

Conference – Coastal Dynamics and Ecosystem Change: Caribbean, Quo Vadis?

By Martijn Henriquez (TNO)

The Caribbean is a highly (bio) diverse region that is vulnerable to coastal zone degradation and coastal erosion. Natural drainage systems, mangrove forests, seagrass meadows and coral reefs play an important role in coastal protection. High population pressure, limited protection of natural resources in combination with global climate change has resulted in region-wide degradation of coastal ecosystems.

On this note, TNO Caribbean in collaboration with the Planet Earth Foundation organized a scientific working conference on coastal zone management and climate change in October 2016 on Bonaire. Over 50 experts, who are active in the Caribbean, were brought together covering the disciplines of archeology, geology, oceanography, meteorology, climate science and marine biology. The goal of the conference was to present the latest research and views on the changing Caribbean coastal environments.

In the future, due to climate change, the Caribbean coasts will be faced with increased damage as a result of stronger storms and sea level rise. In addition, the natural protection of the coastal area by healthy ecosystems is also under pressure due to a changing climate. However, it must be noted that the current coastal degradation is mainly caused by coastal development in combination with poor resource management. For example, coral reef degradation is highly linked to increased nutrient supply coming from the land. Hereby, the resilience of ecosystems to fluctuation of the climate is compromised. Without the natural defenses, the Caribbean landscapes and

cultural heritage resources will be lost. Pressure resulting from the human footprint combined with climate change demand rethinking of the way they live in coastal areas.

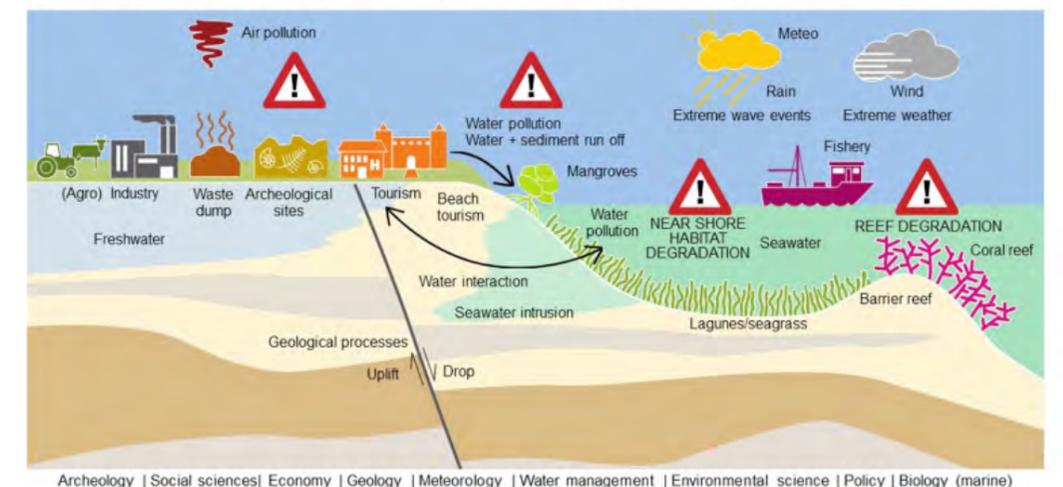
During the conference the necessity was emphasized to transfer scientific understanding to local policy makers and the community. Local capacity building is essential to promote changes in attitudes towards land-use practices and implementation of effective regulatory frameworks for managing and protecting coastal zones. Also, differences in the region's physical, political and cultural heritage causes fragmentation and hampers the capacity of individual nations to cope with the issues. This calls for a coordinated regional approach in research, management strategies and corresponding implementation.

In all, effective coastal zone management requires an inter- and transdisciplinary approach and regional cooperation. Such an approach recognizes not only the local physical characteristics but also respects the cultural and social circumstances within which the management measures have to be implemented in partnership with the local population. To consolidate the findings of the conference, the **"Kralendijk Declaration"** was written which calls for more attention to coastal zone management and the development of climate adaptation plans in the Caribbean region in order to protect valuable ecosystems, coastal communities and associated cultural heritage.

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HUMAN/NATURAL FACTORS IN COASTAL ZONE MANAGEMENT



Overview of the activities, interactions and threats in the coastal zone.

Link to Kralendijk Declaration:

<https://www.scribd.com/document/350437331/Kralendijk-Declaration>

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