PREFACE

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PREFACE

This special issue represents one of the results of a two-weeks Summer School (9-22 September 2013) on *"Coastal Erosion and Management for Safer Coasts in a Changing Climate (CEMSAC)"* which was organised at the Federal University of Pernambuco in Recife/Brazil in the frame of the EXCEED – Project at TU-Braunschweig (*Excellence Center for Development Cooperation in Sustainable Water Management in Developing Countries*) supported by the German Academic Exchange Service (DAAD). The EXCEED - Project includes thirty-five partner universities and research centres in developing and emerging countries organised in four regional networks (Latin America, Middle East, Sub-Sahara Africa, and South-East Asia) with the trans-regional coordination by TU-Braunschweig (www.exceed.tu-braunschweig.de). This Summer School, coordinated by the Latin American network, was one of the multiple activities/events towards enhancing capacity building through training of and networking between experts. In this respect, the CEMSAC Summer School primarily intended to provide an overview of the most important advances towards understanding, predicting and managing coastal erosion and to illustrate how and to which extent these advances can be used in practice to meet sustainability requirements in coastal erosion management. This was achieved through lectures and exercises in classes, field work and visits to selected coastal sites. This also included the opportunity for the twenty-nine attendees, each one with a different study site, from ten countries to discuss/present their coastal case studies with the aim of identifying, together with the group, the most appropriate solutions for their specific problems. A total of thirteen lecturers were involved, including Andrew Cooper, Magnus Larson, Raul Medina, Agustin Sanchez-Arcilla, Hocine Oumeraci, Jaap van Thiel de Vries and Michalis Vousdoukas from Europe and Antonio Klein, Edgar Mendoza, Dieter Mühe, Eduardo Siegle, Pedro Pereira and Rodolfo Silva Casarin from Latin America. Responsible for the excellent local organization was Prof. Edmilson Santos de Lima.

The main reasons for the selection of Recife for the venue may be explained by the unprecedented engagement and dedication of the later and his team (already revealed during the initiation phase of the Summer School), but also by the crucial problems associated with "coastal squeeze" due to shortage of coastal sediments and space along the entire Pernambuco coastline which provided an ideal opportunity for the attendees to learn from previous failures and successes in managing coastal erosion. Also the financial support from Instituto de Ingeniería (UNAM), the Federal University of Pernambuco (UFPE) and from the Pernambuco State Research Agency (FACEPE) which provided support for the non EXCEED participant lecturers was determinant to the venue choice

The CEMSAC Summer School was based on the same successful concept of a similar two-weeks Summer School on "Sustainable Flood Risk Analysis and Management" in Bahir Dar/Ethiopia in September 2011, but with substantial improvements. One of these improvements was the submission by each attendee of a case study from their country as an integral part of the application to the CEMSAC Summer School. The case studies were integrated in the course programme in due consideration of the expertise of the lecturers, so that at the end of each session/day chaired by the respective lecturer, two or three case studies were discussed with a focus on identifying together the most appropriate solutions for improvement. During the last day of the Summer School, the improved/updated versions of the case studies based on the feedbacks of all participants were presented and those eligible for submission to a special issue were selected.

Sixteen papers comprise this special issue. One of the papers, written by several experts who have a broad experience dealing with coastal erosion in Latin America, is focus on the present and future challenges of coastal erosion in Latin America and shows that erosion is not yet a serious threat, although it is widespread and it is severe in some parts. Major erosion problems are frequently associated with human intervention in sediment supply, with poor planning or with the morphodynamic nature of the coast, twelve papers are focus on the potential solution to specific coastal erosion problems in LA and another present a qualitative and descriptive assessment of the sudden change induced by the tsunami on a

coastal location in Central Chile. Two papers, one from Poland and other from Malaysia, shows that Latin American coastal erosion problems are no different from those occurring in other regions of the planet

Overall, the unprecedented success of the CEMSAC Summer School is associated with many "ingredients" such as a very good preparatory work by the TU-Braunschweig, the Universidad Nacional Autonoma de Mexico (UNAM) and the Federal University of Pernambuco, a very engaged local organizer and his team, highly motivated clever "students", very dedicated lecturers and particularly the case studies from the "students" which created an ideal environment for team work and active learning.

Moreover, the results of the CEMSAC Summer School have clearly shown the necessity of a further two-week Summer School based on the same concept, but focusing on *"Ecosystems and Ecosystem Services from a Coastal Engineering Perspective"*, including ecosystem approaches to management of both coastal floods and erosion embedded within a broader risk-based "*Driver-Pressure-State-Impact-Response (DPSIR)*" framework. This is indeed a crucial issue as every coastline is getting increasingly threatened by a broad range of stressors due to both human activities and climate change at multiple scales in time and space.

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