



Use of pollen release as indicator of climatic change in an mediterranean area

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Phenology studies the timing of periodic biological events, and their relationships with the environment, especially climate. In vegetal species, living in temperate area, variations in the beginning, in the duration and in the intensity of the various phenophases are governed by meteorological factors and, to a large extent, by temperature. Given this strong relation, the increase in global temperature should be visible in long term phenological observation series. In several studies phenological datasets have been used to document the impacts of climate changes. Previous works showed, in fact, that increasing spring temperature during the past century determined an advance of the timing of flowering in many species at high latitudes in Europe.

Airborne pollen data can represent an important source of information on flowering phenology at regional scale. The measurements of pollen concentration in the air, reflect, in fact, the flowering phenology of plant population surrounding the sampling station and are less affected by local influence of microclimate than the flowering time of individual plants.

In this work data of pollen season, recorded in the last two decades in North Sardinia (Italy), were presented. The beginning of the pollen season, the date of peak pollen concentration, the duration of pollen season were calculated for the period 1986-2004. The trends of these parameters were also analysed. In order to verify whether airborne pollen data of some Mediterranean families can be considered as a sensitive indicator of the response of plants to climatic change in Mediterranean area, the data of pollen season were correlated with air temperature recorded during the study period.