



The onset of the vegetation period and the start of selected phenological phases

in East Czech and North Carpathian region

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Higher temperatures in recent decade influence the onset and also the length of vegetation period. The start of great vegetation season ($t \geq 5^{\circ}\text{C}$) as well as the start of main vegetation season ($t \geq 10^{\circ}\text{C}$) is pretty variable but the shift to sooner start is visible in the region of Central Europe. The onset of the particular phenological phase is influenced by the temperature at least two months before it starts. Trends and relationships between the start dates of selected phenological phases of some plants and temperature sums were investigated at six different locations representing both the lowlands and hilly areas of eastern part of Czech Republic and north Carpathian. Selected phenological phases of hazel, apple tree, birch, winter wheat and barley were analysed through the period 1961-2005. The general trend to earlier onset of phenological phases is stronger in the recent years and is better expressed at the phases which occur shortly after winter time. As the relation between the temperature sums and the plant development can be taken as the basic characteristic of the particular plant the changes in the development of the plants expressed in the trends of phenological phases can indirectly indicate the trends and changes of climate.

The results show that the start of phenological phases is strongly influenced by accu-

culated temperature sums and generally by regional and local climate conditions. This indicates a possibility to use phenological data as an indicator for climate variability studies.