A. Cruise Narrative

A.1 Highlights

A.1.a WOCE designation PR4, PR2

A.1.b EXPOCODE
49RY9006/1
49RY9006/2
49RY9006/3

A.1.c Chief Scientist
Michio Hirota,
Japan Meteorological Agency,
1-3-4, Otemachi, Chiyoda-ku,
Tokyo 100, Japan

A.1.d Ship
R/V Ryofu Maru

A.1.e Ports of call
Leg 1: Tokyo, Japan to Rabaul, Papua New Guinea
Leg 2: Rabaul, Papua New Guinea to Cebu,
Republic of the Philippines
Leg 3: Cebu, Republic of the Philippines to
Tokyo, Japan

A.1.f Cruise dates
Leg 1: June 14, 1990 to June 30, 1990
Leg 2: July 3, 1990 to July 14, 1990
Leg 3: July 20, 1990 to August 3, 1990

A.2 Cruise Summary Information

A.2.a Geographic boundaries

A.2.b Stations occupied

Observations of PR4 were carried out as part of the R/V Ryofu
Maru cruise RY9006 Leg 1, and those of PR2 were Leg 2 and Leg 3.

A total of 35 CTD/rosette stations for PR4 and 33 stations for PR2 was
occupied using a General Oceanics 12 bottle rosette equipped with 12
1.7-liter Niskin water sample bottles, and an NBIS MK III B CTD. No
additional sensors were used with the CTD system.

Sampling

The following water sample measurements were made:
salinity, oxygen, nitrate, nitrite and phosphate on all stations.
The depths sampled were: 10, 25, 50, 75, 100, 125, 150, 175, 200,
250, 300, 400, 500, 600, 700, 800, 900, 1000, 1250, 1500, 2000,
2500, 3000, 4000 in meters at every 5 degrees in latitude. On other
stations, water samples were taken at shallower depths than 1250m.
Surface water samples were collected by a bucket at every station.

A.2.c Floats and drifters deployed

A.2.d Moorings deployed or recovered

A.3 List of Principal Investigators
The principal investigators responsible for each parameter measured on the cruise are listed in Table 1. (All the correspondence on these data should be addressed to the Director of the Oceanographical Division, Marine Department, Japan Meteorological Agency.)

<table>
<thead>
<tr>
<th>Name</th>
<th>Responsibility</th>
<th>Affiliation</th>
</tr>
</thead>
<tbody>
<tr>
<td>H. Minami</td>
<td>CTD, S</td>
<td>JMA/MD</td>
</tr>
<tr>
<td>K. Fushimi</td>
<td>O2, Nutrients</td>
<td>JMA/MD</td>
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</tbody>
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JMA/MD  Marine Department, Japan Meteorological Agency

A.4 Scientific Programme and Methods

A.5 Major Problems and Goals not Achieved

A.6 Other Incidents of Note

A.7 List of Cruise Participants