



Future central European summer drying in a high-resolution global climate model

Reindert Haarsma and Frank Selten
KNMI, Research, De Bilt, Netherlands (haarsma@knmi.nl)

Using the SST forced high-resolution (~ 25 km) EC-Earth global climate model we have investigated future central European summer drying. Compared to the standard resolution model (~ 150 km) a large increase in severe summer droughts for the end of the 21st century is observed. The mechanisms responsible for these differences are analysed. They are related to changes in large scale atmospheric circulation patterns and moisture transport, and changes in the local surface moisture budget that involve precipitation, evaporation and run off. The different contributions of these drivers to the occurrence of future droughts and their representation in climate models are analysed and discussed.