

# Young researchers explore climate histories

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Historians have much to contribute to paleosciences, especially to the study of past climatic changes. Written records, for example, offer invaluable climate data, allowing high-resolution reconstructions. Similarly, the interaction between humans and past environments can help us better understand the complexity of climate-society entanglements on various temporal scales – ranging from rapid environmental degradation to multi-centennial dynamics of societal adaptation and resilience.

However, few historians conduct research on, or teach about, past climatic changes. At the same time, the next generation of historians have expressed a growing interest in incorporating the study of climate into their examination of the past.

The Climate in History summer school, held in Aeschi bei Spiez near the Lake of Thun, Switzerland, provided a vital opportunity to redress this imbalance. The summer school gathered a cohort of PhD and early-postdoctoral researchers for four days of talks, seminar discussions, activities and group work. The keynote talks and related exercises were led by international experts, including members the PAGES 2k Network, VICS, and CRIAS working groups. In addition, Patrick Cho welcomed the next generation of climate historians to join the PAGES Early-Career Network (ECN).

## Building the basics

Stefan Brönnimann opened the summer school with a crash course on climatology. His keynote took us on a whistle-stop tour of the fundamentals of weather, climate and global patterns of change over time. Further talks explored different climate proxy data types. Andrea Seim introduced the use of tree rings to detect past temperature and

precipitation variability, while Michael Sigl demonstrated how scientists detect volcanic signals from ice-core evidence.

The second day brought additional methodological discussions. Elena Xoplaki introduced further climatological basics and demonstrated how paleomodelling can help historical research. Sam White explained the utility of indexing historical documentary data – from the archives of societies – for past climate reconstructions (Camenisch et al. 2022). Elaine Lin's REACHES database, a collection of written weather records from China for the last 3000 years, was introduced as an exemplar (Wang et al. 2018). Christian Rohr, who discussed what climatic information pictorial sources might contain, delivered the last keynote talk.

Each keynote talk was followed by exercises making use of the methodology or source base discussed, suggesting a pedagogical approach attendees could transfer back to their own institutions. All speakers compellingly communicated how accessing climate data can generate new narratives of the past.

## The Skippon diary

The main segment of the summer school centered around applying newly learned techniques to an exciting primary source: a weather diary produced by Sir Philip Skippon, a Suffolk gentleman, between 1673 and 1674 CE.

Attendees were divided into groups to transcribe and interpret different chronological sections. The data was subsequently compared to other material, including state-of-the-art reanalyses, weather diaries from northern England and instrumental observations recorded in Paris. These suggested the Skippon diary was a

relatively reliable indicator of weather patterns.

## Final reflections

The summer school provided a rare, but essential, opportunity for humanities-based historians to acquire training in methods drawn from the climate sciences. Crossing firmly fixed disciplinary boundaries was not easy and demanded patience and perseverance from all participants, many of whom had never been trained in quantitative data analysis.

However, the value of interdisciplinary collaboration was made clear when historians brought their skills in source criticism to bear on the use of historical documents in past climate reconstruction. Not all sources are reliable and must be judged in a cultural context to extract meaning. Acknowledging this enables historical data to be used more sensitively, and with better results, when reconstructing past climatic change and its impacts on human society.

Teaching and learning across disciplines may be what is needed to drive "positive change" in higher education, and foster a deeper constructive critique of our current climate crisis and necessary responses (McCowan 2023). Historians can, and should, be an important part of this conversation. As Andrea Seim succinctly argued at the summer school: "The past is the key to the future."

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**Figure 1:** Extract from Philip Skippon's diary from 9–13 August 1673 CE (19–23 August 1673 in Gregorian calendar). Skippon recorded in his calendar personal and societal events as well as detailed weather observations. On the left, Skippon documented hearing gunfire associated with the Third Anglo-Dutch War from his home at Wrentham on 11 August 1673 CE. He also noted Cambridge scholars visiting a boy in his village on 13 August 1673 CE who could read Latin, Hebrew, Arabic, and Greek. On the right, he recorded daily lunar phase, wind direction, thermos- and barometer readings, and descriptive weather observations (from left to right).