

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

Advanced Search

SEARCH DATA

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](#).

Recent Developments

Updated Data Files

[HLY0203](#)
HEALY
Cruise Date:2002-07-15
Updated:2010-2-19

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

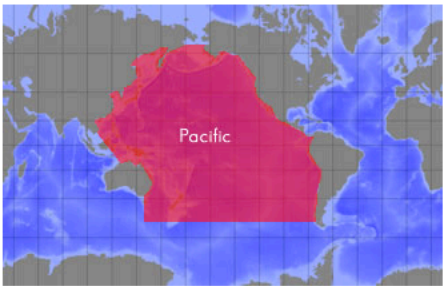
[P14](#)
MIRAI
Cruise Date:2007-10-08
Updated:2010-2-17

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

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

Search for Data Geographically

Click on a basin



Pacific

Use our interactive map tool



Map data ©2009 Google Technologies

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.



Fast Geographic Searches

Latitude Longitude

North east

South west

Refine your search

stations shown / cruise

POWERED BY Google

Imagery ©2010 TerraMetrics, NASA - Terms of Use

Pop out connected window

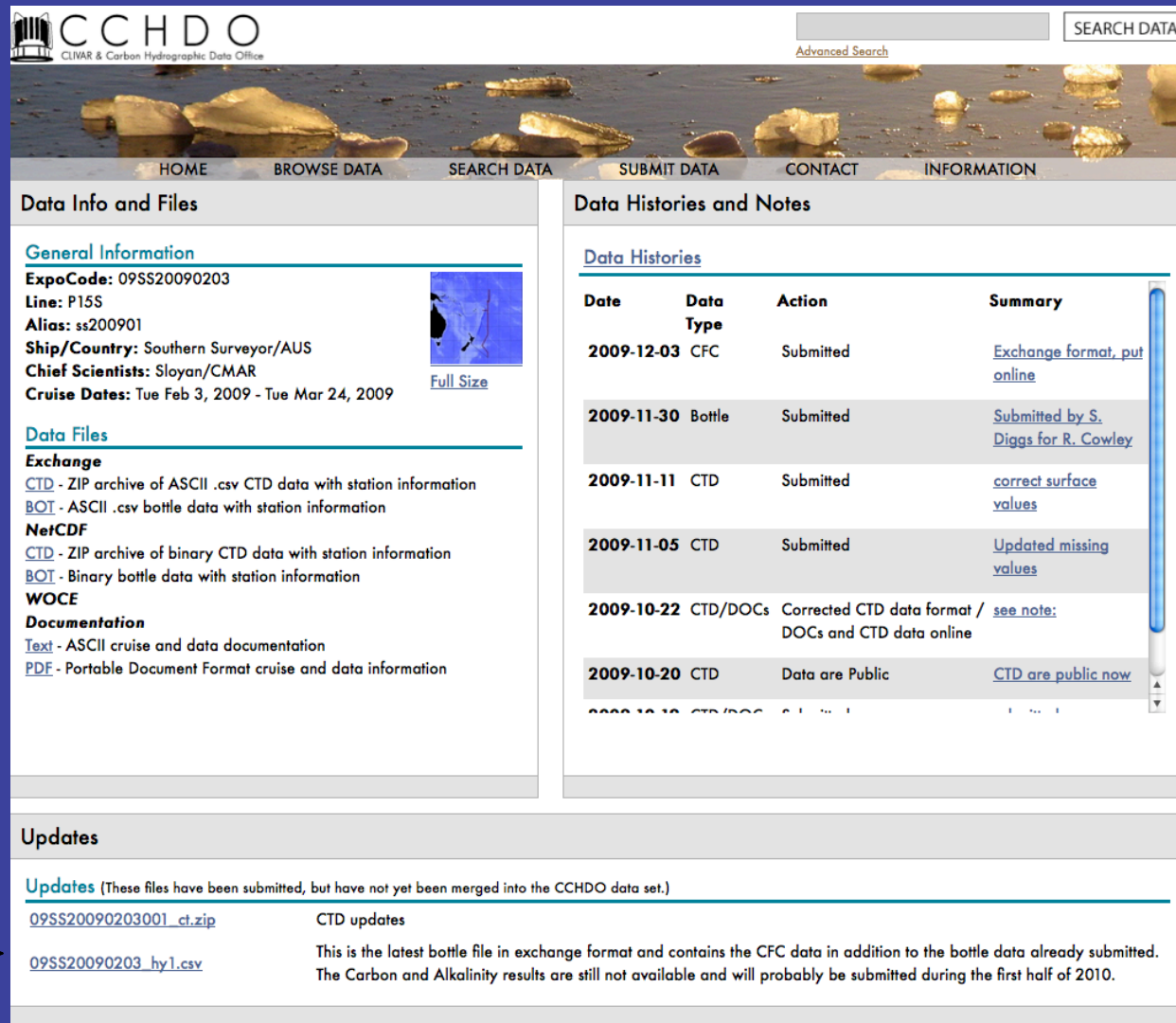
Line	ExpoCode	Ship	Country	PI	Begin Date
P06	318M20091121	MELVILLE	USA	MacDonald /WHOI	Nov 21, 2009
P15S	09SS20090203	Southern Surveyor	AUS	Sloyan /CMAR	Feb 3, 2009
P06W	49NZ20030803	MIRAI	JPN	Fukasawa /JAMSTEC	Aug 3, 2003
P14S	31DSCG96_1	DISCOVERER	USA	Bullister /PMEL	Jan 5, 1996
S03	09AR9404_1	AURORA 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

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.

Data are made available immediately



The screenshot displays the CCHDO (CLIVAR & Carbon Hydrographic Data Office) website. The header includes the CCHDO logo, a search bar with a 'SEARCH DATA' button, and a navigation menu with links: HOME, BROWSE DATA, SEARCH DATA, SUBMIT DATA, CONTACT, and INFORMATION. The main content area is divided into two columns. The left column, titled 'Data Info and Files', contains sections for 'General Information' (listing ExpoCode, Line, Alias, Ship/Country, Chief Scientists, and Cruise Dates) and 'Data Files' (listing Exchange, NetCDF, and Documentation links). A small map image is also present. The right column, titled 'Data Histories and Notes', contains a 'Data Histories' table with columns for Date, Data Type, Action, and Summary. The table lists several data submissions from 2009. At the bottom, an 'Updates' section lists recent file submissions with a red arrow pointing to the '09SS20090203_hy1.csv' file. The background of the website features a photograph of icebergs in the ocean.

CCHDO
CLIVAR & Carbon Hydrographic Data Office

Advanced Search SEARCH DATA

HOME BROWSE DATA SEARCH DATA SUBMIT DATA CONTACT INFORMATION

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

[Full Size](#)

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

Data Histories and Notes

Data Histories

Date	Data Type	Action	Summary
2009-12-03	CFC	Submitted	Exchange format, put online
2009-11-30	Bottle	Submitted	Submitted by S. Diggs for R. Cowley
2009-11-11	CTD	Submitted	correct surface values
2009-11-05	CTD	Submitted	Updated missing values
2009-10-22	CTD/DOCs	Corrected CTD data format / DOCs and CTD data online	see note:
2009-10-20	CTD	Data are Public	CTD are public now

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.

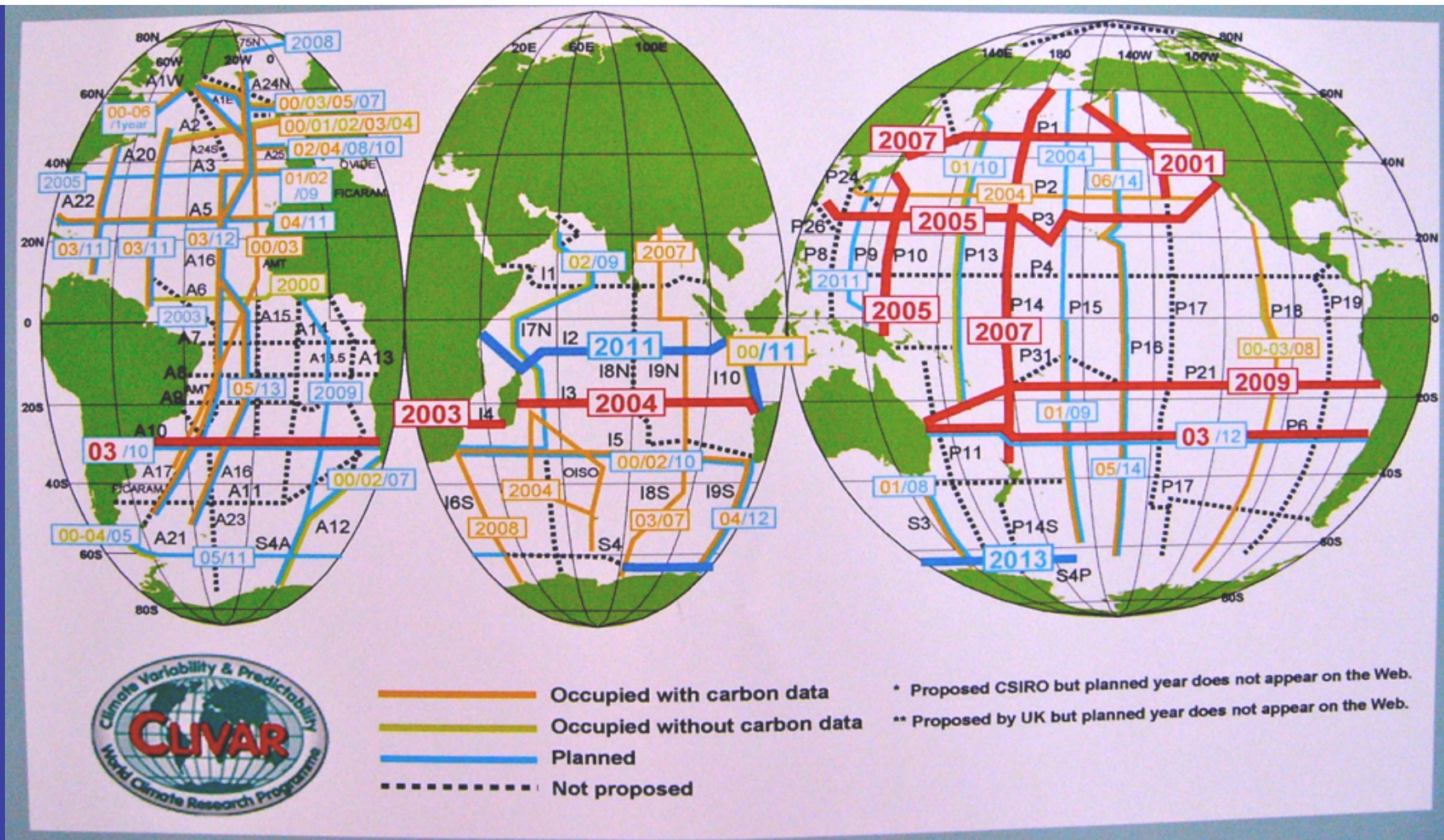
These data were provided by:

#

# PARAMETER/PROGRAM	NAME	EMAIL ADDRESS
# -----	----	-----
# Chief Scientist	Terrence Joyce-WHOI	tjoyce@whoi.edu
# Co-Chief Scientist	William Smethie-LDEO	bsmeth@ldeo.columbia.edu
# CTD0/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
# CFC	William Smethie-LDEO	bsmeth@ldeo.columbia.edu
#	Rana Fine-UofMiami	rfine@rsmas.miami.edu
# TALK	Frank Millero-UofMiami	fmillero@rsmas.miami.edu
# CDOM, DOC, DON	Craig Carlson-UCSB	carlson@lifesci.ucsb.edu
# He/Tr	William Jenkins-WHOI	wjenkins@whoi.edu
# Surface C14	Ann McNichol-WHOI	amcnichol@whoi.edu
#	Robert Key-Princeton	rkey@princeton.edu
# C13 profiles	Paul Quay-UofWash	pdquay@u.washington.ed

#

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.