



Developing a user-friendly Drought Monitoring and Forecasting Tool for Doctors without Borders

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Humanitarian aid organizations that focus on drought-related emergency response and disaster preparedness need to take decisions under high uncertainty. Satellite-derived and modelled information can help to decrease this uncertainty. However, in order to benefit from the provided knowledge it is crucial to adapt datasets and tools to actual user requirements and existing organizational capacities. Furthermore, socio-economic vulnerabilities (e. g. current rates of malnutrition) and coping capacities (e. g. access to drought-resistant seeds) of the affected population need to be assessed to link environmental conditions (drought risk) to potential impacts (food insecurity). Forecasts with lead times up to several months are desirable from a logistic point of view, but naturally less accurate than short-term predictions. As a consequence, careful calibration is required to identify and balance forecasts with an acceptable accuracy and the risk of possible false alarms. Therefore, we calibrate modelled predictions of rainfall, temperature and soil moisture via satellite-derived observations. Field tests with Doctors without Borders in Ethiopia help to define critical thresholds, to interpret the information under real conditions and to collect the necessary additional socio-economic data via a smartphone app. The final risk maps need to be visualized in a way that is easy to interpret, but not oversimplified.