

## PREFACE

An International Symposium on Environmental Research in the Antarctic sponsored by the National Institute of Polar Research (NIPR) was held on December 3 and 4, 1996, at NIPR, Tokyo. The symposium aimed to give an overview of Antarctic environmental research and to discuss recent scientific activities in the Antarctic. The Japanese Antarctic Research Expedition (JARE) has continued since 1956 when Japan participated in the scientific programs of the International Geophysical Year. JARE covers wide range of scientific disciplines. In particular, long-term monitoring programs have been carried out as routine observations. Data and materials accumulated from these observations are useful and important to analyze the long-term variability of Antarctic environmental change.

A total of 49 papers were presented at the symposium as invited talks and poster contributions, covering the following four areas: (1) Overview of Antarctic environmental research; (2) Upper atmospheric environment in the Antarctic; (3) Environmental change in the atmosphere and ocean and (4) Antarctic marine and terrestrial ecosystems and environments. The present volume contains 18 full-length papers, which were refereed by two reviewers each.

We hope that this volume will contribute to the progress of research on the Antarctic environment and to the development of international collaboration. Our sincere thanks are due to all of the symposium contributors as well as to all of the contributors and referees who have readily cooperated to bring about these proceedings.

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