

## **Aurora Australis JGOFS Cruises in the Southern Ocean**

### **Cruise Summary: AU9407**

Oceanographic measurements were conducted in January 1994 along WOCE Southern ocean meridional section SR3 between Tasmania and Antarctica, and long a northward section lying between 82°E and 86°S, crossing the Princess Elizabeth Trough. Additional measurements were made at mooring locations, and at a time series station near 63°S, 71°E). A total of 102 CTD vertical profile stations were taken, most to near bottom. Niskin bottle samples were taken for the measurement of salinity, dissolved oxygen, nutrients, dissolved organic and inorganic carbon, carbon 13, dimethyl sulphide/dimethyl sulphonioacetate, iodate/iodide, primary production and biological parameters. Measurement and data processing techniques are summarised in Rosenberg et al., 1995b.

Fluorescence and PAR profiles were collected on the CTD casts using a Li-Cor PAR sensor and Sea Tech fluorometer. The fluorometer and PAR sensors were not present on all CTD casts. The PAR data are not calibrated, and were used for establishing extinction coefficients only. Dissolved oxygen profiles determined using an oxygen electrode on the CTD are given for some CTD profiles in AU9309, but not for AU9391 due to problems with the sensor.

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., Bindoff, N., and Rintoul, S. 1995b. *Aurora Australis marine Science cruise AU9407 – oceanographic field measurements and analysis*. Antarctic Cooperative Marine Research Centre, Research Report No. 6, July 1995. 97 pp.