CLE Newsletter 01/2017

New Projects

CROSSLINK - Understanding cross-habitat linkages between blue and green infrastructure to optimize management of biodiversity, ecosystem services and multiple human uses.

The BiodivERsA project CROSSLINK aims at understanding the importance of connectivity within green and blue infrastructure (GBI) of stream-riparian networks, in particular its effects on biodiversity and ecosystem functioning and services, and to apply this understanding in managing stream-riparian GBI for both natural values and societal needs. The results of CROSSLINK will be used to optimize the management of biodiversity, ESS, and multiple human uses at the land-water interface of four European river catchments. Next to the department CLE (Prof. Dr. Martin Volk und Felix Witing), the Swedish University of Agricultural Sciences (SLU), Ghent University, Norwegian Institute for Water Research (NIVA) and University of Bucharest are project partners involved in CROSSLINK. The project is coordinated by Prof. Brendan Mckie (SLU).

http://www.ufz.de/index.php?en=43182

UrbanGaia - Managing urban Biodiversity and Green Infrastructure to increase city resilience

The BMBF funded project UrbanGaia (2017-2020) will capitalize untapped knowledge of existing urban Green-Blue Infrastructures (GBIs), which is very relevant, as more than half of the global population is living in cities. The need for resilient and healthy ecosystems, fostering biodiversity and maintain human well-being is particularly pressing in urban contexts. UrbanGaia will contribute to the socio-environmental knowledge base by disentangling critical features of GBIs, and aims at providing tools for guiding their evaluation, establishment and management using a place-based research framework. UrbanGaia responds directly to urgent societal demands at local to global levels, as well as to several (EU-) policy requests. Contact. Jörg Priess.

UrbanGaia project website

MigSoKo - Meilensteinsperre

The MigSoKo Meilensteinreport was positively evaluated by the BMBF. In May we received the official approval for continuing with MigSoKo for four more years until summer 2021 ("Lösen der Meilensteinsperre"). Now the entire team can continue with the scientific work without major administrative/financial obstacles.

ESCALATE: PhD Welcome Day

On April 20th 2017, the first ESCALATE Welcome Day took place and 25 ESCALATE PhD students and supervisors participated. The seven new ESCALATE PhD students were welcomed to the team. Ralf Seppelt and Michael Beckmann presented the core ideas of the research school. Based on the three previous ESCALATE synthesis projects we brainstormed potential ideas for upcoming synthesis projects. Altogether almost 50 potential topics were created. In the afternoon we had Steven R. Beissinger from the University of California as a colloquium guest who spoke about "Metapopulation dynamics in coupled natural-human systems: integrating birds, wetlands, landowners, drought, and disease."

Department-Offspring

Anton Johann (Anna Cord) * 10 Feb 2017

Publications „Editor's Choice"

Cord, A.F., Brauman, K.A., Chaplin-Kramer, R., Huth, A., Ziv, G., **Seppelt, R.** (2017): Priorities to advance monitoring of ecosystem services using Earth observation *Trends Ecol. Evol.* DOI: 10.1016/j.tree.2017.03.003
In this opinion article, we introduce a novel framework showing how Earth observation together with socioeconomic information and model-based analysis can support assessments of ecosystem service supply, demand, and benefit. The paper also proposes five priorities to advance the capabilities of Earth observation-based monitoring of ecosystem services (e.g., in the context of the SDGs).

Dechant, B., Cuntz, M., Vohland, M., Schulz, E., **Doktor, D.** (2017): Estimation of photosynthesis traits from leaf reflectance spectra: correlation to nitrogen content as the dominant mechanism *Remote Sens. Environ.* DOI: 10.1016/j.rse.2017.05.019
We tested the performance of estimating two important photosynthesis traits, the maximum carboxylation capacity and the maximum electron transport rate, from in-situ leaf reflectance spectra. Approaches used that are applicable on larger spatial scales and showed that both parameters can be estimated from leaf reflectance measurements with good accuracy even for a large number of tree species and varying light environments. Detailed analysis with regard to prediction performances led to the conclusion that the correlation to Nitrogen content per area was the dominating mechanism on which models based.

Locher-Krause, K.E., Volk, M., Waske, B., Thonfeld, F., Lautenbach, S. (2017): Expanding temporal resolution in landscape transformations: Insights from a landsat-based case study in Southern Chile *Ecol. Indic.* DOI: 10.1016/j.ecolind.2016.12.036
Understanding temporal and spatial dimensions of land cover dynamics is a critical factor to link ecosystem transformation to land and environmental management. Our analysis underlines the importance of expanding temporal resolution in land cover/use change studies to guide sustainable ecosystem management strategies as increase landscape connectivity and integrate landscape planning to economic activities.

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