

# CLE Newsletter 2018

## New project: FFSize



The geographer **Dr. Christian Levers** - postdoc at the HU Berlin until the end of August - came to the UFZ with a Marie Skłodowska Curie project grant (Global Fellowship) in the amount of 225,000 Euros beginning in September 1<sup>st</sup>. Christian Levers' core competence lies in the mapping and analysis of land systems as well as the application of regression and simulation models. In his MSCA project "FFSize", he aims to analyse farm and field sizes of agricultural enterprises in South

America and their role in food security and sustainable agriculture. The researcher will spend the first two project years at the University of British Columbia in Vancouver before coming to the UFZ - Department of Landscape Ecology in Leipzig in September 2020.

## Graduation



**Madhumitha Jaganmohan**, team member of the former working group „Urban Forms“, now finished her Ph.D. and graduated at Martin-Luther-University Halle-Wittenberg

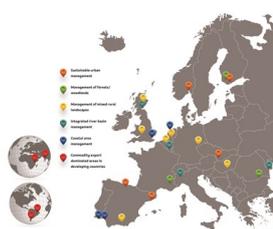
under the supervision of Dr. Nina Schwarz. Congratulations!

## Project results



In its 7<sup>th</sup> framework program the European Commission invested 20 million Euros in a call to assess the operationalisation of the concepts **ecosystem services** and **natural capital** in policy, governance and legislation covering levels from municipalities to European and global scales. OpenNESS, one of the two funded projects, has published key findings early 2018 in a special issue "**Synthesizing OpenNESS**" of the journal **Ecosystem Services with multiple contributions of CLE members**, covering findings from its 27 case studies, methodological lessons learned, new scenarios, valuation and simulation approaches to reflexions about conceptual frameworks.

Three **additional synthesizing and comparative papers** with contributions of CLE staff such as "Combining policy analyses, exploratory scenarios, and integrated modelling to assess land use policy options", "New EU-Level Scenarios on the Future of Ecosystem Services" and "Different ecosystem services, same (dis)satisfaction with compensation: a critical comparison between farmers' perceptions in Scotland and Brazil" are just being published and will be available in a couple of weeks.



OpenNESS case studies (photo © J. Priess)



discussion of 1st EU and global scale simulation results during a project meeting (photo © J. Priess)

## Publications "Editor's Choice"

Being not for quite some time in science in various roles as authors, reviewers, supervisors and project coordinators and recognizing a vast diversity of outlets on the so called „scientific crises“ we felt it is time for a perspective on that topic entitled „The Art of Scientific Performance“. **Seppelt, R., Beckmann, M., Václavík, T., Volk, M.**, (2018): The art of scientific performance *Trends Ecol. Evol.* 33 (11), 805 - 809. [DOI 10.1016/j.tree.2018.08.003](https://doi.org/10.1016/j.tree.2018.08.003)

In this paper, we systematically synthesise case study data on human adaptation behaviour in the context of environmental change covering more than 9,700 rural households in Sub-Saharan Africa. In particular, the role and relative significance of migration as an adaptation strategy is assessed. The results show that measures related to crop, livestock, soil and water management are the most common, but also indicate the relevance of different forms of migration which were reported by about 23% of the households under study.

**Charlotte Wiederkehr, Michael Beckmann, Kathleen Hermans**, (2018): Environmental change, adaptation strategies and the relevance of migration in Sub-Saharan drylands. *Environ. Res. Lett.* 13 113003. [DOI 10.1088/1748-9326/aae6de](https://doi.org/10.1088/1748-9326/aae6de)

We hereby provide an overview of in situ species approaches, that is, the biological, the phylogenetic, and the morphological species concept, as well as an overview of the remote-sensing spectral trait/spectral trait variations concept to monitor the status of vegetation health and diversity (VDH) as well as processes of stress, disturbances, and resource limitations affecting VHD. The approaches are compared with regard to their suitability for monitoring vegetation health and diversity, and their advantages, disadvantages, potential, and requirements for being linked are discussed.

**Lausch, A., Bastian, O., Klotz, S., Leitão, P.J., Jung, A., Rocchini, D., Schaeppman, M.E., Skidmore, A.K., Tischendorf, L., Knapp, S.**, (2018): Understanding and assessing vegetation health by in situ species and remote-sensing approaches *Methods Ecol. Evol.* 9 (8), 1799 - 1809. [DOI 10.1111/2041-210X.13025](https://doi.org/10.1111/2041-210X.13025)

We review multi-objective optimization methods that can be used for spatial land use allocation in agricultural landscapes. It gives a guideline for the selection of a suitable algorithm considering trade-off analysis, the number of objectives and stakeholder engagement.

**Kaim, A., Cord, A.F., Volk, M.**, (2018): A review of multi-criteria optimization techniques for agricultural land use allocation *Environ. Modell. Softw.* 105, 79 - 93. [DOI 10.1016/j.envsoft.2018.03.031](https://doi.org/10.1016/j.envsoft.2018.03.031)

The value of urban green spaces (UGS) is recognized as an important issue for real estate developers as much as for urban planners, since UGS influence housing prices and the attractiveness of locations and neighbourhoods. Decisions related to UGS are made on different spatial scales, which have not yet been distinguished in hedonic studies. The purpose of this paper is to investigate the scale dependency of UGS values based on revealed preferences. We propose to apply a stepwise scale-sensitive hedonic pricing analysis to residential rental units in Leipzig, Germany.

**Liebelt, V., Bartke, S., Schwarz, N.**, (2018): Revealing preferences for urban green spaces: a scale-sensitive hedonic pricing analysis for the city of Leipzig *Ecol. Econ.* 146, 536 - 548. [DOI 10.1016/j.ecolecon.2017.12.006](https://doi.org/10.1016/j.ecolecon.2017.12.006)

## Imprint

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