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# Can Climate Information be relevant to decision making for Agriculture on the 1-10 year timescale? Case studies from southern Africa

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Climate forecasts have been developed to assist decision making in sectors averse to, and affected by, climate risks, and agriculture is one of those. In agriculture and food security, climate information is now used on a range of timescales, from days (weather), months (seasonal outlooks) to decades (climate change scenarios). Former researchers have shown that when seasonal climate forecast information was provided to farmers prior to decision making, farmers adapted by changing their choice of planting seeds and timing or area planted.

However, it is not always clear that the end-users' needs for climate information are met and there might be a large gap between information supplied and needed. It has been pointed out that even when forecasts were available, they were often not utilized by farmers and extension services because of lack of trust in the forecast or the forecasts did not reach the targeted farmers.

Many studies have focused on the use of either seasonal forecasts or longer term climate change prediction, but little research has been done on the medium term, that is, 1 to 10 year future climate information. The agriculture and food system sector is one potential user of medium term information, as land use policy and cropping systems selection may fall into this time scale and may affect farmers' decision making process. Assuming that reliable information is provided and it is utilized by farmers for decision making, it might contribute to resilient farming and indeed to longer term food security.

To this end, we try to determine the effect of medium term climate information on farmers' strategic decision making process. We explored the end-users' needs for climate information and especially the possible role of medium term information in agricultural system, by conducting interview surveys with farmers and agricultural experts. In this study, the cases of apple production in South Africa, maize production in Malawi and rice production in Tanzania will be presented. With case studies of various crops, we also aim to identify what climatic factors and timescale of prediction may be critical to what crop types of farmers, which may be of value to climate prediction community to further develop climate prediction useful for agricultural system.