



## **BACCHUS historical vine records and old temperature measurements**

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BACCHUS an interdisciplinary project between historians and climatologist deals with the period starting around 1500 up to now. Vine-related historical manuscript sources from the archive of the monastery Klosterneuburg, the municipal archive of Retz and the so called Wiener Bürgerspital Rechnungen are used together with the Viennese temperature records to reconstruct a multi-monthly temperature mean back into the 16th century. We found warm decades in the 16th century, at the beginning of our series, which were as warm as the 1990s. Afterwards the mean May to July temperatures started to drop; the coldest decade of the record was from 1771 to 1780. A constant temperature increase for more than 30 years, as from the 1970s to the present, seems to be unprecedented during the last 470 years. But it also turned out that probably a change in viniculture took place in the last about 30years as the Grape harvest dates GHD of this period show remarkable differences of temperature sensitivity to the historical series.

When looking at extreme years we could compare GHD from Burgundy, Swiss plateau and Austria and combined them also with old temperature records from Hohe Warte-Vienna (starting in 1775), Basel-Binningen (starting in 1760), Geneva-Cointrin (starting in 1760) and Strasbourg-Entzheim (starting in 1801) all from the HISTALP data collection. For instance, there were extreme spring to early summer temperatures and/or exceptional phenological observations in 1542, 1718, 1811, 1821, 1822, 2003 and 2007.