

Ocean Sustainability Science Symposium, Kiel 4-6 March 2015

Workshop: Preparing for Coastal Change

Transforming the coast: from adaptation to coastal sustainability

Rapid population growth and urbanisation, economic development and intensification of coastal hazards, are expected to re-shape coastal regions in the coming years. Changes in the way we manage and live in the coastal environment are necessary in order to be able to cope with the pressures exerted by the above factors. This need for change is increasingly highlighted in impact and risk assessment literature and is also reflected in the recent IPCC coastal chapters, where impact assessments under “doing-nothing” scenarios are giving their place to integrated assessments that emphasise the benefits of adaptation and bring a more optimistic message on the role of long-term adaptation and risk management (Brown et al., 2014). At the same time, the range of adaptation options increases, with short-term or large-scale engineering solutions for risk reduction currently being considered alongside alternative methods of adaptation (e.g. Aerts et al., 2014), such as ecosystem-based adaptation, which are increasingly gaining attention.

Adaptation is however a complex process, further complicated by the combination of climatic and non-climatic drivers, which encompass the potential for “wicked problems” to develop. In this context, adaptation needs to be incorporated into a wider planning framework in order to also address environmental and societal needs. From such a perspective coastal adaptation can be seen as a tool or opportunity for achieving coastal sustainability, rather than one of the major future challenges for coastal communities. For example, the proposed UN sustainable development goals include the protection, restoration and sustainable use of coastal ecosystems; building of resilient infrastructure and human settlements; and the promotion of urgent actions to combat the impacts of climate change. These goals are in line with the aims of current adaptation practices and measures, or approaches such as adaptive management for increasing resilience to coastal hazards or the use of adaptation pathways for dealing with deep uncertainties.

In a series of talks the workshop will discuss the main physical and socio-economic processes that are currently driving coastal change and will propose new pathways that can lead to a sustainable coast. Presentations will include case studies on coastal hazard impacts and risks and associated policy responses. A focus of the workshop will be the question of how adaptation can be used for achieving sustainable development, while at the same time addressing deep uncertainties when formulating long term policies for managing coastal regions.

References

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