



Using daily instrumental records for historical climate reconstruction

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This presentation deals with daily data sets of meteorological records in Europe. It discusses the benefits of daily data versus monthly data for historical climate reconstruction. Within Europe, many long, often homogenized, monthly observational records exist. These records are frequently used for climate reconstruction. However, long daily series become nowadays more and more available due to digitization initiatives, and homogenization techniques on daily basis are being developed. Still, daily records are not yet used as frequently. One of the benefits of daily observations is the information on climate extremes described by means of descriptive climate indices, such as the number of tropical days in a year. This is valuable information since we are not only interested in changes in the climate means, but also in changes in its variability. It is expected that the calibration of documentary data to reconstruct the climate could benefit from daily values and climate indices. For example, crop yields are likely to show a better correlation with the number of growing degree days derived from daily observations than with summer mean temperatures derived from monthly records. Descriptive climate indices which have links to documentary data will be presented, as well as the spatial coherence of the changes in these indices over Europe since 1850.