WMO OMM
World Meteorological Organization
Organisation météorologique mondiale
Organización Meteorológica Mundial
Всемирная метеорологическая организация
المنظمة العالمية للأرصاد الجوية
世界气象组织

WEATHER CLIMATE WATER
TEMPS CLIMAT EAU

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Annexe: 1 (disponible en anglais seulement)

Objet: Lancement de la phase de démonstration du Centre climatologique régional (CCR) de la Communauté économique des États de l'Afrique centrale (CEEAC)

Madame, Monsieur,

J'ai le plaisir de vous informer des progrès significatifs réalisés dans la mise en œuvre du concept de CCR dans la CEEAC. Il est envisagé que le Centre d'application et de prévision climatologique de l'Afrique centrale (CAPC-AC), hébergé à Douala (Cameroun), serve de CCR multifonctionnel unique de l'Organisation météorologique mondiale (OMM) en fournissant des produits et services obligatoires à la région.

J'ai le plaisir d'annoncer que le CAPC-AC est entré dans sa phase de démonstration le 6 juin 2024. Tout au long de cette phase, il commencera à fournir des produits et services climatologiques pertinents aux Membres de la CEEAC, selon ce qui est défini dans le *Manuel du Système intégré de traitement et de prévision de l'OMM* (OMM-N° 485). Ainsi, une fois la phase de démonstration achevée, il pourra être désigné CCR de l'OMM.

De plus amples informations sur les produits et services concernés sont disponibles dans le plan de mise en œuvre (voir l'annexe).

Tous les produits et services fournis par le CAPC-AC, y compris les déclarations de consensus du Forum sur l'évolution probable du climat en Afrique centrale, sont accessibles via le portail Web dédié.

J'invite cordialement tous les Services météorologiques et hydrologiques nationaux des pays et territoires desservis par le CAPC-AC à participer activement à la phase de démonstration en: i) consultant et en utilisant les produits du CCR à l'appui des services climatologiques nationaux, ii) utilisant les produits et services du CCR pour répondre aux besoins nationaux, iii) soutenant la création de produits et services par le CCR en mettant en commun leurs données et leurs compétences, et iv) fournissant un retour d'information pour aider le CAPC-AC à améliorer ses prestations.

En vous remerciant du soutien que vous apportez aux activités de l'OMM, je vous prie d'agréer, Madame, Monsieur, l'expression de ma considération distinguée.

Ko Barrett
pour la Secrétaire générale

Aux: Représentants permanents des Membres de l'OMM suivants: Angola, Burundi, Cameroun, Gabon, Guinée équatoriale, République centrafricaine, République démocratique du Congo, République du Congo, Rwanda, Sao Tomé-et-Principe et Tchad (distribution restreinte)

cc: Président du Conseil régional I de l'OMM
Président de la SERCOM
Président de l'INFCOM

Ref.: 19477/2024-LO S/RCP

WORLD METEOROLOGICAL ORGANIZATION

ECONOMIC COMMISSION OF CENTRAL AFRICAN STATES

REGIONAL CLIMATE CENTRE

Draft IMPLEMENTATION PLAN

Version 2.0, May 2023

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EXECUTIVE SUMMARY

Overview of WMO Regional Climate Centres (RCCs)

WMO-designated Regional Climate Centres (RCCs) are specialized institutions that develop and provide regional climate products such as data, monitoring, forecasting, and assessments. These centres enhance the capabilities of National Meteorological and Hydrological Services (NMHSs), ensuring better delivery of climate services. Established after the 1997/98 El Niño event, RCCs are now operational worldwide, aiding in climate service provision and regional climate data harmonization.

Central African Regional Climate Centre (ECCAS-RCC) – Objectives and Benefits

The goal of the ECCAS-RCC is to offer relevant climate information to various stakeholders in Central Africa, including governments and businesses. Key benefits include:

1. **Enhanced Collaboration:** Improved cooperation among NMHSs in climate prediction and monitoring.
2. **Coordinated Services:** More effective delivery of climate services in collaboration with humanitarian agencies.
3. **Unified Products:** Standardized climate services across different regions and sectors.
4. **Regional Forecasts:** Development of region-specific forecasts like sub-seasonal predictions.
5. **Better Imagery:** Advanced imagery products for detecting climate events.
6. **Interoperable Data:** Improved datasets for land, ocean, and atmospheric monitoring.
7. **Research Collaboration:** Strengthened ties with research communities to enhance prediction models and develop new products.
8. **Sector-specific Solutions:** Tailored products for sectors such as health, agriculture, and disaster risk management.
9. **Networking:** Enhanced communication with stakeholders and indigenous communities.
10. **User Engagement:** Activities to help users understand and apply ECCAS-RCC products.
11. **Reduced Risk:** Decreased vulnerability through improved community resilience.

Implementation Phases

1. **Demonstration (2023-2025):** Establish initial capabilities and address mandatory functions.
2. **Designation (2026-2027):** Formal designation as a WMO RCC after demonstrating all required functions.

3. **Operational (2027 onwards):** Continuous operation with a focus on evolving user requirements and enhanced product development.

Governance and Support

The ECCAS Conference of Ministers will provide policy support, with technical oversight from an expert committee comprising representatives from ECCAS countries and the WMO. Collaboration with international agencies and established RCCs will be crucial for success.

Next Steps

1. Inform relevant bodies about the RCC initiation and seek formal designation.
2. Conduct the demonstration phase addressing key gaps.
3. Establish governance and technical committees.
4. Develop a web portal for data dissemination and user interaction.
5. Implement long-range forecasting and climate monitoring.
6. Establish user interface platforms for feedback.
7. Develop climate scenarios and monitoring systems.

By following these steps, the ECCAS RCC aims to enhance climate resilience and support sustainable development in Central Africa.

1. Introduction

WMO-designated Regional Climate Centres (RCCs) are Centres of Excellence tasked with creating regional climate products, including data, monitoring, forecasting, and assessments. They build the capacity of National Meteorological and Hydrological Services (NMHSs) and their users, thereby strengthening countries' abilities to deliver climate services. RCCs play a crucial role in implementing the Climate Services Information System (CSIS) of the Global Framework for Climate Services (GFCS) at the regional level. The RCC concept emerged after the 1997/98 El Niño event, with the first framework developed by an Intercommission Task Team on Regional Climate Centres in 2001. Today, RCCs are operational worldwide, supporting NMHSs and harmonizing regional climate information.

Central Africa is highly vulnerable to climate variability and change due to its reliance on rainfed agriculture and susceptibility to storms and extreme weather events. The region faces climate-sensitive socio-economic changes, such as natural resource exploitation, which require management. There is a growing demand for targeted climate information to support decision-making and mitigate risks to people, governments, businesses, and the environment.

A regional approach to climate service generation and delivery can address this need by aggregating skills and investments at the national level, and providing mechanisms to share, coordinate, and harmonize climate products and services. WMO members have implemented RCCs and RCC-Networks globally, sharing climate information through newsletters, websites, portals, and Climate Outlook Forums (COFs). The WMO Regional Association I for Africa endorsed the establishment and operationalization of the ECCAS-RCC as a strategic priority for the 2024/2027 period.

The Central African climate has been changing, with negative precipitation trends along the Atlantic coast, floods, droughts, and disruptions in precipitation distribution during the season. This increasing vulnerability to climate variability and change necessitates improved climate services.

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Central African Regional Climate Centre – Goal and Benefits

The goal of the Central African RCC is to provide effective, user-relevant, decision-support climate information for people, governments, businesses, and other users in the region and beyond. The main target users are the NMHSs in the ECCAS region.

Expected benefits to Members of the ECCAS RCC include:

1. Strengthened Collaboration: Enhanced cooperation among NMHSs on climate matters, including operational and long-term climate prediction, observations, data monitoring, forecasting, and tailored products, and services to support climate risk management and adaptation to climate change.
2. Coordinated Climate Services Delivery: A more effective approach to delivering climate services with stakeholders such as humanitarian agencies.

3. Harmonized Climate Products and Services: Unified climate products and services across national, sectoral, and regional boundaries (e.g., for disaster risk reduction).
4. Specific Regional Products: Development of specific regional products such as sub-seasonal forecasts.
5. Improved Imagery Products: Enhanced imagery products for climate event detection (e.g., satellite).
6. Interoperable Datasets: More interoperable datasets for land, ocean, and atmosphere in Central Africa.
7. Research and Development Cooperation: Strengthened cooperation with the research community to improve prediction models and develop new climate products tailored to Central Africa's user requirements.
8. Sector-specific Products: Development of products specific to sectors in Central Africa (e.g., health, agriculture, energy, disaster risk management, hydrology, transportation, infrastructure, tourism).
9. Enhanced Networking: Improved networking with stakeholders to enhance two-way communication with traditional and indigenous peoples regarding climate information.
10. User Engagement Activities: Activities such as regional or national user interface platforms and climate outlook forums to help users of ECCAS-RCC products understand their use in decision-making processes.
11. Reduced Vulnerability and Risk: Improved community resilience through reduced vulnerability and risk.

Overview of the ECCAS-RCC Implementation Plan

This section provides an overview of the background and principal functions of RCCs, outlines the approach for implementing the ECCAS RCC, identifies its contributions and deliverables, and specifies issues and challenges to be addressed.

The ECCAS RCC was established by a decision of the ECCAS Heads of State Summit in 2015 in Ndjamena, Chad. During the pre-implementation period, discussions focused on feasibility, governance, partners, stakeholders, domain, structure, priorities, and deliverables of the proposed WMO ECCAS RCC. Upon acceptance of the implementation plan by the relevant members and WMO constituent bodies, contributing agencies (ECCAS and partners) will implement the RCC in three phases:

1. **Phase 1: Demonstration (2023-2025)**
2. **Phase 2: Designation (2026-2027)**
3. **Phase 3: Operational ECCAS RCC (2027 onwards)**

The primary focus of the implementation plan is to prepare for and guide the demonstration phase, during which the ECCAS RCC will address the WMO mandatory functions. This version of the plan outlines the general activities of the ECCAS Centre in Phases 1 and 2. After the ECCAS RCC is formally designated, it is expected to maintain this implementation plan as a living document, which will be

updated regularly by the contributing agencies. This ensures that new products and services are added to the ECCAS RCC portfolio to meet the evolving requirements of the members.

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2. WMO Regional Climate Centres

2.1 The RCC concept

WMO WMO Regional Climate Centres (RCCs) are centers of excellence that produce regionally-oriented climate products, including long-range forecasts, to support both regional and national climate activities. These efforts strengthen WMO Members' capacity to deliver high-quality climate services to national users, adhering to standards and criteria established by the WMO's Integrated Processing and Prediction System (WIPPS).

The Climate Information and Prediction Services (CLIPS) project, active from 1995 to 2015, was pivotal in developing the RCC concept and establishing them globally. This project also contributed to creating the Regional Climate Outlook Forums (RCOFs), which generate seasonal climate outlooks. At the Sixteenth Session of the World Meteorological Congress, WMO Members decided to integrate all CLIPS activities into the Global Framework for Climate Services (GFCS) and concluded CLIPS as a project by 2015.

WMO's infrastructure includes National Meteorological and Hydrological Services (NMHSs), regional and global centers that generate and deliver up-to-date climate information and prediction products for climate services, supporting climate adaptation and risk management. WMO-designated Global Producing Centres for Long-Range Forecasts (GPCs or GPCLRFs) and RCCs are integral to WIPPS, supporting the generation of climate information products at the national level. Further information on GPCs can be found in ANNEX 1.

The rules and regulations for RCCs, including designation criteria and mandatory functions, are detailed in WMO's technical regulations within the Manual on the WMO Integrated Processing and Prediction System (WIPPS), Volume 1: Global Aspects (WMO No. 485). Adherence to these regulations ensures RCCs follow standard practices and procedures, promoting uniformity and standardization.

While RCCs must fulfill mandatory functions for formal designation, there is flexibility to accommodate specific regional needs. The RCC concept allows for a single multi-functional entity or a distributed-function RCC-Network implemented by multiple hosts (see RCC definitions in ANNEX 2).

Climate services delivery to national clients is the responsibility of national institutions, with RCCs designed to assist NMHSs. RCCs complement and support NMHSs, delivering all warnings and national-scale products. The primary recipients of RCC products and services are NMHSs, other RCCs,

and international institutions recognized by the Regional Associations. In line with Resolution 60 (Cg-17), GFCS-relevant data and products from WMO RCCs and RCOFs should be freely and unrestrictedly accessible among Members. Members are also encouraged to share more data to facilitate downscaling and provision of local-scale climate information..

2.2 RCC functions

WMO RCCs and RCC Networks must adhere to guidance from the WMO Services Commission on technical, climate-related matters, and the WMO Commission for Observation, Infrastructures, and Information Systems (Infrastructure Commission) on operational issues. RCC operations must align with the standards of the WMO Information System (WIS), and WMO RCCs may serve as WMO WIS Data Collection or Production Centres (DCPCs).

WMO RCC services encompass a set of Mandatory and Highly Recommended Functions as outlined in the Manual on the WIPPS, with the potential for additional functions to meet regional climate information needs.

The Mandatory Functions, detailed in Appendix II-11 of the GDPFS Manual, also presented in this Plan in ANNEX 3, include:

1. **Operational activities for long-range forecasting (LRF)**
2. **Operational activities for climate monitoring**
3. **Operational data services to support LRF and climate monitoring**
4. **Training in the use of operational RCC products and services**

These functions ensure RCCs deliver essential climate services and support National Meteorological and Hydrological Services (NMHSs) in their climate-related activities.

Highly Recommended Functions: WMO RCCs and RCC-Networks are encouraged to undertake as many 'Highly Recommended' Functions as possible, based on the requirements of user communities in the region. These functions are detailed in the Manual on the WIPPS in Attachment II-10 and presented here in Annex 4. Briefly, they include:

1. **Climate Prediction and Climate Projection:** Enhancing the ability to predict climate variations and project future climate scenarios.
2. **Non-operational Data Services:** Providing data services that are not part of the core operational activities but support various climate-related functions.
3. **Coordination Functions:** Facilitating coordination among different stakeholders, including national meteorological and hydrological services, to improve climate services.

4. **Training and Capacity Development:** Offering training programs and capacity-building activities to enhance the skills and knowledge of personnel involved in climate services.

5. **Research and Development:** Promoting research activities to advance the understanding of climate processes and improve climate prediction and projection capabilities.

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2.3 Designation by WMO of an RCC or RCC-Network

For a centre or a group of centres in a cooperative effort to be designated as a RCC or RCC-Network, it must perform a minimum set of 'Mandatory Functions'. The performance of these functions will be assessed against detailed criteria outlined in Annex 3. The typical process for formal designation by WMO is described in the document 'How to Establish and Run a WMO Regional Climate Centre (RCC)' (WMO/TD-No. 1534), with excerpts presented in Annex 5.

The step-by-step process for designating the Central Africa RCC is detailed in Section 5 of this Plan. This approach is rigorous and consistent across all WMO RCCs, overseen by:

1. Regional Associations (through their Presidents and relevant subsidiary bodies)
2. The WMO Services Commission (Standing Committee on Climate Services)
3. The WMO Commission for Observation, Infrastructures, and Information Systems (Infrastructure Commission)
4. The Joint Service/Infrastructure Commission Expert Team on RCCs
5. The WMO Executive Council (EC) or the World Meteorological Congress (Cg)

2.4 RCC implementation globally

The status of implementation of WMO RCC-Networks and of RCCs around the world is presented in **ANNEX 6**.

3. Pre-Implementation

3.1 Scoping and Planning

The agreement between the WMO and partnering agencies to establish the GFCS includes pillars such as Observations and Monitoring, Research Modelling and Prediction, the Climate Services Information System (with RCCs as a core component), Capacity Development, and the crucial User Interface

Platform. This agreement has reinforced the commitment to providing effective climate services tailored to user needs globally, including the tropics.

In 2022, a gap analysis for the ECCAS candidate RCC centre and the NMHSs of the 11 ECCAS countries identified key intervention areas necessary to fulfill the mandatory RCC functions.

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3.2 Needs and requirements

The The ECCAS region aims to enhance resilience to climate extremes and empower its people and institutions to adapt to climate change impacts, accelerating sustainable development. Member countries provide services such as forecasts and warnings for surface, marine, and aviation weather, with a focus on high-impact events like storms, storm surges, coastal hazards, heavy precipitation, floods, and droughts.

At climate time scales, required services include:

- Seasonal predictions, especially for the rainy period crucial to agriculture and humanitarian operations.
- Sub-seasonal forecasts for precipitation and temperature disruptions during the rainy and hot seasons.
- Monitoring and outlooks for droughts, floods, heat stress, mudslides, and storms, including sector impacts.
- Multi-decadal climate projections for infrastructure planning, ecosystem stewardship, and understanding global climate impacts from regional changes like deforestation.
- General climate information for advocacy, awareness raising, and supporting research with long-term weather, climate, and ocean data.

Specific user needs include:

- Planning and implementing Nationally Determined Contributions to the Paris Agreement and the Sendai Framework for DRR.
- Community resilience and adaptation planning with weather and climate outlooks ranging from weekly to multi-decadal.
- Designing, building, operating, and protecting infrastructure, and mitigating hazards such as erosion, flooding, and mudslides.
- Conserving ecosystems affected by higher sea-surface temperatures, warmer summers, storms, floods, and droughts.

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4. Overview of the RCC – Central Africa

4.1 Contributing countries

WMO Member countries contributing to the ECCAS RCC activities include Chad, Central Africa Republic, Gabon, Sao Tome and Principe, Cameroon, Equatorial Guinea, Congo, Democratic Republic of Congo, Angola, Burundi, and Rwanda.

These countries, through the ECCAS Commission, will support and benefit from ECCAS-RCC products and services primarily via their NMHSs and selected technical agencies (e.g., agriculture, disaster risk reduction, health, transport, development planning, and infrastructure development services). Additionally, each country will benefit from developing national networks across government, academia, and the private sector to better understand requirements, provide tailored services to priority national user communities, and foster the development of innovative products, data management, and training.

4.2 Structure

The ECCAS RCC is established as a comprehensive multifunctional center, integrating all the RCC functions within a single organization. This arrangement aims to enhance the efficiency and effectiveness of climate services across the Central African region by providing centralized and coordinated support for various meteorological and hydrological activities.

4.3 Domain

The climate zones of the ECCAS region include:

- Equatorial climate from Sao Tome and Principe to Eastern DRC
- Tropical Sahelian climate over Chad, Cameroon, and the Central African Republic, with semi-arid areas in Southern Angola and DRC
- Congo Forest basin climate
- Great Lakes climate in Burundi, Rwanda, and DRC
- Atlantic Coastal climate from Angola to Cameroon

It's important to note that some countries in the ECCAS region fall under the domains of other RCCs: Burundi and Rwanda with IGAD RCC, and Angola and DRC with SADC CSC. Leveraging experiences from these regions is expected to expedite the implementation of the ECCAS RCC and facilitate the harmonization of integrated continental climate outlooks.

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4.4 Partners and technical assets/contributors

The core institutions contributing to the Central African RCC include ECCAS NMHSs, IGAD RCC (through NMHSs of Burundi and Rwanda), and SADC-CSC (through NMHSs of Angola and DRC). The Africa RCC, hosted by ACMAD, plays a continental role in harmonizing methods, tools, data, and products across African RCCs, utilizing WMO Global Producing Centres of Long-Range Forecasts (GPCLRFs) and the WMO Lead Center for Long-Range Forecast Multi-Model Ensemble (LC-LRFMME).

The ECCAS RCC, in collaboration with ACMAD, can access major datasets through World Data Centres and specialized centers like GPCC, EUMETSAT, and JRC. The Climate Station configuration by ACMAD provides a unified platform for harmonizing RCC technical and operational capacities across Africa. The ACMAD/IRI collaboration further enriches this with additional datasets, tools, and methods for generating and assessing RCC products and services.

For efficient RCC operation, partnerships with international communities within and beyond WMO initiatives are vital, involving significant non-NMHS participation in data observations and sharing. Key contributors and partners include:

- African Centre for Meteorological Applications for Development (ACMAD)
- Global Producing Centres (GPCs)
- IGAD RCC and RCC-Networks in Europe and North Africa
- Universities and climate research centers with expertise in climate variability and predictability over Central Africa (e.g., Belgium, France, UK, Germany, US)

ACMAD RCC offers guidance for GPC products, develops and transfers methods, tools, and products, supports capacity building, and provides useful data and tools for ECCAS RCC downscaling.

GPCs supply global single and multi-model ensemble products and performance measures. Downscaling tools from IGAD and North Africa will be shared with ECCAS RCC through ACMAD's African Continental Climate Outlook Forums, harmonizing methods and products. Universities and institutes, such as IRI at Columbia University and the University of Reading, will support methodology and tool development and validation on climate monitoring, long-range forecasting, climate projection, and understanding climate variability and change processes.

NMHSs of ECCAS countries will collect and exchange relevant climate data to develop tools for validation, calibration, downscaling, and new products and services

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4.5 Stakeholders

Significant work has been dedicated to understanding and responding to climate variability and change in the ECCAS region, enhancing climate knowledge, products, and services. The ECCAS RCC aims to provide these services to NMHSs for national clients and regional users.

To ensure the RCC's relevance and reliability, it is crucial to leverage the expertise and systems of organizations like the WMO, WHO, FAO, UNESCO, UNHCR, UNOCHA, IFRC, and other disaster risk management groups. Projects like ClimSA are pivotal in establishing user interfaces at both national and regional levels. ACMAD's experience with continental user interfaces, following WMO guidelines, will support these efforts.

The Central Africa RCC, with ECCAS and AUC backing, should collaborate with UN agencies to avoid duplicating efforts, develop synergy, and secure political and financial support. The ECCAS climate strategies will guide RCC activities and be updated with RCC climate data.

Mechanisms like PRESAC and ACCOF will help harmonize tools and methods, facilitating dialogue and information sharing between climate information providers and user communities. Identifying user needs is a national responsibility, supported by the ECCAS RCC and partners. The ClimSA project will aid in this by piloting services, with findings guiding upscaling across ECCAS countries. This will help NMHSs tailor climate services for disaster risk reduction, climate change adaptation, and mitigation, aligning with Nationally Determined Contributions and Sustainable Development Goals.

Vulnerable communities and sectors, such as smallholder farmers and infrastructure managers, will be key stakeholders in these user interfaces, supported by ECCAS, UN, and NGO platforms.

4.6 Guidance on Roles and responsibilities

To support the Central African countries in launching the RCC demonstration phase, and in putting in place the institutional, organizational, managerial, technical, operational, human and financial resources needed for performing the activities of the RCC, some suggestions for roles and responsibilities will be necessary.

4.7 Governance and oversight

The ECCAS Conference of Ministers in charge of Meteorology will provide high-level policy support, with technical oversight from an expert committee. This committee includes representatives from ECCAS countries, the WMO, and regional technical support institutions. They will ensure the establishment and operation of the center, implementing necessary reforms. The committee reviews reports, approves work plans, and aligns activities with WMO regulations and ECCAS policies.

The committee ensures RCC outputs meet WMO standards and address regional and national user needs. It also aligns RCC priorities with the WMO Regional Association I for Africa. The ECCAS Centre will act as the Secretariat to the committee.

Countries and partners must allocate adequate resources to support RCC operations and future needs. Governance and oversight will involve:

1. The Regional Association for Africa (RA I)
2. WMO Technical Commissions (Services and Infrastructure)
3. The WMO Services Commission on RCCs (ET-CSISO)
4. The WMO Secretariat
5. The WMO Executive Council and World Meteorological Congress

After its formal designation, the Central African RCC will continue to engage with these bodies on scientific, technical, and operational matters.

Cooperation with relevant agencies is essential for RCC success post-demonstration phase. The ECCAS RCC must adapt to changes in systems, including other RCCs, the WMO global system of GPCs, technical partners, and key stakeholders like UN agencies.

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4.8 Contributions

ECCAS countries will support and benefit from a full-fledged RCC by sharing data through their Permanent Representatives with the WMO. This data will aid monitoring, forecasting, data services, and training. Countries will use, distribute, and possibly generate downscaled seasonal prediction products and organize National Climate Outlook Forums emphasizing user interface platforms.

Basic data requirements include Tmax, Tmin, Tmean, and total precipitation. Highly recommended data, products, and services encompass climate predictions, projections, non-operational data services, coordination, training, research, and development. While mandatory functions are defined, additional products and services may be developed to meet regional stakeholders' needs. Remote sensing and satellite data will be considered due to limited in situ observing networks.

ACMAD and GPCs will play key roles in the RCC's demonstration, designation, and operational phases, supporting implementation planning and capacity building. ECCAS will benefit from WMO GPCs' strong modeling and prediction capabilities. Collaboration with established RCCs in Africa (ACMAD, ICPAC, North Africa network) will provide guidance.

ACMAD will assist in prototyping long-range forecasts, climate monitoring, data services, and training for ECCAS RCC and member countries. The ClimSA project will further strengthen training and capacity building.

Key activities for ECCAS RCC include:

- Interpreting global and continental long-range forecast products for ECCAS.
- Developing forecast methodologies and tools, structuring datasets, and analyzing capabilities.
- Organizing climate forums, diagnosing, and establishing reference climatologies.
- Issuing technical notes, bulletins, statements, and reports.
- Operating quality assurance and control using WMO guidelines.
- Homogenizing datasets and ensuring RCC product exchange through WIS.
- Developing training strategies, preparing materials, and reporting on training events in the climate service value chain.

4.9 Language and communication

The RCC products and services for the Central Africa region will be in both English and French. Translations of some of the products and information to national languages may be available through the NMHSs of the region. The RCC web portal, fora, seminars, conferences, trainings and exchanges or outreach programmes will facilitate communication between RCC stakeholders.

5. Implementation Phase 1: Demonstration (2024- 2026)

The demonstration phase launch will follow the presentation of the implementation plan to ECCAS Permanent Representatives and a formal readiness request from Cameroon to the WMO Secretary General and RA I President. Phase 1 focuses on implementing long-range forecasting, climate monitoring, training, and data services, adhering to WMO regulations.

Activities During Phase 1:

1. **Announcement**: The ECCAS centre will announce the demonstration phase start date to the WMO Secretary-General and other key stakeholders.
2. **Governance Mechanism**: Establish steering and technical committees to oversee RCC activities, including product and service quality, sustainability, and project development.
3. **Communication and Coordination**: Set up processes with NMHSs, ACMAD, and GPCs to share information and products.
4. **Regional Climate Outlook Forum**: Collaborate with ACMAD to hold the PRESAC forum and lead its organization by the end of the demonstration phase.
5. **User Interfaces**: Establish and operate user interfaces as part of RCOF using WMO guidelines.
6. **Progress Review**: After two years, hold a coordination meeting to review progress and readiness for WMO formal designation in 2027.
7. **Evaluation and Designation**: If successful, the RCC will apply for formal WMO designation, marking the start of phase 2.
8. **Partnerships**: Strengthen partnerships with other RCCs or RCC Networks in Africa, such as ICPAC and the North Africa network.

Additional Considerations:

- **Challenges**: Address specific challenges identified in the 2022 WMO Gap Analysis report.
- **Service Expansion**: Under the steering committee's oversight, consider implementing additional services for other WMO Essential Climate Variables and highly recommended functions to meet NMHSs' priority needs.

A parallel process: Further identification of user requirements

To understand the needs of various user communities, it is essential to engage with them directly. In Central Africa, the GFCS implementation, supported by the EU-funded ClimSA and other projects, will

establish User Interface Platforms. These platforms will help define, develop, test, operate, and update tailored products and services.

Human Resources for the Demonstration Phase:

A gap analysis report highlighted human resource constraints at the ECCAS Climate Centre. For the demonstration phase, the required team includes:

- 1 coordinator or team lead
- 2 long-range forecasting experts
- 1 expert for each of the other three mandatory functions
- 1 web expert
- 1 communication specialist

This team of eight will need an annual budget of $300,000 to $400,000. The ClimSA ECCAS project will support this phase, providing additional manpower through short-term expertise, strategic partnerships with ACMAD, other RCCs, and global technical partners. These partnerships will offer capacity development and technical assistance through subcontracting or service contracts.

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6. Implementation Phase 2: Designation (2026-2027)

The WMO process for the designation of an RCC, detailed in the document 'How to establish and run a WMO Regional Climate Centre (RCC)' (WMO/TD-No. 1534), involves several steps, simplified for the ECCAS RCC due to its single multifunctional Centre in one WMO Regional Association (RA I) and one Regional Economic Community (ECCAS).

Preparation for Designation of the ECCAS RCC:

1. **Interaction and Compliance**: The ECCAS Centre steering and technical committees will interact with RA I's relevant subsidiary bodies. WMO's Standing Committees and expert teams will evaluate compliance with technical regulations and good practices.

2. **Informing Appropriate Bodies**: Before the demonstration phase, relevant bodies will be informed about the intent to initiate the RCC and seek formal WMO designation later.

3. **Collective Inputs**: During the demonstration phase, RA I and its subsidiary bodies will provide inputs on the designation procedures and implementation plan. The ECCAS Centre will maintain communication on steering, technical, and operational matters.

4. **Committee Constitution**: The ECCAS ClimSA steering committee and NMHSs' focal points for the RCOF (PRESAC) will form the RCC steering and technical committees.

Process for Formal WMO Designation:

1. **Performance Notification**: Once the ECCAS Centre performs all mandatory functions, it will notify the RA I President and other relevant bodies for assessment.

2. **Compliance Evaluation**: WMO RA I and its subsidiary bodies will evaluate compliance with WMO requirements for each mandatory function.

3. **Request Formal Designation**: If compliant, the RA I will contact the WMO Secretary-General (SG), providing documentation and a report on the RCC ECCAS operations, requesting formal designation.

4. **Evaluation by Service Commission**: The WMO SG will arrange an evaluation by the WMO Service Commission. If concerns arise, the candidate must address them until compliance is achieved.

5. **Forwarding the Request**: Upon satisfactory compliance, the WMO SG will forward the request for formal designation to the Infrastructure Commission President.

6. **Review by Infrastructure Commission**: The Infrastructure Commission will review the submission and address any concerns with RA I and Services Commission.

7. **Optional Presentation**: The candidate may be invited to present the report supporting an amendment to the Manual on the GDPFS at an Infrastructure Commission session.

8. **Approval by Congress or Executive Council**: The amendment to the Manual will be put up for approval by the WMO Congress or Executive Council.

9. **Final Approval**: Upon approval, the Manual on the GDPFS will be revised, and the RA I and ECCAS Centre will be officially notified of the WMO RCC designation.

7. Implementation Phase 3: Operational RCC- (2027-onward)

Once designated, the ECCAS Centre will continue performing all mandatory functions consistently. ECCAS countries will likely have established comprehensive user requirements at national and local levels and set up User Interfaces for two-way feedback on RCC-relevant climate matters. The ECCAS RCC should prioritize and address these user needs. Additionally, research and development communities will partner with ECCAS RCC to provide new methods and tools for product generation, including improved prediction models for sub-seasonal and long-range forecasting and high-resolution

regional climate projections. Reanalyses and other non-operational datasets are expected as part of recommended RCC functions.

Development Plan for ECCAS RCC:

1. **Update Procedures**: Incorporate new methods and tools for product generation from the research and development communities, ensuring validation, training, and transfer of procedures.

2. **Support Observations**: Identify and promote observations for ECVs other than temperature and precipitation, strengthening partnerships.

3. **Engage with Sectors**: Build relationships with key socio-economic sectors to address their requirements through surveys, meetings, and sector-specific Climate Outlook Forums at national and regional levels.

4. **Dialogue with Indigenous Peoples**: Promote dialogue with indigenous peoples through COFs and consider their traditional knowledge on climate matters.

5. **Help-Desk Approach**: Establish a help-desk to support the dissemination of RCC products, address user questions, and capture feedback for network enhancement.

6. **Develop Synergies**: Identify and develop initiatives to create synergies, avoiding duplication and saving resources.

7. **WIS Data Collection Centre**: Work with ACMAD towards designating the ECCAS RCC as a WMO-designated WIS Data Collection and Processing Centre.

8. **Interact with ECCAS Bodies**: Increase interaction with ECCAS bodies on climate-related matters and consider implementing RCC recommended functions in the region

.

8. Addressing Gaps/Challenges/Issues

Identified Gaps for ECCAS RCC Implementation

Several gaps must be addressed to facilitate the ECCAS RCC demonstration. The centre's current structure lacks alignment with RCC functions, and staff is limited. Stabilizing funding streams will support sustainable operations. Essential needs include internet bandwidth, data management applications, climate monitoring, and forecasting software. A platform for collecting and sharing user feedback, generating tailored services, and policy advice will be developed during the demonstration phase. A dedicated RCC web portal to support functions and disseminate products is also required.

High Priority Issues During Demonstration Phase:

1. **Web Portal for ECOWAD RCC**: Hosted by the AGRHYNET Centre, the RCC web portal will include all mandatory products.

2. **Operational Activities for Long-Range Forecasting (LRF)**:

    - Develop and maintain a web portal for LRF, collaborating with other RCCs and WMO centers.

    - Create regional and national forecast statements, transferring methodologies, tools, input data, and skills with RCCs and GPCs.

    - Develop West Africa climate scenarios using WCRP.CMIP datasets for impact studies and climate change adaptation.

    - Collect user feedback with ACMAD through User Interface Platforms.

3. **Operational Activities for Climate Monitoring**:

    - Develop a Climate Watch in accordance with WMO guidance, potentially requiring workshops for data provision and tool guidance.

    - Prepare national reference datasets for interoperability and create a regional historical reference climatology.

    - Establish consistent methods and procedures for merging national and sub-regional climate monitoring products.

    - Develop products and services for elements beyond temperature and precipitation to meet user requirements.

4. **Operational Data Services**:

    - Create quality-controlled regional climate datasets in collaboration with ACMAD, IRI, and other RCCs.

5. **Training**:

    - Develop manuals and guidance materials on RCC products, revising and reusing existing resources from ACMAD and other RCCs.

    - Implement training programs for RCC users, building on ACMAD curricula.

Additional Considerations:

- **Communication and Outreach**: Promote the RCC to decision-makers, stakeholders, and partners through newsletters, email lists, and other mechanisms.
- **User Requirements**: Identify user needs for climate products and services, liaising with WMO, ACMAD, and other experts.
- **Traditional Knowledge**: Incorporate traditional knowledge into RCC work where feasible.
- **Research and Development**: Maintain contact with R&D communities for advances in prediction capabilities and new product development.
- **Priority Variables**: Work with stakeholders to expand LRF, Climate Monitoring, and Data Services beyond temperature and precipitation.
- **Synergy and Support**: Develop effective interactions with Regional Economic Community and UN agencies, minimizing duplication and leveraging support.
- **Help Desk**: Set up a help desk or FAQs to address user questions and provide examples of using RCC information in decision-making.

Resources

Establishing and operating the RCC will require expanding existing human and financial resources. New tools, additional websites, training activities, and other work will need new resources. Contributing countries are committed to supporting a viable and sustained RCC for the future.

9. Next steps

The timeline for the 'next steps' leading up to the formal designation of the ECCAS RCC is outlined in section 5 and includes the major milestones. However, as members evaluate the processes, resources, and timeframes required to address the identified gaps (section 8), this timeline should be expanded. This expanded timeline should be a dynamic document that evolves to meet the goals and priorities identified.

Key Milestones:

1. **Inform Relevant Bodies**: Notify the WMO Secretary-General, RA I President, and other stakeholders about the intent to initiate the RCC and seek formal designation.
2. **Demonstration Phase**: Conduct the demonstration phase, addressing critical gaps in structure, funding, internet bandwidth, and data management.
3. **Governance Mechanism**: Establish steering and technical committees for decision-making on technical, scientific, planning, and oversight issues.

4. **Web Portal Development**: Develop a dedicated RCC web portal for data dissemination and user interaction.

5. **Operational Activities**: Implement long-range forecasting (LRF) and climate monitoring activities, ensuring collaboration with ACMAD, RCCs, and GPCs.

6. **User Interface Platforms**: Establish platforms to collect and incorporate user feedback for continuous improvement.

7. **Climate Scenarios and Monitoring**: Develop climate scenarios and a Climate Watch system in accordance with WMO guidelines.

8. **Training and Guidance**: Provide training and develop manuals on RCC products and services.

9. **Quality Control and Data Services**: Establish quality-controlled regional climate datasets and data services.

10. **Evaluation and Formal Designation**: After successful completion of the demonstration phase, request an evaluation by WMO RA I and submit the formal designation application to WMO.

This expanded timeline should include detailed tasks, milestones, and deadlines for each phase, ensuring all gaps and priorities are systematically addressed.

10. Conclusions and recommendations

The establishment of the Regional Climate Centre (RCC) for the Economic Community of Central African States (ECCAS) region addresses the growing need for enhanced climate services in Central Africa. This region faces significant climate-related challenges, including increased frequency and intensity of weather hazards like floods, droughts, and storms, exacerbated by climate change. These issues, combined with socio-economic factors such as poverty and unplanned urbanization, necessitate a coordinated effort to improve resilience and climate adaptation strategies.

The RCC aims to support the National Meteorological and Hydrological Services (NMHSs) by providing reliable climate products and services, enhancing regional collaboration, and promoting data interoperability. The phased implementation plan ensures a structured approach, focusing on demonstration, designation, and operational phases, to achieve these goals effectively.

Recommendations

1. **Strengthen Collaboration and Coordination**
    - Enhance cooperation among NMHSs and regional stakeholders to ensure unified climate services and effective risk management strategies.
    - Foster partnerships with international agencies and research institutions to leverage expertise and resources.
2. **Develop Specific Regional Products**
    - Focus on creating tailored climate products, such as sub-seasonal forecasts and sector-specific services for agriculture, health, and disaster risk management.
    - Utilize advanced satellite imagery and other technological tools to improve climate event detection and monitoring.
3. **Improve Data Management and Accessibility**
    - Establish interoperable datasets for land, ocean, and atmospheric conditions to facilitate comprehensive climate analysis.
    - Develop a dedicated RCC web portal for data dissemination and user interaction, ensuring accessible and high-quality climate information.
4. **Enhance Training and Capacity Building**
    - Implement training programs to build the capacity of NMHS personnel and other stakeholders in using RCC products effectively.
    - Promote continuous professional development through workshops and seminars.
5. **Promote Stakeholder Engagement**
    - Establish user interface platforms and conduct regular Climate Outlook Forums to gather feedback and improve the relevance of climate services.
    - Engage with traditional and indigenous communities to incorporate local knowledge and ensure inclusive climate adaptation strategies.
6. **Ensure Sustainable Operations**
    - Secure stable funding streams and allocate adequate resources for the RCC's operations.

- Regularly update the implementation plan to adapt to evolving climate challenges and user needs.

By following these recommendations, the ECCAS RCC can effectively enhance regional climate resilience and support sustainable development in Central Africa.

Annex 1: Overview of WMO Global Producing Centres of Long-Range Forecasts

Information on WMO GPCs/GPCLRFs standard and requirements can be found at: WMO

designated GPCLRFs include the following:

- : China Meteorological Administration (CMA) / Bejing Climate Center (BCC)
- : Met Office, United Kingdom
- : Bureau of Meteorology (BOM), Australia
- : Meteorological Service of Canada (MSC)
- : Hydrometeorological Centre of Russia
- : South African Weather Services (SAWS)
- : Korea Meteorological Administration (KMA)
- : Japan Meteorological Agency (JMA) / Tokyo Climate Centre (TCC)
- : Météo-France
- : Climate Prediction Center (CPC) / National Oceanic and Atmospheric Administration (NOAA), United States of America

In addition to the institutions referenced above, WMO has also designated the following Lead Centres:

- jointly coordinated by KMA and CPC/NOAA
- jointly coordinated by BOM and MSC

Other Major Centres Providing Global Seasonal Forecasts

Annex 2: RCC Definitions

RCC definitions include:

– a WMO-RCC is a multifunctional centre that fulfils all the required functions of an RCC for the entire region, or for a sub-region to be defined by the regional association;

– a WMO RCC-Network is a group of centres performing climate-related activities that collectively fulfil all the required functions of an RCC; and that

– a WMO RCC-Network Node is a centre in a designated WMO RCC-Network. A Node will perform, for the region or sub-region defined by the regional association, one or several of the mandatory RCC activities (e.g., long-range forecasting (LRF), climate monitoring, climate data services, training).

Annex 3: Detailed Criteria for Mandatory Functions of WMO RCCs/RCC Networks

From the Manual on the GDPFS (WMO No. 485), Part II, new Appendix II-11[5]

Functions	Activities	Criteria
Operational Activities for LRF (Both dynamical and statistical, within the range of 1 month to 2-year timescale, based on regional needs)	Interpret and assess relevant LRF products from Global Producing Centres (GPCs), distribute relevant information to RCC Users; and provide feedback to GPCs (see Attachment II-13)	***Product:*** assessment of the reliability and outcomes of GPCs or LCs-LRFMME products including the reasoning (making use of LC SVSLRF), for the region of interest, in the form of texts, tables, figures, etc. ***Element:*** 2-m mean temperature, total precipitation ***Update frequency:*** monthly or at least quarterly
	Generate regional and sub-regional tailored products, relevant to RCC User needs, including seasonal outlooks etc.	***Product:*** probabilities for tercile (or appropriate quantile) categories for the region or sub-region ***Element:*** 2-m mean temperature, total precipitation ***Output type:*** *rendered images (maps, charts), text, tables, digital data* ***Forecast period*:** one month up to 6 months ***Update frequency:*** 10 days to one month
	Generate consensus* statement on regional or sub-regional forecasts. **NB: A collaborative process involves discussion with experts in the region (e.g., through Regional Climate Outlook Forums (RCOFs), teleconferencing, etc.).* *Consensus is both the agreed process, and its joint conclusion, and can be that there is limited skill in the*	***Product:*** *consensus statement on regional or sub-regional forecast.* ***Element:*** *2-m mean temperature, total precipitation* ***Output type:*** *report* F***orecast period*:** *a climatologically significant period (from one month to one year)* ***Update frequency:*** *at least once per year (to be defined by the region)*

	prediction for a region or sub-region	
	Perform verification of RCC quantitative LRF products, including the exchange of basic forecasts and hindcast data.	***Products:*** verification datasets (e.g., SVS LRF scores, Brier Skill Score; ROC; Hit Rate Skill Score) ***Element:*** 2-m mean temperature, total precipitation
	Provide on-line access to RCC products/services to RCC Users.	***Product:*** an on-line data/information portal
	Assess use of RCC products and services through feedback from RCC Users.	***Product:*** analysis of feedback (which is made available using a template) ***Update frequency:*** annually, as part of a regular reporting of RCCs to WMO RAs

Operational Activities for Climate Monitoring	Perform climate diagnostics including analysis of climate variability and extremes, at regional and sub-regional scales	***Products:*** climate diagnostics bulletin including tables, maps and related products ***Element:*** Mean, Max and Min temperatures, Total precipitation; other elements (esp. GCOS essential climate variables) to be determined by the region, ***Update frequency:*** monthly
	Establish an historical reference climatology for the region and/or sub-regions	***Product:*** database of climatological means for various reference periods (e.g., 1931-60; 1951-80; 1961-90; 1971-2000; etc) ***Spatial resolution:*** *by station* ***Temporal resolution:*** *monthly at a minimum* ***Elements:*** Mean, Max and Min temperatures, Total precipitation; other elements (esp. GCOS essential climate variables) to be determined by the region, ***Update frequency:*** at least 30 years, preferably 10 years
	Implement a Regional Climate Watch	***Products:*** climate advisories and information for RCC Users ***Update:*** whenever required, based on the forecast of significant regional climate anomalies.
Operational Data Services, to support operational LRF and climate monitoring	Develop quality controlled regional climate datasets, gridded where applicable	***Products:*** regional, quality-controlled climate datasets, gridded where applicable, following CCl guidance on QA/QC procedures ***Elements:*** Mean, Max and Min Temperature, and Precipitation, at a minimum ***Temporal resolution:*** *daily* ***Update:*** monthly
	Provide climate database and archiving services, at the request of NMHSs	***Products:*** national databases with metadata, accessible to the NMHS in question (backup service, development site, etc). ***Elements:*** as determined by the NMHS ***Update:*** at the request of the NMHS
Training in the use of operational RCC products and services	Provide information on methodologies and product specifications for mandatory RCC products, and provide guidance on their use	***Products:*** *Manuals, guidance documents and information notes*. ***Update frequency:*** when methods/products are revised or introduced or discontinued
	Coordinate training for RCC Users in interpretation and use of mandatory RCC products	***Products:*** survey and analysis of regional training needs, and proposals for training activities.

NOTE: an RCC is expected to perform certain functions (e.g., for homogeneity testing; database management; metadata management, statistical evaluation of climate data, etc.) using procedures proposed in the WMO Guide to Climatological Practices and in other official Commission for Climatology Guidance documents.

Annex 4: RCC Highly Recommended Functions

RCC 'Highly Recommended' Functions (as per the Manual on the GDPFS (WMO No. 485), Attachment II-10) include:

- **Climate prediction and projection**
  - Assist RCC Users in the access and use of WCRP-CMIP climate model simulations
  - Perform downscaling of climate change scenarios
  - Provide information to RCC Users for use in development of climate adaptation strategies
  - Generate, along with warnings of caution on accuracy, seasonal forecasts for specific parameters where relevant, such as: onset, intensity and cessation of rainy season; tropical cyclone frequency and intensity
  - Perform verification on consensus statements for forecasts
  - Perform assessment of other GPC products such as SSTs, winds, etc.

- **Non-operational data services**
  - Keep abreast of activities and documentation related to WMO WIS, and work towards WIS compliance and DCPC designation
  - Assist NMHSs in the rescue of climate data from outmoded storage media
  - Assist NMHSs to develop and maintain historical climate datasets
  - Assist RCC Users in the development and maintenance of software modules for standard applications
  - Advise RCC Users on data quality management
  - Conduct data homogenization, and advise RCC Users on homogeneity assessment and development and use of homogeneous data sets
  - Develop and manage databases, and generate indices, of climate extremes
  - Perform Quality Assurance/Quality Control on national datasets, on request of an NMHS
  - Provide expertise on interpolation techniques
  - Facilitate data/metadata exchange amongst NMHSs, including on-line access, through an agreed regional mechanism
  - Perform Quality Assurance/Quality Control on regional datasets

- **Coordination functions**
  - Strengthen collaboration between NMHSs on related observing, communication and computing networks including data collection and exchange
  - Develop systems to facilitate harmonisation and assistance in the use of LRF products and other climate services
  - Assist NMHSs in user liaison, including the organisation of climate and of multidisciplinary workshops and other forums on user needs

- Assist NMHSs in the development of a media and public awareness strategy on climate services

- **Training and capacity building**
  - Assist NMHSs in the training of users on the application and on implications of LRF products on users
  - Assist in the introduction of appropriate decision models for end-users, especially as related to probability forecasts
  - Promote technical capacity building on NMHS level (e.g., acquisition of hardware, software, etc.), as required for implementation of climate services
  - Assist in professional capacity building (training) of climate experts for generating user-targeted products

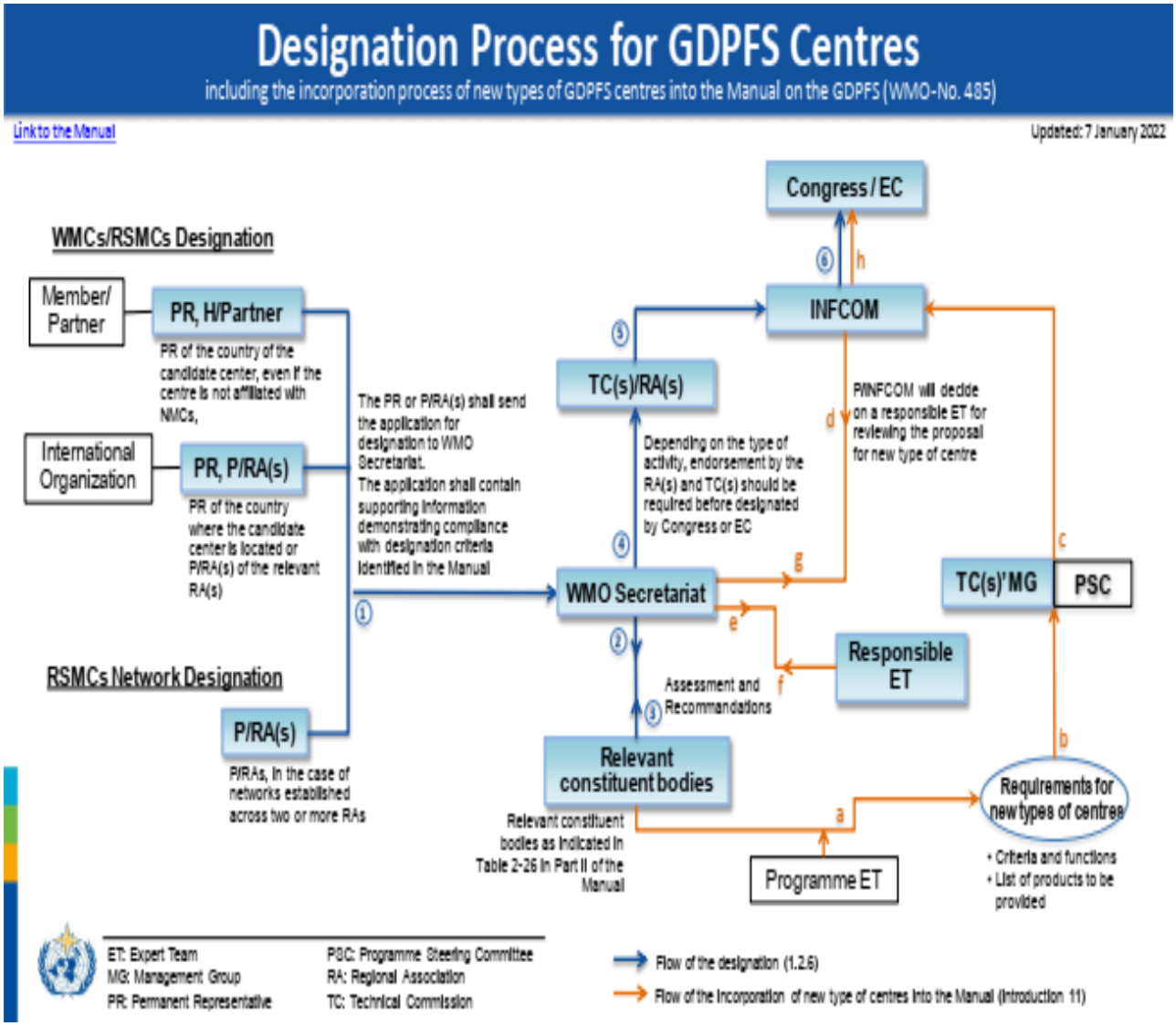
- **Research and development**
  - Develop a climate Research and Development agenda and coordinate it with other relevant RCCs
  - Promote studies of regional climate variability and change, predictability and impact in the Region
  - Develop consensus practices to handle divergent climate information for the Region
  - Develop and validate regional models, methods of downscaling and interpretation of global output products
  - Promote the use of proxy climate data in long-term analyses of climate variability and change
  - Promote application research, and assist in the specification and development of sector specific products
  - Promote studies of the economic value of climate information

Annex 5: Typical RCC Designation process

Before applying for designation by WMO, a candidate RCC or RCC-Network requires clear mandates from its host country and from the relevant WMO Regional Association(s) to undertake and to sustain high quality, consistent climate activities for the benefit of the region. It also needs to have arranged for the appropriate resources to set up and run the centre in a sustained way, including for physical infrastructure, communications systems, and for administrative and human resources (Ref: WMO/TD-No1534).

The process for designation (based on WMO/TD-No1534), generally involves:

- conducting a survey of the Members on needs and capabilities;
- conducting a pilot, or demonstration of RCC functions;
- evaluation by the WMO Regional Association of compliance with the WMO Technical Regulations;
- formal application by the President of the Regional Association to WMO for designation, with appropriate information and documentation;
- evaluation by the WMO Services Commission and relevant committees and espert team (e.g., experts from designated RCCs and GPCs, Expert Team on RCCs in close liaison with the concerned Regional Association); and
- a review of the application by WM Infrastructure Commission;
- If successful up to this point, the candidate will be invited by Infrastructure Commission to present the proposal (in the form of an amendment to the Manual on the GDPFS) along with documentation demonstrating capabilities, to include the candidate as a WMO designated RCC or RCC-Network.
- If approved by Members of Infrastructure commission, the amendment to the Manual will be put up to either WMO Congress or WMO Executive Council for approval.
- With this WMO approval, the Manual on the GDPFS will be duly amended. The designation process is completed when the RA and the candidate are advised in writing by WMO of its successful designation.


Designation Process for GDPFS Centres
including the incorporation process of new types of GDPFS centres into the Manual on the GDPFS (WMO-No. 485)
Link to the Manual
Updated: 7 January 2022
WMCs/RSMCs Designation
Member/ Partner
PR, H/Partner
PR of the country of the candidate center, even if the centre is not affiliated with NMCs,
International Organization
PR, P/RA(s)
PR of the country where the candidate center is located or P/RA(s) of the relevant RA(s)
RSMCs Network Designation
P/RA(s)
P/RAs, in the case of networks established across two or more RAs
The PR or P/RA(s) shall send the application for designation to WMO Secretariat.
The application shall contain supporting information demonstrating compliance with designation criteria identified in the Manual
Congress / EC
INFCOM
TC(s)/RA(s)
Depending on the type of activity, endorsement by the RA(s) and TC(s) should be required before designated by Congress or EC
PINFCOM will decide on a responsible ET for reviewing the proposal for new type of centre
WMO Secretariat
TC(s)'MG
PSC
Responsible ET
Assessment and Recommandations
Relevant constituent bodies
Relevant constituent bodies as indicated in Table 2-26 in Part II of the Manual
Programme ET
Requirements for new types of centres
+ Criteria and functions
+ List of products to be provided
ET: Expert Team
MG: Management Group
PR: Permanent Representative
PSC: Programme Steering Committee
RA: Regional Association
TC: Technical Commission
Flow of the designation (1.2.6)
Flow of the incorporation of new type of centres into the Manual (Introduction 11)

Annex 6: Global RCC Implementation

- **RA I (Africa)**
  - ACMAD, ICPAC and North African RCC-Network are designated RCC in Africa in Red below
  - ECAAS Centre, SADC-CSC, AGHRYMET centre and SWIO RCC ~~IOC~~ network are potential RCCs in Africa

Current status of RCC implementation worldwide

Annex 7: Abbreviations and Acronyms

AR5	The IPCC 5th Assessment Report
Cg	World Meteorological Congress
COF	Climate Outlook Forum
CLIPS	Climate Information and Prediction Services
CRU	Climatic Research Unit, University of East Anglia
DCPC	(WIS) Data Collection or Production Centre
EC	(WMO) Executive Council
ECCC	Environment and Climate Change Canada
ECMWF	European Centre for Medium-range Weather Forecasts
ECV	Essential Climate Variable
GCOS	Global Climate Observing System
GCW	Global Cryosphere Watch
GDPFS	(WMO) Global Data Processing and Forecasting System
GFCS	Global Framework for Climate Services
GISC	(WIS) Global Information System Centre
GPC	(WMO) Global Producing Centre (of long-range forecasts)
GPCLRF	Global Producing Centre for Long-Range Forecasts
GPCC	Global Precipitation Climatology Centre
IPCC	Intergovernmental Panel on Climate Change
LC-LRFMME	(WMO) Lead Centre for LRF Multi-Model Ensembles (associated with WMO GPCs)
LC-SVSLRF	(WMO) Lead Centre for WMO's Standard Verification Scheme for LRF (Associated with WMO GPCs)
LRF	Long-range Forecast
NCEP	National Centers for Environmental Prediction
NESDIS	National Environmental Satellite, Data, and Information Service
NMHS	National Meteorological and Hydrological Service
NMS	National Meteorological Service
NOAA	National Oceanic and Atmospheric Administration
PR	Permanent Representative
QA/QC	Quality Assurance/Quality Control
RA	Regional Association

RCC	Regional Climate Centre
RCOF	Regional Climate Outlook Forum
SG	(WMO) Secretary-General
TK	Traditional Knowledge
UNESCO	United Nations Educational, Scientific and Cultural Organization
UNEP	United Nations Environment Programme
UNWTO	World Tourism Organization
WCRP	World Climate Research Programme
WDC	World Data Centre
WG	Working Group
WHO	World Health Organization
WIGOS	WMO Integrated Global Observing System
WIS	WMO Information System
WMO	World Meteorological Organization
WWRP	World Weather Research Programme