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The utility of sub-seasonal to seasonal forecast information for agricultural risk assessments

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The UK National Centre for Atmospheric Science has recently embarked on a three-year programme to improve capacity for robust early warning of atmospheric hazard in developing countries. Since timely information of agricultural risk is critical for millions of livelihoods in Africa that depend on rain-fed agriculture, a key element of this programme is to develop novel methodologies for monitoring drought. The TAMSAT-ALERT (Tropical Applications of Meteorology using SATellite data and ground-based observations, Agricultural Early warning sysTem) is a monitoring and decision support tool to assess and anticipate risk of meteorological hazards to agriculture by combining multiple streams of information about the current state of the land surface, past weather observations and weather forecasts. Here, we investigate the added-value of incorporating sub-seasonal to seasonal meteorological forecast information into TAMSAT-ALERT. Specifically, we examine the impact and relevance of a range of forecast information with different skill, precision, and spatial and temporal scales when used within drought-risk assessments. This highlights the potential value of forecasts for early-warning systems to help mitigate and provide early warning of risk well in advance.

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