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German Centre for
Integrative Biodiversity Research (iDiv)
Halle-Jena-Leipzig

International cooperation as basis for the conservation of soil biodiversity worldwide

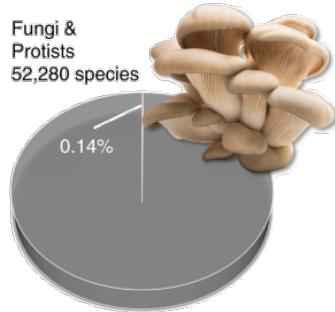
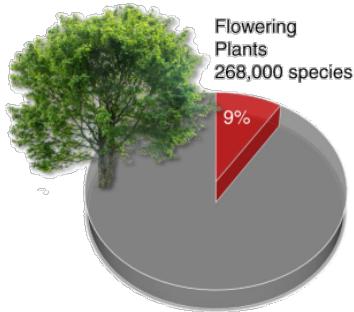
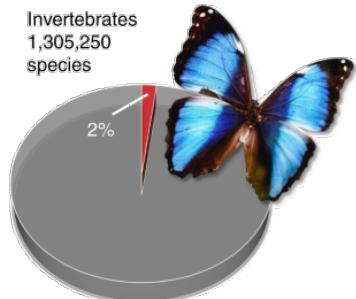
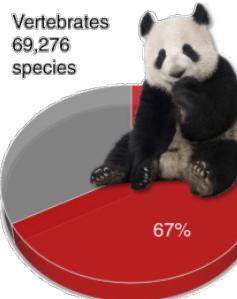
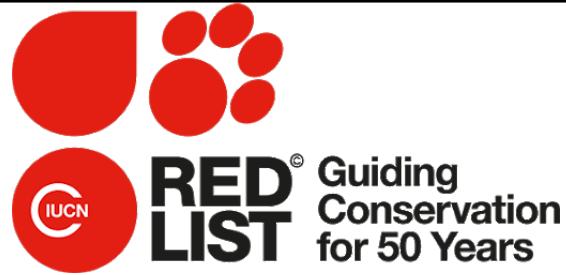
Carlos Guerra

Experimental Interaction Ecology

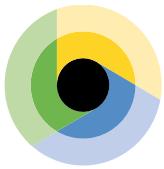


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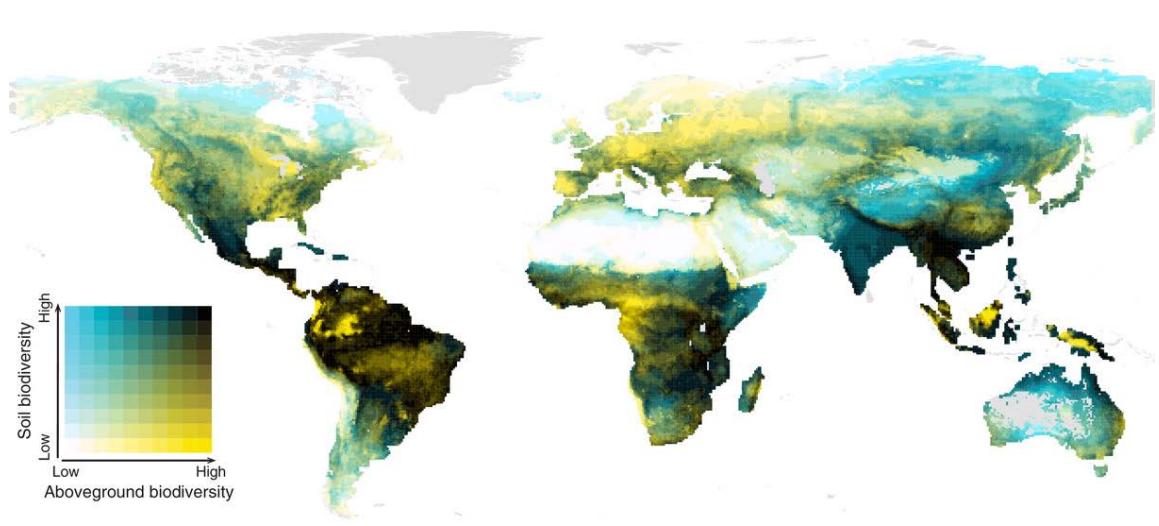
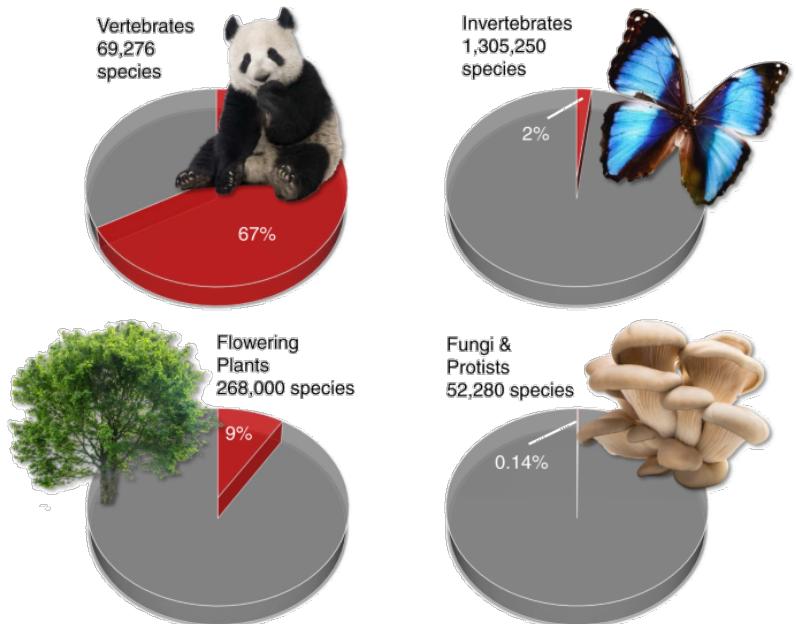


Eisenhauer, et al. (Nat. Comm.) 2019



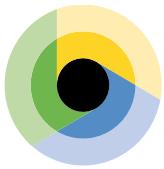
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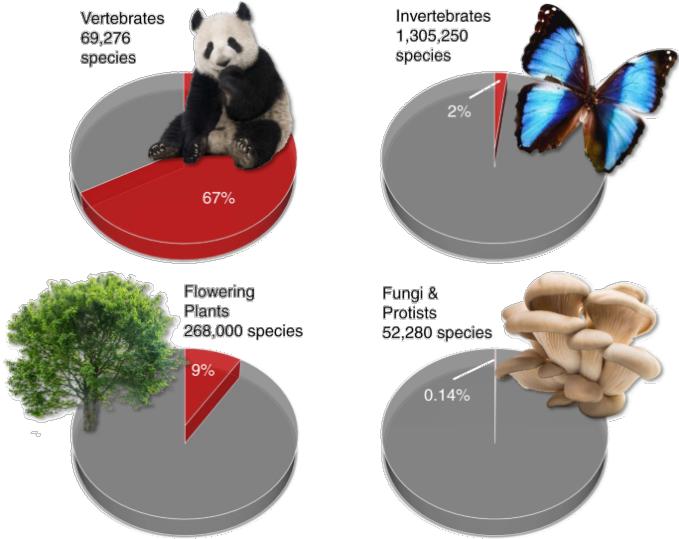
Cameron, et al. (Cons.Biol.) 2019

Eisenhauer, et al. (Nat. Comm.) 2019

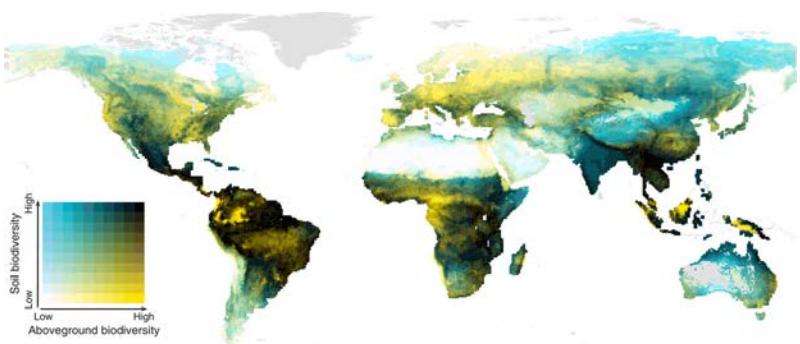


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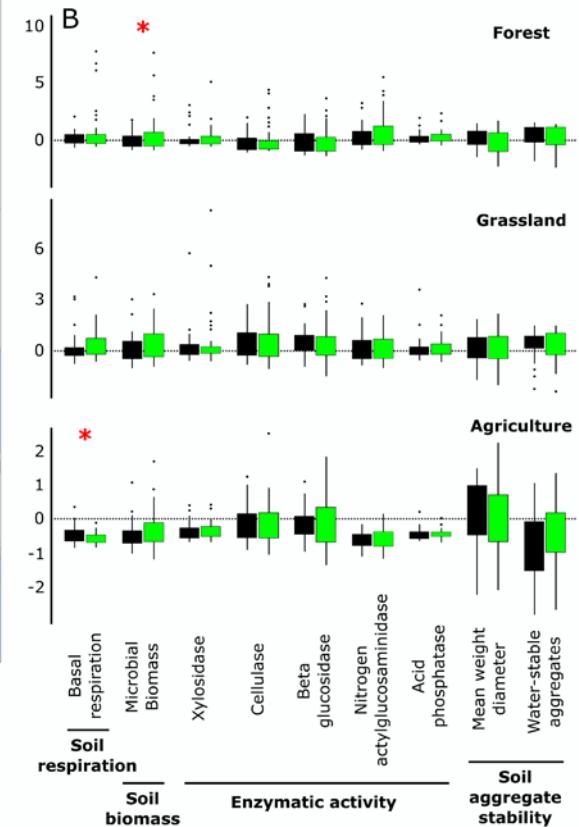
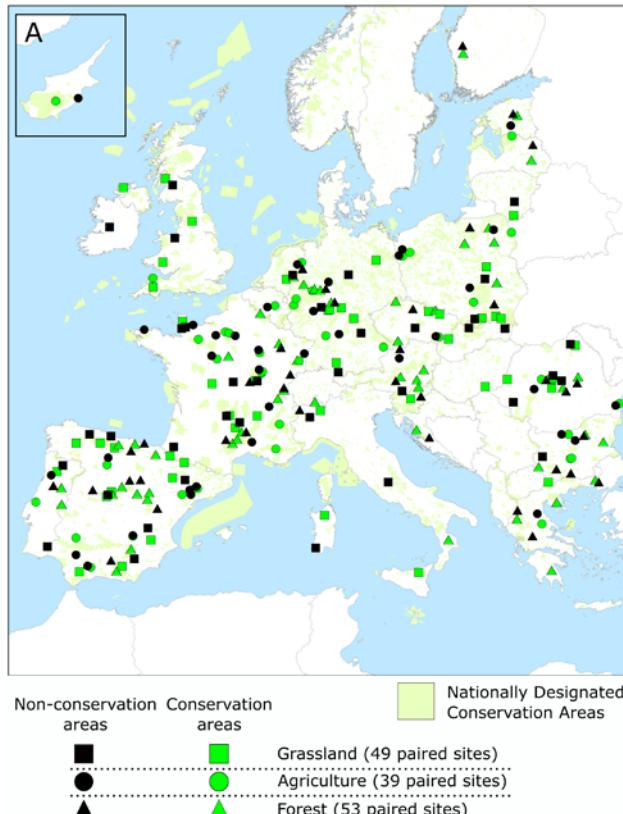
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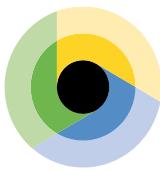
Eisenhauer, et al. (Nat. Comm.) 2019



Cameron, et al. (Cons.Biol.) 2019



Zeiss, et al. (in rev.)



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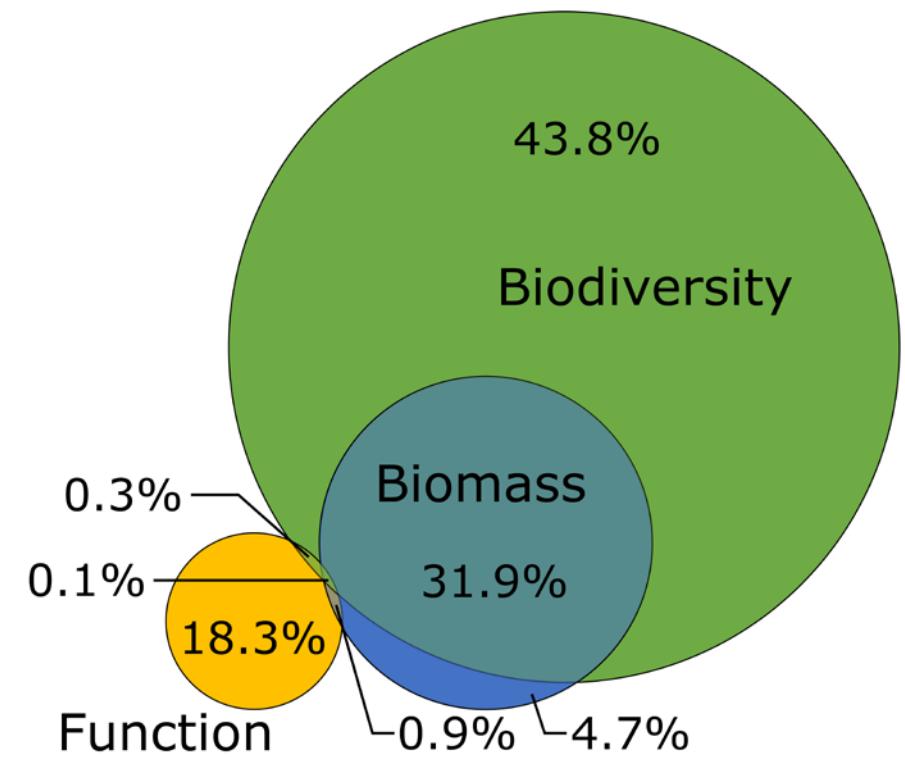
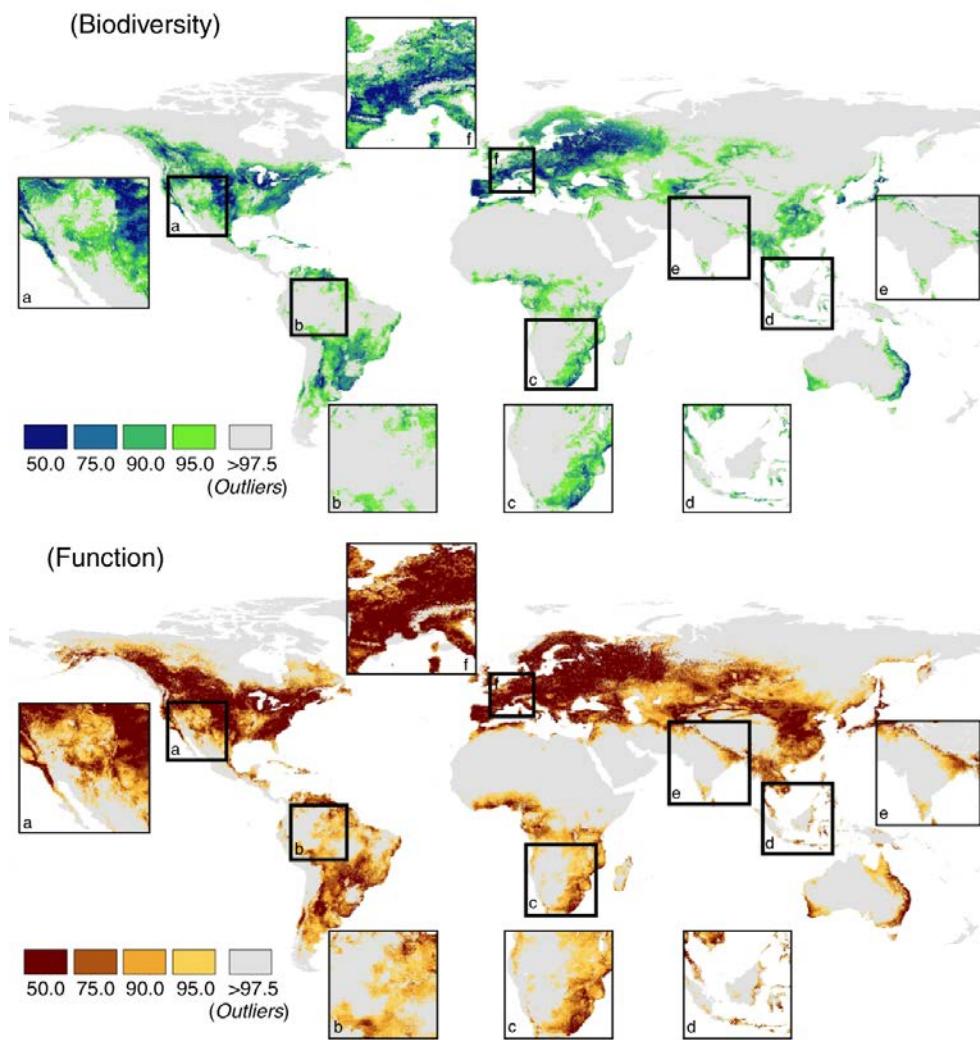
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ARTICLE

<https://doi.org/10.1038/s41467-020-17688-2>

OPEN

Blind spots in global soil biodiversity and ecosystem function research

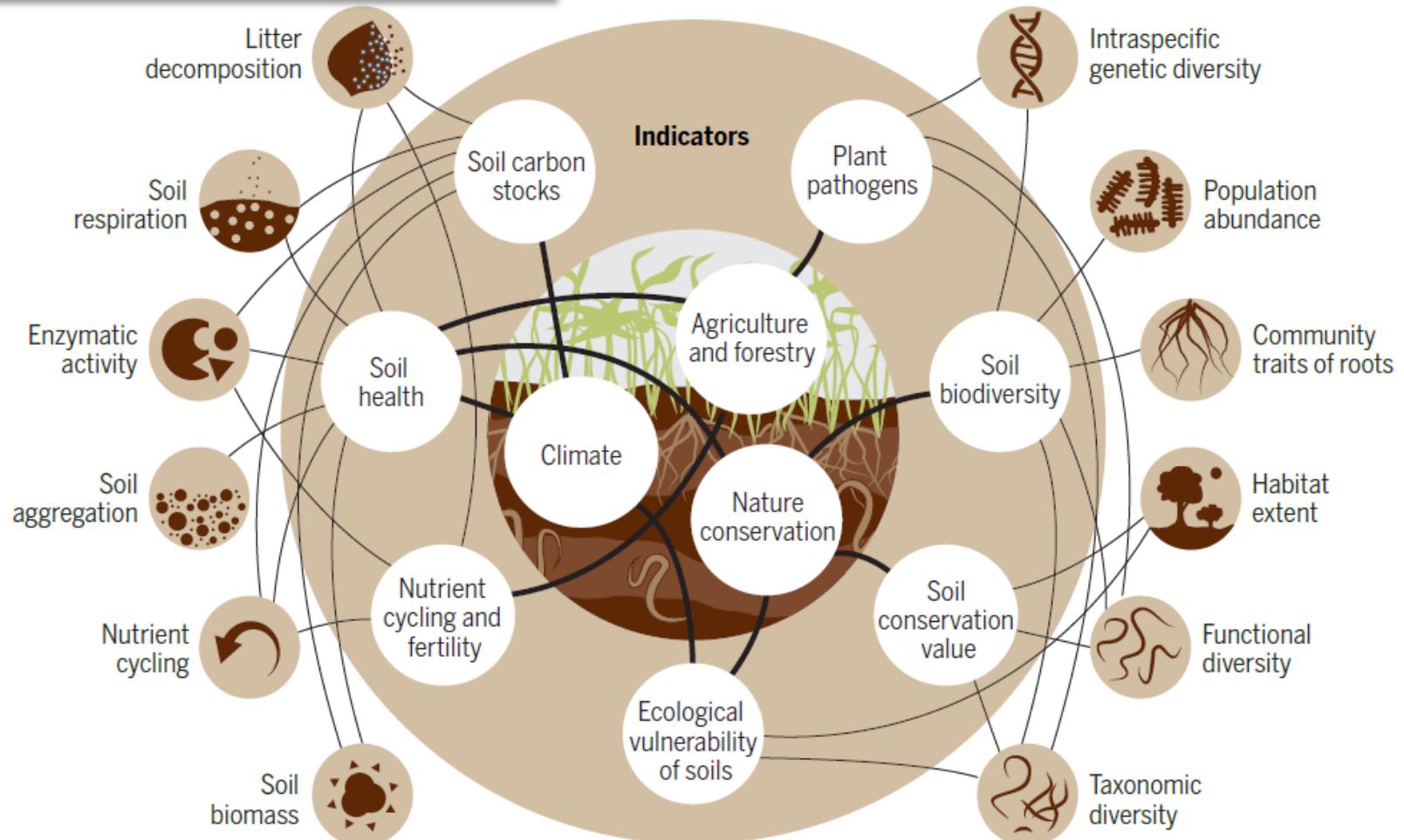




BIODIVERSITY

Tracking, targeting, and conserving soil biodiversity

A monitoring and indicator system can inform policy





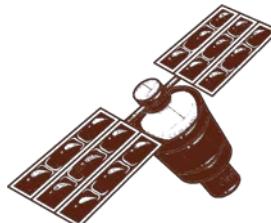
from Concepts to Action!

CALL FOR COLLABORATION

Unearthing soil ecological observations

Carlos A. Guerra^{1,2,*}, Diana H. Wall & Nico Eisenhauer^{1,2}

Land-cover classification
Land-use classification
Vegetation cover



Vegetation indexes
Fire regime
Moisture

Teabag decomposition

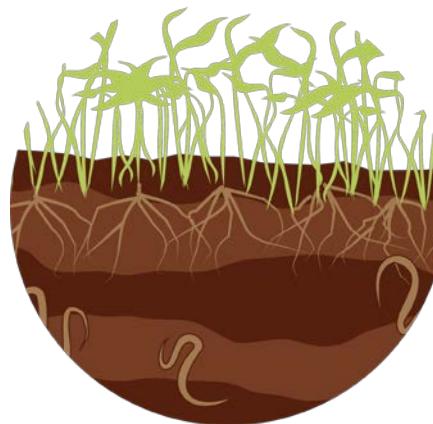


Land use and cover

Satellite information

Microbial biomass
Bacterial biomass
Fungal biomass
Enzyme activity
Basal respiration
Lignin degradation
Nitrogen mineralization

Litter decomposition



Nematodes
Collembola



Water holding capacity
Total carbon
Total nitrogen
Available nitrogen
Total phosphorous
Available phosphorous
Aggregate stability
Soil pH
Trace elements

Organisms extraction

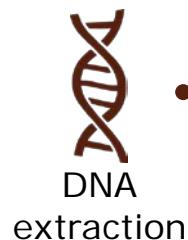


Physical and Chemical analysis



Root measurements

Root length/diameter
Root biomass
Root density



DNA extraction

Virus
Archaea
Bacteria
Predatory bacteria
Fungi
Protists
Small invertebrates
Metagenomics



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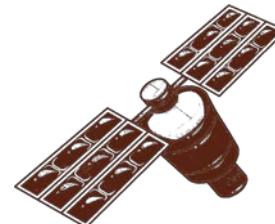
Carlos A. Guerra^{1,2,*}, Diana H. Wall & Nico Eisenhauer^{1,2}



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Land use
and cover



Satellite
information



UNIVERSITÄT
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Litter
decomposition



Functional
measures



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1824
The University of Manchester
Universitat d'Alacant
Universidad de Alicante



COLORADO STATE
UNIVERSITY



Organisms
extraction



Root
measurements



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HELMHOLTZ
CENTRE FOR
ENVIRONMENTAL
RESEARCH – UFZ



Physical and Chemical
analysis



DNA
extraction



WESTERN SYDNEY
UNIVERSITY

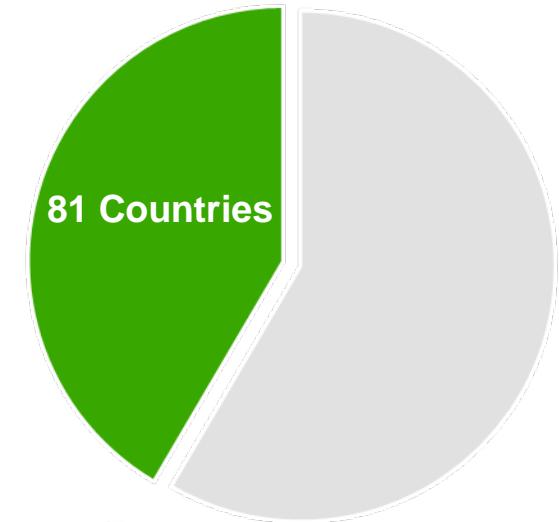
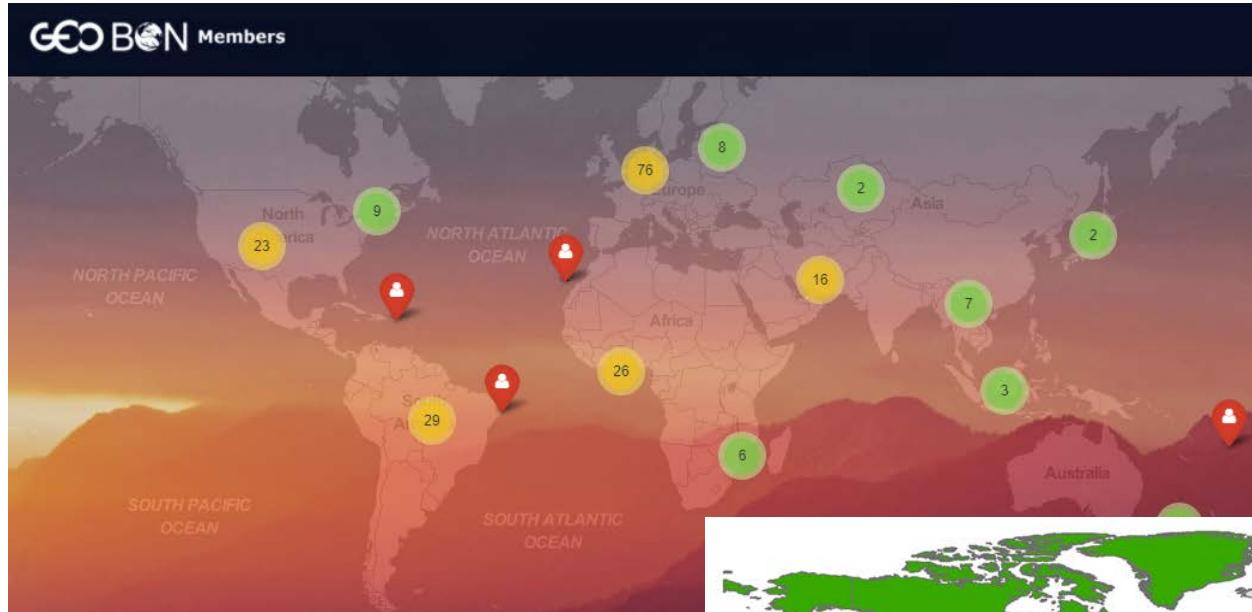


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Soil BON



>200 Institutions
>500 Individuals

