World Meteorological Organization
Organisation météorologique mondiale

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Weather • Climate • Water
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Our ref.: CLPA/CCA/UNFCCC-COP20 GENEVA, 10 October 2014

Annex: 1

Subject: COP 20 and CMP-10 of the UNFCCC, Lima, Peru, 1-12 December 2014

Actions required: To consider the "Key Messages of the WMO Community for COP 20" and the outcome of the UN Secretary-General's Climate Summit (23 September 2014)

Dear Sir/Madam,

Following my previous circular letter dated 7 August 2014, as you are aware, the 20th session of the Conference of the Parties to the Climate Change Convention (COP 20) will be held in conjunction with the 10th session of the Conference of the Parties serving as the meeting of the Parties to the Kyoto Protocol (CMP-10) in Lima, Peru, from 1 to 12 December 2014. This will also include the following sessions:

- The forty-first session of the Subsidiary Body for Scientific and Technological Advice (SBSTA 41);
- The forty-first session of the Subsidiary Body for Implementation (SBI 41); and
- The third session of the Ad Hoc Working Group on the Durban Platform for Enhanced Action (ADP 3).

The High-Level Segment of COP 20 and CMP-10 will be held from 9 to 12 December 2014.

I am pleased to send you attached the "Key Messages of the WMO Community for COP 20" and encourage the delegates from National Meteorological and Hydrological Services (NMHSs) of Members of WMO who will attend the COP 20 to refer to this document for further guidance. This material articulates key technical areas and services which NMHSs contribute towards implementation of the United Nations Framework Convention on Climate Change (UNFCCC). It also contextualizes the role of NMHSs according to the relevant work streams and bodies under the Convention, as identified by the Parties.

To: Permanent Representatives (or Directors of Meteorological or Hydrometeorological Services) of Members of WMO (PR-6797)

cc: Hydrological Advisers to Permanent Representatives

In the meantime, the WMO Secretariat is planning for a UN system-wide side event entitled: *Technical briefing at UNFCCC COP 20 "Strengthening climate adaptation and preparedness for El Niño and its impacts: Enhancing climate services through improved monitoring and prediction of El Niño"*. The event is co-sponsored by the WMO, the Food and Agriculture Organization (FAO) and the International Research Centre on El Niño (CIIFEN) and is planned to be held on Friday, 5 December 2014. The approved dates and programme of all events relevant to WMO, as well as other documentation and materials, will feature on the following WMO webpage: http://www.wmo.int/pages/meetings/wmo-at-unfccc-cop_en.html

I would like also to share with you the outcome of the United Nations Secretary-General's Climate Summit, which was held in New York, on 23 September 2014. The Summit brought together more than a hundred leaders from government, private sector and civil society, with the aim to raise political ambition and scale up actions and commitments, at all levels, to foster climate mitigation and adaptation and build support for a global legal agreement by 2015. At the Summit, WMO, in collaboration with the United Nations Educational, Scientific and Cultural Organization (UNESCO) and the United Nations Institute for Training and Research (UNITAR), was responsible for the organization of a Thematic Session on Climate Science that highlighted how high-quality scientific information can inform decision-makers and enable climate action and also how creative approaches for communicating climate science can educate, motivate and empower public, private and individual actors to mitigate greenhouse gas emissions and build climate resilience.

The Thematic Session on Climate Science was chaired by the Presidents of Mongolia and Guyana and drew the following message: Science tells that the warming of the climate system is unequivocal, with unprecedented changes over decades to millennia, and that human influence is the dominant cause. The Thematic Session on Climate Science offered an interactive and close examination of the science – policy interface emphasizing the need for urgent decisions underpinned by scientific findings. Climate change can make our sustainable development efforts ineffective, undermining poverty reduction, food security, safety and health and make adaptation more costly and difficult, if not impossible. To act intelligently, we, as individuals and decision-makers in the public and private sector, need access to sound science, information and climate services. Additional investments in science to further enhance knowledge and reduce uncertainty are certainly needed, but there is no need to wait for 100% certainty. The knowledge base for informed action is available to guide climate policies and decisions from the national to the local scale. In this event, the WMO Greenhouse Gas Bulletin drew great attention concerning the seriousness of the situation and urgency for action.

In the way forward to COP 20, I wish to encourage you to consider participating in this Conference as a member of your national delegation to strengthen the role of NMHSs among other national partners as a contribution to the UNFCCC process through provision of scientific advice in your area of expertise.

In case you or your staff members are planning to attend, I would appreciate receiving information concerning attendance not later than **17 November 2014**.

Yours faithfully,

(M. Jarraud)
Secretary-General

World Meteorological Organization
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KEY MESSAGES OF THE WMO COMMUNITY FOR COP 20

Introduction

This material has been prepared to inform directors and delegates from National Meteorological and Hydrological Services (NMHSs) attending the UNFCCC Conference of Parties (COP) and to assist them in identifying and articulating key technical areas and services which NMHSs contribute towards implementation of the Convention. It also contextualizes the role of NMHSs according to the relevant workstreams and bodies under the Convention, as identified by the Parties. Key messages are indicated in text boxes below.

NMHSs serve as major custodians and providers of data and competencies required to support climate services. These services underpin adaptation at national level as well as global monitoring of atmospheric concentrations of greenhouse gases and climate change. It is therefore important that NMHSs are provided access to the necessary financial, human, technical and institutional resources for a wide range of climate related activities.

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

The conclusions of the IPCC Fifth Assessment Report (AR5), the information contained in key WMO publications such as the Greenhouse Gas Bulletins, the Ozone Bulletins and the Status of Climate should be used to promote the stance that the climate science is solid enough to be efficiently and cost-effectively used in policy formulation and implementation. At the same time there is a need for further progress, on downscaling and communicating and educating about climate risks.

Although climate science is continually evolving, it is already adequate for supporting policy and practice. It will be important, for example, that investments in infrastructure take account of mid-to long-term climate projections as well as past statistics to account for climate conditions. Climate information is also a key input for supporting the post-2015 policy agenda. This includes not only COP 21, but also the Third United Nations World Conference on Disaster Risk Reduction WCDRR (HFA-2) in Sendai (Japan) in March 2015 and the Sustainable Development Goals, which include references to both climate and DRR.

On 23 September, in New York, the Secretary-General of the United Nations convened a Climate Summit bringing together leaders from government, private sector and civil society, with the aim to raise political ambition and scale up actions and commitments, at all levels, to foster climate mitigation and adaptation and build support for a global legal agreement by 2015. At the Summit, WMO, in collaboration with UNESCO and UNITAR, was responsible for the organization of a Thematic Session on Climate Science that highlighted how high-quality scientific information can inform decision-makers and enable climate action and also how creative approaches for communicating climate science can educate, motivate and empower public, private and individual actors to mitigate greenhouse gas emissions and build climate resilience.

The Thematic Session on Climate Science was chaired by the Presidents of Mongolia and Guyana and drew the following message: Science tells that the warming of the climate system is unequivocal, with unprecedented changes over decades to millennia, and that human influence is the dominant cause. The thematic session on climate science offered an interactive and close examination of the science – policy interface emphasizing the need for urgent decisions underpinned by scientific findings. Climate change can make our sustainable development efforts ineffective, undermining poverty reduction, food security, safety and health and make adaptation more costly and difficult, if not impossible. To act intelligently, we as individuals and decision makers in the public and private sector need access to sound science, information and climate services. Additional investments in science to further enhance knowledge and reduce uncertainty are certainly needed, but there is no need to wait for 100% certainty. The knowledge base for informed action is available to guide climate policies and decisions from the national to the local scale. In this event, the WMO Greenhouse Gas Bulletin drew great attention concerning the seriousness of the situation and urgency for action.

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

1.1 Knowledge needs arising from the Cancun Adaptation Framework

WMO and its 191 Members, with its global network of NMHSs following globally agreed standards and protocols support the implementation of adaptation-related initiatives. In the UNFCCC context these include the Nairobi Work Programme on impacts, vulnerability and adaptation to climate change (NWP) and the Cancun Adaptation Framework.

WMO and the NMHSs of its Members have a vast reservoir of expertise, service capabilities, 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 Subsidiary Body for Scientific and Technological Advice (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, particularly in developing countries and Least Developed Countries (LDCs), with respect to the knowledge and capabilities available to support adaptation. This includes the processes for development and implementation of National Adaptation Plans. A coordinated approach incorporating advocacy and outreach regarding available technical, capacity development, and advisory services and research could help narrow this gap and deliver targeted operational climate services in support of adaptation.

WMO promotes the development and dissemination of methodologies and tools for weather, water and climate related 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.

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. Among other things these results are needed to inform the preparation of National Adaptation Plans (NAPs) described below.

The Global Framework for Climate Services (GFCS) helps governments build the needed capacities to better anticipate the impacts of evolving climate conditions, including possible increases in climate extremes. This includes bridging global, regional, national, and local information gaps; incorporating climate information into various socio-economic sectors; research, modeling and prediction; and developing mitigation and adaptation measures. Implementation of the GFCS at country level, therefore, provides a knowledge platform for implementing adaptation.

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

Climate science and applications 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), Global Telecommunication System (GTS) and Regional Climate Centers (RCCs) 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. There are critical gaps in climate observing systems, particularly in Africa, 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 and conduct research on climate risks, impacts and adaptation measures.

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.

Recovering, digitizing, and analyzing existing historical climate data is of critical importance. Historical data recovery is a cost-effective complement to new observations as a means of significantly extending the length and coverage of the climate record.

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. The World Climate Research Programme (WCRP) is working to address these needs.

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 required 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, the International Council for Science (ICSU) and the Intergovernmental Oceanographic Commission (IOC) of UNESCO (IOC/UNESCO), 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 Fifth Assessment Report (AR5) and will continue to do so for future assessments. CORDEX also improves communication between the impacts, adaptation, and other stakeholder communities on the one hand, and the regional climate information community on the other.

WCRP facilitates cutting edge climate research to address urgent challenges in sea level, water availability, global atmospheric circulation, regional climate, cryosphere and climate extremes.

Together with World Weather Research Programme (WWRP), WCRP and its network of researchers focus on international and interdisciplinary cooperation necessary to achieve seamless predictive skills from short-term (weather) to long-term (climate) scales. These WCRP programmes support the priorities identified by WCRP sponsors and stakeholders and support the research pillar of GFCS.

Efforts need to be made to ensure that observations crucial to our understanding of terrestrial systems, including the hydrosphere, biosphere and cryosphere, are moved from the largely research driven funding base to a secure, longer term monitoring network that fully adheres to the Global Climate Observing System and Climate Monitoring principles.

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. These services help to 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.

WMO assists NMHSs in a number of areas related to a SBSTA 40 conclusion concerning agriculture (FCCC/SBSTA/2014/L.14). Priorities include early warning systems and contingency plans for extreme weather events, assessment of risks to agricultural systems, and identification of adaptation measures. Many products and services of NMHSs, such as weather forecasts and seasonal climate forecasts, aid the agricultural community in the identification and assessment of agricultural practices and technologies to enhance productivity, food security and resilience in a sustainable manner.

WMO supports the outcomes of the Global Alliance on Climate Smart Agriculture which are to work for a sustainable and equitable increase in agricultural productivity and incomes, promote greater resilience of food systems and farming livelihoods, and the reduction and/or removal of greenhouse gas emissions associated with agriculture (including the relationship between agriculture and ecosystems) where possible. The work of WMO and the NMHSs provide many products and services that contribute to these outcomes.

Adaptation in the agriculture sector also requires more effective responses to droughts in many parts of the world. WMO, UNCCD and FAO, along with other partner organizations, 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 and to create more drought resilient societies. NMHSs contribute to the national drought policy as part of an integrated approach to drought risk assessment and management. There are two ongoing initiatives established at the HMNDP that continue to promote the HMNDP goals of providing practical insight into useful, science-based actions to address the key drought issues and to assist national governments in adopting drought policies that engender cooperation and coordination at all levels of government.

The first initiative is the Integrated Drought Management Programme (IDMP) co-sponsored by WMO and the Global Water Partnership (GWP), in collaboration with other partners, to support stakeholders at all levels by providing policy and management guidance and by sharing scientific information, knowledge and best practices. The IDMP has published its first publication "Guidelines for National Drought Management Policies and Preparedness Plans" which is available on the IDMP website (www.droughtmanagement.info).

The IDMP has established a regional project in Central and Eastern Europe to provide practical advice for drought management capacity development in countries in the region as part of adaptation to climate variability and change. There are ongoing preparations for two other regional IDMP projects in the Horn of Africa and West Africa to complement existing drought management initiatives in these regions. The WMO Regional Climate Centres and the GWP Country Water Partnerships will bring key actors not only from the water and climate communities but also from the agriculture and energy community together. In South Asia, the IDMP is collaborating with International Water Management Institute and GWP South Asia in developing a South Asian Drought Monitoring System to monitor drought in Bangladesh, Bhutan, India, Nepal, Pakistan and Sri Lanka.

The second initiative following the HMNDP is a series of Regional Workshops on Capacity Development to Support National Drought Management Policies (NDMP). These are organized by UN-Water Decade Programme on Capacity Development (UNW-DPC), WMO, UNCCD, FAO and CBD. The objectives of these workshops are to raise awareness concerning the role of drought preparedness in development, advance national drought management, taking into account long-term issues to address drought and water scarcity problems, and to promote collaboration between sectors on drought management at country and regional level. Four workshop have been held in Central and Eastern Europe (Romania, July 2013), Latin America and the Caribbean (December 2013), Asia-Pacific (Viet Nam, May 2014), and Eastern and Southern Africa (August 2014).

WMO ensures that these two initiatives, IDMP and NDMP, are coordinated and harmonized.

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.

In the context of climate change adaptation, NMHSs are critical actors in national development planning within almost all sectors. Key services include providing information and scientific advice on climate variability, trends and change (including at the policy level). NMHSs are encouraged to continue their active role in the UNFCCC Least Developed Countries Expert Group (LEG) process and to provide technical advice to LDCs for preparing and implementing National Adaptation Plans (NAPs) and other contributions to the LDC's work programme. NAPs are expected to guide the allocation of significant climate finance in the future.

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.

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. During the Third International Conference on SIDS in Apia, Samoa, 1 - 4 September 2014, WMO launched the 'GFCS for SIDS Partnership'. A large advocacy campaign under the slogan of 'weather together', with the kind support of the Heads of State of Samoa, Tonga and the Solomon Islands, reached a wide audience in the Pacific and Caribbean region and was distributed on major television channels, including those of Australia and New Zealand, a variety of radio channels and print media. Donors and other partners are actively involved in supporting NMHSs and WMO in enhancing capacity.

A successful example of integration of efforts for adaptation planning is the joint initiative of the African Union and the World Meteorological Organization (WMO), the African Ministerial Conference on Meteorology (AMCOMET). AMCOMET is the authority that fosters political will to strengthen NMHSs to enable them to fully perform their roles as fundamental contributors of national development. It consolidates previous achievements and further promotes the effective use of weather and climate products and services that meet end-user requirements. This initiative leads the planning and response efforts, through the Integrated African Strategy on Meteorology, Weather and Climate Services to ensure that NMHSs in Africa can better address climate variability and change. This effort greatly contributes to security and sustainable development, particularly poverty reduction efforts, climate change adaptation, and disaster risk reduction. These contributions are critical in light of the environmental, social and economic dimensions that will be addressed by the Sustainable Development Goals, building upon the MDGs and converging with the post 2015 development agenda.

In addition, several United Agencies agencies are promoting the concept of integrated drought management (see para 1.4 above). Specifically, countries are encouraged to be more proactive in terms of responding to drought and to develop national drought policies which could be a part of the NAPs.

2.2 Warsaw international mechanism for loss and damage associated with climate change impacts

Pursuant to decision 3/CP.18, which captured the role and contribution of the GFCS, COP 19 has established the Warsaw international mechanism for loss and damage associated with climate change impacts under the Cancun Adaptation Framework. The decision takes into account existing institutional arrangements including WMO constituent bodies such as the Regional Climate Centers (RCCs) and technical commissions. The COP 19 decision involves the expert groups under the Convention and expertise and knowledge of relevant organizations and expert bodies outside the Convention at all levels to draw upon and enhance the necessary skills in approaches for addressing loss and damage associated with extreme and slow onset events. WMO will contribute to the Warsaw mechanism through implementation of the GFCS, particularly in developing and least developed countries, as well as the Small Island Developing States (SIDS).

Monitoring of climate extremes and trends which lead to loss and damage is an exceptionally powerful policy support function that NMHSs are uniquely positioned to perform. Data on extreme events, "slow-onset" climate trends, and associated losses and damage are crucial for underpinning implementation and monitoring not only of the Warsaw international mechanism but also of adaptation more generally and the implementation of National Adaptation Plans[1]. The same data is also needed for monitoring implementation of other frameworks outside the UNFCCC context including the post-2015 Sustainable Development Goals (SDGs) and the successor framework to the Hyogo Framework for Action which guides international disaster risk reduction efforts[2]. The role of systematically collected data on extreme and slow onset events at the convergence of these high-level policy frameworks makes focused work in this area one of the highest priorities for supporting the UNFCCC and post-2015 agendas.

For losses and damage to be correctly and consistently attributed to the extreme events with which they are associated each event must be characterized in terms of its location, magnitude, timing and duration. Correct and consistent attribution of losses and damage to more slowly-evolving climatic conditions requires that the relevant climatic indicators be identified and tracked on an ongoing basis so that their contribution to the losses and damage associated with them can be properly accounted for.

Many countries have already established or are establishing loss and damage accounting systems that track deaths, damage and loss to housing, health and educational facilities, infrastructure, etc. associated with hazard events and extremes. NMHSs have a vital role to play in the provision and quality assurance of this data. Specific roles for NMHSs include:

- Official designation/validation of extreme events and the values of key climate indicators for which losses and damages are recorded and reported at country level
- Archiving of event data and trend indices as part of national or sub-national loss and damage accounting systems
- Participating in the development of standards for loss and damage accounting applications, including for
    - Extreme event characterization
    - Unambiguous identification of events through a universal indexing system
    - Hazardous climate trend analysis and key variables.

WMO is preparing a concept note further outlining these functions. WMO will also promote the delivery of critical data, forecasting and analysis products and services and collaborate on geo-referencing loss and damage data associated with extreme events and slow onset trends. 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.

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[1] Least Developed Countries Expert Group (2012) *National Adaptation Plans. Technical guidelines for the national adaptation plan process.* Bonn: UNFCCC secretariat. Bonn, Germany. December 2012. (http://unfccc.int/NAP) pp. 104-116 and Adaptation Committee (2013) *The State of Adaptation under the United Nations Framework Convention on Climate Change. 2013 Thematic Report.* Bonn: UNFCCC secretariat. Bonn, Germany. pp. 15-19.

[2] Outcome Document – Open Working Group on Sustainable Development Goals, 19 July 2014 (http://sustainabledevelopment.un.org/focussdgs.html) pp. 4 (17), 5 (1.5), and 13 (11.5) and Pre-zero draft of the post-2015 framework for disaster risk reduction – Co-chairs of the Bureau of the Preparatory Committee for the Third United Nations World Conference on Disaster Risk Reduction (http://www.wcdrr.org/documents/wcdrr/Pre-zero_draft_post2015_frmwk_for_DRR_8_August.pdf) pp. 4 (9-10) and 5-6 (12,i).

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.

2.3 Capacity-building under the Convention

Capacity building under the Convention requires a standing institutional arrangement.

WMO participates in the eight-year Doha work programme under Article 6 of the Convention. Article 6 commits governments to promote and facilitate education, public awareness and training in the field of climate change. WMO and five other United Nations bodies are 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 plans such as NAPAs and NAPs.

Furthermore, WMO is assisting 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. This will serve as enabling mechanism of human resources required for adaptation activities.

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 scientifically sound knowledge that will be a direct contribution to adaptation to climate variability and change.

Investments in GFCS implementation will contribute towards concerted collective action on adaptation. There will be a need to allocate resources from the Green Climate Fund to strengthen the information base for addressing climate change, including through GFCS, especially in developing countries.