



# WorldDendro 2010

The 8<sup>th</sup> International Conference on Dendrochronology

## ABSTRACTS

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June 13 – 18, 2010, Rovaniemi, Finland

## Contrasting sensitivity of *Pinus canariensis* tree rings to local climate on north- and south-facing slopes on Tenerife, Canary Islands, Spain

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*Pinus canariensis* extends at elevations of 600–2,200 m in the Canary Islands. Its upper range limit, as in other tropical and subtropical mountains, is supposed to be determined by water availability. Our objective is to assess the influence of limiting climatic conditions on *P. canariensis* tree rings at the north- and south-facing slopes on Tenerife Island. We sampled two cores per tree from at least 40 trees in both the north- and south-facing slopes, at elevations of 1,400–1,600 m. After tree-ring series were measured and cross-dated, we standardized ring widths using a 32-yr spline function. A mean chronology for each exposition was obtained as the robust mean of the growth indices. The correlation between both chronologies for the common period 1963–2006 was  $r = 0.018$  ( $P = 0.907$ ), suggesting a divergent growth behaviour according to the exposition. We used monthly gridded data ( $0.5^\circ \times 0.5^\circ$ ) for maximum, mean and minimum temperature, total precipitation, Palmer Drought Severity Index, vapour pressure, and sea level pressure (SLP) taken from the CRUTS3 model at <http://climexp.knmi.nl/>. The south-facing site showed a higher sensitivity due to its xeric features. Radial growth at this site was strongly influenced by SLP during the previous winter. By contrast, climate sensitivity was lower at the north-facing site while temperature was the most significant climatic parameter. Contrary to studies performed at their upper range limit on Tenerife, the growth of *P. canariensis* at intermediate elevations is noticeably dependent on the exposition and not limited by water availability.