Palaeowaters in Coastal Europe: evolution of groundwater since the late Pleistocene

edited by
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Palaeowaters in Coastal Europe contains 17 contributions from an international array of authors. They discuss the history of groundwater evolution during the late Pleistocene in the coastal areas of Europe from the Baltic region to the Iberian peninsula and the Canary Islands. Geochemical and geophysical techniques for evaluating palaeowaters are reviewed. The focus of the book is on changes in the hydrogeological regime during the Quaternary and their impacts on groundwater movement and chemistry in European coastal aquifers.

The work summarized in the papers was carried out by a partnership of European scientists under the auspices of the PALAEAUX project, an EC initiative. Researchers from the fields of hydrogeology, geochemistry, isotope hydrology and Quaternary studies attempted to reconstruct the most probable movement of groundwater in the study area over the past 100 000 years and its response to climatic events of global significance during the last glacial cycle. The results of this work, summarized in this volume, allow a better understanding of the water resources found at and near the coastlines of northern and western Europe. During times of lowered sea level, it appears that groundwaters were replenished to depths greater than occur at the present day. These pristine freshwater reserves are an irreplaceable asset. Their location at coastlines where populations and water demands are high and often seasonal means that they need careful management to avoid over-exploitation or contamination. The inevitable conflicts that this resource management creates are discussed.

Palaeowaters in Coastal Europe: evolution of groundwater since the late Pleistocene will be of interest to Quaternary scientists, hydrogeologists, marine scientists engaged in coastal research and those involved in environmental science and the management of groundwater assets.

- 344 pages
- 17 papers
- 180 illustrations, including colour
- index

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Cover illustration: Dorset coast, southern England. The present-day European coastline has existed only for 8000 years. Before this time groundwater flowed ‘offshore’ and is now preserved at depth in several locations. Water resources in coastal regions of Europe are subject to immense seasonal pressures and the palaeowaters at depth offer one possible alternative for supply. Photograph by D. K. Buckley.