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Ecological niche model and potential geography of in avocado (cv Hass) production fields in Colombia

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Ecological niches modeling (ENM) comprises an effort to environment requirements of species based on association with geographic occurrence to allow the potential distribution of the species in past, present and future. We developed an ENM for avocado (cv Hass) production fields in Colombia. The presence of avocado crops was related to environment information MODIS imagery and digital elevation model using maximum entropy modeling approaches. Model likelihood and information content were used in model selection and performance was evaluated in relation to independent geographic subsets of available occurrence data. Two models were selected that presents best performance and low omission of testing data. We were able to characterize the geographic distribution of commercial avocados crops in Colombia and to identify areas with potential for cultivation; we also found that this crop has been planted in areas apparently not suitable for it. ENM approaches offer a useful and novel tool for exploring and designing sustainable agriculture systems.

Biography

Joaquin Guillermo Ramirez Gil is an Agricultural Engineer, completed Master's in Agricultural Sciences and currently pursuing his PhD. He has published more than 14 articles in scientific journals.

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