

PROJECT INFORMATION

Project title: Plant-soil Stoichiometry relationships with tree growth and health along Environmental gradients

Project ID: 86

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PROJECT DESCRIPTION

Our group (Global Ecology Unit CREAF-CSIC-UAB) have conducted several studies on Ecological stoichiometry and biochemistry (Peñuelas and Sardans 2009; Sardans et al., 2012a,b; Rivas-Ubach et al., 2012; Sardans & Peñuelas, 2012; Peñuelas et al., 2013; Fernandez et al., 2014; Sardans & Peñuelas 2015; Sardans et al. 2015, among several others). Currently, we are involved in a Synergy project (Synergy ERC grant SyG-2013-610028 IMBALANCE-P) focused in the relationships of P imbalances with other nutrients, and in general in nutrient stoichiometry and contents in ecosystems and their relationships with ecosystems structure and function at global scale. We are interested in nutrient stoichiometry shifts both due to natural circumstances, but also with human driven circumstances and their relationships with ecosystem functional and structural traits. We are interested in disentangle how the use and allocation of the different nutrient resources change at the same time with ecosystem traits in response to natural and human driven changes. In this frame, the overall data of ICP forest constitutes an unique opportunity to investigate all these questions and respond to our objectives. In doing so, we have several hypotheses to test, going from testing the suitability of the growth rate hypothesis in terrestrial ecosystems (that is the importance of N:P ratio in determining ecosystem processes such as plant growth or health) to testing the role of foliar elemental composition on forest growth and health and with soil traits, passing by the role of N deposition, ozone and air quality on plant-soil nutrient status of European forests.

References

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