Early instrumental meteorological observations in the Czech Republic and their use for climate reconstructions

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Early instrumental meteorological observations are important source of knowledge about temporal and spatial climate patterns before the creation of national meteorological networks. The oldest instrumental observations in the Czech Lands come from Carl Johann Rost from Zákupy (NW Bohemia) from 21 December 1719 to 31 March 1720 as a part of Kanold's Breslau network. In 1752 observations in Prague-Klementinum were performed, but in systematic way they are preserved from 1775. Between 1771 and 1775 observations from František Alois Mag of Mag from Telč in Moravia are available. During the 1780s–1790s mainly activity of directors of Prague-Klementinum observatory was important for extension of observations to further places in Bohemia. Economic societies established in Bohemia and Moravia played important role in creation of new meteorological stations in the Czech Lands in the first half of the 19th century. Many of these stations continued in observations after creation of Central Institute of Meteorology and Geodynamics in Vienna which started to organise regular meteorological network in former Austrian empire since 1851. The paper discusses methodological problems related to analysis of early instrumental records with respect to availability of such data, information about place of measurements and instruments used, different hours of observations, description of weather phenomena, their length, completeness and homogeneity. Examples of results with respect to recent standards of measurements are shown and contribution of early instrumental records for climate reconstruction is evaluated.