Conference Agenda

Session

S02-04: Advances in Historical Climatology (Part 2)

Time: **Tuesday, 19/Aug/2025: 2:00pm - 3:30pm**
Session Chair: **Samuel Aaron White**, University of Helsinki

Location: **16-0043**

English Park Campus, House 16

Presentations

ID: 328
Panel
On-Site
Topics: Climate Histories
Keywords: historical climatology, Atlantic, early modern, modern, weather

Advances in Historical Climatology (2)

Chair(s): **Samuel Aaron White** (University of Helsinki, Finland)
Presenter(s): **Garima Singh** (Nicolaus Copernicus University), **Konrad Chmist** (Nicolaus Copernicus University), **Carla Mateus** (Maynooth University)

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 explore diverse historical records on weather and climate from the Atlantic region, including a long-term reconstruction of Irish heat waves and cold waves and early instrumental records from Labrador.

Paper 2: Changes in bioclimatic conditions on the coast of the Labrador Peninsula in the late 19th/early 20th century

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The contemporary warming that we are observing on Earth is most intense in the Arctic and Sub-Arctic. Until the mid-20th century, human impact on the Arctic environment and climate was small, so it is extremely important to understand these past conditions as best as possible in order to better understand current and future changes. To date, there has been little work analysing the climate of the Labrador coast dating back to the late 19th/early 20th century. In the case of bioclimatic studies, there are even fewer such works. The main aim of this paper is to fill this gap. Changes in bioclimatic conditions in the northeastern part of the Labrador Peninsula were estimated based on meteorological observations (air temperature, atmospheric pressure and wind speed) taken from six stations: Hebron, Hoffenthal, Nain, Okak, Rama and Zoar. They were carried out three times a day (8:00, 14:00 and 20:00) by Moravian missionaries on behalf of Deutsche Seewarte and in accordance with its standardised guidelines. Based on these meteorological data, the following bioclimatic indices were performed and analysed: Wind Chill Temperature (WCT), Insulation Predicted (Iclp) and atmospheric pressure stimulus. Bioclimatic conditions in the historical period were compared with the conditions occurring in the modern period on the Labrador Peninsula. (The work was supported by the National Science Centre, Poland project No. 2020/39/B/ST10/00653.)