Geophysical Research Abstracts
Vol. 19, EGU2017-14577, 2017
EGU General Assembly 2017

Modelling soil functions and the impact of land use

Ulrich Weller (1,4), Birgit Lang (2,4), Eva Rabot (1,4), Bastian Stößel (1,4), Hans-Jörg Vogel (1,4), Martin Wiesmeier (3,4), Ute Wollschläger (1,4)

(1) UFZ - Helmholtz Centre for Environmental Research, Leipzig/Halle, Germany (ulrich.weller@ufz.de), (2) Senckenberg Gesellschaft für Naturforschung, Görlitz, Germany, (3) Technische Universität München, Germany, (4) BonaRes – Centre for Soil Research, Germany

One of the main tasks of the BonaRes working group is the evaluation of the impact of different management options on soil functions. These are defined as the production of biomass, storage of carbon and water, filtering of water and habitat for biological activity. In order to predict the impact of management decisions on these functions a comprehensive understanding of soil processes is inevitable. Therefore the modelling crew tries to identify the dominant properties in soil and their interactions. Focus is posed on components that have a meso scaled time horizon rather than short term state variables. Long term properties are considered as moderators for the interactions.

The identification of the main interactions is based on a literature research where we try to evaluate the significant interactions and collect our knowledge base in a literature retrieval base. This can serve as a search tool for the whole scientific community to identify papers that have studied certain interactions on soil properties. Also, existing models, which typically act at a shorter time scale, serve as an analysis tool to quantify these interactions.