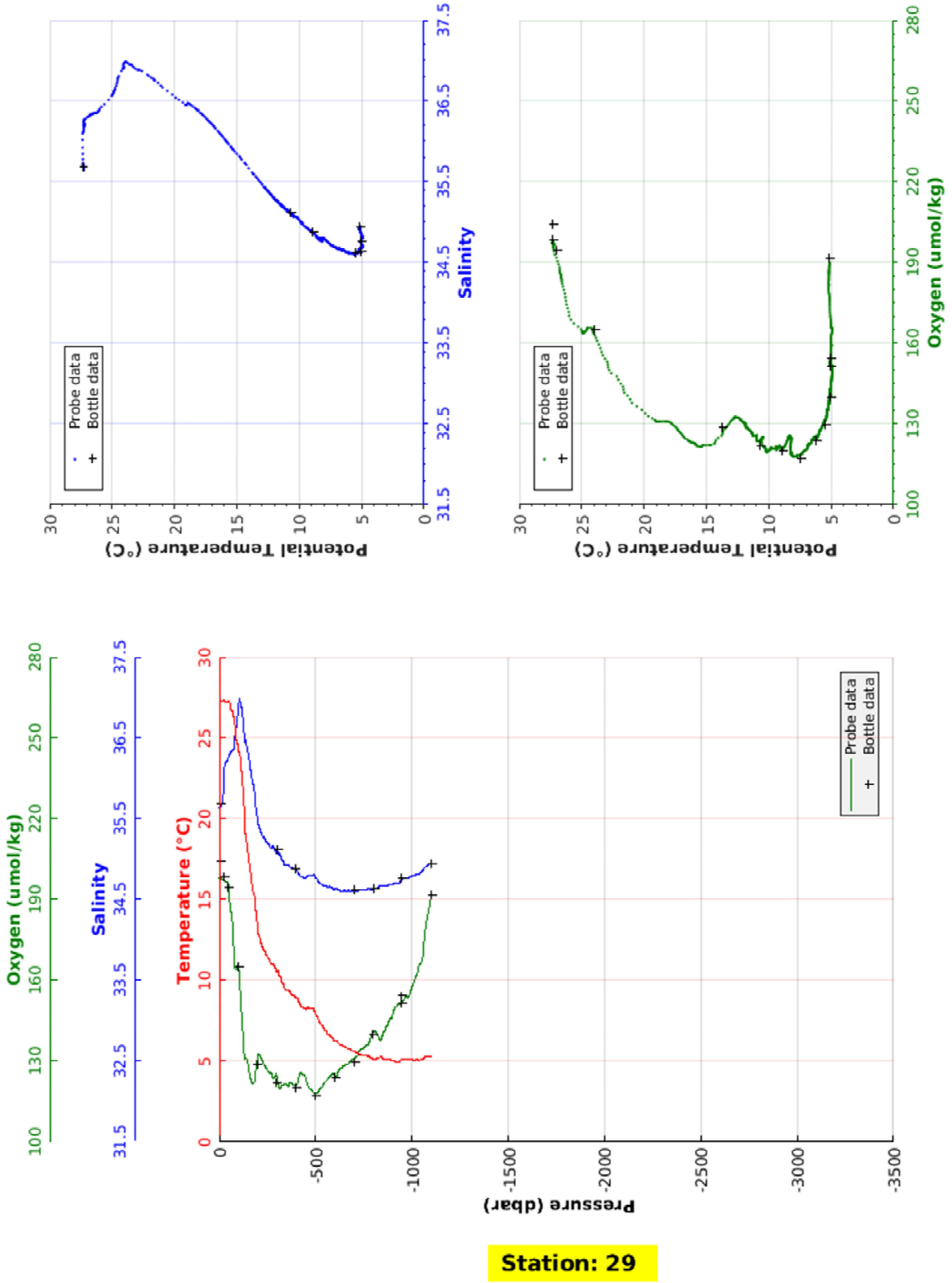

Potential Temperature (°C)
Oxygen (umol/kg)
Probe data
Bottle data


Oxygen (umol/kg)
Salinity
Temperature (°C)
Pressure (dbar)
Probe data
Bottle data

Station: 28

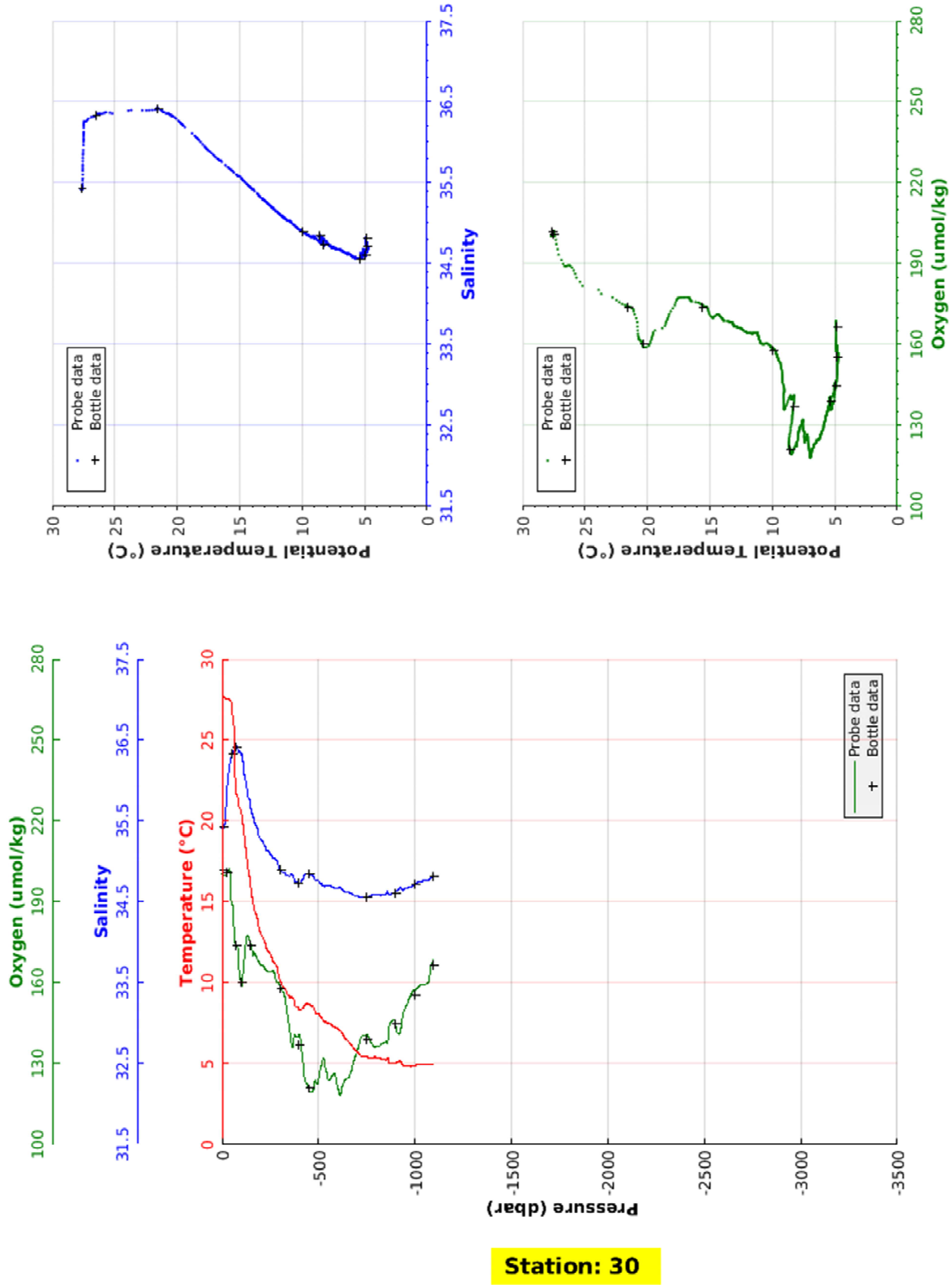
Cruise	: EUREC4A 2020		
Station	: 29	Cast	: 1
Date	: 30/01/2020	Ship	: N/O L'ATALANTE
Depth	: 1180 m	Organism	: ENS Paris; IFREMER
Position	: N 08 15.30 W 054 7.13		

PRESSURE	TEMPERATURE	SALINITY	DISSOLV. OXYGEN	POTENT. TEMP.
dbar	deg.cels.	psu	umol/kg	deg.cels.
0.0	27.290	35.642	197.8	27.290
10.0	27.294	35.660	197.7	27.292
20.0	27.333	35.714	197.6	27.329
30.0	27.270	36.162	197.3	27.263
40.0	27.246	36.218	196.5	27.236
50.0	27.260	36.258	196.0	27.249
100.0	24.159	36.902	165.5	24.138
150.0	17.783	36.333	130.2	17.757
200.0	13.174	35.502	130.6	13.147
250.0	11.473	35.210	127.4	11.441
300.0	10.502	35.070	125.4	10.466
350.0	9.424	34.933	121.4	9.385
400.0	8.921	34.867	120.9	8.877
450.0	8.227	34.773	124.5	8.180
500.0	7.921	34.777	117.9	7.870
550.0	6.915	34.674	122.2	6.863
600.0	6.248	34.630	124.8	6.194
650.0	5.922	34.614	128.0	5.865
700.0	5.603	34.611	130.5	5.543
750.0	5.361	34.624	134.8	5.297
800.0	5.140	34.625	140.9	5.074
850.0	5.175	34.668	139.5	5.104
900.0	5.045	34.690	146.4	4.970
950.0	5.142	34.750	152.0	5.061
1000.0	5.110	34.790	156.7	5.026
1050.0	5.123	34.845	166.3	5.034
1100.0	5.248	34.945	189.8	5.153
1101.0	5.241	34.946	189.9	5.146


Potential Temperature (°C)
Salinity
Probe data
Bottle data
Potential Temperature (°C)
Oxygen (umol/kg)
Probe data
Bottle data
Oxygen (umol/kg)
Salinity
Temperature (°C)
Pressure (dbar)
Probe data
Bottle data
Station: 29

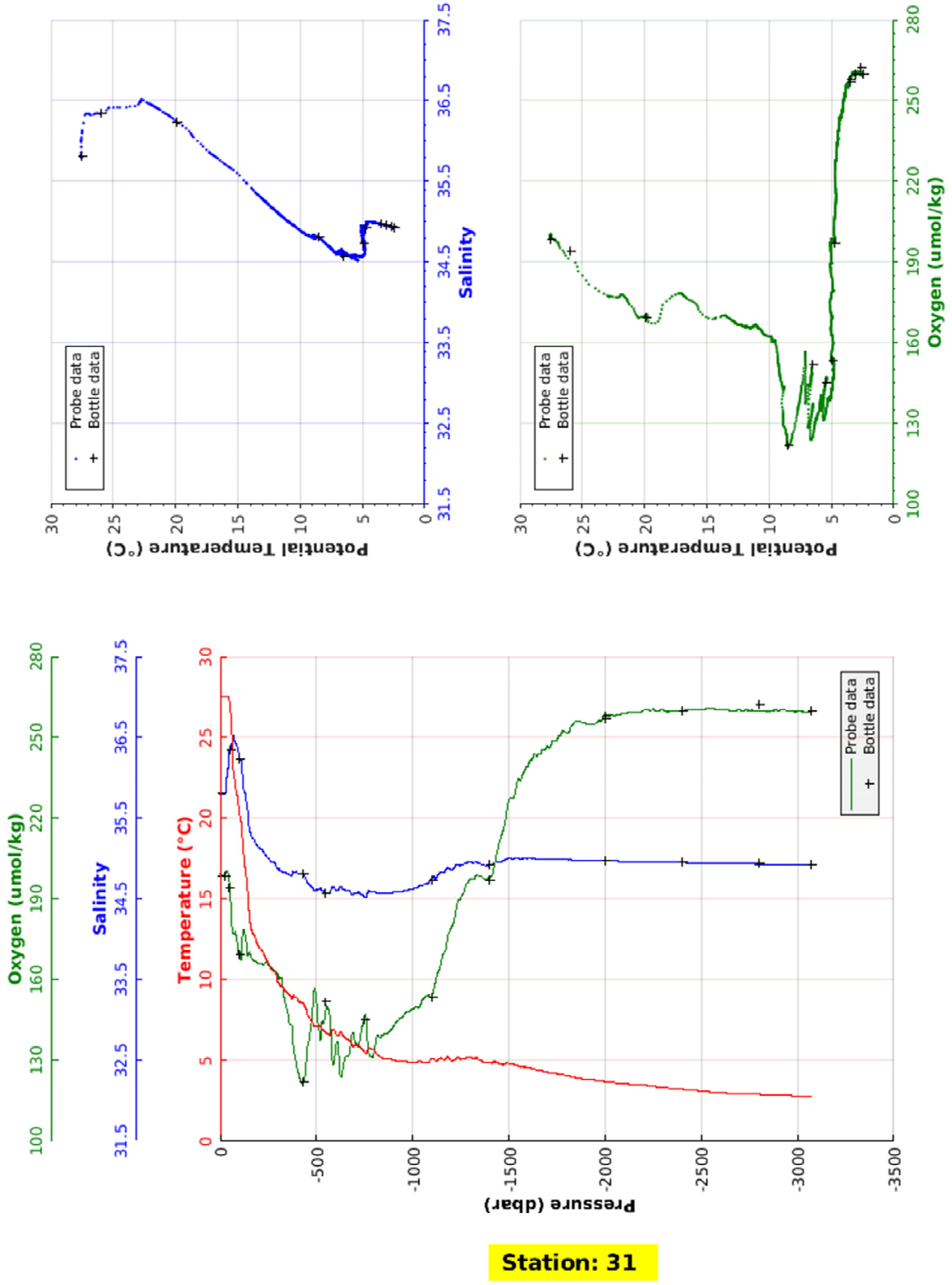
Cruise	: EUREC4A 2020		
Station	: 30	Cast	: 1
Date	: 30/01/2020	Ship	: N/O L'ATALANTE
Depth	: 1188 m	Organism	: ENS Paris; IFREMER
Position	: N 08 12.03 W 053 12.06		

PRESSURE	TEMPERATURE	SALINITY	DISSOLV. OXYGEN	POTENT. TEMP.
dbar	deg.cels.	psu	umol/kg	deg.cels.
0.0	27.658	35.412	200.4	27.658
10.0	27.657	35.413	199.8	27.655
20.0	27.560	35.600	200.2	27.556
30.0	27.527	35.963	201.0	27.520
40.0	27.486	36.128	202.2	27.477
50.0	27.127	36.295	193.5	27.115
100.0	20.489	36.327	161.2	20.470
150.0	15.696	35.656	175.1	15.673
200.0	13.099	35.286	166.8	13.071
250.0	11.783	35.105	164.4	11.751
300.0	10.187	34.915	159.1	10.151
350.0	9.096	34.816	143.7	9.058
400.0	8.340	34.732	141.1	8.299
450.0	8.674	34.843	121.5	8.625
500.0	8.091	34.762	122.9	8.039
550.0	7.496	34.700	124.5	7.441
600.0	7.134	34.672	122.1	7.076
650.0	6.450	34.625	124.6	6.390
700.0	5.756	34.570	133.4	5.695
750.0	5.423	34.559	140.6	5.360
800.0	5.351	34.581	136.3	5.283
850.0	5.236	34.592	138.0	5.164
900.0	5.030	34.613	146.3	4.955
950.0	4.912	34.665	150.3	4.833
1000.0	4.907	34.728	157.0	4.824
1050.0	4.960	34.759	159.4	4.872
1100.0	4.982	34.815	168.8	4.890


Potential Temperature (°C)
Salinity
Probe data
Bottle data
Potential Temperature (°C)
Oxygen (umol/kg)
Probe data
Bottle data
Oxygen (umol/kg)
Salinity
Temperature (°C)
Pressure (dbar)
Probe data
Bottle data
Station: 30

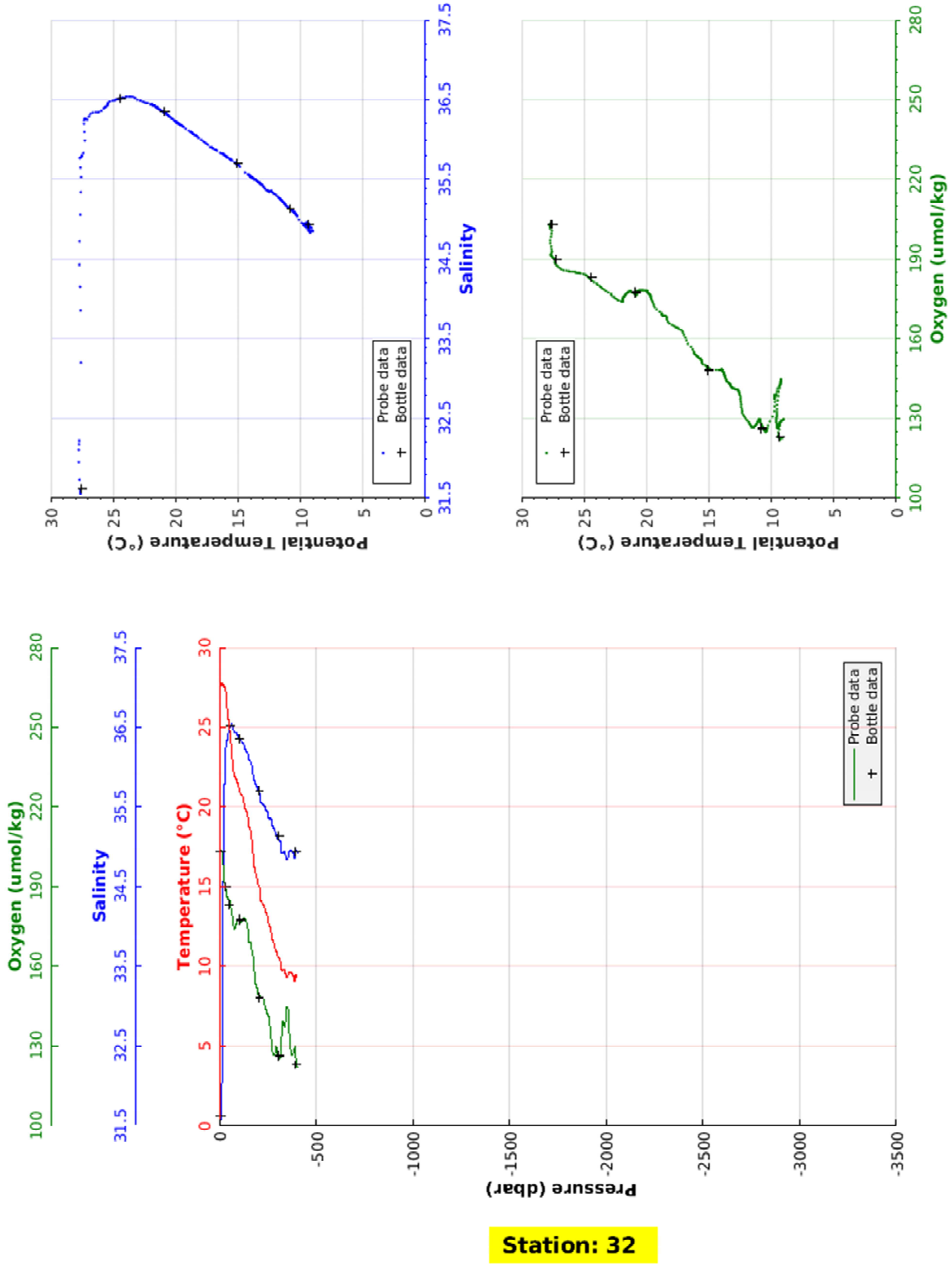
Cruise	: EUREC4A 2020		
Station	: 31	Cast	: 1
Date	: 01/02/2020	Ship	: N/O L'ATALANTE
Depth	: 3073 m	Organism	: ENS Paris; IFREMER
Position	: N 08 20.56 W 052 40.98		

PRESSURE	TEMPERATURE	SALINITY	DISSOLV. OXYGEN	POTENT. TEMP.	PRESSURE	TEMPERATURE	SALINITY	DISSOLV. OXYGEN	POTENT. TEMP.
dbar	deg.cels.	psu	umol/kg	deg.cels.	dbar	deg.cels.	psu	umol/kg	deg.cels.
0.0	27.546	35.806	199.5	27.546	3050.0	2.777	34.926	259.4	2.526
10.0	27.547	35.805	199.4	27.545	3074.0	2.743	34.924	259.7	2.490
20.0	27.546	35.805	199.4	27.541					
30.0	27.569	35.824	199.1	27.562					
40.0	27.532	36.096	200.6	27.522					
50.0	26.936	36.335	197.8	26.925					
100.0	20.334	36.291	169.5	20.316					
150.0	13.934	35.421	169.8	13.913					
200.0	12.037	35.142	166.2	12.010					
250.0	11.022	35.009	166.3	10.991					
300.0	9.853	34.873	162.3	9.818					
350.0	9.203	34.820	148.8	9.165					
400.0	8.832	34.827	129.1	8.788					
450.0	7.972	34.728	128.7	7.926					
500.0	7.150	34.611	154.3	7.102					
550.0	6.687	34.576	148.0	6.636					
600.0	6.709	34.619	132.5	6.653					
650.0	6.378	34.607	131.0	6.319					
700.0	5.974	34.577	138.0	5.912					
750.0	5.516	34.532	145.2	5.452					
800.0	5.619	34.591	131.9	5.550					
850.0	5.146	34.571	139.6	5.075					
900.0	5.047	34.581	142.4	4.972					
950.0	4.958	34.596	146.1	4.879					
1000.0	4.883	34.628	149.2	4.801					
1050.0	4.866	34.666	152.5	4.779					
1100.0	5.105	34.755	153.6	5.011					
1150.0	5.133	34.828	166.0	5.034					
1200.0	4.972	34.862	179.3	4.870					
1250.0	5.096	34.917	189.9	4.988					
1300.0	5.181	34.954	197.5	5.067					
1350.0	5.062	34.943	198.5	4.945					
1400.0	4.858	34.921	198.2	4.738					
1450.0	4.812	34.961	210.3	4.687					
1500.0	4.834	35.002	226.3	4.704					
1550.0	4.673	35.005	234.6	4.540					
1600.0	4.557	35.003	239.3	4.421					
1650.0	4.396	34.998	243.1	4.257					
1700.0	4.275	34.993	246.7	4.133					
1750.0	4.191	34.990	249.0	4.045					
1800.0	4.082	34.986	251.7	3.932					
1850.0	3.939	34.982	256.1	3.787					
1900.0	3.828	34.976	255.3	3.673					
1950.0	3.785	34.974	255.3	3.626					
2000.0	3.699	34.971	258.2	3.536					
2050.0	3.632	34.968	258.2	3.465					
2100.0	3.578	34.966	259.0	3.407					
2150.0	3.507	34.964	259.4	3.332					
2200.0	3.479	34.962	260.1	3.300					
2250.0	3.415	34.960	260.7	3.233					
2300.0	3.339	34.957	260.5	3.153					
2350.0	3.283	34.955	259.8	3.093					
2400.0	3.227	34.952	259.9	3.033					
2450.0	3.173	34.950	260.5	2.975					
2500.0	3.110	34.947	260.3	2.908					
2550.0	3.055	34.944	260.7	2.849					
2600.0	3.015	34.941	260.5	2.805					
2650.0	2.971	34.939	260.1	2.756					
2700.0	2.950	34.938	260.1	2.731					
2750.0	2.936	34.937	260.1	2.712					
2800.0	2.907	34.935	260.0	2.679					
2850.0	2.868	34.933	259.7	2.636					
2900.0	2.847	34.931	260.1	2.610					
2950.0	2.826	34.930	260.1	2.584					
3000.0	2.811	34.928	259.7	2.564					


Potential Temperature (°C)
Salinity
Probe data
Bottle data
Potential Temperature (°C)
Oxygen (umol/kg)
Probe data
Bottle data
Oxygen (umol/kg)
Salinity
Temperature (°C)
Pressure (dbar)
Probe data
Bottle data
Station: 31

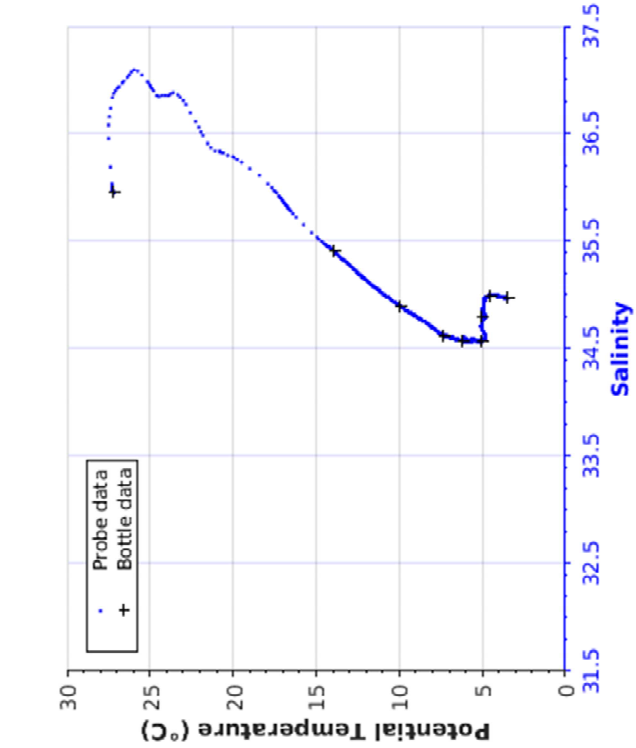
Cruise	: EUREC4A 2020		
Station	: 32	Cast	: 1
Date	: 05/02/2020	Ship	: N/O L'ATALANTE
Depth	: 489 m	Organism	: ENS Paris; IFREMER
Position	: N 07 31.50 W 053 34.32		

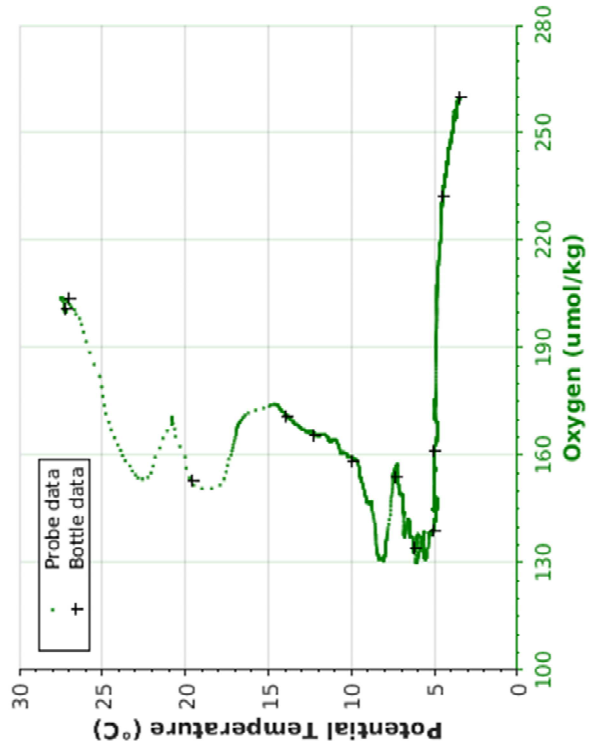
PRESSURE	TEMPERATURE	SALINITY	DISSOLV. OXYGEN	POTENT. TEMP.
dbar	deg.cels.	psu	umol/kg	deg.cels.
0.0	27.621	31.572	203.2	27.621
10.0	27.692	31.736	203.0	27.690
20.0	27.648	35.058	194.3	27.643
30.0	27.314	36.096	189.8	27.307
40.0	26.246	36.342	186.0	26.237
50.0	25.291	36.479	185.3	25.280
100.0	21.238	36.372	177.8	21.218
150.0	18.811	36.098	169.0	18.784
200.0	15.153	35.697	149.4	15.123
250.0	13.065	35.424	140.8	13.030
300.0	10.694	35.107	126.5	10.658
350.0	9.273	34.843	144.7	9.234
400.0	9.379	34.936	121.7	9.334
401.0	9.205	34.902	122.6	9.160

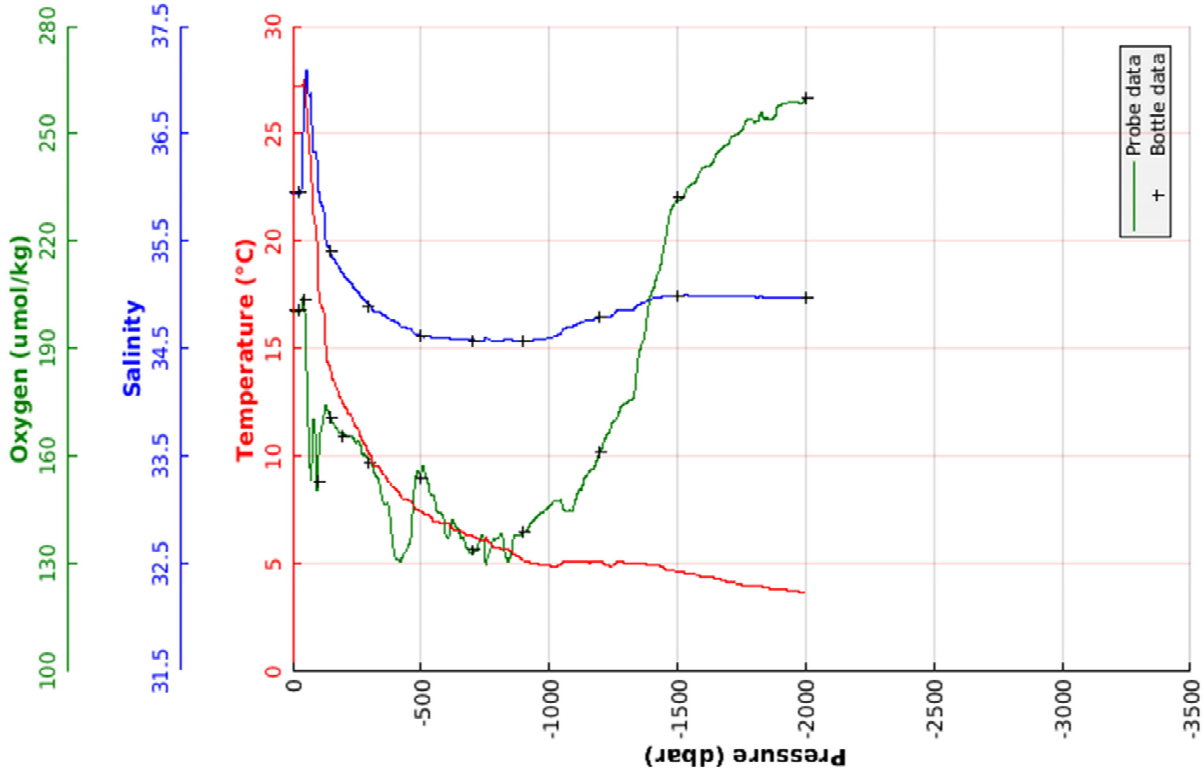

Potential Temperature (°C)
Salinity
Probe data
Bottle data
Potential Temperature (°C)
Oxygen (umol/kg)
Probe data
Bottle data
Oxygen (umol/kg)
Salinity
Temperature (°C)
Pressure (dbar)
Probe data
Bottle data
Station: 32

Cruise	: EUREC4A 2020		
Station	: 33	Cast	: 1
Date	: 06/02/2020	Ship	: N/O L'ATALANTE
Depth	: 3312 m	Organism	: ENS Paris; IFREMER
Position	: N 08 50.03 W 053 9.99		

PRESSURE	TEMPERATURE	SALINITY	DISSOLV. OXYGEN	POTENT. TEMP.
dbar	deg.cels.	psu	umol/kg	deg.cels.
0.0	27.208	35.947	200.2	27.208
10.0	27.209	35.946	200.6	27.207
20.0	27.208	35.948	200.3	27.203
30.0	27.213	35.951	199.9	27.206
40.0	27.308	36.037	201.5	27.299
50.0	26.886	36.938	201.9	26.874
100.0	17.930	36.032	149.8	17.913
150.0	13.850	35.392	170.9	13.828
200.0	12.422	35.193	166.5	12.396
250.0	11.311	35.052	163.8	11.279
300.0	10.080	34.907	159.5	10.045
350.0	9.234	34.823	148.9	9.195
400.0	8.482	34.752	132.8	8.440
450.0	7.981	34.691	134.3	7.935
500.0	7.424	34.627	154.7	7.375
550.0	7.008	34.605	149.1	6.956
600.0	6.899	34.612	137.8	6.842
650.0	6.549	34.587	139.4	6.489
700.0	6.297	34.583	133.2	6.233
750.0	6.182	34.600	135.3	6.114
800.0	5.760	34.572	137.0	5.690
850.0	5.569	34.590	131.6	5.495
900.0	5.166	34.570	138.5	5.090
950.0	5.012	34.584	142.9	4.933
1000.0	4.926	34.602	146.0	4.843
1050.0	5.027	34.658	148.1	4.939
1100.0	5.121	34.712	146.8	5.027
1150.0	5.093	34.763	154.8	4.995
1200.0	5.142	34.804	161.2	5.038
1250.0	4.974	34.820	169.4	4.867
1300.0	5.077	34.869	174.8	4.964
1350.0	5.020	34.910	187.7	4.903
1400.0	4.975	34.967	205.3	4.854
1450.0	4.794	34.985	218.8	4.670
1500.0	4.645	34.999	231.4	4.517
1550.0	4.536	34.998	235.7	4.405
1600.0	4.418	34.998	240.6	4.283
1650.0	4.317	34.995	243.8	4.179
1700.0	4.173	34.989	247.2	4.032
1750.0	4.035	34.985	250.6	3.891
1800.0	3.988	34.984	253.3	3.840
1850.0	3.889	34.980	254.5	3.737
1900.0	3.825	34.979	258.0	3.670
1950.0	3.744	34.975	258.8	3.585
2000.0	3.672	34.972	259.8	3.509
2003.0	3.669	34.972	259.8	3.506


Potential Temperature (°C)
Salinity
Probe data
Bottle data

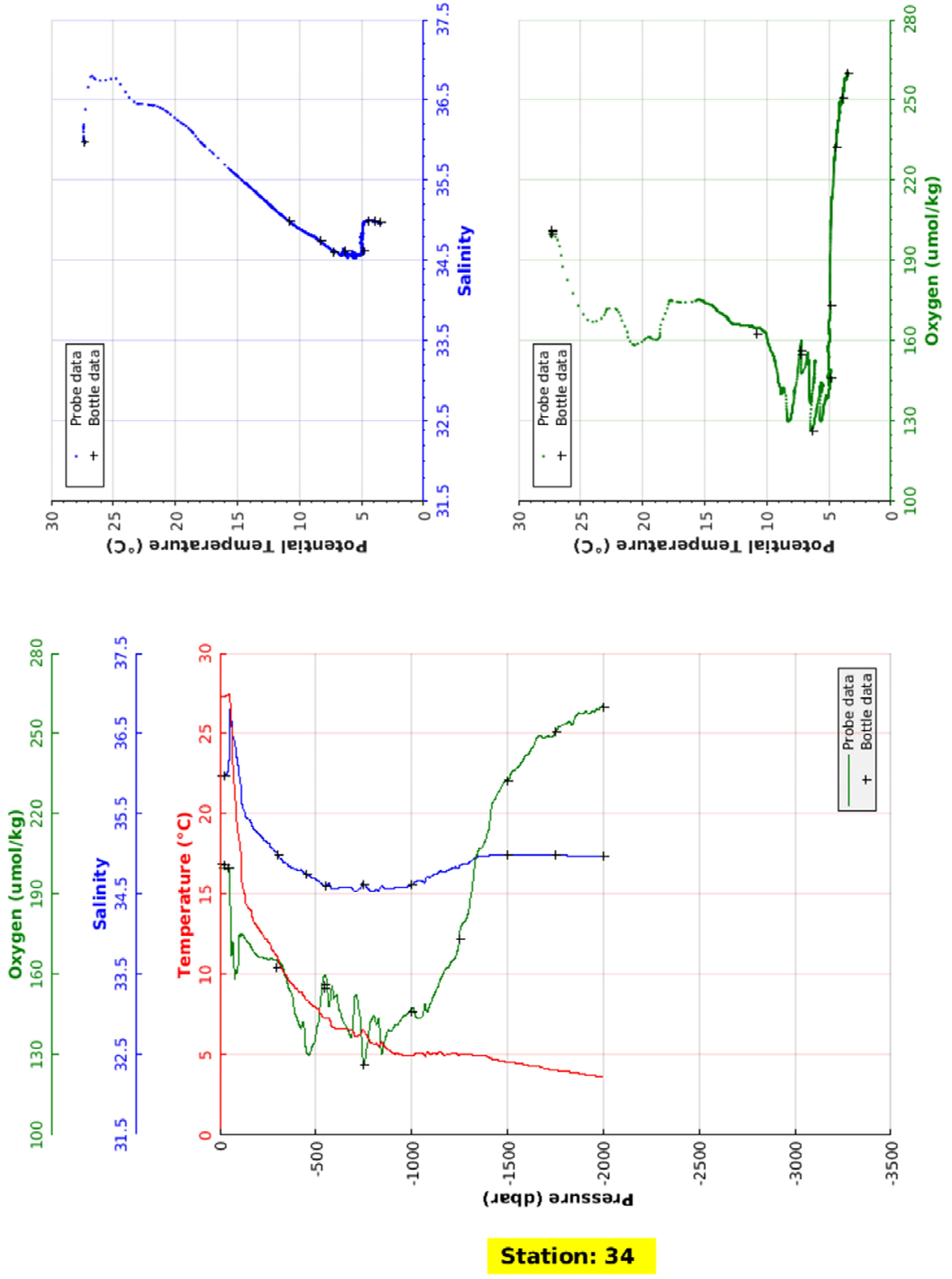

Potential Temperature (°C)
Oxygen (umol/kg)
Probe data
Bottle data


Oxygen (umol/kg)
Salinity
Temperature (°C)
Pressure (dbar)
Probe data
Bottle data

Station: 33

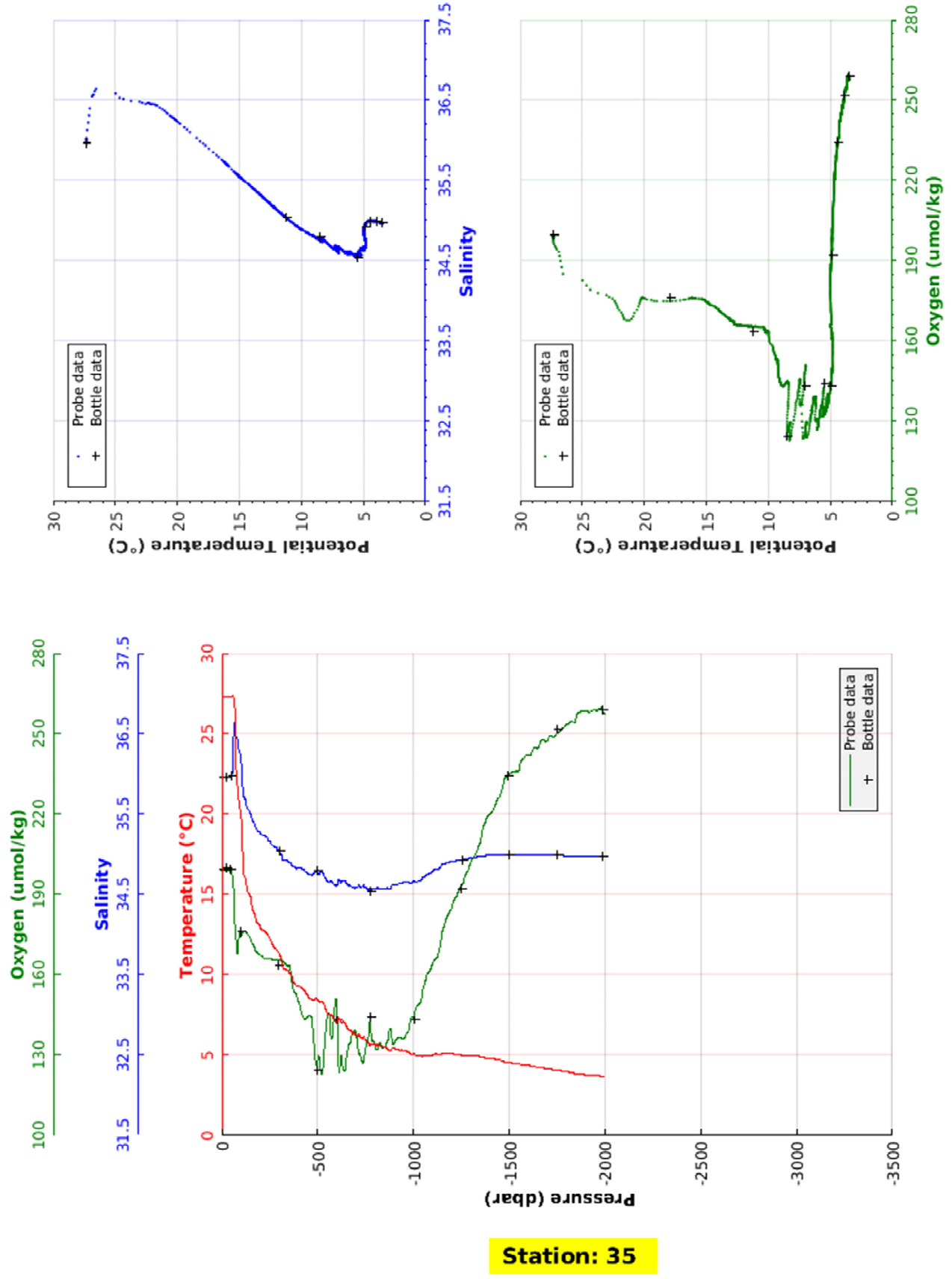
Cruise	: EUREC4A 2020		
Station	: 34	Cast	: 1
Date	: 06/02/2020	Ship	: N/O L'ATALANTE
Depth	: 4634 m	Organism	: ENS Paris; IFREMER
Position	: N 08 55.28 W 053 20.86		

PRESSURE	TEMPERATURE	SALINITY	DISSOLV. OXYGEN	POTENT. TEMP.
dbar	deg.cels.	psu	umol/kg	deg.cels.
0.0	27.313	35.971	200.1	27.313
10.0	27.320	35.971	200.2	27.318
20.0	27.328	35.974	200.1	27.324
30.0	27.323	35.973	200.2	27.316
40.0	27.362	36.004	199.6	27.353
50.0	27.419	36.164	199.1	27.408
100.0	18.563	36.088	163.5	18.545
150.0	14.156	35.438	172.3	14.134
200.0	12.898	35.259	167.0	12.870
250.0	12.089	35.147	165.8	12.056
300.0	11.137	35.021	165.2	11.100
350.0	9.897	34.885	158.6	9.857
400.0	9.116	34.815	144.6	9.072
450.0	8.439	34.746	133.3	8.391
500.0	7.961	34.690	135.6	7.910
550.0	7.262	34.605	160.1	7.208
600.0	6.706	34.577	151.2	6.650
650.0	6.639	34.589	141.8	6.578
700.0	6.212	34.543	143.9	6.149
750.0	6.562	34.638	126.7	6.492
800.0	5.672	34.533	144.5	5.603
850.0	5.628	34.590	130.3	5.554
900.0	5.153	34.572	138.9	5.077
950.0	4.997	34.589	143.5	4.918
1000.0	4.971	34.622	146.7	4.887
1050.0	5.109	34.665	144.0	5.020
1100.0	5.058	34.716	149.4	4.965
1150.0	5.175	34.791	157.8	5.076
1200.0	5.065	34.812	163.6	4.962
1250.0	4.992	34.846	172.5	4.885
1300.0	5.015	34.895	183.9	4.902
1350.0	4.956	34.970	206.4	4.839
1400.0	4.882	34.982	213.2	4.761
1450.0	4.680	34.995	227.6	4.557
1500.0	4.587	34.998	233.0	4.460
1550.0	4.500	34.998	237.2	4.369
1600.0	4.390	34.997	242.1	4.256
1650.0	4.277	34.997	247.7	4.140
1700.0	4.164	34.990	248.6	4.023
1750.0	4.063	34.987	250.8	3.919
1800.0	4.001	34.985	253.6	3.853
1850.0	3.921	34.983	255.3	3.769
1900.0	3.806	34.977	257.8	3.651
1950.0	3.728	34.974	258.4	3.569
2000.0	3.654	34.971	260.3	3.491
2002.0	3.653	34.971	260.2	3.490


Potential Temperature (°C)
Salinity
Probe data
Bottle data
Potential Temperature (°C)
Oxygen (umol/kg)
Probe data
Bottle data
Oxygen (umol/kg)
Salinity
Temperature (°C)
Pressure (dbar)
Probe data
Bottle data
Station: 34

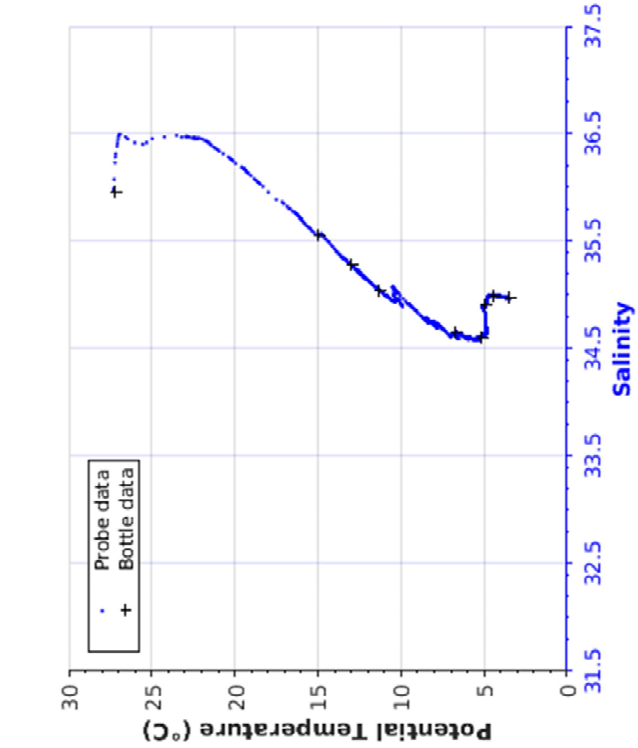
Cruise	: EUREC4A 2020		
Station	: 35	Cast	: 1
Date	: 06/02/2020	Ship	: N/O L'ATALANTE
Depth	: 4548 m	Organism	: ENS Paris; IFREMER
Position	: N 09 1.30 W 053 33.60		

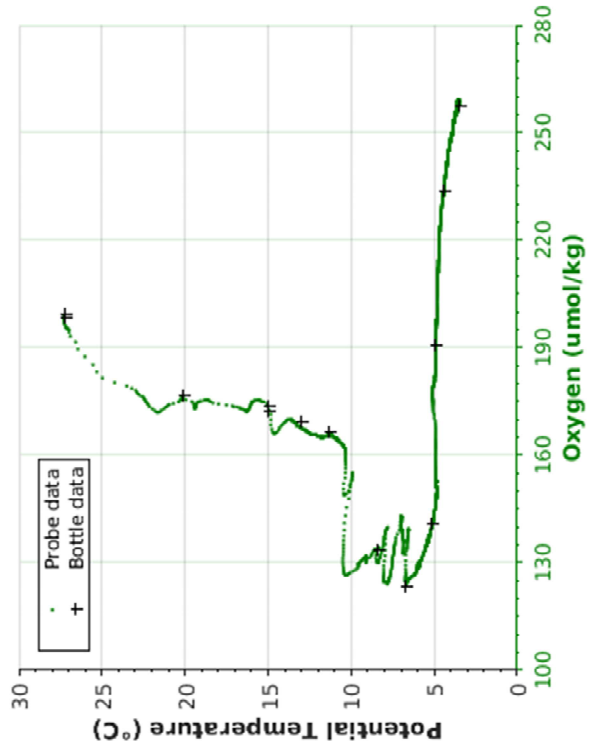
PRESSURE	TEMPERATURE	SALINITY	DISSOLV. OXYGEN	POTENT. TEMP.
dbar	deg.cels.	psu	umol/kg	deg.cels.
0.0	27.328	35.962	198.9	27.328
10.0	27.326	35.961	199.5	27.324
20.0	27.324	35.960	199.1	27.320
30.0	27.327	35.962	199.1	27.320
40.0	27.329	35.963	199.4	27.320
50.0	27.333	35.962	199.0	27.321
100.0	19.953	36.225	176.1	19.934
150.0	14.812	35.519	173.9	14.790
200.0	13.011	35.274	167.6	12.984
250.0	12.261	35.170	165.9	12.228
300.0	11.347	35.045	165.4	11.309
350.0	10.194	34.908	163.3	10.153
400.0	9.278	34.823	150.7	9.233
450.0	8.638	34.760	144.4	8.590
500.0	8.449	34.780	126.8	8.396
550.0	7.589	34.664	142.8	7.534
600.0	7.039	34.601	151.5	6.981
650.0	6.807	34.638	125.7	6.745
700.0	6.254	34.582	139.5	6.191
750.0	5.979	34.590	131.2	5.912
800.0	5.660	34.573	134.6	5.591
850.0	5.490	34.573	133.1	5.417
900.0	5.426	34.615	134.4	5.349
950.0	5.307	34.651	135.9	5.226
1000.0	5.111	34.664	144.1	5.027
1050.0	4.928	34.713	153.8	4.840
1100.0	4.989	34.791	163.8	4.896
1150.0	5.083	34.870	175.0	4.985
1200.0	5.090	34.911	184.4	4.987
1250.0	4.997	34.928	192.8	4.889
1300.0	4.958	34.956	201.6	4.846
1350.0	4.908	34.973	209.2	4.792
1400.0	4.789	34.988	219.8	4.670
1450.0	4.703	34.995	226.0	4.580
1500.0	4.542	34.998	235.0	4.416
1550.0	4.466	34.994	236.1	4.335
1600.0	4.365	34.995	242.2	4.231
1650.0	4.244	34.991	244.4	4.107
1700.0	4.162	34.989	247.4	4.021
1750.0	4.062	34.986	250.1	3.917
1800.0	3.966	34.983	253.3	3.818
1850.0	3.821	34.978	255.5	3.671
1900.0	3.786	34.978	258.6	3.631
1950.0	3.742	34.975	258.8	3.583
2000.0	3.657	34.971	257.7	3.495
2001.0	3.655	34.971	257.9	3.493

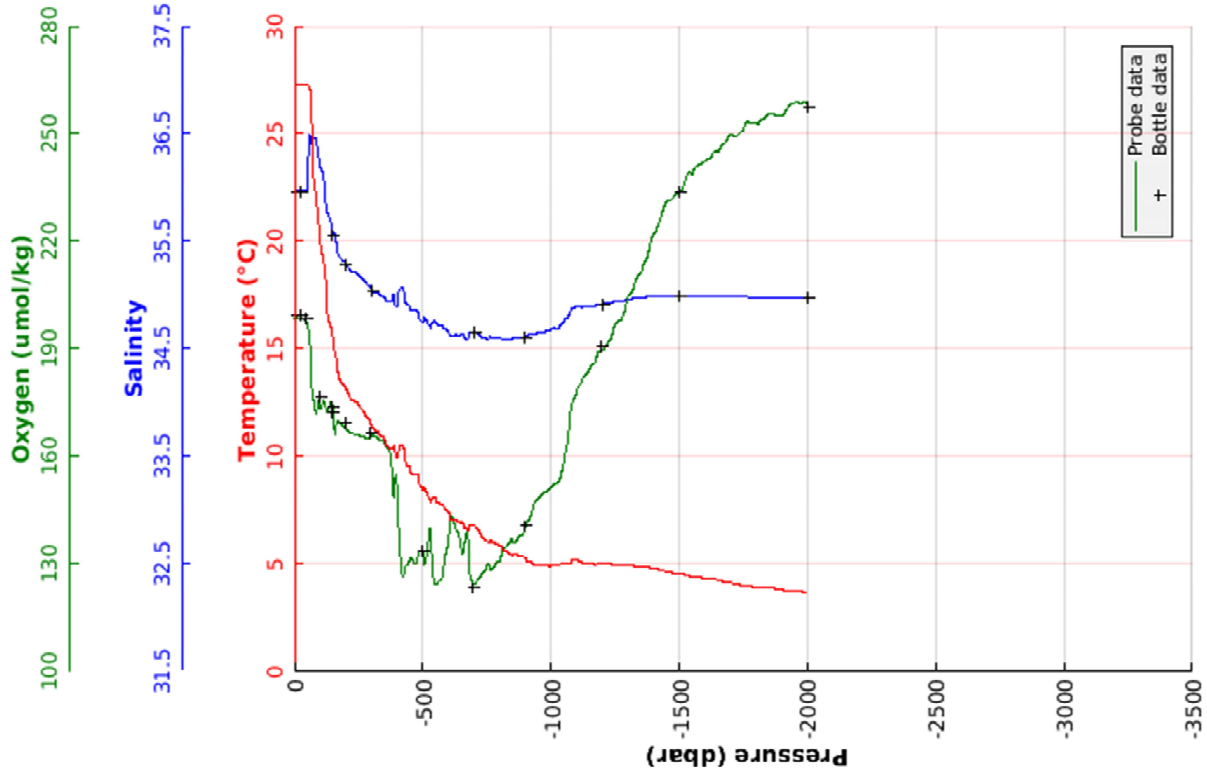

Potential Temperature (°C)
Salinity
Probe data
Bottle data
Potential Temperature (°C)
Oxygen (umol/kg)
Probe data
Bottle data
Oxygen (umol/kg)
Salinity
Temperature (°C)
Pressure (dbar)
Probe data
Bottle data
Station: 35

Cruise	: EUREC4A 2020		
Station	: 36	Cast	: 1
Date	: 06/02/2020	Ship	: N/O L'ATALANTE
Depth	: 4421 m	Organism	: ENS Paris; IFREMER
Position	: N 09 7.08 W 053 46.23		

PRESSURE	TEMPERATURE	SALINITY	DISSOLV. OXYGEN	POTENT. TEMP.
dbar	deg.cels.	psu	umol/kg	deg.cels.
0.0	27.264	35.966	198.7	27.264
10.0	27.264	35.966	198.7	27.262
20.0	27.271	35.969	198.1	27.267
30.0	27.269	35.967	198.5	27.262
40.0	27.278	35.972	197.8	27.268
50.0	27.280	35.977	197.9	27.268
100.0	20.131	36.248	176.7	20.112
150.0	15.483	35.617	175.1	15.459
200.0	13.233	35.305	168.2	13.205
250.0	12.413	35.190	165.8	12.379
300.0	11.452	35.062	165.5	11.414
350.0	10.813	34.982	164.3	10.770
400.0	9.959	34.897	155.3	9.912
450.0	9.393	34.889	130.6	9.342
500.0	8.415	34.745	134.4	8.362
550.0	8.062	34.755	124.5	8.005
600.0	7.447	34.673	134.5	7.388
650.0	6.923	34.627	136.1	6.861
700.0	6.791	34.658	124.5	6.724
750.0	6.089	34.595	128.4	6.022
800.0	5.863	34.603	130.7	5.792
850.0	5.430	34.594	137.0	5.357
900.0	5.266	34.613	139.2	5.190
950.0	4.956	34.646	148.2	4.877
1000.0	4.948	34.680	151.1	4.864
1050.0	5.018	34.745	157.0	4.929
1100.0	5.195	34.892	177.1	5.100
1150.0	5.030	34.898	184.2	4.932
1200.0	5.017	34.919	189.7	4.914
1250.0	4.981	34.939	196.4	4.873
1300.0	4.943	34.963	204.1	4.831
1350.0	4.889	34.977	210.9	4.773
1400.0	4.798	34.993	221.7	4.679
1450.0	4.645	34.999	230.9	4.522
1500.0	4.544	34.996	233.6	4.418
1550.0	4.400	34.994	238.5	4.270
1600.0	4.344	34.994	242.3	4.210
1650.0	4.245	34.991	245.1	4.108
1700.0	4.127	34.989	249.7	3.987
1750.0	4.017	34.985	250.9	3.873
1800.0	3.939	34.982	253.1	3.792
1850.0	3.887	34.980	255.5	3.735
1900.0	3.826	34.977	255.0	3.671
1950.0	3.756	34.977	258.7	3.597
2000.0	3.666	34.971	258.1	3.503
2002.0	3.666	34.971	257.9	3.503


Potential Temperature (°C)
Salinity
Probe data
Bottle data

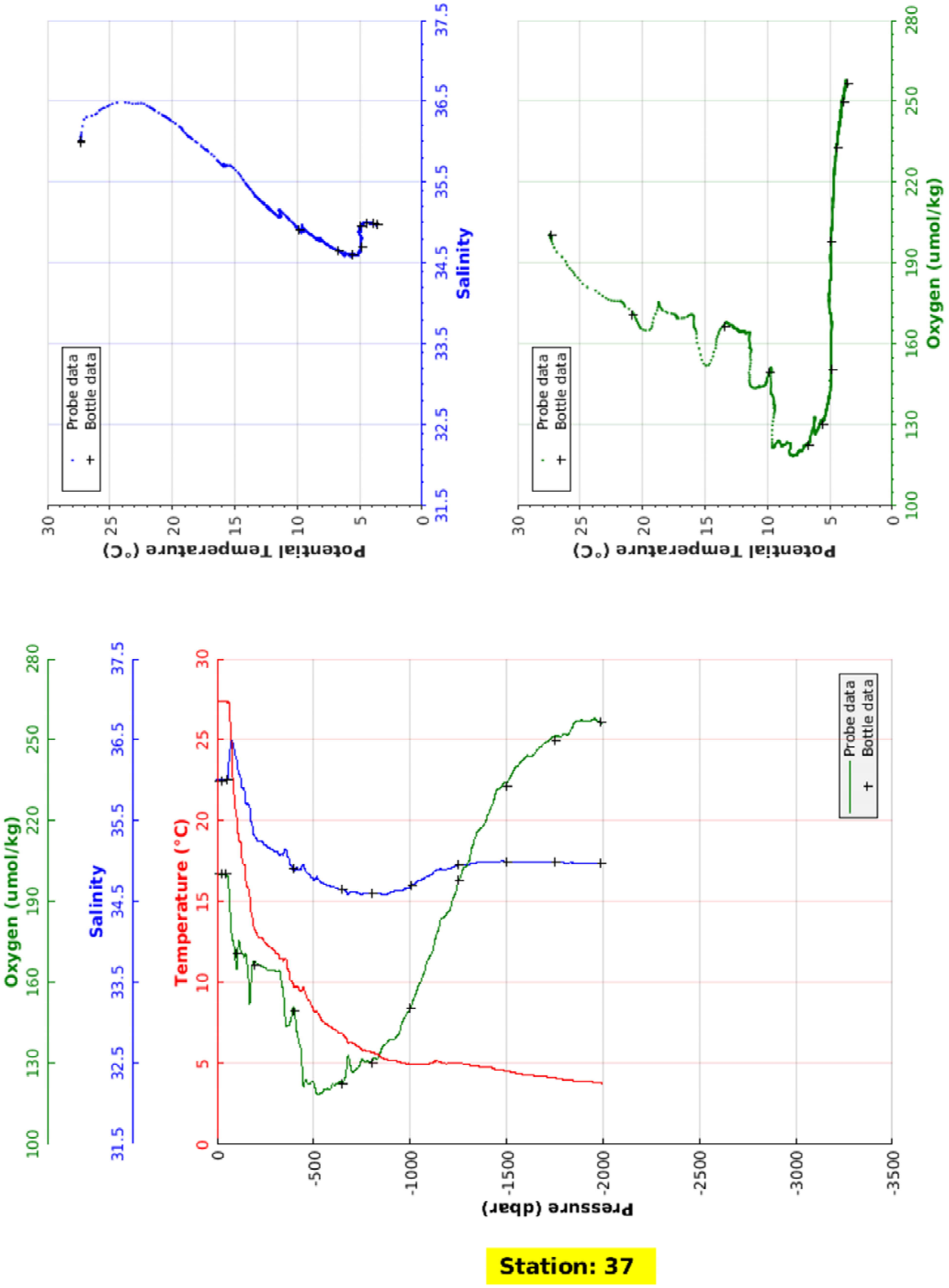

Potential Temperature (°C)
Oxygen (umol/kg)
Probe data
Bottle data


Oxygen (umol/kg)
Salinity
Temperature (°C)
Pressure (dbar)
Probe data
Bottle data

Station: 36

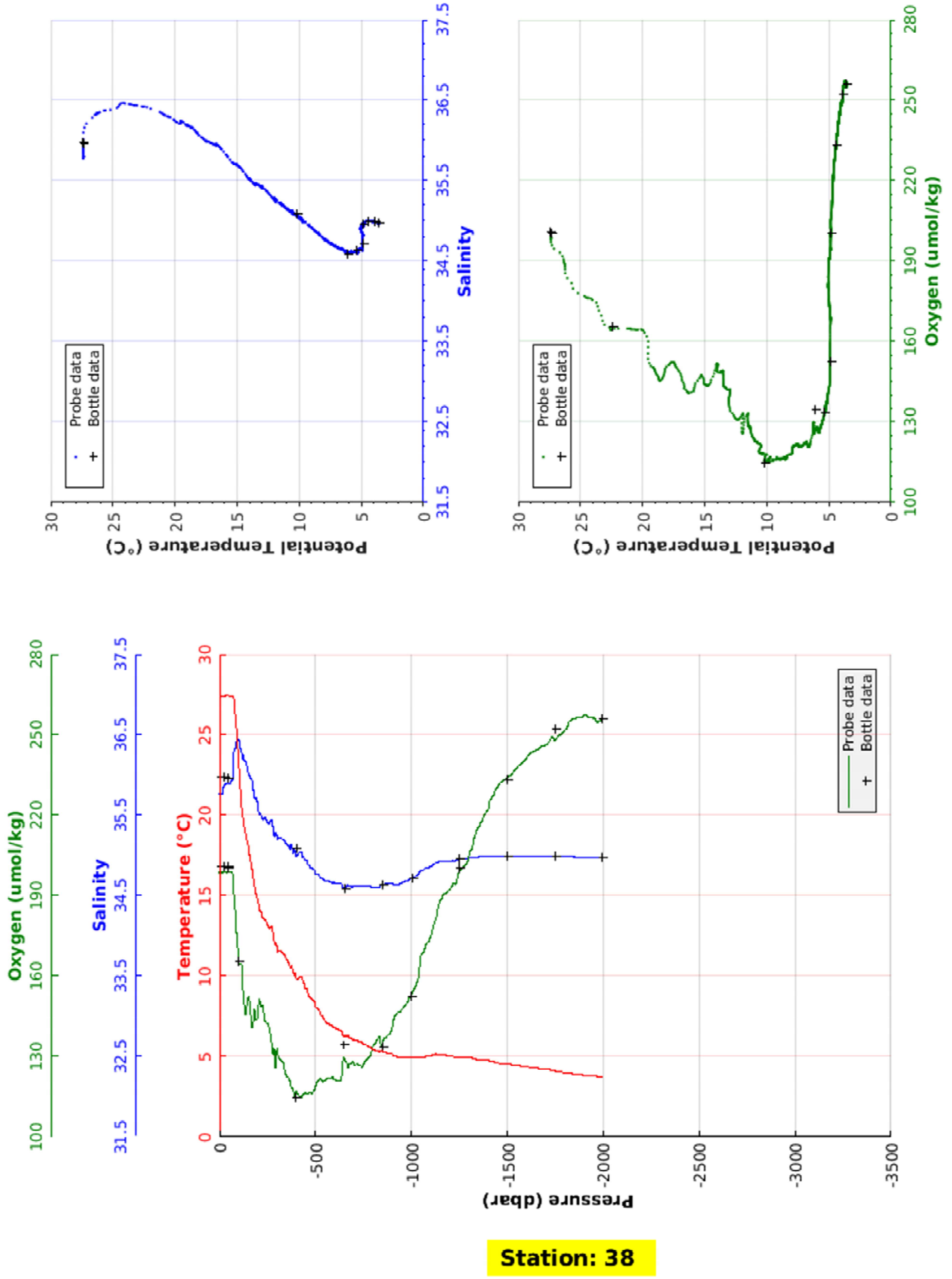
Cruise	: EUREC4A 2020		
Station	: 37	Cast	: 1
Date	: 06/02/2020	Ship	: N/O L'ATALANTE
Depth	: 2995 m	Organism	: ENS Paris; IFREMER
Position	: N 09 12.18 W 053 57.58		

PRESSURE	TEMPERATURE	SALINITY	DISSOLV. OXYGEN	POTENT. TEMP.
dbar	deg.cels.	psu	umol/kg	deg.cels.
0.0	27.387	36.011	200.5	27.387
10.0	27.390	36.011	200.2	27.388
20.0	27.369	36.011	199.7	27.364
30.0	27.350	36.012	200.1	27.343
40.0	27.345	36.013	200.1	27.336
50.0	27.339	36.014	199.8	27.327
100.0	20.355	36.290	167.5	20.336
150.0	16.191	35.735	170.9	16.167
200.0	13.191	35.303	167.9	13.163
250.0	12.461	35.200	165.4	12.428
300.0	11.924	35.124	164.9	11.885
350.0	11.399	35.112	153.1	11.354
400.0	9.734	34.880	151.3	9.688
450.0	9.670	34.959	121.5	9.619
500.0	8.300	34.777	123.5	8.248
550.0	7.632	34.726	119.7	7.576
600.0	7.155	34.680	122.4	7.097
650.0	6.845	34.662	122.5	6.783
700.0	6.305	34.623	127.3	6.241
750.0	5.847	34.593	131.3	5.781
800.0	5.711	34.606	130.6	5.641
850.0	5.406	34.598	134.1	5.333
900.0	5.208	34.614	138.7	5.132
950.0	5.096	34.638	141.5	5.016
1000.0	4.972	34.677	149.7	4.889
1050.0	4.986	34.762	159.4	4.898
1100.0	4.985	34.823	168.9	4.893
1150.0	5.148	34.893	179.3	5.049
1200.0	5.016	34.906	186.3	4.914
1250.0	5.045	34.955	197.1	4.938
1300.0	4.939	34.964	203.8	4.828
1350.0	4.839	34.985	216.2	4.724
1400.0	4.799	34.994	221.1	4.679
1450.0	4.638	34.999	231.1	4.515
1500.0	4.560	34.998	234.0	4.434
1550.0	4.433	34.998	240.0	4.303
1600.0	4.331	34.996	243.6	4.197
1650.0	4.268	34.993	244.9	4.131
1700.0	4.203	34.993	248.9	4.062
1750.0	4.135	34.991	251.3	3.990
1800.0	4.000	34.983	252.1	3.852
1850.0	3.943	34.984	256.0	3.791
1900.0	3.898	34.982	257.1	3.741
1950.0	3.859	34.980	257.7	3.698
2000.0	3.784	34.975	255.9	3.619


Potential Temperature (°C)
Salinity
Probe data
Bottle data
Oxygen (umol/kg)
Temperature (°C)
Pressure (dbar)
Station: 37

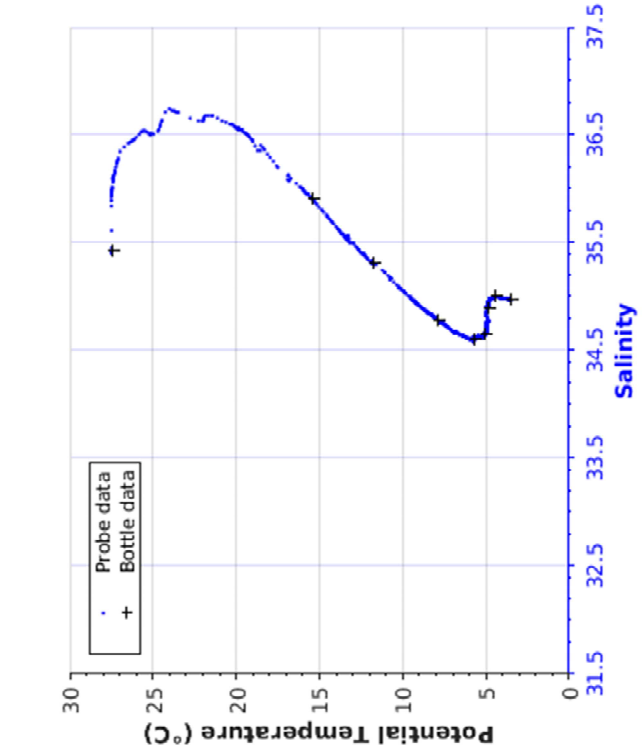
Cruise	: EUREC4A 2020		
Station	: 38	Cast	: 1
Date	: 06/02/2020	Ship	: N/O L'ATALANTE
Depth	: 2442 m	Organism	: ENS Paris; IFREMER
Position	: N 09 18.04 W 054 8.87		

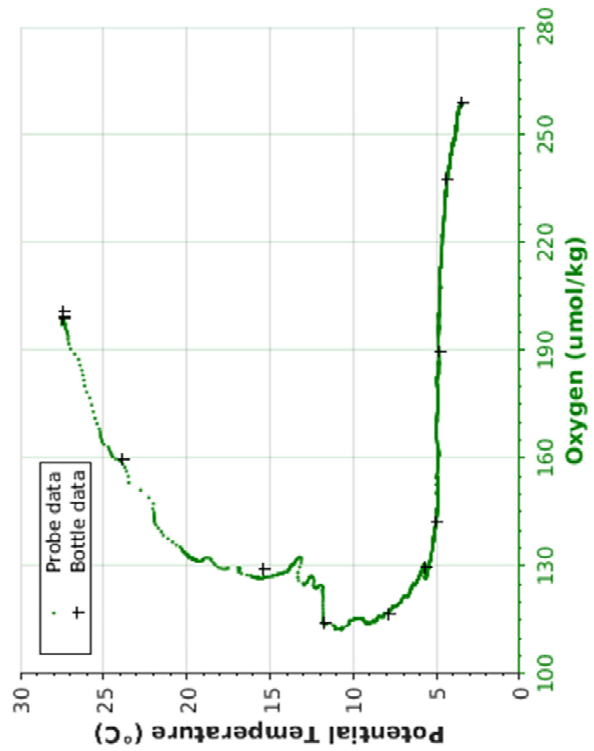
PRESSURE	TEMPERATURE	SALINITY	DISSOLV. OXYGEN	POTENT. TEMP.
dbar	deg.cels.	psu	umol/kg	deg.cels.
0.0	27.402	35.770	198.7	27.402
10.0	27.403	35.770	198.9	27.401
20.0	27.360	35.810	199.1	27.355
30.0	27.422	35.876	199.2	27.415
40.0	27.427	35.891	199.4	27.417
50.0	27.391	35.893	198.9	27.380
100.0	23.247	36.438	167.7	23.227
150.0	17.921	36.041	151.7	17.896
200.0	14.738	35.658	142.7	14.708
250.0	13.196	35.430	142.2	13.161
300.0	11.855	35.254	131.2	11.816
350.0	11.038	35.153	123.1	10.994
400.0	9.833	34.999	116.5	9.787
450.0	9.248	34.942	116.7	9.198
500.0	8.070	34.776	118.1	8.018
550.0	7.206	34.690	121.2	7.153
600.0	6.814	34.661	121.7	6.758
650.0	6.284	34.608	130.3	6.225
700.0	6.044	34.613	128.0	5.982
750.0	5.815	34.617	126.8	5.749
800.0	5.427	34.605	133.6	5.359
850.0	5.314	34.641	134.6	5.241
900.0	5.163	34.653	140.2	5.087
950.0	4.993	34.658	147.4	4.914
1000.0	4.981	34.716	152.9	4.898
1050.0	4.963	34.812	166.3	4.874
1100.0	5.075	34.866	174.6	4.981
1150.0	5.143	34.928	187.9	5.044
1200.0	5.016	34.929	192.4	4.913
1250.0	4.968	34.953	199.2	4.861
1300.0	4.979	34.971	204.3	4.867
1350.0	4.824	34.983	215.3	4.709
1400.0	4.771	34.992	221.8	4.652
1450.0	4.619	34.997	230.4	4.497
1500.0	4.548	34.997	233.9	4.421
1550.0	4.466	34.997	237.4	4.336
1600.0	4.377	34.996	241.3	4.243
1650.0	4.289	34.994	244.1	4.152
1700.0	4.250	34.994	246.1	4.108
1750.0	4.098	34.986	248.1	3.953
1800.0	4.004	34.984	251.7	3.855
1850.0	3.936	34.984	256.3	3.784
1900.0	3.851	34.980	257.2	3.695
1950.0	3.826	34.978	256.0	3.666
2000.0	3.755	34.975	256.7	3.591

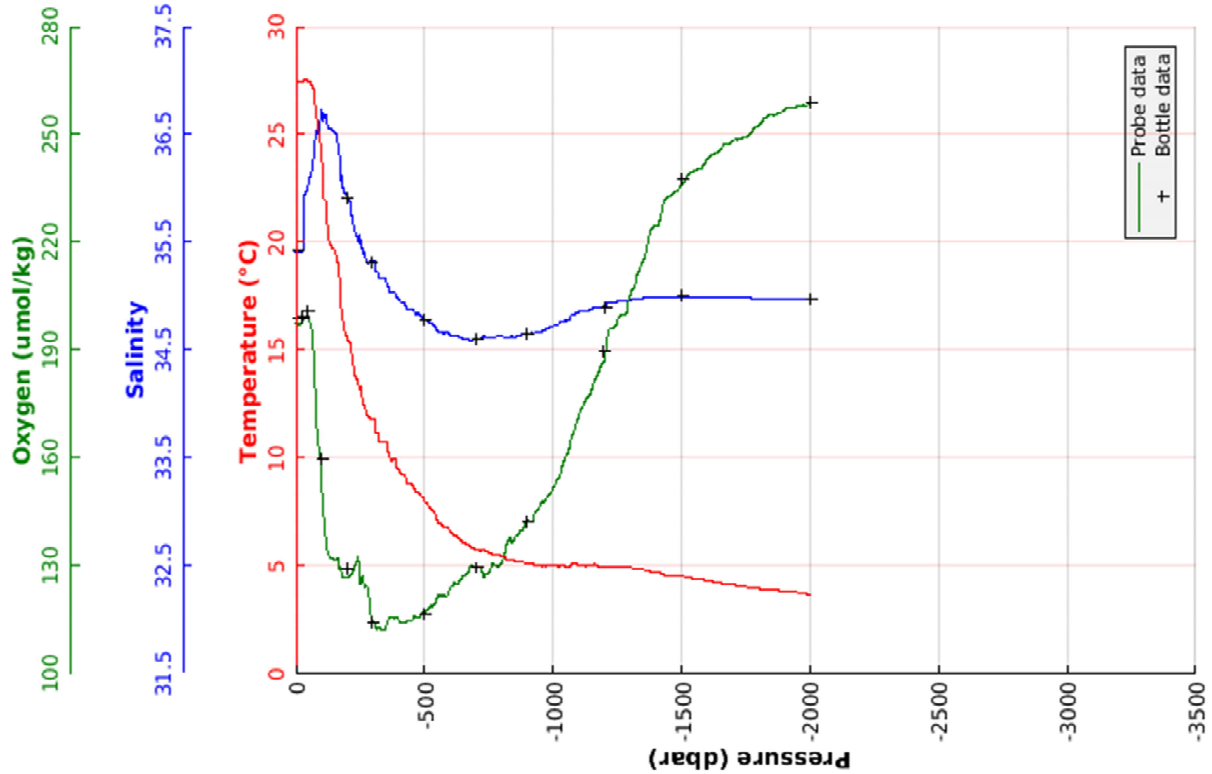

Potential Temperature (°C)
Salinity
Probe data
Bottle data
Oxygen (umol/kg)
Temperature (°C)
Pressure (dbar)
Station: 38

Cruise	: EUREC4A 2020		
Station	: 39	Cast	: 1
Date	: 07/02/2020	Ship	: N/O L'ATALANTE
Depth	: 2629 m	Organism	: ENS Paris; IFREMER
Position	: N 09 22.07 W 054 20.82		

PRESSURE	TEMPERATURE	SALINITY	DISSOLV. OXYGEN	POTENT. TEMP.
dbar	deg.cels.	psu	umol/kg	deg.cels.
0.0	27.467	35.408	197.7	27.467
10.0	27.470	35.408	197.1	27.468
20.0	27.468	35.407	197.2	27.463
30.0	27.480	35.453	198.0	27.473
40.0	27.519	35.961	198.8	27.510
50.0	27.427	36.062	199.2	27.415
100.0	23.881	36.728	158.5	23.860
150.0	19.625	36.534	132.0	19.598
200.0	15.684	35.946	126.5	15.653
250.0	13.358	35.567	127.5	13.323
300.0	11.826	35.326	114.7	11.787
350.0	10.772	35.169	112.4	10.729
400.0	9.460	34.975	115.5	9.415
450.0	8.777	34.882	114.9	8.728
500.0	8.005	34.791	117.1	7.954
550.0	7.152	34.691	120.6	7.099
600.0	6.604	34.646	123.4	6.549
650.0	6.121	34.610	127.0	6.063
700.0	5.779	34.602	129.7	5.718
750.0	5.642	34.627	128.1	5.577
800.0	5.476	34.632	130.8	5.407
850.0	5.241	34.627	137.3	5.169
900.0	5.099	34.652	142.7	5.024
950.0	5.030	34.674	146.3	4.950
1000.0	5.030	34.725	151.1	4.946
1050.0	4.995	34.778	160.2	4.906
1100.0	5.073	34.850	170.9	4.980
1150.0	5.027	34.879	178.3	4.929
1200.0	4.965	34.906	186.6	4.863
1250.0	4.971	34.948	196.8	4.864
1300.0	4.925	34.966	205.0	4.814
1350.0	4.847	34.983	214.4	4.732
1400.0	4.729	34.995	224.7	4.610
1450.0	4.587	34.999	232.8	4.465
1500.0	4.532	35.000	235.7	4.405
1550.0	4.421	34.997	239.8	4.291
1600.0	4.320	34.995	242.9	4.186
1650.0	4.199	34.991	245.7	4.063
1700.0	4.132	34.989	248.2	3.992
1750.0	4.034	34.985	249.2	3.890
1800.0	3.955	34.982	252.4	3.807
1850.0	3.911	34.982	255.7	3.760
1900.0	3.827	34.979	256.8	3.671
1950.0	3.787	34.977	257.9	3.628
2000.0	3.674	34.972	258.3	3.511
2004.0	3.671	34.972	258.1	3.508


Potential Temperature (°C)
Salinity
Probe data
Bottle data

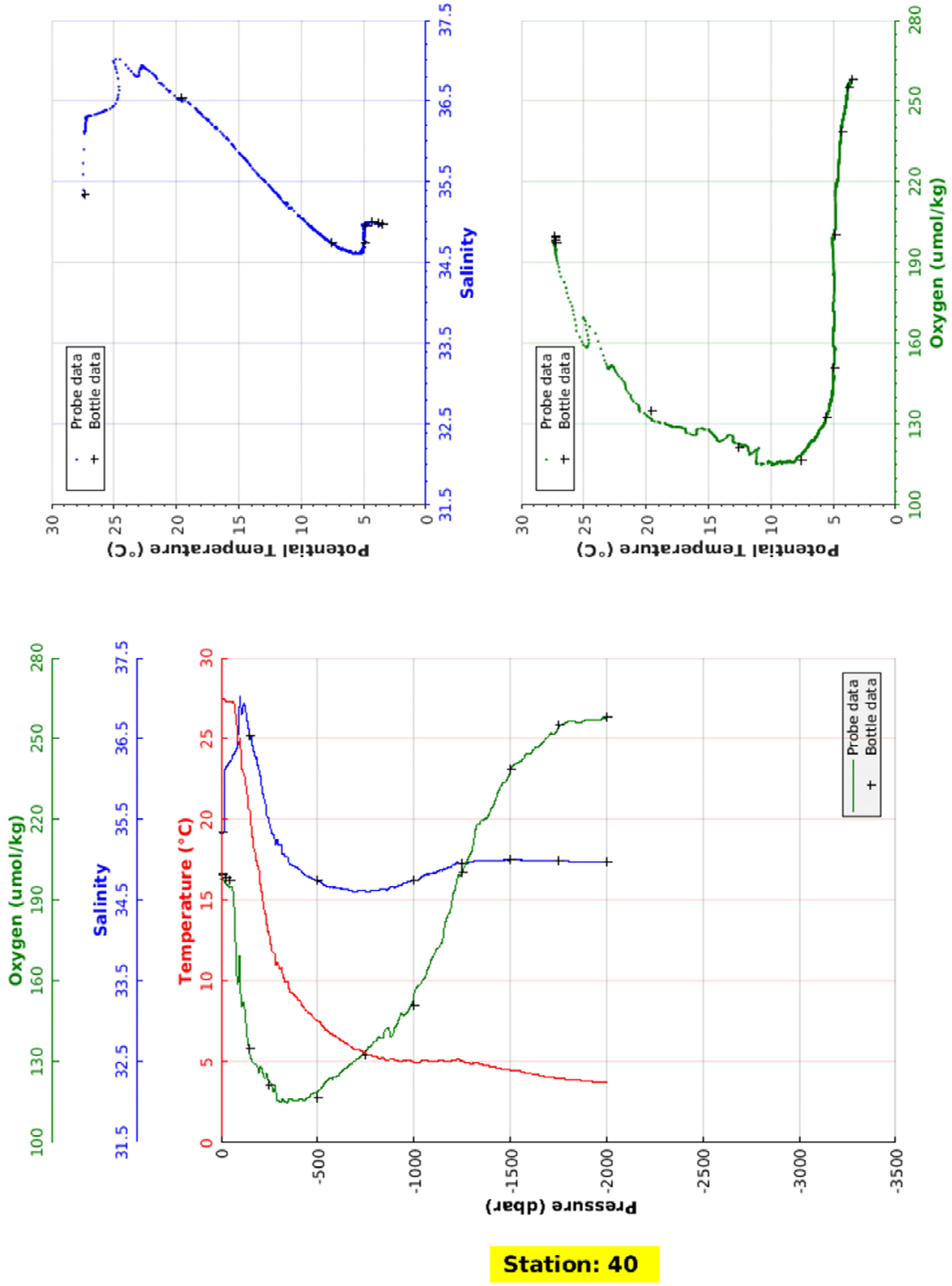

Potential Temperature (°C)
Oxygen (umol/kg)
Probe data
Bottle data


Oxygen (umol/kg)
Salinity
Temperature (°C)
Pressure (dbar)
Probe data
Bottle data

Station: 39

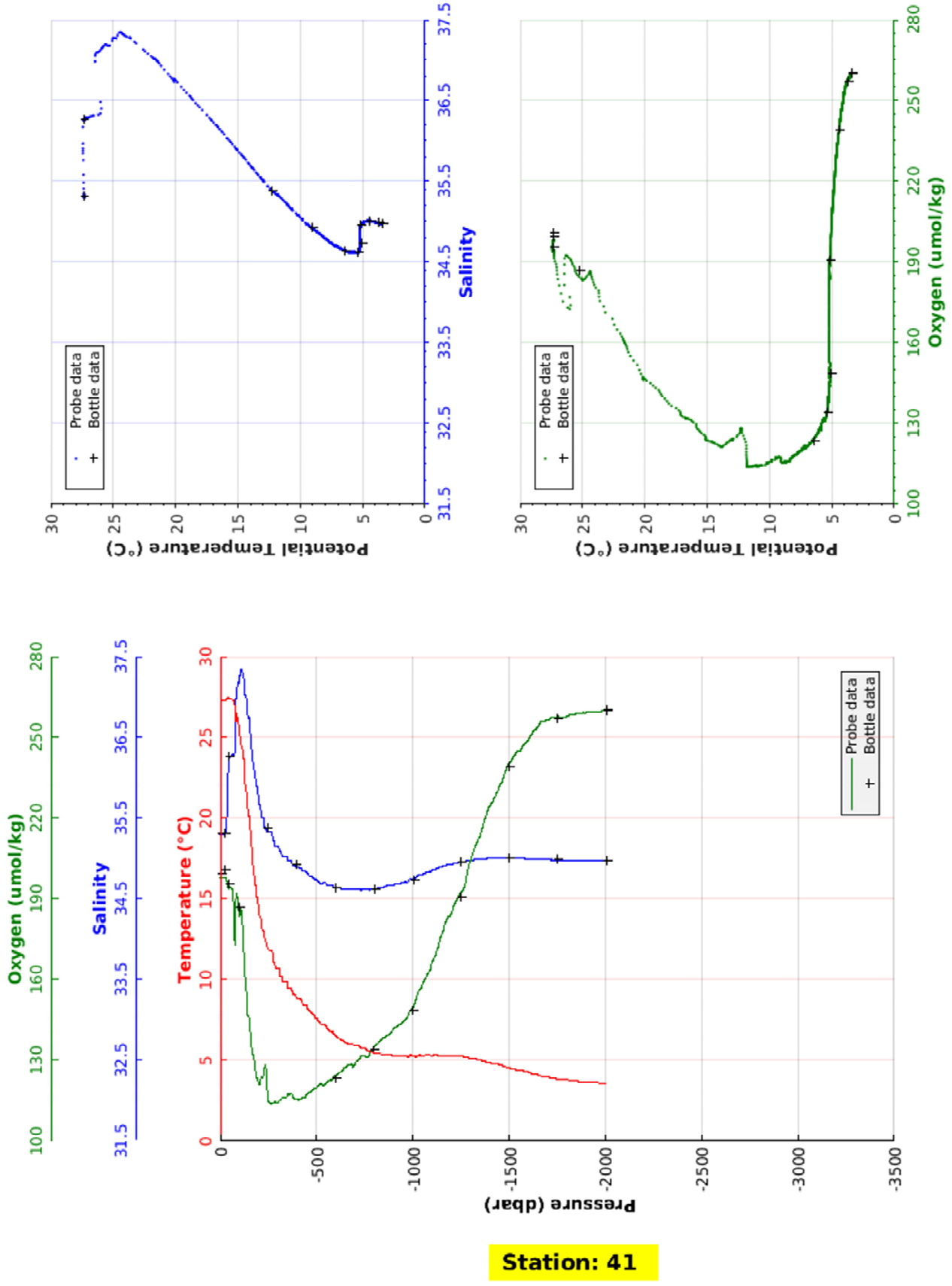
Cruise	: EUREC4A 2020		
Station	: 40	Cast	: 1
Date	: 07/02/2020	Ship	: N/O L'ATALANTE
Depth	: 3129 m	Organism	: ENS Paris; IFREMER
Position	: N 09 27.92 W 054 32.50		

PRESSURE	TEMPERATURE	SALINITY	DISSOLV. OXYGEN	POTENT. TEMP.
dbar	deg.cels.	psu	umol/kg	deg.cels.
0.0	27.427	35.333	198.2	27.427
10.0	27.425	35.336	197.8	27.422
20.0	27.361	36.101	197.2	27.357
30.0	27.298	36.158	196.1	27.291
40.0	27.278	36.181	195.7	27.269
50.0	27.265	36.220	194.6	27.254
100.0	24.874	37.018	171.6	24.852
150.0	20.160	36.568	134.0	20.132
200.0	16.234	36.071	125.2	16.201
250.0	12.877	35.499	122.9	12.843
300.0	10.806	35.179	115.6	10.769
350.0	9.560	34.988	115.9	9.520
400.0	8.832	34.889	115.9	8.789
450.0	8.062	34.793	116.6	8.015
500.0	7.551	34.739	118.9	7.501
550.0	6.974	34.677	122.7	6.922
600.0	6.550	34.657	124.5	6.495
650.0	6.166	34.640	127.8	6.107
700.0	5.769	34.611	130.5	5.708
750.0	5.537	34.611	133.6	5.473
800.0	5.337	34.622	137.7	5.269
850.0	5.162	34.633	141.4	5.090
900.0	5.113	34.658	141.5	5.037
950.0	5.092	34.711	146.9	5.012
1000.0	5.007	34.744	153.0	4.923
1050.0	5.090	34.802	160.5	5.001
1100.0	5.025	34.836	169.0	4.932
1150.0	5.088	34.874	175.0	4.989
1200.0	5.082	34.936	189.5	4.979
1250.0	5.028	34.955	199.4	4.920
1300.0	4.916	34.970	207.7	4.804
1350.0	4.864	34.994	219.6	4.749
1400.0	4.721	34.993	223.5	4.603
1450.0	4.598	34.998	231.9	4.475
1500.0	4.524	35.002	237.1	4.397
1550.0	4.449	35.001	241.3	4.319
1600.0	4.299	34.995	244.6	4.166
1650.0	4.182	34.991	247.0	4.046
1700.0	4.062	34.987	250.9	3.922
1750.0	4.003	34.986	254.0	3.860
1800.0	3.945	34.984	256.4	3.797
1850.0	3.895	34.981	255.8	3.744
1900.0	3.807	34.977	256.8	3.652
1950.0	3.770	34.976	256.9	3.611
2000.0	3.707	34.973	257.7	3.544
2002.0	3.703	34.973	257.6	3.539


Potential Temperature (°C)
Salinity
Probe data
Bottle data
Potential Temperature (°C)
Oxygen (umol/kg)
Probe data
Bottle data
Oxygen (umol/kg)
Salinity
Temperature (°C)
Pressure (dbar)
Probe data
Bottle data
Station: 40

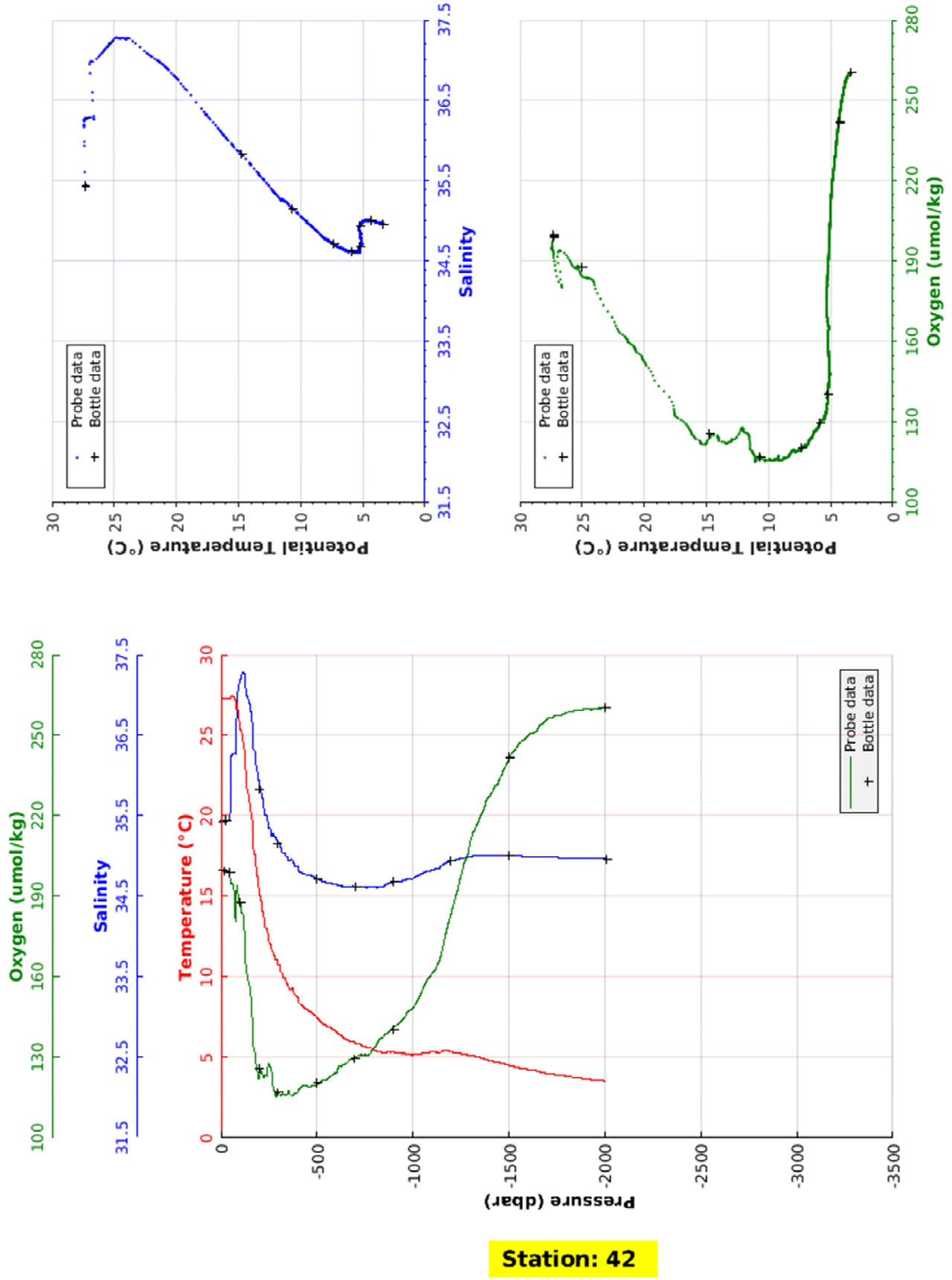
Cruise : EUREC4A 2020			
Station : 41	Cast : 1		
Date : 07/02/2020	Ship : N/O L'ATALANTE		
Depth : 3931 m	Organism : ENS Paris; IFREMER		
Position : N 09 33.52 W 054 44.79			

PRESSURE dbar	TEMPERATURE deg.cels.	SALINITY psu	DISSOLV. OXYGEN umol/kg	POTENT. TEMP. deg.cels.
0.0	27.329	35.306	198.0	27.329
10.0	27.317	35.305	198.1	27.315
20.0	27.329	35.305	198.1	27.324
30.0	27.336	35.317	197.9	27.329
40.0	27.440	35.880	195.9	27.431
50.0	27.364	36.252	194.6	27.353
100.0	25.285	37.181	184.2	25.263
150.0	20.153	36.766	147.6	20.125
200.0	14.398	35.764	122.8	14.368
250.0	11.867	35.338	116.1	11.834
300.0	10.703	35.154	114.5	10.666
350.0	9.489	34.971	116.9	9.450
400.0	8.819	34.889	115.8	8.776
450.0	8.332	34.829	117.0	8.285
500.0	7.601	34.739	119.7	7.551
550.0	7.099	34.694	121.4	7.046
600.0	6.505	34.639	124.4	6.450
650.0	6.121	34.616	127.6	6.063
700.0	5.938	34.624	128.3	5.877
750.0	5.740	34.622	131.7	5.675
800.0	5.454	34.615	134.7	5.385
850.0	5.341	34.643	138.5	5.269
900.0	5.290	34.675	141.6	5.214
950.0	5.268	34.698	144.3	5.187
1000.0	5.266	34.740	148.9	5.180
1050.0	5.293	34.802	157.4	5.203
1100.0	5.311	34.855	166.3	5.215
1150.0	5.315	34.901	176.6	5.215
1200.0	5.284	34.926	184.4	5.179
1250.0	5.264	34.953	192.3	5.154
1300.0	5.147	34.976	203.3	5.034
1350.0	5.031	34.991	212.9	4.914
1400.0	4.855	35.002	224.6	4.735
1450.0	4.722	35.007	231.5	4.598
1500.0	4.527	35.006	240.5	4.401
1550.0	4.415	35.003	244.7	4.285
1600.0	4.267	34.998	248.8	4.134
1650.0	4.109	34.992	253.7	3.974
1700.0	3.959	34.986	256.4	3.821
1750.0	3.857	34.981	257.7	3.716
1800.0	3.806	34.979	257.7	3.660
1850.0	3.722	34.975	258.9	3.573
1900.0	3.678	34.973	259.1	3.525
1950.0	3.647	34.972	259.4	3.489
2000.0	3.585	34.969	260.1	3.424
2009.0	3.580	34.968	260.1	3.418


Potential Temperature (°C)
Salinity
Probe data
Bottle data
Potential Temperature (°C)
Oxygen (umol/kg)
Probe data
Bottle data
Oxygen (umol/kg)
Salinity
Temperature (°C)
Pressure (dbar)
Probe data
Bottle data
Station: 41

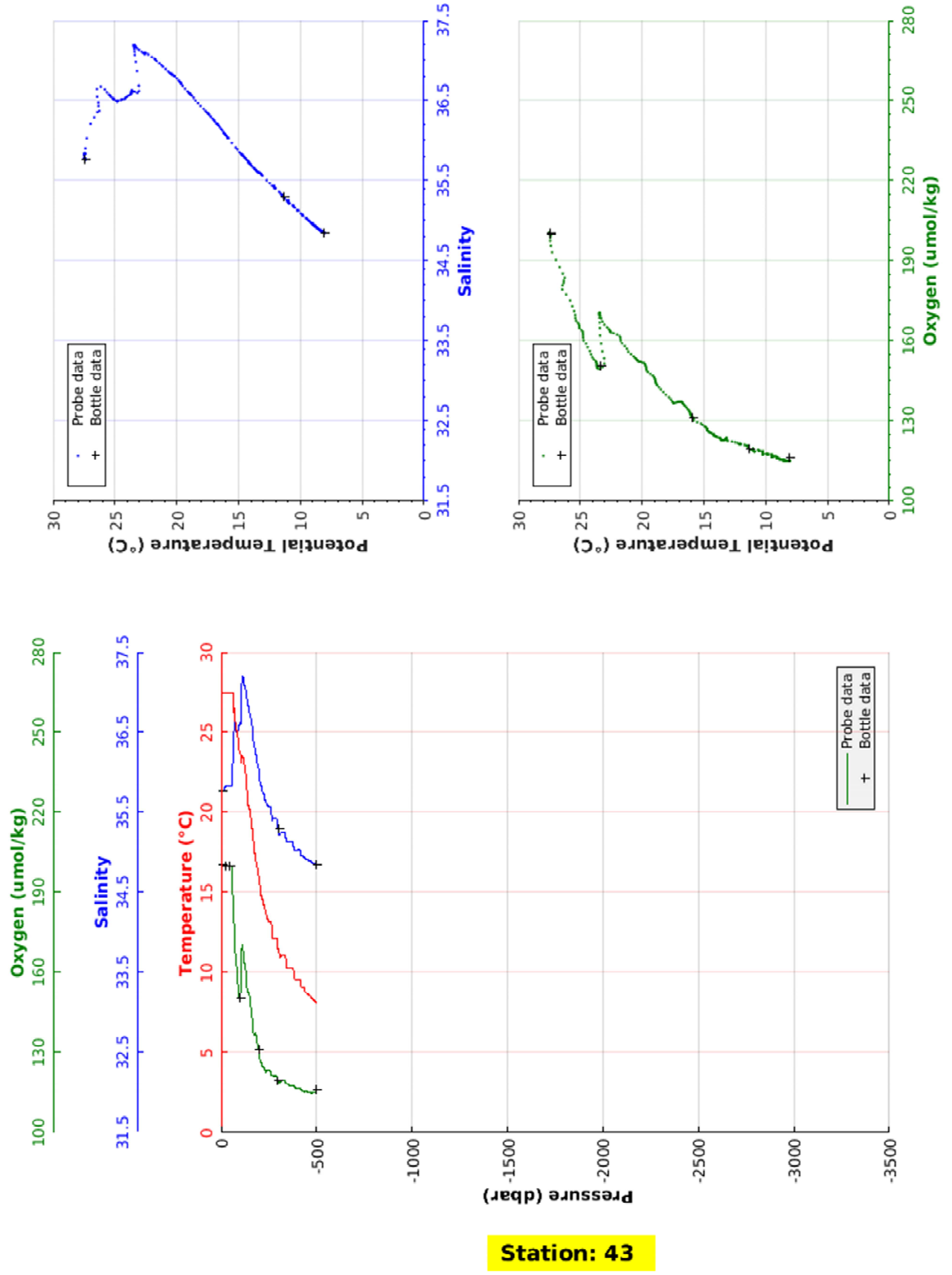
Cruise	: EUREC4A 2020		
Station	: 42	Cast	: 1
Date	: 07/02/2020	Ship	: N/O L'ATALANTE
Depth	: 4090 m	Organism	: ENS Paris; IFREMER
Position	: N 09 36.95 W 054 53.16		

PRESSURE dbar	TEMPERATURE deg.cels.	SALINITY psu	DISSOLV. OXYGEN umol/kg	POTENT. TEMP. deg.cels.
0.0	27.308	35.436	199.8	27.308
10.0	27.310	35.436	200.0	27.308
20.0	27.312	35.436	199.3	27.308
30.0	27.315	35.439	199.4	27.308
40.0	27.317	35.439	199.1	27.308
50.0	27.372	35.608	198.0	27.360
100.0	25.447	37.188	187.8	25.425
150.0	20.762	36.898	157.4	20.734
200.0	15.382	35.919	121.8	15.351
250.0	12.207	35.366	128.1	12.174
300.0	10.771	35.170	117.5	10.734
350.0	9.494	34.980	116.0	9.454
400.0	8.773	34.880	116.7	8.729
450.0	7.935	34.765	119.5	7.889
500.0	7.488	34.723	119.8	7.439
550.0	6.991	34.676	121.4	6.939
600.0	6.640	34.651	123.9	6.584
650.0	6.152	34.623	127.7	6.094
700.0	5.917	34.626	130.1	5.855
750.0	5.668	34.614	130.9	5.603
800.0	5.452	34.614	133.2	5.384
850.0	5.310	34.628	137.8	5.238
900.0	5.346	34.686	141.3	5.269
950.0	5.284	34.705	144.1	5.203
1000.0	5.158	34.718	148.2	5.073
1050.0	5.253	34.783	154.6	5.162
1100.0	5.338	34.830	161.0	5.242
1150.0	5.358	34.877	168.6	5.257
1200.0	5.379	34.939	183.4	5.273
1250.0	5.237	34.970	196.9	5.127
1300.0	5.131	34.999	210.2	5.017
1350.0	5.003	35.006	219.3	4.886
1400.0	4.815	35.007	227.4	4.695
1450.0	4.692	35.008	232.8	4.569
1500.0	4.516	35.006	240.9	4.390
1550.0	4.367	35.002	246.5	4.238
1600.0	4.251	34.998	250.0	4.119
1650.0	4.158	34.994	252.0	4.022
1700.0	4.021	34.989	255.9	3.882
1750.0	3.927	34.984	257.5	3.785
1800.0	3.853	34.981	258.3	3.707
1850.0	3.756	34.976	259.4	3.607
1900.0	3.673	34.973	259.7	3.520
1950.0	3.600	34.970	259.8	3.443
2000.0	3.542	34.968	260.2	3.381
2007.0	3.527	34.967	260.2	3.366


Potential Temperature (°C)
Salinity
Probe data
Bottle data
Potential Temperature (°C)
Oxygen (umol/kg)
Probe data
Bottle data
Oxygen (umol/kg)
Salinity
Temperature (°C)
Pressure (dbar)
Probe data
Bottle data
Station: 42

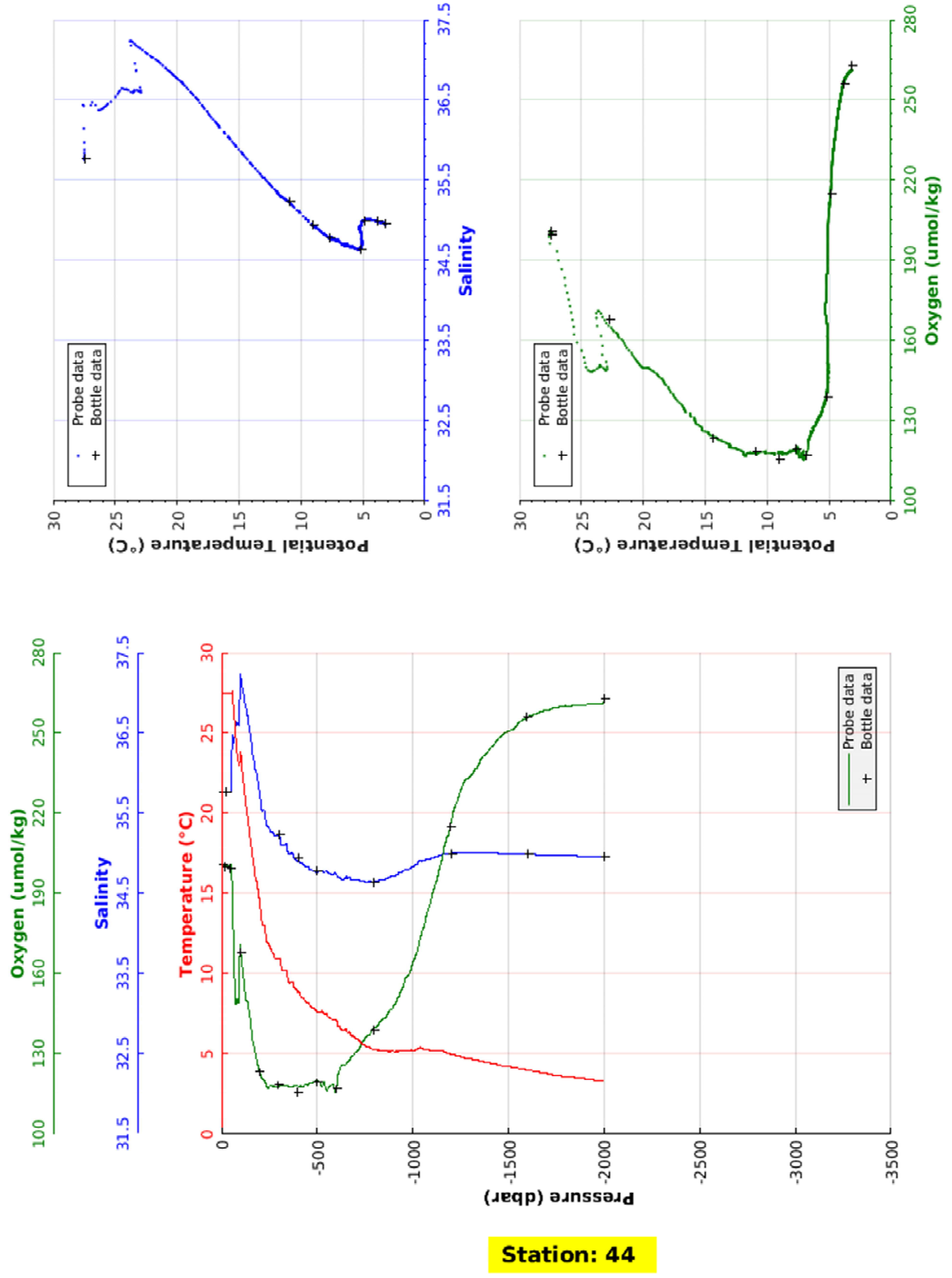
Cruise	: EUREC4A 2020		
Station	: 43	Cast	: 1
Date	: 08/02/2020	Ship	: N/O L'ATALANTE
Depth	: 3121 m	Organism	: ENS Paris; IFREMER
Position	: N 08 43.02 W 055 50.95		

PRESSURE	TEMPERATURE	SALINITY	DISSOLV. OXYGEN	POTENT. TEMP.
dbar	deg.cels.	psu	umol/kg	deg.cels.
0.0	27.432	35.764	200.4	27.432
10.0	27.438	35.766	200.4	27.436
20.0	27.455	35.783	200.5	27.451
30.0	27.468	35.836	200.3	27.461
40.0	27.448	35.836	200.0	27.439
50.0	27.443	35.835	199.9	27.431
100.0	23.683	36.625	149.9	23.662
150.0	20.031	36.779	152.2	20.003
200.0	15.885	36.034	131.2	15.853
250.0	13.187	35.577	123.7	13.152
300.0	11.433	35.304	120.5	11.395
350.0	10.266	35.131	118.3	10.224
400.0	9.580	35.032	116.7	9.534
450.0	8.684	34.911	115.5	8.636
500.0	8.141	34.848	115.1	8.089
502.0	8.119	34.846	115.0	8.067


Potential Temperature (°C)
Salinity
Probe data
Bottle data
Potential Temperature (°C)
Oxygen (umol/kg)
Probe data
Bottle data
Oxygen (umol/kg)
Salinity
Temperature (°C)
Pressure (dbar)
Probe data
Bottle data
Station: 43

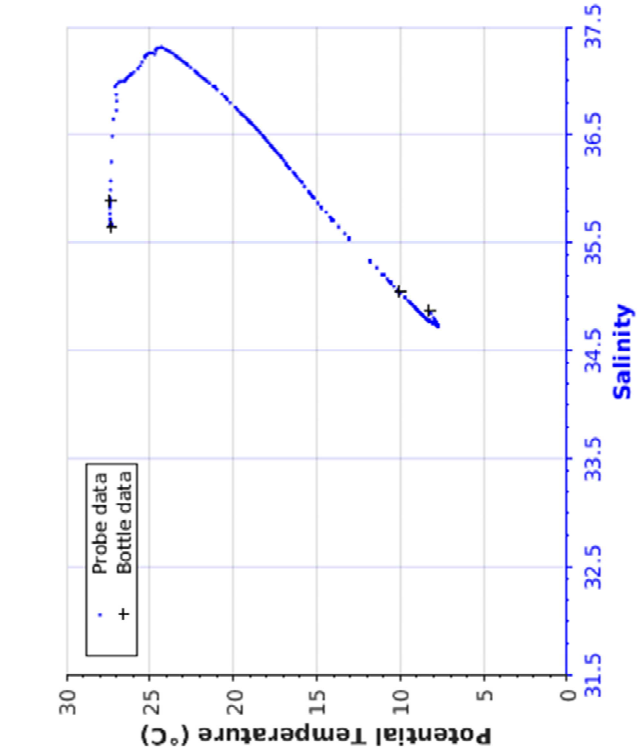
Cruise : EUREC4A 2020			
Station : 44	Cast : 1		
Date : 08/02/2020	Ship : N/O L'ATALANTE		
Depth : 2966 m	Organism : ENS Paris; IFREMER		
Position : N 08 34.82 W 055 59.50			

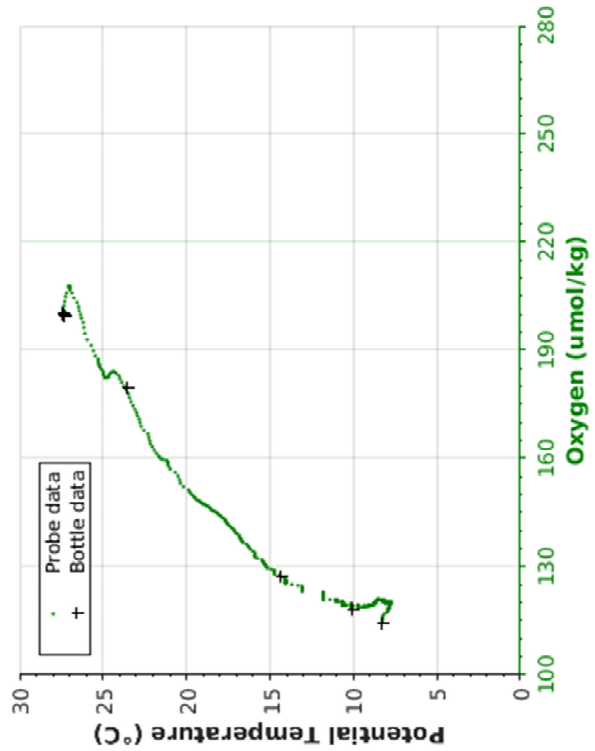
PRESSURE dbar	TEMPERATURE deg.cels.	SALINITY psu	DISSOLV. OXYGEN umol/kg	POTENT. TEMP. deg.cels.
0.0	27.463	35.768	200.7	27.463
10.0	27.462	35.768	199.9	27.460
20.0	27.466	35.767	200.5	27.461
30.0	27.464	35.766	200.3	27.457
40.0	27.463	35.766	200.4	27.453
50.0	27.466	35.767	200.6	27.454
100.0	23.807	37.238	173.3	23.786
150.0	18.380	36.508	144.8	18.354
200.0	14.367	35.757	124.1	14.337
250.0	11.712	35.307	117.0	11.680
300.0	10.919	35.213	117.8	10.881
350.0	9.644	35.018	118.0	9.604
400.0	8.842	34.903	118.1	8.798
450.0	8.206	34.832	118.5	8.159
500.0	7.642	34.769	120.0	7.592
550.0	7.472	34.777	116.6	7.417
600.0	7.109	34.756	115.5	7.051
650.0	6.514	34.697	126.1	6.454
700.0	5.960	34.667	130.6	5.898
750.0	5.537	34.642	135.3	5.473
800.0	5.262	34.640	139.9	5.194
850.0	5.184	34.671	143.2	5.113
900.0	5.183	34.720	147.2	5.107
950.0	5.228	34.780	154.7	5.147
1000.0	5.239	34.836	163.5	5.153
1050.0	5.330	34.904	175.3	5.239
1100.0	5.235	34.941	188.5	5.140
1150.0	5.219	34.982	201.3	5.119
1200.0	4.977	34.995	216.0	4.874
1250.0	4.834	35.008	228.1	4.728
1300.0	4.702	35.008	233.6	4.593
1350.0	4.558	35.006	238.7	4.446
1400.0	4.446	35.004	243.5	4.330
1450.0	4.311	35.000	248.0	4.192
1500.0	4.210	34.996	250.7	4.087
1550.0	4.115	34.992	253.3	3.989
1600.0	4.002	34.988	255.8	3.872
1650.0	3.889	34.983	257.3	3.756
1700.0	3.793	34.979	258.5	3.657
1750.0	3.678	34.974	259.5	3.539
1800.0	3.597	34.971	260.2	3.454
1850.0	3.545	34.968	260.3	3.399
1900.0	3.464	34.965	260.4	3.313
1950.0	3.384	34.962	261.0	3.231
2000.0	3.336	34.959	261.2	3.178
2003.0	3.332	34.959	261.1	3.174

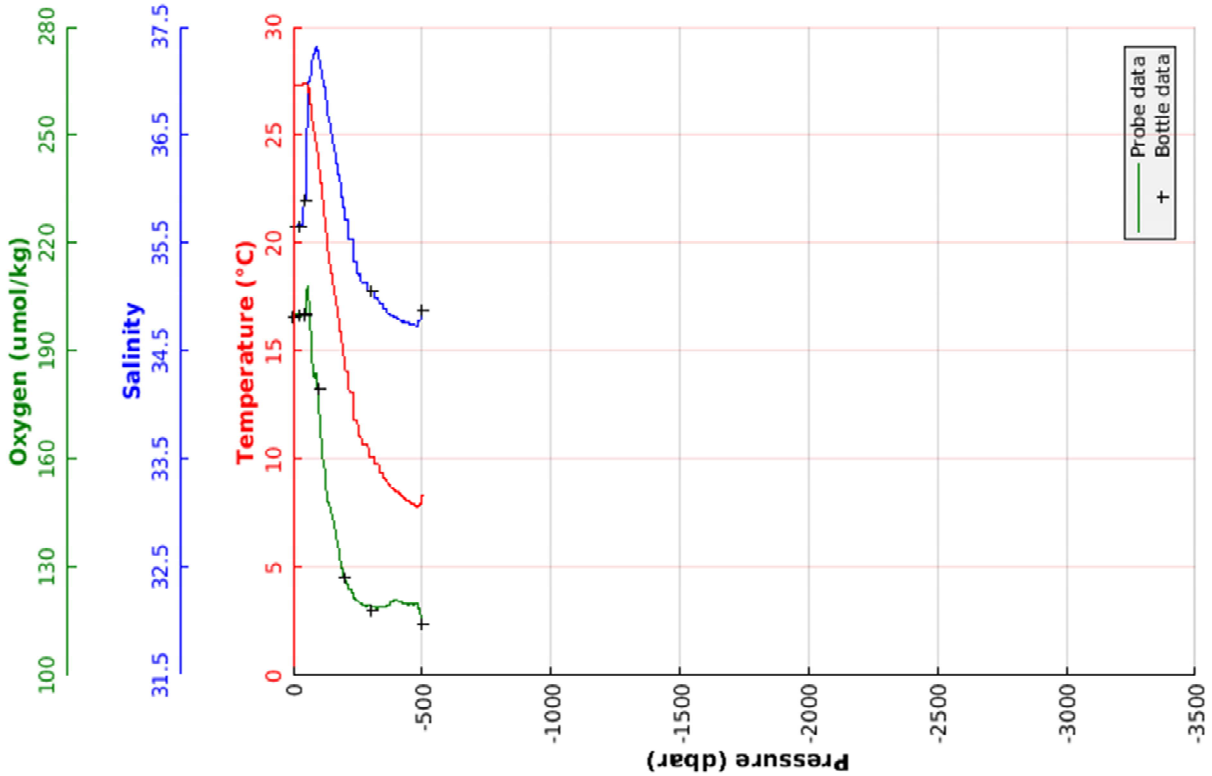

Station: 44
Pressure (dbar)
Temperature (°C)
Salinity
Oxygen (umol/kg)
Probe data
Bottle data
Potential Temperature (°C)
Salinity
Probe data
Bottle data
Potential Temperature (°C)
Oxygen (umol/kg)
Probe data
Bottle data

Cruise	: EUREC4A 2020		
Station	: 45	Cast	: 1
Date	: 08/02/2020	Ship	: N/O L'ATALANTE
Depth	: 3181 m	Organism	: ENS Paris; IFREMER
Position	: N 08 41.16 W 056 10.05		

PRESSURE	TEMPERATURE	SALINITY	DISSOLV. OXYGEN	POTENT. TEMP.
dbar	deg.cels.	psu	umol/kg	deg.cels.
0.0	27.312	35.658	200.6	27.312
10.0	27.322	35.660	200.6	27.320
20.0	27.330	35.662	200.1	27.325
30.0	27.333	35.663	200.4	27.326
40.0	27.372	35.727	199.8	27.363
50.0	27.404	35.900	199.6	27.392
100.0	23.497	37.236	178.1	23.476
150.0	18.532	36.541	145.5	18.506
200.0	14.744	35.830	128.0	14.713
250.0	11.822	35.336	120.4	11.789
300.0	10.152	35.059	119.5	10.116
350.0	9.245	34.920	118.9	9.206
400.0	8.531	34.809	121.0	8.489
450.0	8.098	34.768	119.8	8.052
500.0	8.325	34.875	115.0	8.273
504.0	8.280	34.866	115.3	8.227


Potential Temperature (°C)
Salinity
Probe data
Bottle data

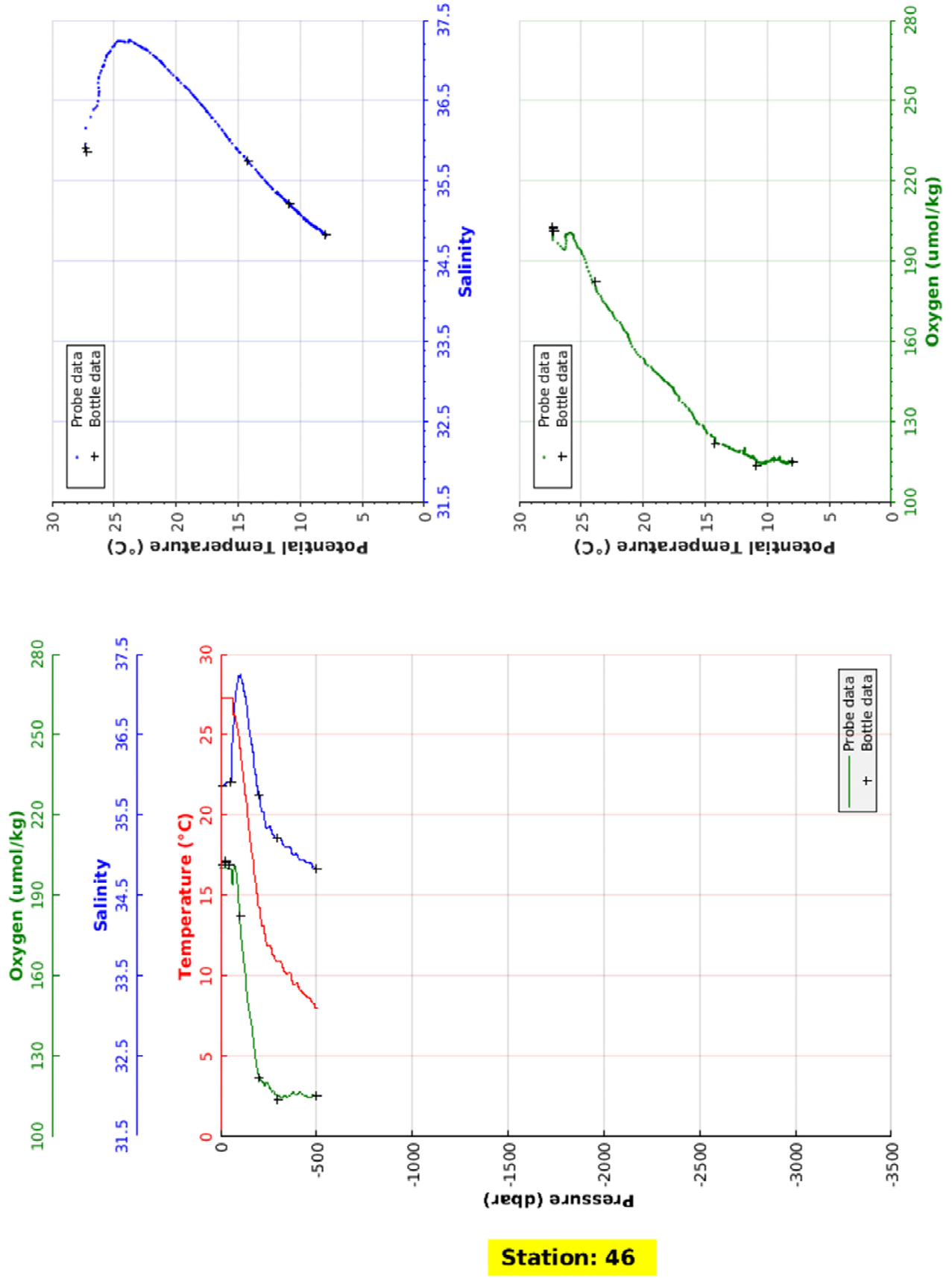

Potential Temperature (°C)
Oxygen (umol/kg)
Probe data
Bottle data


Oxygen (umol/kg)
Salinity
Temperature (°C)
Pressure (dbar)
Probe data
Bottle data

Station: 45

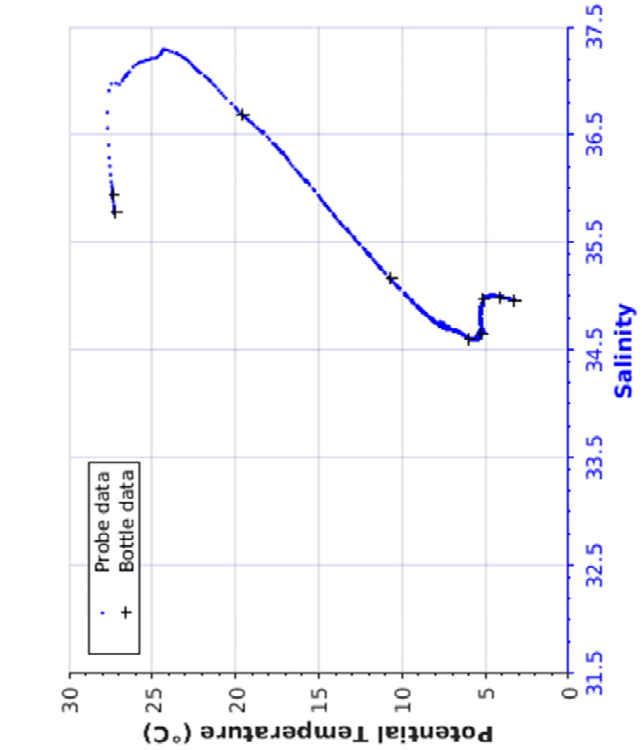
Cruise	: EUREC4A 2020		
Station	: 46	Cast	: 1
Date	: 08/02/2020	Ship	: N/O L'ATALANTE
Depth	: 3189 m	Organism	: ENS Paris; IFREMER
Position	: N 08 47.49 W 056 22.92		

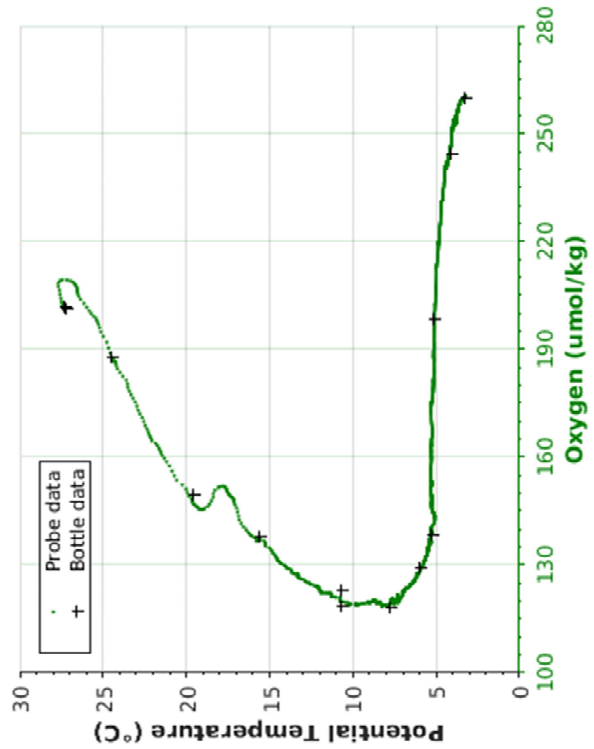
PRESSURE	TEMPERATURE	SALINITY	DISSOLV. OXYGEN	POTENT. TEMP.
dbar	deg.cels.	psu	umol/kg	deg.cels.
0.0	27.278	35.868	200.6	27.278
10.0	27.278	35.868	200.5	27.276
20.0	27.282	35.878	200.6	27.277
30.0	27.291	35.896	200.5	27.284
40.0	27.308	35.913	200.6	27.298
50.0	27.310	35.916	199.6	27.298
100.0	24.265	37.235	183.8	24.243
150.0	18.838	36.599	147.9	18.811
200.0	14.261	35.750	123.4	14.232
250.0	11.862	35.342	119.9	11.830
300.0	10.938	35.218	115.4	10.901
350.0	10.160	35.104	114.7	10.119
400.0	9.528	35.017	115.8	9.482
450.0	8.693	34.912	115.4	8.644
500.0	8.002	34.830	115.3	7.950
502.0	7.979	34.827	115.2	7.927

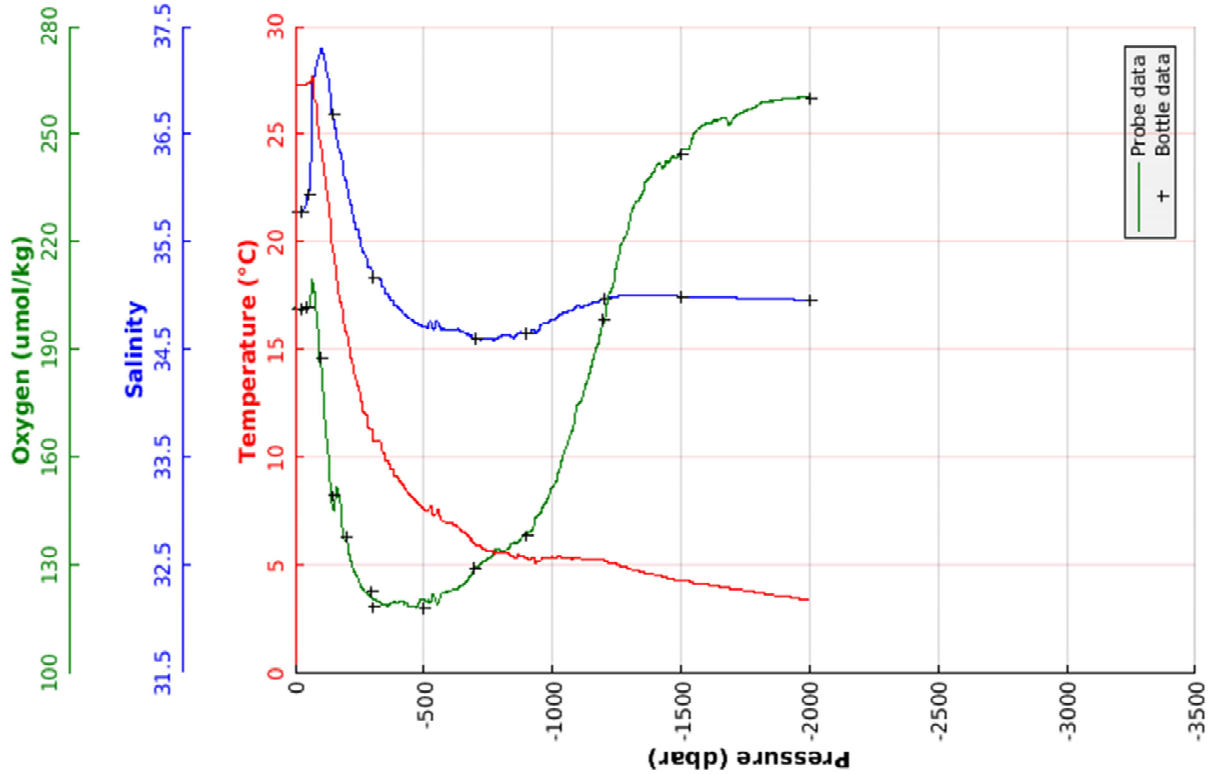

Potential Temperature (°C)
Salinity
Probe data
Bottle data
Potential Temperature (°C)
Oxygen (umol/kg)
Probe data
Bottle data
Oxygen (umol/kg)
Salinity
Temperature (°C)
Pressure (dbar)
Probe data
Bottle data
Station: 46

Cruise	: EUREC4A 2020		
Station	: 47	Cast	: 1
Date	: 09/02/2020	Ship	: N/O L'ATALANTE
Depth	: 3196 m	Organism	: ENS Paris; IFREMER
Position	: N 09 20.98 W 057 22.43		

PRESSURE	TEMPERATURE	SALINITY	DISSOLV. OXYGEN	POTENT. TEMP.
dbar	deg.cels.	psu	umol/kg	deg.cels.
0.0	27.297	35.783	201.7	27.297
10.0	27.301	35.782	201.5	27.299
20.0	27.303	35.782	200.7	27.298
30.0	27.314	35.785	201.1	27.307
40.0	27.302	35.811	201.2	27.293
50.0	27.369	35.931	201.3	27.357
100.0	24.424	37.274	185.7	24.402
150.0	19.371	36.654	146.4	19.343
200.0	15.763	36.073	137.1	15.731
250.0	13.072	35.573	126.3	13.038
300.0	11.102	35.227	121.1	11.064
350.0	9.877	35.024	119.3	9.837
400.0	9.038	34.897	119.4	8.994
450.0	8.249	34.789	118.7	8.202
500.0	7.654	34.719	120.5	7.604
550.0	7.584	34.760	120.3	7.529
600.0	6.987	34.693	122.9	6.929
650.0	6.598	34.667	124.5	6.537
700.0	5.978	34.604	129.1	5.916
750.0	5.701	34.602	131.9	5.636
800.0	5.608	34.623	134.2	5.539
850.0	5.383	34.615	136.1	5.311
900.0	5.360	34.657	138.8	5.283
950.0	5.204	34.693	144.3	5.123
1000.0	5.384	34.787	151.8	5.298
1050.0	5.384	34.849	162.1	5.293
1100.0	5.385	34.907	174.9	5.289
1150.0	5.252	34.928	184.3	5.152
1200.0	5.242	34.971	197.5	5.137
1250.0	5.089	34.996	213.0	4.981
1300.0	4.867	35.006	224.7	4.757
1350.0	4.720	35.008	233.4	4.606
1400.0	4.570	35.006	240.3	4.453
1450.0	4.424	35.002	242.2	4.304
1500.0	4.299	34.999	245.2	4.176
1550.0	4.189	34.996	249.9	4.062
1600.0	4.115	34.993	252.9	3.985
1650.0	4.033	34.989	254.1	3.898
1700.0	3.927	34.985	253.7	3.789
1750.0	3.849	34.982	256.5	3.707
1800.0	3.752	34.977	258.0	3.607
1850.0	3.659	34.974	259.2	3.511
1900.0	3.570	34.970	259.7	3.418
1950.0	3.494	34.967	260.1	3.339
2000.0	3.399	34.963	260.4	3.241
2003.0	3.399	34.963	260.4	3.241


Potential Temperature (°C)
Salinity
Probe data
Bottle data

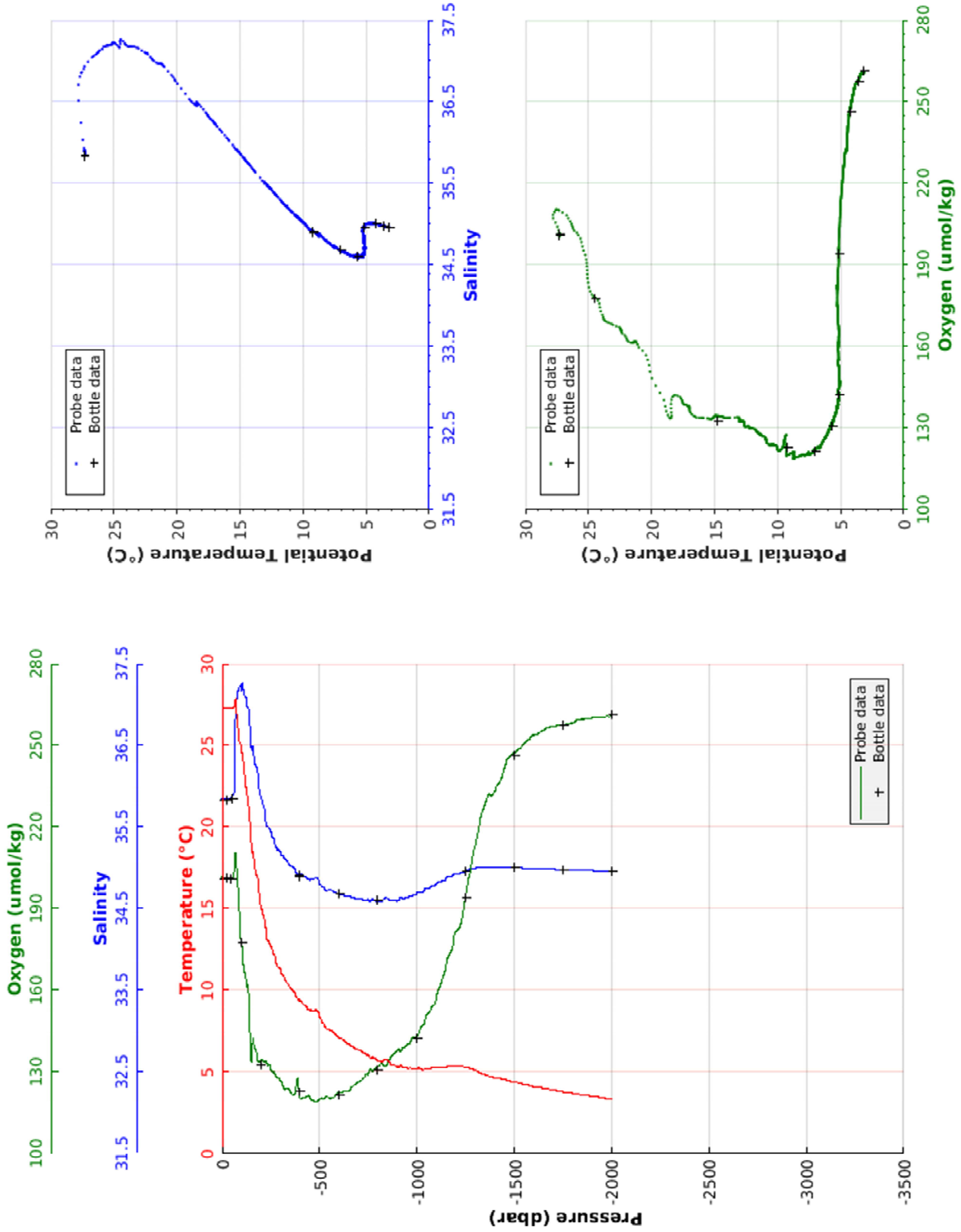

Potential Temperature (°C)
Oxygen (umol/kg)
Probe data
Bottle data


Oxygen (umol/kg)
Salinity
Temperature (°C)
Pressure (dbar)
Probe data
Bottle data

Station: 47

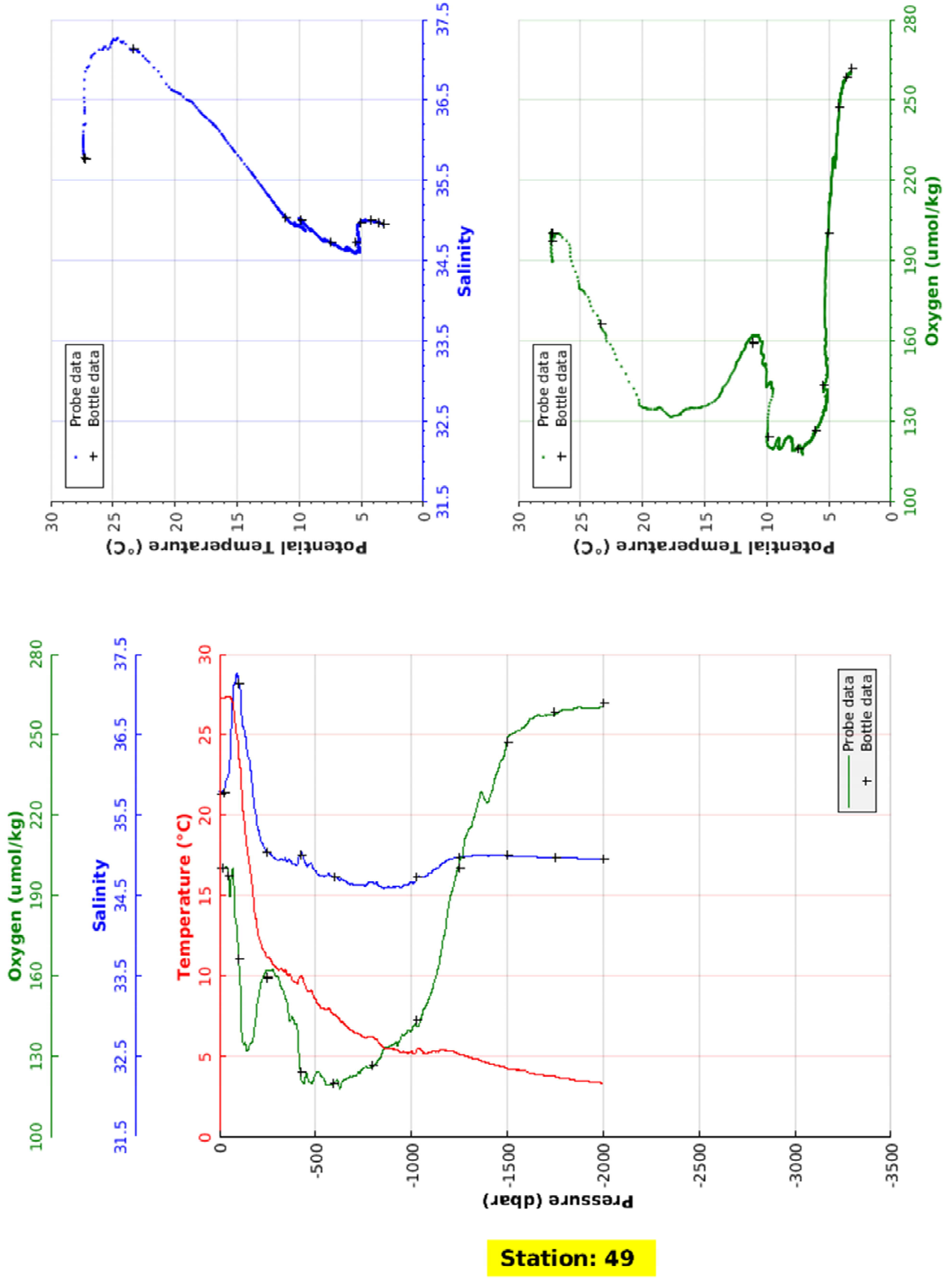
Cruise	: EUREC4A 2020		
Station	: 48	Cast	: 1
Date	: 09/02/2020	Ship	: N/O L'ATALANTE
Depth	: 3143 m	Organism	: ENS Paris; IFREMER
Position	: N 09 27.01 W 057 32.88		

PRESSURE	TEMPERATURE	SALINITY	DISSOLV. OXYGEN	POTENT. TEMP.
dbar	deg.cels.	psu	umol/kg	deg.cels.
0.0	27.316	35.845	201.7	27.316
10.0	27.315	35.845	200.6	27.312
20.0	27.316	35.845	201.0	27.312
30.0	27.319	35.846	200.9	27.312
40.0	27.325	35.850	200.9	27.316
50.0	27.321	35.872	200.8	27.309
100.0	24.553	37.167	176.1	24.531
150.0	18.865	36.499	135.1	18.838
200.0	15.107	35.882	134.0	15.076
250.0	12.714	35.444	133.2	12.680
300.0	11.229	35.199	127.0	11.191
350.0	10.135	35.035	123.5	10.094
400.0	9.342	34.924	121.4	9.297
450.0	8.745	34.849	121.3	8.696
500.0	8.343	34.814	119.8	8.290
550.0	7.618	34.734	120.4	7.563
600.0	7.087	34.677	122.3	7.029
650.0	6.718	34.654	122.7	6.657
700.0	6.328	34.619	126.1	6.264
750.0	6.048	34.617	128.8	5.981
800.0	5.720	34.591	132.0	5.650
850.0	5.664	34.620	132.9	5.590
900.0	5.305	34.595	138.0	5.229
950.0	5.266	34.634	140.0	5.185
1000.0	5.226	34.678	143.0	5.140
1050.0	5.219	34.751	150.4	5.129
1100.0	5.264	34.802	156.2	5.169
1150.0	5.293	34.869	168.3	5.193
1200.0	5.373	34.930	181.5	5.267
1250.0	5.279	34.967	193.8	5.169
1300.0	5.118	34.998	212.8	5.005
1350.0	4.838	35.008	228.1	4.722
1400.0	4.651	35.006	233.0	4.533
1450.0	4.550	35.009	241.2	4.428
1500.0	4.382	35.004	247.4	4.258
1550.0	4.249	34.999	250.7	4.122
1600.0	4.104	34.993	253.9	3.973
1650.0	4.011	34.989	255.6	3.877
1700.0	3.900	34.984	257.1	3.763
1750.0	3.792	34.981	257.5	3.651
1800.0	3.699	34.977	258.2	3.555
1850.0	3.592	34.971	259.9	3.445
1900.0	3.518	34.968	260.2	3.367
1950.0	3.430	34.965	260.3	3.276
2000.0	3.341	34.961	260.8	3.183
2004.0	3.339	34.961	260.8	3.180


Potential Temperature (°C)
Salinity
Probe data
Bottle data
Potential Temperature (°C)
Oxygen (umol/kg)
Probe data
Bottle data
Oxygen (umol/kg)
Salinity
Temperature (°C)
Pressure (dbar)
Probe data
Bottle data
Station: 48

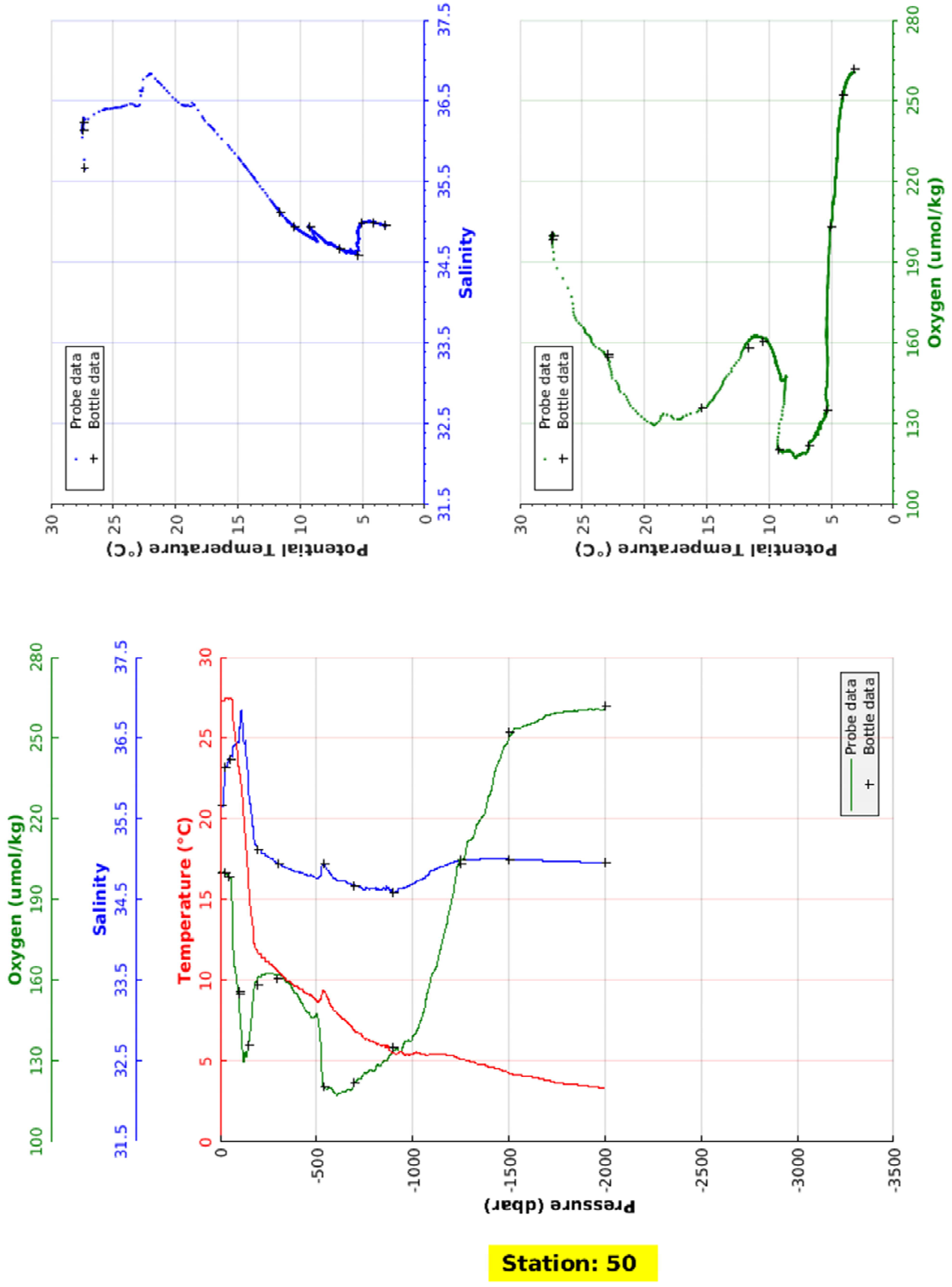
Cruise	: EUREC4A 2020		
Station	: 49	Cast	: 1
Date	: 09/02/2020	Ship	: N/O L'ATALANTE
Depth	: 3077 m	Organism	: ENS Paris; IFREMER
Position	: N 09 34.04 W 057 45.44		

PRESSURE	TEMPERATURE	SALINITY	DISSOLV. OXYGEN	POTENT. TEMP.
dbar	deg.cels.	psu	umol/kg	deg.cels.
0.0	27.295	35.798	200.6	27.295
10.0	27.299	35.800	200.1	27.297
20.0	27.316	35.813	200.3	27.311
30.0	27.358	35.858	200.7	27.351
40.0	27.385	35.951	200.6	27.376
50.0	27.402	36.017	198.7	27.390
100.0	23.651	37.136	168.6	23.630
150.0	17.292	36.251	132.5	17.267
200.0	12.633	35.340	149.6	12.606
250.0	11.176	35.048	162.2	11.145
300.0	10.485	34.950	159.9	10.449
350.0	10.197	34.941	151.7	10.156
400.0	9.608	34.887	142.4	9.563
450.0	9.300	34.906	122.4	9.249
500.0	8.587	34.817	123.1	8.534
550.0	7.962	34.742	121.7	7.905
600.0	7.617	34.739	120.3	7.557
650.0	7.018	34.689	121.1	6.955
700.0	6.546	34.642	122.8	6.481
750.0	6.245	34.632	125.5	6.176
800.0	6.227	34.670	126.3	6.154
850.0	5.667	34.611	131.5	5.593
900.0	5.501	34.611	134.3	5.423
950.0	5.248	34.611	137.7	5.167
1000.0	5.346	34.671	139.4	5.260
1050.0	5.444	34.739	143.9	5.353
1100.0	5.278	34.783	153.0	5.182
1150.0	5.412	34.883	165.7	5.310
1200.0	5.366	34.957	187.8	5.260
1250.0	5.155	34.984	201.7	5.046
1300.0	4.974	34.998	214.8	4.862
1350.0	4.838	35.005	225.0	4.723
1400.0	4.654	35.000	224.8	4.536
1450.0	4.482	35.003	235.7	4.361
1500.0	4.272	34.999	247.6	4.149
1550.0	4.191	34.996	251.4	4.064
1600.0	4.110	34.993	253.4	3.979
1650.0	3.939	34.985	256.8	3.805
1700.0	3.856	34.982	257.3	3.719
1750.0	3.796	34.979	257.8	3.655
1800.0	3.645	34.973	259.5	3.502
1850.0	3.558	34.969	259.8	3.411
1900.0	3.498	34.967	260.1	3.347
1950.0	3.433	34.964	259.8	3.278
2000.0	3.367	34.961	260.3	3.209
2002.0	3.360	34.961	260.4	3.201


Oxygen (umol/kg)
Salinity
Temperature (°C)
Pressure (dbar)
Probe data
Bottle data
Potential Temperature (°C)
Salinity
Probe data
Bottle data
Potential Temperature (°C)
Oxygen (umol/kg)
Probe data
Bottle data
Station: 49

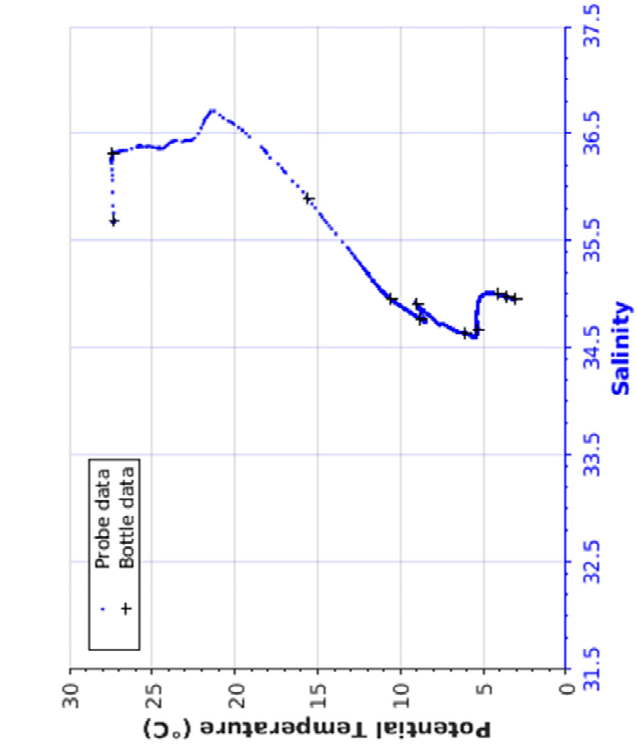
Cruise	: EUREC4A 2020		
Station	: 50	Cast	: 1
Date	: 09/02/2020	Ship	: N/O L'ATALANTE
Depth	: 3014 m	Organism	: ENS Paris; IFREMER
Position	: N 09 41.27 W 057 57.91		

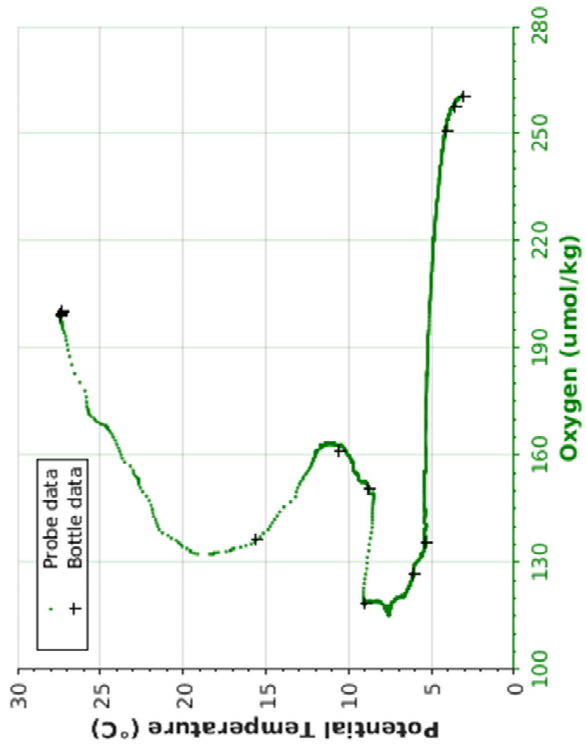
PRESSURE dbar	TEMPERATURE deg.cels.	SALINITY psu	DISSOLV. OXYGEN umol/kg	POTENT. TEMP. deg.cels.
0.0	27.271	35.662	200.4	27.271
10.0	27.270	35.662	200.1	27.268
20.0	27.266	35.660	200.0	27.262
30.0	27.455	36.137	199.4	27.448
40.0	27.462	36.172	199.4	27.453
50.0	27.425	36.253	198.5	27.413
100.0	22.816	36.565	153.1	22.796
150.0	15.273	35.850	135.9	15.250
200.0	11.652	35.126	161.6	11.626
250.0	11.132	35.032	162.7	11.101
300.0	10.571	34.952	161.9	10.535
350.0	9.987	34.888	159.2	9.946
400.0	9.609	34.849	155.3	9.564
450.0	9.187	34.810	148.8	9.137
500.0	8.721	34.762	147.2	8.667
550.0	9.143	34.910	120.0	9.082
600.0	8.079	34.762	118.3	8.016
650.0	7.565	34.731	118.7	7.499
700.0	6.899	34.680	122.0	6.832
750.0	6.381	34.621	125.7	6.312
800.0	6.172	34.633	126.1	6.099
850.0	6.011	34.645	129.5	5.935
900.0	5.499	34.592	133.9	5.421
950.0	5.474	34.639	135.0	5.392
1000.0	5.444	34.685	137.8	5.357
1050.0	5.461	34.752	145.6	5.369
1100.0	5.470	34.866	161.9	5.373
1150.0	5.446	34.909	172.2	5.344
1200.0	5.360	34.956	188.1	5.254
1250.0	5.124	34.986	204.9	5.016
1300.0	4.972	34.995	211.7	4.860
1350.0	4.822	35.000	219.1	4.706
1400.0	4.661	35.003	228.7	4.543
1450.0	4.522	35.007	241.3	4.400
1500.0	4.260	34.999	249.5	4.137
1550.0	4.125	34.994	253.5	3.998
1600.0	4.062	34.991	254.9	3.932
1650.0	3.958	34.986	256.2	3.825
1700.0	3.815	34.980	258.5	3.679
1750.0	3.698	34.975	259.3	3.559
1800.0	3.599	34.971	260.1	3.456
1850.0	3.561	34.969	260.1	3.414
1900.0	3.480	34.966	260.4	3.330
1950.0	3.402	34.962	260.7	3.248
2000.0	3.321	34.959	260.6	3.163
2002.0	3.313	34.959	260.6	3.155

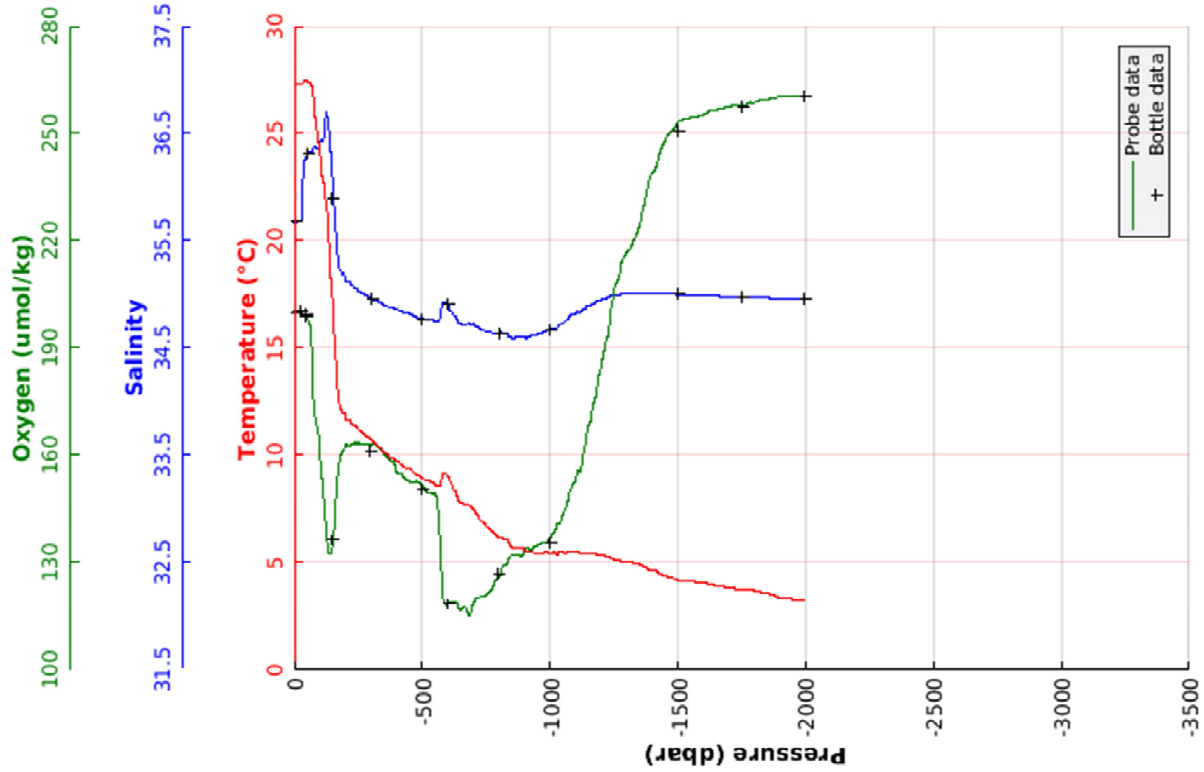

Potential Temperature (°C)
Salinity
Probe data
Bottle data
Potential Temperature (°C)
Oxygen (umol/kg)
Probe data
Bottle data
Oxygen (umol/kg)
Salinity
Temperature (°C)
Pressure (dbar)
Probe data
Bottle data
Station: 50

Cruise	: EUREC4A 2020		
Station	: 51	Cast	: 1
Date	: 09/02/2020	Ship	: N/O L'ATALANTE
Depth	: 2947 m	Organism	: ENS Paris; IFREMER
Position	: N 09 47.12 W 058 8.31		

PRESSURE	TEMPERATURE	SALINITY	DISSOLV. OXYGEN	POTENT. TEMP.
dbar	deg.cels.	psu	umol/kg	deg.cels.
0.0	27.333	35.676	200.2	27.333
10.0	27.335	35.677	200.0	27.332
20.0	27.322	35.678	200.1	27.318
30.0	27.301	35.684	199.5	27.294
40.0	27.463	36.237	198.6	27.453
50.0	27.432	36.295	198.7	27.420
100.0	24.113	36.390	163.9	24.091
150.0	17.079	36.151	133.9	17.054
200.0	11.750	35.142	161.8	11.725
250.0	11.216	35.042	163.1	11.185
300.0	10.728	34.969	163.0	10.692
350.0	10.172	34.907	160.9	10.130
400.0	9.747	34.862	156.3	9.701
450.0	9.387	34.823	153.0	9.336
500.0	8.940	34.778	151.7	8.885
550.0	8.621	34.748	149.4	8.562
600.0	9.017	34.900	118.8	8.950
650.0	7.813	34.728	116.7	7.747
700.0	7.523	34.728	118.0	7.452
750.0	6.700	34.657	120.6	6.629
800.0	6.200	34.634	126.1	6.127
850.0	5.725	34.597	131.9	5.650
900.0	5.606	34.604	132.6	5.528
950.0	5.473	34.625	134.7	5.390
1000.0	5.467	34.671	136.6	5.380
1050.0	5.486	34.735	142.7	5.394
1100.0	5.501	34.820	152.6	5.404
1150.0	5.462	34.891	168.0	5.360
1200.0	5.366	34.947	184.0	5.260
1250.0	5.174	34.992	204.2	5.065
1300.0	5.038	35.003	216.6	4.926
1350.0	4.921	35.008	223.7	4.805
1400.0	4.632	35.009	238.8	4.514
1450.0	4.397	35.004	247.4	4.277
1500.0	4.192	34.997	252.8	4.070
1550.0	4.116	34.994	254.4	3.990
1600.0	4.076	34.992	255.2	3.945
1650.0	3.943	34.985	256.6	3.810
1700.0	3.841	34.981	257.4	3.705
1750.0	3.777	34.978	258.1	3.637
1800.0	3.697	34.974	258.7	3.553
1850.0	3.570	34.969	259.4	3.423
1900.0	3.381	34.962	260.2	3.232
1950.0	3.304	34.959	260.4	3.152
2000.0	3.247	34.956	260.4	3.091


Potential Temperature (°C)
Salinity
Probe data
Bottle data

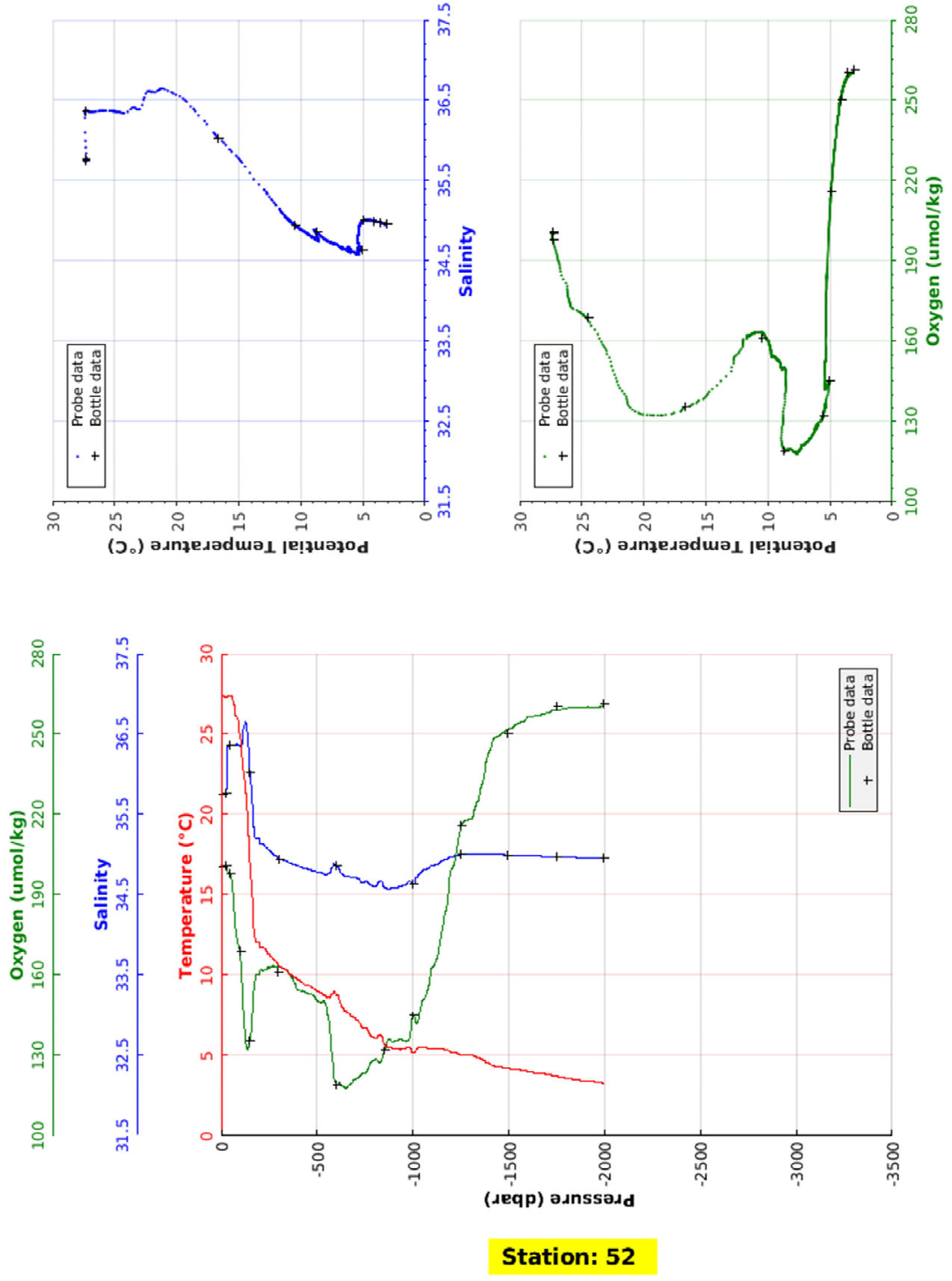

Potential Temperature (°C)
Oxygen (umol/kg)
Probe data
Bottle data


Oxygen (umol/kg)
Salinity
Temperature (°C)
Pressure (dbar)
Probe data
Bottle data

Station: 51

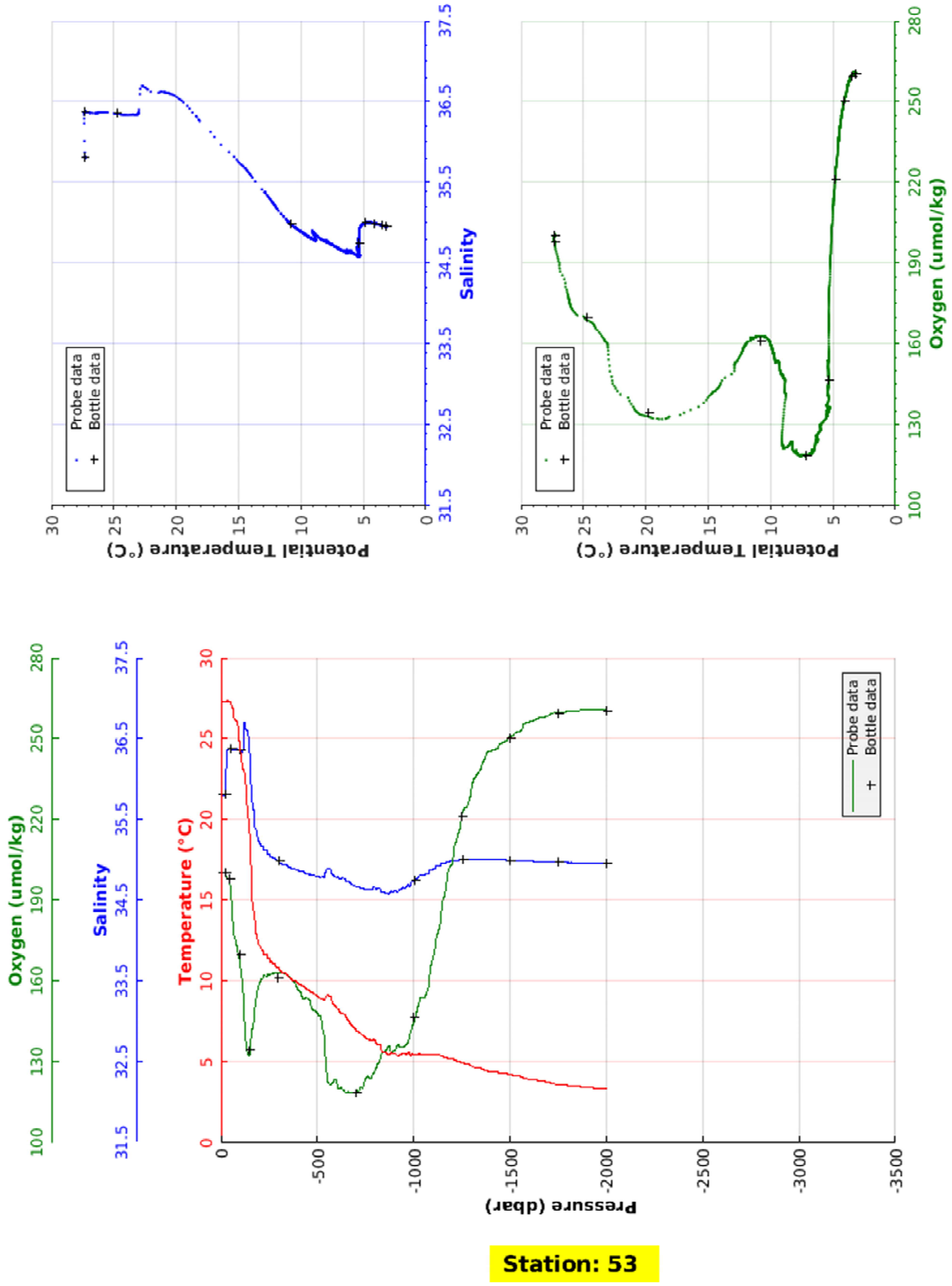
Cruise	: EUREC4A 2020		
Station	: 52	Cast	: 1
Date	: 09/02/2020	Ship	: N/O L'ATALANTE
Depth	: 2676 m	Organism	: ENS Paris; IFREMER
Position	: N 09 54.87 W 058 21.33		

PRESSURE	TEMPERATURE	SALINITY	DISSOLV. OXYGEN	POTENT. TEMP.
dbar	deg.cels.	psu	umol/kg	deg.cels.
0.0	27.342	35.749	200.9	27.342
10.0	27.346	35.749	199.8	27.343
20.0	27.323	35.749	200.7	27.319
30.0	27.313	35.839	200.5	27.306
40.0	27.384	36.361	198.4	27.375
50.0	27.364	36.370	198.4	27.353
100.0	24.777	36.355	169.3	24.755
150.0	16.941	36.077	134.7	16.916
200.0	12.027	35.195	160.1	12.000
250.0	11.311	35.058	163.1	11.279
300.0	10.600	34.954	163.7	10.564
350.0	10.208	34.911	161.4	10.167
400.0	9.744	34.864	154.2	9.698
450.0	9.380	34.823	153.4	9.330
500.0	9.030	34.789	150.7	8.974
550.0	8.610	34.750	149.2	8.551
600.0	8.776	34.857	119.8	8.710
650.0	7.747	34.735	117.9	7.681
700.0	7.335	34.719	121.2	7.265
750.0	6.768	34.670	123.3	6.697
800.0	6.080	34.607	128.5	6.008
850.0	5.767	34.607	131.0	5.692
900.0	5.450	34.586	135.2	5.372
950.0	5.452	34.618	135.5	5.370
1000.0	5.163	34.634	144.5	5.078
1050.0	5.510	34.804	150.0	5.418
1100.0	5.443	34.864	162.7	5.346
1150.0	5.416	34.919	175.2	5.314
1200.0	5.235	34.979	199.2	5.130
1250.0	5.055	35.001	214.2	4.948
1300.0	5.018	35.004	218.1	4.905
1350.0	4.813	35.010	227.8	4.698
1400.0	4.496	35.007	243.4	4.379
1450.0	4.305	35.002	249.3	4.186
1500.0	4.209	34.998	251.9	4.087
1550.0	4.130	34.995	253.7	4.004
1600.0	3.960	34.987	256.6	3.831
1650.0	3.931	34.985	256.8	3.798
1700.0	3.841	34.981	258.0	3.704
1750.0	3.717	34.976	258.8	3.577
1800.0	3.627	34.973	259.5	3.484
1850.0	3.525	34.968	259.9	3.378
1900.0	3.427	34.963	260.0	3.277
1950.0	3.374	34.961	260.2	3.220
2000.0	3.276	34.956	260.4	3.119
2001.0	3.275	34.956	260.4	3.118


Station: 52
Pressure (dbar)
Temperature (°C)
Salinity
Oxygen (umol/kg)
Probe data
Bottle data
Potential Temperature (°C)
Salinity
Probe data
Bottle data
Potential Temperature (°C)
Oxygen (umol/kg)
Probe data
Bottle data

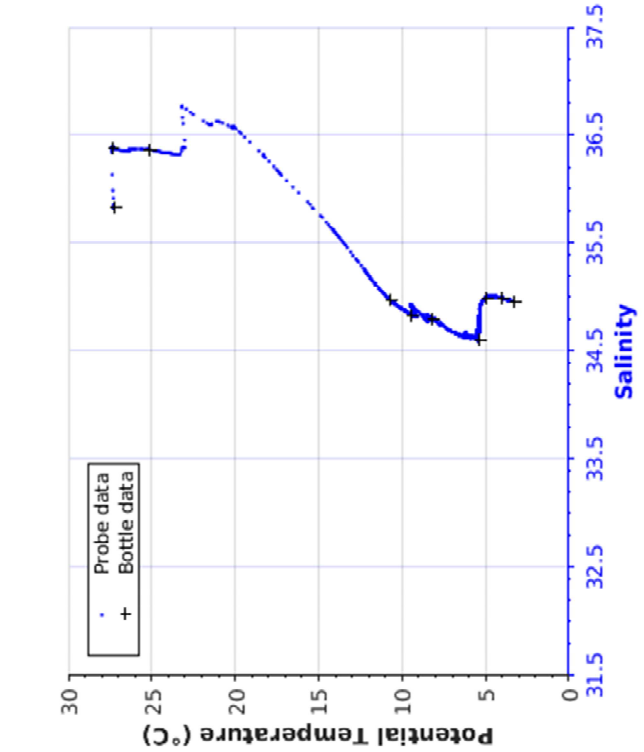
Cruise	: EUREC4A 2020		
Station	: 53	Cast	: 1
Date	: 09/02/2020	Ship	: N/O L'ATALANTE
Depth	: 2300 m	Organism	: ENS Paris; IFREMER
Position	: N 10 1.80 W 058 33.01		

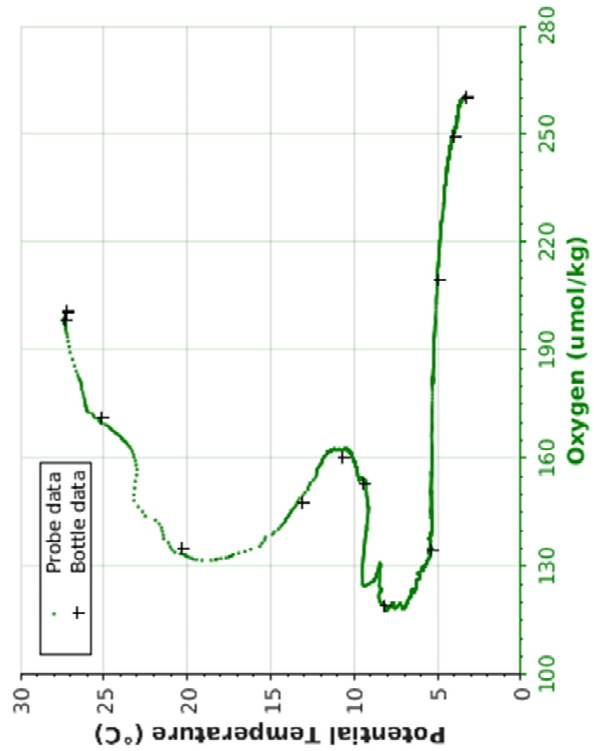
PRESSURE	TEMPERATURE	SALINITY	DISSOLV. OXYGEN	POTENT. TEMP.
dbar	deg.cels.	psu	umol/kg	deg.cels.
0.0	27.314	35.807	200.6	27.314
10.0	27.319	35.807	200.4	27.317
20.0	27.314	35.806	200.4	27.310
30.0	27.372	36.235	199.4	27.365
40.0	27.334	36.378	197.9	27.325
50.0	27.287	36.378	196.8	27.275
100.0	24.300	36.339	167.7	24.279
150.0	18.715	36.367	131.7	18.688
200.0	12.207	35.233	158.5	12.180
250.0	11.431	35.080	162.3	11.400
300.0	10.809	34.981	162.9	10.772
350.0	10.288	34.918	161.9	10.246
400.0	9.881	34.877	157.4	9.835
450.0	9.441	34.830	153.7	9.390
500.0	9.061	34.796	148.4	9.005
550.0	9.137	34.885	127.3	9.076
600.0	8.336	34.786	123.8	8.272
650.0	7.752	34.744	118.5	7.685
700.0	7.000	34.677	118.7	6.933
750.0	6.483	34.639	123.6	6.413
800.0	6.314	34.661	126.4	6.240
850.0	5.590	34.598	133.6	5.517
900.0	5.497	34.610	134.1	5.419
950.0	5.521	34.661	135.5	5.438
1000.0	5.476	34.738	144.2	5.389
1050.0	5.456	34.813	153.8	5.364
1100.0	5.449	34.887	167.6	5.352
1150.0	5.324	34.961	189.2	5.223
1200.0	5.201	34.986	203.1	5.097
1250.0	4.948	35.006	220.8	4.841
1300.0	4.749	35.009	230.3	4.639
1350.0	4.587	35.008	238.6	4.474
1400.0	4.427	35.006	245.6	4.311
1450.0	4.331	35.002	248.1	4.211
1500.0	4.224	34.997	250.7	4.101
1550.0	4.116	34.993	252.7	3.990
1600.0	3.940	34.985	256.2	3.811
1650.0	3.847	34.981	257.6	3.714
1700.0	3.744	34.977	258.6	3.609
1750.0	3.623	34.971	259.8	3.485
1800.0	3.548	34.968	260.5	3.406
1850.0	3.514	34.967	260.6	3.368
1900.0	3.433	34.963	261.0	3.283
1950.0	3.358	34.960	260.8	3.205
2000.0	3.333	34.959	260.8	3.176
2005.0	3.324	34.959	260.8	3.166

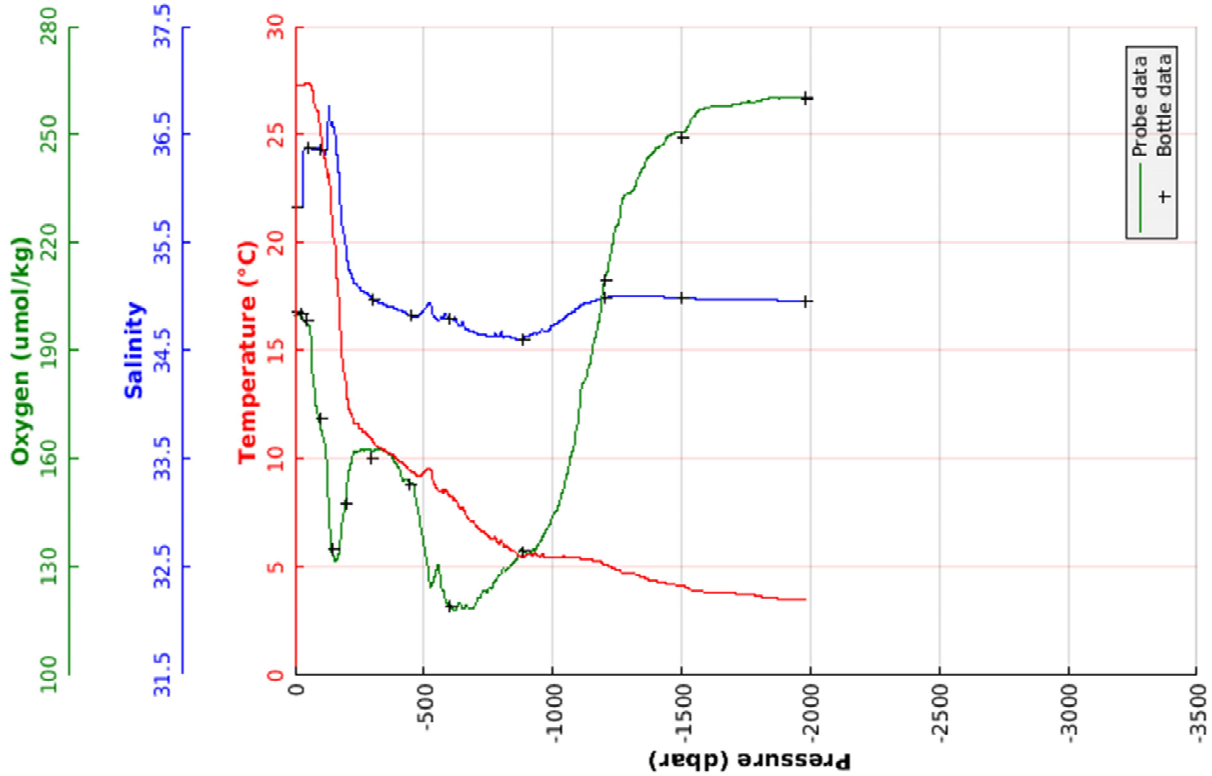

Potential Temperature (°C)
Salinity
Probe data
Bottle data
Potential Temperature (°C)
Oxygen (umol/kg)
Probe data
Bottle data
Oxygen (umol/kg)
Salinity
Temperature (°C)
Pressure (dbar)
Probe data
Bottle data
Station: 53

Cruise	: EUREC4A 2020		
Station	: 54	Cast	: 1
Date	: 10/02/2020	Ship	: N/O L'ATALANTE
Depth	: 1982 m	Organism	: ENS Paris; IFREMER
Position	: N 10 7.36 W 058 43.48		

PRESSURE	TEMPERATURE	SALINITY	DISSOLV. OXYGEN	POTENT. TEMP.
dbar	deg.cels.	psu	umol/kg	deg.cels.
0.0	27.266	35.829	200.1	27.266
10.0	27.273	35.828	200.2	27.271
20.0	27.278	35.829	200.2	27.273
30.0	27.288	35.846	200.0	27.281
40.0	27.392	36.380	198.0	27.383
50.0	27.354	36.382	197.9	27.342
100.0	25.150	36.366	169.8	25.128
150.0	20.177	36.570	133.3	20.149
200.0	13.323	35.460	148.2	13.295
250.0	11.447	35.086	162.5	11.415
300.0	10.863	34.991	162.3	10.826
350.0	10.393	34.931	162.3	10.352
400.0	9.982	34.887	158.4	9.935
450.0	9.436	34.831	153.6	9.385
500.0	9.404	34.881	137.7	9.347
550.0	8.651	34.798	128.6	8.592
600.0	8.284	34.797	119.6	8.221
650.0	7.777	34.765	119.4	7.711
700.0	6.936	34.673	119.2	6.868
750.0	6.425	34.638	123.3	6.355
800.0	6.264	34.673	128.1	6.191
850.0	5.733	34.626	131.2	5.658
900.0	5.571	34.639	133.8	5.493
950.0	5.484	34.667	136.8	5.401
1000.0	5.461	34.736	143.7	5.374
1050.0	5.471	34.813	153.2	5.379
1100.0	5.437	34.900	169.9	5.340
1150.0	5.343	34.954	187.0	5.242
1200.0	5.125	34.996	209.0	5.021
1250.0	4.902	35.008	224.6	4.796
1300.0	4.702	35.009	233.9	4.593
1350.0	4.543	35.008	240.8	4.431
1400.0	4.364	35.003	245.8	4.249
1450.0	4.226	34.997	249.6	4.108
1500.0	4.151	34.995	250.7	4.029
1550.0	3.938	34.986	255.0	3.814
1600.0	3.863	34.981	257.2	3.735
1650.0	3.833	34.980	258.0	3.701
1700.0	3.804	34.978	258.4	3.667
1750.0	3.749	34.976	259.0	3.609
1800.0	3.683	34.973	259.4	3.539
1850.0	3.569	34.968	260.3	3.422
1900.0	3.541	34.967	260.4	3.390
1950.0	3.504	34.966	260.2	3.349
1985.0	3.500	34.965	260.3	3.341


Potential Temperature (°C)
Salinity
Probe data
Bottle data

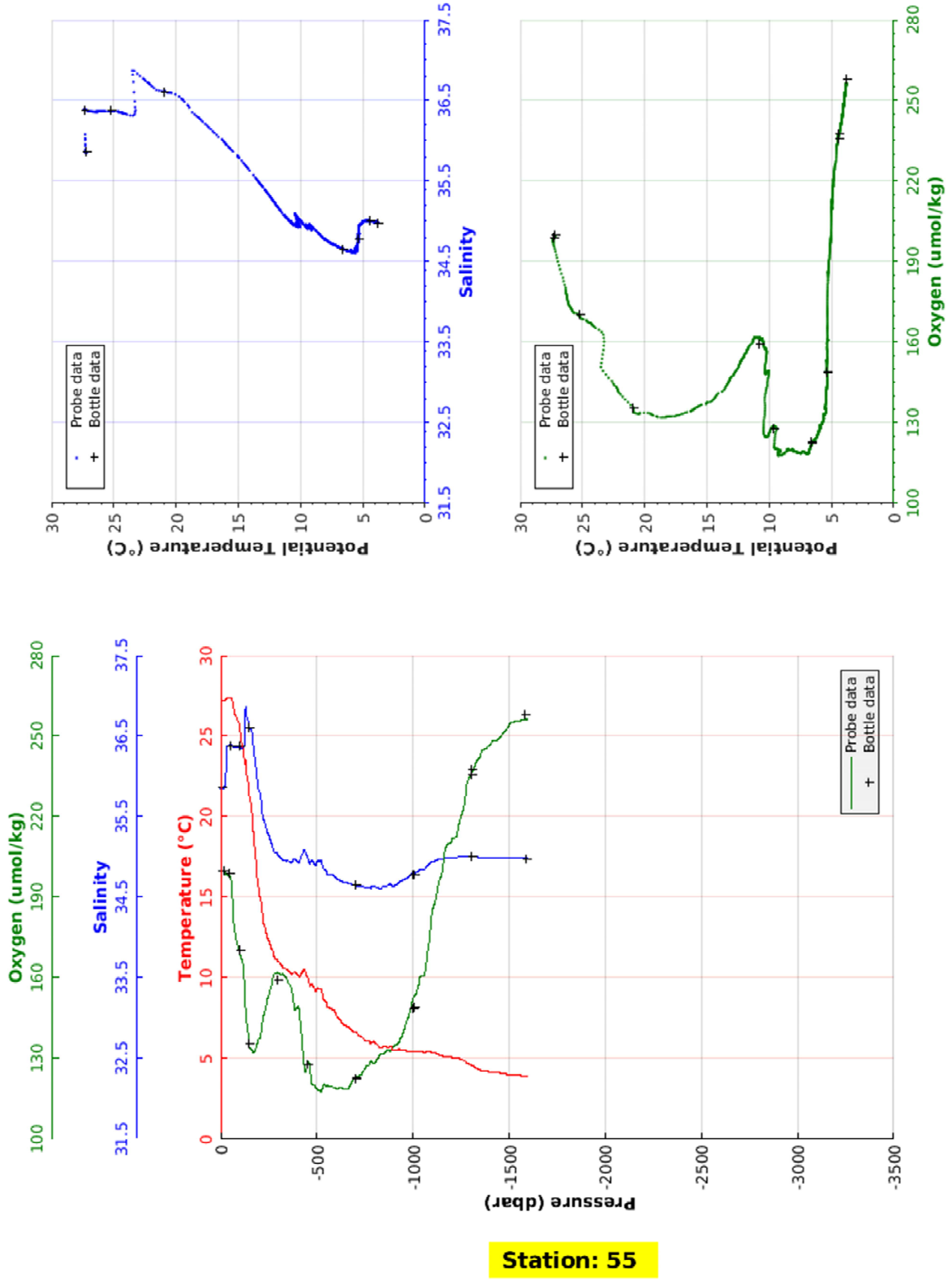

Potential Temperature (°C)
Oxygen (umol/kg)
Probe data
Bottle data


Oxygen (umol/kg)
Salinity
Temperature (°C)
Pressure (dbar)
Probe data
Bottle data

Station: 54

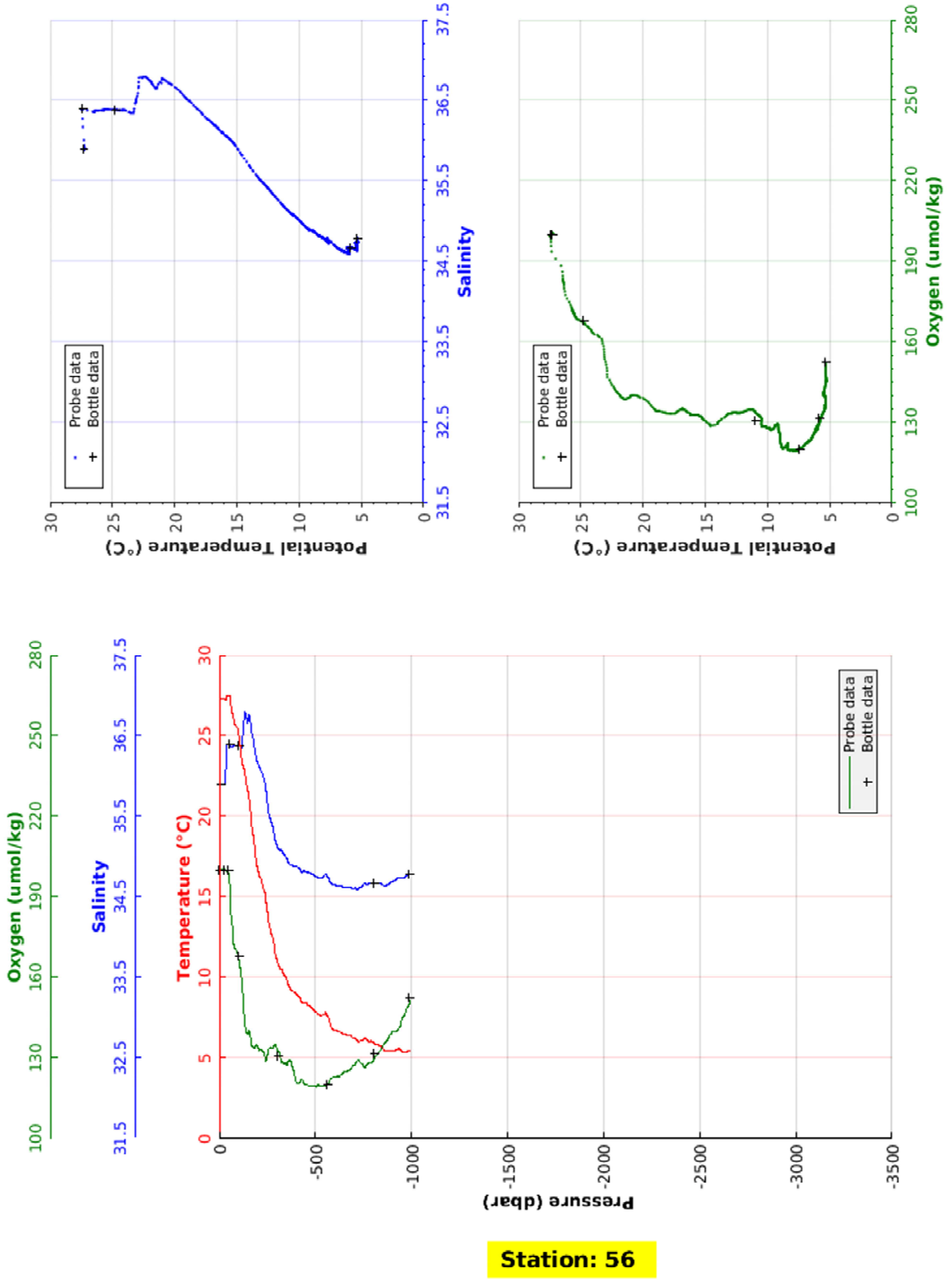
Cruise	: EUREC4A 2020		
Station	: 55	Cast	: 1
Date	: 10/02/2020	Ship	: N/O L'ATALANTE
Depth	: 1721 m	Organism	: ENS Paris; IFREMER
Position	: N 10 14.98 W 058 55.32		

PRESSURE dbar	TEMPERATURE deg.cels.	SALINITY psu	DISSOLV. OXYGEN umol/kg	POTENT. TEMP. deg.cels.
0.0	27.243	35.854	199.7	27.243
10.0	27.246	35.855	199.4	27.244
20.0	27.239	35.853	199.9	27.235
30.0	27.321	36.079	198.9	27.314
40.0	27.379	36.387	198.6	27.369
50.0	27.367	36.388	197.8	27.355
100.0	25.273	36.370	169.8	25.251
150.0	20.941	36.610	134.6	20.912
200.0	15.097	35.812	137.5	15.066
250.0	12.320	35.274	152.7	12.287
300.0	11.004	35.020	161.9	10.967
350.0	10.491	34.954	159.4	10.449
400.0	10.209	34.950	148.9	10.162
450.0	10.083	35.013	126.1	10.029
500.0	9.339	34.943	118.8	9.283
550.0	8.482	34.831	119.7	8.423
600.0	7.755	34.743	119.0	7.694
650.0	7.041	34.683	118.5	6.978
700.0	6.617	34.650	122.8	6.552
750.0	6.140	34.628	126.0	6.072
800.0	5.995	34.635	128.4	5.923
850.0	5.749	34.643	131.7	5.674
900.0	5.525	34.640	134.5	5.447
950.0	5.544	34.718	139.2	5.461
1000.0	5.461	34.800	151.9	5.373
1050.0	5.409	34.848	160.9	5.317
1100.0	5.374	34.948	184.0	5.278
1150.0	5.163	34.978	198.3	5.064
1200.0	5.080	34.995	210.3	4.977
1250.0	4.962	35.005	219.8	4.855
1300.0	4.603	35.007	235.6	4.495
1350.0	4.292	34.998	242.1	4.183
1400.0	4.185	34.994	246.4	4.072
1450.0	4.113	34.991	249.1	3.996
1500.0	4.016	34.988	253.6	3.896
1550.0	3.958	34.985	255.4	3.834
1600.0	3.933	34.984	256.2	3.805


Potential Temperature (°C)
Salinity
Probe data
Bottle data
Potential Temperature (°C)
Oxygen (umol/kg)
Probe data
Bottle data
Oxygen (umol/kg)
Salinity
Temperature (°C)
Pressure (dbar)
Probe data
Bottle data
Station: 55

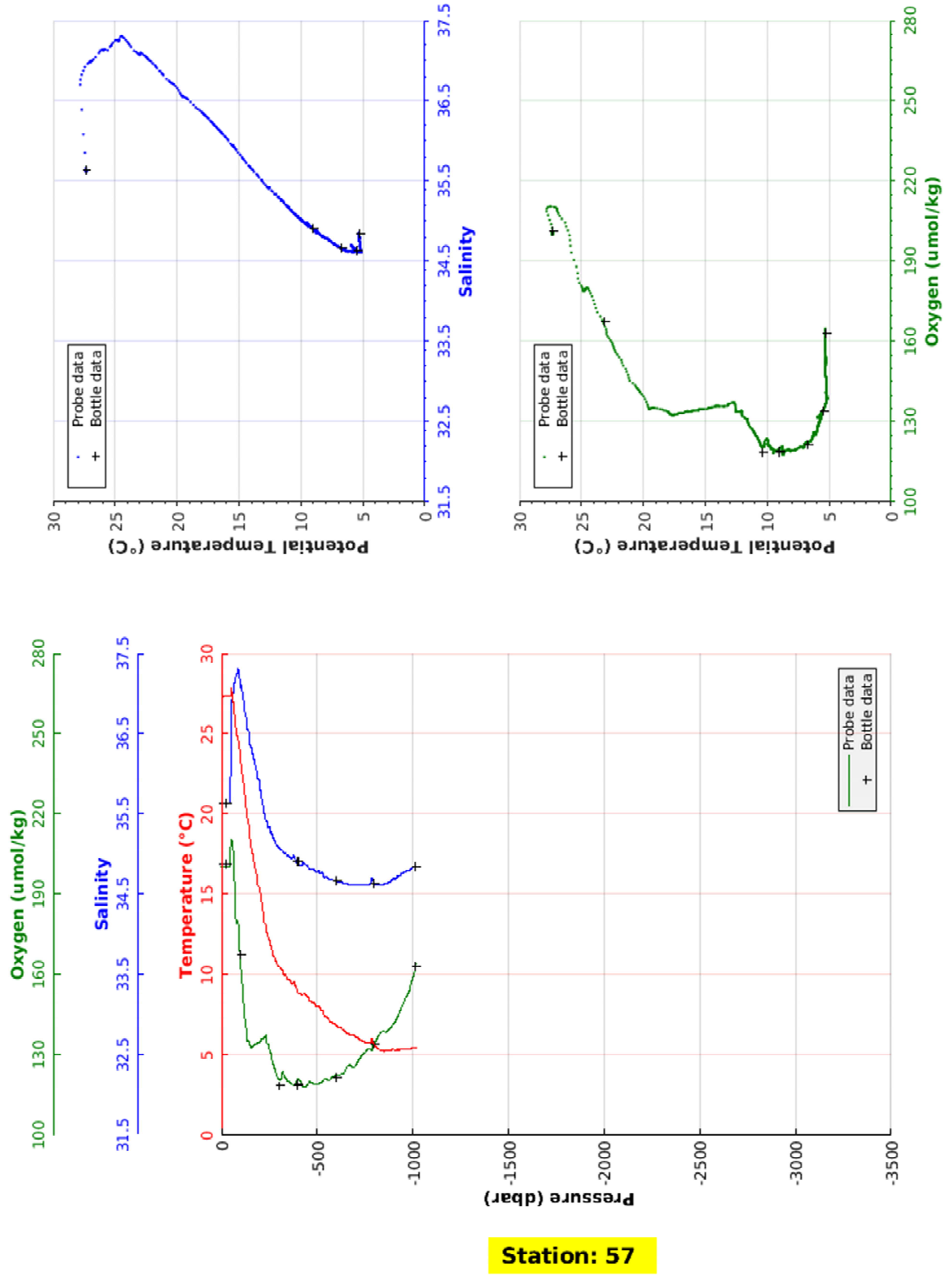
Cruise	: EUREC4A 2020		
Station	: 56	Cast	: 1
Date	: 10/02/2020	Ship	: N/O L'ATALANTE
Depth	: 1652 m	Organism	: ENS Paris; IFREMER
Position	: N 10 35.69 W 059 9.76		

PRESSURE	TEMPERATURE	SALINITY	DISSOLV. OXYGEN	POTENT. TEMP.
dbar	deg.cels.	psu	umol/kg	deg.cels.
0.0	27.315	35.889	200.5	27.315
10.0	27.315	35.888	200.3	27.313
20.0	27.304	35.887	200.2	27.300
30.0	27.257	35.891	201.0	27.250
40.0	27.465	36.391	199.4	27.456
50.0	27.435	36.391	199.2	27.423
100.0	25.179	36.383	168.3	25.157
150.0	21.441	36.651	138.7	21.411
200.0	16.800	36.192	135.0	16.767
250.0	14.039	35.687	130.1	14.003
300.0	11.049	35.149	134.2	11.012
350.0	9.878	34.985	128.1	9.837
400.0	8.970	34.881	122.1	8.927
450.0	8.393	34.819	119.9	8.345
500.0	7.879	34.756	119.6	7.828
550.0	7.755	34.768	119.8	7.699
600.0	6.757	34.646	123.0	6.700
650.0	6.472	34.624	124.6	6.412
700.0	6.228	34.608	127.1	6.165
750.0	6.181	34.653	127.5	6.113
800.0	6.001	34.674	128.9	5.929
850.0	5.608	34.653	133.8	5.534
900.0	5.443	34.686	139.4	5.365
950.0	5.440	34.728	144.0	5.358
1000.0	5.424	34.786	151.7	5.337


Potential Temperature (°C)
Salinity
Probe data
Bottle data
Oxygen (umol/kg)
Temperature (°C)
Pressure (dbar)
Station: 56

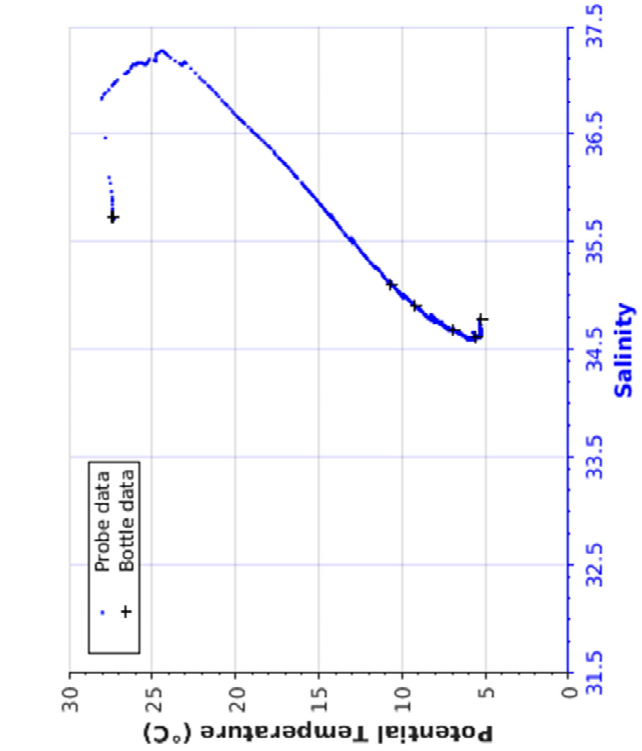
Cruise	: EUREC4A 2020		
Station	: 57	Cast	: 1
Date	: 11/02/2020	Ship	: N/O L'ATALANTE
Depth	: 1830 m	Organism	: ENS Paris; IFREMER
Position	: N 09 18.40 W 058 48.08		

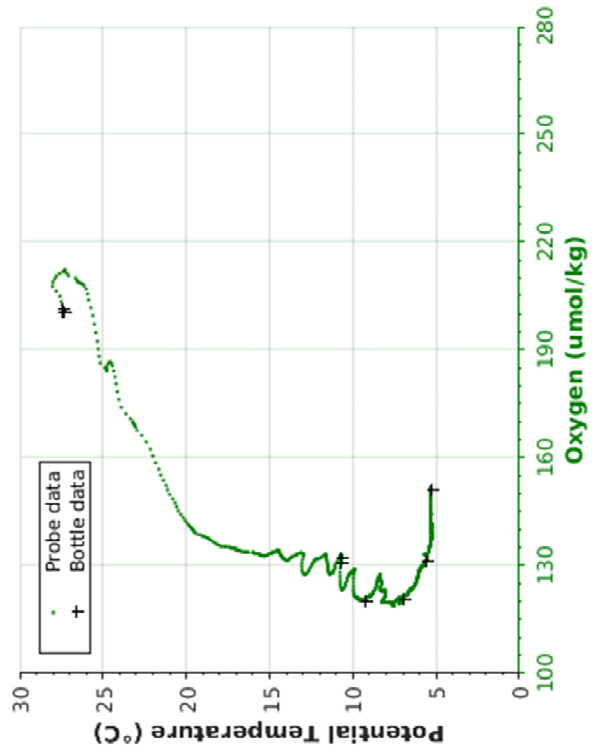
PRESSURE	TEMPERATURE	SALINITY	DISSOLV. OXYGEN	POTENT. TEMP.
dbar	deg.cels.	psu	umol/kg	deg.cels.
0.0	27.337	35.633	200.6	27.337
10.0	27.338	35.632	200.6	27.336
20.0	27.341	35.633	200.1	27.336
30.0	27.344	35.634	200.3	27.337
40.0	27.349	35.636	200.4	27.339
50.0	27.568	36.086	205.0	27.557
100.0	23.248	37.101	166.3	23.227
150.0	18.183	36.386	134.2	18.157
200.0	15.381	35.917	134.8	15.350
250.0	12.099	35.339	133.5	12.066
300.0	10.521	35.089	121.0	10.485
350.0	9.744	34.980	120.1	9.703
400.0	8.871	34.870	120.7	8.827
450.0	8.649	34.859	118.7	8.601
500.0	8.022	34.788	119.4	7.970
550.0	7.355	34.722	120.9	7.301
600.0	6.867	34.666	122.3	6.810
650.0	6.420	34.634	123.9	6.360
700.0	6.118	34.625	125.7	6.056
750.0	5.809	34.623	130.6	5.743
800.0	5.625	34.646	134.2	5.555
850.0	5.239	34.616	139.0	5.168
900.0	5.329	34.694	141.5	5.252
950.0	5.396	34.772	148.8	5.314
1000.0	5.429	34.833	158.2	5.342
1021.0	5.396	34.857	164.8	5.307

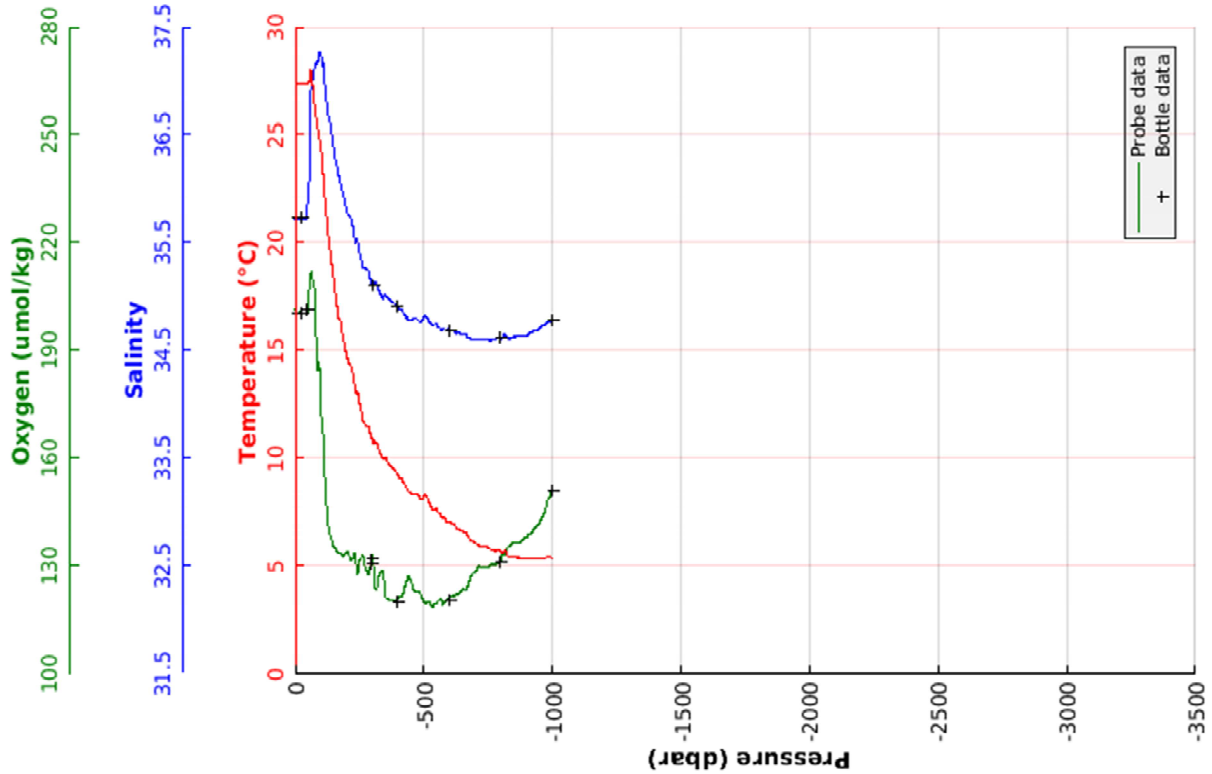

Station: 57
Pressure (dbar)
Temperature (°C)
Salinity
Oxygen (umol/kg)
Probe data
Bottle data
Potential Temperature (°C)
Salinity
Probe data
Bottle data
Potential Temperature (°C)
Oxygen (umol/kg)
Probe data
Bottle data

Cruise	: EUREC4A 2020		
Station	: 58	Cast	: 1
Date	: 11/02/2020	Ship	: N/O L'ATALANTE
Depth	: 2165 m	Organism	: ENS Paris; IFREMER
Position	: N 09 27.32 W 058 40.37		

PRESSURE	TEMPERATURE	SALINITY	DISSOLV. OXYGEN	POTENT. TEMP.
dbar	deg.cels.	psu	umol/kg	deg.cels.
0.0	27.374	35.720	201.2	27.374
10.0	27.370	35.720	200.3	27.368
20.0	27.350	35.716	200.3	27.346
30.0	27.347	35.715	200.2	27.340
40.0	27.345	35.716	200.3	27.336
50.0	27.420	35.882	200.4	27.408
100.0	24.305	37.264	183.0	24.284
150.0	18.196	36.411	135.8	18.170
200.0	14.842	35.832	133.4	14.811
250.0	12.577	35.428	129.5	12.543
300.0	10.786	35.114	132.9	10.749
350.0	10.013	35.016	124.5	9.972
400.0	9.214	34.904	121.1	9.169
450.0	8.379	34.785	126.7	8.332
500.0	8.227	34.801	120.6	8.174
550.0	7.674	34.750	119.8	7.618
600.0	7.022	34.689	121.4	6.964
650.0	6.618	34.650	123.1	6.557
700.0	6.073	34.603	128.5	6.010
750.0	5.848	34.599	130.0	5.782
800.0	5.651	34.612	131.6	5.581
850.0	5.408	34.626	136.3	5.335
900.0	5.339	34.644	138.0	5.262
950.0	5.376	34.706	141.9	5.295
1000.0	5.388	34.779	151.5	5.301
1003.0	5.400	34.783	151.9	5.313


Potential Temperature (°C)
Salinity
Probe data
Bottle data

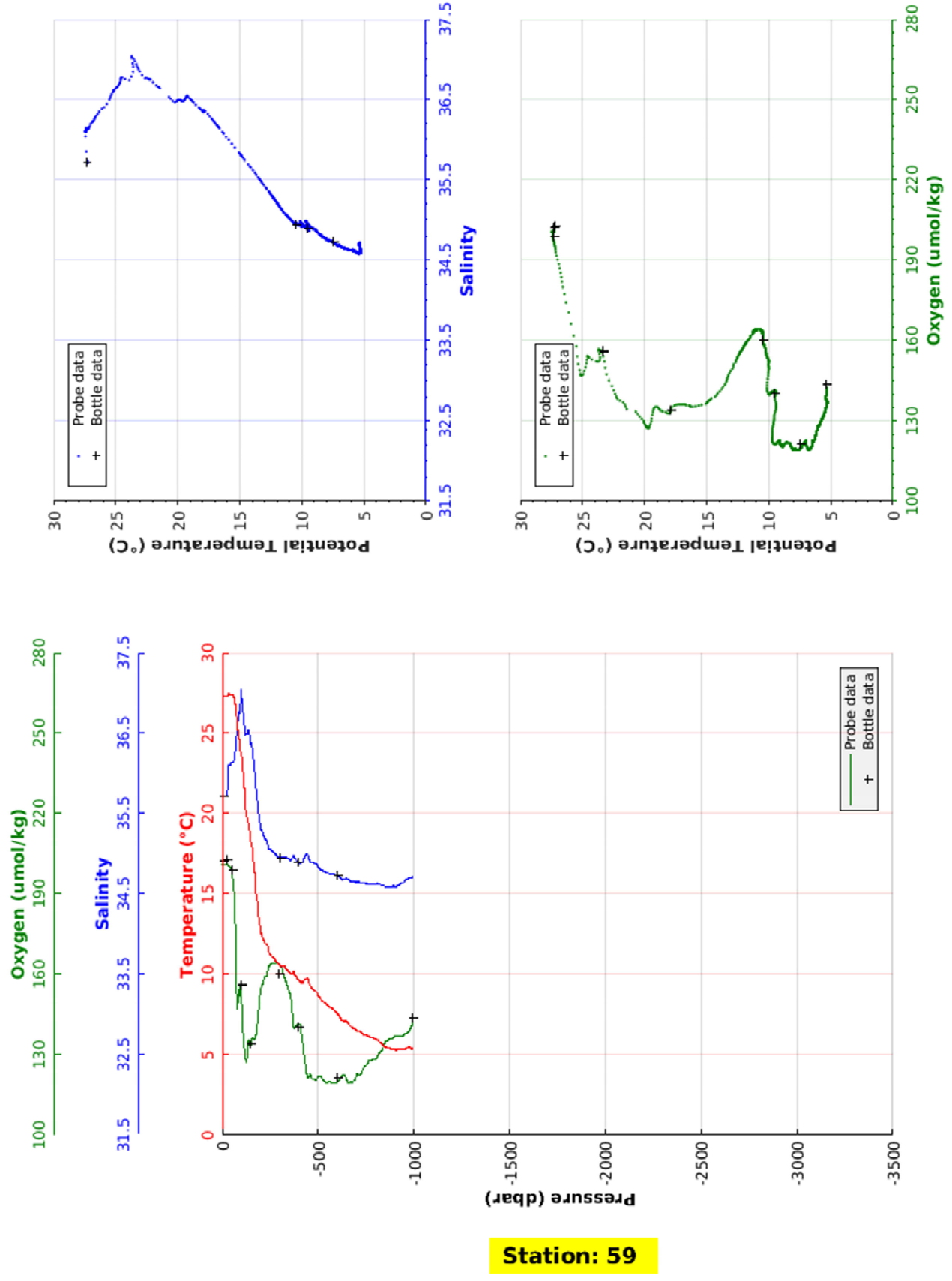

Potential Temperature (°C)
Oxygen (umol/kg)
Probe data
Bottle data


Oxygen (umol/kg)
Salinity
Temperature (°C)
Pressure (dbar)
Probe data
Bottle data

Station: 58

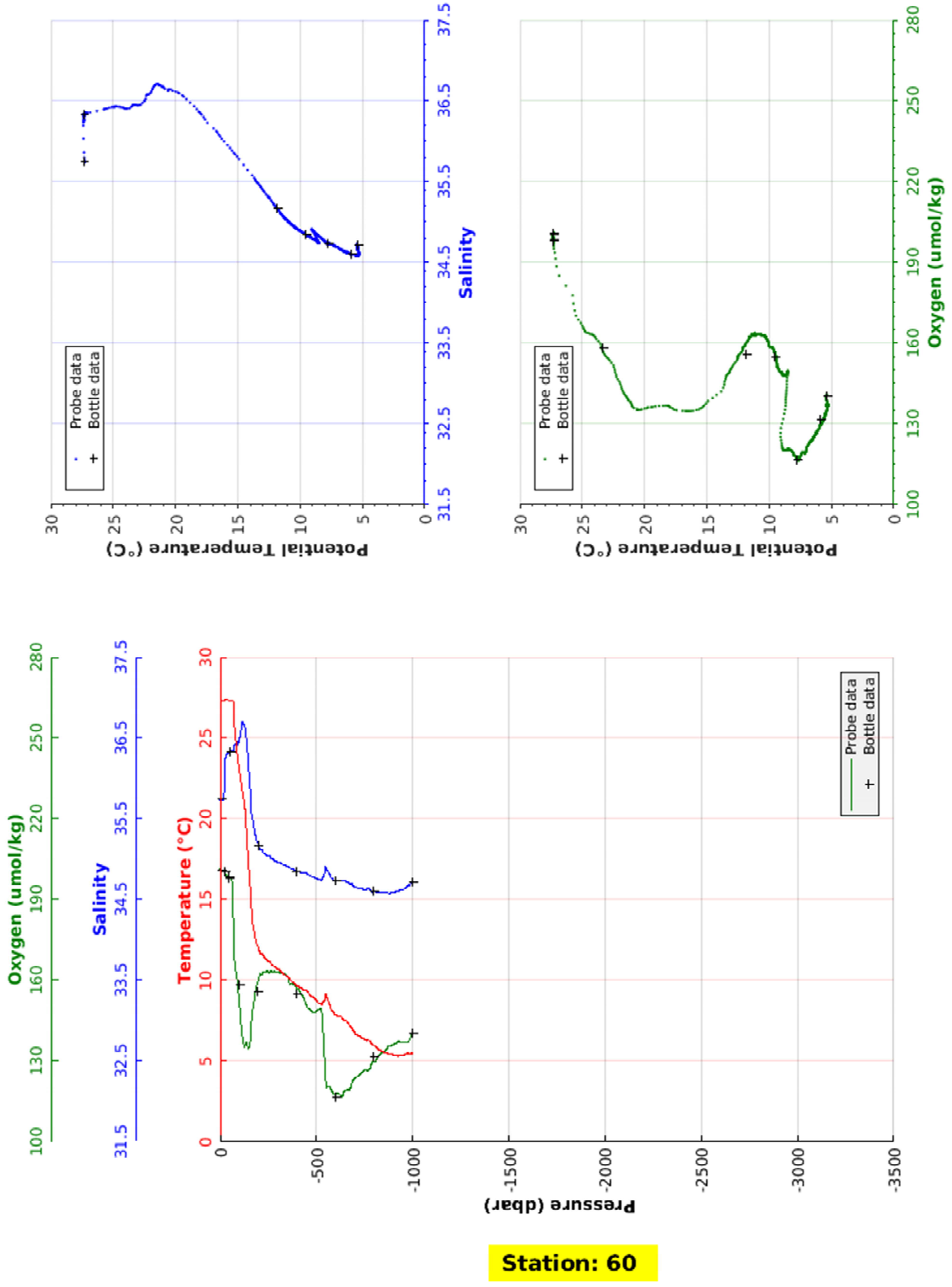
Cruise	: EUREC4A 2020		
Station	: 59	Cast	: 1
Date	: 11/02/2020	Ship	: N/O L'ATALANTE
Depth	: 2467 m	Organism	: ENS Paris; IFREMER
Position	: N 09 37.94 W 058 32.11		

PRESSURE	TEMPERATURE	SALINITY	DISSOLV. OXYGEN	POTENT. TEMP.
dbar	deg.cels.	psu	umol/kg	deg.cels.
0.0	27.308	35.719	201.1	27.308
10.0	27.304	35.718	200.6	27.302
20.0	27.296	35.723	200.7	27.291
30.0	27.361	35.856	201.1	27.354
40.0	27.392	36.106	200.2	27.383
50.0	27.395	36.137	198.9	27.383
100.0	23.730	37.040	160.1	23.709
150.0	18.062	36.364	132.9	18.036
200.0	12.701	35.358	152.2	12.674
250.0	11.275	35.060	163.6	11.244
300.0	10.574	34.954	163.9	10.537
350.0	10.133	34.931	153.5	10.092
400.0	9.609	34.891	141.4	9.563
450.0	9.658	34.973	121.4	9.606
500.0	8.707	34.838	121.7	8.653
550.0	8.051	34.763	119.5	7.994
600.0	7.581	34.730	119.6	7.521
650.0	7.061	34.691	121.2	6.998
700.0	6.537	34.645	121.9	6.472
750.0	6.225	34.629	126.0	6.157
800.0	5.976	34.620	128.4	5.904
850.0	5.489	34.589	134.4	5.416
900.0	5.356	34.597	136.6	5.279
950.0	5.375	34.645	137.4	5.294
999.0	5.425	34.726	142.7	5.338


Potential Temperature (°C)
Salinity
Probe data
Bottle data
Potential Temperature (°C)
Oxygen (umol/kg)
Probe data
Bottle data
Oxygen (umol/kg)
Salinity
Temperature (°C)
Pressure (dbar)
Probe data
Bottle data
Station: 59

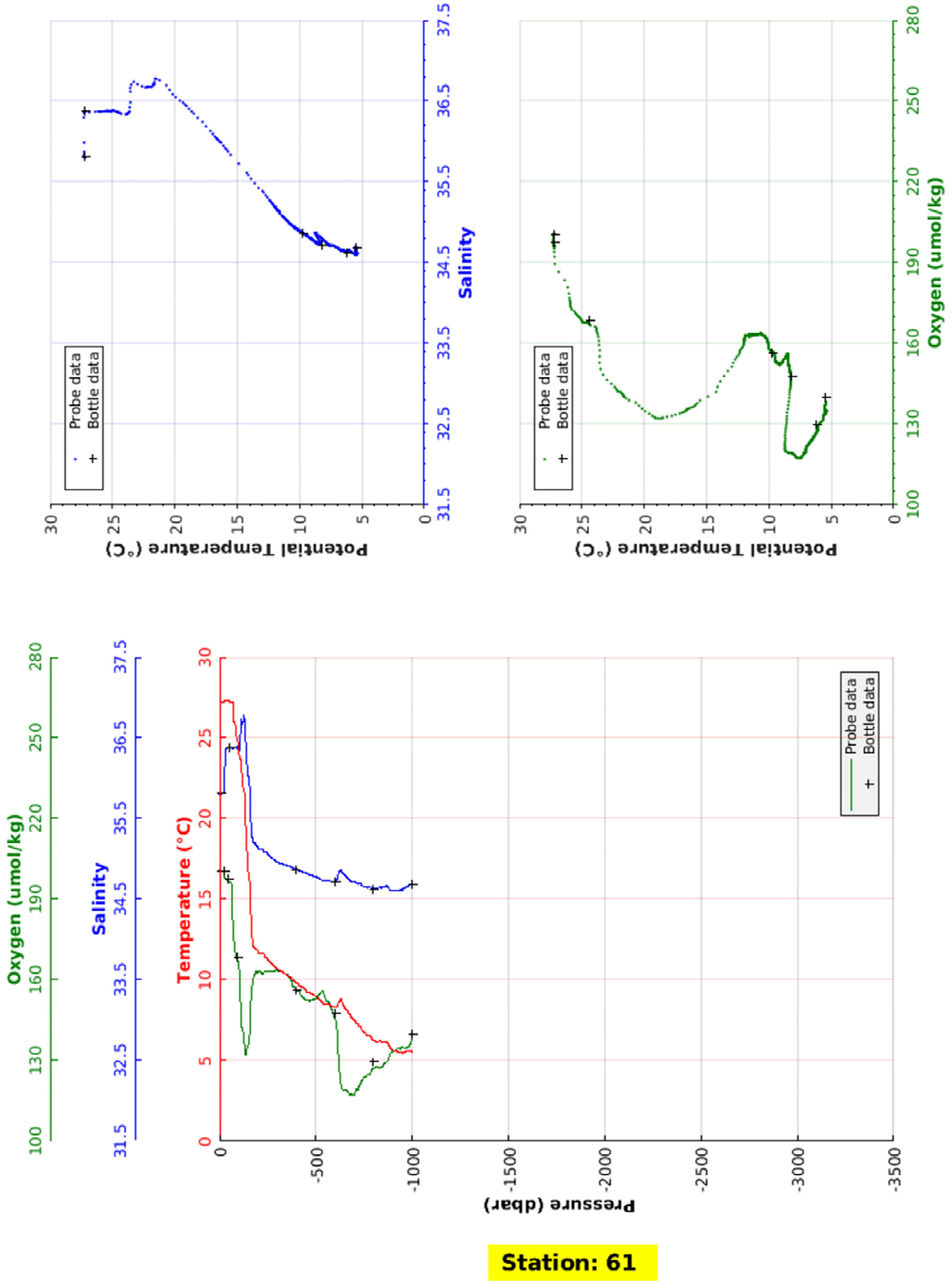
Cruise	: EUREC4A 2020		
Station	: 60	Cast	: 1
Date	: 11/02/2020	Ship	: N/O L'ATALANTE
Depth	: 2592 m	Organism	: ENS Paris; IFREMER
Position	: N 09 47.37 W 058 24.89		

PRESSURE	TEMPERATURE	SALINITY	DISSOLV. OXYGEN	POTENT. TEMP.
dbar	deg.cels.	psu	umol/kg	deg.cels.
0.0	27.299	35.737	201.1	27.299
10.0	27.295	35.738	201.1	27.293
20.0	27.302	35.740	201.0	27.298
30.0	27.351	36.244	199.6	27.344
40.0	27.339	36.317	198.6	27.330
50.0	27.335	36.327	198.4	27.324
100.0	22.916	36.448	154.8	22.896
150.0	16.676	36.111	134.9	16.651
200.0	11.957	35.187	159.2	11.931
250.0	11.171	35.038	163.6	11.140
300.0	10.687	34.964	163.6	10.650
350.0	10.255	34.915	161.7	10.214
400.0	9.672	34.853	157.5	9.626
450.0	9.391	34.829	151.0	9.340
500.0	8.746	34.765	148.0	8.692
550.0	9.099	34.909	123.7	9.038
600.0	7.848	34.733	117.5	7.787
650.0	7.511	34.726	119.0	7.446
700.0	6.717	34.653	123.7	6.651
750.0	6.351	34.621	126.4	6.282
800.0	5.966	34.601	129.5	5.895
850.0	5.567	34.588	133.5	5.493
900.0	5.393	34.590	136.1	5.316
950.0	5.364	34.622	137.1	5.282
1000.0	5.505	34.718	140.2	5.417
1002.0	5.470	34.715	141.1	5.383


Potential Temperature (°C)
Salinity
Probe data
Bottle data
Potential Temperature (°C)
Oxygen (umol/kg)
Probe data
Bottle data
Oxygen (umol/kg)
Salinity
Temperature (°C)
Pressure (dbar)
Probe data
Bottle data
Station: 60

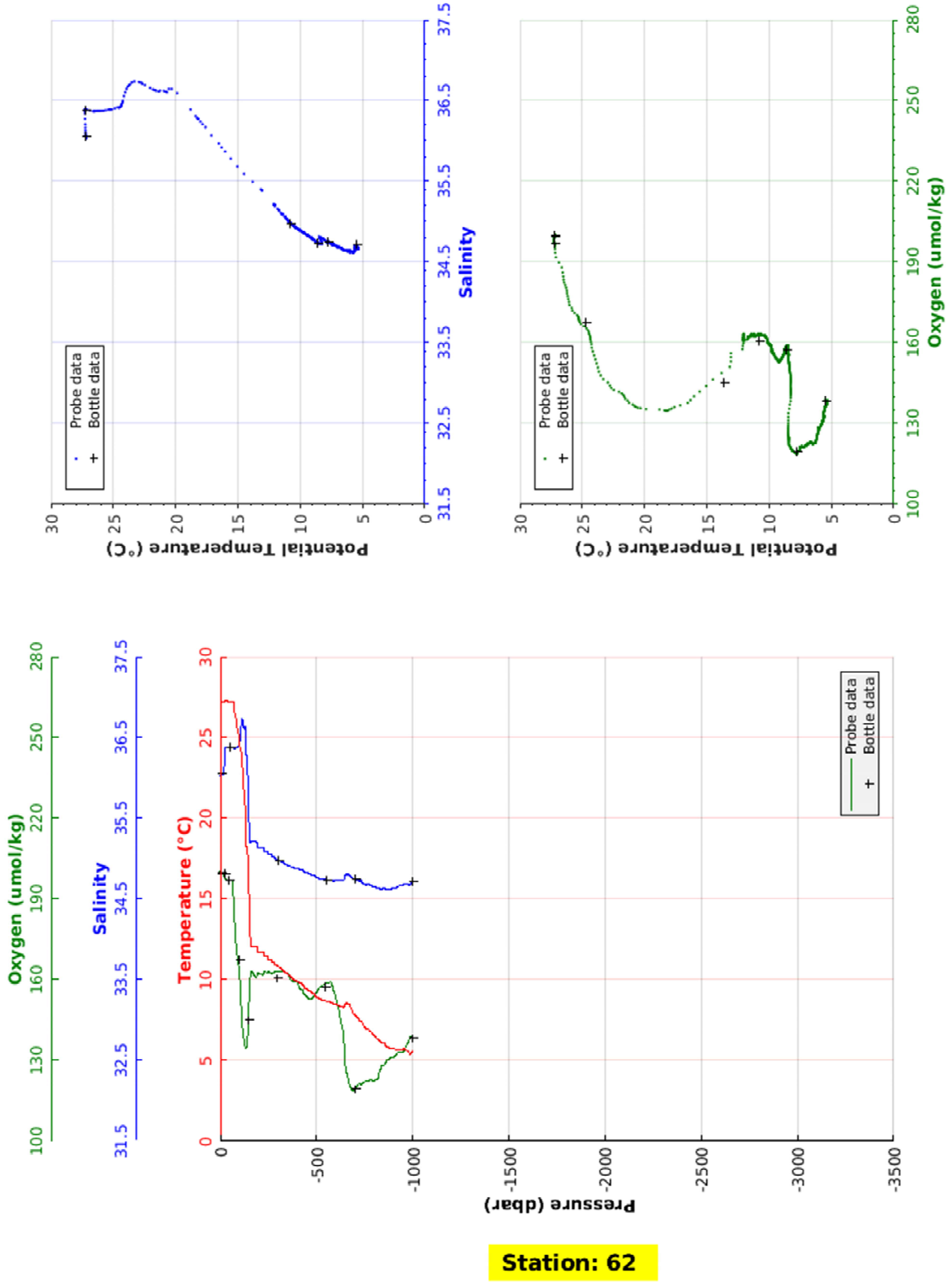
Cruise	: EUREC4A 2020		
Station	: 61	Cast	: 1
Date	: 12/02/2020	Ship	: N/O L'ATALANTE
Depth	: 2845 m	Organism	: ENS Paris; IFREMER
Position	: N 09 56.47 W 058 16.39		

PRESSURE	TEMPERATURE	SALINITY	DISSOLV. OXYGEN	POTENT. TEMP.
dbar	deg.cels.	psu	umol/kg	deg.cels.
0.0	27.244	35.806	200.8	27.244
10.0	27.246	35.808	200.5	27.244
20.0	27.251	35.813	200.7	27.246
30.0	27.313	36.300	198.2	27.306
40.0	27.286	36.368	196.9	27.276
50.0	27.260	36.373	196.6	27.248
100.0	24.321	36.344	167.2	24.300
150.0	16.631	36.034	135.3	16.606
200.0	11.794	35.150	162.9	11.768
250.0	11.267	35.058	163.3	11.236
300.0	10.677	34.963	163.5	10.641
350.0	10.314	34.920	162.0	10.272
400.0	9.832	34.873	157.4	9.786
450.0	9.340	34.818	152.4	9.290
500.0	8.999	34.781	152.9	8.944
550.0	8.537	34.735	153.7	8.478
600.0	8.315	34.726	145.9	8.252
650.0	8.263	34.794	119.3	8.194
700.0	7.544	34.714	117.3	7.473
750.0	6.704	34.647	123.5	6.633
800.0	6.244	34.629	127.3	6.170
850.0	6.152	34.647	128.0	6.074
900.0	5.647	34.604	133.3	5.568
950.0	5.460	34.610	134.8	5.378
1000.0	5.528	34.684	137.6	5.440
1002.0	5.521	34.684	138.3	5.433


Potential Temperature (°C)
Salinity
Probe data
Bottle data
Potential Temperature (°C)
Oxygen (umol/kg)
Probe data
Bottle data
Oxygen (umol/kg)
Salinity
Temperature (°C)
Pressure (dbar)
Probe data
Bottle data
Station: 61

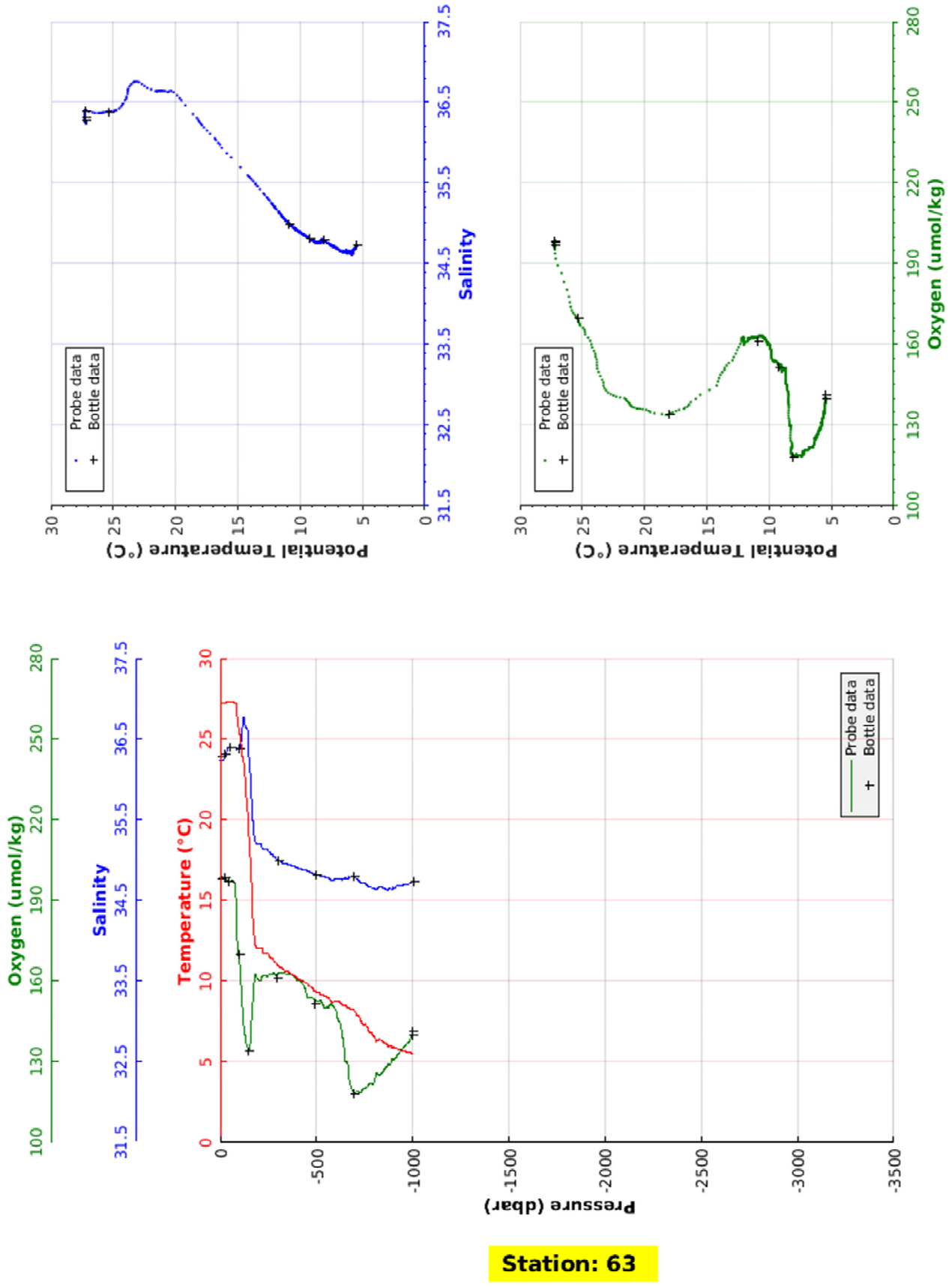
Cruise	: EUREC4A 2020		
Station	: 62	Cast	: 1
Date	: 12/02/2020	Ship	: N/O L'ATALANTE
Depth	: 3137 m	Organism	: ENS Paris; IFREMER
Position	: N 10 7.17 W 058 8.25		

PRESSURE	TEMPERATURE	SALINITY	DISSOLV. OXYGEN	POTENT. TEMP.
dbar	deg.cels.	psu	umol/kg	deg.cels.
0.0	27.206	36.032	200.2	27.206
10.0	27.206	36.033	200.0	27.204
20.0	27.227	36.083	199.7	27.222
30.0	27.284	36.381	198.0	27.277
40.0	27.248	36.386	197.4	27.239
50.0	27.227	36.384	197.1	27.215
100.0	24.504	36.416	163.8	24.482
150.0	14.523	35.591	145.5	14.501
200.0	11.734	35.145	162.6	11.708
250.0	11.280	35.061	162.9	11.249
300.0	10.819	34.981	163.1	10.782
350.0	10.367	34.926	162.5	10.326
400.0	9.910	34.878	159.2	9.863
450.0	9.460	34.832	154.1	9.409
500.0	8.941	34.771	155.0	8.887
550.0	8.690	34.740	158.4	8.630
600.0	8.500	34.728	155.0	8.436
650.0	8.521	34.798	130.7	8.451
700.0	7.811	34.747	119.0	7.739
750.0	7.031	34.682	122.2	6.958
800.0	6.559	34.649	122.4	6.484
850.0	6.121	34.644	128.3	6.044
900.0	5.759	34.633	131.3	5.679
950.0	5.729	34.671	133.1	5.644
1000.0	5.566	34.716	138.6	5.478
1002.0	5.568	34.716	138.7	5.479


Potential Temperature (°C)
Salinity
Probe data
Bottle data
Potential Temperature (°C)
Oxygen (umol/kg)
Probe data
Bottle data
Oxygen (umol/kg)
Salinity
Temperature (°C)
Pressure (dbar)
Probe data
Bottle data
Station: 62

Cruise	: EUREC4A 2020		
Station	: 63	Cast	: 1
Date	: 12/02/2020	Ship	: N/O L'ATALANTE
Depth	: 3375 m	Organism	: ENS Paris; IFREMER
Position	: N 10 17.52 W 057 59.12		

PRESSURE	TEMPERATURE	SALINITY	DISSOLV. OXYGEN	POTENT. TEMP.
dbar	deg.cels.	psu	umol/kg	deg.cels.
0.0	27.202	36.237	198.7	27.202
10.0	27.201	36.239	198.5	27.198
20.0	27.214	36.247	198.8	27.209
30.0	27.262	36.296	198.0	27.255
40.0	27.280	36.374	197.3	27.271
50.0	27.265	36.397	197.2	27.253
100.0	25.327	36.390	168.8	25.305
150.0	18.316	36.309	133.6	18.290
200.0	12.070	35.206	160.6	12.044
250.0	11.701	35.136	161.7	11.669
300.0	10.990	35.005	162.5	10.953
350.0	10.580	34.951	162.7	10.538
400.0	10.211	34.910	160.8	10.164
450.0	9.863	34.874	156.1	9.811
500.0	9.351	34.819	152.9	9.295
550.0	9.030	34.788	150.0	8.970
600.0	8.719	34.759	149.7	8.654
650.0	8.468	34.779	131.7	8.399
700.0	8.135	34.788	118.7	8.061
750.0	7.334	34.714	120.0	7.259
800.0	6.601	34.654	121.7	6.526
850.0	6.225	34.654	126.3	6.147
900.0	5.908	34.663	131.1	5.827
950.0	5.673	34.690	134.7	5.589
1000.0	5.559	34.729	140.1	5.471
1005.0	5.559	34.729	140.4	5.470


Potential Temperature (°C)
Salinity
Probe data
Bottle data
Potential Temperature (°C)
Oxygen (umol/kg)
Probe data
Bottle data
Oxygen (umol/kg)
Salinity
Temperature (°C)
Pressure (dbar)
Probe data
Bottle data
Station: 63