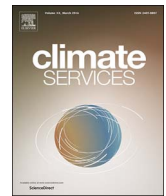




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## A framework for climate services evaluation and its application to the Caribbean Agrometeorological Initiative

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### ABSTRACT

Novel approaches to project evaluations are needed to document the outcomes and lessons to be learned from the numerous and diverse investments international donor organizations, national governments, and regional institutions are making in climate services. This paper describes an elaborated logic model to structure the evaluation of a climate services program, which we demonstrate in a case study of the Caribbean Agrometeorological Initiative (CAMI). Moving beyond the “loading dock” model of scientific information application, this logic model helps evaluators to address all elements of the provision of climate services – including the quality of weather and climate forecasts and agronomic advisories, the distribution of that information, the uptake of that information, and actions taken by farmers (See Fig. 1). Our logic model links the provision of information on weather, climate, and agriculture with decision making, and ultimately with improved social and economic outcomes. While such a logic model necessarily simplifies the full context of any climate services program, it also makes project evaluation much more tractable and generalizable across contexts. Furthermore, this simple logic model can serve to deconstruct conventional thinking about climate services by explicitly addressing the social and process dimensions of climate services that are sometimes neglected in project design, implementation, and evaluation. CAMI partner countries are developing climate outlook bulletins to communicate a three-month seasonal forecast. Despite these high quality seasonal forecasts, we note shortcomings regarding the dissemination of that information, its uptake by farmers, or the ability or willingness of farmers to act on that information.

### Practical Implications

We offer a more fully elaborated logic model to structure the evaluation of a climate services program, which we demonstrate in a case study of the Caribbean Agrometeorological Initiative (CAMI). Through use of this logic model, we are able to take a full lifecycle approach to the evaluation of the CAMI program, assessing not only the quality of weather and climate forecasts and agronomic advisories, but also the distribution of that information, the uptake of that information, and actions taken by farmers. Our climate services logic model helps identify weak links in the chain of climate services. While we illustrate the practical implications of this logic model by discussing the CAMI evaluation below, the purpose of this paper is to present the logic model itself as a theoretical development worthy of replication in other

contexts. The authors believe that this logic model can serve to deconstruct conventional thinking about climate services by explicitly addressing the social and process dimensions of climate services that are sometimes neglected in project design, implementation, and evaluation. The logic model itself should prove useful beyond the Caribbean region and the agriculture sector.

We tested this logic model by evaluating CAMI, a three-year, ten nation, European Union sponsored project that sought to “increase and sustain agricultural productivity at the farm level in the Caribbean region through improved dissemination and application of weather and climate information using an integrated and coordinated approach” (CAMI, 2010; see Vogel et al., 2014 for the full evaluation). CAMI was funded by the EU as an African, Caribbean, and Pacific Group of States’ Science and Technology Programme initiative, and was administered by the Caribbean Institute for Meteorology and Hydrology (CIMH). The initiative involved the countries of Antigua and Barbuda, Barbados, Belize,

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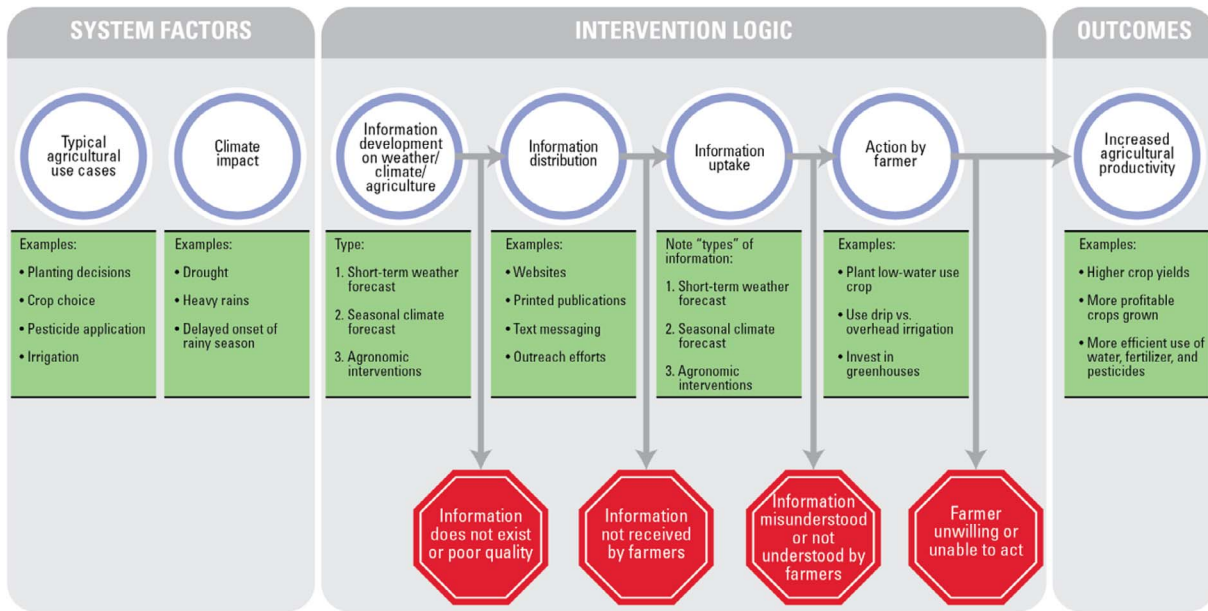


Fig. 1. Agricultural climate services logic model.

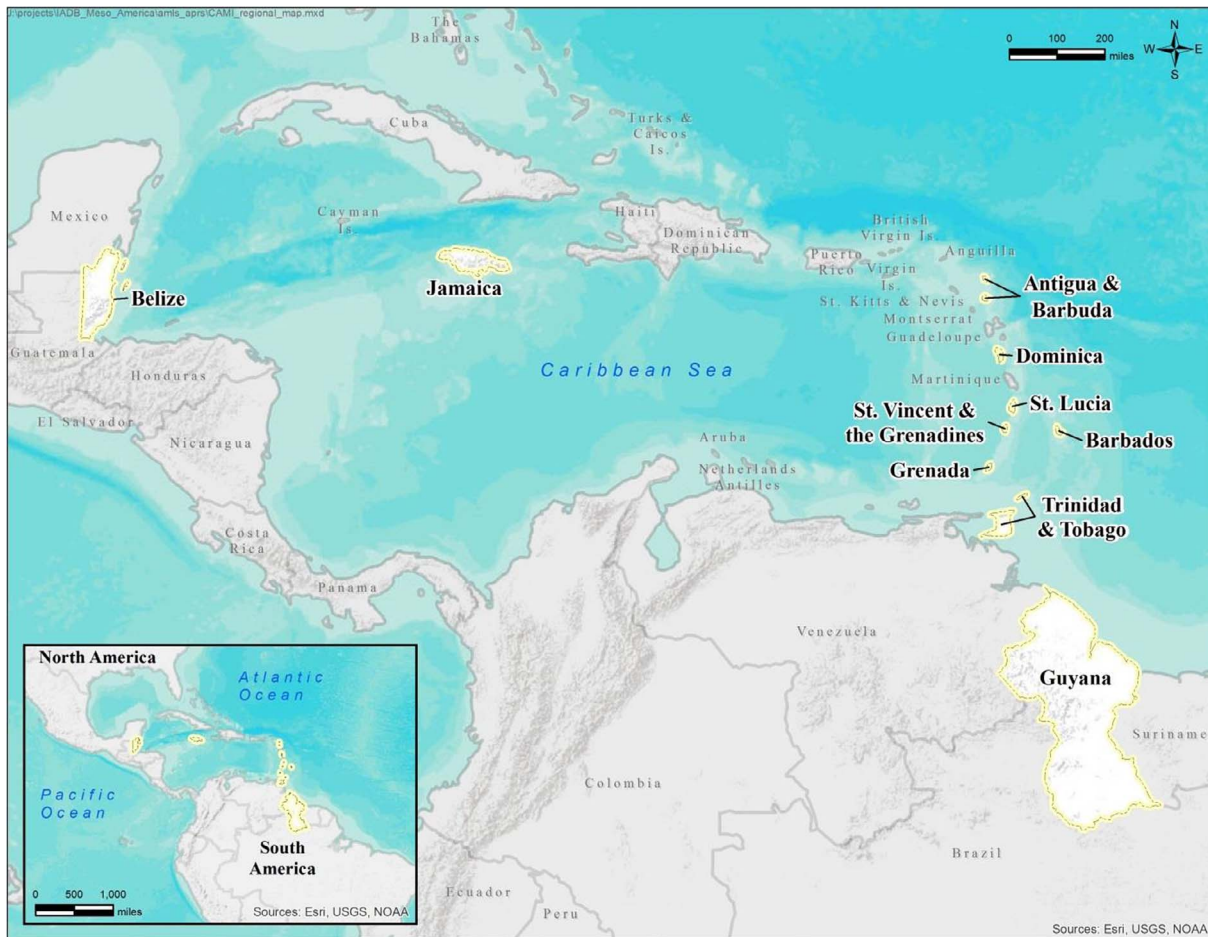


Fig. 2. Map of the Caribbean with CAMI countries highlighted.

Dominica, Grenada, Guyana, Jamaica, Saint Lucia, Saint Vincent and the Grenadines, and Trinidad and Tobago (see Fig. 2 for a map of the region). CAMI began in February 2010 and ended in early 2013.

The provision of climate services might not lead to the desired

outcome of increased agricultural productivity for a variety of reasons (depicted as red 'stop signs' in Fig. 1). These constraining factors include low-quality or inadequate information, poor information distribution, inability of farmers to understand the information, and farmer unwillingness or inability to act on that

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