

Data on: /WOEMI/UNIQUE/MOP130/PROJECTS/TOGA-COAST/CTD/Wecoma-W9211A
/WOEMI/UNIQUE/MOP130/PROJECTS/TOGA-COAST/CTD/Wecoma-W9211A 9400067

#documentation_file_name: Wecoma_W9211A_CTD-ddf \
#nodc_accession_number: *
#nodc_reference_number: *
#nodc_documentation_date: May 19, 1994 \
#documentor: Jane Fleischbein \
#nodc_reviewer: Harry Iredale \
#distribution_restriction: none \
#date_received: May 9, 1994 \
#submission_medium: diskette, tar \
#submitter_name: Jane Fleischbein \
#submitter_institution: College of Oceanic and Atmospheric Sciences,
Oregon State University \
#submitter_street_address: Ocean Admin 104 \
#submitter_city: Corvallis \
#submitter_state: Oregon \
#submitter_country: USA \
#submitter_zip_code: 97331-5503 \
#submitter_telephone_no: 503-737-3708 \
#submitter_internet: flei@oce.orst.edu \
#collection_information;
Wecoma cruise W9211A
8 November to 8 December, 1992
Guam to Guam
conventions CTD casts made to check calibration of SEASOAR CTD, and to
fill in while Seasoar was serviced.

conventional CTD casts made at following times and locations:

Date, Time (UT)	Sta. No.	Latitude	Longitude
11 Nov 2058	1	00 01.1'N	153 59.6' E
12 Nov 0819	2	01 01.1'N	156 00.0'
12 Nov 1055	3	00 40.0'N	156 00.0'
12 Nov 1335	4	00 19.9'N	156 00.0'
12 Nov 1614	5	00 02.0'N	156 00.1'
12 Nov 1909	6	00 20.0'S	156 00.0'
12 Nov 2248	7	00 38.7'S	155 57.0'
15 Nov 1817	8	02 19.8'S	155 59.5'
15 Nov 2239	9	02 16.3'S	156 00.4'
16 Nov 0620	10	02 26.2'S	156 06.2'
16 Nov 1126	11	02 14.1'S	155 54.1'
16 Nov 1230	12	02 09.9'S	155 50.0'
16 Nov 1333	13	02 06.5'S	155 46.0'
16 Nov 1437	14	02 02.5'S	155 41.7'
16 Nov 1713	15	01 58.0'S	155 37.7'
16 Nov 1814	16	01 54.0'S	155 34.0'
16 Nov 1940	17	01 54.0'S	155 34.0'
16 Nov 2037	18	01 50.0'S	155 30.0'
16 Nov 2137	19	01 50.0'S	155 36.0'
16 Nov 2245	20	01 50.1'S	155 42.2'
17 Nov 0212	21	01 50.0'S	155 47.9'
20 Nov 2240	22	02 02.0'S	155 42.1'
20 Nov 2356	23	01 58.1'S	155 37.9'
21 Nov 0105	24	01 54.1'S	155 34.1'
22 Nov 1012	25	01 14.0'S	156 06.1'
25 Nov 0005	26	01 24.7'S	156 16.6'
25 Nov 0119	27	01 22.5'S	156 14.0'
25 Nov 0223	28	01 18.6'S	156 10.1'
25 Nov 0348	29	01 13.9'S	156 06.1'
28 Nov 1931	30	01 48.7'S	156 07.8'
29 Nov 0545	31	01 49.8'S	155 52.0'

4 Dec 0008 32 04 51.4'N 156 06.9' E

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#principal_investigator_name: Adriana Huyer \

#pi_institution: College of Oceanic and Atmospheric Sciences,
Oregon State University \

#pi_street-address: Ocean Admin 104 \

#pi_city: Corvallis \

#pi_state: Oregon \

#pi_country: USA \

#pi_zip_code: 97331-5503 \

#pi_telephone_no: 503-737-2108 \

#pi_internet: ahuyer@oce.orst.edu \

#project: TOGA COARE \

#funding_agency: NSF and NOAA Global Programs \

#grant/contract-no: NSF OCE-9113510 \

#platform_type: research vessel \

#platform_name: Wecoma \

#collection_methods:

SeaBird 9/11 plus CTD in General Oceanics
rosette, with 2 salinity samples per cast (usually);
salinity samples analyzed aboard ship with Guildline Autosol;
data acquired with SBE SeaSoft 4.15,
using MRK files to match CTD and sample data

#analysis_methods:

- in situ conductivity calibration determined from comparison
of CTD values from *.mrk files with sample conductivity
(calculated from samples salinity and CTD temperature);
found correction for CTD conductivity to be
 $C (corr) = -0.00221 + 1.00090981 C (obs)$
- correction incorporated in Seasoft Configuration file;
data processed using Seasoft modules DATCNV, CELLTLM (with
 $\alpha = 0.03$ and $\beta = 9$ sec), LOOPEDIT (with minimum
velocity = 0.0), and BINAvg (averaging to 1 dbar values).
- the 1-dbar average T,C data were transferred to Sun
workstation where we used standard algorithms (Fofonoff and
Millard, 1983) to calculate salinity, potential temperature,
density anomaly (σ -theta), specific volume anomaly, and
geopotential anomaly. \

#instruments: SBE 9/11 plus CTD SN 0256 with
temperature sensor SN 1367 (calibrated at SBE 6 Oct 92, with
scale correction dated 2 Dec 92), and with
conductivity sensor SN 1030 (calibrated at SBE 16 Sep 92) \

#publications: Huyer, A, P. Hacker, P. M. Kosro, J. Fleischbein,
E. Antonissen, and R. O'Malley. 1994. SEASOAR and CTD
observations during a COARE Surveys Cruise, W9211A, 8 November
to 8 December, 1992. COAS, Oregon State University, Data Report
155, Ref 94-1. 364 pp. \

#associated_datasets: Seasoar data from W9211A (COARE Leg 1);
Seasoar and CTD data from W9211C, and from W9211B (COARE Legs
2 and 3). \

#associated_versions: \

#data_set_information: \

#data_set_name: Wecoma W9211A CTD \

#data_files: 32

w9211ac.07	w9211ac.14	w9211ac.21	w9211ac.28	
w9211ac.01	w9211ac.08	w9211ac.15	w9211ac.22	w9211ac.29
w9211ac.02	w9211ac.09	w9211ac.16	w9211ac.23	w9211ac.30
w9211ac.03	w9211ac.10	w9211ac.17	w9211ac.24	w9211ac.31
w9211ac.04	w9211ac.11	w9211ac.18	w9211ac.25	w9211ac.32
w9211ac.05	w9211ac.12	w9211ac.19	w9211ac.26	

```

w9211ac.06      w9211ac.13      w9211ac.20      w9211ac.27
#number_of_observations: 32 stations \
#data_set_volume: 714826 bytes \
#source_computer: Sun sparc 10 \
#source_computer_operating_system: Sun OS 4.1.3 \
#source_language: Fortran \
#computer_code: ASCII \
#originator_dataset_identifier: W9211A \
#data_dates: 1 Nov 92 - 28 Nov 93 \
#left_geographic_upper_bound: 10N 140E \
#right_geographic_lower_bound: 10S 180 \
#geographic_region:
Equatorial Pacific, north of Australia
TOGA COARE Large Scale Domain
Western Pacific Warm Pool \
#data_type: CTD data \
#sphere: ocean \
#parameters: pressure (dbars), temperature (C), salinity (psu),
              potential temperature (C), Sigma-theta (kg/cubic meter),
              specific volume anomaly (cl/ton), geopotential anomaly or
              dynamic height (J/kg) \
#format_description:

```

Files contain 13 lines of header with a format of variable length character strings: ('h ',a), followed by the data with a format of (f7.1,4f8.3,f7.1,f8.3). The header contains: file name, latitude, longitude, time, bottom depth, station number, station name (may be blank), 2 comment lines, and the data column labels. The data includes:

pressure (dbars), accurate to better than plus/minus 1 db
temperature (C), accurate to plus/minus 0.01 C
salinity (psu), accurate to plus/minus 0.004 psu
potential temperature (C),
Sigma-theta (kg/cubic meter),
specific volume anomaly (cl/ton),
geopotential anomaly or dynamic height (J/kg)

```

\
#format_publication: \
#format_comments: \
#submitter_documentation: \
#sample_data:

```

```

h Filename w9211ac.16
h Lat      -1 54.0
h Lon      155 34.0
h Time     1814 16/11/1992
h Bottom depth 1900
h Stn number 16
h Stn name
h Comment:
h Comment:
h

```

	P	T	S	POT T	SIGMA	SP V AN	DYN HT
	(DB)	(C)		(C)	THETA	(CL/T)	(J/KG)
h	2.0	29.436	34.372	29.436	21.449	634.0	0.127
	3.0	29.436	34.373	29.435	21.450	634.0	0.190
	4.0	29.437	34.373	29.436	21.450	634.1	0.254
	5.0	29.437	34.373	29.436	21.449	634.1	0.317

6.0	29.439	34.373	29.438	21.449	634.3	0.380
7.0	29.440	34.373	29.438	21.449	634.3	0.444
8.0	29.439	34.373	29.437	21.449	634.3	0.507
9.0	29.437	34.372	29.434	21.450	634.3	0.571
10.0	29.436	34.372	29.434	21.450	634.4	0.634
11.0	29.437	34.372	29.434	21.450	634.4	0.698
12.0	29.435	34.372	29.432	21.450	634.4	0.761
13.0	29.432	34.372	29.429	21.451	634.4	0.824
14.0	29.426	34.371	29.422	21.453	634.2	0.888
15.0	29.420	34.371	29.417	21.455	634.1	0.951

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- DATA AND ON

/WORM1/UNIQUE/11/0136/PROJECTS/TOGA-COARE/SEASOAR/CRUISE-W9211A

9400067

#nodc_file_name: Seasoar_Leg_0_ddf \
#nodc_accession_number: \
#nodc_reference_number: \
#nodc_documentation_date: May 17, 1994 \
#documentor: Jane Fleischbein \
#nodc_reviewer: by Harry Iredale \
#distribution_restriction: none \
#date_received: May 9, 1994 \
#submission_medium: diskette, tar \
#submitter_name: Jane Fleischbein \
#submitter_institution: College of Oceanic and Atmospheric Sciences, Oregon State University \
#submitter_street_address: Ocean Admin 104 \
#submitter_city: Corvallis \
#submitter_state: Oregon \
#submitter_country: USA \
#submitter_zip_code: 97331-5503 \
#submitter_telephone_no: 503-737-3708 \
#submitter_internet: flei@oce.orst.edu \
#collection_information: Wecoma cruise W9211A
Guam to Guam, with brief stop in Pohnpei
Seasoar sampling in five tows (numbered 1,3,4,5,6), plus an aborted tow (number as follows:

Tow no.	Start	End	Parameters measured
1	0206 UTC, 13 Nov	1621 UTC, 15 Nov	P, T, C, uncalibrated fluorescen
3	0330 UTC, 17 Nov	1855 UTC, 20 Nov	P, T, C, uncalibrated fluorescen
4	1109 UTC, 22 Nov	2335 UTC, 24 Nov	P, T, C, uncalibrated fluorescen
5	0430 UTC, 25 Nov	1902 UTC, 28 Nov	P, T, C
6	0640 UTC, 29 Nov	2348 UTC, 03 Dec	P, T, C

Most observations in the COARE intensive flux array, between 1 degree South and 3 degree S, and between 155 E and 157 E; tow 6 included observations from 1 S to 5 N along 156 E. Maximum sampling depth usually less than 300 m.
Note that fluorometer failed slowly during Tow 4, and data after 23 November is definitely not valid. Also, we attempted to use a SeaTech transmissometer during Tow 1, but data were not valid. \
#principal_investigator_name: Adriana Huyer \
#pi_institution: College of Oceanic and Atmospheric Sciences, Oregon State University \
#pi_street_address: Ocean Admin 104 \
#pi_city: Corvallis \
#pi_state: Oregon \
#pi_country: USA \
#pi_zip_code: 97331-5503 \
#pi_telephone_no: 503-737-2108 \
#pi_internet: ahuyer@oce.orst.edu \
#project: TOGA COARE
#funding_agency: NSF and NOAA Global Programs \
#grant/contract-no: NSF OCE-9113510 \
#platform_type: research vessel \
#platform_name: Wecoma \
#collection_methods:

SeaBird 9/11 plus CTD inside Seasoar vehicle; with dual ducted SBE-3 and SBE-4 Temperature and conductivity sensors inside seasoar vehicle; flow through sensor duct pumped by SBE-5 pumps; duct intake and outlet on either side of lower nose; intake and outlet for each duct separated by about 5 cm; final data all from same pair of sensors (SN 1021 and 1366 for T and C) \

#analysis_methods:

- used SBE calibration for Temperature and Pressure sensors, and for preliminary conductivity estimates: dates of SBE calibrations as follows:
 - P: 5 March 92
 - C (SN 1021) 24 April 92
 - T (SN 1366) 27 March 92
- in situ conductivity calibration determined from comparison of 3-5.5 m Seasoar values with salinity samples from ship's 5 m intake. Seasoar conductivity actually compared with the sample conductivity calculated from sample salinity and Seasoar temperature; corrections calculated separately for the duplicate sensors, and for the five different tows; conductivity corrections (offset a and multiplier k) applied as follows (also shown are the average and standard deviations of the salinity differences between the sample values and the corrected Seasoar data):

Tow	N	a	k	Ave S Diff	Std Dev S. Diff
1	33	-0.00225	1.0006174	+0.001	0.004
5	40	-0.00225	1.0006174	-0.001	0.008
6	60	-0.00225	1.0006174	+0.000	0.008
3-4	111	-0.00225	1.0007807	+0.000	0.006

#analysis_methods:

Data Processing:

The first step in reprocessing is to incorporate the conductivity correction factors determined from in-situ calibration (see table above)

The next step is to compute lagged correlations between temperature and conductivity for each sensor pair, separately for ascending and descending profiles, and separately for three depth ranges: 50 to 120 dbar, 120 to 180 dbar, and 180 to 240 dbar, provided the segment contains at least 72 scans. Cross-correlations are calculated after detrending both temperature and conductivity by first-differencing the 24-Hz data. Correlations are calculated for +/-12 lags; the maximum correlation is almost always >0.85. The fractional value of the optimum lag is determined by fitting a parabola to the cross-correlation values. The edited values of the alignment offset were applied sequentially in reprocessing the 24-Hz T/C data. To reprocess data from depths shallower than 50 m, we used the Offset value determined from the preceding 120 to 50 dbar layer; for data deeper than 240 m, we used the Offset value determined from the preceding 180 to 240 dbar layer.

To correct the 24 Hz conductivity data for the thermal mass of the conductivity cell, we used the standard algorithm with a fixed value for the thermal anomaly time constant ($\tau = 10$ sec), and variable values for the thermal anomaly amplitude depending on the alignment offset:

$$\begin{aligned} \alpha &= 0.03 && \text{if Offset} < 1.75 \text{ or } = 1.75 \\ \alpha &= 0.03 + 0.03 (\text{Offset} - 1.75) / 5.5 && \text{if Offset} > 1.75, \end{aligned}$$

The corrected and realigned 24 Hz temperature and conductivity data are used to calculate 24-Hz salinity, and these are averaged to yield 1-second averages stored in hourly files.

Successive hourly files of the reprocessed one-second average data were joined and clipped to yield a single data file for each section of the Standard Butterfly Pattern, and for each 1-degree segment of the long cross-equatorial section (1 S to 5 N) at the end of the cruise. Final processed data files contain unfiltered GPS latitude and longitude; pressure; temperature,

salinity, sigma-t from the better sensor pair; date and time; and an integer representing flags (to indicate collection of a water sample from 5-m intake (thousands digit set to 1), missing GPS data filled by linear interpolation (tens digit set to 1), and to indicate port or starboard intake for the T/C sensor pair (ones digit set to 1 or 0, respectively)).

Comparison between reprocessed data from ascending and descending portions of the Seasoar trajectory showed very little difference. For this cruise, salinity data from both descending and ascending profiles appears to be of high quality. \

#instruments: SBE 9/11 plus CTD SN 0243 with
temperature sensor SN 1366 (calibrated at SBE 27 Mar 92, with
scale correction dated 2 Dec 92), and with
conductivity sensor SN 1021 (calibrated at SBE 24 April 92) \

#publications: Huyer, A, P. Hacker, P. M. Kosro, J. Fleischbein,
E. Antonissen, and R. O'Malley. 1994. SEASOAR and CTD
observations during a COARE Surveys Cruise, W9211A, 8 November
to 8 December, 1992. COAS, Oregon State University, Data Report
155, Ref 94-1. 364 pp. NODC copy received with data submission. \

#associated_datasets: CTD data from W9211A (COARE Leg 1);
Seasoar and CTD data from W9211C, and from W9211B (COARE Legs
2 and 3). \

#associated_versions: \

##data_set_information: \

#data_set_name: TOGA COARE Wecoma Seasoar Leg 1 \

data_files: 60 full tows, 60 up tows

full tows -

2670000	Feb	11	11:46	1n22n02dec.data
2580000	Feb	11	11:47	2n23n03dec.data
2616000	Feb	11	11:48	3n24n03dec.data
2334000	Feb	11	11:49	4n25n03dec.data
2567900	Jan	6	14:12	b2e17nov.data
2385600	Feb	2	14:32	b2e29nov.data
1337900	Jan	11	17:45	b2ln13nov.data
305900	Jan	6	14:12	b2n22nov.data
2040000	Jan	6	14:12	e2end24nov.data
2244000	Jan	6	14:12	e2n17nov.data
2388000	Jan	6	14:12	e2n18nov.data
2490000	Jan	6	14:12	e2n19nov.data
2448000	Jan	6	14:12	e2n23nov.data
2622000	Jan	11	17:30	e2n26nov.data
2574000	Jan	11	17:30	e2n27nov.data
2520000	Feb	10	12:27	e2n29nov.data
2508000	Jan	9	14:11	e2n30nov.data
2658000	Feb	11	11:45	eq21n02dec.data
3084000	Jan	11	17:45	le2ln14nov.data
5730000	Jan	11	17:46	ln2ls13nov.data
738000	Jan	11	17:46	ln2n15nov.data
3180000	Jan	11	17:47	ls2lw13nov.data
4770000	Jan	11	17:47	lw2le14nov.data
774000	Jan	9	14:15	maxs2s01dec.data
7674000	Jan	9	14:14	n2end02dec.data
3456000	Feb	11	11:45	n2eq02dec.data
3294000	Jan	9	14:12	n2s01dec.data
4201100	Jan	15	12:43	n2s13nov.data
3282000	Jan	11	17:48	n2s15nov.data
3036000	Jan	6	14:12	n2s17nov.data
3054000	Jan	6	14:13	n2s18nov.data
3258000	Jan	6	14:13	n2s20nov.data
3072000	Jan	6	14:13	n2s22nov.data

2904000	Jan	6	14:13	n2s23nov.data
3511100	Feb	2	14:34	n2s25nov.data
3438000	Dec	22	16:04	n2s26nov.data
3498000	Dec	22	16:05	n2s27nov.data
3402000	Feb	10	12:31	n2s29nov.data
160700	Jan	11	17:48	s2end15nov.data
1371600	Jan	6	14:13	s2end20nov.data
690000	Jan	9	14:15	s2maxs01dec.data
3210000	Jan	9	14:15	s2n01dec.data
2190000	Jan	6	14:13	s2w18nov.data
2328000	Jan	6	14:13	s2w19nov.data
2220000	Jan	6	14:13	s2w22nov.data
2322000	Jan	6	14:13	s2w24nov.data
2454000	Dec	15	15:51	s2w25nov.data
2460000	Dec	15	15:52	s2w26nov.data
2430000	Dec	15	15:52	s2w28nov.data
2369000	Jan	9	14:09	s2w30nov.data
3565000	Jan	21	12:19	w2e14nov.data
3383900	Jan	6	14:13	w2e18nov.data
3168000	Jan	6	14:13	w2e19nov.data
3384000	Jan	6	14:13	w2e23nov.data
3060000	Jan	6	14:13	w2e24nov.data
2910000	Dec	17	18:13	w2e25nov.data
3168000	Dec	17	18:15	w2e27nov.data
3627601	Feb	11	16:48	w2e289nov.data
3228000	Jan	9	14:10	w2e30nov.data
1285242	May	9	13:05	w2end28nov.data

up tows -

1366802	Feb	12	16:10	1n22n02dec.up.data
1328704	Feb	12	16:53	2n23n03dec.up.data
1326496	Feb	12	16:55	3n24n03dec.up.data
1243382	Feb	12	16:57	4n25n03dec.up.data
1269504	Jan	11	19:26	b2e17nov.up.data
1317308	Jan	11	19:27	b2e29nov.up.data
783658	Jan	11	19:27	b2ln13nov.up.data
172910	Jan	11	19:27	b2n22nov.up.data
864050	Dec	15	14:20	e2end24nov.up.data
1141296	Dec	15	13:05	e2n17nov.up.data
1344614	Dec	15	13:06	e2n18nov.up.data
1450116	Dec	15	13:11	e2n19nov.up.data
1360600	Dec	15	14:10	e2n23nov.up.data
1576896	Jan	11	19:48	e2n26nov.up.data
1570290	Jan	11	19:48	e2n27nov.up.data
1537498	Feb	10	13:00	e2n29nov.up.data
1573004	Jan	11	19:49	e2n30nov.up.data
1358990	Feb	12	16:09	eq21n02dec.up.data
1696360	Jan	11	19:57	le2ln14nov.up.data
3651240	Jan	11	19:49	ln2ls13nov.up.data
415436	Jan	11	19:50	ln2n15nov.up.data
1760570	Jan	11	19:50	ls2lw13nov.up.data
2588934	Jan	11	19:50	lw2le14nov.up.data
411734	Jan	11	19:57	maxs2s01dec.up.data
3962272	Jan	11	19:58	n2end02dec.up.data
1810124	Feb	12	16:03	n2eq02dec.up.data
1770552	Jan	9	15:15	n2s01dec.up.data
2689470	Jan	15	13:16	n2s13nov.up.data
1920270	Jan	11	19:51	n2s15nov.up.data
1616144	Dec	14	11:11	n2s17nov.up.data

1678538	Dec	14	11:10	n2s18nov.up.data
1926258	Dec	14	11:25	n2s20nov.up.data
1633936	Dec	14	11:27	n2s22nov.up.data
1629732	Dec	14	12:24	n2s23nov.up.data
1945262	Jan	11	19:27	n2s25nov.up.data
2118934	Jan	9	15:23	n2s26nov.up.data
2073238	Jan	9	15:31	n2s27nov.up.data
1823534	Feb	10	13:02	n2s29nov.up.data
93310	Jan	11	20:08	s2end15nov.up.data
806566	Jan	11	20:08	s2end20nov.up.data
348732	Jan	11	20:11	s2maxs01dec.up.data
1678028	Jan	9	15:18	s2n01dec.up.data
1204410	Dec	15	18:04	s2w18nov.up.data
1364408	Dec	16	14:12	s2w19nov.up.data
1168602	Dec	16	14:13	s2w22nov.up.data
1290398	Dec	16	14:17	s2w24nov.up.data
1483708	Dec	16	14:21	s2w25nov.up.data
1529098	Dec	16	14:24	s2w26nov.up.data
1521092	Dec	16	14:44	s2w28nov.up.data
1521702	Jan	11	20:08	s2w30nov.up.data
1947872	Jan	21	12:52	w2e14nov.up.data
1856750	Jan	20	14:24	w2e18nov.up.data
1830446	Dec	21	14:03	w2e19nov.up.data
1975644	Dec	21	14:16	w2e23nov.up.data
1527234	Dec	21	14:22	w2e24nov.up.data
1622926	Dec	21	16:15	w2e25nov.up.data
1767426	Dec	21	16:17	w2e27nov.up.data
2068662	Jan	20	15:55	w2e28nov.up.data
1880642	Jan	11	20:09	w2e30nov.up.data
789276	May	9	13:48	w2end28nov.up.data

#data_set_volume: full tows - 165630543 bytes
up tows - 92985588 bytes \

#source_computer: Sun Sparc 10 \

#source_computer_operating_system: Sun OS 4.1.3 \

#source_language: Fortran \

#computer_code: ASCII \

#originator_dataset_identifier: W9211A \

#data_dates: 1 Nov 1992 - 28 Nov 1992 \

#left_geographic_upper_bound: 10N 140E \

#right_geographic_lower_bound: 10S 180 \

#geographic_region:

Equatorial Pacific, north of Australia

TOGA COARE Large Scale Domain

Western Pacific Warm Pool \

#data_type: towed CTD \

#sphere: ocean \

#parameters: latitude (decimal degrees), longitude (decimal degrees), pressure (dbars), temperature (C), salinity (psu), Sigma-theta (kg/cubic meter), time (decimal year-day of 1992), date (integral year, month, day), time (integral hour, minute, second), flag, fluorescence voltage (valid only until 23 November), light transmission (not valid at all) \

#format_description:

no header; each line contains 1 Hz values of:

unfiltered GPS latitude

unfiltered GPS longitude

pressure (dbars), accurate to better than plus/minus 2 db

temperature (C), accurate to plus/minus 0.01 C

salinity (psu), accurate to plus/minus 0.01 psu
 sigma-t(kg/cubic meter),
 decimal date,
 integral year, month, day, hour, minute, second
 flag word (see format comments below for interpretation)
 transmissometer voltage (not valid)
 uncalibrated fluorescence voltage (not valid after 23 Nov 92) \
 #format_publication: \
 #format_comments:

These *.data files contain 1-sec-averaged Seasoar data for each
 section of the standard COARE Surveys Butterfly pattern from W9211A*
 in ASCII format. *(changed C to A)

File names include the name of each section, and the date (UTC) at the
 beginning of the particular occupation:

N2S: meridional section along 156 deg, 6 min East

W2E: zonal section along 1 deg, 50 min South

S2W: diagonal joining southern end of N2S line with western
 end of W2E line

E2N: diagonal joining eastern end of W2E line with
 northern end of N2S line.

At the beginning of the cruise, we were sampling along a Large Butterfly
 pattern with the same central meridian and latitude line; these sections
 are denoted LN2LS, LW2LE, etc.

A few files have names beginning with a b to indicate the first section of
 a tow that did not start at one of the apices of the standard butterfly
 pattern;

similarly, some file names have *end* to indicate the last section of a tow
 that did not end at one of apices of the butterfly pattern.

Portions of the long cross-equatorial section are named according to the
 latitude of their first and last lines, i.e., Eq21N*, 1N22N*, etc.

In each file, short data gaps within a section have been filled by setting
 all variables except time to 1.0E35.

As for another COARE Seasoar data set, W9211C (submitted in Dec 93), two files
 presented for each section. Files named *.up.data contain data from ascending
 profiles only (each with a descending trailer of < 5 m); succeeding profiles
 are separated by an extra <Return>. Files named *.data contain the continuous
 time-series, both ascending and descending, without interruption.

The following sample shows the first ten lines of n2s18nov.data:

```

-1.23197 156.09561 219.1 15.3353 35.1714 26.0307 323.97571 92 11 18 23 25 1
-1.23197 156.09561 220.6 15.0947 35.1295 26.0517 323.97571 92 11 18 23 25 2
-1.23197 156.09561 222.2 14.8140 35.0792 26.0745 323.97574 92 11 18 23 25 3
-1.23197 156.09561 223.8 14.5201 35.0302 26.1004 323.97574 92 11 18 23 25 4
-1.23197 156.09561 225.4 14.3112 34.9947 26.1178 323.97574 92 11 18 23 25 5
-1.23197 156.09561 226.9 14.2001 34.9743 26.1256 323.97577 92 11 18 23 25 6
-1.23156 156.09546 228.4 13.9394 34.9464 26.1591 323.97577 92 11 18 23 25 7
-1.23156 156.09546 230.0 13.9237 34.9406 26.1579 323.97580 92 11 18 23 25 8
-1.23156 156.09546 231.5 13.7924 34.9178 26.1678 323.97580 92 11 18 23 25 9
-1.23158 156.09529 233.1 13.7656 34.9128 26.1695 323.97580 92 11 18 23 25 10
  
```

The variables are:

latitude (decimal degrees, negative for southern hemisphere),
 longitude (decimal degrees, positive for eastern hemisphere),
 pressure (decibars) temperature from preferred sensor pair (degrees
 Celsius)
 salinity (psu) from same sensor pair sigma-t

decimal year-day (of 1993)
integer year, month, day, hour, minute, second
a 4-digit integral number (with values of 1,10,11,1000,1001,1010, or 1011)
representing four separate flags:
flag 1 (thousands digit) is usually 0; a value of 1 marks the time
of a salinity sample from ship's thruflow system (intake at 5 m).
flag 2 (hundreds digit) is always zero;
flag 3 (tens digit) is usually 0; a value of 1 marks missing GPS data;
position was interpolated from available data;
flag 4 is 1 for the T/C sensor pair whose intake is on the port side of
Seasoar transmissometer voltage (not valid)
fluorescence voltage (uncalibrated; not valid after 23 November 1992). \

\\

DATA ARE ON:

/u0em1/unigue/m04134/projacs/toga-coare/ctd/Alis

9400067

#documentation_file_name: ALIS_CTD_ddf \
#nodc_accession_number: *
#nodc_reference_number: *
#nodc_documentation_date: May 17, 1994 \
#documentor: Marie Helene Radenac \
#nodc_reviewer: Harry Iredale \
#distribution_restriction: none \
#date_received: May 12, 1994 \
#submission_medium: ftp \
#submitter_name: Marie Helene Radenac \
#submitter_institution: Centre ORSTOM
Groupe FLUPAC \
#submitter_street_address: B.P. A5 \
#submitter_city: Noumea Cedex \
#submitter_country: New Caledonia \
#submitter_telephone_no: (687) 26-1000
#submitter_internet: radenac@noumea.orstom.nc \
#collection_information:

The oceanographic cruise EQUALIS, a joint operation between the two international projects JGOFS (Joint Global Ocean Flux Study) and TOGA COARE has been organized by the FLUPAC group of the Centre ORSTOM de Noumea, New Caledonia, with participation and collaboration of Japanese and Australian scientists.

The cruise was carried out from 3 November through 12 December 1992 on board the ORSTOM research vessel ALIS and consisted of two fixed stations at 156 15E, 1 30S (for 10 days from 12 - 22 November 1992) and 156 10E, 1 45S (for 8 days from 27 November - 6 December 1992), interrupted for one day (27/28 November) for intercomparison of meteorological measurements with the Australian research vessel Franklin.

193 casts were made during the entire cruise. Each day 11 CTD casts were made down to 500 or 1000 m.

Time	# of casts	depth (m)
01h00	2	500
04h00	1	500
07h00	2	1000, 500
10h00	1	500
13h00	1	500
16h00	1	500
19h00	2	1000, 500
22h00	1	500

During CTD measurements, sea water samples were taken using a rosette system. Water samples were then analyzed for nutrients (nitrate, nitrite, phosphate and silicate) and chlorophyll on the 0 - 200 m layer, and for salinity when samples were taken at 1000 m. Met measurements were taken at the beginning of each CTD cast. \
#principal_investigator_name: Marie Helene Radenac \
#pi_institution: Centre ORSTOM \
Groupe FLUPAC \
#pi_street-address: B.P. A5 \
#pi_city: Noumea Cedex \
#pi_country: New Caledonia \
#pi_telephone_no: (687) 26-1000 \
#pi_internet:

```
#pi_internet:          radenac@noumea.orstom.nc \
#project:              TOGA COARE \
#associated_project:   JGOFS \
#funding_agency:      ORSTOM \
#platform_type:       research vessel \
#platform_name:       R/V Alis \
#collection_methods:
```

Full resolution raw data of pressure, temperature and salinity were collected at a frequency of 24 scans/sec on the harddisk of a 486 PC Datamini using SeaBird 3.5A (SeaBird 1991) software. \

#analysis_methods:

Raw data were averaged to 2db profiles after values with a descent rate of less than 0.25 m/s were discarded (EQUAxxx.AVG files where xxx = station number).

Pre- and post-cruise calibrations of temperature and salinity sensors were performed by SeaBird on 31 July 1992 and 14 January 1993, respectively.

A difference of 1 - 1.5 dbar between the pressure measured at sea level with the CTD sensor and with met instruments was observed. The pressure sensor was sent back to SeaBird and it was determined that the following correction had to be applied to all pressure data:

$$P_{corr} = 1.00037 * P_{CTD} - 1.644$$

The EQUAxxx.AVG files were corrected accordingly.

Twice per day, salinity measurements at 1000 m with the CTD were compared with salinity measurements measured from the bottle samples using a Portosal Guildline salinometer Model 8410. (Estimated precision: $2-3 \times 10^{-3}$ salinity). Analyses were made 2 to 4 weeks after the samples were taken on board the R/V Le Noroit.

Mean and standard deviation of the difference in salinity measurements with the CTD and with the Salinometer were calculated using pre and postcruise calibration coefficients :

	S(bottle) - S(CTD)	
	mean	std dev.
pre	0.0102	0.0064
post	0.0058	0.0058

Inspite the use of the post calibration coefficient there is still a bias in the difference between salinity measured with the salinometer and the CTD. The data therefore have not been corrected.

The average difference between the CTD temperature using pre and post calibration coefficients was 0.03 deg C for temperatures above 25 deg C and 0.0006 deg C for temperatures below 5 deg C. Since this was in accordance with the calibration curve provide by SeaBird the data were corrected using the postcalibration coefficient. \

#instruments:

SeaBird CTD (SBE 9-02) w/ TC duct

Sensors:

temperature	SBE 3 (4×10^{-3} deg C)
conductivity	SBE 4 (3×10^{-4} S/m per year)
pressure	Parascientific digiquartz 410K.105 (1000 psia, 0.02% full scale)

\

#publications:

Rapport de la campagne EQUALIS a bord du NO ALIS pendant la periode d'observations intensives de l'operation COARE du 3 novembre au 12 decembre 1992. Rapports de Missions, Sciences de la Mer, Oceanographie, No 4, 1993, ORSTOM, Centre de Noumea, New Caledonia, Decembre 1993, pp. 491. \

#associated_datasets: \

#associated_versions: \

#data_set_information:

#data_set_name: EQUALIS

#data_files: alispf1.ctd and alispf2.ctd \

#documentation_files: readme_alis \

#number_of_observations: CTD stations - 193 \

#data_set_volume: 1695658 bytes \

#source_computer: DATAMINI 485/33 \

#source_computer_operating_system: MSDOS 5 \

#source_language: fortran and C \

#computer_code: ASCII \

#originator_dataset_identifier: EQUALIS Cruise \

#data_dates: 11/11-21/11/92 and 26/11-5/12/92

#left_geographic_upper_bound: 10N 140E \

#right_geographic_lower_bound: 10S 180 \

#geographic_region:

Equatorial Pacific, north of Australia

TOGA COARE Large Scale Domain

Western Pacific warm pool \

#data_type: CTD data \

#sphere: ocean \

#parameters:

pressure (dbar)

temperature (deg C)

salinity (PSU)

latitude

longitude

depth \

#format_description:

File name: ALISPFx.CTD

Number of Files: 2

Leg #1: alispf1.ctd

Leg #2: alispf2.ctd

Note: all casts taken during a leg were saved into one file and not into individual files.

File Format:

File Header:

Number of casts, vertical distance between two measurements, fixed station title

Cast header:

Station number, number of parameter measured, number of levels, day, month, year, hour, minute, latitude and longitude.

Data and time are in UTC and latitude/longitude are in degrees and decimal degrees.

During each cast the following parameters were measured:

Pressure (d-bar), temperature (deg C), salinity (psu)
9999 indicate missing data.

#format_publication: \
#format_comments: \
#misc documentation: \ *
#submitter_documentation:

Readme file:

Information File for R/V Alis CTD data collected during the
Alis participation in TOGA COARE from 3 Nov - 12 Dec 1992.

Stations:

156.15E, 1.30S for a 10-day period
156.10E, 1.45S for a 8-day period

File name: ALISPFx.CTD

Number of Files: 2

Leg #1: alispf1.ctd

Leg #2: alispf2.ctd

Note: all casts taken during a leg were saved into one file and not
into individual files.

File Format:

File Header:

Number of casts, vertical distance between two measurements, fixed station title

Cast header:

Station number, number of parameter measured, number of levels, day, month,
year, hour, minute, latitude and longitude.

Data and time are in UTC and latitude/longitude are in degrees and decimal
degrees.

During each cast the following parameters were measured:

Pressure (d-bar), temperature (deg C), salinity
9999 indicate missing data.

Address questions to:

Dr. Marie-Helene Radenac
Groupe SURTROPAC
Centre ORSTOM de Noumea
BP A5
Noumea, New Caledonia

Internet: radenac@noumea.orstom.nc

Phone: 687 26 1000

Fax: 687 26 4326

fichiers CTD et chimie de la campagne EQUALIS

Chaque disquette contient les donnees d'un point fixe, ALISPFx.CTD etant les
mesures CTD et ALISPFx.ROS les mesures chimiques. Voici les structures des 2
types de fichiers.

ALISPFx.CTD: donnees sonde

1 entete generale comprenant:

le nombre de stations, l'intervalles vertical entre 2 niveaux de mesures, un intitule de point fixe.

Pour chaque station:

1 entete de station comprenant:

le numero de station, le nombre de parametres mesures, le nombre de niveaux, jour, mois, an, heure, minute, latitude, longitude.

Les dates et heures sont en TU et les positions en degres decimaux.

pour chaque niveau:

pression (db), temperature (C), salinite

Les valeurs manquantes sont mises a 9999.

ALISPFx.ROS: donnees chimie

Chaque ligne est constituee de la meme facon:

jour, mois, an, numero de station, heure, minute, degres de latitude, minute de latitude, S ou N, degres de longitude, minute de longitude, E ou W, profondeur de prelevement (m), temperature (C), salinite, sigma theta (kg.m-3), silicate (microM), phosphate (microM), nitrate (microM), nitrite (microM), chlorophylle a (mg.m-3), % pheophytine

Les dates et heures sont en TU.

La premiere ligne indique le code des valeurs manquantes pour chaque parametre. \

#sample_data:

231	6	249	5	12	92	7	46	-1.75000	156.170
	0.0		30.100		34.138				
	6.0		30.100		34.138				
	8.0		30.028		34.137				
	10.0		29.841		34.135				
	12.0		29.798		34.134				
	14.0		29.776		34.135				
	16.0		29.760		34.137				
	18.0		29.760		34.138				
	20.0		29.731		34.143				
	22.0		29.667		34.147				
	24.0		29.588		34.183				
	26.0		29.548		34.224				
	28.0		29.497		34.259				
	30.0		29.425		34.278				
	32.0		29.406		34.278				
	34.0		29.399		34.277				
	36.0		29.391		34.276				
	38.0		29.376		34.275				

\\