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Prototype products for climate change adaption in German coastal regions

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The “German Strategy for Adaption to Climate Change” (DAS) is the political framework to climate change adaption in Germany. The newly established DAS basic service “Climate and Water” will provide monitoring and projection data to evaluate requirements for climate change adaption. Various products covering the German water bodies (coastal and inland) and its response to climate change will be generated and frequently updated by a cooperation of four German federal agencies. The products will be tailored to a variety of stakeholders needs.

Within this framework, the Federal Maritime and Hydrographic Agency (BSH) will provide products based on an ensemble of climate projections for the German coast which will be created in cooperation with different research institutes and authorities, e.g. the Danish Meteorological Institute (DMI).

Data from a DMI climate projection run based on the HIROMB-BOOS model (HBM) with a meteorological forcing from DMI-HIRHAM5 (one of the RCMs in EURO-CORDEX ensemble) and for the RCP 8.5 scenarios has been analysed in view of different oceanographic parameters such as sea level, sea surface temperature, salinity, currents and ice. This data set includes the historical periods 1981-2010 and the RCP 8.5 periods 2041-2070 and 2071-2100. Therefore, it provides an expedient basis to develop prototype products regarding climate change adaption at the German coasts for customers of the DAS basic service “Climate and Water”. The initial prototype products are presented and discussed in regards to the sufficiency to evaluate requirements for climate change adaption.