

## PREFACE

Analyses of sedimentary facies and their environmental interpretation have become routine practice in sedimentological field work. This is the outcome of a continuous effort by sedimentologists to improve our knowledge of sedimentary facies in both modern and ancient deposits. There has been, however, a problem of unbalanced research weight; cratonic and passive margin facies have been more heavily investigated than active margin facies.

The sedimentary facies of active plate margins such as subduction zones, volcanic arc environments and collision zones are extremely variable and complex. This is of course due to the extreme variability of factors responsible for controlling sedimentary facies: rapid and enormous sediment yield, large erosional unconformity, continuous tectonic and eustatic sea level interaction, the sudden emergence of volcanic edifices, large-amplitude paleobathymetric changes from deep-sea trench to mountain range within a very short time (say, a half million years), etc. It is this type of facies which is probably most important for understanding the evolution of the orogenic belt. Our knowledge and understanding are still quite limited in terms of interpreting the complexity and variability of such facies.

This book is a collection of papers on various aspects of sedimentary facies and processes, especially based on examples from modern and ancient deposits found in and around the Japanese Islands. The topics covered in this book are very wide, including description and interpretation of fluvial to deep-water sedimentary facies, physical processes of sedimentation, the relationship between tectonics and sedimentation, and volcanic sedimentology. Most of the papers were presented at a symposium on sedimentary facies held in 1987 at Tsukuba, Japan. We feel that the uniqueness of this book lies in the aspect of facies analysis in an active margin setting; hence the title.

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Asahiko TAIRA  
Ocean Research Institute  
University of Tokyo  
1-15-1 Minamidai, Nakano  
Tokyo 164, Japan

Fujio MASUDA  
Institute of Geoscience  
The University of Tsukuba  
1-1-1 Ten-nou dai,  
Tsukuba 305, Japan