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الموضوع: مزيد من الدعم للإطار العالمي للخدمات المناخية (GFCS)

تحية طيبة وبعد،

لعلكم تذكرون أن الإطار العالمي للخدمات المناخية (GFCS) قد أنشئ قبل ست سنوات فقط، وإنني أكتب إليكم التماساً لتقديم مزيد من الدعم له.

الإطار العالمي (GFCS) يوفر الآن إطاراً عالمياً يشمل أطرافاً معنية متعددة، لمساعدة البلدان على بناء القدرة على مقاومة المناخ وإدارة القطاعات الاقتصادية التي تتأثر بالمناخ. لقد أحرزنا تقدماً هائلاً، لكن لا يزال أمامنا الكثير مما ينبغي عمله لضمان أن تتوافر لدى جميع البلدان الأدوات والموارد التي تحتاجها لحماية مواطنيها وتحقيق الازدهار في عصر تغير المناخ.

لقد اعتمدت لجنة الإدارة التابعة للمجلس الحكومي الدولي للخدمات المناخية (IBCS)، والتي عقدت جلستها الخامسة في يومي 19 و20 أكتوبر/ تشرين الأول 2017، [استعراض منتصف المدة لخطة التنفيذ العشرية للإطار العالمي \(GFCS\)](#). وقامت بالاستعراض فرقة من الخبراء الخارجيين من جامعة أريزونا، ويمكن الاطلاع عليه على موقع الإطار العالمي (GFCS).

وأقر الاستعراض بأن الإطار العالمي (GFCS) قد ساعد خلال سنواته الخمس الأولى على توسيع نطاق الخدمات المناخية، وساهم في هذا السياق في إدخال تحسينات على إعداد الخدمات المناخية وتوافرها وتقديمها واستخدامها في جميع أنحاء العالم... ويثني الاستعراض أيضاً على الإطار العالمي (GFCS) لتحقيق إنجازات رئيسية في المساهمة في تعميم الخدمات المناخية على المستويات الوطنية والإقليمية والعالمية.

وقد سرني معرفة أن الاستعراض خلص إلى أن "الإطار العالمي (GFCS) يتمتع بوضع جيد يؤهله للقيام بدور فريد باعتباره عاملاً تمكينياً وحافزاً في تجميع الدروس المستفادة وتقاسمها، وأيضاً في وضع معايير للممارسات الجيدة".

وبالإضافة إلى دور الإطار العالمي (GFCS) الأوسع نطاقاً في تعزيز مفهوم وفوائد الخدمات المناخية، فإنه يقدم إسهاماً أساسياً في إنشاء خدمات تشغيلية على المستويين الوطني والإقليمي. ومن بين الإنجازات التي حققها الإطار العالمي (GFCS) مؤخراً:

- بناء شراكات من خلال [اللجنة الاستشارية للشركاء](#) (PAC) التي تضم مجموعة هائلة من المنظمات؛
- إنشاء مكاتب مشتركة وتعيين موظفي اتصال مشتركين مع منظمة الصحة العالمية (WHO) والشراكة العالمية للمياه (GWP) وبرنامج الأغذية العالمي (WFP)، وتوقيع مذكرات التفاهم لدعم تنفيذ الإطار العالمي (GFCS) مع مختلف منظمات الأمم المتحدة والمنظمات الدولية؛

إلى: الممثلين الدائمين لأعضاء المنظمة (أو مديري مرافق الأرصاد الجوية أو الأرصاد الجوية الهيدرولوجية)

صورة إلى: المستشارين الهيدرولوجيين للممثلين الدائمين

- دعم البلدان لوضع أطر وطنية للخدمات المناخية تساهم في زيادة التعاون بين المرافق الوطنية للأرصاد الجوية والهيدرولوجيا (NMHSs) والوزارات الوطنية وغيرها من المنظمات، من أجل إعداد وتنفيذ الخدمات المناخية بشكل فعال (في بوركينا فاسو والكاميرون وتشاد وكولومبيا وكوت ديفوار وملاوي ومالي ومدغشقر والسنغال وجمهورية تنزانيا المتحدة وجنوب أفريقيا وفانواتو)؛
- التمكين من إعداد خارطة طريق لزيادة تقديم خدمات منسقة في مجالات الطقس والماء والمناخ في أفريقيا، وخارطة طريق لتعزيز الخدمات المناخية في المحيط الهادئ؛
- خطة تنفيذ الإطار العالمي (GFCS) قد وفرت أساساً لتنفيذ العديد من المبادرات المساهمة، بما في ذلك خدمة التغير المناخي كوبرنيكوس، وبرنامج الإطار العالمي للخدمات المناخية - أفريقيا والكاريفي والمحيط الهادئ (GFCS-ACP) (قيد الإعداد)، ولمواءمة الجهود الداعمة الأخرى، مثل استراتيجية التحدي 2025 للمنظمة الأوروبية لاستخدام السواتل الخاصة بالأرصاد الجوية (EUMETSAT)؛
- تقديم خدمات مناخية إلى المجتمعات المحلية في ملاوي وتنزانيا بوسائل منها خدمات الرسائل القصيرة (SMS) والخدمات الإذاعية ومراكز الاستماع، من خلال المشاريع التي تمكن من إعداد دروس تدعم تبادل الممارسات الجيدة.

وبالإضافة إلى ذلك، ستجدون طيه كتيباً يقدم ملخصاً عن حالة تنفيذ الإطار العالمي (GFCS) حتى الآن، وعن فجوات التمويل في المجالات التي يلزم فيها الدعم.

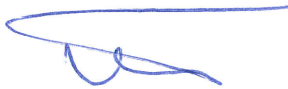
وللبناء على هذه الإنجازات، ولضمان أن تدعم الخدمات المناخية اتفاق باريس بشأن تغير المناخ المعتمد مؤخراً، فإن الإطار العالمي (GFCS) يحتاج إلى مشاركة جميع المرافق الوطنية (NMHSs) والشركاء مشاركة كاملة. والمرافق الوطنية (NMHSs) تؤدي بالفعل خاصاً في تطوير وتقديم الخدمات المناخية على المستوى الوطني، وكذلك الشركاء. غير أنني ألتزم مزيداً من الدعم لتعزيز الأثر العالمي للإطار من أجل ضمان حصول جميع البلدان على الخدمات المناخية.

ولتحقيق هذه الرؤية، يحتاج مكتب الإطار العالمي (GFCS) إلى تعزيز أنشطة التنسيق والاتصال والتواصل. كما يحتاج إلى التأكد من أن الخدمات المناخية مفهومة جيداً من قبل مجموعة أوسع من أصحاب المصلحة. ويتعين عليه أن يكون قادراً على مراقبة التقدم المحرز في تنفيذ الخدمات المناخية، وتقييمه بشكل فعال.

أود أن أدعو الأعضاء والشركاء للنظر في دعم مكتب الإطار العالمي (GFCS) بتقديم مساهمات مالية في الصندوق الاستئماني للإطار العالمي (GFCS). وبالإضافة إلى ذلك، فمن المفيد أيضاً بشكل خاص إعارة موظفين من ذوي المهارات اللازمة لتنفيذ المهام الرئيسية للإطار العالمي (GFCS) في مجالات الاتصال والرصد والتقييم. كما أن الدعم العيني الآخر سيكون موضع ترحيب كبير.

إنني أدرك أن معظم المؤسسات في مجتمع الأرصاد الجوية تواجه قيوداً متزايدة على الميزانية. ومع ذلك، فإنني أرى أن المساهمات ستزيد بدرجة كبيرة من قيمة الإطار العالمي (GFCS)، وستدعم الأنشطة العالمية الرامية إلى حماية الناس في كل مكان من مخاطر الطقس واتجاهات المناخ السلبية.

وتفضلوا بقبول فائق الاحترام،



(ب. تالاس)
الأمين العام

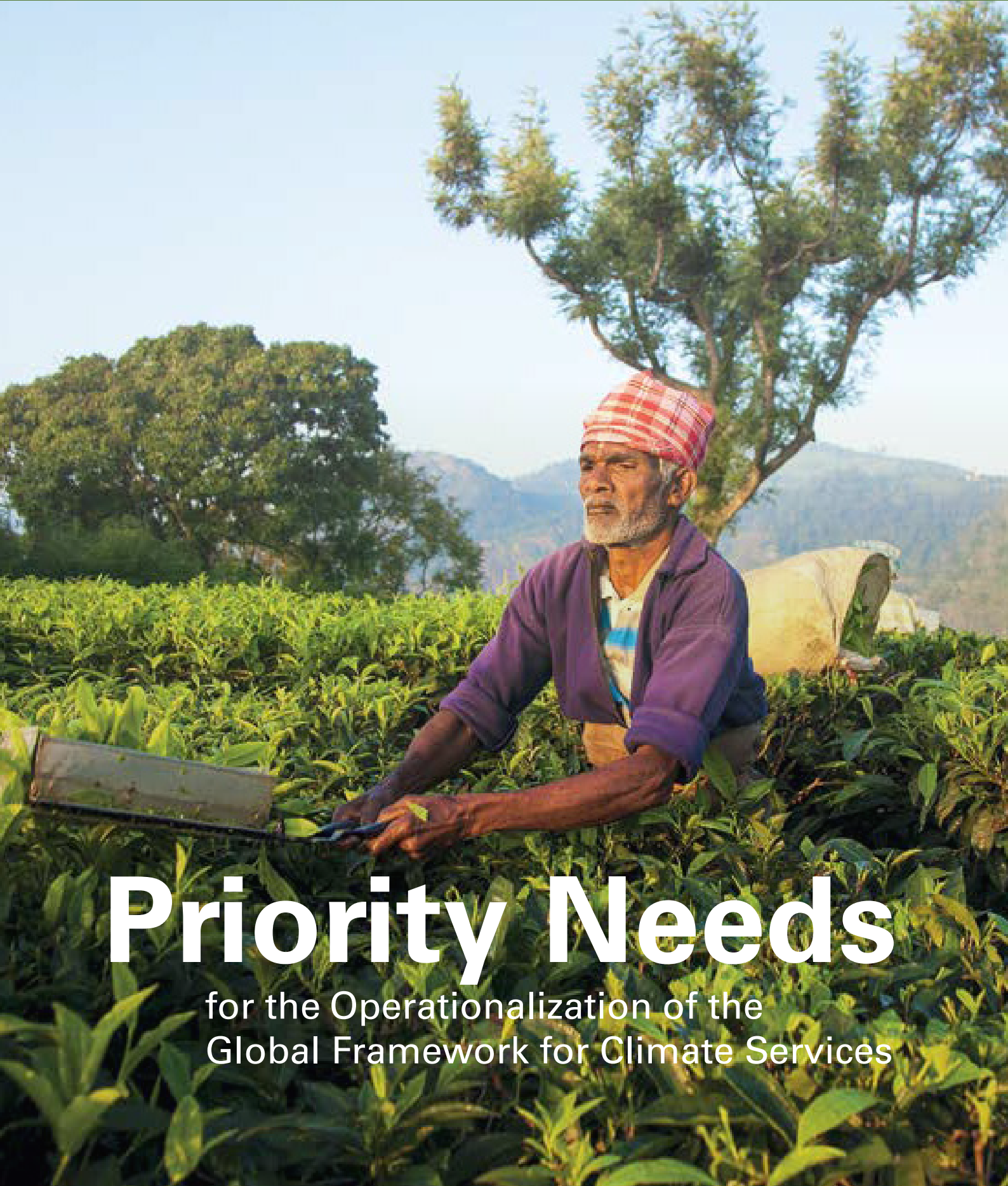


WORLD
METEOROLOGICAL
ORGANIZATION



GFCS
GLOBAL FRAMEWORK FOR
CLIMATE SERVICES

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Priority Needs

for the Operationalization of the
Global Framework for Climate Services

JOIN US IN MEETING THE PRIORITY NEEDS OF GFCS

The **Global Framework for Climate Services (GFCS)** enables and accelerates the coordinated and technically and scientifically sound implementation of measures to improve climate-related outcomes at national, regional and global levels. It aligns climate adaptation and mitigation activities in climate-sensitive priority areas: agriculture, energy, disaster risk reduction, health, and water.

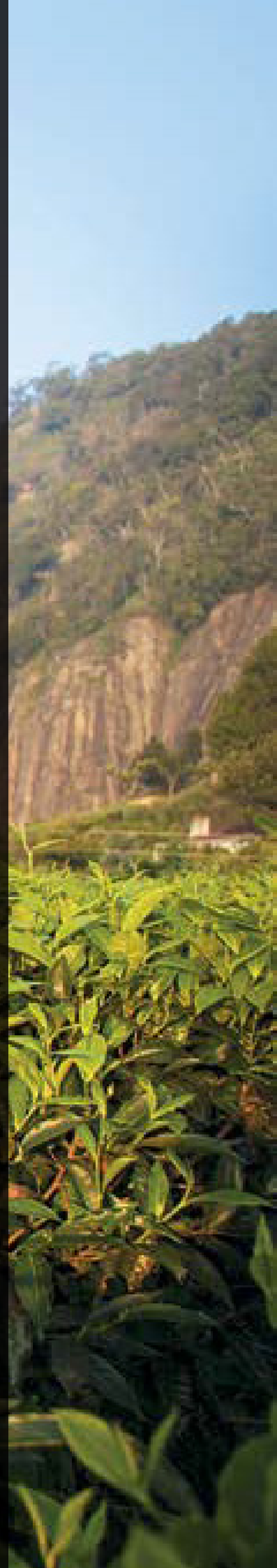
As a framework with broad participation and reach, GFCS enables the development and application of climate services to assist decision-making at all levels in support of addressing climate-related risks. The Priority Needs for the Operationalization of GFCS outlines the essential activities for mobilizing and developing climate services.

This brochure is a brief version of the [GFCS Priority Needs document](#) that outlines the status of the GFCS implementation to date and funding gaps where support is required. It is based on the [GFCS Implementation Plan](#) that was developed in a consultative process and identifies priority areas. This information is organized in three main sections: Priority Applications; Building and Sustaining Bridges; and Foundational Pillars. Each section contains brief introductory descriptions, lists outputs by envisioned key activities, and showcases some recent achievements.

**Implementation Plan of
the Global Framework for
Climate Services**

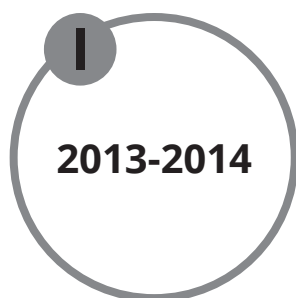


**Priority Needs for the
Operationalization of the
Global Framework for
Climate Services**



WHERE ARE WE NOW?

GFCS Implementation



Establishing infrastructure and implementing demonstration projects in the initial five priority areas



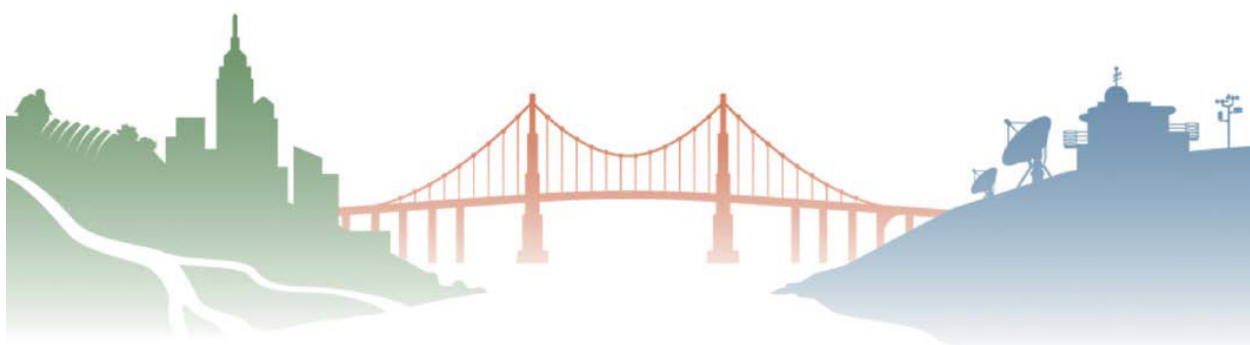
Developing and strengthening core regional and national mechanisms for climate services



Expanding and ensuring sustainability of institutional mechanisms

WHAT REQUIRES SUPPORT?

GFCS Phase II Implementation Objectives



PRIORITY APPLICATIONS

Improving decision making in climate sensitive areas

- Agriculture and Food Security
- Disaster Risk Reduction
- Energy
- Health
- Water Resources

BUILDING AND SUSTAINING BRIDGES

Connecting user needs with climate services through sustained engagement mechanisms

- National Activities
- Regional Activities
- Global Activities

FOUNDATIONAL PILLARS

Enhancing technical and scientific capabilities to support user-driven climate services

- Observations and Monitoring
- Research, Modelling and Prediction
- Climate Services Information System
- Capacity Development

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OBJECTIVE 1

PRIORITY APPLICATIONS

Improving decision-making and investments in climate-sensitive sectors through the co-development and application of climate services with users



AGRICULTURE AND FOOD SECURITY

Agriculture and food security are complex sectors impacted by climatic and non-climatic factors. Tailored climate information enables greater resilience and effective coping strategies at local, national, regional, and global levels through better understanding and management of climate change and variability. This has positive impacts for food availability, access, utilization, and stability. GFCS aims to overcome coordination gaps between various sector partners and to build synergies among the existing projects and initiatives.

Establish a climate services, agriculture and food security inter-agency coordination team

OUTPUTS:

- understanding of user needs to inform the development of new climate products and services
- understanding of what is available and where there are gaps in terms of products needed at different levels and by different actors
- identification of strategic priorities to strengthen climate services in food security and agriculture
- technical advisory, planning, and coordination to pilot and scale up initiatives for enhanced resilience and food security

Strengthen and scale up climate services for food security at the national level

OUTPUTS:

- strengthened national early warning systems for food security
- climate information integrated into insurance, credit provision, and crop monitoring
- support for national context analysis on food security, nutrition and climate change to inform planning
- development of new climate products tailored to the needs of vulnerable communities

RECENT ACHIEVEMENTS

- Mechanisms set up to enhance coordination between partners (WMO-FAO Memorandum of Understanding)
- WFP dialogue platform held on Climate Services and Food Security
- Community-based Participatory Planning effective in selected GFCS project countries along with efficient sensitization and climate information dissemination through radio, text messaging, extension workers and training
- WMO/FAO/UNCCD drought management and preparedness conference enabled development of a regional strategic drought management framework for the Latin America and Caribbean



DISASTER RISK REDUCTION

Every year, natural hazards cause significant loss of life and erode gains in economic development. These activities support countries at high risk from weather, climate and water hazards in implementing climate services that contribute to national and local efforts to reduce, manage and offset the risk of disasters.

Develop and implement national-level climate services for risk analysis, disaster risk reduction (DRR), and financial protection

OUTPUTS:

- risk analysis reports available to decision-makers and the public
- better-informed climate services to meet local needs
- evidence-based DRR strategies and action plans
- implementation of activities to address the causal factors of disasters

Support regional and country-level climate services implementation in line with regional, national, and local DRR strategies pursuant to the Sendai Framework

OUTPUTS:

- advocacy and guidance on climate services relevance and applications; consultations for global, regional, and national DRR platforms and mechanisms
- effective stakeholder interaction and partnerships in regional, national and local contexts, using mechanisms such as the Resilient Cities initiative and national and regional DRR platforms or consultations, and regional intergovernmental processes, emphasizing outreach through existing networks and standing mechanisms of the United Nations Office for Disaster Risk Reduction and the International Strategy for Disaster Reduction

RECENT ACHIEVEMENTS

- Actionable community contingency plans are in place in selected GFCS project countries and communicated through intermediaries training and outreach, and educational institutions
- GFCS contributed to the planned WMO Guide for Integrated Urban Weather, Environment and Climate Services to enhance urban resilience
- UNISDR is supporting the IGAD member Countries in the implementation of the IGAD Drought Disaster Resilience Sustainability Initiative (IDDRSI) strategy, a regional project aimed at stopping drought from being a major humanitarian disaster in the region



ENERGY

The complex and interconnected nature of energy systems creates significant challenges for how this sector responds, adapts and mitigates against climate variability and the associated risks. Climate variability across short, medium and long timescales affects all energy sources. These activities aim to raise awareness on climate information in support of decision making processes; develop products per industry sector, including verification of performance and illustration of cost-benefits; and provide a forum for technical advisory, learning, development and coordination services.

Establish Energy Joint Office to support energy user interface for climate services

OUTPUTS:

- coordination among partners
- resource mobilization
- effective engagement with energy companies
- training courses, development of tools and methodologies

Implement climate services for energy in selected countries

OUTPUT:

- proposals and support documentation submitted to funding agencies and donors

Effectively deliver decision-support climate information for energy sector use

OUTPUT:

- products, including gridded data for engineers, and charts, tables and diagrams to help political decision-makers, energy sector managers and other economic sectors pursue efficient energy and environmental planning

RECENT ACHIEVEMENTS

- GFCS collaboration with the World Energy and Meteorological Council and Copernicus' European Climatic Energy Mixes
- Global Climate Fund concept note and preparation funding application for energy submitted, focusing on Colombia, Moldova and Tanzania
- Adaptation Fund proposal under development on Water, Energy, and Food Nexus: Addressing Adaptation through Climate Services in Colombia and Chile



HEALTH

Weather and climate are inextricably linked to some of the most fundamental determinants of human health such as clean air and water, adequate food and shelter, and the distribution and occurrence of disease. These activities support countries and their partners in climate-vulnerable contexts.

Establish a Technical Support Unit and health user interface for climate services

OUTPUTS:

- increased demand for and capacity of health and meteorological professionals to collaborate through an online technical resource portal to make climate knowledge more readily accessible and increase opportunities for networking experts and users
- technical guidance documents, training events and educational products
- increased activity of climate services projects and partnerships, such as ClimHealthAfrica and the Global Heat Health Information Network

Establish climate and health working groups in developing countries

OUTPUTS:

- national-scale joint projects and research
- technical training, improved data exchange and use, institutional agreements and working arrangements between NMHSs, ministries of health and other partners

Multi-hazard risk monitoring and early warning for health protection

OUTPUTS:

- support for the definition of an action plan for health early warning systems for biological and health threats within multi-hazard early warning systems
- support for the design of an action plan to address climate-related health risks within emergency and disaster risk management programmes and Sendai Framework implementation
- development of a climate risk management toolkit, including needs-based guidelines and good practices for scientific consensus and tool development
- development of data-integration tools to enhance interoperability of core datasets for risk monitoring
- development and testing integrated forecast and warning products

RECENT ACHIEVEMENTS

- Climate/Health Memorandum of Understanding signed between Ministry of Health and NMHS in Mozambique and drafted in Malawi and Tanzania to support data exchange
- Global Heat Health Information Network launched
- Readiness Assessment Toolkit (WHO) available for deployment
- Climate and Health Country Profile Project features evidence-based snapshots of the climate hazards and health risks and opportunities in 40+ countries
- Climate/Health national groups in Malawi, Tanzania, West Africa CHWG, Mozambique are supported through GFCS
- Joint publications (Climate Services for Health Case Studies; ENSO Guidance and SOP; Climate Service Readiness Tool; DHIS-2 partnerships and Integrated Surveillance Prototypes, etc.) and sponsored participation in scientific events



WATER

Climate information is needed to adequately understand the influence of weather and climate on limited water resources. These activities respond to the need for core technical and institutional capacities at regional and national levels to develop and deliver climate and hydrological services for better water management.

Establish integrated flood and drought management help desks

OUTPUTS:

- a platform for coordination for partners
- support development of existing and new national and regional projects and programmes
- develop technical guidance (guidelines and tools)
- sustain a dialogue between the water and climate community through communication and linking up with existing initiatives active in the water-climate interface

Develop dialogues and mechanisms for climate services in water-sensitive regions

OUTPUT:

- improved delivery and application of climate services for better water management
- improved food security, energy generation, public health, and disaster prevention

Prepare flood, drought and water resource management projects

OUTPUT:

- funded projects on the development and application of climate services for water management

RECENT ACHIEVEMENTS

- Scoping for the Hydrological Status and Outlook System (HydroSOS), an operational system to assess global hydrological variability, is completed
- Integrated Drought Management HelpDesk launched and support base expanded to over 10 expert organizations
- A number of national pilots advanced to develop mechanisms for climate services in water-sensitive region



OBJECTIVE 2

BUILDING AND SUSTAINING BRIDGES

Establishing and enhancing sustained mechanisms to support effective, user-driven climate services at regional and national levels

NATIONAL ACTIVITIES

Establish and support national dialogues on climate services and frameworks for climate services

OUTPUTS:

- guidance document on the establishment of a National Framework for Climate Services (NFCS)
- NCOFs and national climate forums serving as UIP mechanisms at national level
- collection of lessons learnt and knowledge transfer to share experiences with other countries

RECENT ACHIEVEMENTS

- Step-by-Step Guide for Establishing A National Framework for Climate Services (NFCS) is available
- Number of NCOFs and national climate forums serving as UIPs increased

REGIONAL ACTIVITIES

Establish and strengthen regional systems for providing climate services

OUTPUTS:

- regional dialogues and consultations
- sustainable partnerships and long-term commitments
- enhanced Regional Climate Outlook Forum processes and climate service user forums, including through a global regional outlook forum review
- regional frameworks for climate services
- identification of core regional requirements for climate services
- identification of roles, responsibilities and mandates of institutions responsible for regional support, including Regional Climate Centres
- interim arrangements for national-level Climate Services Information System products to be supplied by regional institutions for countries in need

RECENT ACHIEVEMENTS

- Roadmap for Scaling up the Delivery of Coordinated Weather, Water and Climate Services in Africa was drafted as an outcome of the Saly Regional Stakeholder Coordination Workshop
- Global Review of Regional Climate Outlook Forums

GLOBAL ACTIVITIES

Support and strengthen the GFCS Office to effectively coordinate GFCS implementation

OUTPUTS:

- efficient governance meetings
- identification of opportunities and efficiencies through coordination across the objectives
- strengthened activities through the identification and utilization of technical experts

Communications and knowledge management for effective climate services

OUTPUTS:

- GFCS HelpDesk consisting of a series of tools, including policy documents, case examples and a pool of support base partners ready to contribute on-demand
- outreach and communication materials to promote the scientific and operational understanding of climate services

Monitoring and evaluation of GFCS

OUTPUT:

- a documented understanding of progress towards GFCS implementation

RECENT ACHIEVEMENTS

- GFCS knowledge management in Africa advanced through the support of the USAID-funded Assessing Sustainability and Effectiveness of Climate Information Services (CIS) in Africa project
- GFCS HelpDesk scoping workshop held, German JPO assigned for technical implementation
- GFCS Mid-Term Review and status update on Priority Needs prepared



OBJECTIVE 3

FOUNDATIONAL PILLARS

Enhancing core technical and scientific capabilities for
user-driven climate services



CLIMATE SERVICE INFORMATION SYSTEM

Implementing a strategy hinging on a three-tiered structure of collaborating institutions will ensure that climate information and products are effectively generated, exchanged and disseminated globally, regionally and nationally.

Develop a climate services toolkit

OUTPUTS:

- standard procedures and best practices for climate data management and mining, monitoring, prediction and projection
- climate service toolkit ready for distribution and deployment, and training workshops on its use

Establish, strengthen and sustain regional partnerships and networks for enhancing CSIS capacities

OUTPUTS:

- regional frameworks for Climate Service Information System (CSIS) implementation
- Regional Climate Centre (RCC) and Regional Specialized Meteorological Centre workshops
- climate watch systems
- regional management team meetings
- regional collaborative platforms
- stakeholder engagement

Facilitate the implementation and coordination of the CSIS pillar

OUTPUTS:

- organization of an international workshop
- strategy for deployment of the climate services toolkit
- technical reference manuals on CSIS operations
- guidance document on NFCS

Improve Climate Data Management Systems

OUTPUT:

- consistent national, regional and global climate datasets and related data products and services

Develop and demonstrate a national climate services concept including enhancement of national CSIS capacities

OUTPUTS:

- a template for a national climate services concept suitable for implementation in developing countries
- access to high-resolution climate data and products through twinning arrangements between advanced and less capable National Meteorological and Hydrological Services (NMHSs)
- deployment of mentor scientists in developing countries
- exchange of experts and on-the-job training

RECENT ACHIEVEMENTS

- CSIS Toolkit (CST) is launched and ready for deployment
- Work plans developed for 7 countries (Tanzania, Bhutan, Burkina Faso, Dominica, Moldova, Papua New Guinea and Peru) to test the CST
- Twinning arrangements between advanced and less capable NMHSs continued
- Mentor scientists deployed through NORCAP secondments in Africa RCCs and NMHSs



CAPACITY DEVELOPMENT

GFCS aims to develop the capacity of countries to apply and generate climate information and products relevant to their particular concerns; thus, all aspects of the Framework include capacity development.

Develop education and training resources for an international competency framework for climate services

OUTPUT:

- experts with the appropriate competencies providing technical support for implementation carried out by various entities in a strategic and targeted manner

RECENT ACHIEVEMENTS

- Capabilities enhanced in Least Developed Countries (Malawi, Tanzania, etc.) through sensitization activities (sensitization of population through Participatory Integrated Climate Services for Agriculture (PICSA) trainings, radio and SMS services, integrating climate component into education for school children), development of the User Interface Platform mechanism, and deployment of mentors



OBSERVATIONS AND MONITORING

Shifting the focus from global to local and national monitoring, these activities emphasize observing networks in developing and least developed countries and small island developing States.

Identify data needs and design of observational systems in data-poor regions

OUTPUT:

- detailed data requirements and plans to deliver these needs

Large-scale data recovery and digitization

OUTPUT:

- consolidated paper archives and high-quality computer-readable datasets from rescued data

Demonstrate efficient improvements to ground-based and space-based networks for measuring changes in the water cycle in pilot area(s)

OUTPUT:

- operational water-cycle monitoring in selected catchment areas

Establish modern, timely climate system monitoring in support of multi-hazard early warning and disaster risk reduction

OUTPUTS:

- development and provision of software, guidelines and training for climate monitoring, including analysis of extremes
- climate assessment reports and reviews (for example, climate statements, state-of-the-climate reports and reviews, reports and advisories on extreme weather and climate events) that have improved content and coverage with a reduced time delay

RECENT ACHIEVEMENTS

- Assessment reports for observing capabilities conducted in Papua New Guinea, Senegal, Niger, Saudi Arabia, and Canada
- Climate data rescue activities implemented in Uzbekistan, Tanzania, Uganda, Burkina Faso, Niger, Mali, Guinea, Ghana, Cote d'Ivoire, Congo, Senegal, Jamaica, Mozambique and Botswana
- South-East European Multi-Hazard Early Warning Advisory System (MHEWS) is awarded, strengthening regional cooperation and national MHEWS systems through impact-based forecasts and risk-based warning capacities production and harmonization



RESEARCH, MODELLING AND PREDICTION

The proposed activities highlight the potential to create a positive feedback between the fundamental climate community services role of World Climate Research Programme and the climate services needs represented by GFCS

Research on climate predictability and improving prognostic skills: sub-seasonal to seasonal timescales

OUTPUTS:

- increased utilization of improved forecast products and understanding of their uncertainty estimates by the applications community
- demonstration projects based on recent extreme events and their impacts, often in conjunction with the World Climate Research Programme Frontiers of Climate Information projects

Research on climate predictability and improving prognostic skills: decadal timescales

OUTPUT:

- a real-time Global Decadal Climate Outlook initiated and issued by the Grand Challenge on Near-term Climate Prediction once each year (2016 onwards, with a two-year dry run before the first issuance) following the template of the Global Seasonal Climate Update for seasonal predictions. This Grand Challenge on Near-term Climate Prediction thus fills an important gap in the provision of seamless climate information, complemented by seasonal-to-interannual climate predictions on the one hand, and 30 multi-decadal and longer-term climate change projections on the other. This Grand Challenge will represent an important contribution to the provision of seamless climate services.

Develop specific focused interdisciplinary and international partner projects on regional climate information

OUTPUT:

- research deliverables leading to the development of tailored climate information for the urban scale as a mechanism to promote urban-focused climate services

Underpinning research on regional climate services development: Advance flood early warning on sub-seasonal to seasonal timescales in India with coupled hydrologic and atmospheric modelling

OUTPUT:

- increased utilization of improved coupled forecast products and applications to water management, of forecast products and of the understanding of their uncertainty estimates by the applications community

Underpinning research on regional climate services development: Use sub-seasonal to seasonal forecasts to integrate water and energy management in South America

OUTPUT:

- Uruguay demonstration research project as a prototype of the applicability of sub-seasonal to seasonal forecast-informed energy and water management for both public and private sectors relevant to energy-sector GFCS development in other parts of South America and other regions

RECENT ACHIEVEMENTS

- Development agencies acknowledging innovation in research by awarding programmes that include an operational research component. For example, the DFID funded High impact weather lake system (HIGHWAY) programme has been awarded £ 3.2 million over three years and aims to increase the use of weather information to improve resilience and reduce the loss of life and damage to property in the East African region, specifically within the Lake Victoria area