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# Integrating economic constraints into the modelling of tree species distributions

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## Abstract

In human dominated ecosystems, the presence of a given tree species is the result of both the biophysical suitability of the site and human impacts such as land-use choices and management decisions. Classical species distribution models (SDMs) estimate the potential distribution of tree species considering human impacts as additional covariates that need to be accounted for. In this communication, we argue that such practices lead to biased SDMs when human impacts are correlated with any unobserved biophysical variables. We present a modelling approach that accounts for this bias and assess its implication on predictive ability from classical SDMs. In addition, we present an original framework to perform climate change projections integrating adaptation scenarios.

**Keywords:** tree species distribution, forest ecology, multi, disciplinary, econometrics, land, use, niche modelling

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