



Climate data recovery for the last millennium from documentary sources

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The use of documentary sources is a well-established technique for reconstructing climate during the past centuries, when no instrumental data are available. Such sources have been used to study regional climate variability or climate phenomena such as ENSO or the NAO. In the last years these sources have been analyzed jointly with natural proxies, leading to climatic multiproxy reconstructions which have allowed to reconstruct gridded fields of different climatic variables for the Northern Hemisphere during the last half millennium. The nature and origin of documents that can be used to reconstruct climate is extremely diverse. Some, such as ship logbooks, city council records, and chronicles, originated from reporting requirements imposed by different Administrations; others, like travelers' descriptions and diaries, resulted from the initiative of private citizens; church records can also be of the highest interest. However, not all these documents are equally useful as sources of climatic information. Thus, the reports from travelers can be very detailed, but they usually refer to very short periods of time, so they are not particularly well suited for studying climate variability. On the other hand, local chronicles, although usually not very detailed, span much longer periods and can yield an adequate perspective on variability over interannual, decadal and even longer scales.

Based on recent advances, this presentation will describe some strategies and techniques used to obtain climate-relevant information from these documentary records. They will be illustrated by means of specific examples of three types of situation that are often encountered when trying to extract useful data from historical archives: the treatment of non-instrumental and early meteorological observations; the interpretation of documents that provide explicit information on climatic events or impacts and

the development of climate proxies. Finally, several methodological key points will be discussed, making emphasis on those which can contribute to a better interaction with climate modelers.