Predicting European forest soil biodiversity and its functioning under climate change

SoilForEUROPE

http://websie.cefe.cnrs.fr/soilforeurope/

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Funded projects final conference, 12-13 November 2019, Brussels

BiodivERsA COFUND Call (2015-2016)

« Understanding and managing biodiversity dynamics to improve ecosystem functioning and delivery of ecosystem services in a global change context: the cases of soils and sediments, and land- river and sea-scapes »

CONSORTIUM DESCRIPTION

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Partner 7: Michael Scherer-Lorenzen, **Uni Freiburg**, DFG

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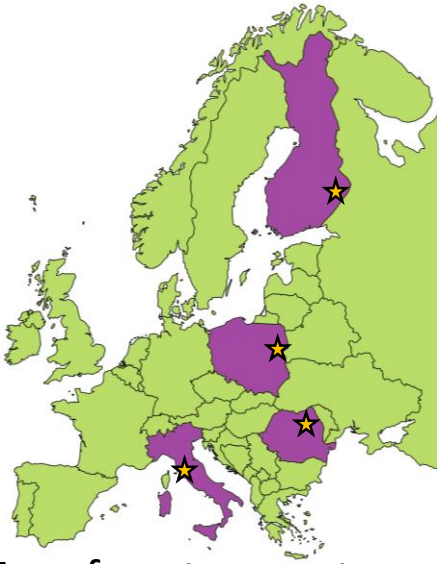
Partner A (self-funded): Hervé Jactel, **INRA Bordeaux**, France

PROJECT DESCRIPTION

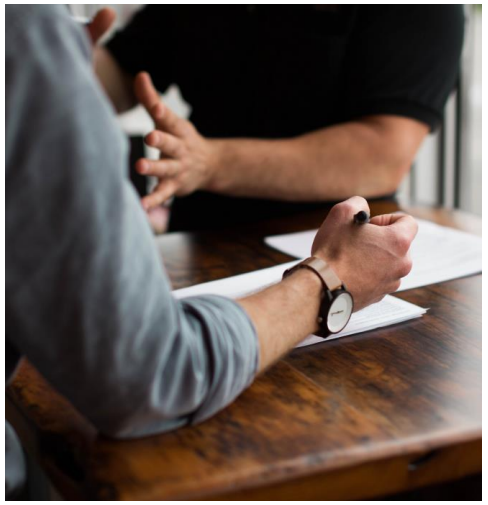
AIMS

1) Evaluating links between tree species richness and soil biodiversity.
2) Assessing the role of soil biodiversity in ecosystem resistance and resilience.
3) Analyzing the socio-economic value of soil biodiversity and its impact on decision making.



Four forest ecosystems

Climate manipulation, Ecotron

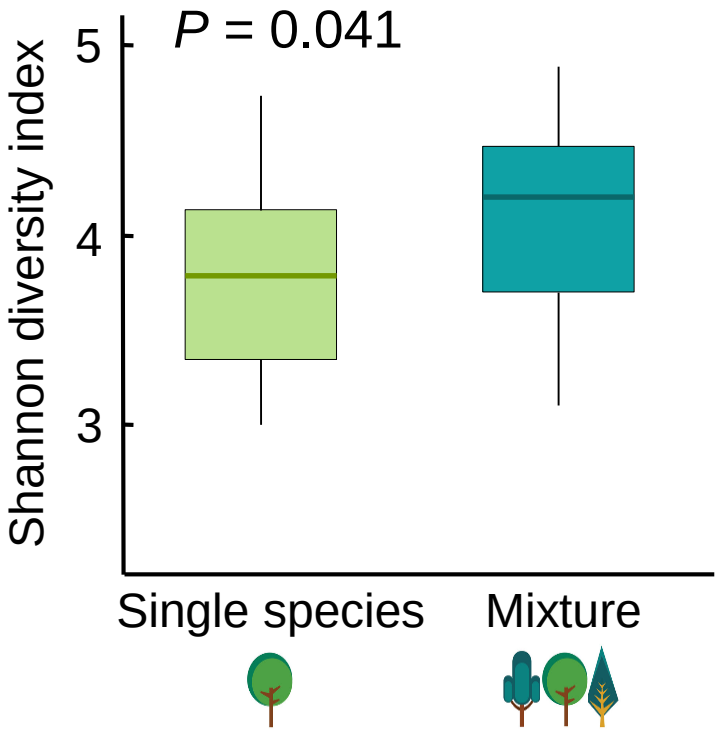


Socio-economic evaluation

SCIENTIFIC OUTPUTS

Sampling the Italian site

Fungal species diversity

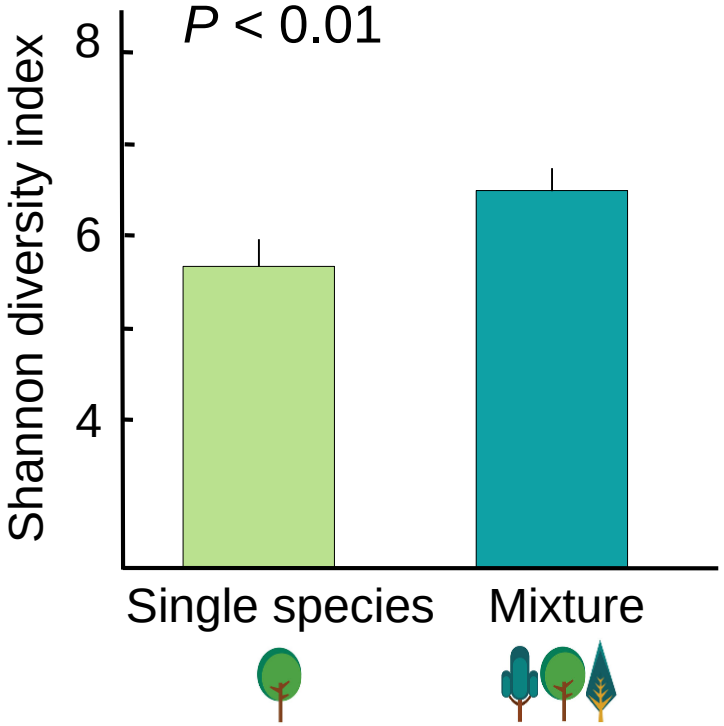


Prada Salcedo et al. *in prep.*

SCIENTIFIC OUTPUTS

Soil fauna

Diversity of soil fauna



Ganault et al. *in prep.*

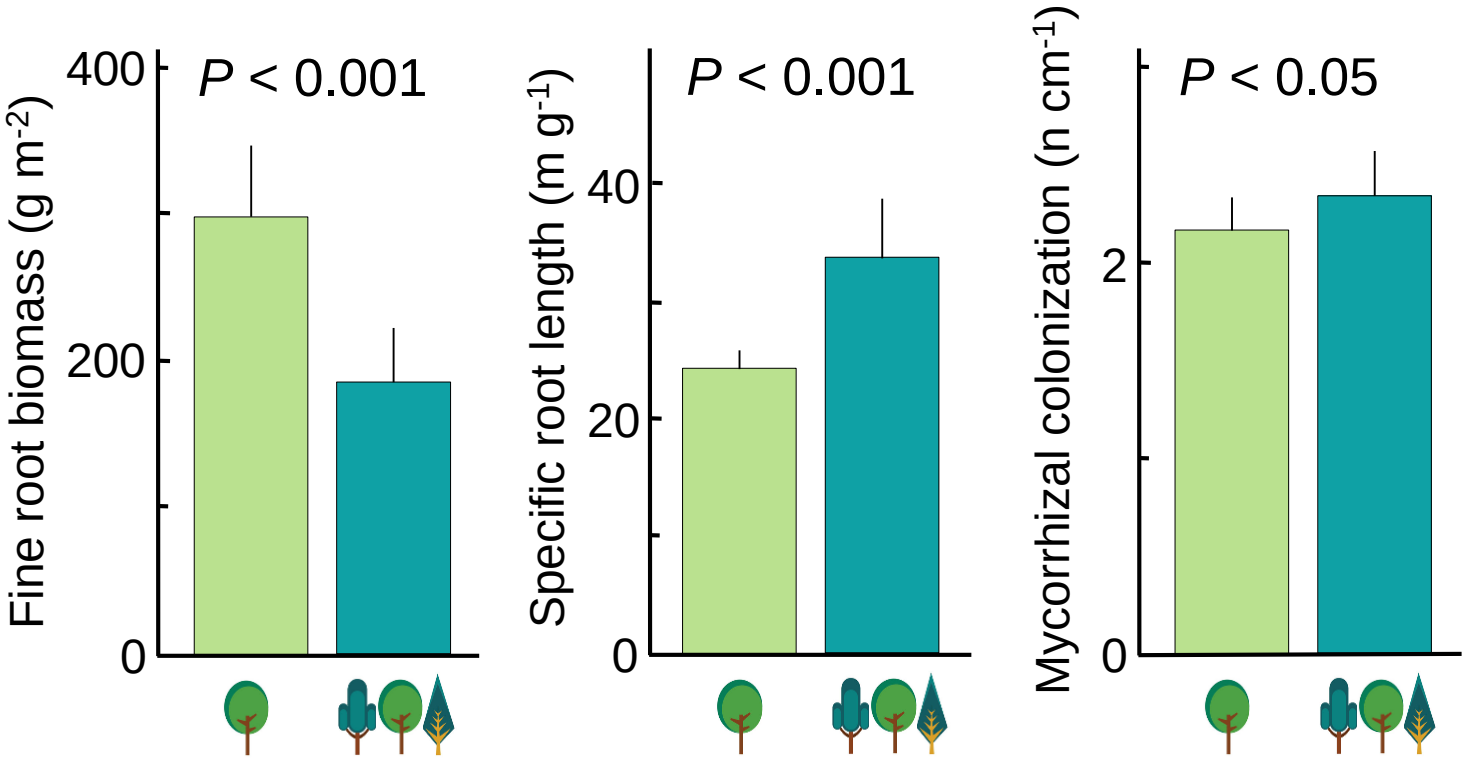
SCIENTIFIC OUTPUTS

Biomass and traits of absorptive roots

Picea abies

Carpinus betulus

Pinus sylvestris



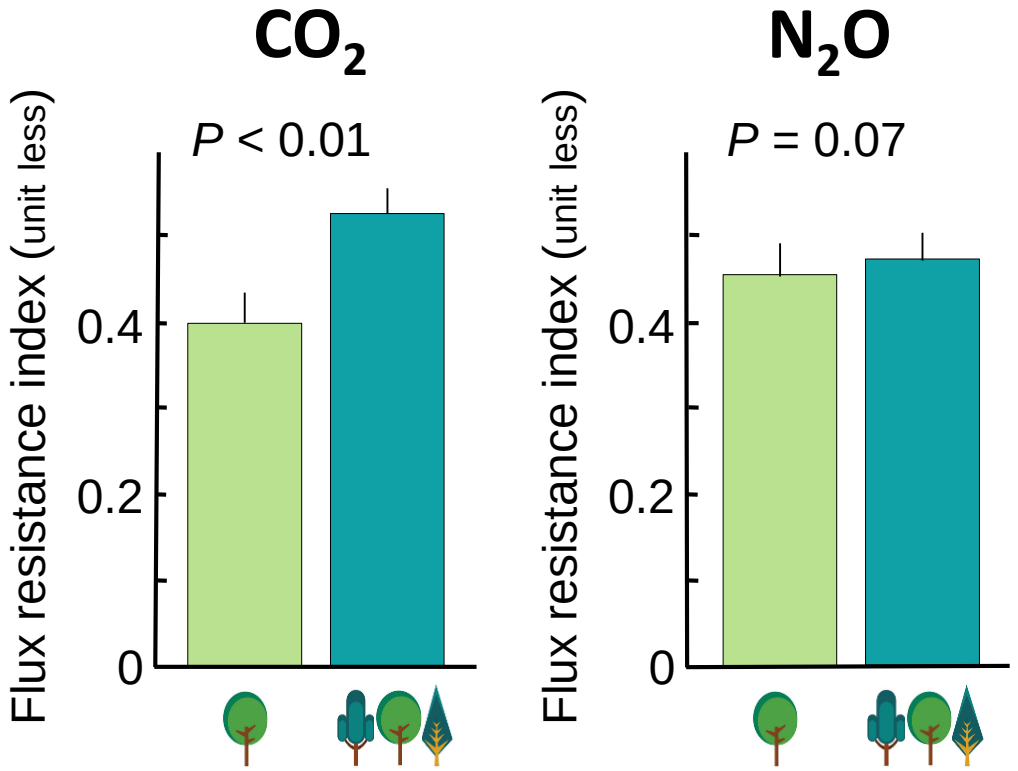
Wambsganss et al. *in prep.*

SCIENTIFIC OUTPUTS

Soil microbial resistance to drying-rewetting cycles

Soil samples from the four sites

Exposure to drying-rewetting in the Ecotron

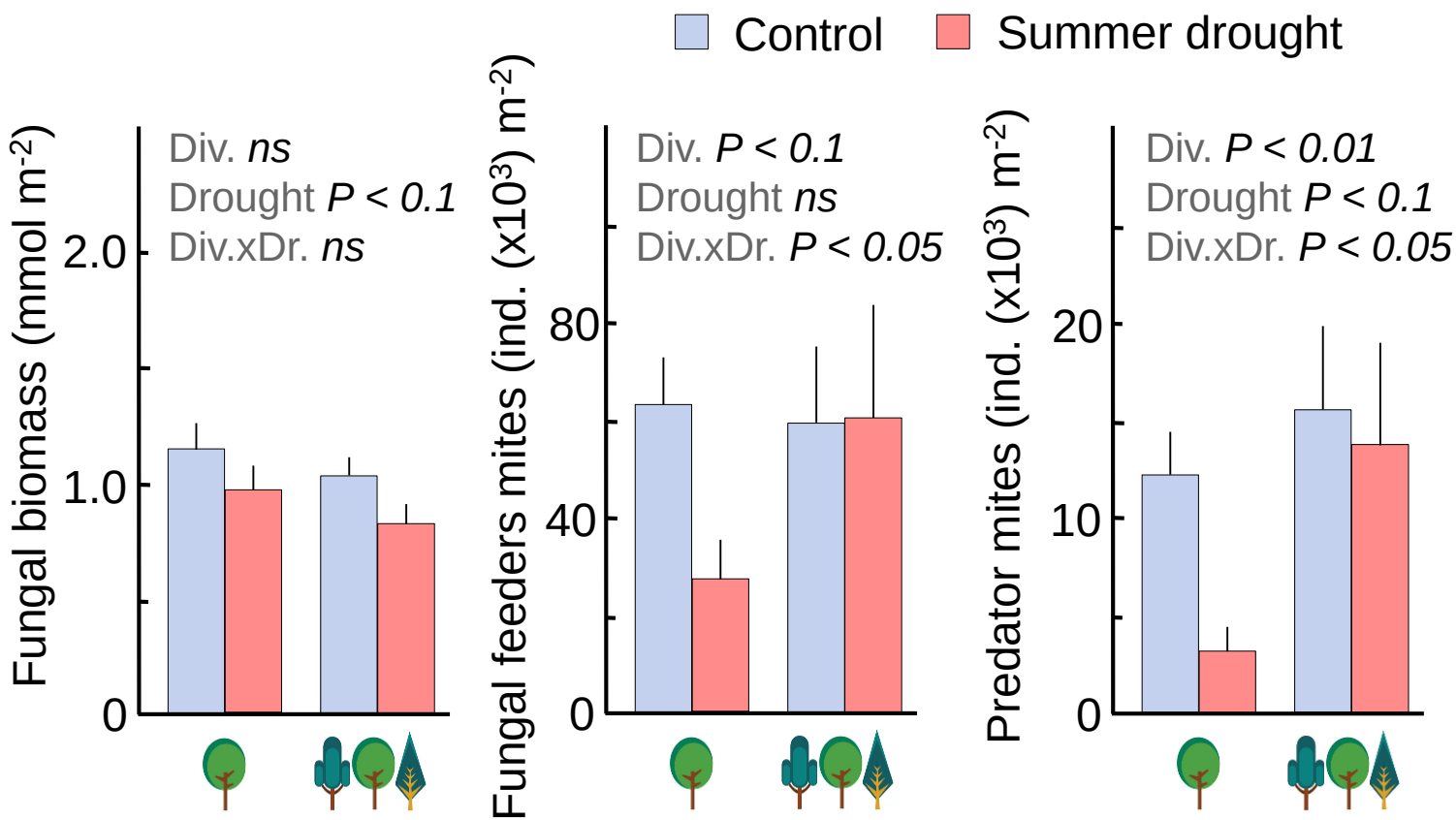


Gillespie et al. *in prep.*

SCIENTIFIC OUTPUTS

Interactive drought x mixture effects on soil organisms

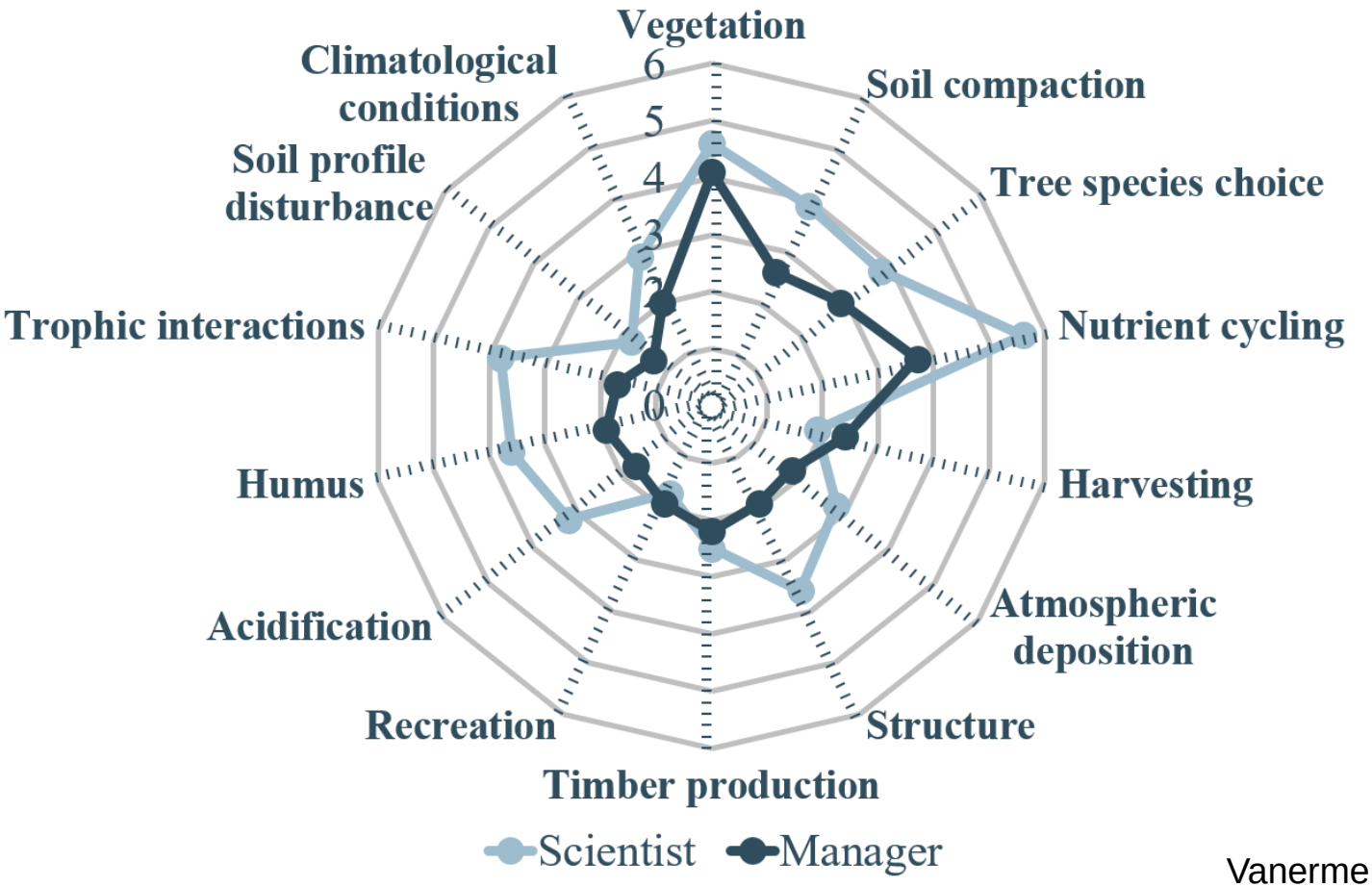
Experimental site ORPHEE



Henneron et al. *in prep.*

SOCIETAL / POLICY OUTPUTS

Soil biodiversity: comparative knowledge mapping

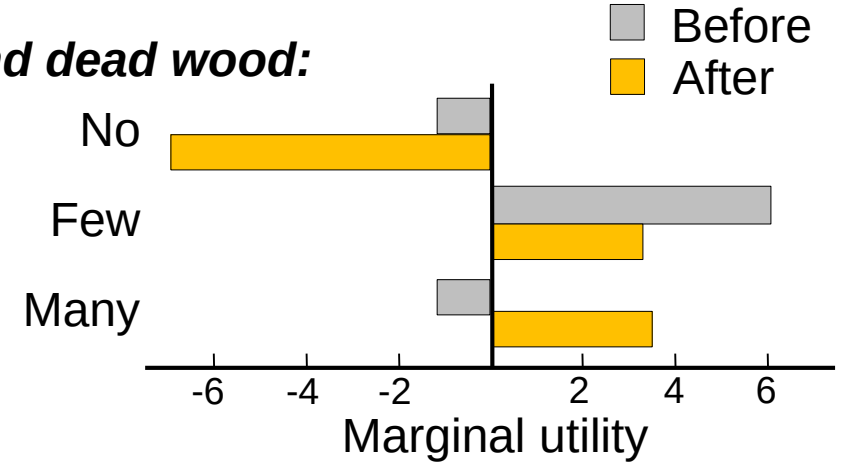


Vanermen et al. *submitted*

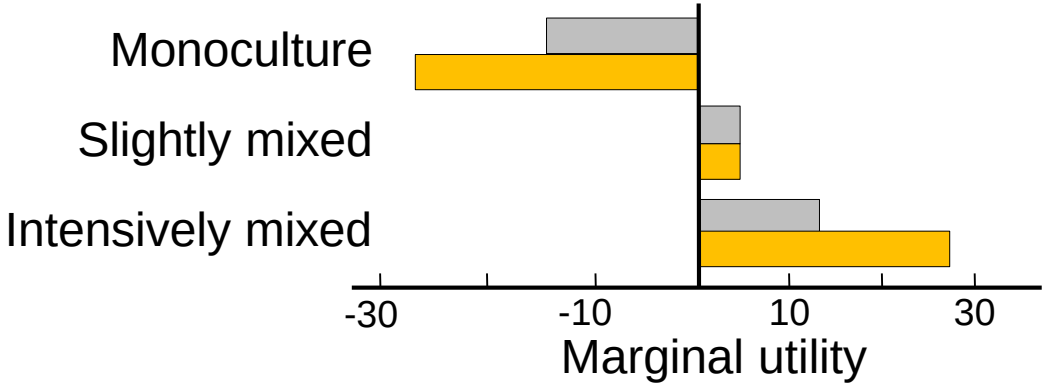
SOCIETAL / POLICY OUTPUTS

Soil biodiversity information and public preferences for forest management

Old trees and dead wood:



Tree species diversity:



Vanermen et al. *in prep.*

SOCIETAL / POLICY OUTPUTS

http://websie.cefe.cnrs.fr/soilforeurope/approach-4/


CONCLUSIONS

- Remarkably consistent tree mixture effects across a broad climatic gradient and distinct forest types.
- Tree mixtures mitigate drought effects on soil communities and their activities.
- Diffuse knowledge about the importance of soil biodiversity among forest managers.
- Information about soil biodiversity modifies management decisions.

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