



Temperature and precipitation reconstructions for the Czech Republic in 1700–1850: data and methods

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Documentary evidence includes direct and proxy data about weather and related phenomena. Several groups of such evidence are available for the territory of the recent Czech Republic: narrative written records, visual daily weather records, personal correspondence, special prints, official economic records, newspapers, pictorial documentation, stall-keepers' and market songs, epigraphic data, early instrumental observations, early scientific papers and communications. Data obtained from these sources were critically evaluated and used for creation of weighted monthly temperature and precipitation indices in the scale from -3 to +3: -3 extremely cold/dry, -2 very cold/dry, -1 cold/dry, 0 normal, +1 warm/wet, +2 very warm/wet, +3 extremely warm/wet. Seasonal (DJF, MAM, JJA, SON) and annual indices are obtained by simple total of corresponding months. Series of seasonal and annual indices are presented for the period 1701–1850 based on interpretation of documentary data. Overlapping periods with instrumental records of Prague-Klementinum (temperature since 1775, precipitation since 1804) are used to create response function between the both types of data with using calibration and verification procedures applied in dendroclimatology. Response functions found are further used for reconstruction of temperature and precipitation from AD 1700. Obtained reconstruction is compared with results of the traditional method used in historical climatology. The method presented is supposed to be used for climate reconstructions in the Czech Republic starting from AD 1500 in the EU project Millennium.