Hourly ADCP data from ARSV Laurence M. Gould and RVIB Nathaniel B. Palmer cruises to the Southern Ocean from 2001-2003 as part of the Southern Ocean GLOBEC project.

Website: https://www.bco-dmo.org/dataset/2343
Data Type: Cruise Results
Version: 1
Version Date: 2004-01-08

Project
» U.S. GLOBEC Southern Ocean (SOGLOBEC)

Program
» U.S. GLOBal ocean ECosystems dynamics (U.S. GLOBEC)

Contributors	Affiliation	Role
Howard, Susan L.	Earth and Space Research Institute	Co-Principal Investigator
Padman, Laurence	Earth and Space Research Institute	Co-Principal Investigator
Allison, Dicky	Woods Hole Oceanographic Institution (WHOI BCO-DMO)	BCO-DMO Data Manager

Abstract
Hourly ADCP data from ARSV Laurence M. Gould and RVIB Nathaniel B. Palmer cruises to the Southern Ocean from 2001-2003 as part of the Southern Ocean GLOBEC project.

Table of Contents

Coverage

Spatial Extent: **N**:-52.3657 **E**:-58.7436 **S**:-70.6284 **W**:-77.7751
Temporal Extent: 2001-03-19 - 2003-02-13

Dataset Description

Southern Ocean GLOBEC Hourly ADCP Data

Quality

The following datasets have been processed and represent fairly accurate results. However, these datasets may undergo additional editing. The user is therefore cautioned that the files listed here for download may not be the final datasets.

If you would like to be notified when updated versions are available, email Susan Howard and you will be put on a list. Otherwise, please check back for updates. Notes on the quality of each data set are included in the downloads.

Format

The datasets have been created using MATLAB. They are converted to ASCII before serving using the JGOFS data management system. The files are also available for download in their original, zipped form. Each *.zip file contains a *.mat file and a readme.txt file. See the URL below for access to the orginal Matlab files.

Single Ping Data

Single ping data from all cruises have been archived, but are not yet available for distribution by ESR.

For additional documentation of the ADCP data collected during Southern Ocean Globec and for access to the original Matlab files, see http://www.esr.org/globec_index.html and http://www.esr.org/globec/adcp_data.html .

Questions concerning these data should be directed to:
Laurence Padman
Earth and Space Research Institute
3350 SW Cascade Ave.
Corvallis, OR 97333-1536, USA
Phone: 541-753-6695
E-mail: padman@esr.org

or

Susan L. Howard
Earth and Space Research Institute
1910 Fairview Ave. E., Suite 210
Seattle, WA 98102, USA
Phone: 360-668-6817
E-mail: Howard@esr.org

Last updated May 1, 2007

Methods & Sampling

In 2001, the RVIB NB Palmer and RVIB LM Gould were upgraded to collect a full suite of data needed for full single-ping editing (i.e. processing single pings to ocean velocities). LMG0103, LMG0104, and LMG0106 were collected before the new system was implemented. The single ping data from these cruises can only be used as an aid for looking at amplitude (backscatter). NBP0103, NBP0104, NBP0202, NBP0204, LMG0201A, LMG0203, LMG0205, and LMG0302 datasets contain the complete set of data needed for processing the single ping data.

Data Processing Description

Format

The datasets have been created using MATLAB. They are converted to ASCII before serving using the JGOFS data management system. The files are also available for download in their original, zipped form. Each *.zip file contains a *.mat file and a readme.txt file. See the URL below for access to the orginal Matlab files.

Single Ping Data

Single ping data from all cruises have been archived, but are not yet available for distribution by ESR.

For additional documentation of the ADCP data collected during Southern Ocean Globec and for access to the original Matlab files, see http://www.esr.org/globec_index.html and http://www.esr.org/globec/adcp_data.html .

[table of contents | back to top]

Data Files

File
adcp_hourly_f.csv (Comma Separated Values (.csv), 23.85 MB) MD5:df98950085ab25a45c26df08de9f355c Primary data file for dataset ID 2343

[table of contents | back to top]

Parameters

Parameter	Description	Units
cruiseid	Cruise identification	
year_start	Year the cruise started, GMT in YYYY format	unitless
month_start	Month the cruise started, GMT	mm
day_start	Day the cruise started GMT	dd
time_start	Time the cruise started, GMT	HHmm.m
year_end	Year the cruise ended, GMT in YYYY format	unitless
month_end	Month the cruise ended, GMT	mm
day_end	Day the cruise ended, GMT	dd
time_end	Time the cruise ended, GMT	HHmm.m
yrday0_utc	Year day, GMT, where year day 0.5 = January 1 at noon.	YYY.Y
lat	Latitude, negative = South	DD.D
lon	Longitude, negative = West	DDD.D
depth	Depth of sample or observation	meters(m)
u_m	East-west component of velocity, positive = Eastward flow	m/sec
v_m	North-south component of velocity, positive = Northward flow	m/sec

[table of contents | back to top]

Instruments

Dataset-specific Instrument Name	Acoustic Doppler Current Profiler
Generic Instrument Name	Acoustic Doppler Current Profiler
Dataset-specific Description	Acoustic Doppler Current Profiler, encompasses an array of band widths and frequencies
Generic Instrument Description	The ADCP measures water currents with sound, using a principle of sound waves called the Doppler effect. A sound wave has a higher frequency, or pitch, when it moves to you than when it moves away. You hear the Doppler effect in action when a car speeds past with a characteristic building of sound that fades when the car passes. The ADCP works by transmitting "pings" of sound at a constant frequency into the water. (The pings are so highly pitched that humans and even dolphins can't hear them.) As the sound waves travel, they ricochet off particles suspended in the moving water, and reflect back to the instrument. Due to the Doppler effect, sound waves bounced back from a particle moving away from the profiler have a slightly lowered frequency when they return. Particles moving toward the instrument send back higher frequency waves. The difference in frequency between the waves the profiler sends out and the waves it receives is called the Doppler shift. The instrument uses this shift to calculate how fast the particle and the water around it are moving. Sound waves that hit particles far from the profiler take longer to come back than waves that strike close by. By measuring the time it takes for the waves to bounce back and the Doppler shift, the profiler can measure current speed at many different depths with each series of pings. (More from WHOI instruments listing).

[table of contents | back to top]

Deployments

LMG0103

Website	https://www.bco-dmo.org/deployment/57635
Platform	ARSV Laurence M. Gould
Report	http://www.ccpo.odu.edu/Research/globec/cruises01/mooringcruise/lmg0103_menu.html
Start Date	2001-03-18
End Date	2001-04-13
Description	**Methods & Sampling** In 2001, the RVIB NB Palmer and RVIB LM Gould were upgraded to collect a full suite of data needed for full single-ping editing (i.e. processing single pings to ocean velocities). LMG0103, LMG0104, and LMG0106 were collected before the new system was implemented. The single ping data from these cruises can only be used as an aid for looking at amplitude (backscatter). NBP0103, NBP0104, NBP0202, NBP0204, LMG0201A, LMG0203, LMG0205, and LMG0302 datasets contain the complete set of data needed for processing the single ping data. **Processing Description** Format The datasets have been created using MATLAB. They are converted to ASCII before serving using the JGOFS data management system. The files are also available for download in their original, zipped form. Each *.zip file contains a *.mat file and a readme.txt file. See the URL below for access to the orginal Matlab files. Single Ping Data Single ping data from all cruises have been archived, but are not yet available for distribution by ESR. For additional documentation of the ADCP data collected during Southern Ocean Globec and for access to the original Matlab files, see http://www.esr.org/globec_index.html" target="_blank"> http://www.esr.org/globec_index.html and http://www.esr.org/globec/adcp_data.html" target="_blank"> http://www.esr.org/globec/adcp_data.html .

LMG0104

Website	https://www.bco-dmo.org/deployment/57637
Platform	ARSV Laurence M. Gould
Report	http://www.ccpo.odu.edu/Research/globec/cruises/gould0103_0104.doc
Start Date	2001-04-20
End Date	2001-06-05
Description	**Methods & Sampling** In 2001, the RVIB NB Palmer and RVIB LM Gould were upgraded to collect a full suite of data needed for full single-ping editing (i.e. processing single pings to ocean velocities). LMG0103, LMG0104, and LMG0106 were collected before the new system was implemented. The single ping data from these cruises can only be used as an aid for looking at amplitude (backscatter). NBP0103, NBP0104, NBP0202, NBP0204, LMG0201A, LMG0203, LMG0205, and LMG0302 datasets contain the complete set of data needed for processing the single ping data. **Processing Description** Format The datasets have been created using MATLAB. They are converted to ASCII before serving using the JGOFS data management system. The files are also available for download in their original, zipped form. Each *.zip file contains a *.mat file and a readme.txt file. See the URL below for access to the orginal Matlab files. Single Ping Data Single ping data from all cruises have been archived, but are not yet available for distribution by ESR. For additional documentation of the ADCP data collected during Southern Ocean Globec and for access to the original Matlab files, see http://www.esr.org/globec_index.html" target="_blank"> http://www.esr.org/globec_index.html and http://www.esr.org/globec/adcp_data.html" target="_blank"> http://www.esr.org/globec/adcp_data.html .

LMG0106

Website	https://www.bco-dmo.org/deployment/57639
Platform	ARSV Laurence M. Gould
Report	http://www.ccpo.odu.edu/Research/globec/cruises01/lmg0106_menu.html
Start Date	2001-07-21
End Date	2001-09-01
Description	**Methods & Sampling** In 2001, the RVIB NB Palmer and RVIB LM Gould were upgraded to collect a full suite of data needed for full single-ping editing (i.e. processing single pings to ocean velocities). LMG0103, LMG0104, and LMG0106 were collected before the new system was implemented. The single ping data from these cruises can only be used as an aid for looking at amplitude (backscatter). NBP0103, NBP0104, NBP0202, NBP0204, LMG0201A, LMG0203, LMG0205, and LMG0302 datasets contain the complete set of data needed for processing the single ping data. **Processing Description** Format The datasets have been created using MATLAB. They are converted to ASCII before serving using the JGOFS data management system. The files are also available for download in their original, zipped form. Each *.zip file contains a *.mat file and a readme.txt file. See the URL below for access to the orginal Matlab files. Single Ping Data Single ping data from all cruises have been archived, but are not yet available for distribution by ESR. For additional documentation of the ADCP data collected during Southern Ocean Globec and for access to the original Matlab files, see http://www.esr.org/globec_index.html" target="_blank"> http://www.esr.org/globec_index.html and http://www.esr.org/globec/adcp_data.html" target="_blank"> http://www.esr.org/globec/adcp_data.html .

LMG0201A

Website	https://www.bco-dmo.org/deployment/57640
Platform	ARSV Laurence M. Gould
Report	http://www.ccpo.odu.edu/Research/globec/main_cruises02/lmg0201a/LMG02-01A_Report.pdf
Start Date	2002-02-06
End Date	2002-03-03
Description	**Methods & Sampling** In 2001, the RVIB NB Palmer and RVIB LM Gould were upgraded to collect a full suite of data needed for full single-ping editing (i.e. processing single pings to ocean velocities). LMG0103, LMG0104, and LMG0106 were collected before the new system was implemented. The single ping data from these cruises can only be used as an aid for looking at amplitude (backscatter). NBP0103, NBP0104, NBP0202, NBP0204, LMG0201A, LMG0203, LMG0205, and LMG0302 datasets contain the complete set of data needed for processing the single ping data. **Processing Description** Format The datasets have been created using MATLAB. They are converted to ASCII before serving using the JGOFS data management system. The files are also available for download in their original, zipped form. Each *.zip file contains a *.mat file and a readme.txt file. See the URL below for access to the orginal Matlab files. Single Ping Data Single ping data from all cruises have been archived, but are not yet available for distribution by ESR. For additional documentation of the ADCP data collected during Southern Ocean Globec and for access to the original Matlab files, see http://www.esr.org/globec_index.html"> http://www.esr.org/globec_index.html and http://www.esr.org/globec/adcp_data.html"> http://www.esr.org/globec/adcp_data.html .

LMG0203

Website	https://www.bco-dmo.org/deployment/57642
Platform	ARSV Laurence M. Gould
Report	http://www.ccpo.odu.edu/Research/globec/main_cruises02/lmg0203/menu.html
Start Date	2002-04-07
End Date	2002-05-20
Description	**Methods & Sampling** In 2001, the RVIB NB Palmer and RVIB LM Gould were upgraded to collect a full suite of data needed for full single-ping editing (i.e. processing single pings to ocean velocities). LMG0103, LMG0104, and LMG0106 were collected before the new system was implemented. The single ping data from these cruises can only be used as an aid for looking at amplitude (backscatter). NBP0103, NBP0104, NBP0202, NBP0204, LMG0201A, LMG0203, LMG0205, and LMG0302 datasets contain the complete set of data needed for processing the single ping data. **Processing Description** Format The datasets have been created using MATLAB. They are converted to ASCII before serving using the JGOFS data management system. The files are also available for download in their original, zipped form. Each *.zip file contains a *.mat file and a readme.txt file. See the URL below for access to the orginal Matlab files. Single Ping Data Single ping data from all cruises have been archived, but are not yet available for distribution by ESR. For additional documentation of the ADCP data collected during Southern Ocean Globec and for access to the original Matlab files, see http://www.esr.org/globec_index.html"> http://www.esr.org/globec_index.html and http://www.esr.org/globec/adcp_data.html"> http://www.esr.org/globec/adcp_data.html .

LMG0205

Website	https://www.bco-dmo.org/deployment/57644
Platform	ARSV Laurence M. Gould
Report	http://www.ccpo.odu.edu/Research/globec/main_cruises02/lmg0205/report_lmg0205.pdf
Start Date	2002-07-29
End Date	2002-09-18
Description	**Methods & Sampling** In 2001, the RVIB NB Palmer and RVIB LM Gould were upgraded to collect a full suite of data needed for full single-ping editing (i.e. processing single pings to ocean velocities). LMG0103, LMG0104, and LMG0106 were collected before the new system was implemented. The single ping data from these cruises can only be used as an aid for looking at amplitude (backscatter). NBP0103, NBP0104, NBP0202, NBP0204, LMG0201A, LMG0203, LMG0205, and LMG0302 datasets contain the complete set of data needed for processing the single ping data. **Processing Description** Format The datasets have been created using MATLAB. They are converted to ASCII before serving using the JGOFS data management system. The files are also available for download in their original, zipped form. Each *.zip file contains a *.mat file and a readme.txt file. See the URL below for access to the orginal Matlab files. Single Ping Data Single ping data from all cruises have been archived, but are not yet available for distribution by ESR. For additional documentation of the ADCP data collected during Southern Ocean Globec and for access to the original Matlab files, see http://www.esr.org/globec_index.html"> http://www.esr.org/globec_index.html and http://www.esr.org/globec/adcp_data.html"> http://www.esr.org/globec/adcp_data.html .

LMG0302

Website	https://www.bco-dmo.org/deployment/57645
Platform	ARSV Laurence M. Gould
Report	http://globec.whoi.edu/so-dir/reports/lmg0302/lmg0302.htm
Start Date	2003-02-13
End Date	2003-03-07
Description	**Methods & Sampling** In 2001, the RVIB NB Palmer and RVIB LM Gould were upgraded to collect a full suite of data needed for full single-ping editing (i.e. processing single pings to ocean velocities). LMG0103, LMG0104, and LMG0106 were collected before the new system was implemented. The single ping data from these cruises can only be used as an aid for looking at amplitude (backscatter). NBP0103, NBP0104, NBP0202, NBP0204, LMG0201A, LMG0203, LMG0205, and LMG0302 datasets contain the complete set of data needed for processing the single ping data. **Processing Description** Format The datasets have been created using MATLAB. They are converted to ASCII before serving using the JGOFS data management system. The files are also available for download in their original, zipped form. Each *.zip file contains a *.mat file and a readme.txt file. See the URL below for access to the orginal Matlab files. Single Ping Data Single ping data from all cruises have been archived, but are not yet available for distribution by ESR. For additional documentation of the ADCP data collected during Southern Ocean Globec and for access to the original Matlab files, see http://www.esr.org/globec_index.html"> http://www.esr.org/globec_index.html and http://www.esr.org/globec/adcp_data.html"> http://www.esr.org/globec/adcp_data.html .

NBP0103

Website	https://www.bco-dmo.org/deployment/57636
Platform	RVIB Nathaniel B. Palmer
Report	http://globec.whoi.edu/so-dir/reports/nbp0103/nbp0103.html
Start Date	2001-04-24
End Date	2001-06-05
Description	**Methods & Sampling** In 2001, the RVIB NB Palmer and RVIB LM Gould were upgraded to collect a full suite of data needed for full single-ping editing (i.e. processing single pings to ocean velocities). LMG0103, LMG0104, and LMG0106 were collected before the new system was implemented. The single ping data from these cruises can only be used as an aid for looking at amplitude (backscatter). NBP0103, NBP0104, NBP0202, NBP0204, LMG0201A, LMG0203, LMG0205, and LMG0302 datasets contain the complete set of data needed for processing the single ping data. **Processing Description** Format The datasets have been created using MATLAB. They are converted to ASCII before serving using the JGOFS data management system. The files are also available for download in their original, zipped form. Each *.zip file contains a *.mat file and a readme.txt file. See the URL below for access to the orginal Matlab files. Single Ping Data Single ping data from all cruises have been archived, but are not yet available for distribution by ESR. For additional documentation of the ADCP data collected during Southern Ocean Globec and for access to the original Matlab files, see http://www.esr.org/globec_index.html" target="_blank"> http://www.esr.org/globec_index.html and http://www.esr.org/globec/adcp_data.html" target="_blank"> http://www.esr.org/globec/adcp_data.html .

NBP0104

Website	https://www.bco-dmo.org/deployment/57638
Platform	RVIB Nathaniel B. Palmer
Report	http://www.ccpo.odu.edu/Research/globec/cruises01/nbp0104_menu.html
Start Date	2001-07-22
End Date	2001-08-31
Description	**Methods & Sampling** In 2001, the RVIB NB Palmer and RVIB LM Gould were upgraded to collect a full suite of data needed for full single-ping editing (i.e. processing single pings to ocean velocities). LMG0103, LMG0104, and LMG0106 were collected before the new system was implemented. The single ping data from these cruises can only be used as an aid for looking at amplitude (backscatter). NBP0103, NBP0104, NBP0202, NBP0204, LMG0201A, LMG0203, LMG0205, and LMG0302 datasets contain the complete set of data needed for processing the single ping data. **Processing Description** Format The datasets have been created using MATLAB. They are converted to ASCII before serving using the JGOFS data management system. The files are also available for download in their original, zipped form. Each *.zip file contains a *.mat file and a readme.txt file. See the URL below for access to the orginal Matlab files. Single Ping Data Single ping data from all cruises have been archived, but are not yet available for distribution by ESR. For additional documentation of the ADCP data collected during Southern Ocean Globec and for access to the original Matlab files, see http://www.esr.org/globec_index.html" target="_blank"> http://www.esr.org/globec_index.html and http://www.esr.org/globec/adcp_data.html" target="_blank"> http://www.esr.org/globec/adcp_data.html .

NBP0202

Website	https://www.bco-dmo.org/deployment/57641
Platform	RVIB Nathaniel B. Palmer
Report	http://globec.whoi.edu/so-dir/reports/nbp0202/nbp0202b.html
Start Date	2002-04-09
End Date	2002-05-21
Description	**Methods & Sampling** In 2001, the RVIB NB Palmer and RVIB LM Gould were upgraded to collect a full suite of data needed for full single-ping editing (i.e. processing single pings to ocean velocities). LMG0103, LMG0104, and LMG0106 were collected before the new system was implemented. The single ping data from these cruises can only be used as an aid for looking at amplitude (backscatter). NBP0103, NBP0104, NBP0202, NBP0204, LMG0201A, LMG0203, LMG0205, and LMG0302 datasets contain the complete set of data needed for processing the single ping data. **Processing Description** Format The datasets have been created using MATLAB. They are converted to ASCII before serving using the JGOFS data management system. The files are also available for download in their original, zipped form. Each *.zip file contains a *.mat file and a readme.txt file. See the URL below for access to the orginal Matlab files. Single Ping Data Single ping data from all cruises have been archived, but are not yet available for distribution by ESR. For additional documentation of the ADCP data collected during Southern Ocean Globec and for access to the original Matlab files, see http://www.esr.org/globec_index.html" target="_blank"> http://www.esr.org/globec_index.html and http://www.esr.org/globec/adcp_data.html" target="_blank"> http://www.esr.org/globec/adcp_data.html .

NBP0204

Website	https://www.bco-dmo.org/deployment/57643
Platform	RVIB Nathaniel B. Palmer
Report	http://globec.whoi.edu/so-dir/reports/nbp0204/nbp0204b.html
Start Date	2002-07-31
End Date	2002-09-18
Description	Also see NBP0204 Cruise Data Report **Methods & Sampling** In 2001, the RVIB NB Palmer and RVIB LM Gould were upgraded to collect a full suite of data needed for full single-ping editing (i.e. processing single pings to ocean velocities). LMG0103, LMG0104, and LMG0106 were collected before the new system was implemented. The single ping data from these cruises can only be used as an aid for looking at amplitude (backscatter). NBP0103, NBP0104, NBP0202, NBP0204, LMG0201A, LMG0203, LMG0205, and LMG0302 datasets contain the complete set of data needed for processing the single ping data. **Processing Description** Format The datasets have been created using MATLAB. They are converted to ASCII before serving using the JGOFS data management system. The files are also available for download in their original, zipped form. Each *.zip file contains a *.mat file and a readme.txt file. See the URL below for access to the orginal Matlab files. Single Ping Data Single ping data from all cruises have been archived, but are not yet available for distribution by ESR. For additional documentation of the ADCP data collected during Southern Ocean Globec and for access to the original Matlab files, see http://www.esr.org/globec_index.html" target="_blank"> http://www.esr.org/globec_index.html and http://www.esr.org/globec/adcp_data.html" target="_blank"> http://www.esr.org/globec/adcp_data.html .

[table of contents | back to top]

Project Information

U.S. GLOBEC Southern Ocean (SOGLOBEC)

Website: http://www.ccpo.odu.edu/Research/globec_menu.html

Coverage: Southern Ocean

The fundamental objectives of United States Global Ocean Ecosystems Dynamics (U.S. GLOBEC) Program are dependent upon the cooperation of scientists from several disciplines. Physicists, biologists, and chemists must make use of data collected during U.S. GLOBEC field programs to further our understanding of the interplay of physics, biology, and chemistry. Our objectives require quantitative analysis of interdisciplinary data sets and, therefore, data must be exchanged between researchers. To extract the full scientific value, data must be made available to the scientific community on a timely basis.

[table of contents | back to top]

Program Information

U.S. GLOBal ocean ECosystems dynamics (U.S. GLOBEC)

Website: http://www.usglobec.org/

Coverage: Global

U.S. GLOBEC (GLOBal ocean ECosystems dynamics) is a research program organized by oceanographers and fisheries scientists to address the question of how global climate change may affect the abundance and production of animals in the sea.

The U.S. GLOBEC Program currently had major research efforts underway in the Georges Bank / Northwest Atlantic Region, and the Northeast Pacific (with components in the California Current and in the Coastal Gulf of Alaska). U.S. GLOBEC was a major contributor to International GLOBEC efforts in the Southern Ocean and Western Antarctic Peninsula (WAP).

[table of contents | back to top]

Funding

Funding Source	Award
NSF Antarctic Sciences (NSF ANT)	ANT-9910102

[table of contents | back to top]