

Take actions to reduce ozone pollution

You can personally clean up the air from ozone! The greatest source of ozone precursors (NO_x, VOCs) is human activities (automobiles and large industries)

The role of international policies is to create rules to reduce emissions, but everyone can play a role in fighting pollution

Having energy saving habits, efficient home heating systems, rethinking transportation are our most effective choices to increase air quality for forest health and for citizens' well-being

Partners



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MONitoring ozone injury for seTTing new critical LEVELS

An integrated approach for deriving new critical levels for forest protection against ozone pollution in a changing climate



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MOTTLES objectives

Tropospheric Ozone (O₃) ?

- ◇ Tropospheric O₃ is a secondary air pollutant formed from reactions of primary pollutants (nitrogen oxides and volatile organic compounds)
- ◇ At present, O₃ is the greenhouse gas most dangerous for plants
- ◇ O₃ damage indicators in plants are: foliar visible injury, crown defoliation, growth reduction
- ◇ Plants under O₃ stress are more sensitive to parasitic attacks and drought
- ◇ O₃ affects forest ecosystem services (carbon stock, water cycle, biodiversity)
- ◇ O₃ concentrations will increase with climate change

European Directives set limits for O₃ exposure by using the AOT40 index, based on gas concentrations in the air. To protect vegetation more efficiently, MOTTLES proposes new critical levels based on what it is effectively uptaken by plants (stomatal ozone flux).

Set up a permanent new-generation monitoring system for the effects of O₃ on EU forests

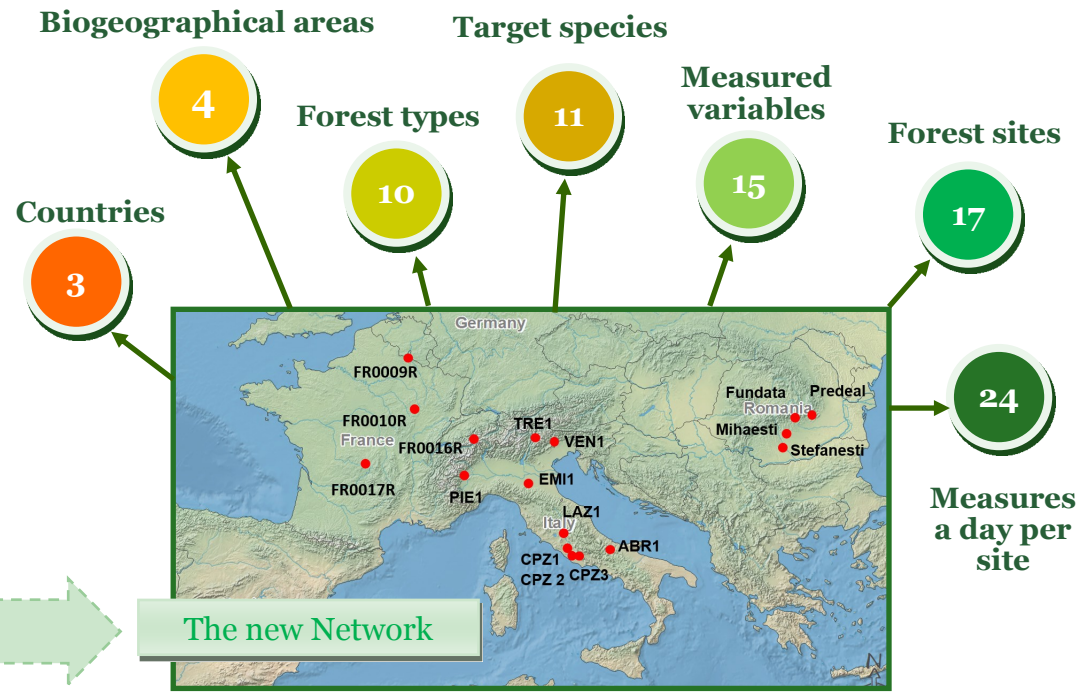
Assess the exposure and the vulnerability of EU regions to effects of climate change & O₃

Support the elaboration of recommendations & adaptive management strategies for sustainable forest management

Monitor forest response indicators for O₃ in Europe

Raise stakeholders' and experts' awareness about the innovative monitoring system and criteria of protection for forests from O₃

Produce new criteria and usable legislative standards for forests against O₃ & Support future EU air quality decision making



MOTTLES stomatal fluxes are used to produce maps to define the regional vulnerability to climate change stressors & identify O₃ hot-spots

MOTTLES creates an integrated tool box of forest management practices summarizing the knowledge produced by MOTTLES for policy makers and practitioners



MOTTLES bridges the gap between science and policymaking, decision-makers and practitioners in terms of forest protection standards

MOTTLES assesses the effectiveness of air pollution control strategies and proposes the critical levels produced by MOTTLES based on stomatal ozone fluxes to EU air quality decision making