Comparing diversity projections under climate and land-use change: a call for a community effort with harmonized driver data

Carsten Dormann*[1], Jörg Steinkamp[2], Andrea Janeiro Otero[3], and Thomas Hickler†[2]

[1]Biometry and Environmental System Analysis, University of Freiburg – Freiburg, Germany
[2]BIK-F, Senckenberg – Germany
[3]Biometry Environmental System Analysis, Uni Freiburg – Germany

Abstract

Scientists use various approaches to make projections about how environmental changes will affect diversity. Some of them employ data and regression-like approaches, others first principles and process models, and others again higher-level "ecological laws", or even expert-based guesses. Do they differ much? What do they actually state for the same future scenario? What are the key sources of uncertainty of these different approaches, and are some less sensitive to such uncertainty? How will expectable and black-swan surprises (a.k.a. known vs. unknown unknowns) affect their predictions?
This talk will outline an open and unfunded platform to produce such a biodiversity projection comparison. We propose a two-stage process: first, we will provide a common set of "now" and "then" data for which different groups can compute their predictions of diversity. In the second stage, we shall expand the number and possibly type of scenarios (different spatial scales and emission pathways) for a more comprehensive analysis.

Keywords: model intercomparison, biodiversity, global, land cover, climate

*Speaker
†Corresponding author: thomas.hickler@senckenberg.de