

## **The Pomeranian Bay – a key area to understand processes at the southern Baltic Sea coast**

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The Pomeranian Bay and its southern coast form a key area to understand interactions of natural and anthropogenic processes. Therefore, the area is proposed to serve as a model region of future research on harmonization of nature protection and regional development. The coastal zone consists of a high diversity of landforms such as retreating Pleistocene cliffs, sandy barriers islands covered by dunes, a back delta, the Szczecin Lagoon and the Odra River outlets. The environment is determined by the interaction of sea level rise, coastal erosion and accumulation, river discharge including supply of nutrients, harmful substances, and numerous economic pressure (sea traffic, fishery, tourism, harbour activity, energy production, agriculture within the drainage area of the Odra River) causing conflicts between the exploitation of the resources and the sustainable protection of the environment. These conflicts require innovative concepts in regional planning and management not only of the coastal and offshore area, but, also upstream of the drainage basin. Interdisciplinary protection and development concepts and modelling tools have to be elaborated covering natural processes including climate variations on all relevant space and time scales not only for the past and present, but also for future projections. Natural scientists, engineers and socio-economists can rely on excellent research data bases including 200 years of sea level gauge data and results from various national and international research projects. Moreover it is required to set up international co-operations not only bilaterally between the partners Poland and Germany sharing the onshore and offshore areas under discussion, but also between neighbouring Baltic countries affected directly and indirectly by action plans to be elaborated.

(Abstract for a presentation at Euromarine Foresight Symposium "Future Coast – Europe", Berlin Oct 5-7, 2015, proposed by Jan Harff as basis for a Baltic Earth focus on the southern Baltic Sea coasts)