

Conference Agenda

Session

S01-04: Advances in Historical Climatology (Part 1)

Time: Tuesday, 19/Aug/2025: 11:00am - 12:30pm

Location: 16-0043

Session Chair: Samuel Aaron White, University of Helsinki

English Park Campus, House 16

Presentations

ID: 327

Panel

On-Site

Topics: Climate Histories

Keywords: historical climatology, Europe, early modern, modern

Advances in Historical Climatology (1)

Chair(s): Samuel Aaron White (University of Helsinki, Finland); samuel.white@helsinki.fi

Presenter(s): Lukáš Dolák (Masaryk University), Rajmund Przybylak (Nicolaus Copernicus University), Stefan Norrgård (Åbo Akademi University), Katrin Kleemann (German Maritime Museum)

Panel Abstract

Historical records offer crucial evidence about past climates and weather, expanding our understanding of climate variability and helping us prepare for the recurrence of extreme events. Research in historical climatology continues to develop new methods and to analyze new sources for weather and climate of past centuries, including weather descriptions, early instrumental records, and phenological observations. These sources can also be compared and combined with natural proxies for a more complete record of the past and deeper perspective on present climate change. The four papers of this panel consider diverse historical records on weather and climate in Europe, from annals of late medieval Czech lands and early modern Poland and Finland to measurements of the German Maritime Observatory.

Paper 2: The characteristic of the climate and its changes in Poland (Central Europe) in the 16th century

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The paper presents the updated state of knowledge on climate and climate change in Poland (Central Europe) in the 16th century. The multiproxy approach was utilised to improve the existing knowledge. All available quantitative climate reconstructions created since the 1990s based on biological proxies and documentary evidence were utilised for this purpose. In addition, four new reconstructions using three dendrochronological series and a new reconstruction of temperature based on an updated extensive database containing weather notes extracted from historical sources have been used. The cold season, especially the temperature in February and March, has the greatest influence on the growth of conifers in lowland and upland parts of Poland. All available reconstructions based on dendrochronological data represent this time of the year. Winter temperature reconstructed for Poland was used as the proxy for annual temperature proxies instead of the more usual use of summer temperature. Climate humidity and changes therein were estimated using documentary evidence describing the occurrence and intensity of the precipitation. The range of humidity of seasons was estimated using a seven-degree scale (-3[extremely dry], -2 [very dry], ..., +2[very wet], +3[extremely wet]). Both thermal and pluvial extreme seasons, which were distinguished using analysis of the documentary evidence, were compared against the list of negative and positive pointer years of *Abies alba*, *Pinus sylvestris* and *Quercus* spp. (which are usually the result of extreme climate conditions) available for Poland. (The work was supported by the National Science Centre, Poland, project No. 2020/37/B/ST10/00710.)