

## BOOK REVIEW

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CHESTER, R. & JICKELLS, T. 2012. *Marine Geochemistry*, 3<sup>rd</sup> ed. viii + 411 pp. Wiley-Blackwell. Price £85.00, €102.30, US\$149.95 (HB); £39.99, €49.60, US\$89.95 (PB); £59.99, €69.99, US\$59.99 (e). ISBN 9781118349076 (HB); 9781405187343 (PB); 9781118349090 (e). doi:10.1017/S0016756813000137

The third edition of *Marine Geochemistry* follows the format and chapter structure of the previous edition and is divided into three main sections: sources of material to the oceans, processing of that material in the ocean reservoir, and finally sinks and marine sediments. The general conceptual framework of the chemistry of the oceans as a near steady state reservoir is laid out in the introduction and works well as a structure. Chemical and other concepts are introduced gradually within this framework, with boxed 'worksheets' giving excellent illustrations of their detail and references for further investigation. Diagrams are mostly black and white, but clearly drawn with detailed captions and there are ten colour plates, mostly of contour maps of various parameters. The text is extremely readable with very useful summaries at the end of sections/subsections. When delving into sections representing gaps in my knowledge it was easy to extract the essential information very quickly.

Comparison with the second edition shows that the third edition is some 90 pages shorter. In spite of this there has been significant revision of the chapters dealing with carbon and

nutrient cycling to reflect advances in these fields, and further material added to reflect the increased recognition of iron as a nutrient and the role of shelf seas in the ocean system. The discussion of oxygen in the oceans has been moved into the chapter dealing with ocean nutrients and the marine carbon cycle and works well in its new home. Given that new material has been added, it is hard to understand the rationale for the overall reduction in length. Spot comparisons between the two versions show that the whole text has undergone thorough revision. The figures and tables have often been updated as well, but more detailed information has sometimes been cut in favour of shorter summaries. Whilst this perhaps helps with overall readability some of the detail lost looks valuable to illustrate the variable nature of some systems. A minor niggle is that as part of the reduction in size the details of the chapter subsections have been removed from the contents page, something I found rather frustrating when navigating the book.

The third edition of *Marine Geochemistry* is an invaluable resource for a wide range of readers from undergraduates to researchers, providing a concise up to date summary of the interplay of chemical and biological factors that control ocean chemistry. I wonder if fans of the previous editions will miss the reduction in detail that inevitably comes with the decrease in size, but conversely new users may appreciate the more succinct summary of the state of the art that the book now represents.

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