

Preface

Over the past 15 years, the International Commission on Continental Erosion (ICCE) has organized a number of important and successful symposia and workshops covering different aspects of erosion and sedimentation. These have focused on Erosion and Sediment Transport Monitoring (Florence, 1981; Oslo, 1992), Recent Developments in the Explanation and Prediction of Erosion and Sediment Yield (Exeter, 1982), Drainage Basin Sediment Delivery (Albuquerque, New Mexico, 1986), Sediment Budgets (Porto Alegre, Brazil, 1988), Erosion, Transport and Deposition Processes (Jerusalem, 1987), Sediment and the Environment (Baltimore, 1989), Steepland Erosion and Sedimentation (Christchurch, 1981; Corvallis, 1987; Suva, Fiji, 1990), Erosion, Debris Flows and Environment in Mountain Regions (Chengdu, 1992), Sediment Problems (Yokohama, 1993), Variability in Stream Erosion and Sediment Transport (Canberra, 1994) and Erosion and Sediment Yield: Global and Regional Perspectives (Exeter, 1996). In many of these symposia, attention has been directed both explicitly and implicitly to the role of human activity in modifying erosion and sedimentation processes and there is a growing awareness of the central importance of human activity in influencing both erosion and sediment transport. Concern for this impact has been further promoted by recent interest in global change and the sustainable development of the world's resources. In many areas of the world, erosion rates have increased dramatically as a result of forest clearance and land use change and this accelerated erosion is commonly paralleled by marked increases in sediment yield. Both increased on-site soil loss and increased suspended sediment loads can give rise to serious economic and environmental problems in terms of reduced soil productivity, reservoir sedimentation, disruption of water supply infrastructure and degradation of freshwater habitats. Equally, however, reservoir construction has caused major reductions in the sediment loads of some rivers and these reductions in sediment transport have frequently resulted in increased scour and downstream changes in channel morphology.

Against this background, it was felt to be both appropriate and timely to devote an entire symposium to exploring and assessing the significance of human impact on erosion and sedimentation. Furthermore, this theme was considered to be particularly appropriate for a meeting held in Morocco. Erosion and sedimentation problems frequently assume serious proportions in the semiarid regions of the world. Morocco has a long and successful history of dealing with sedimentation problems associated with reservoir development in areas of high sediment yield and of implementing watershed management strategies to reduce erosion and sedimentation.

The 33 papers published in this volume of proceedings are clearly unable to provide comprehensive coverage of all facets of human impact on erosion

and sedimentation, but they deal with a wide range of topics and bring together case studies and findings from 23 countries representative of many different environments, as well as providing more general global perspectives. The first eight papers focus on human impact on erosion rates and provide useful examples of the potential magnitude of the changes associated with different human activities in a range of environments, as well as directing attention to the development of procedures for predicting the magnitude of the changes involved. The next group of 11 papers considers the downstream effects of accelerated erosion on sediment transport and sediment yield and these contributions document a wide range of examples of the impact of human activity and land development in different parts of the world. These are followed by six further papers that explore a number of problems and approaches associated with the development of sediment management and control strategies. The final eight papers deal more specifically with reservoir sedimentation and related problems and with the impact of river regulation on sediment loads and channel morphology.

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