Main objective

Climatic variability from the beginning of regular meteorological observations is now acknowledged. However, a number of spatial and temporal gaps still persist, particularly from pre-instrumental era. The KlimHist Project “Reconstruction and model simulations of past climate in Portugal using documentary and early instrumental sources 17th-19th century” (2012-2014) is coordinated by M.J. Alcoforado and its main objective is to fill in those gaps.

Expected results

1. Contributing to the creation of a long-term history of climate in Portugal by:
   - Producing databases of documentary evidence and of instrumental data since 1645 in two regions of Portugal (NW and Lisbon-Evora Axe)
   - Georeferencing data and producing a WEB based atlas
   - Systematically searching for the first simultaneous documentary and instrumental data; indexing and reconstructing time series
   - Analysing simulated multi-decadal trends over Portugal generated by climate models
   - Comparing our KlimHist results with those obtained from natural proxies

2. Contributing to the spatial coverage of past European climate by
   - Disseminating data and model outputs to the scientific community
   - Validating reconstructed series using climate models and proxy data

3. Studying extreme events of the past
   - Selecting case studies
   - Analysing their impacts
   - Analysing the vulnerability of societies to weather during the last 350 years
   - Comparing them with current analogues

Descriptive documentary sources

Instrumental sources

The project will focus on unexplored climate information for different periods covering the period of 1645 to 1900, which is crucial to:

- Understand past climates and extremes
- Provide missing data from Europe
- Calibrate and/or validate European climate reconstructions

Research team

Interdisciplinary team of geographers, historians, meteorologists and physicists from Portugal and Spain (Universities of Évora, Lisbon, Oporto, UTAD and Extremadura). Some team members and the project consultants (R. Brázil, D. Camuffo, F. Rodríguez-Castro and E. Zorita) have taken part in historical climate reconstruction projects - ADVICE, MILLENNIUM and MICE, which grants them expertise in this topic.

http://clima.ul.pt/klimhist