

Jan Hanspach: Assessing the influence of global change on plant species distribution using statistical models

Global change constitutes a serious threat to biodiversity and ecosystem functioning. Within this study, impacts of the main drivers of biodiversity, namely climate and land use change as well as biological invasions on plant species distribution were analysed. Based on species distribution models many native species show severe range contractions in Germany and southern European species could expand northwards under climate and land use change scenarios. Invasion success of introduced ornamentals was fostered by frequent planting and broad ecological requirements of the species. Further, methodological limitations of species distribution models, i.e. prediction errors, were shown to depend on the species' traits, range characteristics and properties of the mapping unit on a European scale. Knowledge on patterns in predictive performance is crucial to enable reliable description of species' responses to global change and, hence, the minimization and mitigation of negative impacts.