Appendix A WOCE Data Assembly Centers, Special Analysis Centers, and the Data Information Unit

A.1 WOCE Hydrographic Programme Office (WHPO)

Mail Address

        Dr. Terrence M. Joyce, Director
        Dr. Charles E. Corry, Coordinator
        Ms. Jane Dunworth-Baker, Senior Information Systems Assistant
        Ms. Helen Gordon, Staff Assistant
        WOCE Hydrographic Programme Office
        Clark South 172
        Woods Hole Oceanographic Institution
        Woods Hole, MA 02543 USA

Telephone:	(508) 457-2000 ext. 2530 (TMJ)
	ext. 3306 (CEC)
	ext. 2798 (JADB)
	ext. 3374 (WHPO and HEG)
Telefax:	(508) 457-2165
Telex:	6735217 WHPO
Telemail (Omnet):	WHP.Office
Internet:	tjoyce@whoi.edu
	ccorry@whoi.edu
	jadb@whpvax.whoi.edu
	whpo@whpvax.whoi.edu
SPAN:	whpvax::tjoyce
	whpvax::ccorry
	whpvax::jadb
	whpvax::whpo

A.1.1 WHPO File Transfer Protocol (ftp) Address

To transfer files via ftp to the WHPO use the address:

ftp:	whpvax.whoi.edu (*or* 128.128.20.21)
Username:	exchange
Password:	woce
(for most machines)	cd woce_write
	put *file.dat*
(for VMS machines)	set def woce_write
	put *file.dat*
	exit or quit

When files have been sent via ftp to the WHPO, please also send Jane Dunworth an e-mail message telling her what you have sent, how the files are labeled, and what kind of files they are. Data status for all WHP cruises is posted on OCEANIC. Questions about specific data sets should be addressed to Jane Dunworth.

Non-ASCII files, for example, compressed, FrameMaker, Word, etc., must be transferred as binary files. Files that have been uuencoded[1] can also be sent to us via e-mail.

The WHPO can decode most standard transmission and compression routines as tabulated in Appendix E. It is helpful if standard suffixes are appended to the compressed file, for example, *file*.zip for files compressed using the PKZIP program. The usual suffixes for these programs are given in Appendix E.

To get files from the WHPO via ftp please contact Jane Dunworth for instructions.

A.2   WHP Special Analysis Center (WHP SAC)

All hydrographic data is forwarded to the WHP SAC in Hamburg after completion of quality checks and is made publicly available by them after the end of the 2 year proprietary period. They also supply the World Data Centers with copies of the finalized data.

Mailing address for SAC

For questions or additional information about the SAC please contact:

> Kai Jancke
> WOCE Special Analysis Center (SAC)
> Bundesamt für Seeschiffahrt und Hydrographie
> Bernhard-Nocht-Strasse 78 (for parcels or FedEx)
> Postfach 30 12 20 (for letters)
> D-20359 Hamburg (for parcels or FedEx)
> D-20305 Hamburg (for letters)
> Germany
> Telephone: +49-40-3190-3538
> Telefax: +49-40-3190-5000
> Telemail (Omnet):   WOCE.WHP.SAC
> Internet: Kai.Jancke@M5.Hamburg.BSH.d400.de
>
> *or*
>
> Dr. Jens Meincke
> Institut fur Meereskunde
> Troplowitzstrasse 7
> D-22549 Hamburg 54
> Germany
> Telephone: +40-4123-5985
> Telefax: +40-4123-4644
> Telex: 212586 IFMHH D
> Telemail (Omnet):   WOCE.WHP.SAC

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1. A Macintosh version of uutool-232 for uuencoding/uudecoding is available via anonymous ftp from *ftp.uu.net* (192.48.96.9) in directory */systems/mac/info-mac/util*. Commercial versions are also available, for example, Stuffit Deluxe for Macintosh contains a uuencode/uudecode facility.

A.2.1 Hydrographic data retrieval from the WHP SAC via ftp

WHP data passes into the public domain after all quality checks are completed, the chief scientist has provided a finalized data set, and at least two years from the end of the cruise have elapsed. The WHP SAC makes this data available via ftp to all users with an Internet connection. To access the public WHP datasets:

ftp:	ftp.dkrz.de (136.172.110.11)
Username:	ftp *or* anonymous
Password:	your e-mail address
	cd *pub/woce*

Should the ftp program misbehave, please try again, but start the password with the character "hyphen" (-), a.k.a. "minus", immediately followed by the e-mail address.

All data are stored in a compressed form known as ".zip format". Therefore the download needs to be done in binary mode. Programs for uncompressing can be found in the *pub/woce/util* directory both as source and as executable files for downloading. The source is stored according to UNIX conventions as .tar.Z file, i.e., to produce files that can be compiled by the local C compiler the file has to be run through programs, which are equivalents to the UNIX "uncompress" and "tar" utilities. If these utilities are not available at a specific site, that needs to port the program to a particular platform, please contact the SAC through e-mail (address above), or obtain these utilities from an anonymous ftp server close to your site.

The directory structure is as follows:

pub/woce is the (relative) root directory of all SAC related files on this server. It is reached after login by typing: cd pub/woce. (NOTE: case is significant when dealing with directory names and file names:) In this directory 6 subdirectories are presently installed:

```
.Expos
Data
HistoricalData
Manuals
src
util
```

The directory *.Expos* contains a number of subdirectories each named according to the EXPOCODE, the expedition code attached to each WOCE cruise by the WHPO. Each of these subdirectories contains all data related to that particular cruise. If you know which cruise data you want you can simply pick it from there. If you are interested in all data from a particular ocean you will better follow the branch string in the directory *pub/woce/Data*.

The directories *Data* and *HistoricalData* are structured as follows:

```
~/Data/Atlantic
~/Data/Atlantic/OneTime
~/Data/Atlantic/OneTime/whpid_1
~/Data/Atlantic/OneTime/whpid_1/expocode_1
~/Data/Atlantic/OneTime/whpid_1/expocode_n
~/Data/Atlantic/OneTime/whpid_n
~/Data/Atlantic/OneTime/whpid_n/expocode_1
~/Data/Atlantic/OneTime/whpid_n/expocode_n
~/Data/Atlantic/Repeat
```

The character tilde (~) stands for the directory path, *pub/woce* in this case. The terms *whpid_1* and *whpid_n* stand for 1 to N different WHP section identifiers.

The terms *expocode_1* and *expocode_n* are used for 1 to N different cruises according to WOCE EXPOCODEs.

NOTE: slashes(/) in EXPOCODE as defined in this manual are translated into a hyphen (-) to avoid conflicts with the UNIX directory separator character. The directories might be empty, if no data have been received so far. Each directory name, *expocode_1* through *expocode_n,* is a valid and, hence, unique directory name in the directory *pub/woce/.Expos*, but a particular subdirectory name (EXPOCODE) might be found in different whpid directories (if a cruise has occupied different WOCE sections), for example, *09FA1089-2* and *09FA290-2* both covered PR11 and PR13N.

In each directory ~/EXPOCODE there are at least three files found:

> *inventory* gives a short overview in plain ASCII text of Cruise dates.
>
> *Area and parameters covered* (the program to generate this data is still under development, so output might occasionally change).
>
> *EXPOCODE.zip* which holds the data of the *EXPOCODE.sum* and *EXPOCODE.hyd*[1] file plus the *EXPOCODE.lvs* file if that data exists. *EXPOCODE.ctd.zip* which holds all .CTD files for the cruise. Individual CTD files are named *expocodeSnnnnCmmm.ctd*, where *nnnn* is the station number and *mmm* is equal to the cast number of the profile contained in the file.

Other files to be found might be:

> *UpdateHistory* contains a history of updates as uncompressed ASCII text; if no history exists, the file is not present.
> WARNING: If this file exists it contains hints that a person might still claim 'authorship' of the data or part thereof.

All "unzipped" files are formatted according to the rules given in this manual. After unzipping the ASCII files use the line-feed (hexadecimal code: 0A) character as an end of record mark, according to Unix conventions. That character might need translation on systems other than Unix.

The directory *Manuals* contains, in 2 subdirectories, viz. *DataReporting* and *Operations-Methods*, two WHP Manuals as Postscript™ files, broken down into chapters. The paper format used is A4.

In the future, the directory *src* will contain (scientific) programs used in the community. The directory *util* is for sources and executable programs for the technical data handling problems.

It is recommended first to download the file *ls-lR* from the *pub/woce* directory which gives an overview of all files available on the server.

Please direct any suggestions and comments to Kai Jancke at the address given above.

Sample session

Italics are the responses of ftp.dkrz.de. Texts longer than one line are abbreviated lengthy response. The system prompt is simulated by "P>"

---

1. The —.*hyd* file is the final, quality-evaluated version of the original —.SEA file defined in this manual for data submitted to the WHPO.

NOTE: In this sample session the text displayed is generated by the ftp utility, that is installed on the local machine. You can not expect to see this text verbatim on your screen. High transfer speeds, up to 470 kilobytes/second can not be expected from machines outside DKRZ. The ftp.dkrz.de Internet connection provides a shared 2Mbit/s gateway. Characters in **bold** are examples of what might be typed in by the user.

P> **ftp ftp.dkrz.de**
Connected to ftp.dkrz.de
[*lengthy text*]
Name: **anonymous**
Password: **user@machine.center.domain**
[*lengthy response*]
ftp>**binary**
ftp>**cd pub/woce/Data/Pacific/Repeat**
250 Command successful
ftp>**dir**
200 PORT command successful
150 Opening ASCII mode data connection for /bin/ls
total 3 drwxr-xr-x 2 4146   4100   512
Oct 8 13:10 PR11 drwxr-xr-x   2 4146   4100   512 (list of cruises in this
Oct 8 13:12 PR13N drwxr-xr-x   2 4146   4100   512 directory)
Aug 13 13:05 PR2
226 Transfer complete
ftp>**cd PR11**
250 CWD command successful
ftp>**dir**
drwxr-xr-x 2 4146 4100   512
Nov 19 10:56 09FA1089-2 drwxr-xr-x   2 4146 4100   512
Nov 19 10:57 09FA290-2 226
Transfer complete
ftp>**cd 09FA1089-2**
250 CWD command successful.
ftp>**dir**
200 PORT command successful.
150 Opening ASCII mode data connection for /bin/ls.
total 2 lrwxrwxrwx 1 4146   4100   55
Nov 19 10:56 09FA1089-2.ctd.zip -> /ftp- archive2/woce/.Expos/09FA1089-
2/09FA1089-2.ctd.zip lrwxrwxrwx 1 4146   4100   5
5 Nov 19 10:56 09FA1089-2.zip -> /ftp- archive2/woce/.Expos/09FA1089-
2/09FA1089-2.zip
226 Transfer complete
ftp>**get 09FA1089.zip**
200 PORT command successful.
150 Opening BINARY mode data connection for 09FA1089-2.zip (84463 bytes).
226 Transfer complete.
84463 bytes received in 0.18 seconds (4.7e+02 Kbytes/s)
ftp>**quit**
221 Goodbye.

A.3   Data Information Unit (DIU)

Mail Address

        Dr. Ferris Webster, Director
        Katherine Bouton, Coordinator
        WOCE Data Information Unit
        College of Marine Studies
        University of Delaware
        700 Pilottown Road
        Lewes, Delaware 19958-1298 USA

Telephone:	302-645-4266 (FW)
	302-645-4278 (KB)
Telefax:	302-645-4007
Telex:	7407728 WDIU UC
Telemail (Omnet):	F.Webster
	WOCE.DIU
Internet:	ferris@delocn.udel.edu
	bouton@delocn.udel.edu
	woce.diu@delocn.udel.edu
SPAN:	delocn::ferris
	delocn::bouton

A.3.1   Overview

The WOCE Data Information Unit (DIU) has been operational at the College of Marine Studies of the University of Delaware since 1986 and has followed the progress of the WOCE Field Program since its beginning in January, 1990. It tries to provide in one place information about all WOCE data sets.

In carrying out this role, the DIU:

- Tracks and distributes information on the progress of the field programme and on data acquisition by the DACs

- Provides referrals to related inventories at National and World Data centers.

- Gathers information needed to maintain the Unit's directories and summaries. This requires ties with the WOCE DACs and the funding agencies in participating countries.

- Helps scientists use the WOCE data system and associated computer links.

WOCE Information Collection and Dissemination

Information on the progress of the Field Program comes from the International Project Office (IPO), the WOCE Hydrographic Program Office (WHPO), the DACs, and national committees. The WHP Office maintains close contact with the one-time and repeat surveyors. The IPO has developed an efficient system for tracking the deployment of XBTs on the Voluntary Observing Ships (VOS) and research lines. Information from national committees on implementation (as distinct from plans) is sparse, with one or two notable exceptions.

WOCE information is disseminated by two principal methods: via OCEANIC, an electronic on-line information system, and by the publishing and distribution of a twice-yearly hardcopy of the contents of the WOCE Field Program database.

The OCEANIC on-line system is freely available to anyone via Internet, via NASA's Space Physics Analysis Network (SPAN) or via OMNET. OCEANIC is also available as a menu choice on other information systems, such as the NASA Global Change Master Directory and on many university networks throughout the world (particularly via Gopher systems). DIU services are open to all.

Summaries of DIU information and a user guide are available on request.

Data Tracking and Directories

The DIU maintains a WOCE data tracking system that collects and disseminates information about WOCE datasets. The system provides advance information about datasets that will be collected, information about the status of data that has just been collected, and information about the status and availability of datasets that have been collected for some time in the past. This handbook provides a twice yearly hardcopy summary of this information.

Directories to other datasets of interest to WOCE are maintained in the DIU. These include directories to data holdings at the US NODC, the National Center for Atmospheric Research, the Hawaii Sea Level Data Center, the European Center for Medium-Range Weather Forecasting, the US National Snow and Ice Data Center, and the Universities of Miami and Rhode Island.

DIU Coordination Activities

The DIU serves as a point of contact for coordinating WOCE data system activities worldwide. The DIU works with the WOCE International Project Office (IPO) and with those DACs that are operational. The DIU currently receives regular updates from the Current Meter DAC, the WHP DAC, the Float DAC, the Drifter DAC, Sea-Level DACs, and Upper Ocean Thermal DACs. These DACs supply tables of their holdings to the DIU.

A.3.2   Access to the Ocean Information Center (OCEANIC)

(1) There are 3 ways to access OCEANIC over the INTERNET:

A. For an ASCII version

telnet **delocn.udel.edu**   (or 128.175.24.1)

Username: **INFO** (no password required)

B. If you have Gopher available to you locally, then

gopher **diu.cms.udel.edu**

and select OCEANIC

Note: this gopher provides convenient access to WOCE DAC sites that are on-line.

C. If you have access to the World Wide Web (via Mosaic, lynx, Cello, etc.)

open URL http://diu.cms.udel.edu

(2) Access over SPAN, type:

Set Host **DELOCN**

Username: **INFO** (no password required)

(3) Access from OMNET

Type *BackDoor* at the **Where** prompt or at the **Command** prompt in any room. Then choose the OCEANIC option and give your ID. No password is required.

(4) Access via direct dial, dial (302) 645-4052 (300, 1200, or 2400 baud, set at 8, 1, N).

When the connection is established:

Udelnet> **delocn.udel.edu**

Username: **INFO** (no password required)

A.3.3   File transfer to DIU via ftp

To transfer files via ftp to the DIU use the address:

ftp:	diu.cms.udel.edu (*or* 128.175.24.6)
Username:	anonymous
Password:	*e-mail address*
	cd /incoming
	put *file.dat*
(for VMS machines)	set def incoming
	put *file.dat*
	exit or quit

When files have been sent via ftp to DIU please also send Katherine Bouton an e-mail message telling her what you have sent, how the files are labeled, and what kind of files they are. Non-ASCII files, for example, compressed, FrameMaker, Word, etc., must be transferred as binary files. Files that have been uuencoded can also be sent via e-mail.

A.4   Bathymetric Data Center

Bathymetric and navigation data should be sent to the WHPO. Flyers on all of NGDC's products are available from NGDC upon request. For information on pricing/formats/data orders from NGDC, please contact:

Ms. Robin Warnken
National Geophysical Data Center
NOAA, E/GC3
325 Broadway
Boulder, Colorado 80303 USA
Telephone: 303-497-6338
Telefax: 303-497-6513
Telex: 741070 WDCA
Internet: rrw@mail.ngdc.noaa.gov

Digital data can be distributed on 9-track magnetic tape, 8-mm tape, floppy diskettes, by direct file transfer over various networks, or specially agreed upon transfer media. The WOCE bathymetric cruise data will not be permanently resident on the network; however, on request, specific cruise data will be placed on the network for retrieval by ftp.

A.4.1   File Transfers Via ftp and On-Line Access

Various data, metadata, and information relating to the geophysical and environmental sciences are available from NGDC in the Internet using anonymous ftp, gopher, and Mosaic. New data and information are continually being added.

ftp access -
>   Host: ftp.ngdc.noaa.gov
>   (numeric address 192.149.148.109, subject to change with future network improvements)

From a computer connected to the Internet, ftp to the above address:
>   - at the login prompt enter **anonymous**
>   - enter your e-mail address for the password
>   - type **?** for a list of commands
>   - type **quit** when ready to exit

Gopher access -

Gopher is a public-domain character-based Internet access tool developed by and available from the University of Minnesota Computer and Information Services. Gopher clients can access NGDC's on-line system at **gopher.ngdc.noaa.gov** or through the master gopher server at the University of Minnesota as: **NOAA National Geophysical Data Center (NGDC)**. For more information, contact *gopher@boombox.micro.umn.edu.*

Mosaic Multi-Media Access -

Mosaic is an Internet-based global hypermedia browser developed at the National Center for Supercomputing Applications (NCSA). For multimedia data browse and access via Mosaic, you must be running a Mosaic client (PC, Unix workstation, or Macintosh). From Mosaic, choose: **open URL**. The worldwide-web address of NGDC's Mosaic home page is:

>   **http://www.ngdc.noaa.gov/ngdc.html**

For more information on Mosaic, contact NCSA at *mosaic@ncsa.uiuc.edu.*

Bulletin Board Access via Modem -

>   Telephone: (303)497-7319

The modem settings are:
>   - standard preferred terminal emulations are VT100 or VT102
>   - 8 data bits, no parity, 1 stop bit
>   - modem speeds are 300 - 14,400 bps autobaud detection, V.32
>   - enter ONLINE

A.5   Current Meter Data Assembly Center

Dr. R. Dale Pillsbury
Dr. Joseph Bottero
Dr. Glenna Pittock
WOCE Current Meter Data Assembly Center
College of Oceanography
Oregon State University
Oceanography Adm Bldg 104
Corvallis, OR 97331-5503 USA
Telephone: (503) 737-2207 (RDP)
                                        (503) 737-3350 (JB)
                                        (503) 737-0741 (GP)
Telefax: (503) 737-2064
Telemail (Omnet):   D.PILLSBURY
Internet: pillsbury@oce.orst.edu
                                        bottero@oce.orst.edu
                                        glenna@oce.orst.edu

A.6   Drifter Data Assembly Centers

Introduction

Surface Velocity Programs (SVP) Surface Drifter DAC operations are organized with (1) a Global Drifter Center (GDC) at Scripps Institution of Oceanography, (2) a Drifter Data Center (DDC) at Atlantic Oceanographic and Meteorological Laboratory in Miami, and (3) a data center at the Marine Environmental Data Service (MEDS) in Ottawa, Canada. GDC activities consist primarily of drifter deployments, technical developments, and distribution of technical assistance to SVP members and the oceanographic community at large.

Mail Addresses

1. Global Drifter Center

Dr. Peter Niiler
Ms. Laurence Sombardier, Manager
Scripps Institution of Oceanography
University of California, San Diego
Ocean Research Division
La Jolla, CA 92093-0230   USA
Telephone: 619-534-4100 (PN)
                             619-534-0378 (LS)
Telefax: 619-534-7931
Telex: 188929
Telemail (Omnet):   P.NILLER
Internet: laurence@nepac.ucsd.edu (LS)

2. Drifter Data Center

Dr. D. Swensen
NOAA-AOML
4301 Rickenbacker Causeway
Miami, FL 33149   USA
Telephone: 305-361-4363
Telex: 510 600 3049
Telefax: 305-361-4582
Omnet: AOML.MIAMI
Internet: swenson@ocean.aoml.erl.gov

3. Marine Environmental Data Service (MEDS)

Dr. J. Ron Wilson and A. Bolduc
Department of Fisheries and Oceans
1201 200 Kent Street
Ottawa, Ontario Canada K1A 0E6
Telephone: 613-990-0264
Telefax: 613-990-5510
Telex: 053-4228
Omnet: R.WILSON.MEDS or A.BOLDUC
Internet: bolduc@ottmed.meds.dfo.ca

A.7   Float Data Center

Float data should be sent to:

Dr. Philip L. Richardson
Ms. Christine Wooding
Department of Physical Oceanography
Woods Hole Oceanographic Institution (WHOI)
Woods Hole, MA 02543   USA
Telephone: 508-457-2000 ext. 2546 (PLP)
                        ext. 2722 (CW)
Telefax: 508-457-2181
Telex: 951679
Telemail (Omnet):   P.RICHARDSON
Internet: prichardson@whoi.edu
                        cwooding@whoi.edu

Final data are available from the World Data Centers.

A.8   Intergovernmental Oceanographic Commission (IOC)

For manuals and related information contact:
>Secretary
>Intergovernmental Oceanographic Commission
>UNESCO
>7 Place de Fontenoy
>75700 Paris, France
>Telemail (Omnet):   IOC.Secretariat

A.9   International Council for Exploration of the Seas (ICES)

>Dr. Harry Dooley
>International Council for Exploration of the Seas
>Palaegade 2-4
>DK-1261 Copenhagen K, Denmark
>Telephone: +45-33-934215
>Telefax: +45-33-154225
>Telemail (Omnet):   ICES.DK
>Interne: harry@server.ices.inst.dk

A.10   Meteorological Data Center and Air-Sea Interface SAC

Introduction

Meteorological data from WHP cruises should be sent to the WHPO, who will forward it to the DAC. Non-WHP meteorological data should be sent directly to the DAC. The mission of the FSU DAC for surface met data is to collect, check, archive, and distribute all surface met data from international WOCE vessels and moored and drifting buoys. This includes IMET data as well as all practically obtainable surface met data from these sources. The SAC will continue its scientific investigation to develop, produce, and analyze the impact of surface fields, e.g. wind stress, sensible, and latent heat, etc. for the tropical and mid-latitude oceans.

Mail Address

> Dr. James J. O'Brien
> Dr. David M. Legler
> Mesoscale Air-Sea Interaction Group
> Florida State University
> Room 020, Love Bldg.
> Tallahassee, FL 32306-3041 USA
> Telephone: (904) 644-3797
> Telefax: (904) 644-4841
> Telex: 5106017589
> Telemail (Omnet: J.Obrien
>   D.Legler
> Internet: obrien@masig.fsu.edu
>   legler@masig.fsu.edu

A.11   Thermosalinograph Data Center

> Dr. Alain Dessier
> Dr. Jean-Paul Rebert
> Global Subsurface Data Centre
> IFREMER
> BP 70
> 29280 Plouzane France
> Telephone: +33-98-22-4515 (AD)
>   +33-98-22-4513 (J-PR)
> Telefax: +33-98-22-4514
> Telemail (Omnet):   ORSTOM.BREST
> Internet: dessier@orstom.fr
>   rebert@orstom.fr

A.12   World Data Centers (WDC)

Note that there is no World Data Center C for oceanography.

World Data Center A – Oceanography

> Dr. Ron Moffatt, Director
> Harry Iredale, WOCE liaison
> World Data Center A-Oceanography
> National Oceanographic Data Center
> NOAA/NESDIS
> 1825 Connecticut Avenue NW
> Washington D.C. 20235 USA
> Telephone: 202-606-4618 (HI)
> Fax: 202-606-4586
> Telex: 7401815 NODC UC
> Omnet: NODC.WDCA
>   H.Iredale
> Internet: iredale@nodc2.nodc.noaa.gov

World Data Center A – Geophysical Data

Dr. Michael S. Loughridge
World Data Center A for Marine Geology and Geophysics
National Geophysical Data Center
NOAA, E/GC3
325 Broadway
Boulder, Colorado 80303 USA
Telephone: 303-497-6487
Fax: 303-497-6513
Telex: 7401070 WDCA
Omnet: M.Loughridge

World Data Center B1

Yurii F. Sychev
World Data Center B1
Committee on Hydrometeorology
6, Korolyov Street
Obninsk, Kaluga Region 249020 Russia
Telephone: +7-095-255-2194
Fax: +7-095-2552225
Telex: 412633 INFOR SU
Omnet: WDCB1.USSR
Internet: wdcb@node.ias.msk.su

World Data Center D

Xu Chongjin
World Data Center D
National Marine Data and Information Service
93 Liuwei Road
Hedong District
Tainjin 300171
People's Republic of China
Telephone: +86-022-4300871
Telefax: +86-022-4304408
Telex: 23138 NODC CN
Omnet: W.Hou.WDCD

A.13   XBT and XCTD Data Assembly Centers

Global Centre

        Dr. Jean-Paul Rebert
        TOGA Subsurface Data Center
        IFREMER/ORSTOM
        PB 70
        29280 Plouzane   France
        Telephone: +33-98-22-4-513
        Telefax: +33-98-22-45-14
        Telex: 940 627 F
        Telemail (Omnet):   ORSTOM.BREST
        Internet: rebert@orstom.fr

Supporting National GTSPP Centres

        Dr. J. R. Wilson
        MEDS
        Department of Fisheries and Oceans
        1202 200 Kent Street
        Ottawa, Ontario Canada K1A 0E6
        Telephone: 613-990-0264
        Telefax: 613-990-5510
        Telex: 053-4228
        Telemail (Omnet):   R.WILSON.MEDS

        Dr. Bruce Douglas, Director
        Melanie Hamilton, Liaison
        NOAA/NODC
        1825 Connecticut Ave. NW
        Washington, DC 20235 USA
        Telephone: 202-606-4636
        Telefax: 202-606-4586
        Telex: 7401815
        Telemail (Omnet):   B.Douglas
                             NODC.WDCA
        Internet: mhamilton@nodc.noaa.gov

        Mr. B. Searle
        Australia Oceanographic Data Center (AODC)
        Level 2, Maritime Command Annex
        Wylde Street
        Potts Point, NSW 2011   Australia
        Telephone: +61-2-563-4801
        Telefax: +61-2-563-4820
        Telemail (Omnet):   B.SEARLE
        Internet: dm@aodc.gov.au