Introduction and Overview

- Climate Change and Food Security (CCAFS) initiative funded by USAID through the Consultative Group on International Agricultural Research (CGIAR)
- Other Project partners include IRI, Rwanda Meteorology Agency, Rwanda Agriculture Board and CIAT (International Center for Tropical Agriculture)
- Four primary project objectives; Climate Services for Farmers, Climate Services for Governmental Planning, Climate Information Provision, National Climate Services Governance
- Over the four year life of the project, the goal is to provide over a million farmers (total population 11 million) with improved climate information, tailor the information to the specific needs of decision makers, strengthen and coordinate information sharing and institutions

Trends in Rainfall

- In the Annual Analysis, wetting trend in the East and drying trend in the West
- MAM drying trend more prevalent
- SOND wetting trend more prevalent

Seasonal Forecasting

- Main moisture source for most of the country is Indian Ocean
- Similar ENSO and IOD response to the rest of East Africa; warm SSTs in the Western tropical Indian Ocean tend to correspond to wetter conditions in Rwanda, Cool SSTs in the Western Tropical Indian Ocean tend to correspond to drier conditions in Rwanda
- Some moisture advection from the Congo basin during JFM (especially February)

Future Work

- Similar climatological work with temperature data
- Spatial bias correction
- Refine seasonal total rainfall forecasting methodology
- Develop rolling monthly forecasts
- Provide forecast information in probability of exceedance format
- Explore possibility of multi-decadal variability
- Develop forecasts for other statistics (number of rainy days, dry spell length, onset and cessation dates, etc.)
- Continue with work on climatology (peer reviewed publication, AMS poster January 2017)
- Study influence of ENSO and IOD in more detail
- Dynamical RCM modeling in conjunction with colleagues at IRI and Kenya’s IPCAC
- Develop more detailed understanding of the dynamics of Rwanda’s climate (wind field, moisture advection, etc.)
- Forecast verification
- Connect meteorological work with agricultural work and water balance assessment

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