



WISER RCOFs knowledge exchange workshop

Report

*22 March 2018
Addis Ababa, Ethiopia*

Workshop objectives

To provide a platform where the Regional Climate Outlook Forums (RCOFs) weather experts from the RCCs in Africa can have an exchange of knowledge, share lessons, best practices and experiences. The outcomes of the meeting will enable RCCs to enhance their capabilities in producing forecasts, organizing RCOFs, engaging stakeholders and ensuring effective dissemination that makes a difference to end user communities.

Expected outcome

1. Plan for compilation of best practices in producing and disseminating consensus seasonal weather forecasts.
2. Knowledge exchange, sharing of lessons and experiences.
3. Establishment of an RCOFs expert network that facilitates better partnerships between RCOFs in the continent.

Opening session

At the opening of the event was Charles Muraya, Information Management Officer at ACPC explained the rationale behind the proposed RCOFs knowledge exchange forum, emphasizing the increasing need to produce accurate consensus weather forecasts, organizing RCOFs and effectively engaging stakeholders and seeking their feedback. RCOFs are gradually gaining recognition as a mechanism for climate sensitive sectors to understand and respond to climate related adverse events in a timely and organized manner.

Representatives drawn from the African RCCs welcomed the initiative and thanked the ECA for conceptualizing the knowledge forum. They further indicated interest to contribute and participate in the knowledge exchange to facilitate improved RCOFs information and knowledge sharing, informed by ongoing practices within their RCC.

Rationale for establishment of the RCOFs

Dr. Ernest C. Afiesimama from WMO set the tone of the knowledge exchange workshop by presenting the genesis, purpose and status of the establishment of RCOFs around the world.

In a nutshell, he noted that RCOFs were created to support development and delivery of effective climate services for the benefit of all WMO Members through:

- Regional cooperation and prioritization for capacity development;
- Regional coordination of operational implementation of the progress made in WMO's climate data, monitoring, prediction and research initiatives;
- A regional mechanism for interpretation and interface to NMHSs of global climate information;
- Serve as key regional entities within the Climate Services Information System (CSIS) pillar of the Global Framework for Climate Services (GFCS).

Practices at African RCOFs

African Centre of Meteorological Application for Development (ACMAD)

ACMAD has responsibility for organizing or participants in numerous RCOFs as outlined below:

- Prévisions Climatiques Saisonnières en Afrique Soudano-Sahélienne (PRESASS)
- The Mediterranean Climate Outlook Forum (MEDCOF/PRESANORD)
- Prévisions Climatiques Saisonnières pour les pays du Golfe de Guinée (PRESAGG)
- Prévisions Climatiques Saisonnières en Afrique Centrale (PRESAC)
- The South West Indian Ocean Climate Outlook Forum (SWIOCOF)

The RCC noted that it contributes to RCOFs technical notes to support and guide forecasts discussions and briefings for Climate experts at NMHSs and RCCs, bulletin or report providing advices to practitioners in sectors (e.g farmers) and a synthesis or brief for policy and decision making (development planners and disaster risk managers).

ACMAD concluded their presentation with recommendations for the following:

- National Capacity Building and governance (NFCs, NCOFs, RCOFs);
- Maintain and Sustain Climate Services providing regular facts on the state of Africa's Climate for future COPs negotiations;
- Tailoring climate services for resilient development (e.g. PIDA), early warning and risk management in Africa;
- Establish clearing houses for valuation of climate services and manage effects of uncertainties;
- Financial instruments provided by the Paris Agreement are major opportunities for future implementation of CSIS.

The Greater Horn of Africa Climate Outlook Forum (GHACOF)

The IGAD Climate Prediction and Applications Centre (ICPAC) has responsibility for the GHACOF and presented the centre's practices, processes and procedures for generating consensus seasonal weather forecasts in the region, organizing the GHACOF and engaging stakeholders to assess the access, uptake and utility of the three seasonal forecasts produced every year.

On early warning information, ICPAC produces advisories every 10-days, based on in-house Numerical Weather Prediction Model runs. In addition, the centre issues monthly and three-month running statistical and dynamical forecasts and warnings.

ICPAC presented the concept behind GHACOFs as the delivery of consensus-based and user relevant products and noted that:

- First GHACOF was organized in February 1998
- Develop consensus climate regional outlook (Three times a year)
- Formulate mitigation strategies to the implications of the consensus outlook in key sectors
- Provide a platform for policy makers, producers and user to interact (user driven CIS)

- Review lessons learnt on the use of products provided

A key aspect of the GHACOF is the sectoral analysis of implications and mitigation strategies of seasonal forecasts. This entails involvement of sector working groups in Agriculture & Food Security, Water & Energy, Livestock, Disaster Risk Management, Health and Media. The parameters for the working group deliberations are:

- Performance and measures that were taken to lessen impacts of the previous seasonal forecast.
- Implications and mitigation strategies for the current Climate Outlook season.

The following were identified as major impediments to the GHACOF process:

- Funding to facilitate:
 - ✓ Expand multi-sectoral involvement
 - ✓ Conduct specific sectoral training sessions
 - ✓ Skilled manpower to perform operational research to improve forecast products
- Inadequate computing resources
- GCM Outputs

ICPAC in addition presented below future initiatives to enhance it's effectiveness:

- Develop a system that enables NMHSs to access ICPAC's computing resources to analyze high resolution model forecasts.
 - ✓ Co-produce downscaled products that are relevant locally and nationally
 - ✓ Update forecasts from three-month rolling model outputs
- Ensemble forecasting for risk management
- Advance the use of climate information in critical areas of regional importance (user needs identification, coproduction, and research).

Lastly, ICPAC noted that the centre intends to focus on ensemble forecasts to improve accuracy and identify uncertainty, co-production, improved and extended GHACOFs and understanding of local rainfall response to SST variability forcing in different ocean basins which will improve seasonal forecasting in the region.

Status of operations of SARCOF

The Southern Africa Regional Climate Outlook Forum (SARCOF) is managed by the Southern Africa Development Community Climate Services Centre (SADC-CSC).

The SARCOF aims at providing consensus seasonal weather forecasts to sectors that include energy, water, agriculture and food security, and health.

SARCOF utilizes the following consensus methodology:

- Statistical models used by NMHS seek for potential relationship between ocean variability ENSO, Atlantic, Indian and rainfalls. Look for any changes in the relationships between variables.
- Prospect other sources of forecast from advanced centres.
- Incorporate knowledge and experience on certain pattern observed in the past.

- Explore statistical downscaling performances at sub-regional and national level by using existing GCMS hind-cast data and local dataset.
- More weight is given to NMHS forecast which used local dataset in case of discrepancy of various outputs.
- Drive the consensus by “best estimate” of the forecast from various forecast sources i.e. dynamical (GCMs), Statistical, Analog, others.
- Address probability forecast with consensus by giving weight to regional statistical outputs

The RCC collects users feedback, but the response to the needs is not sufficient due to lack of manpower to perform more in-depth analysis as requested by users.

Below is a SWOT analysis from the perspective of SADC-CSC:

| <i>Strengths</i> | <i>Weaknesses</i> |
|---|--|
| SADC CSC Acquired High Tech equipment | Manpower deficit to run equipment |
| Council of Ministers meeting just approved CSC request for more permanent staff | SADC admin requirement turnaround time for implementation of decision. |
| <i>Opportunities</i> | <i>Threats</i> |
| SADC NMHS and user sectors very keen to develop sustainable SARCOF services | Data collection and sharing process |
| ICPs interested to support CSC (WB, AfDB, ACP-EU) | High frequency and duration of power cut on HPC operations |

The RCC presented the following as its strategy for improving its climate services:

- Understand:
 - User needs and current use of climate services (LRF)
 - Sector specific vulnerability response
- Improve
 - Decision-relevant scales: downscaling products from other models
 - Decision-relevant parameters: impact models for the 4 pillars of GFCS
- Engage and demonstrate:
 - Climate service prototypes
 - Delivery and engagement

AGRHYMET Regional Center

The Agronomy, Hydrology and Meteorology (AGRHYMET) centre in Niamey, Niger is an RCC created in 1974, after a severe drought ravaged the region in early 1970’s. It is part of the Permanent Interstate Committee for drought control in the Sahel (CILSS). AGRHYMET collaborates with ACMAD to organize the PRESAGG and PRESASS RCOFs.

The challenges encountered by AGRHYMET include use of seasonal forecast in impacts models (SARRA-H, HYPE), strengthening observation networks, downscaling of the seasonal forecast and fundraising for forums at regional level and dissemination at national level.

AGRHYMET disseminates consensus seasonal forecasts through press releases, special bulletin, mailing list, AGRHYMET website (www.agrhymet.ne). The RCC is however instituting new approaches to communicating with users through pilot initiatives (CCAFS, ISACIP, ACCIS, NGOs), local radio, farmers, local decisions makers and local technical services.

Overview of Climate Data Sharing Protocols in Africa

A presentation was made on the continental study of the application of WMO Resolution 40 data sharing standards and protocols in Africa. The importance of data sharing to create synergies and collaboration on climate data was underscored by the consultant undertaking the study, since data is at the center of any response to climate risks. Monitoring and forecasting of severe weather and mesoscale disturbance – data/information are needed beyond the national boundaries. Tools thus need to be developed and refined via methodologies that facilitate better understanding of weather and climate and to produce reliable information – from historical to near real-time data, needed from the NMHSs. CIS providers get data/information and add value (knowledge and expertise) to tailor for specific users.

The data sharing protocols being considered in the study include:

- WMO resolution 40 (Cg-XII, 1995) - WMO policy and practice for the exchange of meteorological and related data and products
- WMO resolution 25 (Cg-XIII, 1999) - Exchange of hydrological data and products
- WMO resolution 60 (Cg-XVII, 2015) - WMO policy for the International Exchange of Climate Data and Products to Support the Implementation of the Global Framework for Climate Services

The consultant outlined the objectives of the study as review current practices of data exchange under the WMO Resolution 40, identifying best practices and success stories, highlighting barriers to data sharing and providing recommendations to promote data sharing to support CIS uptake in the African continent.

Key messages

- 1) Although WMO has established the structure for climate data and information governance, which includes NMHSs and RCCs, many of the RCCs are still underfunded and thus have inadequate capacity to fulfill their mandates.
- 2) Under the WMO governance system, RCCs are not recognized as voting members, which reduces their ability to do resource mobilization.

- 3) ACMAD is facing a governance crisis, since it no longer reports to the ECA conference of ministers. Its board is obsolete. ACMAD is pursuing possibilities to operate under the AUC, which has been tested under the MESA project.
- 4) The inaugural information and knowledge sharing event is a welcome start of the community of RCCs involved in RCOFs. Even if all RCCs may not agree to opening access to all their data, synergies should be built among climate data producers to support development.
- 5) Participants thus agreed to establish a knowledge sharing network to share experiences and establish best practices at RCCs on the RCOFs.

Annex I: Workshop Agenda

Meeting Objective: to provide a platform where the RCOFs weather experts from the RCCs in Africa can have an exchange of knowledge, share lessons, best practices and experiences. The outcomes of the meeting will enable RCCs to enhance their capabilities in producing forecasts, organizing RCOFs, engaging stakeholders and ensuring effective dissemination that makes a difference to end user communities.

March 23, 2018

| Time | Item | Moderator |
|---|--|--|
| 8:30-9:00 | Registration | |
| Opening session | | Moderation: Charles Muraya, ECA, Ethiopia |
| 9:00-9:30 | <p>Welcome remarks</p> <ul style="list-style-type: none"> Mr. James Murombedzi, ECA, Ethiopia <p>Overview of workshop objectives</p> <ul style="list-style-type: none"> Mr. Frank Rutabingwa, ECA, Ethiopia <p><i>Discussion</i></p> | |
| 9:30-10:30 | <ul style="list-style-type: none"> Rationale for establishment of the RCOFs Dr. Ernest C. Afiesimama, World Meteorological Organization (WMO), Switzerland African Centre of Meteorological Application for Development (ACMAD) Mr. Andre Kamga Foamouhoue, ACMAD, Niger <p><i>Discussion</i></p> | |
| 10:30-10:45 | <i>Coffee break</i> | |
| Experiences and practices in the African RCOFs | | Moderation: Yosef Amha, ECA, Ethiopia |
| 10:45-12:30 | <ul style="list-style-type: none"> Southern African Development Community: Climate Services Centre (SADC-CSC) Mr. Mduzuzi Sunshine Gamedze, SADC-CSC, Botswana IGAD Climate Prediction and Application Centre (ICPAC) Dr. Zewdu Segele, ICPAC, Kenya Agriculture, Hydrology and Meteorology (AGRHYMET) Mr. Tinni Halidou Seydou, AGRHYMET, Niger | |

| Time | Item | Moderator |
|--|---|---------------------------|
| | <i>Discussion</i> | |
| 12:30-13:30 | <i>Lunch break</i> | |
| <i>Experiences and practices in the African RCOFs</i> | | Moderation: |
| 13:30-14:00 | <ul style="list-style-type: none"> • Overview of Climate Data Sharing Protocols in Africa Dr. Mouhamadou Bamba Sylla, West African Science Service Center on Climate Change and Adapted Land Use (WASCAL), Ghana <i>Discussion</i> | Yosef Amha, ECA, Ethiopia |

Annex II: Participant List

| No. | Title | First Name | Last Name | Organization | EmailAddress | Country |
|-----|-------|------------------|------------------|---|--|-----------------------------|
| 1. | Dr. | Ernest C. | Afiesimama | WMO Office for Africa and Least Developed Countries | ernafies@yahoo.com , eafiesimama@wmo.int | Switzerland |
| 2. | Dr. | Mouhamadou Bamba | Sylla | WASCAL | syllabamba@yahoo.fr , sylla.b@wascal.org | Burkina Faso |
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| 5. | Dr. | Zewdu | Segele | IGAD Climate Prediction and Applications Centre - ICPAC | Zsegele@ICPAC.net | Kenya |
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| 9. | Mr. | Apuuli | Bwango | IGAD Climate Prediction and Applications Centre | apuuli.bwango@igad.int | Kenya |
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| 11. | Mr. | Kabengela | Hubert | ACMAD | hubertkabengela@gmail.com | Niger |
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| 15. | Mr. | Tsegaye | | NMA | | Ethiopia |
| 16. | Mr. | Bruk | Tekie | ACPC | | Ethiopia |
| 17. | Mr. | Charles | Muraya | ACPC | murayac@un.org | Ethiopia |