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Resumo simples

Climate changes affect the future potential distribution of an exotic bee in South America

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INFO ABSTRACT

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ABSTRACT

It's been widely reported that climate change is one of the most significant factors explaining the decline of pollinators worldwide. To improve our understanding of the its impacts in the ecological services, there is a need to study the patters of suitability's fluctuation of pollinators. The bee *L. huberi* is undoubtedly an exotic species to South America once it has been discovered and described in this continent for over 100 years ago. To determine how it is likely to respond to future climate change, we attempt to compare our species distribution model (SDM) of the present with the one of the worst-case projected representative carbon pathway emissions for the year 2070 (11 climatic models for rcp85). In both present and future scenarios, we implemented five models, Bioclim, MaxEnt, Gower, Mahalanobis Distance, and Support Vector Machines. Throughout the combination of the models' suitability in each scenario, we were able to produce Ensemble maps of potential distribution. We find that the species geographical amplitude is improbably to contract, but potentially expand with climate warming. Our findings indicate that *L. huberi's* exotic presence in the continent may affect ecological relationships in pollinator services.

