

<b>Title</b>	<b>Simulation of stomatal conductance for Aleppo pine to estimate its ozone uptake</b>
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<b>Journal</b>	Environmental Pollution
<b>Abstract</b>	<p>Abstract The data from a previous experiment carried out in open-top chambers to assess the effects of ozone (O<sub>3</sub>) exposure on growth and physiology of Aleppo pine (<i>Pinus halepensis</i> Mill.) were re-assessed to test the performance of the EMEP O<sub>3</sub> stomatal conductance model used to estimate tree O<sub>3</sub> uptake at a European scale. Aleppo pine seedlings were exposed during three consecutive years to three different O<sub>3</sub> treatments: charcoal filtered air, non-filtered air and non-filtered air supplemented with 40 nl l<sup>-1</sup>. The results of the model using the default parameterisation already published for Mediterranean conifers showed a poor performance when compared to measured data. Therefore, modifications of <i>g</i><sub>max</sub>, <i>f</i><sub>min</sub>, and new <i>f</i><sub>VPD</sub>, <i>f</i><sub>temp</sub> and <i>f</i><sub>phen</sub> functions were developed according to the observed data. This re-parameterisation resulted in a significant improvement of the performance of the model when compared to its original version. Current EMEP stomatal uptake module needs to be re-parameterised for Mediterranean tree species.</p>
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