



KEY MESSAGES OF THE WMO COMMUNITY FOR COP 19

Introduction

The climate action depends on the availability of high-quality scientific information. Climate data, science, information and knowledge are critical elements in all facets of development under a changing climate. National Meteorological and Hydrological Services (NMHSs), Regional Climate Centers (RCCs) which they operate and other related entities and partners play a key role in linking climate knowledge with action. There is an urgent need to build the research capability of institutions around the world to address the needs of policy-makers and vulnerable communities for new information.

NMHSs serve as major custodians and providers of authentic climate information required by Climate Services, particularly on the national scale. It is therefore important that they are provided access to the necessary financial resources for a wide range of their climate related activities, including through various existing mechanisms, to support enhanced climate services for national development partners.

Global-scale initiatives, such as the Global Framework for Climate Services (GFCS), that can facilitate improvements in the use of climate information by policy makers and others, are underpinned by the availability of adequate climate observations and state-of-the-art science at global, regional, national and local scales.

1. Subsidiary Body for Scientific and Technological Advice (SBSTA)

1.1 Adaptation

WMO and its 191 Members, a global network of National Meteorological AND Hydrological Services (NMHSs) following globally agreed standards and protocols, support the implementation of adaptation-related initiatives such as the Nairobi Work Programme on impacts, vulnerability and adaptation to climate change (NWP) and the Cancun Adaptation Framework under the UNFCCC.

WMO and the NMHSs of its Members have a vast reservoir of expertise, services, data and tools that can be delivered through governments, programmes, technical commissions, expert teams and partner organizations. WMO's strong scientific and technical capabilities can be combined with local, regional and global knowledge to provide authoritative and targeted analyses for consideration by the SBSTA and the Subsidiary Body for Implementation (SBI). WMO provides a coordinated global framework for obtaining climate data needed for assessing climate change and its impacts on vulnerable sectors and national economic development. These data are also essential for conducting research and designing adaptation policies.

A communication gap currently exists between decision-makers, vulnerable communities, development practitioners, and climate scientists in the world, particularly in developing countries and Least Developed Countries (LDCs). A coordinated collaborative research strategy could help narrow this gap and deliver operational climate services in support of adaptation.

NMHSs should participate in cross-disciplinary research between social and natural sciences to understand and better communicate projected climate impacts on water resources, health,

wetlands, and other natural ecosystems, urban and rural areas, and livelihood systems to enable adaptation to a changing climate, for the benefit of resource planners and user communities.

The Global Framework for Climate Services (GFCS) helps governments to better anticipate the impacts of evolving climate conditions, including possible increases in climate extremes; bridge global, regional, national, and local information gaps; incorporate climate information into various socio-economic sectors, assist in climate risk assessment; and develop mitigation and adaptation measures.

WMO promotes the development and dissemination of methodologies and tools for impact and vulnerability assessments. It leads international activities on improving the collection, management, exchange, accessibility and use of observational data and other relevant information on current and historical climate and its impacts. WMO also fosters the development of a global architecture of observing systems, including from space.

1.2 Development and transfer of technologies and implementation of the Technology Mechanism

Atmospheric science and technology are critical for both mitigating and adapting to climate change. Authentic, reliable and science-based weather and climate information should be made readily accessible through systems and programmes that integrate observations, data, research, assessment, monitoring, prediction/projection, communication and outreach.

WMO coordinates efforts to address new and evolving technological requirements for climate data and for climate monitoring products and services. These data and services are needed for the analysis and assessment of climate extremes, national and regional climate change adaptation policies, and the development/implementation of early warning systems and “climate watches”.

WMO’s Technical Commissions, international programmes, Global Data-Processing and Forecasting System (GDPFS), WMO Information System (WIS) and Global Telecommunication System (GTS) enable NMHSs to contribute to the work of the Climate Technology Centre and Network (CTCN) under the Convention.

WMO is strongly committed to coordinating the implementation and use of information and communication technologies (ICTs) that will improve the global, regional and national production, exchange and distribution of information and warnings on weather, climate and water. WMO will develop the WIS in a way that enables it to support the post-2015 development agenda. The availability of information technology has, therefore, a key role to play in enabling and fostering access to weather, climate and water information and services. These services contribute to the safety of life and property and enable sustainable development for the benefit of humanity.

1.3 Research and systematic observation

Policymakers, development planners, farmers in the field, the health community, and communities of practice of other socio-economic sectors need timely, reliable, and easily understandable climate information.

However, there are, for example, critical gaps in Africa’s climate observing systems that need to be filled to facilitate sound science and decision-making. Lack of adequate data and observation systems seriously hinders the ability of scientists to assess the past and current state of the climate.

Recovering, digitizing, and analyzing existing historical climate data bear critical importance. These are the basis for developing tools and systems to add value to climate data that can provide useful information on climate extremes and support adaptation, mitigation, and risk management.

Since WMO and the Global Climate Observing System (GCOS) that it co-sponsors are the main contributors to systematic observation under the Convention, NMHSs can play a leadership role on this topic during the Convention negotiations.

SBSTA receives a regular status report from the GCOS Secretariat on the process for assessing the adequacy of global observing systems for climate and the progress on implementing GCOS. GCOS will publish its Second Assessment of Progress and its Third Adequacy Report in 2015. The assessment report will examine how GCOS is meeting the data and information needs for adaptation and climate services. The adequacy report will support the development of a new GCOS Implementation Plan, to be published in 2016. This report, together with the draft of a new Implementation Plan will be submitted to SBSTA 43 during COP 21.

There is a growing need for detailed, high-resolution information about regional aspects of climate change and variability. This information is needed by scientists in disciplines that require climate information (e.g. such as hydrologists) and by policymakers, other decision-makers and officials responsible for assessing climate change impacts, and developing adaptation policies to build resilience of vulnerable and exposed communities and assets. Although climate change projections must be based on global models, such models lack sufficient spatial detail for all applications. Constraints on available computing resources can limit direct simulations at any required ultimate scales; therefore, various techniques have been developed for 'downscaling' global climate projections (and shorter-term climate predictions) and for producing fine-scale regional climate information.

The World Climate Research Programme (WCRP), which is co-sponsored by WMO, leads the Coordinated Regional Climate Downscaling Experiment (CORDEX) initiative for producing an improved generation of regional climate change projections world-wide. These projections served as inputs into impact and adaptation studies assessed by the IPCC AR5 and will continue to do so for future assessments as well. CORDEX also improves communication between the impacts, adaptation, and other user communities on the one hand, and the regional climate downscaling community on the other.

WCRP facilitates cutting edge climate research to address challenges identified by its Programme's Strategic Framework 2005-2015 on "Coordinated Observation and Prediction of the Earth System". The WCRP's leadership and its network of researchers focus their efforts on coordinating international climate research, modelling and prediction in support of the priorities identified by WCRP sponsors and stakeholders. WCRP is developing a future research strategy and priorities in response to the rapidly emerging needs for science-based climate information for decision-making, in close consultation with the international science community,

1.4 Issues relating to agriculture

WMO emphasizes the science-driven approach to enhancing adaptation in the agriculture sector, while promoting sustainable development, agricultural productivity and food security. NMHSs assist in providing meteorological and related services to the agricultural community to help develop sustainable and economically viable agricultural systems, improve production and quality, reduce losses and risks, decrease costs, increase efficiency in the use of water, labour and energy, conserve natural resources and decrease pollution by agricultural chemicals or other agents that contribute to environmental degradation.

Adaptation in the agriculture sector also requires more effective responses to droughts in most parts of the world. WMO and the Global Water Partnership (GWP), in collaboration with other partners including UNCCD and FAO, have jointly launched the Integrated Drought Management Programme (IDMP) to provide preventive and demand-driven support mechanisms for the communities, countries and regions affected by drought. WMO, UNCCD and FAO jointly organized a High-level Meeting on National Drought Policy (HMNDP) in March 2013, to facilitate the

development of national drought policies around the world. NMHSs contribute to the national drought policy as part of an integrated approach to drought risk assessment and management.

2. Subsidiary Body for Implementation (SBI)

2.1 Matters relating to the least developed countries and National Adaptation Plans (NAPs)

There is a strong demand for climate services to address climate change and adaptation, particularly at the local level. NMHSs can help to meet this demand by combining climate change projections with local climate data and knowledge. These products can then be used to suggest adaptation strategies for avoiding, preparing for and effectively responding to the changing patterns of extreme events.

WMO assists governments, in particular developing countries, Least Developed Countries and Small Island Developing States (SIDS), to improve their understanding and assessment of impacts, vulnerability and adaptation through access to better climate information. This then enables them to make informed decisions on practical adaptation actions and measures on a sound, scientific, technical and socio-economic basis.

NMHSs are encouraged to continue their active role in the Least Developed Countries Expert Group (LEG) in the UNFCCC process and to provide technical advice to LDCs for preparing their national adaptation programme of action (NAPAs) and their contributions to the LDCs work programme.

The LEG has identified a clear list of needs for its future work. WMO can specifically contribute to the following areas:

- (i) *Identification, analysis and management of key data to support adaptation planning and implementation, including rescue and archival of the data;*
- (ii) *Analysis of climate data and the development and application of climate change scenarios in assessing climate change risks at the national, sectoral and local levels;*
- (iii) *Design of research and systematic observations to support adaptation analysis and planning.*

2.2 Addressing loss and damage associated with climate change impacts in developing countries that are particularly vulnerable to the adverse effects of climate change to enhance adaptive capacity

Decision 3/CP.18 recognized the relevance of the GFCS to "*Approaches to address loss and damage associated with climate change impacts in developing countries that are particularly vulnerable to the adverse effects of climate change to enhance adaptive capacity*". COP 19 is expected to further elaborate on this important programme to finally establish an international mechanism. WMO and NMHSs can contribute by delivering data as well as guidelines, standards and recommended practices for monitoring and detecting weather and climate-related hazards. In this way, WMO can contribute to building climate resilience, reducing economic and social losses, and alleviating damages associated with climate change impacts in developing countries and LDCs that are particularly vulnerable to the adverse effects of climate change.

NMHSs recognize that there is also a need to develop geo-referenced and categorized impact datasets across all climate-sensitive sectors (e.g., for crop yields, river flows, groundwater, and health/hospital admission statistics) to aid development and targeting of applications models.

At the national level, NMHSs will continue developing projects for data rescue and data management systems and improving technical capacities in hazard mapping and analysis. WMO will promote the delivery of critical data, forecasting and analysis products and services and

collaborate on geo-referencing loss and damage data associated with these hazards. It will carry out risk assessments as a critical foundation for taking preventive and preparedness measures to reduce the impacts of relate disaster. This will also support the development of the GFCS, which aims to improve access to science-based climate products and services in support of risk management and decision-making.

2.3 Capacity-building

COP 18 adopted the eight-year Doha work programme on Article 6 of the Convention. Article 6 commits governments to promote and facilitate education, public awareness and training in the field of climate change. The COP decision recognizes WMO and five other UN bodies as members of the United Nations Alliance on Climate Change Education, Training and Public Awareness. WMO brings to the Alliance its invaluable networks of experts and of NMHSs as well as a number of relevant programmes on education and training and scientific capacity-building.

WMO builds capacity through education and training on climate science operations and methodologies. It identifies best practices in climate service delivery to help countries effectively incorporate climate issues into national sustainable development agendas such as NAPAs. Furthermore, WMO assists in establishing a vigorous capacity development initiative to train the next generation of scientists and research networks at the global and regional level, ultimately targeting capacity development at the national level.

3. Climate Finance

The Global Framework for Climate Services represents a major, concerted and coordinated global effort to improve the wellbeing of all parts of society vulnerable to climate variability and climate change in alignment with already existing mechanisms. Implementation of the GFCS will generate scientific sound knowledge that will be a direct contribution to adaptation to climate variability and change. Hence investments in GFCS implementation will contribute towards action on adaptation efforts.
