Project: **946** Project title: **NHCM-2** Non-Hydrostatic Climate Modelling, Part II Project lead: **Andreas Haensler** Report period: **1.1.2015 – 31.12.2015 (1.07.2015 – 31.12.2015)**

The major aim of NHCM-2 is to investigate the largely unknown performance of convection permitting (~3 km grid spacing) climate simulations in the European Alpine region. At the Climate Service Center Germany we are contributing with simulations of the non-hydrostatic regional climate model REMO-NH which is being developed from the hydrostatic model REMO. Since tackling these scales is a new terrain for regional climate models, this project is mainly thought to advance the development of non-hydrostatic climate models in regions with complex orography.

Within the report period we used only a very limited amount of CPU time for the testing of the non-hydrostatic REMO model. Until now, unfortunately, the REMO-NH model can only be used for rather short time periods. For longer time periods, the model becomes computationally rather inefficient. In order to improve the efficiency of the model, we are currently running several sensitivity studies to improve the model parameterizations and also are implementing some new model features which will also be tested. For this purpose some more CPU time will be used within this year. We assume that this work will finished by the end of this year, so that we can conduct longer runs in the upcoming accounting period.