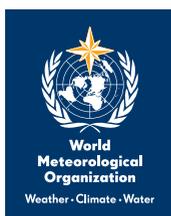
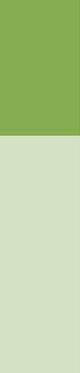


# **BUILDING COUNTRY-WIDE SUPPORT FOR THE GLOBAL FRAMEWORK FOR CLIMATE SERVICES**

**A BRIEF GUIDE FOR NATIONAL  
METEOROLOGICAL AND  
HYDROLOGICAL SERVICES (NMHSs)**





**Climate variability has always been an important driver of human activity. Throughout history, periodic droughts, floods, heat waves, cold snaps and storms have destroyed crops and communities. Longer term warming or cooling trends have forced settlements and entire civilizations to migrate or allowed them to expand.**

Today, the need to adapt to seasonal, yearly and multi-decadal climate variations has been joined by the challenge of long-term climate change. Fortunately, scientific advances increasingly allow us to anticipate and even predict the future climate. Our understanding of the climate system continues to improve and is already robust enough to guide how we can prepare for tomorrow's climate. It is therefore possible now to provide information that governments, organizations and individuals can use to manage climate risks and opportunities.

A growing number of countries are establishing capabilities for offering national climate services. They are building on their experience in providing weather and climate information to create services that can customize this information and target it to specific users. In this way, climate services make it possible to incorporate science-based climate information and prediction into planning, policy and practice to achieve real benefits for society. This is needed because the challenges facing humanity today are increasingly complex, interconnected and related to climate.

To assure the provision of actionable climate information in all countries, governments and organizations are working together to build the Global Framework for Climate Services (GFCS). This United Nations-wide initiative also engages relevant partners and stakeholders from outside the UN system and is currently being led by the World Meteorological Organization. This is because climate services are cross-cutting and require expertise not only in weather and climate but in a wide range of disciplines and domains in order to fully respond to users' needs.

Implementing GFCS at the national level would likely follow an approach similar to the one taken at the international level: many different government agencies, together with civil society, collaborating closely to develop and use the climate services needed to manage the risks and opportunities of climate variability and climate change.

To assist WMO Members to make the case for GFCS within their own governments and build an interagency “GFCS country team”, this brief brochure provides answers to nine Frequently Asked Questions that have been addressed to the WMO Secretariat.

## **1. WHAT IS THE GLOBAL FRAMEWORK FOR CLIMATE SERVICES AND WHAT WILL IT ACCOMPLISH?**

The GFCS is a global partnership of governments and organizations that produce and use climate information and services. It seeks to enable researchers and the producers and users of information to join forces to improve the quality and quantity of climate services worldwide, particularly in developing countries.

The GFCS seeks to build on continued improvements in climate forecasts and climate change scenarios to expand access to the best available climate data and information. Policymakers, planners, investors and vulnerable communities need climate information in user-friendly formats so that they can prepare for expected trends and changes. They need good-quality data from national and international databases on temperature, rainfall, wind, soil moisture and ocean conditions. They also need long-term historical averages of these parameters as well as maps, risk and vulnerability analyses, assessments, and long-term projections and scenarios.

Depending on the user’s needs, these data and information products may be combined with non-climate data, such as agricultural production, health trends, population distributions in high-risk areas, road and infrastructure maps for the delivery of goods, and other socio-economic variables. The aim is to support efforts to prepare for new climate conditions and adapt to their impact on water supplies, health risks, extreme events, farm productivity, infrastructure placement, and so forth.

Expanding the production, distribution and use of relevant and up-to-date climate information can best be achieved by pooling expertise and resources through international cooperation. UN agencies, regional institutions, national governments and researchers will work together through the GFCS to disseminate data, information, services and best practices. This collaboration will

build greater capacity in countries for managing the risks and opportunities of climate variability and change and for adapting to climate change.

The GFCS implementation plan, to be adopted by the World Meteorological Congress this October, will guide development of the information resources that are so urgently needed for building climate resilience and preparing adaptation plans. According to the draft plan, over the next two years GFCS will carry out a series of priority projects that will create partnerships and build trust with users. It will identify the demand for climate services and ensure that this demand is met through access to scientific information. It will start with the four priority sectors of health, water, food security and agriculture, and disaster risk reduction. Within six years, GFCS aims to have facilitated access to improved climate services around the world; within 10 years, services will have been provided to all climate-sensitive sectors.

The results will be an effective global partnership for identifying and meeting user needs for climate information; the effective application of climate observations, socio-economic data, models and predictions to solving national, regional and global problems; a system for transforming data into information products and services to inform decision making; and increased capacity around the world for producing and using climate services.

## **2. WHO IS DRIVING THE DEVELOPMENT OF THE GFCS?**

Because climate services are a global public good, the development of the GFCS is being driven by the world's governments. For decades governments have been working together to establish scientific programmes, operational agencies and international conventions to address the diverse challenges of climate. GFCS marks a critical next step in this process. In 2009, Heads of State and Government, Ministers, and Heads of Delegations of over 150 countries and 70 organizations unanimously decided at the World Climate Conference - 3 to establish the GFCS in order to better serve society's needs for accurate and timely information on climate variability and change.

The central forum now for governments to discuss GFCS is the World Meteorological Congress and its subsidiary bodies. The Secretariat of the World

Meteorological Organization is also playing an important role by supporting the Congress and providing expertise and a GFCS office. A number of other United Nations agencies are also fully engaged in the GFCS under the banner of “The UN System Delivering as One on Climate Knowledge.”

Given the experience and expertise that NMHSs have developed in providing information, forecasts and services in the fields of weather, climate and water, they clearly have a key role to play in guiding the GFCS.

### **3. WHICH NATIONS AND ENTITIES STAND TO BENEFIT MOST FROM THE GFCS?**

Every country is vulnerable to climate variability and change, so all countries will benefit from high-quality climate information that is prepared and delivered to meet users’ needs. Of course, some countries are more vulnerable than others due to their limited national capacities, their markedly volatile or difficult climate, or both. African countries, lesser developed countries, small island developing states and land-locked countries will draw particular benefit from GFCS and its associated capacity development activities.

Developing countries that experience dramatic climate variability urgently need to improve their capacity to respond to extreme events such as storms and floods as well as to longer term trends such as drought and heat waves. Through GFCS they will gain improved access to targeted and relevant data, information, best practices, and capacity building.

Countries that already struggle with climate variability tend to be particularly vulnerable to climate change. The adaptation strategies and emergency response services required for climate variability will often be essential for climate change. This is equally true for the types of data and information systems that will be required. GFCS will facilitate national efforts to address climate variability and climate change simultaneously and to integrate climate adaptation activities into sustainable development strategies.

At the same time, GFCS will benefit developed countries that already have a strong national response capacity. It will provide them with a forum for sharing

data and best practices. Climate patterns do not respect political boundaries, and GFCS will facilitate cross-border and regional collaboration on adaptation activities. GFCS could also provide useful insights for ensuring that climate adaptation is incorporated into development assistance programmes.

NMHSs and other government agencies and organizations will find their institutional mandates and capabilities strengthened through their engagement with GFCS. They will benefit from new partnerships, improved access to data and resources, and expanded opportunities to contribute to critical national issues that are cross-cutting and linked to sustainable development.

#### **4. WHICH NATIONAL ENTITIES SHOULD BE INFORMED OR INVOLVED?**

To launch the development of GFCS at the international level, the World Climate Conference - 3 succeeded in obtaining buy-in at the highest possible political level by engaging Heads of State and Government and Ministers. Expanding and maintaining this high-level political commitment is essential at the national level for building the necessary collaboration across government ministries.

This collaboration can be orchestrated through a Framework for Climate Services at the National Level. To help build and facilitate this Framework, National Meteorological and Hydrological Services (NMHSs), in collaboration with other agencies with a potential to deliver climate services, should consider informing and involving all relevant ministries, such as those responsible for agriculture, water, environment, health, and foreign affairs. Contacts at both the leadership and working levels, through personal visits and workshops, should be initiated as soon as possible. Many contributors to and users of GFCS will be non-governmental entities, including universities, NGOs, and the media. These various contributors will have an important role both in providing information and in ensuring that services are appropriate for, and delivered to, the user communities with which they already work.

As this list of potential partners reveals, there is almost no limit to the number and kinds of national entities that could be engaged in GFCS. Setting priorities on which ones to focus on first is clearly essential. The choices could, if

appropriate, be driven by the four GFCS priority areas of water management, disaster reduction, agriculture and health, taking due account of national priorities and policies, especially those for sustainable development and climate adaptation and mitigation.

## **5. WHAT SPECIFIC BENEFITS CAN COUNTRIES CAPTURE FROM PARTICIPATION IN GFCS?**

GFCS will produce a wide range of social, economic and environmental benefits. It will build on existing investments in climate observation systems and scientific research in order to produce practical information for decision making. During the first several years, GFCS will generate most of its benefits in the priority sectors of disaster risk, food security, health and water. Just a few examples of the specific benefits that could be realized include:

- Major infrastructure projects, such as water reservoirs, bridges, towns and factories, are normally expected to last for decades or longer. By anticipating future climate conditions, developers can ensure that their projects remain well suited to changes in water supplies, extreme events, and other variables shaped by climate.
- Climate information can assist water resource managers to improve their operational planning, including the allocation of supplies in the short term and the development of infrastructure needed over the long term.
- A better understanding of likely changes in the intensity and frequency of droughts or floods can guide investments in maintaining irrigation canals, building water storage towers, afforesting or reforesting hydrological basins, and so forth.
- As the climate evolves and the timing of the seasons changes, the calendar for planting and harvesting crops will change. Better climate information will make it possible to time interventions and investments more precisely, thus boosting agricultural productivity. It can also be used to monitor and predict year-to-year variations in productivity and thus serve as an early warning system for potential food shortages.

- The spread of infectious diseases such as diarrhea and malaria and of many water-borne diseases can be strongly influenced by climate. By combining climate and weather information with socio-economic data, health providers can more effectively organize vaccination campaigns and other interventions.
- As the pattern of extreme events changes, good forecasts can provide early warning of potential hazards. They can also be used to minimize vulnerability by improving land-use planning, for example to reduce exposure to land slides or to sea-level rise.
- More accurate evaluations of how climate risks and impacts will evolve could also help insurance markets to correctly price the risks posed by extreme events, sea-level rise, and wildfires, thus supporting disaster risk management and helping to ensure that insurance continues to be available.
- Looking beyond the four priority sectors, climate has a significant impact on energy demand. More accurate estimates of energy supply and demand will make it possible to anticipate future energy use and ensure that there is sufficient supply, including from renewable sources, as climate services can also be used for evaluating the longer term potential of wind and solar energy.

## 6. WHAT MIGHT BE EXPECTED OF MY COUNTRY?

All countries are encouraged to promote climate services actively, both domestically and internationally, and to help shape the development of GFCS to ensure that GFCS meets their needs and those of the international community.

Developed countries with good capacity in climate services can share and disseminate data, expertise, and best practices. They can provide advice and assistance to other countries that are committed to establishing and sustaining their own national climate services. They are invited to strengthen their bilateral partnerships and, where feasible, to contribute in-kind and financial support.

Developing countries are encouraged to leverage their internal capacities and to build partnerships between government agencies and other institutions.

It is recommended that they integrate GFCS activities into their sustainable development strategies and projects as well as their National Adaptation Programme of Action (NAPAs).

Where feasible, countries are also encouraged to report to the World Meteorological Congress and other UN forums on their GFCS-related activities, to provide experts and expertise to GFCS projects and activities, to serve on the future GFCS Intergovernmental Board, and to contribute staff to the GFCS secretariat.

## **7. HOW SHOULD WMO MEMBERS SEEK TO INFLUENCE GFCS?**

To be successful, GFCS needs to be fully country driven. WMO Members can influence GFCS by commenting on the draft Implementation Plan and then participating actively in the debate at the Extraordinary Session of Congress in October as well as at the Users Conference that will immediately precede it. In this way, they will not only ensure that GFCS meets their own particular national needs, but they will help to make GFCS more relevant and effective for all countries.

Just as Heads of State and Government and Ministers played a key role at WCC - 3 in launching work on GFCS, their engagement in the Extraordinary Congress would make an enormous difference in advancing its implementation. The decisions at Congress are of political importance because they will shape the national commitments and benefits that GFCS will generate. Coming just a month before the annual conference of the UNFCCC, and less than a year before the launches of the IPCC's Fifth Assessment Report begin, the Extraordinary Congress coincides with an important period on the international climate calendar.

## **8. WHAT IS THE CURRENT STATUS OF THE GFCS?**

Following WCC - 3, a High-level Task Force of independent advisors submitted a report outlining the components of the Framework and options for governance. This report assisted the World Meteorological Congress to decide at its May 2011 session on a way forward for establishing the GFCS. In particular,

the Congress tasked the WMO Executive Council with producing a detailed GFCS implementation plan. The Executive Council set up an Executive Council Task Team to be in charge of supervising the drafting team and overseeing an extensive consultation process with Members, partners and other interested parties. The revised draft of this plan, which addresses principles, activities and governance, was distributed to governments and experts in August 2012.

## 9. WHAT ARE THE KEY DATES AND DECISIONS POINTS AHEAD?

WMO's first-ever Extraordinary Session of Congress will be held from 29 to 31 October 2012 to decide upon the adoption of the GFCS implementation plan and governance structure; this may include establishing an Intergovernmental Board for overseeing GFCS implementation as well as a GFCS Secretariat. The Congress will be preceded by a Users Conference on 26-27 October that will give governments and other users of GFCS an opportunity to explore issues in greater detail.

Looking beyond the 2012 Extraordinary Congress:

- By end-2013, governments are to complete an organization-building phase. The Intergovernmental Board will establish the necessary management and executive (technical) committee structures as well as programs to undertake immediate implementation priorities.
- By end-2017, GFCS is expected to facilitate access to improved climate services globally in four priority sectors (agriculture, disaster risk reduction, health and water). Active technical committees for each component and an active communications program will be established. At least five United Nations entities will be involved, and GFCS will participate in at least US\$ 150 million of climate-related development projects. A mid-term review of the implementation of the Framework will be completed.
- By end-2021, GFCS will have facilitated access to improved climate services globally across all climate sensitive sectors. At least eight United Nations entities will be involved, and GFCS will participate in at least US\$ 250 million of climate-related development projects.

For more information, please contact:

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