



Regional training Workshop on Climate Service for Agriculture Tool (CLIMTAG)

in Africa: From the regional scale to the last mile

Tentative Date: November 23-27, 2022 Venue: Hotel xxx Place: Kigali – Rwanda

Concept Note

I. Introduction and overview

Agriculture is strongly dependent on weather, hence very vulnerable to weather variability and climatic changes. Climate change is expected to increase weather variability and enlarge the vulnerability of already susceptible regions, including those that are already warm and prone to drought. Rainfall patterns may shift, and with it associated crop calendars and the timing of management activities.

Adaptation is essential to make existing agricultural systems resilient against climatic changes and extreme weather events and to maximize agricultural yield. To assess climate impacts and design robust adaptation strategies, it is essential to have access to reliable, region-specific climate information.

Climate change is expected to increase weather variability and to make warm and drought-prone regions, such as the African continent, even drier, hotter with significant disruptions on the agriculture calendar due to late start or end of the season. Rainfall patterns and the associated crop calendars and management practices may shift. Adapting existing agricultural systems is essential to render the systems as resilient as possible to climatic changes and extreme weather events, as well as to maximize agricultural yields.

The Central African region is characterized by high variability of rainfall in time and space, leading to a diversity of Agro-climatic zones. Observed hazards include years with an overall water deficit or surplus, early or late start of rains, wet or dry spells during the agricultural season, floods, early or late end of the rainy season, etc.

Most of Central Africa's agricultural production is dependent on rainfall variability given the very limited irrigation infrastructure in the region, resulting in large fluctuations in GDP, with significant impact on the income.

These rainfall related disturbances affect agricultural production, leading to food insecurity in some Sahelian countries. Climate change in these regions is also characterized by an increase in temperature and by an increase on the frequency of extreme events (droughts, floods, etc.) causing disasters.



In Central Africa Region where many people depend on smallholder farming for daily subsistence and food security tailored information about the past, current and future climate is very important. To assess the impact of climate change and design adaptation strategies, climate information should be region-specific, reliable and easily accessible.

CLIMTAG, the **CL**imate **InforMation Tool for **AG**riculture**, aims to provide decision makers in the agricultural sector with operational climate information, for example about the start of the agriculture season or the duration of a drought period. The web-based tool operates at country level and visualizes past, present and future climate information, allowing its users to assess the severity of upcoming climatic changes. These indicators have been defined in cooperation with local stakeholders (including experts active within National Meteorological Services, Departments of Agriculture and Research Centres). The CMIP5 climate projections are bias-corrected to strengthen their consistency with the past observed climate. Based on orographic information, the indicators are downscaled to a resolution of one kilometer to ensure practical applicability in the field.

In addition in the CLIMTAG Tool, seasonal forecast is one of the strategic information in the adaptation to climate variability and change in the agriculture sector.

Indeed, the development and dissemination of information characterizing the rainy season before it starts would allow decision makers and various actors to make optimal choices to address the season. For example, advance knowledge of the characteristics of the rainy season (early or late onset, excess or deficit rainfall) would enable development actors, disaster management agencies and humanitarian agencies to better make strategic decisions or other mitigation measures to ensure pre-disaster preparedness..

Within the tool, users can select the dataset (ERA5 vs. CMIP5), time horizon (past, present, near, medium and long term) and climate indicator of interest. The climate information appears in a dynamic and customizable country map. In addition, within-season variability and future trends can be explored at district level via intuitive graphs. Users can also download the information for further use in documentation or downstream applications.

II. Objective and expected outcome

The overall objective of the workshop is to contribute to the strengthening capacity of the meteorologist experts from National Hydro-Meteorological Services over the 11 countries of Central Africa Region. This is done through training, forecast production and sharing experience.

The specific objectives are to:



- assess needs and current use of climate information in the ECCAS region using survey questionnaire;
- Identify, explore and discuss agriculture relevant climate data in the Copernicus Climate Change data store;
- Run practical sessions on indices generation and use with CLIMTAG Tool;
- Update seasonal climate forecasts valid for the seasons November 2022 to January 2023 in Central Africa and in Africa;
- Share experiences on good practices for assessment of climate information use;
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The key expected outcome of the workshop will include:

- Survey questionnaire on the use of climate products by ECCAS NMHSs administered and responses collected;
- national experts' capacity strengthened ;
- National experts are trained on use of CLIMTAG and generation of the indices for agriculture sector;
- Good practices and experiences are shared;
- The Seasonal forecast is update and advisories are provided;
- A report on climate products use and related challenges by NMHSs available;

III. Methodology and participation

The Training will be led by facilitators and experts invited or designated by the African Centre of Meteorological Applications for Development (ACMAD), the workshop will model a participatory approach to stimulate a dialogue among national stakeholders and experts from Regional Climate Centre.

After the opening ceremony, the motivation, objectives and expectations from the training will be highlighted by ACMAD. An introductory session about the purpose of CLIMTAG, and its methodology comprising its input datasets, seasonal forecast production and verification tools will be presented. The agro-climate indicator definitions and its data processing and visualisation approaches will be shared. The survey questionnaire will be presented and experts guided to provide responses. During the interactive sessions, participants will have the opportunity to explore CLIMTAG's ability to address the challenges from questionnaire responses in guided, hands-on exercises. On the last day, the session dedicated to the update of the African Continental Climate Outlook for November 2022 to January 2023.

IV. Participation and Selection

The regional training envisages the participation of 2 representatives for each NMHSs of ECCAS member states (one expert and one manager), 5 from ACMAD, 2 from CAPC-AC and 4 representatives from other RCCs across Africa (RCC Morocco, ICPAC, SADC-CS, AGRHYMET) for 2 days dedicated to the African Continental Climate Outlook forum.

- Participation of women as country representative is very much encouraged. National participants are expected to fill technical questionnaire requiring experience on climate information generation and delivery with emphasis on seasonal forecast.



The regional training is an event co-organised by ACMAD and the African Union Commission. Accordingly, AUC rules and regulations apply for its organisation.

V. Duration and Format

The regional training will be a physical event and will consist of sessions on **five consecutive days for the experts from ECCAS member states, ACMAD and CAPC-AC. Experts from RCCs across Africa will participate in the last two days forum.**

The first session will include opening ceremony and the purpose/expectations from the training as well as presentations on the status of and gaps on climate services for the agriculture sector in Central Africa Region. The last session will include African Continental Climate Outlook Forum recommendations and conclusions on the future development and use of CLIMTAG and closing ceremony.

Each Lecture session will commence with an introductory presentation of the session by ACMAD, presentations by facilitators and experts on datasets, methods, tools, products, actionable indices for the agriculture calendar update and adaptation options. Total working period is 5 days.

VI. Logistic Arrangements and Covid-19 Measures

The Regional training will be physical for all participants. AUC will cover the costs for travel and DSA.

- participants will receive Transportation and Daily Subsistence Allowances (DSA) in line with AUC regulations for participants
- Catering for morning and afternoon coffee breaks and lunch for all workshop days and for all participants

COVID measures: AUC rules and regulations apply for the organisation as well as specific regulation of the country where the training is organised.



VII. DRAFT CENTRAL AFRICA REGIONAL TRAINING PROGRAMME

	Day 1 23 Nov	Day 2 24 Nov	Day 3 25 Nov	Day 4 26 Nov	Day 5 27 Nov
Timing	Wednesday	Thursday	Friday	Saturday	Sunday
session 1 A.M 9:00-10:30	Opening <ul style="list-style-type: none"> Welcome remarks Official Opening address by the local Host Adoption of the agenda Purpose and objectives of the training 	Copernicus Data Store and input datasets for CLIMTAG	Hands-on exercises on products generation with CLIMTAG	Opening remarks for ACCOF Parallel session 1: Presentation of continental and regional drivers of seasonal climate variability Parallel session 2: NCOF concept and implementation in RWANDA	<ul style="list-style-type: none"> Recap on recommendations of the last 4 days Opportunities and challenges on Dissemination and communication of climate information in Central Africa Closing ceremony
Session 2 A.M 11:00-12:30	Topic 1: CLIMTAG overview (purpose, input, methods and dashboard functionalities) Perspectives Copernicus Data Store and input datasets for CLIMTAG	Practical Session 1: Methods, output and running of CLIMTAG And Hands-on session	Presentation of responses to questionnaire	Parallel session 3: Seasonal forecast by RCCs Parallel session 4: NCOF concept and implementation in RWANDA "continue"	
12:30- 13:30	Lunch	Lunch	Lunch	Lunch	
Session 3 P.M 13:30-15:00	Introduction to the survey questionnaire on the use of continental/regional	Survey questionnaire completion `continue	Practical Session 4: Data, methods (RPSS), tool for forecast verification	Parallel session 5: Continental seasonal climate outlook	



	products by NMHSs		And Hands-on session	Parallel session 6: Strategic planning for resources mobilization in NMHSs	
Session 4 P.M. 15:30-17:00	survey questionnaire completion by NMHSs guided by ACMAD experts	Practical Session 3: Hands-on exercises on products generation with CLIMTAG	Practical Session 5: Spatializing the Results with QGIS /Surfer and Hands-on session	Parallel session 6: Strategic planning for resources mobilization in NMHSs	