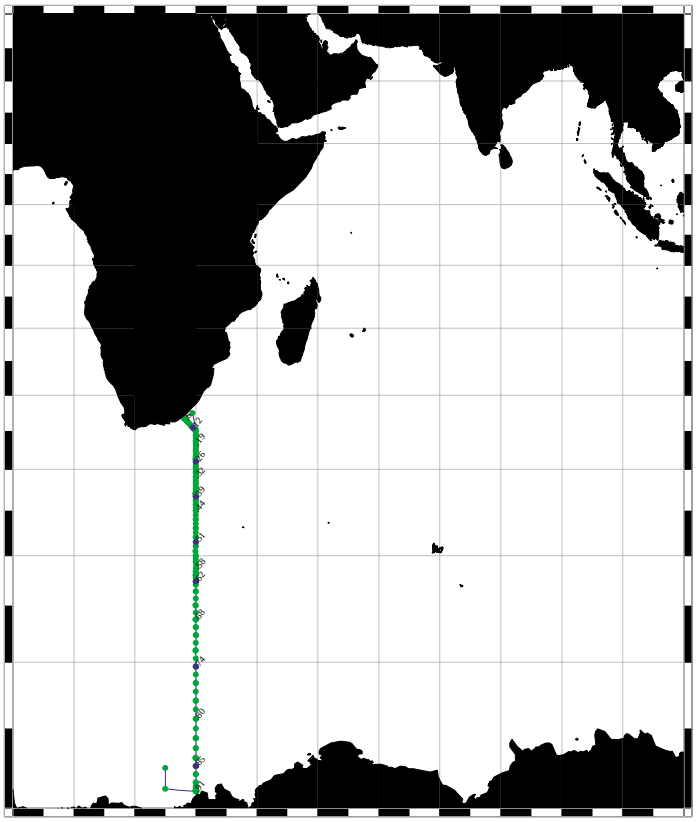
A. CRUISE REPORT: I06S (1996)

(updated 06 APR 2005)



A.1. Highlights

Cruise Summary Information

WOCE section designation	I06S
Expedition designation (EXPOCODE)	35MF103_1
Chief Scientists	Alain Poisson, Nicolas Metzl, Christian Brunet
Dates	1996.FEB.01 - 1996.MAR.31
Ship	*R/V MARION DUFRESNE*
Ports of call	Durban, South Africa
Number of stations	98
Station Geographic boundaries	30°0.14'S 24°56.01'E 30°6.6'E 69°2.84'S
Floats and drifters deployed	none
Moorings deployed or recovered	none

Chief Scientists' Contact Information

Alain Poisson apoisson@ccr.jussieu.fr TEL: 33-1-4427-4869 • FAX: 33-1-4427-3866 Nicolas Metzl metzl@ccr.jussieu.fr TEL: 33-1-4427-3394 • FAX 33-1-4427-4993 Christian Brunet brunet@ccr.jussieu.fr	Université Pierre et Marie Curie Laboratoire de Physique et Chimie Marines Case 134 4, Place Jussieu Paris Cedex 05, 75252 FRANCE

Sea/Ocean:

ANTARCTIC OCEAN INDIAN SECTOR - (30E entre Afrique/continent Antarctique)

Objectives:

• Estimation du flux a la frontiere Atlantique/Indien,
• Etude spacio-temporelle de la circulation zonale dans l'Atlantique,
• Etude de la dynamique du systeme Antarctique,
• Etude de l'alimentation du "gyre" de Weddel,
• Evolution de l'eau de fond de Weddel,
• Echange de CO2 a l'interface air-mer.

Scientific Authority:

LBCM PARIS
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75252 PARIS CEDEX 05
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Ship Fitting-out Authority:

IPEV

Chief Scientist(s):

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METZL Nicolas (email : metzl@ccr.jussieu.fr)
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Participating Bodies
UPMC, CNRS, CEA, CNES

Discipline(s):

CHIMIE OCEANIQUE
METEOROLOGIE
OCEANOGRAPHIE PHYSIQUE

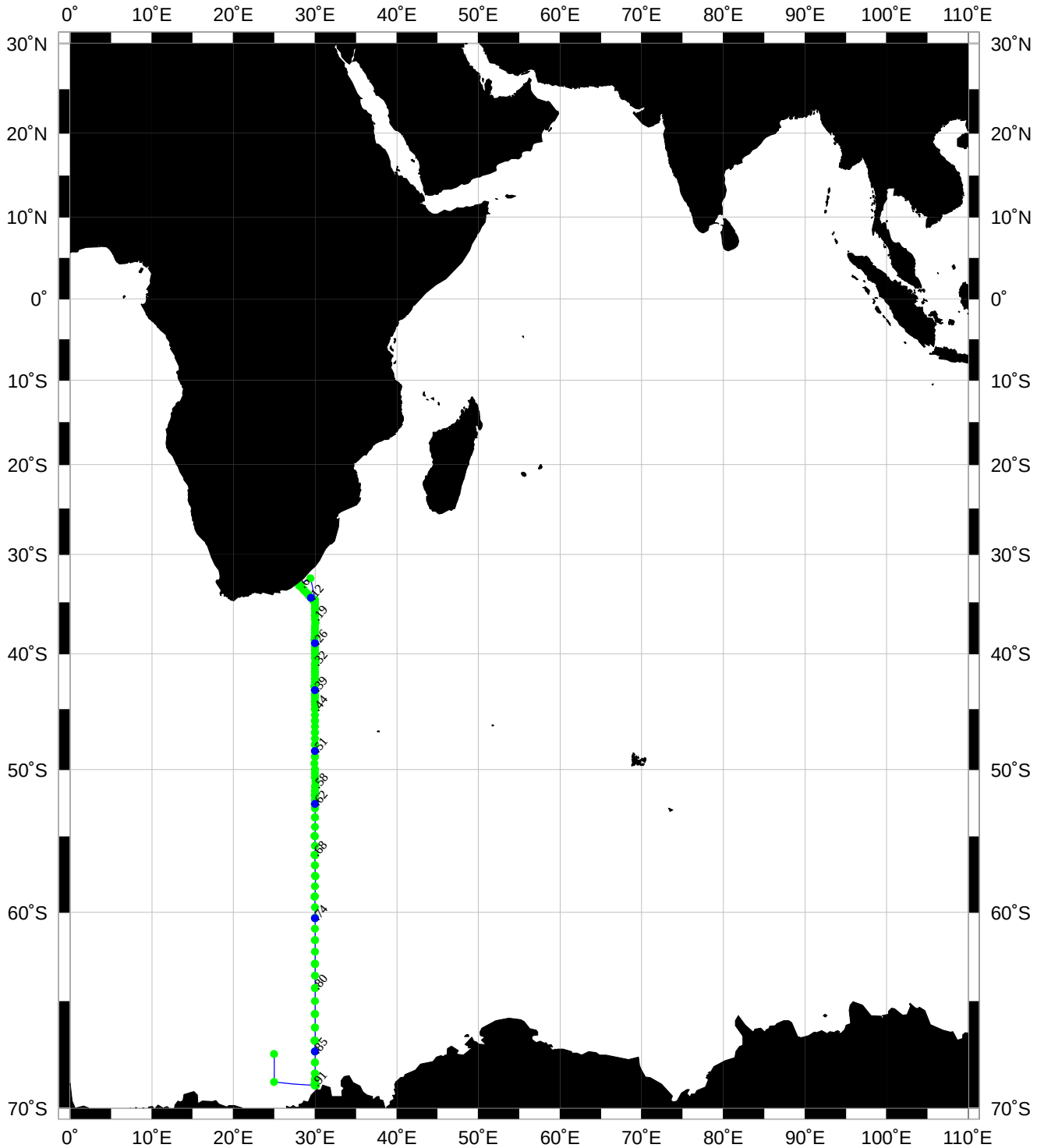
Summary of Measurements:

Hydrologie:	CTD-O2, XBT, ADCP, thermosalinometre.
Geochimie:	mesures d'alcalinite, T CO2, pH, oxygene, sels nutritifs, pCO2, barium, fluorescence de surface.
Traceurs:	C13, C14, O18, T, He3, CFC.
Mesures en continu de:	temperature, salinite, pression partielle de CO2, oxygene, pH, dans les eaux de surface.

Mesures de pression partielle de CO2 dans l'air.

Code	Name	Nb.	Responsible
H09	Water bottle stations	55	POISSON Alain
H10	CTD stations	48	POISSON Alain
H21	Oxygen	55	POISSON Alain
H22	Phosphate	53	POISSON Alain
H24	Nitrate	53	POISSON Alain
H26	Silicate	53	POISSON Alain
H27	Alkalinity	55	POISSON Alain
H28	pH	.	POISSON Alain
H32	Isotopes Rapport isotopique O18/O16	18	POISSON Alain
H73	Geochemical tracers (eg freons) 54 stations avec Freons, 30 stations avec Helium	53	POISSON Alain
H74	Carbon dioxide Carbone inorganique total	55	POISSON Alain
M71	Atmospheric chemistry		POISSON Alain

Station Locations • I06S (1996) • Poisson/Metzl/Brunet • *R/V Marion Dufresne*



Produced from .sum file by WHPO-SIO

CTD DATA CONSISTENCY CHECK

About the '_check.txt', '_sal.ps' and '_oxy.ps' files:

The WHP-Exchange format bottle and/or CTD data from this cruise have been examined by a computer application for contents and consistency. The parameters found for the files are listed, a check is made to see if all CTD files for this cruise contain the same CTD parameters, a check is made to see if there is a one-to-one correspondence between bottle station numbers and CTD station numbers, a check is made to see that pressures increase through each file for each station, and a check is made to locate multiple casts for the same station number in the bottle data. Results of those checks are reported in this '_check.txt' file.

When both bottle and CTD data are available, the CTD salinity data (and, if available, CTD oxygen data) reported in the bottle data file are subtracted from the corresponding bottle data and the differences are plotted for the entire cruise. Those plots are the' _sal.ps' and '_oxy.ps' * files.

Following parameters found for bottle file:

EXPOCODE	DEPTH	SILCAT	HELIUM_FLAG_W
SECT_ID	CTDPRS	SILCAT_FLAG_W	DELHE3
STNNBR	CTDTMP	NITRAT	DELHE3_FLAG_W
CASTNO	CTDSAL	NITRAT_FLAG_W	DELC13
SAMPNO	CTDSAL_FLAG_W	PHSPHT	DELC13_FLAG_W
BTLNBR	SALNTY	PHSPHT_FLAG_W	O18O16
BTLNBR_FLAG_W	SALNTY_FLAG_W	CFC-11	O18O16_FLAG_W
DATE	CTDOXY	CFC-11_FLAG_W	TCARBN
TIME	CTDOXY_FLAG_W	CFC-12	TCARBN_FLAG_W
LATITUDE	OXYGEN	CFC-12_FLAG_W	ALKALI
LONGITUDE	OXYGEN_FLAG_W	HELIUM	ALKALI_FLAG_W
THETA			

All ctd parameters match the parameters in the reference station.

Station #1 has a CTD file, but does not exist in i06sb_hy1.csv.
Station #12 has a CTD file, but does not exist in i06sb_hy1.csv.
Station #13 has a CTD file, but does not exist in i06sb_hy1.csv.
Station #15 has a CTD file, but does not exist in i06sb_hy1.csv.
Station #17 has a CTD file, but does not exist in i06sb_hy1.csv.
Station #19 has a CTD file, but does not exist in i06sb_hy1.csv.
Station #21 has a CTD file, but does not exist in i06sb_hy1.csv.
Station #23 has a CTD file, but does not exist in i06sb_hy1.csv.
Station #25 has a CTD file, but does not exist in i06sb_hy1.csv.
Station #27 has a CTD file, but does not exist in i06sb_hy1.csv.
Station #29 has a CTD file, but does not exist in i06sb_hy1.csv.
Station #3 has a CTD file, but does not exist in i06sb_hy1.csv.
Station #31 has a CTD file, but does not exist in i06sb_hy1.csv.
Station #33 has a CTD file, but does not exist in i06sb_hy1.csv.
Station #35 has a CTD file, but does not exist in i06sb_hy1.csv.
Station #37 has a CTD file, but does not exist in i06sb_hy1.csv.
Station #39 has a CTD file, but does not exist in i06sb_hy1.csv.
Station #41 has a CTD file, but does not exist in i06sb_hy1.csv.
Station #43 has a CTD file, but does not exist in i06sb_hy1.csv.
Station #45 has a CTD file, but does not exist in i06sb_hy1.csv.
Station #47 has a CTD file, but does not exist in i06sb_hy1.csv.

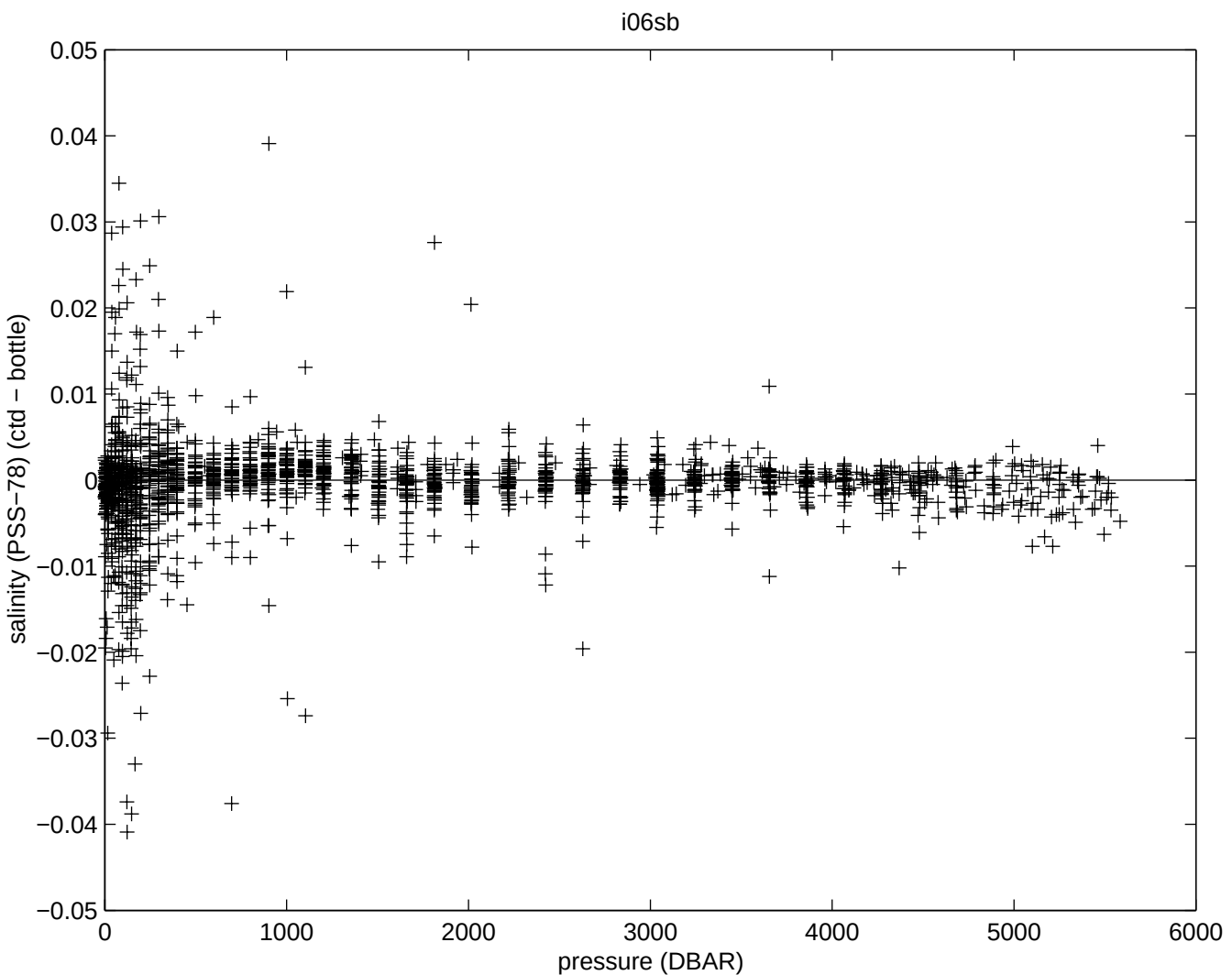
** "_oxy.ps" figure not available*

Station #5 has a CTD file, but does not exist in i06sb_hy1.csv.
Station #7 has a CTD file, but does not exist in i06sb_hy1.csv.
Station #9 has a CTD file, but does not exist in i06sb_hy1.csv.
Station #50 exists in i06sb_hy1.csv, but does not have a corresponding CTD file.
Station #52 exists in i06sb_hy1.csv, but does not have a corresponding CTD file.
Station #54 exists in i06sb_hy1.csv, but does not have a corresponding CTD file.
Station #56 exists in i06sb_hy1.csv, but does not have a corresponding CTD file.
Station #58 exists in i06sb_hy1.csv, but does not have a corresponding CTD file.
Station #60 exists in i06sb_hy1.csv, but does not have a corresponding CTD file.
Station #62 exists in i06sb_hy1.csv, but does not have a corresponding CTD file.
Station #64 exists in i06sb_hy1.csv, but does not have a corresponding CTD file.
Station #66 exists in i06sb_hy1.csv, but does not have a corresponding CTD file.
Station #68 exists in i06sb_hy1.csv, but does not have a corresponding CTD file.
Station #69 exists in i06sb_hy1.csv, but does not have a corresponding CTD file.
Station #70 exists in i06sb_hy1.csv, but does not have a corresponding CTD file.
Station #72 exists in i06sb_hy1.csv, but does not have a corresponding CTD file.
Station #74 exists in i06sb_hy1.csv, but does not have a corresponding CTD file.
Station #76 exists in i06sb_hy1.csv, but does not have a corresponding CTD file.
Station #78 exists in i06sb_hy1.csv, but does not have a corresponding CTD file.
Station #80 exists in i06sb_hy1.csv, but does not have a corresponding CTD file.
Station #82 exists in i06sb_hy1.csv, but does not have a corresponding CTD file.
Station #83 exists in i06sb_hy1.csv, but does not have a corresponding CTD file.
Station #84 exists in i06sb_hy1.csv, but does not have a corresponding CTD file.
Station #85 exists in i06sb_hy1.csv, but does not have a corresponding CTD file.
Station #86 exists in i06sb_hy1.csv, but does not have a corresponding CTD file.
Station #87 exists in i06sb_hy1.csv, but does not have a corresponding CTD file.
Station #88 exists in i06sb_hy1.csv, but does not have a corresponding CTD file.
Station #90 exists in i06sb_hy1.csv, but does not have a corresponding CTD file.
Station #91 exists in i06sb_hy1.csv, but does not have a corresponding CTD file.
Station #92 exists in i06sb_hy1.csv, but does not have a corresponding CTD file.
Station #93 exists in i06sb_hy1.csv, but does not have a corresponding CTD file.
Station #94 exists in i06sb_hy1.csv, but does not have a corresponding CTD file.
Station #95 exists in i06sb_hy1.csv, but does not have a corresponding CTD file.
Station #96 exists in i06sb_hy1.csv, but does not have a corresponding CTD file.

No bottle pressure inversions found.
Bottle file pressures are increasing.

i06sb_hy1.csv -> contains stations with multiple casts:

station -> 11: 2 casts.	station -> 36: 2 casts.	station -> 6: 2 casts.	station -> 8:2 casts.
station -> 14: 2 casts.	station -> 38: 2 casts.	station -> 60: 2 casts.	station -> 80:2 casts.
station -> 16: 2 casts.	station -> 40: 2 casts.	station -> 62: 3 casts.	station -> 82:2 casts.
station -> 18: 2 casts.	station -> 42: 2 casts.	station -> 64: 2 casts.	station -> 83:2 casts.
station -> 20: 2 casts.	station -> 44: 3 casts.	station -> 66: 2 casts.	station -> 84:2 casts.
station -> 22: 2 casts.	station -> 46: 2 casts.	station -> 68: 2 casts.	station -> 85:2 casts.
station -> 24: 2 casts.	station -> 48: 2 casts.	station -> 69: 2 casts.	station -> 86:2 casts.
station -> 26: 2 casts.	station -> 50: 2 casts.	station -> 70: 2 casts.	station -> 87:2 casts.
station -> 28: 2 casts.	station -> 52: 2 casts.	station -> 72: 2 casts.	
station -> 30: 2 casts.	station -> 54: 2 casts.	station -> 74: 2 casts.	
station -> 32: 2 casts.	station -> 56: 2 casts.	station -> 76: 2 casts.	
station -> 34: 2 casts.	station -> 58: 2 casts.	station -> 78: 2 casts.	


i06sb
0.05
0.04
0.03
0.02
0.01
0
−0.01
−0.02
−0.03
−0.04
−0.05
salinity (PSS−78) (ctd − bottle)
0
1000
2000
3000
4000
5000
6000
pressure (DBAR)

DATA PROCESSING NOTES

Date	Contact	Data Type	Data Status Summary
02/03/98	Anderson	SUM	Data Reformatted

Notes on i06 reformatting.

Files i06_sum.txt and i06_hyd.txt were reformatted to conform with what is, at this time, the WHP formats. This consisted mostly of adding spaces and shifting data. The following are other discrepancies that were found. Some that were obvious were "corrected" others were left as is for someone else to determine what should be done.

i06_sum.txt:

record 136 longitude input as 29 60.0 - changed to 30 00.0
record 420 max. pressure input as 288?2 - changed to 288.2
records 516, 517, and 518 all had the date as 31393 - changed to 031393

i06_hyd.txt:

SAMPNO - these are strange numbers 10, 20 30,40,1750,2000, as if they were desired depths (pressure) for sample. Doesn't cause a problem, just strange. There are even some that have F-20 as a sample no, these are usually the deepest sample(s).

Station 12, cast 1 and cast 4 - these casts do not have CTDPRS, CTDTMP, CTDSAL, CTDOXY, THETA, SILCAT, NITRAT or PHSPHT. But they do have SALNTY, OXYGEN, CFC-11, CFC-12, and TCARBN. WOCECVT will not convert them because there are no pressures (depths)

Station 25, records 720 to 731, sample 325 bottle 12 to sample 1600 bottle 1. data screwed up. THETA, SALNTY, OXYGEN, and SILCAT columns do not have the correct values. QUALT1 flags not much help in determining what the problem might be. Values aren't even close to what they should be. Some values might be in the wrong columns, but that does not account for everything.

Station 28, record 811 (last record in file) is incomplete. The .hyd file stops at sta. 28, but the .sum file indicates there should be 52 stations.

In the following stations the cast number in the .sum file does not agree with the cast number in the .hyd file.

Station #s	cast #s in .sum	cast #s in .hyd
2	1 and 3	1 and 2
3	1 and 3	1 and 2
7	1 and 3	1 and 2
9	1 and 3	1 and 2
11	1 and 3	1 and 2
15	1 and 3	1 and 2
17	1 and 3	1 and 2
19	1 and 3	1 and 2
21	1 and 3	1 and 2
23	1 and 3	1 and 2
25	1 and 3	1 and 2
27	1 and 3	1 and 2

I'm guessing the .hyd is correct and the .sum is incorrect. But I did not change either of them.

DATA PROCESSING NOTES

Date	Contact	Data Type	Data Status Summary
09/22/98	Poisson	CTD	submitted
	I received the I06S (1996 version) which is complete from Alain Poisson today on CD-ROM. This CD-ROM also contains all of the CTD data for I06-1993, so we can get Sailee/Dave Muus to correct the truncated stations from the aborted I06S effort.		
03/12/99	Diggs	HELIUM	Submitted, preliminary
06/07/99	Diggs	HELIUM/CTD	Website Updated; Status changed to Public
	CTD files were obtained from Poisson last September, and Jean- Baptiste gave use the crude bottle data (Helium only). Data are PUBLIC.		
07/28/99	Diggs	HELIUM	Data Update; corrected misaligned columns
	There were minor formatting errors in I06S(B) 1996 version (35MF103_1). I corrected the misaligned columns today.		
09/29/99	Falkner	BA	Data Update Needed; quality concerns
	The quality of the Ba data from most WOCE legs in the Indian Ocean turned out to be quite poor; far worse than attainable analytical precision (+/-20% as opposed to 2%). We recorded many vials which came back with loose caps and evaporation associated with that seems to be the primary problem. The only hope I have of producing a decent data set is to run both Ba and a conservative element simultaneously and then relating that to the original salinity of the sample. We will be taking delivery on a high resolution ICPMS here at OSU sometime this winter which would make the project analytically feasible and economical. I do not presently have the funds in hand to do this and so have archived the samples for the time being. I don't think the WHPO would derive any benefit from the present data set. KKF		
08/25/00	Key	DELC14	Submitted
	The directory this information has been stored in is: 20000825.072602_KEY_I6S The format type is: ASCII The data type is: Other Type of Data Here is the information regarding the 'OTHER' format: French data submitted on request of P. Chapman, see e-mail The Bottle File has the following parameters: STNNBR, CASTNO, BTLNBR, DELC14, C14ERR, C14FLAG KEY, BOB would like the data PUBLIC. And would like the following done to the data: merge, on-line Any additional notes are: File "I6S.C14"		

DATA PROCESSING NOTES

Date	Contact	Data Type	Data Status Summary
09/29/00	Diggs	HELIUM	Website Updated; Helium data online
	To date, I have not received any additional data for 35MF103_1. I decided to place the helium data online as a placeholder for the rest of the bottle data. Perhaps, Dr. Poisson can shed some light on this matter for you (and me). thanks, Steve Diggs Dear Alain Poisson and Stephen Diggs, I've been asked about the status of the data from cruise I06SB (WOCE expocode 35MF103_1; also known as CIVA 2). I've searched for the data from this cruise on the WOCE Global Data CD-ROMs (ver. 2.0) and at the WHPO web pages (see addresses below). I've found only 48 CTD stations of an apparent 98 stations and I've found only He for the bottle data. Do more data exist? (I'm not sure what the asterisks mean on the data availability page.) And, if they do exist, are they now available to the public? Please help. Steven Rutz National Oceanographic Data Center srutz@nodc.noaa.gov 301-713-3272 ext. 110 http://whpo.ucsd.edu/data/tables/onetime/1tim_ind.htm#I06 http://whpo.ucsd.edu/data/onetime/indian/i06/i06sb/index.htm		
10/26/00	Poisson	CTD/BTL	Data Requested by J. Swift
	I would very much appreciate your help with the data and information from the WOCE Hydrographic Program "I06" section on the MARION DUFRESNE, Feb 20 - Mar 22, 1996, which we at the WHP Office call by the EXPOCODE 35MF103_1. At the WHP Office we can find only the ".sum" file [covering stations 999, 998, and 1-96], the CTD data for stations 1-48 only, and helium data for the helium stations. We have no CTD data for stations 49-96, and we have no bottle salinity, oxygen, nutrient, or CFC data for any of the stations. We have double-checked the CD-ROM you sent us some time ago and it contains only the ".sum" and CTD data mentioned above from the 1996 cruise. We have double-checked our email and we can find no correspondence about the missing data.		
11/06/00	Poisson	BTL	Submitted
11/08/00	Poisson	CTD/BTL	Data are Public
	I am happy that you are able to read the files. Yes, all the CIVA 2 CTD data and also the CIVA 2 bottle data are public.		
11/8/00	Poisson	CTD	Submitted
	This email confirms my receipt of your Microsoft Excel files holding the CTD data for CIVA2 CTD stations 49-96. Thank you for these very important WOCE data. I will transfer the data to the WHPO computer, and arrange for what appears to be only a small amount of reformatting of the data. I would greatly appreciate an email from you verifying that these data, and also the CIVA2 bottle data you sent recently, are public.		

DATA PROCESSING NOTES

Date	Contact	Data Type	Data Status Summary
02/13/01	Diggs	BTL	Update Request Sent to A. Poisson; QC flag questions
	We have been looking at the bottle data for I06S (1996) and there seem to be some problems with the quality code flags. For instance, CTDOXY (CTD Oxygen) has a value of -9.0 on a particular line, but the QC flag is 2 (good). Another example is CTDSAL on the same line actually has a value, but the QC flag indicates that there is no value. Both of these and many other values may be found in the first few lines of the file. The question is whether or not it would be possible to track these QC flag errors down and get another, corrected file. Please let me know.		
02/13/01	Uribe	CTD/BTL	Update Needed; QC flag problems
	BTL pending because of bad flags, CTDs need to be added Bottle data for this cruise is pending because of bad flags. Request for new data was made. CTDs online are not the most recent version, they need to be added.		
03/08/01	Poisson	BTL	Data Update; fixed flag problems
	Add a "2" leading each line of the flag column The Number bottle was not included in the flag column; thus the only thing to do is to add a "2" leading each line of this column (e.g.: to add 2*E+14 to each number of the column). Attached is a corrected table.		
03/15/01	Muus	HELIUM	Website Updated; Data merged into online file

Helium data merged into bottle file March 2001. Delayed putting on web because of quality code problems.

Notes on I06Sb helium data merging March 15 2001. Received helium data from Steve Diggs in November 2000 in following format: (First six lines only)

```
EXPOCODE 35MF103_1  WHP-ID I06S CRUISE DATES 022096 – 032296 199900728WHPOSIOSCD
         STNNBR   CASTNO   BTLNBR   CTDPRS   DELHE3   HELIUM    QUALT1
                                     DBAR       %      NMOL/KG
                                                ******* *******
            8        2       18      96.0    -1.72    1.6800      21
            8        2       13     198.9    -0.82    1.7000      21
```

Received corrected SEA file March 13, 2001 from

/usr/export/html-public/data/onetime/indian/i06/i06sb/original/2001.03.07_I06SB_BOTTLE_POISSON/I06S_Niskin_CIVA_2_20010309.txt

1. Since QUALT1 for DELHE3 are all "2"s, the QUALT1 for HELIUM were all changed from "1"s to "2"s. All entries in the file appear to have reasonable HELIUM values.
2. The new SEA file still has numerous QUALT1 inconsistencies. For example:
   a) Station 2 Btl #s 9 through 1 Silicate has "-9.00" for data and Quality Code 4. Numerous other places in this data set have same problem.
   b) Station 6 Cast 2 Btl #15 Nitrate and Phosphate have apparently good data but Quality Code "0"s. Station 90 Cast 1 Btl #11 & #8 through #1 have apparently good Alkalinity but Quality Code "0"s.

DATA PROCESSING NOTES

Date	Contact	Data Type	Data Status Summary
03/15/01	Muus	HELIUM	Website Updated; Data online (continued)

c) Stations 90 and 91 have some bottles Quality Coded "5" but with data reported. Bottle oxygens are coded "3" but other values including some Station 90 freons are coded "2".

d) Station 91 Cast 1 Btl #s 21 & 16 nutrients have -9.00 values and Quality Code "1"s.

3. a) The SEA file has the following Stations & Casts not found in the SUMMARY (19990406WHPOSIOSA) file:

Station	Cast
44	3
62	3

b) The SUMMARY file has the following Stations & Casts labeled CAST TYPE "ROS" but with no data in SEA file:

Station	Cast	Station	Cast	Station	Cast	Station	Cast
999	1	998	1	3	1	5	1
6	5	7	1	8	4	8	5
9	1	12	1	13	1	15	1
17	1	19	1	21	1	23	1
25	1	27	1	29	1	31	1
33	1	35	1	37	1	39	4
39	5	39	1	41	1	43	1
45	1	47	1	49	1	51	1
53	1	55	1	57	1	59	5
59	1	60	4	60	5	61	1
62	5	63	1	65	1	67	1
71	1	73	1	75	1	77	1
78	5	79	1	81	1	82	5
84	5	85	5	89	1		

4. Changed missing data values for DELHE3 from -9.00 to -999.00.

06/27/01	Uribe	CTD	Website Updated, Exchange File Added
	CTD exchange files were put online.		
12/24/01	Uribe	CTD	Exchange file made
	CTD has been converted to exchange using the new code and put online.		
01/03/02	Hajrasuliha	CTD	Internal DQE completed
	created .ps files. and .*check.txt file.		
05/13/02	Kozyr	BTL	Data Update; Flags update, corrected

I missed the flags to change from 4 to 9 in the attached i06sbhy.txt file in previous message for:

46-2-7 tree flags for nutrients are 4 but need 9s

69 (not 61) - 1 - 13 one flag for PHSPHT has to be changed from 4 to 9, and

58-2-18 flag for nitrate has to be changed from 4 to 9.

DATA PROCESSING NOTES

Date	Contact	Data Type	Data Status Summary
05/13/02	Kozyr	TCO2/ALk	Final Data Submitted w/ New flags

The attached file is the I06S(b 1996) data set with new TCARBN and TALK flags. I also fixed the problems in many cases throughout the file when flag "4" was assigned to missing data. I agreed with Bob's flags for TCARBN and TALK, although the TALK data are very noisy I have added just one more questionable flag "3" to TALK at 70-1-13 where TALK is obviously hi vs pre. The rest of flags are as to Bob's last message.

```
TCARBN
  8-1-22   bit lo vs P                          mark 3
  14-2-24  bit lo vs sig2, sif=3, no3f=4        mark 3
  18-2-9   lo     vs aou,  bad bottle           mark 4
  20-2-11  hi     vs aou,  lo vs sig3           mark 3
  26-2-3   bit lo vs sig3, cfc11f=cfc12f=3      mark 3
  32-1-10  lo     vs P                          mark 3
  42-1-18  lo     vs P                          mark 3
  42-2-14  lo     vs aou                        mark 3
  44-3-11  lo     vs sig2                       mark 3
  48-2-2   lo     vs sig2                       mark 3
  56-1-17  lo     vs P,    sif, po4f=3, no3f=4  mark 3
  56-1-19  lo     vs P                          mark 3
  64-2-5   lo     vs P                          mark 3
  69-2-23  vlo    vs aou,  sig2                 mark 4
  74-1-22  lo     vs P                          mark 3
  74-1-24  lo     vs P                          mark 3
  74-2-3   lo     vs P,    sif=3                mark 3
  74-2-7   lo     vs P,    sif=3                mark 3
  76-1-13  lo     vs P,    sif=po4f=4           mark 3
  76-2-5   lo     vs P                          mark 3
  78-2-11  lo     vs P                          mark 3
  82-1-18  bit lo vs P                          mark 3
  82-2-1   lo     vs P                          mark 3
  83-2-4   vlo    vs P                          mark 4
  84-1-2   lo     vs P                          mark 3
  84-2-12  bit lo vs aou                        mark 3
  87-2-5   lo     vs P,    po4f=4,              mark 3
  90-1-14  vlo    vs P                          mark 4
  91-1-7   lo     vs P                          mark 3
  92-1-1   lo     vs P                          mark 3
  93-1-7   lo     vs P                          mark 3

ALKALI
  14-1-3   bit hi vs P,    no3f=4, sif=3        mark 3
  14-1-15  hi     vs P,    no3f=4, sif=3        mark 3
  18-2-9   lo     vs aou,  bad bottle           mark 4
  18-1-12  bit lo vs P,    sif=3                mark 3
  24-1-7   bit hi vs P,    cfc11f=cfc12f=3      mark 3
  24-2-19  lo     vs sig2, no3f=po4f=3          mark 3
  28-1-14  bit hi vs P,    sif=4                mark 3
  30-2-13  hi     vs P,    sig2                 mark 3
  34-2-1   lo     vs P,    no3f=sif=3           mark 3
  44-3-10  hi     vs sig2                       mark 3
  44-3-21  hi     vs sig2                       mark 3
  46-2-18  hi     vs sig2                       mark 3
```

DATA PROCESSING NOTES

Date	Contact	Data Type	Data Status Summary
05/13/02	Kozyr	TCO2/ALk	Final Data Submitted w/ New flags (continued)

```
62-1-5   hi      vs P,    sif=4              mark 3
69-2-23  vlo     vs P                        mark 4
70-1-13  hi      vs pre                      mark 3
72-2-5   hi      vs P,    sig2               mark 3
76-2-13  hi      vs sig2                     mark 3
78-2-4   hi      vs P                        mark 3
82-2-1   lo      vs P                        mark 3
83-2-4   vlo     vs P,    tco2f=4            mark 4
84-1-11  hi      vs P                        mark 3
84-1-15  hi      vs P                        mark 3
86-2-4   vhi     vs P                        mark 4
86-2-6   hi      vs P                        mark 3
88-1-14  hi      vs P,    no3f=po4f=4        mark 3
90-1-14  hi      vs P,    tco2f=4            mark 3
95-1-10  bit hi  vs P                        mark 3
```

I missed a few more flags that should be changed from 4 to 9 at:

46-2-7 two flags

61-1-13 one flag

07/17/02	Diggs	CTD	Data Update

Was able to de-code (and decompress) the newer (year 2000) version of the CTD files. These files are currently located in the following directory:

<website>/data/onetime/indian/i06/i06sb/original/2000.11.06_08_CIV

A2_CTD_BOTTLE_POISSON/i0-6.ctd As it turns out, they were "stuffit" files (mac), and decompressed fine on my OSX box., even though they were mislabeled with the "*.Z" xtension (usually reserved for UN*X compress files). I also changed the expocode (changing slash to underscore) and corrected the WOCE line ID (from I6 to I06SB).

07/26/02	Muus	BTL	Website Updated, Data OnLine

CTDSAL, CTDOXY, CTDTMP, CTDPRS, SUM, CTD

New sumfile provided by PI is now on-line. Made some format and data corrections as described in notes file. Corrections provided by PI made to bottle file. CTD data for Stations 49 through 96 were added to WOCE ctd zip file. New Exchange files on-line.

Details in Notes file sent to Jerry.

Notes on I06Sb changes:

1. SUMMARY file from

   /usr/export/htmlpublic/data/onetime/indian/i06/i06sb/original/2002.05.14_I06SB_POISSON/ Summmary CIVA2 (13-5-02).txt

   was changed to woce format. (Original file had double tabs as field separators, missing leading zeros in date and time, and had some missing decimal points and "O"s for "0"s in positions.) Changed latitude on sta32 cast 2 from 49 deg to 40 deg and sta 33 cast 1 EN from 49 deg to 41 deg to match adjacent casts and 19990406 sumfile now on web. Station 95 Cast 1 BE longitude changed from 29° to 24° to match BO and EN longitudes for same cast. Changed WOCE SECT from I06S to I06SB.

DATA PROCESSING NOTES

Date	Contact	Data Type	Data Status Summary
07/26/02	Muus	BTL	Website Updated, Data OnLine (continued)

Sumchk on new file ok.

2. A new bottle file was received from A. Poisson at the same time as the SUMMARY file with corrections suggested by WHPO-SIO notes file of March 15, 2001, but the new bottle file has columns left justified instead of right justified and the bottle quality flag is out of place. The corrections given in Alan Poisson's message of May 14, 2002, were made to the web bottle file (20010314WHPOSIODM). WHP-ID changed from I6 to I06SB. Other quality flag errors may still exist.
3. CTD Stations 1 through 96 from: /usr/export/html-public/data/onetime/indian/i06/i06sb/original/2000.11.06_08_CIVA2_CTD_BOTTLE_POISSON/i0-6.ctd were com-pressed for the CTD file. WHP- ID changed from I06S to I06SB, blanks in date were replaced by zeros, and NR. OF RECORDS were corrected.

   Temperature units were "DEG C" vs ITS-68 or ITS-90; changed to "DEG_C". Former CTD zipped file on web contained Stations 1 - 48 only with old sumfile used for exchange file.
4. New exchange bottle and ctd files made.
5. New files checked with Java Ocean Atlas.