



## **Assessment of Uncertainties for Model Evaluation in a Decadal Prediction System**

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The evaluation of decadal prediction systems is both a scientific and a technical challenge in the current climate research. The major project MiKlip ([www.fona-miklip.de](http://www.fona-miklip.de)) for medium-term climate prediction funded by the Federal Ministry of Education and Research in Germany (BMBF) has the aim to create a model system that can provide reliable decadal forecasts on climate and weather. The model system to be developed is novel in several aspects, with great challenges for the methodology development. This concerns especially the determination of the initial conditions, the inclusion into the model of processes relevant to decadal predictions, the increase of the spatial resolution through regionalisation, the improvement or adjustment of statistical post-processing, and finally the synthesis and validation of the entire model system.

To validate the model system therefore a standardized evaluation system is part of the MiKlip project, which is being developed by the sub-project 'Integrated data and evaluation system for decadal scale prediction' (INTEGRATION).

The presentation will focus on uncertainties related to the choice of different observation based evaluation data-sets, such as the current verification status of the data-set, physical uncertainties including measuring inaccuracy and methodological uncertainties (e.g reanalysis data). The evaluation system itself offers a unique way to assess such uncertainties as it enables direct access to both the set of implemented observation based data-sets and the model database including the deduced data used for evaluation. We will present first results to what extend such uncertainties affect the evaluation within the MiKlip system. Therefore, systematic analyzes were performed in order to point out the subsections of the climate system which are subject to such uncertainties. The documentation of such uncertainties as part of the evaluation system considerably improved the standardized and data-set specific evaluations conducted within MiKlip.