



# OZGOFS

## Australian Southern Ocean JGOFS Data

Data plus Users Guide.

Data sets and documentation compiled by Brian Griffiths.

The OZGOFS Southern Ocean research project was a multidisciplinary project comprising 8 research cruises on the R.V. Aurora Australis between October 1991 and April 1998. The area of operations was primarily along the WOCE meridional transect SR 3, but included WOCE meridional transect P 11, and along part of the WOCE Southern Ocean Transect S4 lying between approximately 110°E and 162°E S4 between approximately 80E to 150E near 60S.

### Introduction

The convention used in naming of the cruises was two letters to identify the ship, two digits to identify the calendar year, and two digits to identify the sequential number of the cruise within the calendar year. Thus, AU9101 stands Aurora Australis (AU) done in 1991 (91) and the 1<sup>st</sup> cruise in 1991 (01). Stations are numbered beginning with 1 for the first station on each successive cruise.

### Objectives

The objectives of the cruises were to:

- 1) To measure, during different seasons and years, the vertical and horizontal profiles of oceanographic parameters in waters of the western equatorial Pacific Ocean.
- 2) To describe, and determine the controls on primary and secondary productivity of these waters.

- 3) To study the physical, chemical and biological processes that determines the vertical fluxes of carbon across the air-sea interface and within the water column to the deep ocean.

## **CD-ROM overview**

The data have been arranged in directories, with the measurement type as the directory name. Files containing the parameter plus ancillary data are in each directory. Data in the files are in comma separated value format. The data are fully described in metafiles (saved as pdf format and rich text files [rtf]) in the directory. The metadata descriptions include a general introduction, including parameter type and investigators name, sampling and analytical methods, methods, error estimates, comments on data quality, a brief description of the analytical method, and a comments section.

## **Data description**

The CTD data, plus density (as sigma-t), fluorescence and PAR is presented in 2-meter bins. Where no information is presented under a header (e.g. PAR, fluorescence) the sensor was not present on the CTD during the cast. Fluorescence profiles from a SeaTech fluorometer mounted on the CTD or from profiles made with a SeaBird CTD and SeaTech fluorometer package were converted to chlorophyll-a profiles using a regression of fluorescence burst data (taken when a niskin bottle is closed) and the extracted chlorophyll sample at that depth.

The parameters sampled from niskin bottles (salinity, nutrients, chlorophyll and pigments, primary production) use the same template, derived from the hydrochemistry sampling sheets, but are in separate directories. The general form is for each station to be listed, station position, time and date of sampling and then the data.

## **Data description**

The data are fully described in metafiles (saved as either pdf format or rich text files [rtf]) files in the appropriate directory. The metadata descriptions include a general introduction, including parameter type and investigators name, sampling and analytical methods, methods, error estimates, comments on data quality, a brief description of the analytical method, and a comments section. An overview of the parameters available is given in the table at the end of this document.

## **Honour roll**

These cruises were part of the CSIRO Divisions of Fisheries and Oceanography and from the Antarctic Cooperative Research Center and the Institute of Antarctic and Southern Ocean Studies in the University of Tasmania JGOFS research programs funded by the Department of Industry, Science and Technology Greenhouse Project. Ship time on the Aurora Australis was part of the

huge contribution of the Australian Antarctic Division, and without this support the Program could not have been as successful as it was. In particular, support at sea was given by Mark Rosenberg (Antarctic CRC) The Hydrochemistry group did the salinity, nutrient, and oxygen analyses at sea, and the post-cruise quality control and data processing this data was done by Mark Rosenberg and his team.

The efforts of the Chief Scientists on the cruises (Steve Rintoul, Tom Trull, Nathan Bindoff) and the other Principal contributed greatly to the success of the Program. The cruises could not have been successful without the support given by the officers and crew on the R.V.: their cheerful responses to the requests of scientists were very much appreciated by the scientific parties. Their support, actions, and suggestions were the savior of many scientists, and experiments during the cruises. The free exchange of scientific ideas, experimental redesigns at sea, and general close interaction between scientists of diverse backgrounds was greatly enhanced in the Husky Bar on board the Aurora Australis.

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### **Citation**

All of the data on this CD are available in the public arena via CSIRO Division of Marine Research. However, it is still necessary to acknowledge the use of any data in subsequent publications just as if the CD were a journal. Sufficient information has been provided in the metadata files to identify the originators of the data. It is suggested that the data be acknowledged by reference Southern Ocean JGOFS Data Set, CD ROM Electronic Publication, CSIRO Division of Marine Research, Hobart, Tasmania, Australia, 2000."

### **Problems with the data?**

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