

mented by useful appendixes dealing mainly with methodologies. The two-page index also gives some idea of the extent of coverage on coastal zone management in this workbook.

In Appendix 1 the authors have indicated from their point of view the level of conceptualization and skill training in the exercises: scoping (1 exercise), resource inventory (4), resource assessment, data organization and representation (8), analysis and management decision-making (4), and advancing planning (5). The status of exercise 6 in Chapter 2 has not been indicated but it could be included in analysis and management decision-making.

Generally the 23 exercises follow a common format, *viz.* background statement, aim, duration to complete exercise, suitable location, materials required, instructions, expected result, interpretation, case study, alternative exercises, and further readings. In practice, it would take longer than the stated time to complete each exercise, ranging from a few hours to several days. The amount of discussion generated depends on the tutor's experience, the amount of available information and the background of the trainees. The level of difficulty would vary with the background of trainees too, *e.g.* trainees with zoology background would be able to identify corals better than other trainees. Overall, the level of exercises is pitched for trainees with at least a basic degree that includes some knowledge or experience of the coast.

A significant feature of the workbook is its flexibility for teaching. The flexibility is not only in the planning of courses based on the workbook but also within each exercise. The exercises can be simplified or adapted for other case studies or other areas, based on the tutor's experience and available information. From the information given on alternative exercises, experienced tutors can develop additional exercises. In this respect, the workbook becomes a helpful handbook in structuring other techniques and concepts into workable exercises related to coastal zone management.

Other coastal researchers will find the workbook of value. Those with a first degree in an environmental science can use the workbook as a ready handbook for some aspects related to the coast. The workbook would be equally invaluable to those who wish to do some self-

improvement in the area of coastal zone management and at one's own pace.

For the generalist or specialist in coastal zone management it is worth spending the £14 on the workbook. The reviewer looks forward to an expanded second edition in which more exercises can be included and from other tropical islands of the world. After much handling, the pages of the present workbook keep falling off and perhaps the publisher should consider an improved book spine for future reprints or editions.

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Quaternary Coastal Changes, edited by Paulo Pirazzoli and David B. Scott, 1989. Special Issue of *Paleogeography, Palaeoclimatology and Paleaocology*, Volume 68, Parts 2-4, Pages 97-348. Elsevier, Amsterdam. No Price. ISSN 0031-0182.

This collection of eighteen papers forms another contribution to the hugely successful IGCP-200 Project on 'Late Quaternary Sea-level Correlation and Applications.' The volume comprises something of a 'mixed-bag', both in terms of subject matter, geographic area and geologic timescale. Nonetheless there are many good things to reflect upon.

The chief focus is, understandably given the thrust of IGCP-200, on sea-level, although the title of the volume doesn't convey this. The papers include studies of both relative sea-level rise and fall. The volume is produced to the usual high standard of Elsevier.

Almost all the papers are based firmly on morphological or morpho-sedimentary analysis, supported by a range of isotope dating techniques. The studies embrace a thoughtful summary of 'zonality' by Kelletat, which, had it been available to the other authors in this volume, might have influenced their thinking, as well as quite detailed examinations of specific problems, like the Main Rock Platform of western Scotland, a subject that has felled a considerable area of forest in the last thirty years. The essay by Forsstrom *et al.* is refreshing, if only because it grapples with the problems of land emergence, which most of the 'submerging'

research community would dismiss as 'easy'—this essay highlights the fact that the complexities of interpreting falls in sea-level can be as difficult as interpreting rises.

Perhaps the great strength of the volume is in the number of 'peripheral' regions that are discussed. These include Turkey, Senegal and Mauritius, The Cook Islands, Indonesia, Sri Lanka and Arctic Russia. The latter work, although short, does provide a readable summary of one of the last great unexplored sea-level provinces of the World. The Pacific Island work, (and it is interesting to note the influence of the French and the Japanese, even in developed areas like New Zealand) is particularly important in trying to evaluate the niceties of

hydro-eustatic change under ocean basin tectonism. All-in-all these papers provide much food for thought.

This is a useful volume, which will inevitably be in most good libraries as a matter of course. However, the biggest danger is that it might itself become 'submerged' (especially as ours was displayed in early summer, and who reads journals issued in summer?) in the never-ending transgression of new issues of periodicals. Hopefully it will remain emerged.

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BOOKS RECEIVED

Applied Environmetrics Oceanographic Tables. by T. Beer, 1989. Applied Environmetrics, 118 Gordon Street, Baldwin, 3103 Victoria, Australia. 38pp + computer disk. US\$124.95 ISBN 0-9590809-2-9.

Sea of Cortez Marine Invertebrates. by A. Kerstitch, 1988. Sea Challengers, 4 Somerset Rise, Monterey, CA 93940. 120pp. US\$21.50 (+ \$2.35 postage). ISBN 0-931118-14-6.

"Greenhouse": The Impact of Sea-level Rise on Low Coral Islands in the South Pacific. by P. Roy and J. Connell, 1989. RIAP Occasional Paper No. 6, University of Sydney, Australia. 55pp. AUS\$8.00. No ISBN.

Catastrophic Coastal Storms: Hazard Mitigation and Development Management. by D.R. Godschalk; D.J. Brower, and T. Beatley, 1989. Duke University Policy Studies, Durham, North Carolina. 275pp. US\$47.50 (stg. £38.50). ISBN 0-8223-0855-X.

Ecological Impacts of the Oil Industry by B. Dicks, (Ed.), 1989. Wiley, Chichester. 316pp. stg. £80.00. ISBN 0-471-92193-9.

Field Studies on Sand Movement in the Coastal Zone by T. Basinski, 1989. Alma Press Zam 44/89/300 W-2, 296pp. (Available from Prof. S. Massel, Polska Akademia Nauk,

Instytut Budownictwa, Wodnego w Gdansk 80-953, ul Kosceirska 7, Poland. Copies free, but please send US\$15.00 for post and packing.)

Books received from the
U.S. Army Corps of Engineers,
P.O. Box 631, Vicksburg, MS
39181-0631.

Development of a Portable Sand Trap for Use in the Nearshore, by J.D. Rosati and N.C. Kraus, 1989. Technical Report CERC-89-11.

Stability of Toe Berm Armor Stone and Toe Buttressing Stone on Rubble-Mound Breakwaters and Jetties, by D.G. Markle, 1989. Technical Report REMR-CO-12.

Infragravity Energy and its Applications in Nearshore Sediment Transport and Sandbar Dynamics, by J. Oltman-Shay, 1989. Technical Report CERC-89-8.

Study of Breakwaters Constructed with One Layer of Armor Stone, Detroit District, by J.R. Wolf, 1989. Technical Report REMR-CO-10.

SBEACH: Numerical Model for Simulating Storm-Induced Beach Change, by M. Lar-