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PROGRESS/ACTIVITY REPORT

THE GLOBAL FRAMEWORK FOR CLIMATE SERVICES

The benefits of effective climate services

The past few years have seen a major focus on the development and application of new, more accurate and more useful climate services. However, present capabilities to provide climate services do not exploit all that we know about climate, fall far short of meeting present and future needs, and delivering their full and potential benefits, particularly in developing countries. The widespread, global use of strengthened climate services will lead to improved decisions that contribute to social and economic development and reduce disaster risks and losses. Climate services are also fundamental in adapting to climate change. The implementation of many planned climate change adaptation measures, including those in National Adaptation Programmes of Action, will require a range of climate services that is not currently available. It is hoped that funding for improved climate services can, at least in part, be sourced from the newly established Adaptation Fund but the mode of operation of that Fund is still not clear.

The overall cost of providing climate services is extremely small in comparison to the value of the investments that they support and therefore the potential savings and efficiencies are enormous. Climate services can maximize the effectiveness and value of investments that support climate change adaptation and the achievement of the Millennium Development Goals. The cost of climate change adaptation is estimated to be in the region of US\$ 50-100 billion per year by 2015, the cost of achieving the MDGs is estimated to be of similar magnitude. Between 1990 and 2009, global damage costs of weather and climate extremes averaged US\$ 61.8 billion per year.

International efforts to strengthen climate services

Global decision makers are increasingly concerned by the adverse impacts of climate variability and change and there is a growing demand for better climate information to assist in reducing the associated risks and maximizing the associated opportunities. In 2009, this concern was reflected at the World Climate Conference-3, which brought together over 2500 delegates from more than 150 countries, 34 United Nations organizations, and 36 other governmental and non-governmental international organizations. The vision of the conference was to establish: "An international framework for climate services that links science-based climate predictions and information with the management of climate-related risks and opportunities in support of adaptation to climate variability and change in both developed and developing countries".

The Heads of States and Governments, Ministers and Heads of Delegations present at the Conference, through the High-level Declaration, decided to establish a Global Framework for Climate Services to strengthen the production, availability, delivery and application of science-based climate prediction and services. They further requested that a taskforce of high-level, independent advisors be appointed to consult widely with governments and relevant stakeholders and to prepare a proposal for implementing the Framework. This is the report of that taskforce.

The Global Framework for Climate Services

Addressing the immense variety of user needs for climate services is beyond the capacity of any single organization, group of organizations or country. It calls for an unprecedented collaboration among institutions across political, functional, and disciplinary boundaries. To overcome the challenges in facilitating greater use of climate information in decision making, a global mobilization of effort is required to build up the necessary infrastructure, skills and expertise for the provision of comprehensive user-focussed climate services.

The Global Framework for Climate Services will foster and guide this effort. It will be a vehicle to facilitate the more effective use of climate information to reduce vulnerability and manage climate-related risks. It will, for the first time, coordinate global activities and build on existing efforts to provide climate services that are truly focused on meeting user needs, available to those that need them and provide the greatest benefits possible from climate knowledge.

The Framework is envisaged as a set of international arrangements, which will establish an end-to-end system for providing climate services and applying them in decision making. Specifically, it will facilitate increased flows of climate data, better access to climate information, more extensive and improved use of existing knowledge and tools, and substantially reduce climate-related vulnerability and losses.

The Framework will facilitate the development, provision and effective use of climate services based on user needs. They will: be consistently available and accessible at time and space scales that meet user needs; be presented in user specific formats so they can be used in decision making processes; be credible and authoritative so users have confidence in applying them; be responsive and flexible to evolving user needs; provide the user with an understanding of the underlying degree of certainty associated with predictions; and be sustained and affordable over the timeframe of user needs.

When fully implemented, the Framework will lead to widespread social, economic and environmental benefits through more effective climate and disaster risk management and increased capacities for adaptation to climate variability and change. It is expected to bridge the gap between the climate information being developed by climate scientists and service providers and the practical needs of users, and ensure that every country is better equipped to meet the challenges of climate variability and change. It will therefore support the achievement of the objectives of various international agreements, including the United Nations Framework Convention on Climate Change (UNFCCC), the United Nations Convention to Combat Desertification (UNCCD) and the Millennium Development Goals.

The proposed Framework will be driven by user needs and will have five major components (Figure 1.):

- The User Interface Platform will provide a means for users, user representatives, climate researchers and climate service providers to interact, thereby maximizing the usefulness of climate services, and to develop new and improved applications of climate information. It must be an open, flexible structure including all stakeholders in climate services in a dialogue that leads to an improving global capability that will be progressively implemented by the underlying components;
- The Climate Services Information System is the system needed to protect and distribute climate data and information according to the needs of users and to the procedures agreed by governments and other data providers;
- The Observations and Monitoring component will ensure the generation of the climate observations necessary to meet the needs of climate services;
- The Research, Modelling and Prediction component will assess and promote the needs of climate services in research agendas;
- The Capacity Development component will support the systematic development of the necessary institutions, infrastructure and human resources to provide effective climate services. In particular, it will address current inadequate capacities in developing and least

developed countries, including Small Island Developing States, and particularly vulnerable regions such as Africa.

Many of the foundational capabilities and infrastructure that make up these components already exist or are being established, but require coordination and strengthened focus on user needs. Establishing the Framework will require some new investment, but mostly it will capitalize on the significant resources and capacities that are already available. Its role will not be to duplicate but to facilitate and to strengthen.

In order to be effective, the Framework will need an ongoing governance mechanism to strongly drive its development, particularly to engage and mobilize stakeholders, user communities and new resources. Governments must play a central role in the Framework's governance and implementation and its intergovernmental functions should be based in the UN system.

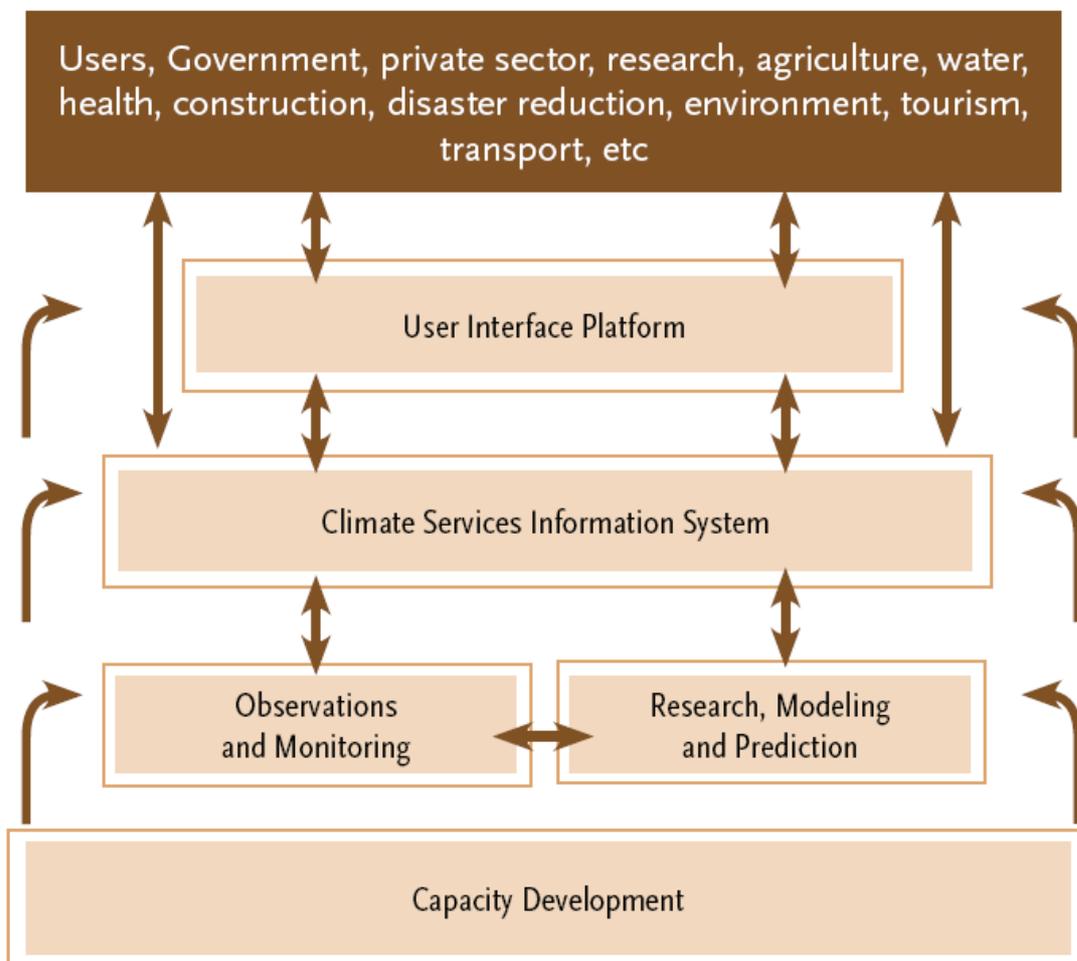


Figure 1: Components of the Global Framework for Climate Services

Needs-based climate services

The users of climate information are diverse and many: from the student working on a local environmental project, to the land manager planning drainage networks, to the engineer designing power plant cooling systems. To help them use it effectively, decision makers need to have access to climate information that is suited to their particular needs and practical guidance on how they can use it in their decision making. For climate information to be useful, it needs to be appropriate

to the type of decision being made, the context of which may vary between country, region and sector.

Climate services encompass a range of activities that deal with the generation and provision of a wide range of information on past, present and future climate and its impacts on natural and human systems. Included in a climate service is the application of that information for decision-making at various levels in society.

Climate services include the use of simple information like historical climate data sets to more complex products like predictions of weather elements on monthly and seasonal timescales, or projections of climate under different greenhouse gas emissions scenarios. They also include information and support that help the user choose the right product for the decision they need to make, explain the uncertainty associated with the information, and how to best use it in the decision making process. Climate services add value to basic climate products and make them useful for diverse applications across all sectors.

Examples of climate services include:

- Climate predictions can be used to help farmers decide on the best crops to plant based on anticipated rainfall and on the uncertainty in the forecast, or to reduce livestock numbers if a drought is forecast to continue;
- Predictions of the future frequency of extreme events such as high winds, rainfall, floods, droughts and extreme temperatures, all of which can affect a community, will determine where to invest in disaster mitigation measures such as dams, the strength and location of buildings, and the amount of heating and cooling that can be supplied to critical infrastructure;
- Seasonal climate forecasts and careful monitoring of actual rainfall can be used to provide forecasts of when and where disease outbreaks are likely to occur. The impacts of the outbreaks can be minimised by appropriate public awareness campaigns, stocking and shipping of medical supplies, and vector control programme planning, such as spraying;
- Highly critical water management decisions, such as whether to store water in anticipation of a water shortage, or release water in anticipation of flood conditions are guided by short-term and seasonal forecasts.

Providing effective, needs-based climate services globally requires: (1) mechanisms that allow for user needs to inform the development of climate services, including the identification of realizable needs, deployment of observing systems and the directions of climate system, impacts, and decision making research; (2) mechanisms for promoting the demand for climate services where the needs are insufficiently recognized; (3) a physical means of distributing climate information; (4) accurate observations and monitoring of climate and relevant non-climatic variables; (5) understanding of the climate system and its impacts and how they can be predicted; and (6) sufficient capacity in all parts of the process of climate service development, delivery and use to ensure the benefits of climate knowledge are maximized in all countries.

The High Level Taskforce: approach and process

The High-Level Taskforce on the Global Framework for Climate Services began work in January 2010. Its mandate has been to develop the components of the Framework and clearly illustrate how it would promote the integration of climate information and services into decision making at all levels and across all sectors of society. The Taskforce has been particularly concerned that it should take into account the special needs of Africa, Small Island Developing

States (SIDS), Least Developed Countries (LDCs), and Landlocked Developing Countries (LLDCs).

In order to understand better the needs of all users of climate information and the perspectives of providers, the Taskforce has undertaken numerous consultations with Governments, UN Agencies, International and Regional Organizations, and NGOs. They used an electronic questionnaire, organized regional workshops and took opportunities provided by meetings organized primarily for other purposes to obtain feedback on their task. The Taskforce has received more than 30 submissions from governments and a similar number of submissions from various organizations, outlining their hopes for the Framework and what support they could provide.

The Taskforce's approach to their task was as follows: firstly, they reviewed the current capabilities for providing climate services. Secondly, they reviewed the needs of users of climate services, looking at both sector and geographical perspectives. On the basis of this analysis, they identified gaps in the existing provision of climate information and opportunities for strengthening it to more effectively meet the needs of all users. Thirdly, they developed the Framework so that it would ensure the gap between the provision and need for climate services was closed and that opportunities for strengthening services to meet existing and new demand could be fully exploited.

In the design of the Framework and its implementation strategy they have taken into account a number of important principles that emerged from our consultations and analysis, including those at the First Conference of Ministers Responsible for Meteorology in Africa, which took place in Nairobi, Kenya from 12 to 16 April 2010. Among these, are the need to give priority to the poorest and most vulnerable countries, the need to make the provision of climate services based on user needs, that governments should play the central role, and that the Framework should not duplicate current capabilities but strengthen them and coordinate. The draft of the Taskforce report has now been made available for review and comment.

The report has been drafted to be accessible to everyone, not just scientists and technical experts. It provides overall direction in the development of the Framework and does not contain technical details. The Taskforce will be reliant on the many expert communities to translate their implementation strategy into detailed work plans with the most important group of experts being those represented by the WMO, but other experts, drawn from throughout the UN system will have a role.

Structure of the report

The structure of this report is based on the Taskforce's approach described above (Figure 2).

In Part I, the Taskforce describes the current uses of climate information in decision making (Chapter 1). They then describe current capabilities and coordination mechanisms, and highlight important concepts in each of the three foundational components of climate service provision – observations (Chapter 2), research (Chapter 3) and capacity development (Chapter 4).

In Part II, the Taskforce looks at the demand side of climate information. They describe how climate information is used in eight socio-economic sectors and analyse their short-, medium- and long-term needs (Chapter 5). They analyse the needs for climate information to support international policy commitments, such as the Millennium Development Goals (Chapter 6). They use a series of case studies to analyse the diverse needs of countries for climate information, depending on their geographical and socio-economic contexts, and to highlight the different levels and types of climate service development across countries (Chapter 7). Finally (Chapter 8), they use the information in Chapters 1-7 to identify gaps in the current capabilities for providing climate information and opportunities for strengthening climate services that truly meet user needs.

In Part III, the Taskforce presents their proposal for the Global Framework for Climate Services. This is based on the findings of Parts I and II and their consultations. It sets out details of how they propose the Framework should be implemented, including their vision for the Framework, principles and strategic considerations that affect it, its component mechanisms and projects, and its cost (Chapter 9). They also propose two options for the governance of the Framework (Chapter 10).

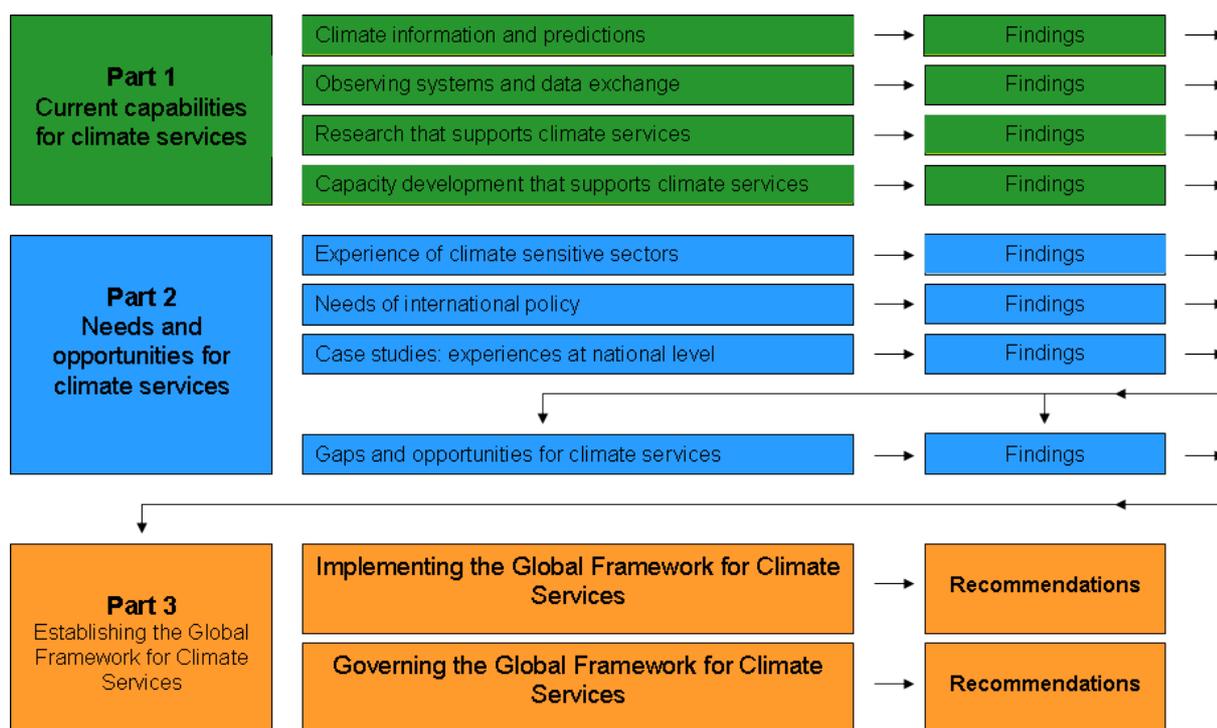


Figure 2: Structure of the report

Findings and recommendations

Each chapter in Parts I and II closes with a number of findings, which inform and guide the Taskforce's proposal for the Framework. Chapters 9 and 10 close with a series of recommendations arising from our work and for immediate next steps in implementation of the Framework. At the highest level, these are:

1. Governments, working with the UN system, should proceed with the implementation of the Global Framework for Climate Services as a high priority activity, which can provide substantial socio-economic and environmental benefits, including supporting development and climate change adaptation;
2. The WMO should establish a group to develop a detailed implementation plan for the Global Framework on Climate Services based upon the broad strategy outlined in this report;
3. That early advice be given by the WMO's Congress as to the desired governance model so that the working mechanisms of the Framework can be quickly put in place;

4. Over the next four years, the Framework should prioritize the development of new climate services in the areas of disaster risk reduction, health, agriculture and water. All socio-economic sectors being catered for in the same way over the succeeding four year period;
5. In the development of the Framework, priority should be given to engaging governments and the UN system in a User Interface Platform that would encourage broad dialogue between all users and providers of climate services, as well as to those responsible for the key components of the Framework (observations, research, information systems, and capacity development). This would ensure that the Global Framework for Climate Services is needs driven.

The Challenge for the WMO and its Members

The draft report of the Taskforce will be available for review from 1 to 19 November 2010. All review comments will be considered and the report will be updated with the intention of releasing it in January 2011.

The WMO as an Organization will need to respond to the recommendations of the report, and, should it decide to support the implementation of the Global Framework for Climate Services begin the detailed planning for doing this. The Taskforce Report will provide an outline for this process but the WMO community, working with other UN agencies will need to fill in the detail.

WMO Members should recognize that the Framework provides them with a range of opportunities. Firstly, in many countries, agencies and organizations other than the National Meteorological Services have an interest, and experience in providing climate services. Each nation must make its own decision as to which agency or organization will have the national lead in engaging with the Framework and so it will be in each National Meteorological Services' best interest to have established a high profile in the provision of climate services, or the potential for it.

Secondly, it is clear that, while in a policy sense the Framework is not linked to the processes of the UN Framework Convention on Climate Change, through the so-called Adaptation Fund, which has been generated through the UNFCCC process, it is possible (even likely) that resources will become available for the Global Framework for Climate Services. These resources may be invested in research, monitoring, service provision or capacity building. Whatever the national choice for investment of these resources, if the National Meteorological Services are to benefit it will be essential that they have demonstrated, in a national context, how they are able to contribute to better climate change adaptation decisions, and how, with increased investment, they could do a great deal more.

Thirdly, the Taskforce report stresses the importance of regional cooperation and the exchange of climate information and data. Each National Meteorological Service should be furthering its regional networking in climate-related areas and looking for opportunities to exchange data and information to provide improved national climate services. Strengthening the RCOFs process, and consolidating effective Regional Climate Centres where possible, would greatly assist this process.
