

Aurora Australis JGOFS Cruises in the Southern Ocean

Cruise Summary: AU9404

Oceanographic measurements were conducted along WOCE Southern Ocean meridional sections SR3 between Tasmania and Antarctica, and along part of WOCE Southern Ocean Transect S4 lying between approximately 110°E and 162°E between December 1994 and February 1995. An array of 4 current meter moorings at approximately 51°S was successfully retrieved. A total of 107 CTD vertical profiles were taken, most to near bottom. Niskin bottle samples were collected for the measurement of salinity, dissolved oxygen, nutrients, chlorofluorocarbons, helium, tritium, dissolved organic carbon, alkalinity, carbon isotopes, dissolved organic carbon, dimethyl sulphide/dimethyl sulphonioacetate, iodate/iodide, oxygen-18, primary productivity and biological parameters, using a 24 bottle rosette sampler. Measurement and data processing techniques are summarised in Rosenberg et al., 1996.

Fluorescence and PAR profiles were collected within half an hour of the CTD casts using a Sea Bird CTD and a Sea Tech fluorometer. Dissolved oxygen profiles determined using an oxygen electrode on the CTD.

Data included in this JGOFS data report include CTD, nutrients, HPLC chlorophyll-a, photosynthetic parameters determined using a production vs irradiance technique, and modelled water column primary production along the SR3 transect. The fluorescence profiles from each station were converted to chlorophyll-a profiles using the discrete depth HPLC chlorophyll-a samples from the same station.

Reference:

Rosenberg, M., Eriksen, R., Bell, S., and Rintoul, S. 1996. *Aurora Australis marine Science cruise AU9404 – oceanographic field measurements and analysis*. Antarctic Cooperative Marine Research Centre, Research Report No. 8, July 1996. 53 pp.