

International Conference on

Coastal Zones

May 16-18, 2016 Osaka, Japan

Adaptive integrated coastal zone management in China: From pressures to solutions

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The coastal zone (CZ) is a social-ecological system (SES) that is both dynamic and complex. Coastal SES are some of the most valuable in the Earth System (ES). The high ecologic, social and economic value of the coastal zone is influenced by global and climate changes, as well as pressures from anthropogenic activities. The rapid development of the economy and society in China has led to a concentration of the human population along the coast. This puts these coastal SES under increasing and multiple pressures, but also increases the risk to the population from dramatic accidents (e.g. oil spills, Tianjin explosion) and natural hazards (e.g. storm surges). Such accidents have resulted in the deterioration of the coastal environment, damage to natural resources, and loss of ecosystem functions and services. A comprehensive understanding of the coastal natural status, changes and resilience is fundamental for sustainable development. Such knowledge is the basis for the adaptive management of coastal SES and is crucial to their sustainability. Several analytical frameworks exist to support the adaptive management of the coastal SES. They can contribute valuable insights and be used together to develop a locally adapted integrative framework. Research on coastal environmental damage assessment (CEDA) as well as coastal social-ecological systems in China aims to setup a technical framework for CEDA and to contribute to co-designed, locally-adapted integrative management frameworks. This paper presents our preliminary results to provide scientific support for the policy-making with respect to the sustainable coastal zone management in China.

Biography

Yongming Luo completed his PhD in 1997 at The Queen's University of Belfast, UK. He is a Professor and the Executive Deputy Director of Yantai Institute of Coastal Zone Research, Chinese Academy of Sciences. His research mainly focuses on coastal environmental quality and risk management, and remediation of polluted soil. He has published 190 (co-)authored SCI papers and 15 books, and obtained 16 patents in China. He is a Consultant Expert Group Member of "973" Program and a Chief Scientist of "863" Major Project of MOST. He serves as an Editorial Board Member of International Journal of Phytoremediation.

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