



Estimating the spatial representativeness of stations over Europe

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The large range of relevant temporal and spatial scales for climate processes is a major challenge for the design of climate models and also an important concern for climate model validation. In particular, observations are typically point-scale data, while dynamical climate models simulate area averages for the cells of the model grid. This work identifies regions in Europe where a comparison of these two types of data is suitable. To this end a map is produced, in which the spatial climatological homogeneity is assessed by assessing the climatological similarity of neighboring stations. In areas of large climatological homogeneity such as the low lands in Northern Germany, station observations have a large spatial representativeness and the comparison of their data to grid cell data from climate models can be considered as meaningful.