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Data on the harvest of cereals in the last 300 years in the Czech Republic

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Complete recordings of phenological observations and mainly long time series are becoming increasingly important for research on climate impacts as its critical source of information. Reconstruction of historical phenological observations is very time-consuming. We present results of reconstruction for full ripeness of cereals in the Czech Republic during 1701 - 2007. Phenological data for various cereals have been converted to winter wheat grown for altitude 250 m. Statistically significant trend toward earlier full ripeness according to more than 300-years period was found (0.0356 days/year, $r = 0.47$, $P < 0.001$). In 19 of the past 20 years full ripeness was earlier than average. Air temperature increases were associated with an earlier onset of cereals phenological phases; not just the beginning of the growing season but also the interval between successive phenological phases was shorter. Reconstructed full ripeness provides long-term evidence of vegetation variability. This variability could be compared against air temperature and dry episodes for the same periods.