

**The Tectonics, Sedimentation and Palaeoceanography  
of the North Atlantic Region**

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# The Tectonics, Sedimentation and Palaeoceanography of the North Atlantic Region

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## Preface

The stimuli for papers collected in this volume are the return of the Ocean Drilling Programme to the North Atlantic, and the exploration industry's advance into deep-waters off NW Europe. The 15 papers and two extended abstracts encompass the wide range of topics covered by the 'Tectonics, Sedimentation and Palaeoceanography of the North Atlantic Region'. Broad aspects of the plate tectonic evolution of the North Atlantic are presented in the papers by Driscoll *et al.* and Sinclair, who use sequence stratigraphic techniques to decipher the nature and timing of basin development and seafloor spreading between the conjugate margins of eastern Canada and western Europe. The crustal response to continental break-up and mode of lithospheric extension are discussed by Boillot *et al.* and Reston *et al.*, based on advanced seismic processing of deep-seismic reflection data from the west European margin.

The sedimentary response to North Atlantic rifting is dealt with in a series of regional papers focused on the Cenozoic development of the northwest European margin. Wold presents palaeobathymetric reconstructions of the North Atlantic between the Charlie Gibbs and Jan Mayen fracture zones. Ebdon *et al.* describe the early Tertiary evolution of the Faeroe-Shetland Basin; Boldreel & Andersen, Andersen & Boldreel (extended abstracts) and Vanneste *et al.* describe the interplay between tectonics, sedimentation and deep-water circulation in the Faeroe-Rockall area; Thomson *et al.* describe the erosional history of the Inner Moray Firth area of the North Sea.

The remaining papers have a varied content. Kiorboe & Petersen present the results of a seismic investigation of the Faeroe basalts and underlying strata. On the adjacent shelf, the

nature and stratigraphy of the sediments overlying the basalts are described from dredge samples by Waagstein & Heilmann-Clausen. The relationship between continental separation and palaeoceanographic development in the equatorial Atlantic is discussed by Jones *et al.*, whilst Haslett uses radiolarian biostratigraphy to interpret the Plio-Pleistocene palaeoceanographic record of the North Atlantic. The influence of glacial sedimentation on late Cenozoic slope-apron development on the continental margin off northwest Britain is described by Stoker; a summary of analogous deposits from the east Canadian, east Greenland and Barents Sea margins highlights the regional importance of glacial processes throughout the North Atlantic region. The use of tephrochronology in the correlation and dating of late Quaternary sediments in the North Atlantic is described by Hunt, who also draws attention to some of the problems involved in the use of this method.

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