

# EU Cost Action VALUE - Workshop on Global Climate Modell Biases: Causes, Correctability and Consequences for Regional Climate Scenarios



Max-Planck-Institut  
für Meteorologie

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Although current generation global climate models reasonably well simulate global mean climate, they show distinct errors in the simulation of many synoptic scale phenomena. Prominent examples are: the North Atlantic cold bias, the tropical Atlantic warm bias, the position of the North Atlantic storm track and polar jet, the strength and temporal structure of the Indian monsoon, or the variability of planetary waves and sudden stratospheric warmings; some of these shortcomings are interdependent. Most of them have an effect on the simulation of regional climate, such as the distribution of precipitation patterns, or the length of droughts and heat waves. Their relevance for regional climate projections, however, is largely unknown.

Currently, global climate model errors are often post-processed by so-called bias correction methods. The underlying pragmatic assumption is that the climate change signal is well represented by climate models. Yet in general such corrections lead to inconsistencies between the distorted large scale variability and the local corrected variability as well as to inconsistencies between different variables. Again, the relevance of such inconsistencies for regional climate projections is basically unknown.

This workshop aims to bring experts from global climate modelling, downscaling and bias correction together to discuss the following questions:

- Which regional climatic phenomena are severely affected by global climate model errors?
- In which of these regions can we trust the climate change signal?
- To what extent is the post-processing of global climate models justified?
- What are the requirements for an 'acceptable' bias correction?
- How relevant are inconsistencies across scales in this context?
- How should regional climate scenarios thus be interpreted?