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Agricultural applications of ECMWF ensemble forecasts in Africa

Tuesday, 4 June 2019 11:00 (30 minutes)

Weather Impact is specialised in translating meteorological and climate data into user-friendly services. In several countries in Africa and Asia we have developed agricultural applications that use the ensemble forecasts of ECMWF as one of the inputs. One of our main challenges is to translate ensemble forecast data to actable information. Services include:

- Weather forecasts and extreme weather alerts
- Agricultural activity planning
- Pest and disease warnings

In Africa most small-scale agriculture is rain-fed. Reliable rainfall information can help farmers to better plan their agricultural activities and as a result they are supported in increasing their crop yield. As most of our forecasts are sent through SMS, the wealth of information from the ensemble forecast must be reduced to 160 characters. A number of case studies show the decisions we make for generating rainfall forecasts and extreme rainfall alerts.

To advise farmers on planning their agricultural activities, we combine agronomical and meteorological knowledge and warn them when the risk for plant pests and diseases is high. These advisories are based on the likelihood of different weather conditions that are important for farming activities or influence the risk for pest and diseases. Two case studies, one in Burundi and one in Ghana, show how ensemble forecast can be used for agricultural planning and migratory pest warnings.

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