



Modelling adaptation to climate change of Ecuadorian agriculture and associated water resources: uncertainties in coastal and highland cropping systems

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Climate change threatens sustainability of farms and associated water resources in Ecuador. Although the last IPCC report (AR5) provides a general framework for adaptation, , impact assessment and especially adaptation analysis should be site-specific, taking into account both biophysical and social aspects. The objective of this study is to analyse the climate change impacts and to sustainable adaptations to optimize the crop yield. Furthermore is also aimed to weave agronomical and hydrometeorological aspects, to improve the modelling of the coastal (“costa”) and highland (“sierra”) cropping systems in Ecuador, from the agricultural production and water resources points of view. The final aim is to support decision makers, at national and local institutions, for technological implementation of structural adaptation strategies, and to support farmers for their autonomous adaptation actions to cope with the climate change impacts and that allow equal access to resources and appropriate technologies.

A diagnosis of the current situation in terms of data availability and reliability was previously done, and the main sources of uncertainty for agricultural projections have been identified: weather data, especially precipitation projections, soil data below the upper 30 cm, and equivalent experimental protocol for ecophysiological crop field measurements. For reducing these uncertainties, several methodologies are being discussed.

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