
This is a very important publication for specialists in coastal processes and evolution but, being in French and published by a regional institute of social studies, it is not likely to catch the eye of the average library browser. The coast of Tunisia is very favorably placed for observing a continuous coastal transition from the stable northern borders of the African craton (in the south) to the tectonically active Atlas orogenic belt (in the north). This traverse was the site of an important field excursion organized by the Shorelines Commission of INQUA (Mediterranean and Black Sea subcommission) in 1979, and the work of the authors has thus been inspected and reviewed by an international group of specialists.

The book is divided into three parts: the northern sector (north of Cape Bon), the central and southern sector, and an overview of the history of sea-level changes through the last 125,000 years. In the opinion of the reviewer this traverse contains the clearest sequences and interrelations of the last interglacial sea levels to be seen anywhere in the world, although they have become better known from the more tectonically disturbed sections in Barbados and New Guinea. The three Tyrrenhian shoreline formations are here chronologically, stratigraphically and paleontologically defined: Doura, (125,000 BP), 10-15 m above present MSL; Rejieche (105,00 BP), 8-10 m; and Chebbha (85,000 BP). As elsewhere in the more stable low-latitudes there are also mid-Holocene shore formations, up to about 2 m, that can be easily confused with the Chebbha unless one is forewarned.

Interrelations are also well established with archeological material, from Paleolithic to historic times, with classic sections around Carthage. The marine facies are interbedded with eolian wedges and red paleosols, and locally with salt marsh, lagoon and fluvial members. Most of the marine and eolian sediments include carbonate material so that the formations are mostly well-lithified calcarenites and thus nicely displayed in cliff sections and in numerous building-stone quarries.

From the paleoclimatic point of view, it is interesting that the interglacial climax conditions are not seen until the second stage (105,000 BP), although the elevations confirm the evidence from Barbados and New Guinea. This formation was originally defined as the Monastirian, but unfortunately in an area of remarkable and active neotectonics, and so the name has been dropped.

The work is well-illustrated, with five pages of references and a long English summary.

Rhodes W. Fairbridge
New York


Interest in detection and monitoring of oil pollution in the marine environment has increased tremendously over the past ten or fifteen years, spurred on by several major oil spills as well as a growing realization that much of the oil released into the environment is a result of many small spills and discharges. This book presents a very practical view of the state-of-the-art in operational or near-operational detection and monitoring of oil pollution. (The title of the book, apparently taken from the title of the six-year NATO study from which this book derives, implies a broader range of pollutants than is actually considered. This is misleading and rather unfortunate in an otherwise informative work.)

The perspective is taken from the need of national governments to monitor oil spills for a variety of reasons: early detection and tracking to facilitate cleanup operations; surveillance in support of law enforcement and long term monitoring to provide information for policy decisions.

National requirements pertaining to oil pollution and the national programs intended to support those requirements are briefly described in the first two sections of articles. Of these, the article by the editor, J.M. Massin, best outlines the extent and complexity of the problem facing governments regarding control of oil pollution. The same basic problems face each country represented here, but differences in coastline geography, land use and political and economic priorities apparently result in somewhat different approaches to the problems. The major impact of the articles in these sections is that all these countries are faced with an enormous responsibility to control oil pollution. Remote sensing is obviously a fundamental element in oil sur-
veillance, detection and monitoring activities even though there is no complete, unambiguous, operational remote detection system.

The third section is a compendium of technical papers dealing with research topics. Even here the emphasis is on refining and expanding techniques which are already in use in operational systems. Only one paper (Bijunas et al., Canada) describes research using a laser fluorosensor—a potentially powerful detection technique, but one which is rather far from being applied operationally. The papers are generally quite good and together form a valuable reference for anyone interested in remote detection of oil.

Following a short section reviewing the use of satellite observations for detecting and monitoring oil spills (primary focus is on passive optical or passive and active microwave systems) is a description of an attempt to conduct a standardized oil experiment. The papers describing the International Standardized Oil Wake Experiments (ISOWAKE) are intriguing in that they document the difficulty of designing a reliable, repeatable, remote sensing experiment in the marine environment.

The best single part of this book is the conclusions and recommendations section, which has very wisely been placed at the beginning of the book where it sets the tone and gives the perspective of the study. This section is an excellent synopsis of the process of evaluating the available remote sensing techniques in terms of their applicability to a specific problem. Oil detection and monitoring is the problem here, of course, but the process described in this chapter is applicable to many other problems and could be valuable as a case study.

All applicable remote sensing systems are evaluated for operational use, and compared to a list of requirements for an ideal system. The requirements are rather stiff: all-weather, day/night operation; wide area, real-time coverage; unambiguous detection... No single system meets all technical requirements—not even potentially. These and the further constraints of cost effectiveness, reliability and utility of the data products lead to recommendations which make a reasonable compromise between the ideal and the attainable systems.

I would recommend this book to anyone involved in oil pollution detection either from the research side or from the operational side. I would also recommend it as a case study of the process of applying state-of-the-art remote sensing to a problem which requires reliable, operational systems.

Bill Philpot
Cornell University
Ithaca, New York


American floodplain management, with its emphasis on depth of flooding as the sole flood damage factor, has seriously underestimated the flood hazards in at least 20% of U.S. floodplains. In recognition of this problem, the Association of State Floodplain Managers 1984 conference addressed means of identifying and managing areas that are at high risk of damage because of the velocity and debris content of floodwaters and the rapidity and duration of flooding. This proceedings volume is divided into three main sections that provide an overview of management and public policies for high-risk flood areas, a description of specific risks (ice jams, dams, and coastal hazards), and a compendium of strategies for managing high-risk areas. A recurring theme in the 39 articles is the need for greater technical assistance from the state and federal level to localities faced with mapping and managing floodplains.

The lead article by Jon A. Kusler and Pat Bloomgren, “Improving the Effectiveness of Floodplain Management in High Risk Areas,” sets the tone for the proceedings. Kusler and Bloomgren characterize types of high-risk areas: explain the inadequacy of existing floodplain management approaches; and offer a series of recommendations for improved floodplain mapping, stronger regulatory frameworks, and revised flood insurance policies for high-risk areas. The articles that follow provide numerous illustrations, case studies, and elaboration of the call for increased attention to high-risk flood areas.

This relatively inexpensive volume is useful both as a reference to the state of the art in floodplain management strategies and as a collection of management case studies from areas as disparate