



Processing an ensemble of climate projections for the joint research project KLIWAS

Florian Imbery, Sabrina Plagemann, and Joachim Namyslo

German Meteorological Service, Climate and Environment Consultancy, Germany (florian.imbery@dwd.de)

The research programme KLIWAS, funded by the German Federal Ministry of Transport, Building and Urban affairs is focussed on climate change and its impacts on waterways and navigation for Germany in the 21th Century. The necessity and appropriateness of potential adaptation measures can be evaluated only when the complex systems such as river run-off or coastal ecological processes under investigation are fully analysed and well understood. In order to derive sound statements about the range of possible future climate changes, KLIWAS use hydro-meteorological information derived from a wide variety of global and regional climate models. Therefore, KLIWAS uses a complex model chain, starting from the radiative forcing of the climate system,, via models of the hydrological and oceanographic subsystems, up to ecosystem and economic models.

In the framework of KLIWAS the German Meteorological Service (DWD) validates and evaluates an ensemble of climate projection data derived from a large number of regional Climate Models (currently more than 35). Beside the use of approved bias-correction and downscaling techniques to provide verified input data for various impact models, emphasis is taken on the quantification of uncertainties in climate model output.