



Climate fluctuations in the Czech Lands from AD 1500 compiled from various proxies

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The territory of the Czech Lands (recent Czech Republic) belongs to European areas well covered by dendrochronological, documentary and instrumental data which can be used for climate reconstructions for the last c. 500 years, i.e. for description of climate fluctuations during the greater part of the Little Ice Age (LIA) and the subsequent period of the recent Global Warming. Synthesis of various existing reconstructions should help to create more consistent description of climate variability in that period in Central Europe. The contribution starts from characteristic of the basic features of three existing data sources and a general method of climate reconstruction. Monthly, seasonal and annual climate reconstructions based on different data are presented: a) temperature reconstructions derived from series of temperature indices, winter wheat harvest days and grape harvest days; b) precipitation reconstructions derived from series of precipitation indices and fir tree-rings; c) drought indices (SPI, SPEI, Z-index and PDSI) reconstructions derived from series of fir tree-rings, grape harvest days and documentary-based temperature and precipitation reconstructions. Basic features of past c. 500 years are represented by various time intervals of cooler and warmer climate on the one hand and wetter and drier climate on the other. Examples of such particularly warmer and drier period can be the 1530s (with extreme 1540 year) or colder and wetter conditions during the 1590s and 1690s. Outstanding extreme weather events during LIA in Central Europe are briefly mentioned and our findings are discussed with respect to climate fluctuations and forcings in wider European context. (This study was supported by Czech Science Foundation, project nos. 13-04291S and 17-10026S).