

The CCHDO and GO-SHIP

J. Swift, S. Diggs, & CCHDO staff

Why have a CTD/hydro DAC (e.g., CCHDO)?

The need for the a CTD/hydro DAC lies in

- (1) providing a reliable, well-managed source **to data users** for the data used in WOCE- and CLIVAR-like large-scale ocean studies, and
- (2) improving the usability/readability of data files by improving adherence to community standards.

The goals are to have all needed data available and up to date, bottle data files complete with all measured parameters, and to have all data and documentation files in the same format. (The amount of effort involved in some cases is mind-boggling.)

CCHDO Adds Value

Carefully checked data (read one file = read all files)

All data in community-standard formats
CSV-ASCII Exchange, WOCE ASCII, NetCDF

Full Metadata and Documentation

Stable Funding

>100 years of combined experience examining hydrographic data

Agreements with Kozyr@CDIAC, Key@Princeton and others

Actively involved with the global scientific community - facilitates quality control

CCHDO works with...

Argo: acquiring and managing proprietary CTD data for delayed-mode quality control

OceanSITES: acquiring, translating (into OceanSITES netCDF) and hosting NetCDF

US-NODC: collaboratively seeking international cruise data

IOCCP through CDIAC: hosting Carbon data

CarbOcean

CARINA

DIMES data hosting and management

iAnZone/SASSI

New Capabilities at <http://cchdo.ucsd.edu>

CCHDO
CLIVAR & Carbon Hydrographic Data Office

SEARCH DATA
[Advanced Search](#)

HOME BROWSE DATA SEARCH DATA SUBMIT DATA CONTACT INFORMATION

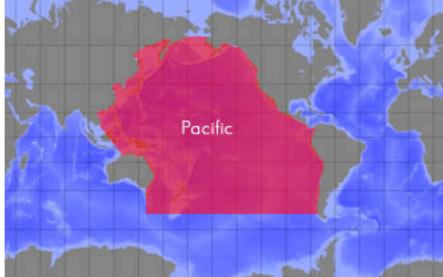
Welcome to the CCHDO

 **Learn About CCHDO**
The CCHDO's primary mission is to deliver the highest possible quality global CTD and hydrographic data to users. These data are a product of decades of observations related to the physical characteristics of ocean waters carried out during WOCE, CLIVAR and numerous other oceanographic research programs. Whenever possible we provide these data in three easy-to-use formats: [WHP-Exchange](#) (which we recommend for data submissions to the CCHDO), [WOCE](#), and [netCDF](#).

The CCHDO also manages public and non-public CTD data to be used for the global Argo and OceanSITES programs.

This site is funded by the [National Science Foundation](#).

Search for Data Geographically

Click on a basin 

Use our interactive map tool 

This site is funded by the [National Science Foundation](#).
This web site and all other CCHDO activities are supported by the National Science Foundation under Grants No. OCE-0327555 and OCE-0824992. Any opinions, findings, and conclusions or recommendations expressed in this web site are those of the PI, James Swift, and the CCHDO and do not necessarily reflect the views of the National Science Foundation.

Recent Developments

[Updated Data Files](#)

 [P14](#)
HEALY
Cruise Date: 2002-07-15
Updated: 2010-2-19

 [P14](#)
MIRAI
Cruise Date: 2007-11-22
Updated: 2010-2-18

 [P14](#)
MIRAI
Cruise Date: 2007-10-08
Updated: 2010-2-17

 [P06](#)
MELVILLE
Cruise Date: 2010-01-05
Updated: 2010-2-11

 [P06](#)
MELVILLE
Cruise Date: 2009-11-21
Updated: 2010-2-9

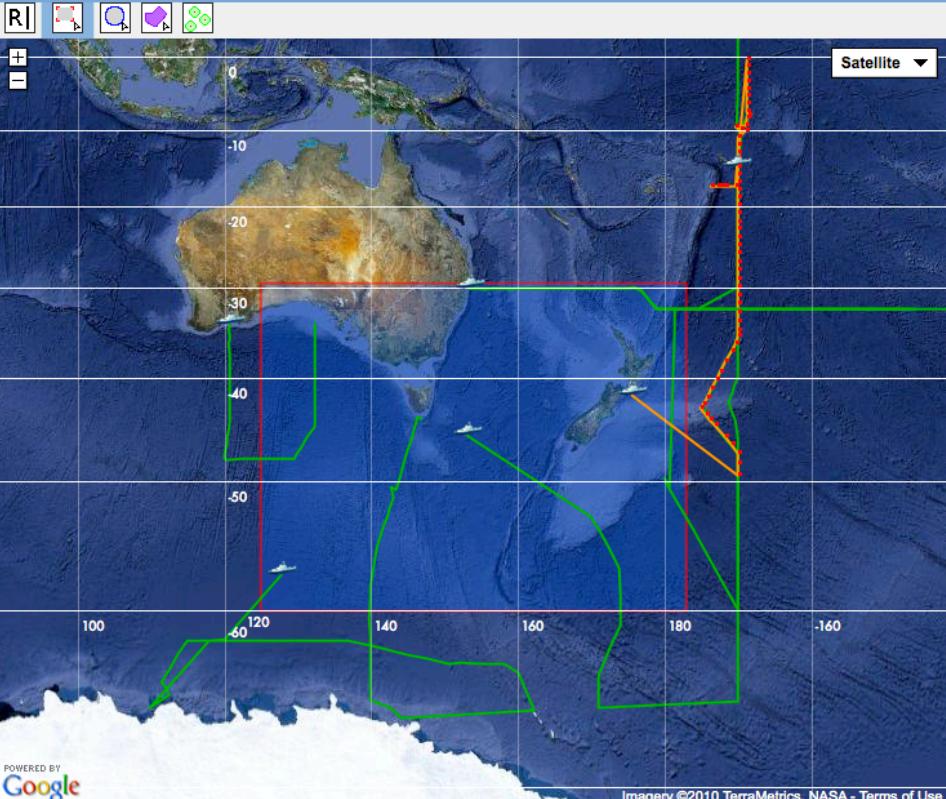
Fast Geographic Searches

Latitude Longitude

North east

South west

Refine your search
1975 2010
50 stations shown / cruise



POWERED BY 

Notes about the Google Earth plugin
This map can be viewed as a globe with the [Google Earth plugin](#) if you are running Windows or Mac OS.

Known issue: If the map type control disappears when switched to the Earth plugin you have an old version of the Google Earth plugin and should uninstall and reinstall the plugin.

Pop out connected window ▾

Line	ExpoCode	Ship	Country	PI	Begin Date
P06	318M20091121	MELVILLE	USA	MacDonald /WHOI	Nov 21, 2009
P15S	09SS20090203	Southern Surveyor	AUS	Sloyan /CMAR	Feb 3, 2009
P06W	49NZ20030803	MIRAI	JPN	Fukasawa /JAMSTEC	Aug 3, 2003
P14S	31DSCG96_1	DISCOVERER	USA	Bullister /PMEL	Jan 5, 1996
S03	09AR9404_1	AURORA AUSTRALIS	AUS	Rintoul /CSIRO	Dec 13, 1994
S05	09FA1094	FRANKLIN	AUS	Tomczak /FIAMS	Nov 12, 1994
P06C	316N138_4	KNORR	USA	McCartney /WHOI	May 30, 1992
P15S	3175CG90_1	MALCOLM BALDRIGE	USA	Wisegarver /NOAA-PMEL	Feb 22, 1990

J.Swift & S.Diggs, GO-SHIP, 21 February 2010

Data are made available immediately

The screenshot shows the CCHDO (CLIVAR & Carbon Hydrographic Data Office) website. At the top, there is a search bar with 'Advanced Search' and 'SEARCH DATA' buttons. Below the header, there are links for HOME, BROWSE DATA, SEARCH DATA, SUBMIT DATA, CONTACT, and INFORMATION. The main content area has two main sections: 'Data Info and Files' on the left and 'Data Histories and Notes' on the right.

Data Info and Files

General Information

ExpoCode: 09SS20090203
Line: P15S
Alias: ss200901
Ship/Country: Southern Surveyor/AUS
Chief Scientists: Sloyan/CMAR
Cruise Dates: Tue Feb 3, 2009 - Tue Mar 24, 2009

Data Files

Exchange
[CTD](#) - ZIP archive of ASCII .csv CTD data with station information
[BOT](#) - ASCII .csv bottle data with station information

NetCDF
[CTD](#) - ZIP archive of binary CTD data with station information
[BOT](#) - Binary bottle data with station information

WOCE

Documentation
[Text](#) - ASCII cruise and data documentation
[PDF](#) - Portable Document Format cruise and data information

Updates

Updates (These files have been submitted, but have not yet been merged into the CCHDO data set.)

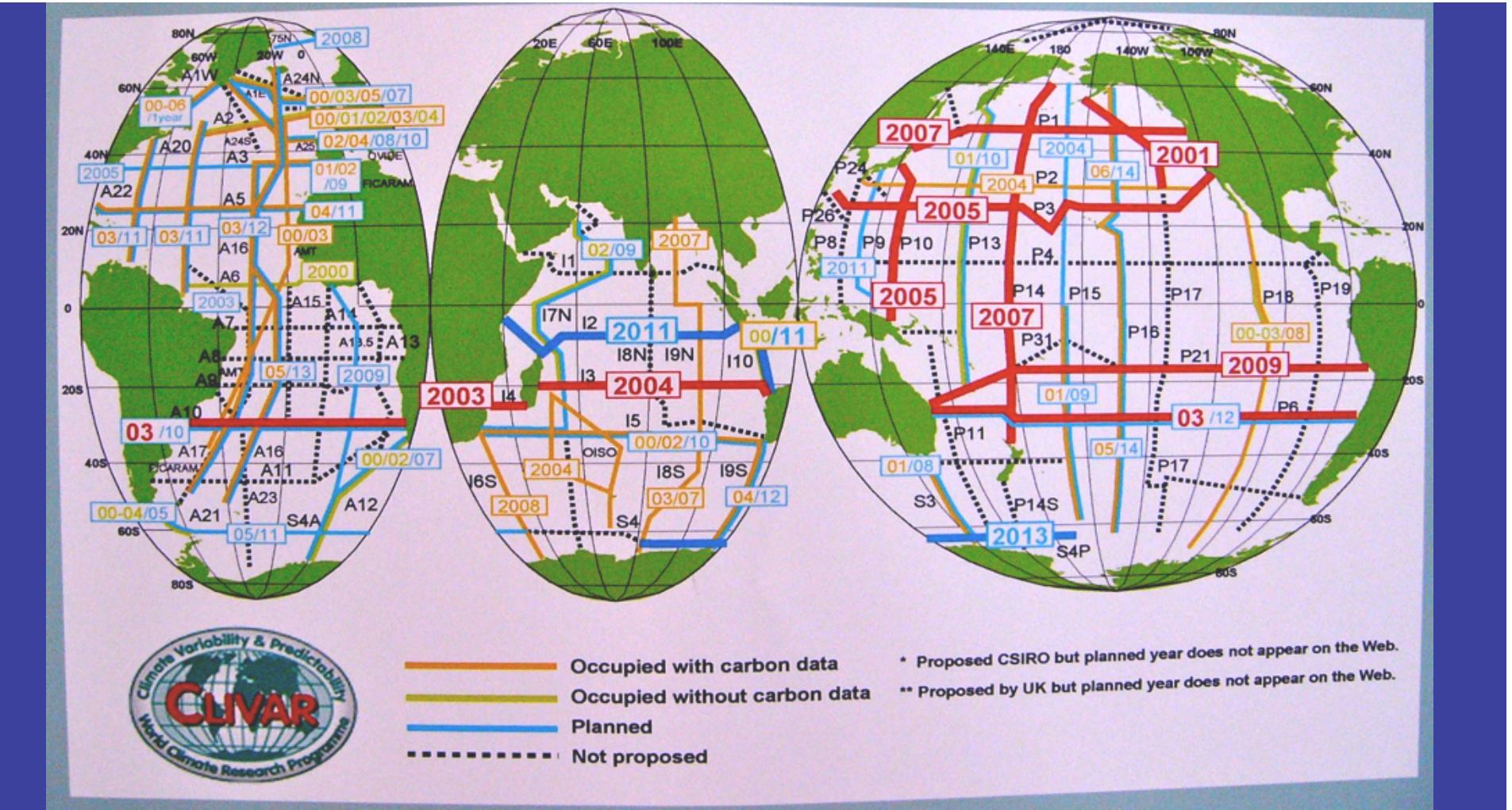
[09SS20090203001_ct.zip](#) CTD updates
[09SS20090203_hy1.csv](#) This is the latest bottle file in exchange format and contains the CFC data in addition to the bottle data already submitted. The Carbon and Alkalinity results are still not available and will probably be submitted during the first half of 2010.

A large orange arrow points from the bottom left towards the 'Updates' section of the website.

```

# These data were provided by:
#
# PARAMETER/PROGRAM      NAME          EMAIL ADDRESS
# -----      -----
# Chief Scientist        Terrence Joyce-WHOI    tjoyce@whoi.edu
# Co-Chief Scientist     William Smethie-LDEO   bsmeth@ldeo.columbia.edu
# CTDO/S/02/Nutrients    James Swift-SIO       jswift@ucsd.edu
# DIC                   Richard Feely-PMEL      Richard.A.Feely@noaa.gov
#                      Chris Sabine-PMEL      Chris.Sabine@noaa.gov
#                      William Smethie-LDEO   bsmeth@ldeo.columbia.edu
#                      Rana Fine-UofMiami   rfine@rsmas.miami.edu
#                      Frank Millero-UofMiami fmillero@rsmas.miami.edu
#                      Craig Carlson-UCSB    carlson@lifesci.ucsb.edu
#                      William Jenkins-WHOI   wjenkins@whoi.edu
#                      Ann McNichol-WHOI     amcnichol@whoi.edu
#                      Robert Key-Princeton   rkey@princeton.edu
#                      Paul Quay-UofWash      pdquay@u.washington.edu
#
# The data included in these files are preliminary, and are
# subject to final calibration and processing. They have been
# made available for public access as soon as possible following
# their collection. Users should maintain caution in their
# interpretation and use. Following American Geophysical Union
# recommendations, the data should be cited as: "data
# provider(s), cruise name or cruise ID, data file name(s),
# CLIVAR and Carbon Hydrographic Data Office, La Jolla, CA,
# USA, and data file date." For further information, please
# contact one of the parties listed above or cchdo@ucsd.edu.
# Users are also requested to acknowledge the NSF/NOAA-funded
# U.S. Repeat Hydrography Program in publications resulting
# from their use.

```



The essential CCHDO post-WOCE data set is the global repeat hydrography program. The CCHDO aims to acquire all public CTD/hydro data for this program, and then to keep these up to date. This is, more or less, the basic mission for a GO-SHIP DAC. The CCHDO has stable funding to carry this out.

What lessons have we learned about data management?

The most important documentation should be permanently attached to the data.

Be careful what one asks of data providers. It is more useful to work closely with data originators than to give only pages of requirements for data reporting.

Human nature is not changed by issuance of guidelines and requirements.

Maintaining data pedigree is crucial. Version-related metadata should be embedded in the data whenever possible.

Impediments:

The first impediment is not knowing of a cruise, or even more often, exactly who to contact.

The second impediment is problems obtaining data from a known cruise, i.e. difficulty contacting data originators. Some may not be enthusiastic about providing data or helping the DAC obtain them. Some data are not received at the DAC for many years.

Third is problems with the data - once received at the DAC - in terms of matching them to community exchange standards. These issues can be severe, and can require much expertise and time to resolve.