Book Reviews

Geochemistry in Tropical and Subtropical Environments

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Years after Springer published a thin book on the same topic in its Lecture Notes series (Wasserman JC et al., eds., 1998: Environmental Geochemistry in the Tropics, Vol. 72), this rather long awaited book has recently been released – a much more substantial contribution to the topics. This new work represents the growing self-confidence and impressive quality of colleagues working in tropical and subtropical environments of Argentina, Australia, Brazil, Colombia, France, Ghana, Mexico, the United States of America, and Sweden (with a strong bias on Brazil, which reflects this countries activities). It is a selection that successfully attempts to demonstrate related research activities form terrestrial, coastal, and marine environments. The order of the individual contributions is sort of arbitrary – a different organization would have been just as possible.

The book contains 26 individual chapters, each written by individual authors or small groups of authors with the aim to reflect the current understanding and diversity of the topics. These chapters carry the following titles: 1) Regional climate changes: where and how; 2) Palaeoenvironmental reconstruction based on lacustrine organic matter: examples from the tropical belt of South America and Africa; 3) Catchment-lagoon-estuary-coast interactions of the Patos-Mirim system, South Brazil; 4) Relationships between simultaneous methane, nitrous oxide and carbon dioxide fluxes, and surface soil humidity and temperature in the Mata Atlantica subtropical forests, Brazil; 5) Modern strategies for environmental sample preparation and analysis; 6) The importance of assessing uncertainties related to linear calibration curves: a case study for flame atomic absorption spectrometry; 7) Sources of nonpolar lipids in aerosols over the city of Rio de Janeiro; 8) The provenance of prehistoric ceramic artefacts from the Amazon basin using geochemical tracers; 9) Exploring the cation exchange capacity of Massapé Paulistana vermiculite for heavy metal removal from aqueous solutions; 10) Variation of heavy metal content with depth in Sabana de Bogotá soils; 11) Acid drainage of coal mining in Cundinamarca, Colombia; 12) Mercury pollution in Ghana: environmental impacts of artisanal gold mining in sub-Saharan Africa; 13) Water quality in the area of Colima volcano, Mexico; 14) The Pacific and Caribbean rivers in Columbia: water discharge, sediment transport and dissolved loads; 15) Reactive processes of organic matter in the Amazon river; 16) Organic carbon and nitrogen in particulate, colloid and dissolved phases from the Amazon river system; 17) Relationship of metal contaminant with acid-volatile sulphides (AVS) in tropical estuarine sediments: potential influence on metal distribution and bioavailability; 18) Modelling of circulation and water exchange in a hypersaline coastal lagoon: Lagoa de Araruama, Brazil; 19) Sediment oxygen and nutrient fluxes in three estuarine systems of SE-Brazil; 20) Hydrogeochemical characterisation of groundwater saline intrusion in the western shore of Céara, NE-Brazil; 21) Sepetiba Bay: environmental geochemistry of heavy metals in a subtropical costal lagoon; 22) Biogeochemical controls and concerns with trace metal accumulation in mangrove sediments; 23) Bioturbation effects of the sandprawn *Callichirus Maior* on sediment nutrient fluxes; 24) Trace metal occurrence and distribution in sediments from Mar Chiquita coastal lagoon, Argentina; 25) Geochemistry and spatial distribution of heavy metals in continental shelf sediments from two offshore oil fields in SE-Brazil; 26) Geochemistry of continental shelf sediments of the Céara coast, NE-Brazil. A subject and a taxonomic index follows.

In his introductory chapter, Egbert Duursma presents some impressive evidence for regional climate changes from the Amazon region of Brazil, and from the Andean countries Argentina, Bolivia, Chile, Ecuador, and Peru, including an atmospheric temperature profile from Cartagena, Columbia that reaches into the stratosphere. His most important point is that climate change has its impact on environmental geochemical processes. Much more collaboration is needed between meteorologists and geoscientists to better explain and model tendencies and trends. The following chapters are more 'down-to-Earth' in their approach but still beautifully reflect the large variety of environmental geochemical activities and interactions with other fields of science. Everyone working in the field and dealing (not just) with tropical and subtropical climates will certainly appreciate the compilation. There are certainly quality differences between individual contributions, but this does not question its overall value. In addition (and unfortunately not to be taken for granted), the book obtained a nice layout, and tables and figures have received the necessary attention.

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