



Holocene fire frequencies based on ^{14}C ages of charcoal from soils in Ticino, Switzerland

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Radiocarbon dating of identifiable soil charcoals is important for studies of vegetation history as well as fire frequencies. Here we present first results of ^{14}C dating of charcoals found in soils of Ticino and the Misox valley (southern Switzerland) that date back to the Allerød and early Holocene. We sampled thousands of charcoals from six soil profiles to reconstruct fire frequencies and the impact of burning on the vegetation. More than 500 pieces were analysed under the microscope using wood anatomical techniques in order to assess the botanical species or genus of charred wood. A collection of fourteen charcoals, which included silver fir, pine, oak, diffuse-porous broadleaf species and chestnut (*Castanea sativa*) ($n=5$), provided material for AMS ^{14}C dating. Our results provide information about vegetation changes caused either by natural or anthropogenic factors. For example older than 2000 BP ^{14}C ages show that the chestnut tree re-colonized the Southern Alps before the Romans began its cultivation i.e. before 2000 BP (0 BC/AD). Moreover, the early and mid Holocene ages of charcoal correlate with the timing of glacier recession in the Central Swiss Alps based on radiocarbon dating of glacially transported wood as reported by Hormes et.al. (The Holocene 11 (2001) p.255-265).