

## **ABSTRACT**

This thesis summarizes findings of the Central European climate evolution during the Late Holocene and approaches to studying the paleoclimates. Indirect sources of evidence about a climatic variable, i.e. proxy data, are used to infer quantitative estimates of temperature or precipitation and can be subdivided into several categories: tree rings record both low- and high-frequency variability of climate with annual resolution; biological (and palynological) proxy data show evidence of longer-term climate changes which are deduced from changes of assemblages/taxa and their ecological preferences. Sedimentary chemistry, including stable isotopes  $^{18}\text{O}$  and  $^{13}\text{C}$ , maintains information on environmental conditions at the time of origin and deposition of sediment (thanks to fractionation and other processes); natural archives are complemented with documentary data which capture the fluctuations of climate up to monthly resolution and also extreme events. There is 44 quantitative paleoclimatic reconstructions in the Central Europe that employ the aforementioned proxy data, although the majority of research articles investigates only approximately the past one thousand years. The temperature and precipitation are reconstructed in the area of the Czech Republic for the past ~600 years. Decadal variability of precipitation totals demonstrates no long-term trends and the reconstructions are in a good agreement. However, the temperature reconstructions divide in opinion on timing and intensity of cold sways during the Little Ice Age, even though the warming since the second half of the 19th century, significantly accelerated at the end of the last century, is recorded uniformly.

**Key words:** paleoclimatology, proxy data, Late Holocene, Central Europe