EMS Annual Meeting Abstracts
Vol. 15, EMS2018-117, 2018

Co-Producing climate change information for policy and administration in the project ReKliEs-De

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The German project ReKliEs-De ("Regionale Klimaprojektionen Ensemble für Deutschland") was initiated by two administrative working groups of German federal and state environmental agencies to improve the usability of climate information in policy advocacy. During the conception phase and the whole duration of the project, the two working groups actively monitored the project and provided input from the user perspective. The project was coordinated by the environmental agency of the German federal state Hesse. Additionally, a mid-term workshop was held to further improve the user input to the project.
Central goals of the project – besides complementing the EURO-CORDEX ensemble with additional high-resolution (12km) simulations – included the user-tailored production and presentation of the results. This included an assessment of changes from CMIP3 results to CMIP5 results as well as the importance of the driving GCM compared to the downscaling RCM / ESD for the resulting climate change signals. Furthermore, a systematic analysis of results from dynamical (RCM) versus statistical (ESD) downscaling results was carried out. Within ReKliEs-De 28 regional climate projections were produced, 12 using RCMs, and 16 using ESDs. In the end, a 37-member ensemble for RCP8.5 and a 15-member ensemble for RCP2.6 were analyzed.
Large effort was given to post-process the results and to visualize them in user-friendly ways. The input from the users led to the inclusion of further indices for post-processing. Furthermore, the users requested information regarding the contributing models, including an assessment of their strengths and weaknesses with respect to different variables or processes. This information had to be outspoken and easy to understand for non-climate experts. Thus, a chapter of the user handbook accompanying the results was dedicated to easily understandable information and assessment of the models used in the analysis. Another chapter was designed for data download and procession.
In a follow-up on the project, it is now discussed, if and how such large ensembles could be reduced to a size that is better manageable for most users and which simulations are deemed not plausible and should be excluded from further analysis.