New article: The geometry of habitat fragmentation: effects of species distribution patterns on extinction risk due to habitat conversion

Land-use change and the resulting loss and fragmentation of natural habitats are considered to be important drivers of biodiversity loss. However, there is an intense debate in ecology and conservation biology as well as contrasting empirical results of how the fragmentation of a constant total habitat area affects biodiversity. Are several small habitat areas or a few large ones better for the survival of species? In their new article, Felix May, Juior-Professor of Quantitative Methods at the Methodology Centre of the Leuphana, and co-authors describe an approach to explain the different effects of fragmentation on survival probabilities. The authors show that two different types of fragmentation effects on survival probabilities. The authors show that two different types of fragmetation effects have to be distinguished: geometric fragmentation effects that result from the spatial distribution of species, individuals and habitat, and demographic fragmentation effects, i.e. changes in species´ fitness or their interactions due to landscape changes. The article provides an important contribution to a resolution of the debate and fosters improved predictions of the response of species and species communities to habitat loss and fragmentation.

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