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5th ICP Forests Scientific Conference
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Abstracts



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Temporal and spatial distribution of ozone symptoms across Europe from 2002 to 2014

Elena Gottardini¹, Vicent Calatayud², Marco Ferretti³, Matthias Haeni⁴, Marcus Schaub^{4*}

¹ Research and Innovation Centre, Fondazione Edmund Mach (FEM), Italy Research and Innovation Centre, Fondazione Edmund Mach (FEM), Via E. Mach 1, 38010 San Michele all'Adige, Italy;

² Fundación Centro de Estudios Ambientales del Mediterráneo (CEAM), Parque Tecnológico, Paterna, SPAIN;

³ TerraData environmetrics, Via L. Bardelloni 19, 58025 Monterotondo M.mo (GR), Italy;

⁴ Swiss Federal Research Institute WSL, Zuercherstrasse 111, 8903 Birmensdorf, Switzerland; marcus.schaub@wsl.ch

One of the aims of ICP Forest is to estimate the potential risk of ozone on European forest ecosystems. In this respect, ozone-induced, visible foliar injury is one of the most considered response indicator to assess ozone impact on vegetation. In the present study, we analyse visible injury data from the Light Exposed Sampling Sites (LESS) installed close to the Level II monitoring plots, and where ozone concentration and meteorological parameters are also measured.

Over the period of 2002-2014, nineteen European countries participated in the field assessment of ozone visible injury according to the ICP Forests standardized methodology (Schaub *et al.*, 2010). Overall, 295 woody species were recorded, of which 28% are being reported as symptomatic*. In 2009, the year with the highest number of countries participating in the field campaign, 60% of the countries reported the presence of ozone symptoms in some plants. In the same year, 12.4% (24 out of 194) of the woody species were symptomatic.

Preliminary results for temporal trends reveal that four out of five countries with at least eight years of data show a decreasing trend in frequency of symptomatic woody species, statistically significant for two countries. Enhanced data quality control is being carried out to perform further analyses to better quantify the spatial and temporal distribution of ozone symptoms across European forests, also in relation to ozone exposure (cf. Schaub *et al.*, 2015).

* *Not all symptomatic species were validated.*

Schaub M, Calatayud V, Ferretti M, Brunialti G, Lövblad G, Krause G, Sanz MJ (2010) Monitoring of Ozone Injury. Manual Part X, 22 pp. In: Manual on methods and criteria for harmonized sampling, assessment, monitoring and analysis of the effects of air pollution on forests. UNECE ICP Forests Programme Co-ordinating Centre, Hamburg. ISBN: 978-3-926301-03-1. [<http://www.icp-forests.org/Manual.htm>].

Schaub M, Haeni M, Ferretti M, Gottardini E, Calatayud V (2015) Ground level ozone concentrations and exposures from 2000 to 2013. In: Michel A, Seidling W (eds) Forest Condition in Europe: 2015 Technical Report of ICP Forests. Report under the UNECE Convention on Long-Range Transboundary Air Pollution (CLRTAP). Vienna: BFW Austrian Research Centre for Forests. BFW Dokumentation 21/2015. 182 p.