



## **Sea level change: mapping municipality needs for climate information**

Kristine S. Madsen, Jens Murawski, Jian Su, and Marina Blokhina

Danish Meteorological Institute, Research and development, Copenhagen OE, Denmark (kma@dmi.dk)

Climate change will affect the coastline of the Baltic Sea through changes in sea level, storm surges and waves. In Denmark, a large part of the responsibility for climate adaptation lies with the local municipalities. We have mapped the user needs for coastal climate change information of five municipalities in the Køge Bay region – the south coast of Copenhagen – in the south western Baltic Sea. The mapping is a part of a C3S use case. The main interest is in very high quality storm surge warnings and projections of possible present day and future extreme sea level and wave heights for the detailed coastline, based on modelling of past storm surges and future changes, taking observations and historical records into account. Therefore, targeted climate indicators have been created, based on a downscaling of European scale storm surge and wave simulations to local scale. The indicators are: Mean Sea level change, storm surge change, a gate index indicating number of flood barriers closures per year, change in sea state (wave height), and ocean current change. This presentation focuses on a simple method for user interaction, based on interviews of targeted users in the early phase of the project, and the transformation of the gathered information into climate indicators. The work is performed as a part of the C3S\_422\_Lot2\_Deltares contract on coastal climate change ( CoDEC ), for the Copernicus Climate Change Service. This use case is designed to investigate needs and develop use of climate change information in the coastal region, based on European-wide data of the Copernicus Climate Change Service.