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GFCS

GLOBAL FRAMEWORK FOR
CLIMATE SERVICES

The Global Framework for Climate Services: Work Plan 2019–2020

GFCS-1

The Global Framework for Climate Services (GFCS)

Work Plan (2019-2020)

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Introduction

1.1 Background

The Earth's climate has never been constant; a wide range of variations and changes in space and time, often leading to extremes, is part of its behaviour. However, there is conclusive evidence of anthropogenic warming over the past century occurring at an unprecedented pace. The implication of this warming trend in the increased frequency and intensity of extreme events has not only elevated concerns about the exposure of vulnerable communities to climate risk – it has escalating demand for information to inform adaptation efforts. Effective climate services are essential for climate adaptation interventions, and form part of the enabling environment for adaptation across sectors. This is evidenced in the Paris Agreement, where for the first time in an international binding climate agreement climate services and decision-making are referenced (Article 7).

While some climate changes could be unprecedented in their harmful socio-economic impacts, others with sufficient forewarning and planning could offer benefits (Hewitt, 2019). To better manage the potentially harmful and beneficial impacts, decision-makers (including policy-makers) need to have access to high quality, relevant and credible climate information about the past, present, and future.

Unfortunately, the use of climate information and knowledge is currently sub-optimal in decision processes, hence the most vulnerable in our society are not benefiting from recent scientific and technological advancements. The resilience of societies to increased climate risk will depend largely on two aspects 1) improved social and physical science underpinning systems that monitor, assess and issue impact-oriented weather and climate services and 2) how countries organize themselves and effectively draw on the best available global and regional inputs required for their weather and climate services, and engage with user communities to ensure their effective uptake in decision making processes.

The IPCC Special Report "Global Warming of 1.5°" has renewed the urgency to step up efforts on weather and climate services, necessitating a long-term vision and enhanced partnerships to meet shared global goals. Timely, actionable, tailored weather and climate services are fundamental to progress on the Paris Agreement, the Sendai Framework for Disaster Risk Reduction, and the Sustainable Development Goals.

The year 2019 marked the initiation of Phase III of GFCS implementation, which spans the 2019-2022 period. Phase III will focus on the expansion and continuation of the GFCS, emphasizing enhanced coordination, investment, and sustainability of institutional mechanisms to enhance the availability and use of climate services. Most notably, Phase III will strengthen the National Frameworks for Climate Services (NFCS), which will be supported by Regional Frameworks for Climate Services (RFCS). Furthermore, Phase III will prioritize partnership building to support co-design processes to better ensure seamless service delivery and uptake by those that need them most.

1.2 Scope of the work plan

The GFCS 2019-2020 work plan builds from the strategy outlined in the [Priority Needs for the Operationalization of the Global Framework for Climate Services \(2016-2018\)](#) and incorporates recommendations from the Mid-Term Review of the GFCS and the Intergovernmental Board on Climate Services – Task Force on Governance, Management, and Finances of the GFCS. The activities included in the current GFCS 2019-2020 Work Plan reflect those supported by funds made available to the GFCS and extra budgetary projects being implemented under the auspices of the WMO that contribute to the goals and objectives of the GFCS. It is envisioned that future iterations of the GFCS work plan would include contributions of WMO members and partners to the GFCS (resources not flowing through WMO). Partners are invited to review the GFCS work plan to see how they might leverage planned/ongoing activities for their benefit. Partners are also invited to review the [Priority Needs for the Operationalization of the GFCS](#) and further identify activities they could include in their programmes and initiatives that contribute to the goals of the GFCS.

Members of the IBCS Management Committee (MC) noted that the activities contained in the [Priority Needs for the Operationalization of the GFCS](#) are still critical and valid. Therefore, the GFCS 2019-2020 Work Plan is organized on the three strategic objectives outlined in the GFCS [Priority Needs for the Operationalization of the GFCS](#) (Figure 1). The first being 'Priority Applications' to improve decision-making in climate-sensitive areas through the co-development and application of climate services in the five climate-sensitive GFCS priority areas: agriculture and food security, water, health, disaster risk reduction, and energy. Activities under this objective focus on the GFCS User-Interface Platform pillar and build on the priority needs identified in the priority areas of the GFCS Exemplars.

The second strategic objective is 'The Bridge', which connects user needs with climate services through sustained engagement mechanisms to ensure user-driven service delivery. Particular attention is placed on strengthening and sustaining national, regional, and global coordination to improve the current delivery of services in order to foster effective user engagement. Activities under this objective build upon the priority needs identified in the GFCS User Interface Platform (UIP) [documentation](#), and will contribute to the desired outcome where sustained mechanisms are established or enhanced to support effective user-driven, end-to-end climate services at regional and national levels.

The third strategic objective is the 'Foundational Pillars' to enhance core technical and scientific capabilities to support user-driven climate services. This objective aligns with the core foundational Pillars of the GFCS, and emphasizes the scientific and capacity needs required to ensure that the development and delivery of climate services is based on sustained observing systems, cutting edge research and prediction systems, effective platforms for knowledge transfer, and capacity development for climate information providers. Activities under this objective contribute to the desired outcome where national needs are met through enhanced skill, processes, tools and technologies that enable and support climate services delivery.

The GFCS costed work plan is provided in Annex I. Resources received and resources needed are detailed in Annex I and outlined in the sections below. Un-earmarked contributions by Members and donors are particularly important to the GFCS as many of the activities are staff-time intensive and support the global functions of the GFCS Office

(monitoring and evaluation, communications, etc.). Member contributions to the trust fund are provided in Annex II. To deliver this Work Programme, resources in the form of staff time and resources to promote coordination with Members and partners will be critical. The GFCS will seek to increase the number and volume of unearmarked contributions from Members and donors. Early contributions and multi-year agreements are encouraged. A risk identification and mitigation matrix is provided in Annex III.

Based on the recommendations of the 2017 Midterm Review of the GFCS, the governance structure of the GFCS is currently under review/reform. As such, the GFCS Work Plan may be revised once the new GFCS governance structure is in place.



Figure 1. GFCs work plan strategic objectives and results

Strategic Objective 1: Priority applications – improving decision-making in climate sensitive areas

The Problem

To effectively inform decision-making, climate information must be tailored to provide the right information, reach the right person in the right form at the right time. Translating science into services is a difficult task and requires sustained and effective dialogue between users and providers. Climate services aim to place the decision context and information needs of “users” at the centre of the design process. The development of climate services alters the dynamic between the “user” and the “provider,” valuing the knowledge of both and engaging both in a co-design process. The desired outcome is where decision-making and investments in climate-sensitive sectors are improved through the co-development and use of climate services and feedback loops to determine if information is useful for decision-making and refine products based on user needs.

Efforts to ensure that climate services “go the last mile” require close collaboration with principal implementers and partners in the priority areas to ensure information supports a specific decision and is actionable. Extending access to climate information as well as training and knowledge on new practices and developing incentives for action will better support vulnerable communities in mitigating climate risk.

A review of the existing GFCS contributing projects under WMO management were analyzed in relation to their contribution to priority applications in the GFCS climate sensitive priority areas (User Interface Platform): agriculture and food security, disaster risk reduction, health, and water (WMO, 2014-2017). The analysis indicates that approximately half of the portfolio is focused on disaster risk reduction, a quarter on agriculture and food security, and the last quarter shared between health, water, energy, and other (Figure 2). The analysis highlights funding gaps in the priority areas of health, energy, and water. It should be noted that a number of the disaster risk reduction activities have a water component, so the water segment of the portfolio may well be higher than what is depicted in Figure 2. The requirements for climate services in the urban sector are currently on the rise and this also points to another funding gap and opportunity (urban is included in other).

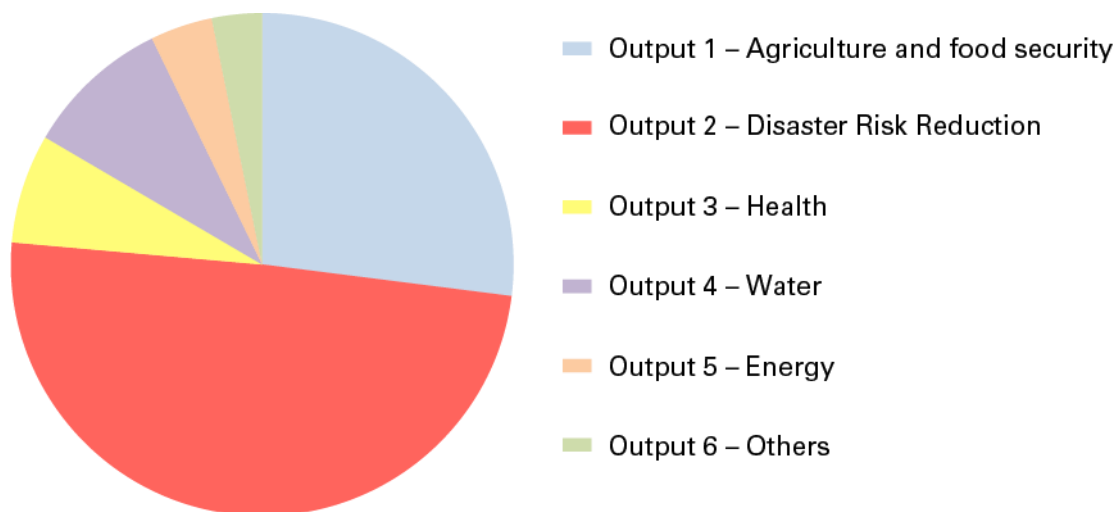


Figure 2. GFCS contributing projects under WMO management by climate sensitive priority area

The Response

The following results of the work plan contribute to Strategic Objective 1 'Priority Applications', which focus on improving decision-making in climate sensitive sectors through the co-development and application of climate services in the five climate-sensitive GFCS priority areas mentioned above. Results under this objective were curated from the GFCS Exemplars through a consultative process to identify the priority needs for the GFCS.

1 Priority applications

Improving decision making in climate-sensitive areas

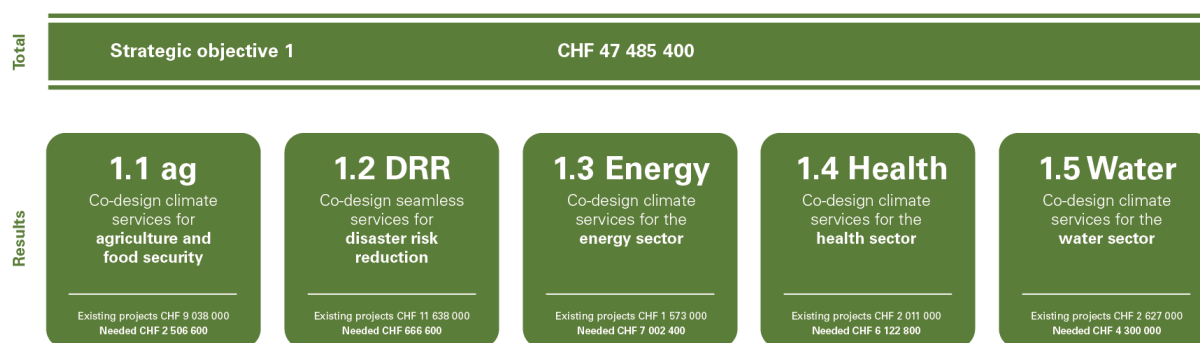


Figure 3. Strategic Objective 1 resource requirements by priority area for 2019–2020 (including secured resources of GFCS contributing projects under WMO management and needed resources)

1.1 Co-design climate services for agriculture and food security

Vulnerable communities and governments need weather and climate information to improve their food security and strengthen resilience to climate-related risks. The goal of activities in this area is to benefit agriculture and food security outcomes through the improved management of climate-related risks as outlined in the GFCS Agriculture and Food Security [Exemplar](#). Programmes supporting this results area build the capacity of national meteorological services, regional climate centres, and food security information systems to respond to the information needs of farmers and other agricultural decision-makers. Furthermore they support methods, tools and platforms to tailor climate information to agricultural user needs and facilitate access. The identified resources to support co-design of climate services for agriculture and food security are made available through existing projects.

1.2 Co-design seamless services for disaster risk reduction

The goal of GFCS activities related to Disaster Risk Reduction (DRR) is to support countries at high risk to weather, climate and water hazards in implementing climate services that contribute to national and local efforts to reduce, manage and offset the risk to disasters. The Climate Risk and Early Warning Systems (CREWS) programme directly contributes to the GFCS Disaster Risk Reduction [Exemplar](#). CREWS is a collaboration between WMO, the World Bank and the Global Facility for Disaster Reduction and Recovery (GFDRR) and the United Nations Office for Disaster Risk Reduction (UNDRR) to support Least Developed Countries (LDCs) and Small Island Developing States (SIDS) to significantly increase the capacity to generate and communicate effective, impact-based, multi-hazard, gender-informed early warnings to protect lives, livelihoods, and assets. The identified resources to support co-design of seamless services for disaster risk reduction are made available through existing projects.

1.3 Co-design climate services for the energy sector

Energy generation and planning of operations are markedly affected by hydro-meteorological events and energy systems are increasingly exposed to the vagaries of weather and climate affecting both the availability and energy demand. Within the context of a low-carbon development path, the share of renewable energy in the energy mix of countries is expected to increase dramatically. By taking into account weather and climate information, energy systems can considerably improve their resilience to weather extremes, climate variability and change, as well as their full chain of operations during their entire life-cycle.

Results in this stream will be to strengthen partnership mechanisms, increase energy stakeholders' awareness of available data, tools and policies, address gaps, and foster knowledge transfer. Results will also include the advancement of efforts to better integrate climate information into the planning and operations of the energy sector to enable improved sustainability, resilience and efficiency of energy systems under ever-changing weather and climate conditions. The identified resources to support co-design of climate services for the energy sector are made available through existing projects.

1.4 Co-design climate services for the health sector

Climate variability and change is altering exposure to extreme weather events and affecting ecosystem services that populations depend on to sustain healthy environments and populations. Exposure to hydro-meteorological phenomena and environmental conditions affect many health outcomes directly and indirectly across timescales and in combination in important ways. Flooding and windstorms are both directly associated with human mortality, and indirectly impact health through damage and disruption of critical healthcare services and water and sanitation infrastructure, and increase risk of injury and infectious diseases. Drought contributes to many adverse health outcomes, through its impacts on food security and nutrition, decreased access to safe and sufficient water and sanitation, as well as increased airborne contaminants. Extreme temperatures both cold and hot increase risk of death and illness. Increased temperatures and heat waves particularly drive increases in heat-related death and illnesses, damage to the brain and other vital organs, loss of work productivity, decreased air quality, and increased foodborne disease. Water generally affects health through availability and access to sufficient and safe drinking water, sanitation, and water-related diseases.

In 2018, WMO and WHO signed a Framework Collaboration Agreement, committing the WHO and WMO to work more closely together to protect health from the risks of extreme weather events, pollution of air and water, and global climate change. Results in this stream will support implementation of the agreement and scale up climate service applications for the health sector. The identified resources to support co-design of climate services for the health sector are made available through existing projects.

1.5 Co-design climate services for the water sector

Water interconnects all priority areas of the GFCS: water for irrigation is a basic resource for agriculture and food production; floods and droughts are major natural hazards; water is needed for cooling in energy production and hydropower is an important source of clean energy; and access to drinking water and sanitation has large implications on public health. Efficient water resource management planning and decision-making must be informed with relevant and appropriate climate knowledge and information, including appropriate research, to adequately understand and account for the influence of weather and climate on water resources.

Results in this stream will support co-design processes to enhance uptake of climate services into decision making processes for water resource management. The identified resources to support co-design of climate services for the water sector are made available through existing projects.

Strategic Objective 2: Building and sustaining bridges

The Problem

Many services are not reaching through to those that need them most. Scaling climate services requires partnerships and the coordination of stakeholders across global, regional and national geographic domains (GFCS, 2014). The second strategic objective is 'The Bridge', which targets enhanced coordination at global, regional and national levels between users and providers to improve the current delivery of services in order to foster effective user engagement and further response.

A review of the existing GFCS contributing projects under WMO management were analyzed in relation to their investments across the cascading scales: global, regional, and national. The analysis indicates that approximately 69% of the resources are invested at the national level, 26% at the regional level, and only 5% at the global level (Figure 4). Resource mobilization and coordinated technical support to countries (national level) to operationalize climate services should remain a priority and should also be enhanced. However, there is a significant funding gap for regional activities and especially activities at the global level.

Priority needs for resourcing at the global level include strengthening of the GFCS Office capacity for partner coordination and inclusion, advocacy and outreach, and monitoring and evaluation and knowledge management. All require resources that are not currently available at the level required.

The regional scale is the most effective level for coordination and leveraging of global and national capabilities and inputs, and thus forms the central governance scale for the climate services information system (CSIS – further detailed in Strategic Objective 3 below). Additional resources are required at the regional level to operationalize the Climate Services Toolkit and enable effective access, technical support and expert guidance and training in using products to help regional and national users quickly identify where the global and regional models are providing the most useful information for their areas of interest.

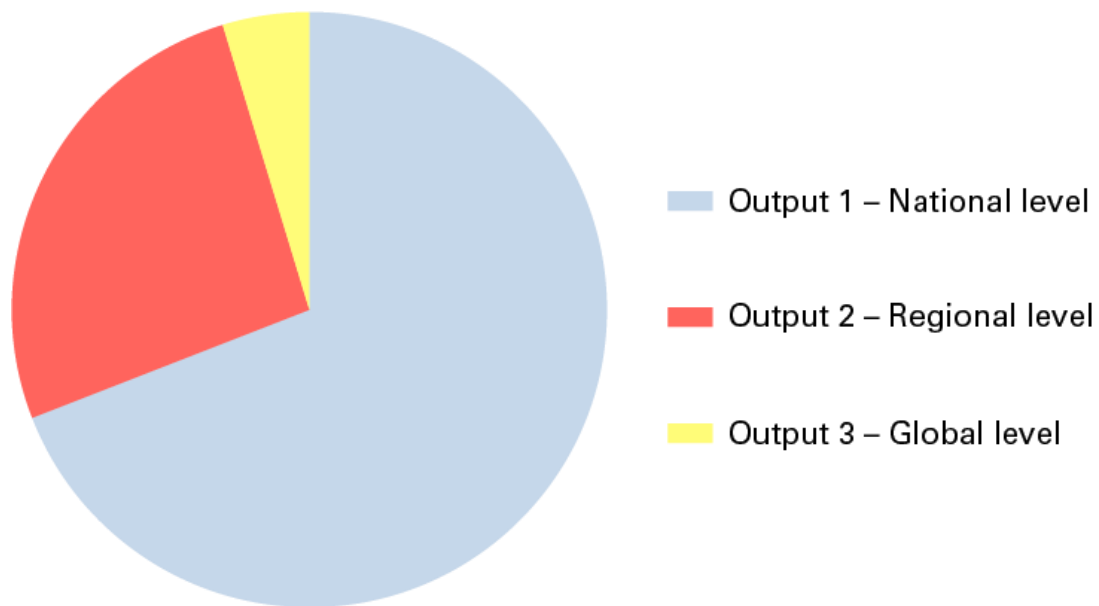


Figure 4. GFCS contributing projects under WMO management across the cascading scales: global, regional, and national.

The Response

The following results of the work plan contribute to Strategic Objective 2 'Building and sustaining bridges', which will enhance partnerships and the coordination of stakeholders across global, regional and national geographic domains. Results under this objective were curated from the GFCS Exemplars through a consultative process to identify the priority needs for the GFCS.

Specifically, this work stream will support GFCS political anchoring through mechanisms such as the National Framework for Climate Services (NFCS), National Climate Outlook Forums (NCOFs), National Climate Forums (NCFs) and enhanced connections with/between Regional Climate Centers (RCCs), Regional Climate Outlook Forums (RCOFs), and Global Producing Centers. Regional Frameworks for Climate Services (RFCS) will outline mechanisms to enhance support to national efforts.

Further to the recommendations of the Mid-Term Review of the GFCS and the Intergovernmental Board on Climate Services – Task Force on Governance, Management, and Finances of the GFCS, the following activities will be prioritized: partner coordination and inclusion, monitoring and evaluation, global advocacy (including with major policy agendas), communications, and knowledge management. Figure 5 outlines the resources obligated through existing projects under WMO's management and the needed resources for Objective 2 'Building and sustaining bridges'. While notable resources are shown through existing projects, these resources do not correspond to the priorities identified in the *Priority Needs for the Operationalization of the GFCS*. Therefore, significant funding gaps remain.

2 Building and sustaining bridges



Figure 5. Strategic Objective 2 'Building and sustaining bridges' resource requirements across national, regional, and global levels for 2019–2020 (including secured resources of GFCS contributing projects under WMO management and needed resources)

2.1 National

The pathway towards achieving science-based, nationally sustained and inclusive climate action heavily depends on the partnership and collaboration within and across national borders. A National Framework for Climate Services (NFCSs) is the institutional mechanisms to coordinate, facilitate and strengthen collaboration among national institutions and other key stakeholders, such as the United Nations and international agencies, to improve the co-production, tailoring, delivery, and use of science-based climate services. This supports political anchoring of the GFCS at the national level and is a key mechanism for supporting National Adaptation Planning (NAP) development and implementation.

Development of a NFCS follows five steps: (1) assess the baseline on climate services capacities at national level, to identify users and providers, map existing services and establish capacities; (2) organize a national consultation workshop on climate services to bring together all relevant stakeholders and identify gaps and key elements for the development of a plan of action for NFCS implementation; (3) develop a national strategic plan and costed action plan on climate services for establishment of NFCS; (4) endorse the strategic plan and a costed action plan with timelines for NFCS implementation; and (5) launch the NFCS, implement the national action plan on climate services and conduct rigorous M and E.

The GFCS Office will look to scale the institution of the NFCS, NCOFs, and user interface mechanisms such as working groups for agriculture, disaster risk reduction, health, and water in countries.

2.2 Regional

The GFCS Implementation Plan specifies that strong regional support networks and institutional capacities are needed to develop national climate service capacities and

Regional Climate Centres (RCCs) will play a central role in supporting NMHSs to provide tailored climate information and climate services (WMO, 2014).

In many regions and countries, there is limited or no capability/capacity to expand existing operations into climate services. Long-term, high-quality historical climate time series, as well as the impact data required to develop and translate into services on demand, is often lacking. NMHSs in developing countries have limited access to global and regional data/product inputs essential for generating climate products on national and sub-national scales.

The Climate Services Information System (CSIS) is a foundational pillar of the GFCS (detailed in Strategic Objective 3.1 below). CSIS facilitates consistency in using climate information by all regional and national user sectors. Critical to the implementation of CSIS are fully functioning RCCs that establish effective means of disseminating information and fostering dialogue between providers, partners and information users at regional and national scales. RCCs leverage data, information, products and engagement across countries within their particular regional domains of responsibility.

Through the European Commission funded Intra-Africa Caribbean and Pacific programme, efforts will be made to develop Regional Frameworks for Climate Services (RFCS) and strengthen the capacity of Regional Climate Centers to better support member states to support nationally driven co-design processes for climate services. Support for other regions remains a gap.

2.3 Global

While a number of critical activities underpinning the GFCS are implemented by the Global Producing Centers and academic institutions, the global level activities outlined in this workplan focus on the core activities of the GFCS Office.

Monitoring and Evaluation

The midterm review of the GFCS noted that it is very likely that many of the successes and activities that could be attributed to the GFCS are going unnoticed because there is no formal recording process or metrics by which to track progress. A plan to develop the Monitoring and Evaluation protocol for the GFCS was approved at IBCS MC-6 in 2018. Following this document, the GFCS Office will develop clear unambiguous targets and indicators in a collaborative process in order to define concise and measurable actions and priorities in line with the guiding principles for the GFCS at global, regional, and national levels. This work builds on the overarching frame as set forward in the [Implementation Plan of the Global Framework for Climate Services](#) and the [Priority Needs for the Operationalization of the GFCS](#). The GFCS Office will develop the framework to enable members to report on the GFCS related targets and indicators. The results-based analytical framework will monitor the UN System's success in providing coordinated, high-quality climate services to support the 2030 Agenda for Sustainable Development, the Paris Agreement, and the Sendai Framework for Disaster Risk Reduction.

Global reporting

At the 24th Conference of the Parties (COP24) the governing body of the United Nations Framework Convention on Climate Change (UNFCCC) on the Paris Agreement (CMA)

invited WMO, through the GFCS, to regularly update on the implementation of climate services in the 'Status of Climate Services Report'. The GFCS will develop the methodology for this the report in consultation with partners.

Knowledge management

There is a recognized gap with regards to the development and implementation of an industry-wide monitoring and evaluation process. The lack of common structures and jointly agreed upon criteria is hindering the efficient interaction between producers, users and investors. Using extensive community engagement through a collective impacts approach, the GFCS Office will develop a comprehensive GFCS Monitoring, Evaluation & Learning (MEL) Framework to link producers, users and investors across the climate services (CS) industry to establish benchmarks for the definition, sharing and tracking of good practices. The GFCS MEL Framework will:

- (a) clarify, define and make accessible/transparent a structure of different access points for addressing monitoring, evaluation and learning needs and opportunities for the broad spectrum of actors around CS;
- (b) develop, share and refine criteria and protocols that can form practical benchmarks for design, development and implementation of CS leading to better understanding and appropriate usage of CS;
- (c) test the tracking and feedback options of outcome-oriented progress monitoring in GFCS implementation and CS development toward the 'triple dividends' of resilience enabled by improved science and services as well as effective uptake in decision making.

There is a funding gap to complete this community-supported framework.

Global/regional platform for climate services

The GFCS Office in partnership with the Climate Services Partnership, and local host/collaborating institutions India's Ministry of Earth Sciences, the India Meteorological Department, and the Indian Institute of Tropical Meteorology will co-organize the Sixth International Conference on Climate Services (ICCS-6) in India in February 2020. The ICCS brings together a diverse community of practice to promote knowledge exchange, enhance learning and coordination in climate service design, dissemination and uptake.

The GFCS Office will organize knowledge sharing and outreach events with partners and members to outreach lessons learned and share knowledge resulting from GFCS implementation. The GFCS will seek to partner with the World Bank to leverage HydroMet Forums for tracking of progress and sharing good practice.

Strategic Objective 3: Foundational pillars – enhancing core technical and scientific capabilities for user-driven climate services

The Problem

Climate services require investments across the five pillars defined in the GFCS Implementation Plan: (1) user interface platform, (2) climate services information system, (3) observations and monitoring (4) research, modelling and prediction, and (5) capacity development. There is recognition that you cannot achieve climate services without investments across the pillars. Central to the service aspect is starting with the information needs, specific decisions, and context of the users to ensure information is action oriented (user interface platform), which was covered in *Objective 1 Priority applications* detailed above. However, investment in the remaining four pillars remain essential for quality service generation and delivery.

A review of the existing GFCS contributing projects under WMO management were analyzed in relation to their investments across the remaining following four foundational pillars: (1) Climate Services Information System; (2) Observations and monitoring; (3) Capacity building, and (4) research, modeling and prediction. As depicted in Figure 6, approximately 30% of the resources are invested in CSIS, 21% observations and monitoring, 34% in capacity building, and 14% in research modeling and prediction. There is a clear gap in research modeling and prediction, which poses a significant constraint to the next evolution of climate services and the transition to seamless, impact-based services.

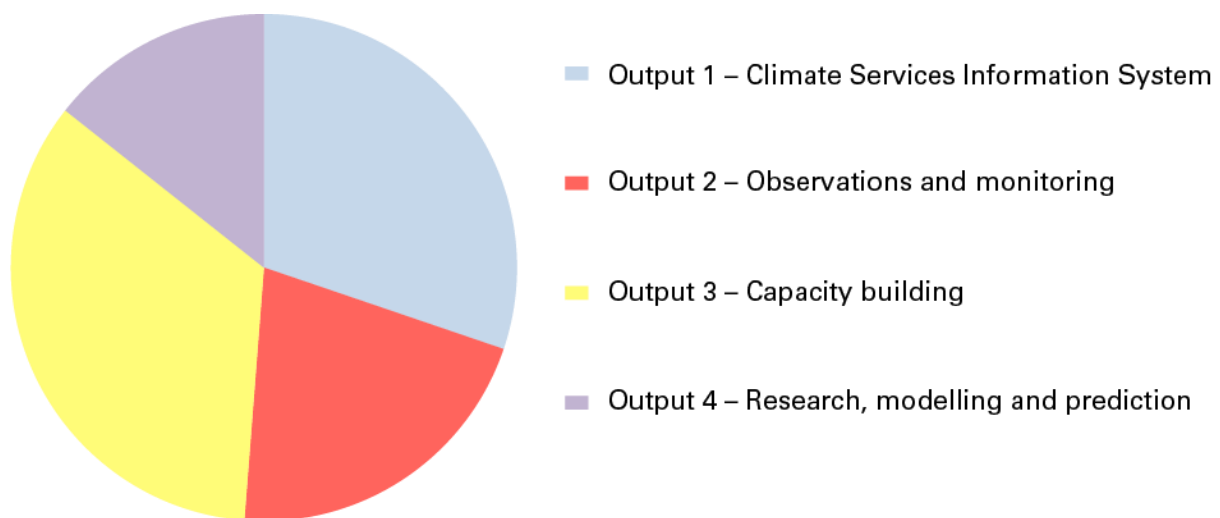


Figure 6. Strategic Objective 3 'Foundational pillars' GFCS contributing projects under WMO management by GFCS pillar

The Response

The third strategic objective is the 'Foundational Pillars' to enhance core technical and scientific capabilities to support user-driven climate services. This objective aligns with the core foundational Pillars of the GFCS, and emphasizes the scientific and capacity needs required to ensure that the development and delivery of climate services is based on sustained observing systems, cutting edge research and prediction systems, effective platforms for knowledge transfer, and capacity development for climate information providers and users.

This implies a special emphasis on the coordination between different international research programmes and the regional and national scientific efforts, and identifying complementarities to connect the available research with the operational gaps at regional and national scales. Activities under this objective build upon the priority needs identified in the *GFCS Exemplars* (WMO, 2014-2017), and will contribute to the desired outcome where national needs are met through enhanced skills, processes, tools and technologies that enable and support climate services delivery. Figure 7 outlines the resources received and needed for Objective 3 'Foundational pillars' over the two year period.

3.1 Coordination on Climate Service Information System

The Climate Services Information System (CSIS) is the "operational backbone" of the GFCS. It is the principal mechanism through which information about climate across timescales – past, present and future – is archived, analysed, modelled, exchanged and processed for use. The CSIS facilitates the generation and exchange of information between global, regional and national scales and in its optimal form engages public, private, non-governmental organizations (NGOs) and academic institutions. It offers a systematic approach for coordinating the development, archiving and facilitation of climate information by decision-makers. Most critically, CSIS provides guidance on information quality and standards of climate services practice.

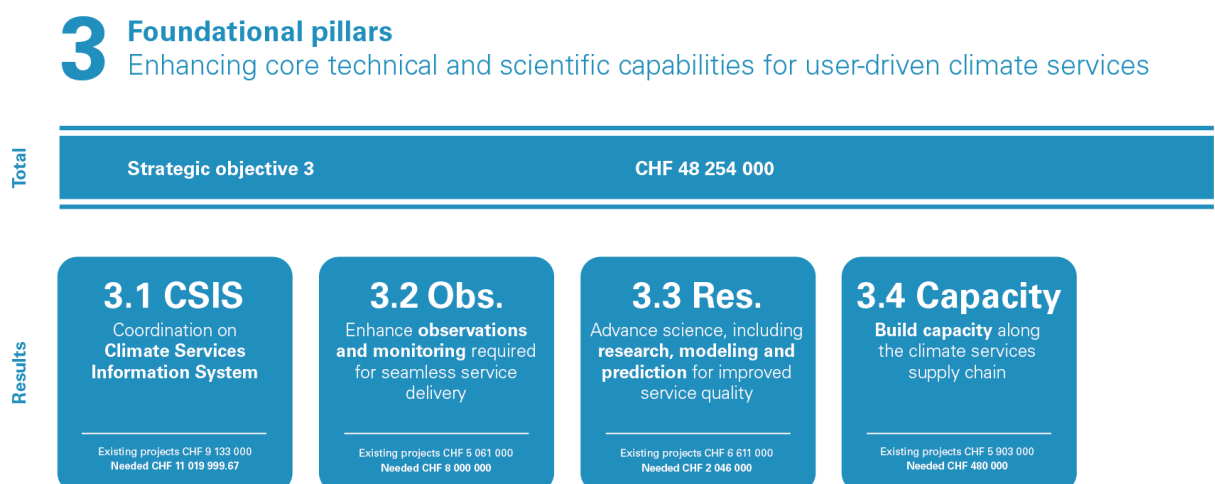


Figure 7. Strategic Objective 3 'Foundational Pillars' resource requirements across the pillars for 2019–2020 (including secured resources of GFCS contributing projects under WMO management and needed resources)

CSIS facilitates consistency in using climate information by all regional and national user sectors. Critical to the implementation of CSIS are fully functioning RCCs that establish effective means of disseminating information and fostering dialogue between providers, partners and information users at regional and national scales. RCCs leverage data, information, products and engagement across countries within their particular regional domains of responsibility.

Activities for CSIS will focus on:

- Defining the core functions, products and criteria, and establishing the standards and protocols associated with them;
- Deployment of the Climate Services Toolkit to facilitate CSIS operations, particularly at regional and national scales. The toolkit comprises knowledge products, software tools, public domain datasets and training materials to enable the latest scientific and technological advances to be applied;
- Facilitating the seamless and effective use of products by regional and national providers; and
- Expanding and sustaining RCOF and National Climate Outlook Forum (NCOF) or National Climate Forum (NCF) operations. This activity enhances national mechanisms of engagement across the GFCS priorities through NCFs, while extending and strengthening the benefits and concepts of RCOFs to the national scale.

3.2 Enhance observations and monitoring required for seamless service delivery

The Global Climate Observing System (GCOS), in collaboration with the World Climate Research Program (WCRP), the Global Ocean Observing System (GOOS) and the World Integrated Global Observing System (WIGOS), has a mandate to identify climate observational needs and their requirements, and plan and coordinate improvements to the global climate observation system. As such, its coverage extends beyond the meteorological and hydrological observations considered by WMO to include ocean and terrestrial observations. GCOS aims to monitor the biosphere, carbon, water and energy cycles that are fundamental to climate services and is recognized as a significant resource for GFCS.

The activities outlined in the work plan focus on moving from global monitoring to the local and national monitoring needed by users of many climate services. They will include assessments to identify data needs and design observational systems in data poor regions, data recovery and digitization, and demonstrations of efficient improvements to ground-based and space-based networks for measurement of changes in the water cycle in pilot area(s).

3.3 Advance science including research, modeling, and prediction to improve services

The decision context and information needs of users in climate-sensitive sectors lie at the heart of effective climate services. Information needs to be tailored to reach the right person in the right form at the right time. This tailoring requires multi-disciplinary science that duly considers the complexity of the systems within which climate

information is produced and delivered; the contexts within which users work and use it; and the many factors driving users' decision-making. Inclusion of social sciences and economic expertise is essential to improve understanding of needs, and effectively engage stakeholders and to broker knowledge among different entities in the climate services value chain.

Enhancements in core technical and scientific capabilities are required to enhance the quality of the information provided. Activities will include research on climate predictability and improving prognostic skill for sub-seasonal to seasonal time scales as well as research on climate predictability and improving prognostic skill in areas that where there are gaps in climate services, such as annual to decadal forecasts.

The European Commission under Horizon 2020 Work Programme 2018-2020, and specifically under the Challenge "Climate Action, Environment, Resource Efficiency & Raw Materials", included a specific action "LC-CLA-05-2019: Human Dynamics of Climate Change (Research and Innovation Action)", which contains an Action on Climate Services for Africa. The Action includes a budget of a maximum Euro 23 Million for projects to be implemented over a three year period. The Action will exploit new, relevant climate data made available by Copernicus and other relevant sources (such as GEOSS) and create dedicated climate services for Africa for at least two of the following sectors: water, energy, land use, health and infrastructure. Actions will develop and deliver tools/applications which demonstrate clear end-user engagement, consultation and participation, and which enhance planning and implementation of climate adaptation strategies in Africa.

3.4 Capacity development

The 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 GFCS include capacity development. This includes training on thematic issues to augment capacity building initiatives. Key to the development of effective climate services is the implementation of a competence framework for provision of climate services that ensures standardization of service quality and delivery as approved by the 68th Session of the WMO Executive Council.

Activities in the work plan aim to close the capacity gap by improving training coordination between WMO Members, as well as development partners, and through its centres of excellence. Furthermore, WMO is enhancing the effectiveness of ongoing training activities, such as those linked to RCOFs, to address specific competences across regions. Equally important is for Members and RCCs to develop and sustain linkages between research communities and operational services to expedite the application of research advances in operational weather and climate services. These linkages will enhance the offerings of operational services.

While training the providers is important, training the recipients of climate services is equally important to ensure capacity to translate and incorporate climate services in their decision-making. User-training aspects can be incorporated into the NFCS action plans and priorities discussed at NCOFs.

Annex I. GFCs Work Plan 2019–2020

Country/Region	Targets/Description	Project Name	Project amount	Objective 1: Priority applications - improving decision-making in climate-sensitive areas						Objective 2: Building and sustaining bridges-investing in mechanism for user engagement and services delivery				Objective 3: Foundational pillars- enhancing core technical and scientific capabilities				Input 2019		Total budget 2019	Input 2020		Total budget 2020	Total budget 2019-2020
				Output 1 - Agriculture and food security	Output 2 - Disaster Risk Reduction	Output 3 - Health	Output 4 - Water	Output 5 - Energy	Output 6 - Cities	Output 1 - National level	Output 2 - Regional level	Output 3 - Global level	Output 1 - Climate Service Information System	Output 2 - Observations and monitoring	Output 3 - Capacity building	Output 4 - Research, modelling and prediction	Secured funds 2019	Needed funds 2019	Total	Secured funds 2020	Needed funds 2020	Total	Total	
				0%	30%	0%	40%	0%	0%	100%	0%	0%	25%	25%	25%	25%								CHF
Burkina Faso	The project addresses early warning capacities of ANAM and DGRE in relation with extreme weather, sand and dust storms, food security and flooding	CREWS Burkina Faso	CHF 2220234	30%	30%	0%	40%	0%	0%	100%	0%	0%	25%	25%	25%	25%	CHF 740078	CHF -	CHF 740078	CHF 740078	CHF -	CHF 740078	CHF 1480156	
Burkina Faso	The project supports AGRHYMET and RSMC Dakar for regional climate services, severe weather forecasting and flash flood guidance	CREWS West Africa	CHF 84459	20%	40%	0%	40%	0%	0%	20%	60%	20%	60%	0%	40%	0%	CHF 28153	CHF -	CHF 28153	CHF 28153	CHF -	CHF 28153	CHF 56306	
Burkina Faso	The project supports society to better manage the risks and opportunities arising from climate variability and change, especially for those that are most vulnerable to climate-related hazards.	CSIR Sahel	CHF 337527	30%	20%	20%	20%	10%	0%	100%	0%	0%	50%	0%	50%	0%	CHF 112509	CHF -	CHF 112509	CHF 112509	CHF -	CHF 112509	CHF 225018	
AGRHYMET Regional Centre	The project supports AGRHYMET and RSMC Dakar for regional climate services, severe weather forecasting and flash flood guidance	CREWS West Africa	CHF 500000	20%	40%	0%	40%	0%	0%	20%	60%	20%	60%	0%	40%	0%	CHF 166667	CHF -	CHF 166667	CHF 166667	CHF -	CHF 166667	CHF 333333	
Benin	The project supports AGRHYMET and RSMC Dakar for regional climate services, severe weather forecasting and flash flood guidance	CREWS West Africa	CHF 84459	20%	40%	0%	40%	0%	0%	20%	60%	20%	60%	0%	40%	0%	CHF 28153	CHF -	CHF 28153	CHF 28153	CHF -	CHF 28153	CHF 56306	
Cape Verde	The project supports AGRHYMET and RSMC Dakar for regional climate services, severe weather forecasting and flash flood guidance	CREWS West Africa	CHF 84459	20%	40%	0%	40%	0%	0%	20%	60%	20%	60%	0%	40%	0%	CHF 28153	CHF -	CHF 28153	CHF 28153	CHF -	CHF 28153	CHF 56306	
Chad	The project supports AGRHYMET and RSMC Dakar for regional climate services, severe weather forecasting and flash flood guidance	CREWS West Africa	CHF 84459	20%	40%	0%	40%	0%	0%	20%	60%	20%	60%	0%	40%	0%	CHF 28153	CHF -	CHF 28153	CHF 28153	CHF -	CHF 28153	CHF 56306	
Togo	The project supports AGRHYMET and RSMC Dakar for regional climate services, severe weather forecasting and flash flood guidance	CREWS West Africa	CHF 84459	20%	40%	0%	40%	0%	0%	20%	60%	20%	60%	0%	40%	0%	CHF 28153	CHF -	CHF 28153	CHF 28153	CHF -	CHF 28153	CHF 56306	
Côte d'Ivoire	The project supports AGRHYMET and RSMC Dakar for regional climate services, severe weather forecasting and flash flood guidance	CREWS West Africa	CHF 84459	20%	40%	0%	40%	0%	0%	20%	60%	20%	60%	0%	40%	0%	CHF 28153	CHF -	CHF 28153	CHF 28153	CHF -	CHF 28153	CHF 56306	
Gambia	The project supports AGRHYMET and RSMC Dakar for regional climate services, severe weather forecasting and flash flood guidance	CREWS West Africa	CHF 84459	20%	40%	0%	40%	0%	0%	20%	60%	20%	60%	0%	40%	0%	CHF 28153	CHF -	CHF 28153	CHF 28153	CHF -	CHF 28153	CHF 56306	
Ghana	The project supports AGRHYMET and RSMC Dakar for regional climate services, severe weather forecasting and flash flood guidance	CREWS West Africa	CHF 84459	20%	40%	0%	40%	0%	0%	20%	60%	20%	60%	0%	40%	0%	CHF 28153	CHF -	CHF 28153	CHF 28153	CHF -	CHF 28153	CHF 56306	
Guinea	The project supports AGRHYMET and RSMC Dakar for regional climate services, severe weather forecasting and flash flood guidance	CREWS West Africa	CHF 84459	20%	40%	0%	40%	0%	0%	20%	60%	20%	60%	0%	40%	0%	CHF 28153	CHF -	CHF 28153	CHF 28153	CHF -	CHF 28153	CHF 56306	
Liberia	The project supports AGRHYMET and RSMC Dakar for regional climate services, severe weather forecasting and flash flood guidance	CREWS West Africa	CHF 84459	20%	40%	0%	40%	0%	0%	20%	60%	20%	60%	0%	40%	0%	CHF 28153	CHF -	CHF 28153	CHF 28153	CHF -	CHF 28153	CHF 56306	
Mali	The project supports AGRHYMET and RSMC Dakar for regional climate services, severe weather forecasting and flash flood guidance	CREWS West Africa	CHF 84459	20%	40%	0%	40%	0%	0%	20%	60%	20%	60%	0%	40%	0%	CHF 28153	CHF -	CHF 28153	CHF 28153	CHF -	CHF 28153	CHF 56306	
Mauritania	The project supports AGRHYMET and RSMC Dakar for regional climate services, severe weather forecasting and flash flood guidance	CREWS West Africa	CHF 84459	20%	40%	0%	40%	0%	0%	20%	60%	20%	60%	0%	40%	0%	CHF 28153	CHF -	CHF 28153	CHF 28153	CHF -	CHF 28153	CHF 56306	
Niger	The project supports AGRHYMET and RSMC Dakar for regional climate services, severe weather forecasting and flash flood guidance	CREWS West Africa	CHF 84459	20%	40%	0%	40%	0%	0%	20%	60%	20%	60%	0%	40%	0%	CHF 28153	CHF -	CHF 28153	CHF 28153	CHF -	CHF 28153	CHF 56306	
Nigeria	The project supports AGRHYMET and RSMC Dakar for regional climate services, severe weather forecasting and flash flood guidance	CREWS West Africa	CHF 84459	20%	40%	0%	40%	0%	0%	20%	60%	20%	60%	0%	40%	0%	CHF 28153	CHF -	CHF 28153	CHF 28153	CHF -	CHF 28153	CHF 56306	
Senegal	The project supports AGRHYMET and RSMC Dakar for regional climate services, severe weather forecasting and flash flood guidance	CREWS West Africa	CHF 84459	20%	40%	0%	40%	0%	0%	20%	60%	20%	60%	0%	40%	0%	CHF 28153	CHF -	CHF 28153	CHF 28153	CHF -	CHF 28153	CHF 56306	
Sierra Leone	The project supports AGRHYMET and RSMC Dakar for regional climate services, severe weather forecasting and flash flood guidance	CREWS West Africa	CHF 84459	20%	40%	0%	40%	0%	0%	20%	60%	20%	60%	0%	40%	0%	CHF 28153	CHF -	CHF 28153	CHF 28153	CHF -	CHF 28153	CHF 56306	
Senegal	The project supports society to better manage the risks and opportunities arising from climate variability and change, especially for those that are most vulnerable to climate-related hazards.	CSIR Sahel	CHF 337527	30%	20%	20%	20%	10%	0%	100%	0%	0%	50%	0%	50%	0%	CHF 112509	CHF -	CHF 112509	CHF 112509	CHF -	CHF 112509	CHF 225018	
Niger	The project supports society to better manage the risks and opportunities arising from climate variability and change, especially for those that are most vulnerable to climate-related hazards.	CSIR Sahel	CHF 337527	30%	20%	20%	20%	10%	0%	100%	0%	0%	50%	0%	50%	0%	CHF 112509	CHF -	CHF 112509	CHF 112509	CHF -	CHF 112509	CHF 225018	
Niger	The project supports expansion of warning capacities from food security / agriculture to rapid warning of extreme weather events and flooding	CREWS Niger	CHF 253145	10%	50%	0%	40%	0%	0%	100%	0%	0%	25%	25%	25%	25%	CHF 84382	CHF -	CHF 84382	CHF 84382	CHF -	CHF 84382	CHF 168763	
Mali	The project supports expansion of warning capacities from food security / agriculture to rapid warning of extreme weather events and flooding	CREWS Mali	CHF 253145	10%	50%	0%	40%	0%	0%	100%	0%	0%	25%	25%	25%	25%	CHF 84382	CHF -	CHF 84382	CHF 84382	CHF -	CHF 84382	CHF 168763	
Mali	The project supports AGRHYMET and RSMC Dakar for regional climate services, severe weather forecasting and flash flood guidance	CREWS West Africa	CHF 84459	20%	40%	0%	40%	0%	0%	20%	60%	20%	60%	0%	40%	0%	CHF 28153	CHF -	CHF 28153	CHF 28153	CHF -	CHF 28153	CHF 56306	
Kenya	The project aim is to improve sector products and services in various economic sectors such as agriculture, health, DRR and climate change	Wiser AMADAR Kenya	CHF 658080	50%	20%	20%	10%	0%	0%	100%	0%	0%	25%	25%	25%	25%	CHF 219360	CHF -	CHF 219360	CHF 219360	CHF -	CHF 219360	CHF 438720	

Country/Region	Target/Description	Project Name	Project amount	Objective 1: Priority applications - improving decision-making in climate-sensitive areas						Objective 2: Building and sustaining bridges-investing in mechanisms for user engagement and services delivery						Objective 3: Foundational pillars- enhancing core technical and scientific capabilities						Input 2019		Total budget 2019		Input 2020		Total budget 2020		Total budget 2019-2020				
				Output 1 - Agriculture and food security	Output 2 - Disaster Risk Reduction	Output 3 - Health	Output 4 - Water	Output 5 - Energy	Output 6 - Others	Output 1 - National level	Output 2 - Regional level	Output 3 - Global level	Output 1 - Climate Service Information System	Output 2 - Observation and monitoring	Output 3 - Capacity-building	Output 4 - Research, modelling and prediction	Secured funds 2019		Needed funds 2019		Total budget 2019		Secured funds 2020		Needed funds 2020		Total budget 2020		Total budget 2019-2020					
																		CHF	CHF	CHF	CHF	CHF	CHF	CHF	CHF	CHF	CHF	CHF	CHF	CHF	CHF	CHF	CHF	
CREWS -SIDS-SEA																																		
Cambodia	The project contributes to reducing human and economic losses associate with hydro meteorological and climate related hazards.	Crew SIDS-SEA	CHF 526'542	20%	60%	20%	0%	0%	0%	40%	60%	0%	30%	30%	40%	0%	CHF	175'514	CHF	-	CHF	175'514	CHF	175'514	CHF	-	CHF	175'514	CHF	-	CHF	175'514	CHF	351'028
Lao people's democratic republic	The project contributes to reducing human and economic losses associate with hydro meteorological and climate related hazards.	Crew SIDS-SEA	CHF 526'542	20%	60%	20%	0%	0%	0%	40%	60%	0%	30%	30%	40%	0%	CHF	175'514	CHF	-	CHF	175'514	CHF	175'514	CHF	-	CHF	175'514	CHF	-	CHF	175'514	CHF	351'028
Vietnam	The project contributes to reducing human and economic losses associate with hydro meteorological and climate related hazards.	Crew SIDS-SEA	CHF 526'542	20%	60%	20%	0%	0%	0%	40%	60%	0%	30%	30%	40%	0%	CHF	175'514	CHF	-	CHF	175'514	CHF	175'514	CHF	-	CHF	175'514	CHF	-	CHF	175'514	CHF	351'028
Thailand	The project contributes to reducing human and economic losses associate with hydro meteorological and climate related hazards.	Crew SIDS-SEA	CHF 526'542	20%	60%	20%	0%	0%	0%	40%	60%	0%	30%	30%	40%	0%	CHF	175'514	CHF	-	CHF	175'514	CHF	175'514	CHF	-	CHF	175'514	CHF	-	CHF	175'514	CHF	351'028
Philippines	The project contributes to reducing human and economic losses associate with hydro meteorological and climate related hazards.	Crew SIDS-SEA	CHF 526'542	20%	60%	20%	0%	0%	0%	40%	60%	0%	30%	30%	40%	0%	CHF	175'514	CHF	-	CHF	175'514	CHF	175'514	CHF	-	CHF	175'514	CHF	-	CHF	175'514	CHF	351'028
INTRA - ACP																																		
Southern Africa Development Community (SADC)	The action will contribute to sustainable development as well as strengthen the tools that bridge climate services stakeholders and users in climate-sensitive sectors such as agriculture and food security, disaster risk reduction, water, energy and health.	EU Intra-ACP	CHF 1'043'217	20%	20%	20%	20%	20%	0%	60%	30%	10%	25%	25%	25%	25%	CHF	347'739	CHF	-	CHF	347'739	CHF	347'739	CHF	-	CHF	347'739	CHF	-	CHF	347'739	CHF	695'478
Indian Ocean Commission (IOC/COI)	The action will contribute to sustainable development as well as strengthen the tools that bridge climate services stakeholders and users in climate-sensitive sectors such as agriculture and food security, disaster risk reduction, water, energy and health.	EU Intra-ACP	CHF 1'043'217	20%	20%	20%	20%	20%	0%	60%	30%	10%	25%	25%	25%	25%	CHF	347'739	CHF	-	CHF	347'739	CHF	347'739	CHF	-	CHF	347'739	CHF	-	CHF	347'739	CHF	695'478
Intergovernmental Authority on Development (IGAD)	The action will contribute to sustainable development as well as strengthen the tools that bridge climate services stakeholders and users in climate-sensitive sectors such as agriculture and food security, disaster risk reduction, water, energy and health.	EU Intra-ACP	CHF 1'043'217	20%	20%	20%	20%	20%	0%	60%	30%	10%	25%	25%	25%	25%	CHF	347'739	CHF	-	CHF	347'739	CHF	347'739	CHF	-	CHF	347'739	CHF	-	CHF	347'739	CHF	695'478
AGRHYMET Regional Centre	The action will contribute to sustainable development as well as strengthen the tools that bridge climate services stakeholders and users in climate-sensitive sectors such as agriculture and food security, disaster risk reduction, water, energy and health.	EU Intra-ACP	CHF 1'043'217	20%	20%	20%	20%	20%	0%	60%	30%	10%	25%	25%	25%	25%	CHF	347'739	CHF	-	CHF	347'739	CHF	347'739	CHF	-	CHF	347'739	CHF	-	CHF	347'739	CHF	695'478
Caribbean Institute for Meteorology and Hydrology (CIMH)	The action will contribute to sustainable development as well as strengthen the tools that bridge climate services stakeholders and users in climate-sensitive sectors such as agriculture and food security, disaster risk reduction, water, energy and health.	EU Intra-ACP	CHF 1'043'217	20%	20%	20%	20%	20%	0%	60%	30%	10%	25%	25%	25%	25%	CHF	347'739	CHF	-	CHF	347'739	CHF	347'739	CHF	-	CHF	347'739	CHF	-	CHF	347'739	CHF	695'478
Africa Union Commission on behalf of ECCAS	The action will contribute to sustainable development as well as strengthen the tools that bridge climate services stakeholders and users in climate-sensitive sectors such as agriculture and food security, disaster risk reduction, water, energy and health.	EU Intra-ACP	CHF 1'043'217	20%	20%	20%	20%	20%	0%	60%	30%	10%	25%	25%	25%	25%	CHF	347'739	CHF	-	CHF	347'739	CHF	347'739	CHF	-	CHF	347'739	CHF	-	CHF	347'739	CHF	695'478
1.1 Global Agriculture and food security coordination team				100%	0%	0%	0%	0%	0%	0%	0%	100%	0%	0%	0%	0%	CHF	-	CHF	1'253'300.00	CHF	1'253'300.00	CHF	-	CHF	1'253'300.00	CHF	-	CHF	1'253'300.00	CHF	2'506'600		
1.2 Disaster Risks Reduction				0%	100%	0%	0%	0%	0%	0%	0%	100%	0%	0%	0%	0%	CHF	-	CHF	333'300.00	CHF	333'300.00	CHF	-	CHF	333'300.00	CHF	-	CHF	333'300.00	CHF	666'600		
1.3 Energy				0%	0%	0%	0%	100%	0%	0%	0%	100%	0%	0%	0%	0%	CHF	-	CHF	3'501'200.00	CHF	3'501'200.00	CHF	-	CHF	3'501'200.00	CHF	-	CHF	3'501'200.00	CHF	7'002'400		
1.4 Health				0%	0%	100%	0%	0%	0%	0%	0%	100%	0%	0%	0%	0%	CHF	-	CHF	3'061'400.00	CHF	3'061'400.00	CHF	-	CHF	3'061'400.00	CHF	-	CHF	3'061'400.00	CHF	6'122'800		
1.5 Water				0%	0%	0%	100%	0%	0%	0%	0%	100%	0%	0%	0%	0%	CHF	-	CHF	2'150'000.00	CHF	2'150'000.00	CHF	-	CHF	2'150'000.00	CHF	-	CHF	2'150'000.00	CHF	4'300'000		
GFCS OFFICE																																		
Status of climate services report	Expert meeting and consultant to help with analysis		CHF40'000	0%	0%	0%	0%	100%	0%	0%	100%	0%	0%	0%	0%	0%	CHF	40'000.00	CHF	-	CHF	40'000.00	CHF	-	CHF	40'000.00	CHF	-	CHF	40'000.00	CHF	40'000		
	Consultant to lead a consultative process and revise targets and indicators and establish the Monitoring and evaluation Framework for the GFCS		CHF55'000	0%	0%	0%	0%	100%	0%	0%	100%	0%	0%	0%	0%	0%	CHF	55'000.00	CHF	100'000.00	CHF	155'000.00	CHF	-	CHF	155'000.00	CHF	-	CHF	100'000.00	CHF	255'000		
MAE goals and targets for GFCS				0%	0%	0%	0%	100%	0%	0%	100%	0%	0%	0%	0%	0%	CHF	-	CHF	20'000.00	CHF	20'000.00	CHF	-	CHF	20'000.00	CHF	-	CHF	20'000.00	CHF	20'000		
WHO-WMO Inter-agency work plan and Integrated Health Strategy developed for Congress consideration	Consultation/ consultant to scope out the strategy		CHF20'000	0%	0%	0%	0%	100%	0%	0%	100%	0%	0%	0%	0%	0%	CHF	20'000.00	CHF	-	CHF	20'000.00	CHF	-	CHF	20'000.00	CHF	-	CHF	20'000.00	CHF	20'000		
Help Desk launched	Case studies and technical implementation		CHF25'000	0%	0%	0%	0%	100%	0%	0%	100%	0%	0%	0%	0%	0%	CHF	25'000.00	CHF	133'333	CHF	158'333.33	CHF	-	CHF	133'333	CHF	-	CHF	133'333	CHF	291'667		
	Support to Heat-health network, layout publication of Status of Climate Services Report, layout and publication of GFCS Progress Report, layout and publication of Highlights brochure on GFCS progress and layout and publication of GFCS work plan		CHF40'000	0%	0%	0%	0%	100%	0%	0%	100%	0%	0%	0%	0%	0%	CHF	40'000.00	CHF	-	CHF	40'000.00	CHF	-	CHF	40'000.00	CHF	-	CHF	40'000.00	CHF	40'000		
Communication material				0%	0%	0%	0%	100%	0%	0%	100%	0%	0%	0%	0%	0%	CHF	40'000.00	CHF	-	CHF	40'000.00	CHF	-	CHF	40'000.00	CHF	-	CHF	40'000.00	CHF	40'000		
NFCS in Latin America	Support to GFCS to facilitate establishment of NFCS in Ecuador and thereafter provide support to other countries in the Region		CHF50'000	0%	0%	0%	0%	100%	100%	0%	0%	0%	0%	0%	0%	0%	CHF	50'000.00	CHF	-	CHF	50'000.00	CHF	-	CHF	50'000.00	CHF	-	CHF	50'000.00	CHF	50'000		
NFCS in Africa completed	Completion of NFCS in Congo, assessment in Liberia and Sierra Leone, Participation in consultations in Benin, Gambia, Cabo Verde, Ghana		CHF30'000	0%	0%	0%	0%	100%	100%	0%	0%	0%	0%	0%	0%	0%	CHF	30'000.00	CHF	-	CHF	30'000.00	CHF	-	CHF	30'000.00	CHF	-	CHF	30'000.00	CHF	30'000		
Rollout of e-training module	Delivery of training in LEG Regional Workshops		CHF30'000	0%	0%	0%	0%	100%	0%	0%	100%	0%	0%	0%	0%	0%	CHF	30'000.00	CHF	-	CHF	30'000.00	CHF	-	CHF	30'000.00	CHF	-	CHF	30'000.00	CHF	30'000		
ICCS6	Support organization of conference		CHF10'000	0%	0%	0%	0%	100%	0%	0%	100%	0%	0%	0%	0%	0%	CHF	10'000.00	CHF	-	CHF	10'000.00	CHF	-	CHF	10'000.00	CHF	-	CHF	10'000.00	CHF	10'000		
2.3 Support for and strengthening of the GFCS Office for coordination				0%	0%	0%	0%	100%	0%	0%	100%	0%	0%	0%	0%	0%	CHF	-	CHF	3'593'700.00	CHF	3'593'700.00	CHF	-	CHF	3'593'700.00	CHF	-	CHF	3'593'700.00	CHF	7'187'400		
2.3 Strengthening regional systems for providing climate services				0%	0%	0%	0%	100%	0%	0%	100%	0%	0%	0%	0%	0%	CHF	-	CHF	1'254'400.00	CHF	1'254'400.00	CHF	-	CHF	1'254'400.00	CHF	-	CHF	1'254'400.00	CHF	2'508'800		
3.1 Establish national dialogues and frameworks for climate services				0%	0%	0%	0%	100%	0%	0%	100%	0%	0%	0%	0%	0%	CHF	-	CHF	3'000'000.00	CHF	3'000'000.00	CHF	-	CHF	3'000'000.00	CHF	-	CHF	3'000'000.00	CHF	6'000'000		
3.1 CSIS				0%	0%	0%	0%	100%	0%	0%	100%	100%	0%	0%	0%	0%	CHF	-	CHF	7'213'333.00	CHF	7'213'333.00	CHF	-	CHF	3'806'666.67	CHF	-	CHF	3'806'666.67	CHF	11'020'000		
3.2 Observation and monitoring				0%	0%	0%	0%	100%	0%	0%	100%	0%	100%	0%	0%	0%	CHF	-	CHF	4'000'000.00	CHF	4'000'000.00	CHF	-	CHF	4'000'000.00	CHF	-	CHF	4'000'000.00	CHF	8'000'000		
3.3 Research modelling and prediction				0%	0%	0%	0%	100%	0%	0%	100%	0%	0%	0%	100%	0%	CHF	-	CHF	1'023'000.00	CHF	1'023'000.00	CHF	-	CHF	1'023'000.00	CHF	-	CHF	1'023'000.00	CHF	2'046'000		
3.4 Capacity building				0%	0%	0%	0%	100%	0%	0%	100%	0%	0%	100%	0%	0%	CHF	-	CHF	240'000.00	CHF	240'000.00	CHF	-	CHF	240'000.00	CHF	-	CHF	240'000.00	CHF	480'000		
TOTAL																		CHF	13'678'605	CHF	28'156'966.33	CHF	41'835'571	CHF	13'329'366	CHF	24'750'300.00	CHF	38'079'666	CHF	79'915'238			

Annex II. Status of the GFCS Trust Fund

Financial information GFCS Member state contributions 2011 - 2019
Amounts in Swiss Francs

Revenue		Member State contributions	
Member State contributions	24 631 684	Australia	446 572
Other revenue	55 985	Bangladesh	3 704
		Burkina Faso	93 900
Total revenue	24 687 669	Canada	6 537 576
		China	549 986
Expenses		Finland	62 321
Direct costs	21 716 755	France	61 172
Indirect costs	2 136 323	Germany	60 183
		Hong Kong	9 520
Total expenses	23 853 078	India	95 000
		Korea	783 086
		Iran	9 030
Current balance	834 591	Mexico	23 750
		Norway	12 902 532
		Qatar	135 100
		South Africa	20 000
		Switzerland	1 281 100
		United Kingdom	362 000
		United States	1 195 152
		Total Member State contributions	24 631 684

Annex III. Risk identification and mitigation matrix

Risk identification	Risk impact (low medium, high)	Probability of occurrence (low, medium, high)	Risk management strategy Mitigation measure(s)	Timeline	Status
The human and financial resources dedicated to the GFCS are inadequate for its mandate	high	high	The resourcing and scope of work need to be re-assessed	Duration of the work plan	
Partnerships and resources envisioned under the GFCS have not materialized as envisaged	high	high	Develop a stakeholder grid and outreach plan	Duration of the work plan	
The GFCS has not effectively engaged and accessed the increasing resources being made available for climate-based initiatives	high	high	Develop a mapping of donors and resource mobilization strategy	Duration of the work plan	
Funding for climate services initiatives at all levels lack coordination leading to significant inefficiencies in the implementation of the GFCS	High	High	<ol style="list-style-type: none"> 1. Develop a monitoring and evaluation plan with clear targets and indicators so that partners and donors can identify priorities and programme accordingly 2. launch the GFCS helpdesk and advance effective knowledge management strategies 3. sponsor knowledge sharing events 		

Resources

WMO. *Implementation Plan of the Global Framework for Climate Services with Exemplars (Agriculture and Food Security, Disaster risk reduction, Energy, Health and Water) and Annexes (User Interface Platform; Climate Services Information System; Observations and Monitoring; Research Modelling and Prediction; and Capacity Building)*. GFCS, Switzerland, 2014-2017.

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WMO. *The Future of Climate Services. Bulletin: Vol. 68*. Geneva, Switzerland: World Meteorological Organization, 2019.



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