



BOOK REVIEWS

Managing Coastal Erosion, National Research Council, 1990. Washington, D.C.: National Academy Press, 182p. ISBN 0-309-04143-0.

Forty-five percent of the U.S. population now lives in counties bordering the coast. This population is projected to increase by 13% within the next 20 years. Over 60% of the U.S. shoreline is presently eroding to some extent. There is therefore a growing public concern over coastal erosion, mitigation measures, appropriate land use policies, and preservation of remaining wetlands.

This book presents a summary of the conclusions and recommendations by the Committee on Coastal Erosion Zone Management, under the auspices of the Water Science and Technology Board and Marine Board of the National Research Council (NRC), in response to a request for guidelines by the Federal Energy Management Agency/Federal Insurance Administration (FEMA/FIA). Causes of coastal erosion, both natural and anthropogenic, are briefly reviewed, as well as current federal and state coastal management programs. Coastlines vary greatly in their physical characteristics, which affect their relative susceptibility to natural erosion. Shoreline engineering structures, such as jetties, groins, seawalls, etc., designed to counter beach erosion, have often accelerated erosion downdrift. Fragmentation of political jurisdiction among federal, state and local districts has further complicated the search for solutions.

The National Flood Insurance Program (NFIP), established in 1968, and administered by FEMA, is the main avenue of Federal involvement in coastal flood hazards. NFIP designates flood-prone areas, based on the statistical 100 year flood event. The Upton-Jones amendment (1987) provides compensation for owners of structures in imminent danger of collapse to relocate prior to the actual loss, and thus is a modest step toward a retreat option. Specifically, to qualify for designation as "imminent collapse" a building must lie seaward of a line 100 feet plus five times the local

average annual shoreline recession rate (E-10). There are further E-30 and E-60 setback designations, for insurance purposes (based on 30- and 60-year erosion rates, respectively). While the dynamic nature of the E-zones is recognized, no specific provisions are made for future sea level rise, nor local subsidence effects.

The NRC subcommittee calls for establishment of a national computerized data base; also the use of historical trends to estimate shoreline retreat, as the most practical method in the near future, although they recommend statistical Monte Carlo simulations as a preferred method, in the long run. While not specifically discussed, models of future sea level rise can be introduced, to provide projections of longer-term trends. A certain flexibility should be incorporated into the legislation to permit periodic reassessment of the E-zones, as more accurate data become available.

Managing Coastal Erosion provides useful information on policy responses to shoreline recession and its adverse effects on private property. It also addresses issues such as the role of the Federal government toward development in erosion-prone coastal areas. As such, the book will be of great interest to coastal managers, engineers, property owners, and the growing segment of the population which lives or works near the shore.

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The Rising Tide—Global Warming and World Sea Levels, L. Edgerton, 1991. Washington, D.C.: Island Press, 137p. ISBN 1-55963-068-X. ISBN 1-55963-067-1.

One of the most direct consequences of global warming could be accelerated rates of sea level rise, which would potentially threaten coastal cities, ports and wetlands. Even under present rates