

Flexible forecasting's impact on the GHACOF

Madeleine Thomson and Jim Hansen

The move towards a flexible science-based full probability forecast that meets user needs has been incrementally advanced at the GHACOFs over the last 2 years.

The traditional consensus-based forecast disseminated at the GHACOF since its inception relies on a combination of objective model outputs from a range of prediction systems and a subjective consensus approach which is designed to help reconcile differences in the forecast outputs and ensure collective ownership of the regional forecast that can then be shared with user communities. The main disadvantages of this approach are:

1. The consensus approach increases the likelihood of “hedging”, i.e. providing conservative or neutral (normal) forecasts.
2. The consensus approach ensures that only a limited amount of the information available in the seasonal forecast that is shared with users (i.e. terciles) rather than user targeted percentiles. No information is presented to users that allows them to assess the potential value of the forecast.

In response to these challenges the WMO recommendations for advancing the Climate Outlook Fora globally includes:

1. Strengthening the scientific basis of the forecasts (i.e. limit or remove the subjective component)
2. Make forecasts more relevant to user communities (provide more detailed information than that available in traditional terciles).

In response to WMOs recommendations, the IRI, in the spring of 2017, implemented a new methodology for the presentation of seasonal temperature and precipitation forecasts around the world. The new forecast methodology feeds into some of IRI's rainfall and temperature forecast products. These include the seasonal forecasts in the [Flexible Forecast Maproom](#) (at IRI). WISER activities have continued to support prior investments from USAID (CCAFS) in flexible forecast development.

1. The flexible forecast, which allows users to click on a particular place (point, admin boundary, etc) and choose a particular threshold (e.g. the total seasonal rainfall (mm or %) considered essential for good growth of a particular crop) is changing the way user engage with seasonal forecasts. ICPAC is now able to train users on tools that can be directly interpreted in relation to user identified rainfall thresholds.

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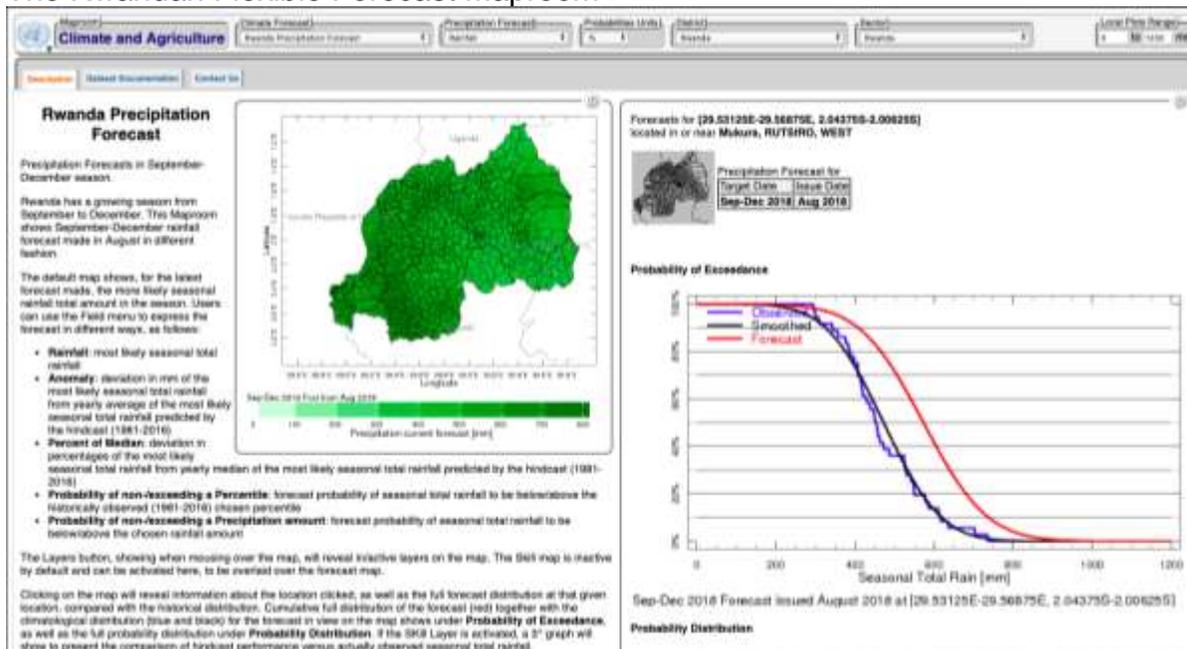


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2. The flexible forecast is now used in the forecast ENACTS maprooms (Ethiopia and Rwanda – Figure 1) and the regional ENACTS maproom at ICPAC – Figure 2.
3. The flexible forecast approach is able to take full advantage of the Climate Predictability Tool (CPT) – a widely used IRI resource that has recently been updated to enable it to ingest and analyse large datasets – e.g. for the whole of Eastern Africa.
4. The seasonal forecasts created with CPT and ENACTS gridded data products enables the forecasts to be better calibrated and downscaled to a higher spatial resolution. While higher spatial resolutions are attractive to users it should be noted that improved resolution may or may not translate into more skill on smaller scales at a particular location.
5. NMHS staff at the ENACTS Implementers’ Workshop (November 2018) were trained in the use of the flexible forecast.
6. User communities have responded favourably to the flexible forecasts and have asked for additional training support.

The Rwandan Flexible Forecast Maproom

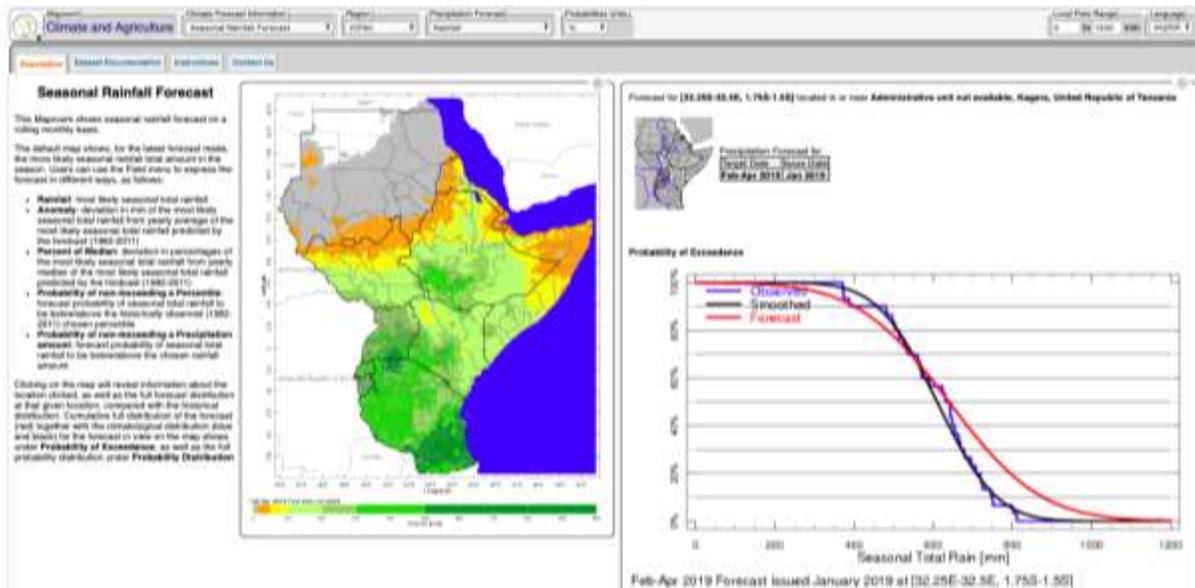


The ICPAC Flexible Forecast Maproom

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WISER funding has been used to build the capacity to deliver the flexible forecasts in ICPAC (Maproom portal development and maintenance, staff capacity, training, documentation etc) plus by continuous updating of Maprooms and improvements to the flexible forecast (using ENACTS Maproom gridded products). With WISER support ICPAC has introduced it to national and regional users through the GHACOF process.

The flexible forecast has been introduced to the region's climate and user communities through the GHACOF over a number of years (co-sponsored by CCAFS (with USAID support), ICPAC and IRI (with WISER support).

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GHACOF		
44th Greater Horn of Africa Climate Outlook Forum (GHACOF44).	Regional Climate Services for Agriculture Project Presentation, and Demonstration and Discussion of Agricultural Maprooms: Launch Events. Kampala, Uganda, on 30 August 2016at https://hdl.handle.net/10568/77320	The flexible forecast was introduced to directors of NMHSs at a invitee only dinner hosted by CCAFS and ICPAC.
47th Greater Horn of Africa Climate Outlook Forum (GHACOF47).	Climate Services for Resilient Development (CSRD) Technical Exchange workshop, in Zanzibar on August 23-25, 2017, immediately following GHACOF47. https://hdl.handle.net/10568/89140	Training of users (agriculture, disasters, health) led by CCAFS (USAID) ICPAC, IRI (WISER) plus CSRD using Rwanda Maproom (Figure 1)
48 th Greater Horn of Africa Climate Outlook Forum (GHACOF48).	Advancing the use of gridded, online climate information for risk management in the Horn of Africa. (GHACOF 48, 13 February 2018 in Mombasa) https://hdl.handle.net/10568/92093	Training of users (ICPAC, NMHS, hydrology, food security) using Rwanda and early version of ICPAC Maproom (Figures 1 and 2) sponsored by CCAFS (USAID), IRI, ICPAC (WISER)
50 th Greater Horn of Africa Climate Outlook Forum (GHACOF50)	Integrated Learning Workshop in Kigali) GHACOF 50 28-31 st August 2018.	Led by ICPAC and supported by IRI/CCAFS this session focused on the flexible forecast. A total of 165 people attended.
51 st Greater Horn of Africa Climate Outlook Forum (GHACOF51).	How can climate science support food security and nutrition interventions? Side Event GHACOF51 Entebbe Uganda 11-15 th Feb 2018	Flexible forecasts were included in ICPAC presentation of Maprooms to attendees (Figure 2) in the main meeting and in the ICPAC, CCAFS, IRI sponsored side event.