

Quarterdeck

Richard W. Spinrad, Editor

I remember, as a kid, scouring our family encyclopedia for the pages that included plastic overlays of information. I could progress through the detailed anatomy of some creature – first its skeleton, then its musculature, then its nervous system, etc. – or the characteristics of a foreign country – first its demographics, then its natural resources, then its political boundaries, etc. The bound plastic sheets were well registered, so they could be overlaid with repeated accuracy. This was my introduction to the concept of a geographic information system. Granted, the utility and relevance of this system was limited to my production of school reports. But even then, I wondered how one might be able to take this concept and make it more useful: what if the sheets could be overlaid in any order? . . . how could I add supplemental overlays with information only of interest to me? . . . could I change just one bit of information on one overlay without having to redo the whole sheet? I was fascinated, but I was also limited by the technology of the pre-digital age. Geographic information systems have since adapted to the leading edge capabilities of random data access, high-volume storage and light-speed searching. This issue of *Oceanography* brings those concepts directly into the field of marine biology. At issue is the question of how one might build a geographic information system for the biology of the world's oceans – a daunting task, to say the least. Readers of this issue will quickly learn that the limitations are as much technical as they are "cultural." Simply finding and enumerating the biota of the ocean is extremely difficult (cf. *Oceanography Special Issue on the Census of Marine Life*: Volume 12 Number 3). Also, as opposed to physical parameters which are reasonably constrained in their definition (Centigrade degrees, or cubic meters are universally understood quantities), biological descriptors of organisms, as in taxonomic classifications, may vary from one observer to another, or may differ by quite subtle degrees. Yet the need for such an information system is dire. Among other things, the biota of the ocean represent a major renewable food resource, they are indicators and maintainers of the health of the oceans, they are sources of biomedical materials and products, and they can help to sustain a balance of greenhouse gases. We need a system to know where the ocean's biomass lives. We need a geographic information system. Is it realistic to believe we could build such a system? Read on and find out about the Ocean Biogeographic Information System (OBIS).



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EDITOR

Richard W. Spinrad
Technical Director
Oceanographer of the Navy
U.S. Naval Observatory
3450 Massachusetts Ave., NW
Washington, DC 20392-5421 USA
Phone: (202) 762-1697 Facsimile: (202) 762-1025
Email: spinrad.richard@hq.navy.mil

EDITORIAL ASSISTANT

Elizabeth J. Maruschak
magazine@tos.org

ASSOCIATE EDITORS

Gregg J. Brunsell
Australian Institute of Marine Science
PMB No. 3, Townsville, M.C.
Queensland 4810, Australia
(61) 7 4753 4481; FAX (61) 7 4772 5852
g.brunskill@aims.gov.au

Ellen R.M. Druffel
Department of Earth System Science, 222 Roland Hall
University of California, Irvine, CA 92697-3100 USA
(949) 824-2116; FAX (949) 824-3256
edruffel@uci.edu

James Syvitski
Director, Institute of Arctic and Alpine Research
University of Colorado at Boulder
1560 30th Street, Campus Box 450
Boulder, CO 80309-4050 USA
(303) 492-7909; FAX (303) 492-6388
james.syvitski@colorado.edu

Peter Wadhams
Scott Polar Research Institute
University of Cambridge
Lensfield Road
Cambridge CB2 1ER England
223-336542
pw11@phx.cam.ac.uk

DESIGN/PRINTING

Mercury Publishing Services
1300 Piccard Drive
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