

## PREFACE

### WHP Operations and Methods

Central to the observation programme within the World Ocean Circulation Experiment (WOCE) is the measurement of the physical and chemical properties of the water column - the so-called hydrographic and tracer programme. These measurements will be made on a global basis by oceanographers from laboratories in many countries. The successful collection of this data set constitute a major WOCE objective with the ultimate aim of understanding the role of the ocean in the world's climate system.

In 1989 the National Science Foundation of the USA set up the international WOCE Hydrographic Programme Office (WHPO) at Woods Hole to co-ordinate, oversee and ensure the quality of the hydrographic and tracer measurements made within WOCE. The Office is also to act as the centre through which the measurements are to be channelled.

In order to ensure the quality of the data gathered within the programme, it was recognised that, for the one-time survey standards needed to be the highest achievable by present methods. For the repeat hydrography surveys these standards must be approached sufficiently closely to achieve the appropriate regional goals.

This manual offers guidance on all aspects of the methods to be employed in the measurement programme, on laboratory calibration, field procedures and algorithms for data reduction. The document is an evolving one and the committee plan to solicit and authorise updates periodically. Errors, omissions and suggested improvements should be communicated to the WHPO. The committee is grateful to the numerous authors who have given their time to what is often mistakenly regarded as unproductive work. I am confident that you as users of these pages will agree with the committee on the value of their efforts.

Hydrographic and tracer data collected on WHP surveys are required to be communicated to the WHPO. The manner of submitting the data and the schedule for submission is found in the companion WHPO volume, "Requirements for WHP Data Reporting", WHPO 90-1, which is available from the WHP Office.

*Peter M Saunders, Chairman, WHP Planning Committee, 15 July 1991*