



Historical Climatology in Portugal: first-year outcomes from Klimhist project

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A better understanding of the driving mechanisms of climatic variability is of foremost importance in the context of climate change detection and attribution. Although this issue has been widely investigated in Portugal, most of these studies are constrained to the temporal window of regular meteorological observations. Nonetheless, climate change in Portugal prior to 1900 is still poorly investigated. The KLIMHIST (Reconstruction and model simulations of past climate in Portugal using documentary and early instrumental sources, 17th-19th century) project is thus aimed: 1) to reconstruct and calibrate series (since 1645) using simultaneous documentary and instrumental data; 2) to validate reconstructed series; 3) to analyse extreme events and compare them with current analogues. An interdisciplinary team is working within this project since May 2012. We expect to obtain a good spatial representation of documentary evidence in Portugal and to increase the spatial coverage of past European climate, as the data gap over southwestern Europe is often mentioned in the literature. Teams are currently progressing documentary data from archives. A user-friendly and collaborative database management system was developed for this purpose. Following the study of the short series from the 18th century, early meteorological data from the 19th century have been retrieved from different sources, including newspapers, and are now under study. Once these two tasks are over (June 2013), different indexing methods will be tested and reconstructed series from 1675 onwards will be obtained. The validation of the reconstructed series will then be carried out using paleoclimatic simulations (ECO-G) and proxy data from dendroclimatology and borehole measurements. Furthermore, some extreme events are also being analysed. A permanent dissemination of the results is also being undertaken, including the first workshop (October 2012) with Prof. Brázdil and Dr. Domínguez-Castro (two of our consultants) as keynote speakers.