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Potential economic value of drought information to support early warning in Africa

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We present a methodology to estimate the economic value of advanced climate information for food production in Africa under climate change scenarios. The results aim to facilitate better choices in water resources management. The methodology includes 4 sequential steps. First two contrasting management strategies (with and without early warning) are defined. Second, the associated impacts of the management actions are estimated by calculating the effect of drought in crop productivity under climate change scenarios. Third, the optimal management option is calculated as a function of the drought information and risk aversion of potential information users. Finally we use these optimal management simulations to compute the economic value of enhanced water allocation rules to support stable food production in Africa. Our results show how a timely response to climate variations can help reduce loses in food production. The proposed framework is developed within the Dewfora project (Early warning and forecasting systems to predict climate related drought vulnerability and risk in Africa) that aims to improve the knowledge on drought forecasting, warning and mitigation, and advance the understanding of climate related vulnerability to drought and to develop a prototype operational forecasting.