
MR03–K02 Cruise Summary



Cruise Code :

MR03–K02

Cruise Dates :

21 May 2003 – 7 June 2003

Ports of Call :

Yokohama, Japan to Guam, USA

Principal Objectives :

The principal objectives of the cruise were:

- a. To place five deep moorings along a transect of deep passage near the Wake Island
- b. To calibrate moored CTDs before deployment by comparing with CTD/RMS data
- c. To investigate water mass characteristics on the section, and
- d. To estimate volume/material transports, heat storage of the abyssal water across the section.

Cruise Summary :

Five deep moorings were placed along a transect of the abyssal passage. A total of 25 CTDs and 15 current meters were deployed. And nine full-depth CTD/RMS/LADCP stations were worked with a SBE9/11plus CTD, a GO 36x12 litter Carousel Water Sampler and a RDI WorkHorse ADCP. Salinity, oxygen, silicate, nitrate, nitrite, phosphate, CFC–11, CFC–12, DIC, total alkalinity and pH were measured. Samples for 14C and 13C were collected.

Meteorological parameters, sea-surface temperature, salinity, oxygen, DIC, pCO₂/PCO₂, current profiles to 700m from a shipboard RDI 75 kHz ADCP, bottom topography, gravity acceleration, 3-component magnetic field and other continuous measurement items were measured throughout the cruise except for in the EEZ of Federated States of Micronesia and in the territorial waters of the USA.

Seven ARGO profiling floats were deployed during the cruise. A CTD/RMS/LADCP station was worked to 2000m at a point of deployment in order to calibrate the ARGO temperature and conductivity sensors.

A TRITON (Triangle Trans–Ocean Buoy Network) buoy at 8N, 156E was recovered and re-installed. Two CTD/RMS stations were worked to 1000m before the recovery and after the installation of TRITON buoy in order to calibrate the TRITON temperature and conductivity sensors.