

CLIMATE RESEARCH FOR DEVELOPMENT (CR4D) IN AFRICA

Regional Workshop

on

Seamless Climate Forecasts to Improve Decision-Making at the Sub-Seasonal to Seasonal Scale (S2S)

Date: 8-9 February 2017

Place: Addis Ababa, Ethiopia

1. INTRODUCTION

The Climate Research for Development (CR4D) in Africa is an African-led initiative supported by partnership between African Climate Policy Center (ACPC) of the United Nations Economic Commission for Africa (UNECA), African Ministerial Conference on Meteorology (AMCOMET), World Meteorological Organization (WMO), and Global Framework for Climate Services (GFCS) to promote and nurture collaborative, user-driven, climate research activities to improve climate information needed for decision making and development planning in various climate sensitive socio-economic sectors. To achieve this key objective, different pilot research projects are being undertaken by CR4D secretariat including the sub-seasonal to seasonal (**S2S**) forecasting.

During the African Climate Conference in 2013 (ACC2013), participants drawn from different expertise and disciplines initiated the process of developing four regional proposals that would address the continental priority research needs. One of these proposals was focused on improving S2S forecasting including the use of user-based metrics to verify the skill of S2S predictions or prototype predictions. This research frontier has been recognized by WWRP/WCRP as a grand challenge in their Sub-Seasonal to Seasonal (S2S) Prediction Project. As part of the S2S Project, WCRP/WWRP are fostering the creation of multi-model research archives of sub-seasonal forecasts (15–90 days ahead) from global producing centers (GPCs). Archives of retrospective seasonal forecasts (3-9 months ahead), as well as real-time forecasts, are available from the WMO Lead Centre for Long-Range Forecast Multi-Model Ensembles (LC-LRFMME). Retrospective forecasts from additional modeling centers are also available from the WCRP Climate-system Historical Forecast Project (CHFP) database, and from the North American Multi-Model Ensemble (NMME) database that includes both hind casts and forecasts from the same set of models in real time.

In recognition that considerable interest in Africa on promoting and capitalizing on scientific advances in the fields of S2S forecasting at multi-week lead times (15–90 days), the Department for International Development (DfID) of the United Kingdom under the initiative referred to as the Weather and climate Information Services for Africa (WISER) has supported two CR4D S2S projects in Central and West Africa. These pilot projects focus on developing and improving prototype climate forecasts at sub-seasonal and seasonal (S2S) scales by working with various institutions including the National Meteorological and Hydrological services, Universities and line Ministries in West and Central Africa. In addition, the pilot projects also involve assessment of user-informed climate knowledge gaps (through user-feedbacks in the RCOFs). Hence, this workshop will be held back-to-back to the 45th GHACOF meeting in Addis Ababa, Ethiopia, in order to identify possible collaboration areas between CR4D and RCOFs that should be taken into consideration while developing prototypes for S2S predictions and tools.

2. BACKGROUND ON CR4D PILOT PROJECT

Different regions have different starting baselines, capacities, and data networks, expertise and information needs to manage sub-seasonal to seasonal (S2S) climate risks. Furthermore, user needs at S2S scale also vary by region across the critical climate vulnerable sectors: agriculture/food security, water resources, health, infrastructure, and energy and disaster risk reduction. Hence, the CR4D pilots was designed to develop a strategy for prototyping routine provision of seamless forecasts by National Meteorological and Hydrological Services (NMHSs), supported by regional collaboration, data exchange and capacity strengthening. The long-term strategy should also include providing tools, methodology and interfaces for continuous interactions regional and national forecast services (especially Regional Climate Centers-RCCs), in order to also to continuously translate new research into applications. This will to strengthen Regional and National Climate Outlook Forums (R/NCOFs) in enhancing and communicating user-responsive climate information and services.

The pilot projects will, thus, be the launching pad for beginning the implementation of cross-partner dialogue and prototype new services through Regional Climate Teams (RCTs). Existing regional partnerships such exists in West Africa AGRYMET, CCAFS, and regional Universities will be built upon to develop services in support of agriculture and food security. The two regional pilot projects will foster applied research and facilitate access to the above archives and provide training in data analysis and interpretation, giving NMHSs and RCCs the means to: (i) enhance capability to identify user needs across sectors and to co-design, co-produce and co-evaluate climate services with users; (ii) evaluate models performance at S2S time scale in the region, including forecast verification; (iii) advance capabilities of NMHSs and RCCs in generation of user-responsive sub-seasonal to seasonal forecast products; and (iv) enhance local delivery of improved forecast products tailored to the needs of both national and community users in each region

3. OBJECTIVES OF THE WORKSHOP

This workshop will gather climate scientists, practitioners, policy makers, researchers in GHACOF and other sub-regions of Africa and beyond to discuss major issues associated with seamless climate forecasts to improve decision-making at the Sub-Seasonal to Seasonal Scale (S2S). The specific objectives are:

- to discuss major findings of CR4D S2S pilot project;
- to analyze and evaluate uncertainties/challenges associated with sub-seasonal to seasonal (S2S);
- to evaluate sector specific metrics for measuring success of S2S forecasts for selected sectors;
- to identify the possible collaboration areas between the RCOFs and CR4D to promote S2S findings;

4. OUTPUT/OUTCOME

- Comprehensive report on the seamless climate forecast

5. DETAILS ON THE WORKSHOP

✓ *Organizers*

- This event is being jointly organized by the CR4D secretariat/ACPC and WISER.

✓ *Organization*

- Solicited talk, breakout session, group presentation, Q&A

✓ *Logistics and Promotion*

- The expected number of participants in this regional workshop will be more than 50