Beginning of grain harvest in the tri-border region Basel as a proxy for mean April - May temperatures; creation of a long Swiss series c. 1455 AD - 1950 AD

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CL2.4 Shifting Seasons:
Phenological evidence from observations,
reconstructions, measurements and models

Beginning of grain harvest in the tri-border region Basel as a proxy for mean April-July temperatures; creation of a long Swiss series c. 1454 AD – 1950 AD

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Before agricultural harvesting machines replaced manual labour the date of the grain harvest was largely dependent on mean temperatures from spring to early summer. It thus constitutes a very valuable source of information to reconstruct these temperatures. The later the harvest began, the cooler spring and early summer must have been and vice versa. For this reconstruction a new data series of grain harvests in the tri-border region Basel (representative for north-west Switzerland, the Alsace (France) and south-west Germany) was used as a temperature proxy. The harvesting dates have been extracted from the account books of the hospital of Basel which cover the period from c.1454 AD to 1705 AD. This series could be completed with several series of grain tithe dates originating from the Swiss Midland, covering the period between 1557 and 1825 and several grain harvest dates series covering the time between 1825 and 1950. Thus a series of almost 500 years could be compiled. Since the method of harvesting remained unchanged until the 1950's when manual labour was replaced by machines, the harvest dates of the modern series, lying within the temperature measurement series, could be used for calibrating the medieval dates.