A Cruise Report: PR14

A.1 Cruise Narrative

A.1.1 Highlights

WOCE Section: **PR14**
ExpoCode: **20VDPR1494_1**
Chief Scientist: **Ximena Jara Urbistondo.**
Servicio Hidrogr fico y Oceanogr fico de la Armada (SHOA).
Err zuriz 232, Playa Ancha.
Valpara so, Chile.
Tel fono: 56-032-266666
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Ship: AGOR60 - Vidal Gormaz.
Port of call: Puerto Montt, CHILE
Cruise Dates: October 4 - 25, 1994

A.1.2 Cruise Summary

Cruise Track:
The cruise track and station locations are shown in figure 1.

Number of stations:
A total of 50 hydrographic stations were performed using a sealogger 19 CTD model 1240.

Sampling:
continuos profiles of temperature and salinity were made using a CTD.

Floats, Drifters, and Moorings:
(None)

A.1.3 List of principal Investigators

NAME	RESPONSIBILITY	INST.
EaC. Sra Wanda Garc a	Chief of Watch 1, Computer Operator, Cruise Logger, Form filer	SHOA
EaC. Sra. X. Jara U	Chief of Watch 2, Computer and Seabeam, cruise logger, METEO/S.H.I.P message sender	SHOA

A.1.4 Scientific Programme and methods

The principal objectives of the cruise were:
To collect necessary information to develop ocean circulation models to predict decade climatic changes in order to contribute to international WOCE program.

Preliminary Results

A.1.5 Major Problems Encountered on the Cruise

- Hydrographic winch wire showed knots at stations25,26 28 and 30.
- Winch power failure at station 27.
- Winch display problems .
- PC 486 showed malfunctions many times.

A.1.6 Other Observations of Note

A.1.7 List Of Cruise Participants

NAME	RESPONSIBILITY	INST.
EaC. Sra. Wanda Garc a L	Chief of watch 1	SHOA
S2.Serv (Oc) A. Sanchez R	Winch operator	SHOA
C1.Serv. (Db. Catr) J. Freire V	Sampling assistant , XBT launcher	SHOA
M. Serv. (Oc.Bas.) D. Meza O	Chemical analysis	SHOA
M. Serv. (Oc. Bas.) M. Higueras M	Rossette maneuver , salinity sampler	SHOA
C2. (ME. Naveg.) P. Hern ndez G	Seabeam-Ecosounder-Pinger operator, Rossette maneuver	SHOA
S2. Serv. (Oc) A. Olivares I	XBT launcher	SHOA
M. Serv. (Oc. Bas.) P. Altamirano F	Rossette maneuver , chemical analysis	SHOA
M. Serv. (Oc. Bas.) C. Saavedra M	Rossette maneuver, water sampler	SHOA

A.2 Underway Measurements

A.2.1 Navigation:
(Not available)

A.2.2 Echosounding:
(Not available)

A.2.3 Acoustic Doppler Current Profiler (ADCP):
(None)

A.2.4 Thermosalinograph Measurements:
(None)

A.2.5 XBTs
A total of 40 XBT launches (T5 and T7) were performed.

A.2.6 Meteorological Measurements
Meteorological data measured were : wind speed and direction, air temperature, atmospheric pressure.

A.3 Hydrographic Measurement Techniques and Calibration

A.3.1 Sample Salinity Measurements:
(Not sampled)

A.3.2 Sample Oxygen Measurements:
(Not sampled)

A.3.3 Nutrients:
(Not sampled)

A.3.4 CFC:
(Not sampled)

A.3.5 Samples taken for other chemical measurements:
(None)

A.3.6 CTD Measurements
The CTD used was a Sealogger-19 model 1240 bought by SHOA in 1992, whose first calibration was made in 1995.

A.3.7 CTD Data collection and processing
Data registry

Date	STATION
10/6/94	1, 3
10/7/94	2, 4, 5, 50, 49, 48
10/8/94	47, 46, 32, 33
10/9/94	34, 31, 30
10/10/94	29, 28, 27, 26, 25
10/11/94	24, 23, 22
10/12/94	21, 20, 19, 18
10/13/94	17, 39, 38
10/14/94	37, 36, 35
10/18/94	45, 44
10/19/94	43, 42, 41, 40
10/20/94	16, 15, 14
10/21/94	13, 12, 11, 10
10/22/94	9, 8, 7, 6

CTD SBE-19 model 1240

It arrived in 1992 and it first calibration was made in 1995. Therefore, the calibration coefficients used were the ones from 1992. Slope and offset were obtained according to the time drift.

Temperature:

A= 3.67439294E-03
B= 5.79923710E-04
C= 8.23609887E-06
D= -1.55263735E-06
F0= 2408.120

slope= 1
offset= -0.0011

Day	B	n	b/n	post-delta(t)	offset
6	705	850	0.8294117	0.00129	-0.0011
7	706	850	0.8305882	0.00129	-0.0011
8	707	850	0.8317647	0.00129	-0.0011
9	708	850	0.8329411	0.00129	-0.0011
10	709	850	0.8341176	0.00129	-0.0011
11	710	850	0.8352941	0.00129	-0.0011
12	711	850	0.8364705	0.00129	-0.0011
13	712	850	0.8376470	0.00129	-0.0011
14	713	850	0.8388235	0.00129	-0.0011
18	717	850	0.8435294	0.00129	-0.0011
19	718	850	0.8447058	0.00129	-0.0011
20	719	850	0.8458823	0.00129	-0.0011
21	720	850	0.8470588	0.00129	-0.0011
22	721	850	0.8482352	0.00129	-0.0011

b: number of days between calibration and the day of CTD cast.
n: number of days between calibrations.
Post-delta (T): temperature-drift value according calibration certificate.

Conductivity:

M= 2.6
A= 2.33127200E-03
B= 4.91763158E-01
C= -4.12966273E+00
D= 5.64959638E-04
E= -9.5700E-08

offset= 0
slope1= 0.999796
slope2= 0.999795
slope3=0.999794
slope4=0.999792
slope5=0.999791

Day	b	n	b/n	(Pre-slope)-1	Slope
6	705	850	0.8294117	-0.000246	0.999796
7	706	850	0.8305882	-0.000246	0.999796
8	707	850	0.8317647	-0.000246	0.999795
9	708	850	0.8329411	-0.000246	0.999795
10	709	850	0.8341176	-0.000246	0.999795
11	710	850	0.8352941	-0.000246	0.999795
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20	719	850	0.8458823	-0.000246	0.999792
21	720	850	0.8470588	-0.000246	0.999792
22	721	850	0.8482352	-0.000246	0.999791

Therefore, five *.con configuration files were created (PR14 A.con to PR14E.con)

Pressure

A0= 4966.795
A1= -1.301054E+00
A2= 1.217797E-08

Step 1

1. Convert data from *.hex to *.cnv format using DATCNV program and *.con configuration file.
2. Deleting negatives velocities using the leewoce.bas program
3. Checking and cleaning the header files.
4. Computing the average down velocity value (X).
5. to apply the AlingCTD program to correct temperature and conductivity time response shift from the CTD sensors.

Step 2

To apply DATCNV program to average observed values meter by meter.

Step 3

To apply Winfilter program to filter data after step 2 , using a flexible windows determined by the user.

A.3.8 Satellite image acquisition and processing:

(None)

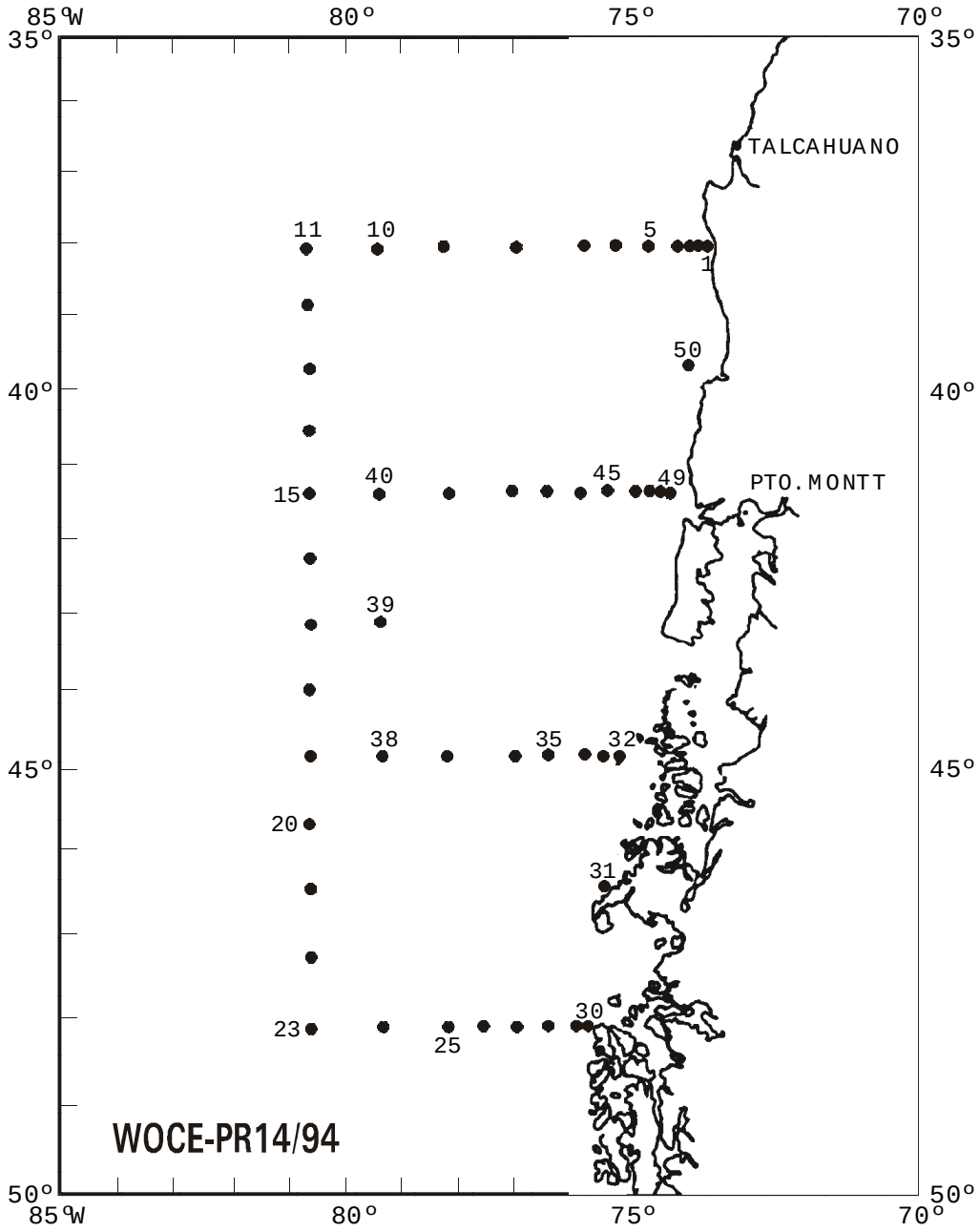
A.3.9 Shipboard computing:

(None)

Note: All data from WOCE PR14 and SR1 cruises, have been passed to the National Oceanographic Data Centre of Chile (CENDOC) for data management purposes and to be quality controlled according to normal WHPO procedures. Once finished they have been sent to the WOCE Hydrographic Program Office at the Scripps Institution of Oceanography for archival. *The data remain non-public access until new notification.* However, specific authorization will be forwarded to interested scientist if their goals do not overlap SHOA s goals. For major information write to:

Ricardo Rojas
Chief of CENDOC
Casilla 324
Valparaiso
CHILE
e-mail rrojas@shoa.cl

who can direct your request to the appropriate decision channels. Do not write directly to Principal Investigators.



Posición de estaciones oceanográficas durante Crucero WOCE PR14-94.

Figure 1. Location of Hydrographic stations during PR14-94