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Full Text

Joint GWSP-LOICZ-CSDMS Workshop in Boulder, Colorado, USA, September 2007.

From New Orleans to Bangkok, from the Okavango to the Volga, more than 350 million people worldwide live in deltas. As an interface between bodies of water and land, along with land deltas and dry deltas, deltas often represent the end of rivers yet are a rich mine on which ecosystems and societies have been built.

Deltas are shaped by physical, biological, and social processes. Physical processes include tides, waves, currents, flow rates, and rainfall. Ecosystems affect erosion, create microclimates and contribute nutrients and nutrient cycling. People dredge and dig, direct rivers and build structures, introduce and exterminate biota.

These complexities lead to significant challenges in understanding and managing deltas and their regions of influence. They also highlight the dangers facing deltas, from resource exploitation to sudden environmental changes.

To understand, and to develop solutions for, these threats and vulnerabilities, an international scoping workshop was held in Boulder, Colorado, USA in September 2007 on "Dynamics and Vulnerability of River Delta Systems" which will lead to a White Paper setting the agenda for delta research and research application. Research and application challenges from deltas were explored by twenty-five attendees from four continents. From modelling geomorphological dynamics to overcoming legal challenges in transboundary regions, the pressing research and application questions were detailed along with the data and techniques available for tackling those questions. A coherent, comprehensive, and doable plan will be available not only for adding to delta science but also for ensuring that the science is useful and useable for managing deltas and their vulnerabilities.

The workshop's organisers and sponsors were the Global Water System Project (GWSP), the Land-Ocean Interaction in the Coastal Zone (LOICZ) project and the Community Surface Dynamic Modeling System (CSDMS).

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