



## **Critical analysis of documentary sources for Historical Climatology of Northern Portugal (17th-19th centuries)**

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The first major national project on Historical Climatology in Portugal, called “KLIMHIST: Reconstruction and model simulations of past climate in Portugal using documentary and early instrumental sources (17th-19th centuries)”, ended in September 2015, coordinated by Maria João Alcoforado. This project began in March 2012 and counted on an interdisciplinary team of researchers from four Portuguese institutions (Centre of Geographical Studies, University of Trás-os-Montes and Alto Douro, University of Porto, and University of Évora), from different fields of knowledge (Geography, History, Biology, Climatology and Meteorology). The team networked and collaborated with other international research groups on Climate Change and Historical Climatology, resulting in several publications.

This project aimed to reconstruct thermal and rainfall patterns in Portugal between the 17th and 19th centuries, as well as identify the main hydrometeorological extremes that occurred over that period. The basic methodology consisted in combining information from different types of anthropogenic sources (descriptive and instrumental) and natural sources (tree rings and geothermal holes), so as to develop climate change models of the past. The data collected were stored in a digital database, which can be searched by source, date, location and type of event. This database, which will be made publically available soon, contains about 3500 weather/climate-related records, which have begun to be studied, processed and published.

Following this seminal project, other initiatives have taken place in Portugal in the area of Historical Climatology, namely a PhD project, still in progress, which also aims at the study of climatic variations and extreme hydrometeorological events in Northern Portugal, in the period prior to the creation of the organized network of meteorological stations and the systematization of instrumental observations (19th century).

Therefore, in this communication we intend to present some of the documentary sources (private and institutional) used in the course of these projects. We will analyze the potentialities and limitations of a wide range of documentary sources, such as annals, memoirs and chronicles, daily weather reports, newspapers, book of judgments, economic records, correspondence, among others, and examine the various types of meteorological information we can from each of them, as well as the care to be taken in their use.

**Keywords:** Modern Period, archive sources, climatic variations, hydrometeorological extremes, Portugal.