

Intra-Oceanic Subduction Systems: Tectonic and Magmatic Processes

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Preface

Intra-oceanic subduction systems are generally simpler than ones at continental margins as they commonly have a shorter history of subduction and their magmas are not contaminated by ancient sialic crust. Over the past decade, there has been an enormous increase in information on these subduction systems, resulting from availability of new data types and application of improved analytical techniques. One current school of thought is that the greatest scientific advances will result from concentrating research efforts on just one or two subduction zones. There is no doubt that this approach has some advantages, but additional insights may be gained by comparing results from several different subduction zones that are subject to a range of different input parameters (e.g. convergence rate, roll-back rate, slab age, slab geometry, subducted sediment type, sediment subduction rate, sediment accretion/subduction erosion rate, thickness of arc crust, duration of subduction). Following this philosophy, we have edited this volume with the intention of providing examples of how recent research on a variety of intra-oceanic subduction systems has led to advances in understanding subduction-related tectonic, magmatic and hydrothermal processes. The volume includes papers on most of the better-known intra-oceanic subduction zones, although in a book of this size it is not possible to cover all aspects of each one.

This volume arose from a meeting with the same title held at the Geological Society, London, in September 2001. This was a joint meeting of the Marine Studies Group, the Tectonic Studies Group, and Volcanic and Magmatic Studies Group. Financial support to stage the meeting was provided by the British Antarctic Survey, the Marine Studies Group and the Volcanic and Magmatic Studies Group. We would like to thank all those who contributed to the success of the meeting, and to the production of this Special Publication. In particular, we are grateful to Clair Parks, Helen Wilson and Jennifer Last at Burlington House, and Helen Floyd-Walker and Angharad Hills at the Geological Society Publishing House. We also wish to acknowledge the people who gave their time to review manuscripts submitted to this Special Publication. These include a number of people who preferred to remain anonymous, and the following: J.F. Allan; J.H. Bédard; J.S. Collier; T. Gamo; S.A. Gibson; J.B. Gill; R. Hickey-Vargas; J. Ishibashi; S.P. Kelley; W.P. Leeman; R. Macdonald; C. Mac Niocaill; F. Martinez; T.A. Minshull; C. Müller; B.J. Murton; D.W. Peate; B. Pelletier; T. Plank; T.R. Riley; A.D. Saunders; D.W. Scholl; I.E.M. Smith; Y. Tatsumi; B. Taylor; R.N. Taylor; M.F. Thirlwall; J.P. Turner; K.L. Von Damm; G.K. Westbrook.

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