



Continental atmospheric circulation over Europe during the Little Ice Age inferred from harvest dates

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Estimates of climate conditions before the 19th century are based on proxy data reconstructions or sparse meteorological measurements. In particular, the reconstruction of the atmospheric circulation that prevailed during the Little Ice Age (~1500-1850) has fostered many efforts. It is generally assumed that the North Atlantic Oscillation played an important role in this variability. In this study, we use proxy reconstructions of temperature gradients over France based on grape harvest dates. Such gradients are then employed to infer the atmospheric circulation that prevailed over the North Atlantic region during the Little Ice Age. We observe that a blocking situation was most likely in summer, inducing a continental atmospheric flow. This shows that reconstructions of the past atmospheric circulation have to take this regime into account. This study illustrates a methodology combining historical proxies and modern data sets to obtain detailed information on the atmospheric circulation.