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ABSTRACTS

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Impacts of wildfire intensity on *Pinus canariensis* tree-ring growth on Tenerife Island, Canary Islands, Spain

PB4.06

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We studied the impacts of a wildfire occurred on Tenerife in summer 1995 upon the radial growth of *Pinus canariensis*, an endemic species from the western Canary Islands adapted to fire dynamics. The main objective of this study was to quantify the effects of a fire of known date on radial growth patterns. Moreover, we tested the applicability of several dendroecological methods for the analysis of abrupt growth changes for disturbance dating, which may complement the classical techniques based of fire scars dating. We sampled two cores per tree in at least 22 trees per stand, at two stands of each fire treatment (control without fire, surface fire and crown fire) and on two expositions (north- and south-facing slopes), yielding a total of 266 trees sampled in 12 stands. After tree-ring series were dated and measured, we identified the numerous absent rings. Mean growth rates were compared by treatment and exposition with two-way ANOVA and growth suppression filters were applied to the tree-ring series. Our results suggested that the high-intensity crown fire caused a significant reduction in tree-ring width, but no differences between low-intensity surface fire and control treatment were found. Likewise, wildfire effects were sharper at the north-facing sites. Canary pine is a very complex species for applying dendrochronological techniques, given its abundance of absent rings especially after crown fires occurrence. Although only the influence of crown fire was detected, this method showed to be suitable to study wildfire dynamics of Canary pine.