



## **Pseudo-observations for “soft” bias correction aimed at multi-variable impact studies**

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Correcting biases in climate model simulations is likely to affect climate change signals, which is not necessarily justified. Observations have high uncertainty in themselves, and in the case of gridded observations they should be treated as models rather than an actual truth. One might, e.g., be better off by retaining small scale information from a climate model, rather than imposing that from interpolated gauge observations with some more or less sparse gauge network. For some variables, there are even too few gauges, such that a spatial grid is not supported. Keeping the model solution might then be a better approach than attempting to correct the climate model to spatially incorrect data.

Here, we present a method for creating a pseudo-observational data set which retains small scale features from a core regional climate model simulation, while correcting larger scale features according to different gridded or purely gauge based data sets. Then, a set of regional climate projections are bias corrected toward the pseudo-observational data, and applied for an assessment of future fire risk for the forests of Sweden. The applied fire weather model takes daily precipitation and the 1200UTC value of temperature, wind and relative humidity, which makes it a sensitive system to different bias correction approaches.