

The world's mid-ocean ridges form a single, connected global ridge system that is part of every ocean, and is the longest mountain range in the world. Geologically active, mid-ocean ridges are key sites of tectonic movement, intimately involved in sea floor spreading. This coursebook presents a multi-disciplinary approach to the science of mid-ocean ridges – essential for a complete understanding of global tectonics and geodynamics. Designed for graduate and advanced undergraduate students, it will also provide a valuable reference for professionals in relevant fields. Background chapters provide a historical introduction and an overview of research techniques, and following chapters cover the structure of the lithosphere and crust, and volcanic, tectonic and hydrothermal processes. A summary and synthesis chapter recaps essential points to consolidate new learning. Accessible to students and professionals working in marine geology, plate tectonics, geophysics, geodynamics, volcanism and oceanography, this is the ideal introduction to a key global phenomenon.

- Supports students and professionals new to technical aspects or geographic areas with a full glossary and extensive directory of feature names.
- Avoids jargon and fully introduces and defines technical concepts and terms.
- Richly illustrated, including colour figures and comprehensive data tables.
- Extensive references provide detailed starting points for further study, and a valuable resource for professional researchers from many different fields.

'This volume provides a comprehensive, up-to-date and authoritative account, extensively illustrated and referenced, of the geology, the morphology, the tectonics and the chemistry of the ridges, relating these to the underlying mantle movements. It also describes in detail the techniques used in these studies. Professor Searle has been at the forefront of research on the mid-ocean ridges throughout his career, and has produced an ideal textbook both for students and those currently researching the geology of the ocean floor.'

Sir Anthony Laughton, FRS, *formerly Director of the Institute of Oceanographic Sciences, UK*

'Professor Searle has done a superb job of summarising and analysing the history of, and the latest insights into, mid-ocean ridges, ranging from ultra-slow to fast spreading rates and including the tectonics, geophysics, geochemistry, volcanism and hydrothermal activity of this "longest mountain range in the world". This is an essential volume for any student or researcher studying mid-ocean ridges, both those in the Earth sciences and those with backgrounds in marine biology, chemistry oceanography, physical oceanography and other related fields.'

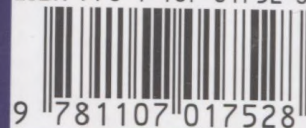
Ken C. Macdonald, *Emeritus Professor of Marine Geophysics, University of California at Santa Barbara*

Cover illustration: a map view of part of the Mid-Atlantic Ridge, in a 3D oblique view showing the curvature of the Earth. Image produced by the author from GeoMapApp (www.geomapapp.org; Ryan *et al.*, 2009).

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