

**WMO OMM**

World Meteorological Organization
Organisation météorologique mondiale
Organización Meteorológica Mundial
Всемирная метеорологическая организация
المنظمة العالمية للأرصاد الجوية
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12 October 2017

Annex: 1 (available in English only)

Subject: Updates on WMO participation in COP 23 and CMP-13/CMA 1.2 of the UNFCCC, Bonn, Germany, 6-17 November 2017

Action required: Representatives from NMHSs are requested to take note of the attached Policy Brief and identify how WMO can further support NMHS engagement in UNFCCC processes

Dear Sir/Madam,

As the dates of the Conference of the Parties (COP 23) and related meetings approach, I am pleased to share more information with you that may help as you consider your participation and that of your country.

As noted in my circular letter of 14 September 2017, the United Nations Climate Change Conference will take place at the headquarters of the UNFCCC Secretariat in Bonn, Germany from 6 to 17 November 2017. Presided over by the Government of Fiji, the Conference will include the twenty-third session of the Conference of the Parties to the UNFCCC (COP 23), the thirteenth session of the Conference of the Parties serving as the Meeting of the Parties to the Kyoto Protocol (CMP 13) and the forty-seventh sessions of the Subsidiary Body for Scientific and Technological Advice (SBSTA 47) and the Subsidiary Body for Implementation (SBI 47). It will also include the fourth part of the first session of the Ad Hoc Working Group on the Paris Agreement (APA 1.4) and the second part of the first session of the Conference of the Parties serving as the meeting of the Parties to the Paris Agreement (CMA 1.2). The High-Level Segment of COP 23 and CMP 13 will be held from 15 to 17 November 2017.

The Paris Agreement, as the outcome of COP 21 (Paris, December 2015), dominates the agenda for COP 23. Implementation of this Agreement is highly dependent on the Nationally Determined Contributions (NDCs) submitted by Parties. The NDCs are key instruments for climate action under the UNFCCC, and it is essential that they benefit from scientific climate information, particularly in the area of adaptation. In that regard, attached for your reference is a Policy Brief on the Role of National Meteorological and Hydrological Services (NMHSs) in implementation of National Adaptation Plans (NAPs). This will be available later, in all UN languages, at <http://public.wmo.int>.

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

cc: Hydrological Advisers to Permanent Representatives

Within the United Nations system, WMO is co-leading preparations for several side-events:

- (1) **Science:** Importance of science in supporting adaptation and mitigation under the Paris Agreement;
- (2) **Disaster Risk Reduction:** Building on the Sendai Framework in support of the Paris Agreement implementation and monitoring;
- (3) **Water:** Climate Action for Improved Water Management;
- (4) **Ocean:** A resilient ocean for future generations.

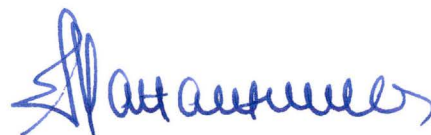
In addition, WMO will join the One UN Exhibition to showcase the role of WMO and Member NMHSs' contributions to the UNFCCC. Many other events are also currently being planned. The dates and programme of events relevant to WMO, as well as related documentation and materials, will be available in due time through the WMO website for COP 23 at the above link.

The sixty-ninth session of the Executive Council (EC-69) considered the outcomes of COP 22 and implementation of Paris Agreement. Climate services for the energy, water, public health, transport and industry, agriculture and land use sectors contribute to a low-carbon and climate-resilient economy through the Global Framework for Climate Services (GFCS). Among other things, EC-69 has invited Members to:

- Work at national level to fully engage NMHSs as critical actors in the cataloguing of extreme events, adaptation programmes, mitigation, and other areas that fall within the competency of their respective Services, and to contribute to the development of NDCs, greenhouse gas monitoring systems and other observing systems;
- Engage in or, where necessary, establish institutional frameworks for climate services at national level that will serve as key coordination mechanisms to bring together stakeholders needed for the successful generation, tailoring, communication and use of climate services for enhanced decision-making.

I encourage you to consider participating in COP 23 as a member of your national delegation to strengthen the role of NMHSs as contributors to the UNFCCC process. Although WMO will not be in a position to provide financial support to your participation at COP 23, I would appreciate any suggestions you may have as to how WMO can assist your Service in supporting your government in implementing the UNFCCC and the Paris Agreement. In case you or your staff members are planning to attend COP 23, please send the information concerning your attendance not later than **22 October 2017** to Ms Nadia Oppliger (noppliger@wmo.int) and, for any questions you may have, do not hesitate to contact Mr Amir Delju (adelju@wmo.int).

Yours faithfully,



(E. Manaenkova)
for the Secretary-General



POLICY BRIEF

The Role of National Meteorological and Hydrological Services (NMHSs) in National Adaptation Plans (NAPs)

Executive Summary

National Adaptation Plans (NAPs) are key instruments for enhancing and scaling up climate action under the [United Nations Framework Convention on Climate Change](#) (UNFCCC). NAPs provide a vehicle for implementation of climate services which is formally recognized by UNFCCC Parties and backed by significant international financing. It is essential that NAPs benefit from scientific information on climate variability, trends and extremes and contain provisions that promote the climate services needed to achieve the best possible climate-related development outcomes.

This policy brief is intended to facilitate understanding concerning the role of National Meteorological and Hydrological Services (NMHSs) in the provision of climate services to design and implement NAPs. NMHSs are encouraged to liaise with NAP focal points within their governments and explore the elements and areas of competency to which they can actively contribute.

1. Introduction

The [Paris Agreement](#), adopted by the 21st session of the UNFCCC Conference of Parties (COP-21), calls for all countries to engage in the process of formulation and implementation of NAPs. The NAP process will harmonize national adaptation priorities with key policy planning processes such as Nationally Determined Contributions (NDCs), submitted by Parties under article 3 of Paris Agreement.

As of 14 August 2017, 159 out of the 197 Parties to the Convention have ratified the Paris Agreement, of which 152 have submitted their first NDCs to the UNFCCC. Of these submissions, 102 include an adaptation component, the majority being from developing countries. The NAP process is mentioned in 39 NDCs, of which 23 note that it has commenced and 16 state that it will start by 2020 (Figure 1). The establishment of synergies and systematic linkages between the adaptation components of NDCs and NAPs will facilitate the scale up of adaptation investments for the near and medium term in many vulnerable developing countries.

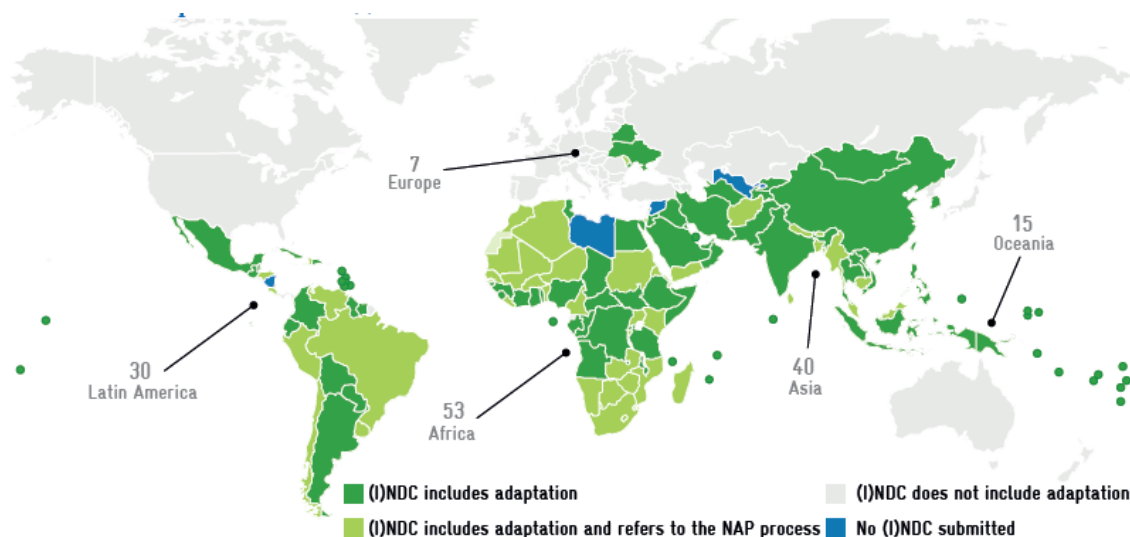


Figure 1 Countries which included an adaptation component and referred to the NAP process in their (I)NDC (Source: GIZ, 2017)

NAPs will also permit countries to align national adaptation results and performance measures to regional and global development objectives and frameworks, as defined by the [Agenda 2030](#). As vulnerability reduction is the core and common element of both adaptation and disaster risk management, a closer integration between NAPs and the [Sendai Framework for Disaster Risk Reduction](#) (March 2015), will also create synergies between reducing loss and damage and protecting sustainable human development.

The Paris Agreement emphasizes that adaptation should be based on, “Information and scientific knowledge on climate, including research, systematic observation of the climate system and early warning systems, in a manner that informs climate services and supports decision-making” (Article 7, paragraph 7). This creates demand for climate services which provide science-based and user-specific information relating to past, present and potential future climate, addressing all climate-affected sectors. NDC adaptation priority areas and sectors include water, agriculture, health, ecosystems, infrastructure, forestry, energy, disaster risk reduction, food security, coastal protection, and fisheries. These priorities encompass all [Global Framework for Climate Services](#) (GFCS) priority areas and align with the [GFCS Implementation Plan](#), which provides extensive guidance for climate service implementation.

2. *What is a National Adaptation Plan?*

A NAP is an iterative process that aims to integrate considerations of climate change adaptation into policy-making, budgeting, implementation and monitoring processes at national, sectoral and sub-national levels. The objectives of NAP process (decision 5/CP.17 paragraph 1) are twofold:

1. To reduce vulnerability to the impacts of climate change, by building adaptive capacity and resilience; and
2. To facilitate the integration of climate change adaptation into new and existing policies, programs and activities within all relevant sectors and at different levels.

NAPs build on existing policy processes and coordination structures, and should be based on sound scientific evidence.

Initial guidelines for the formulation of NAPs were released in 2013 by the Least Developed Country Expert Group (LEG)¹ of the UNFCCC. The LEG [NAP Technical Guidelines](#) contain a list of indicative activities that can be undertaken in the development of NAPs, grouped under four headings.

1. Laying the groundwork and addressing gaps;
2. Preparatory elements;
3. Implementation strategies;
4. Reporting, monitoring and review.

Climate information is essential in all four of these areas (Figure 2).

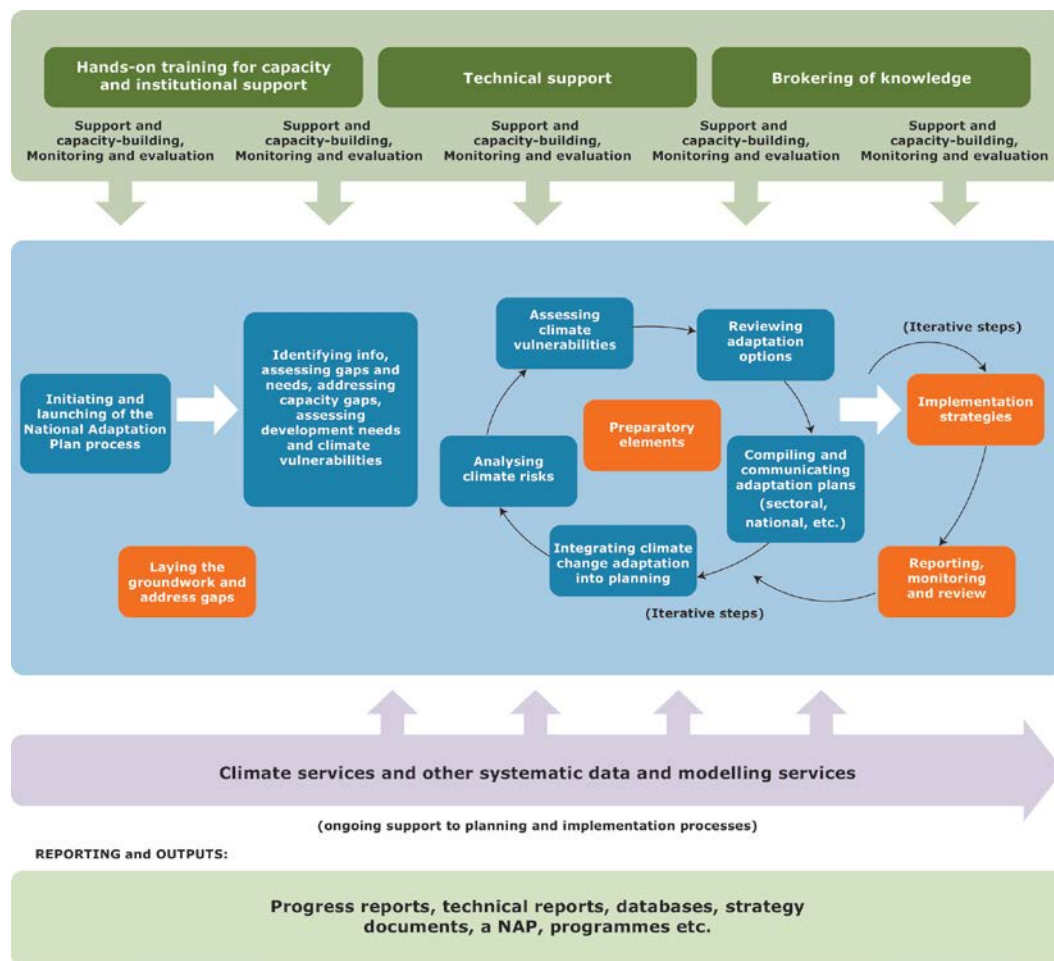


Figure 2 How climate information and services support the National Adaptation Plan process (Source: [WMO, 2016](#))

3. How can climate information and services support the NAP process?

A number of elements in the NAP process require effective and timely climate services. These include assessment of climate vulnerabilities and identification of adaptation options, development of products that help improve the understanding of climate and its impacts, and enhancement of capacity for planning and implementation of adaptation (Table 1).

¹ The LEG was established by the COP in 2001 to provide technical guidance and advice to the least developed countries (LDCs) on the national adaptation programmes of action (NAPAs), the LDC work programme and the national adaptation plan (NAP) process.

Table 1 - Weather, climate and hydrology services that support the different elements of the NAP process

NAP ELEMENTS AND STEPS	Weather, climate and hydrology services
Element A. Lay the groundwork and address gaps	
Stocktaking: identifying available information on climate change impacts, vulnerability and adaptation and assessing gaps and needs of the enabling environment for the NAP process	<ul style="list-style-type: none"> • Archive of past losses • In situ and space-based Earth system observing networks for the monitoring and detection of hazards • Archives and real-time data records flagging when events can be expected for dynamic risk assessment • Real-time monitoring of hazards and development of historical databases
Addressing capacity gaps and weaknesses in undertaking the NAP process	<ul style="list-style-type: none"> • Identify responsible bodies for developing and implementing appropriate measures, warning communication and awareness and education activities
Comprehensively and iteratively assessing development needs and climate vulnerabilities	<ul style="list-style-type: none"> • Provide understanding of risk-assessment demand and requirements • Incorporate relevant climate observations, statistical analysis, forecasts and projections of the weather, hydrological and climate-related extremes in risk assessment processes
Element B. Preparatory elements	
Analyzing current climate and future climate change scenarios	<ul style="list-style-type: none"> • Forward-looking forecasts and trend analysis of hazard characteristics at different temporal and spatial resolutions • Risk analysis (multi-hazard, multi-level and multi-sector) • Identification of information requirements and channels
Assessing climate vulnerabilities and identifying adaptation options at sectors, subnational, national and other appropriate levels	<ul style="list-style-type: none"> • Define requirements for climate services and other non-climate inputs for planning investment in reducing climate vulnerabilities • Engage stakeholders for implementation – finance and planning ministries, disaster risk management authorities, local authorities and government, private sector, etc. • Establish coordination and information channels for relevant information inputs
Reviewing and appraising adaptation options	<ul style="list-style-type: none"> • Identify stakeholders and existing processes for hazard loss-accounting system implementation • Coordinate development of relevant climate products and services in relation to specific application to decision-making in different sectors
Element C. Implementation strategies	
Prioritizing climate change adaptation in national planning	<ul style="list-style-type: none"> • Identify the areas where current information on weather and climate is inadequate
Developing a (long-term) national adaptation implementation strategy	<ul style="list-style-type: none"> • Identify priority regions based on analysis of vulnerability to weather and climate extremes
Enhancing capacity for planning and implementation of adaptation	<ul style="list-style-type: none"> • Strengthen operational climate services, including analysis, forecasts and projection of climatic regimes and interoperability with health, socioeconomic and biological data

4. *Financing*

Adaptation planning, and the NAP process specifically, is crucial for scaling up adaptation interventions. The financial instruments to support the NAPs are multi-fold, reflecting the complexity and flexibility of adaptation planning.

The UNFCCC has established various ways to transfer funds to developing countries, through the [Global Environment Facility](#) (GEF), the Kyoto Protocol's [Adaptation Fund](#) (AF), and most recently the [Green Climate Fund](#) (GCF) to finance implementation of the Convention and the Paris Agreement.

The GEF, which has been operating for more than 20 years, is the most well-established of these mechanisms. The GEF is responsible for administering three important adaptation-related trust funds: the Special Climate Change Fund (SCCF), the Least Developed Country Fund (LDCF), and the Adaptation Fund. WMO is not a GEF accredited entity, however, so for NMHSs to benefit from GEF funding, partnering with an accredited international organization, such as UNDP or the World Bank, is essential.

The GCF was created in 2010 as part of the UNFCCC's financial mechanism to facilitate the development of climate change strategies and plans, including NAPs. By following a country-driven and country-owned approach – in terms of funding and integrating the funding into national planning – the GCF will align climate finance with national priorities and planning processes. The GCF project portfolio is implemented by partner organizations, known as Accredited Entities, in liaison with National Designated Authorities (NDAs).

WMO has been designated an Accredited Entity (Decision B.12/30) to the GCF. This will allow WMO to support NMHSs and other stakeholders to implement GCF projects with budgets of up to USD 50 million. The GCF also provides USD 3 million to countries for NAP preparation, which WMO can support. WMO has submitted several project proposals to GCF aimed at strengthening the national weather, hydrology and climate services in order to improve the adaptation planning in different sectors, such as agriculture, energy, health, water and disaster risk reduction.

WMO is designated an Accredited Entity to the GCF. This role will allow to support the NMHSs in providing climate information services for NAPs.

The AF has been also pioneering innovations in climate finance. Through a direct access mechanism, National Implementing Entities (NIEs) are able to directly obtain finance and manage climate adaptation and resilience projects. The focus of the AF is particularly on supporting concrete and localized projects that help vulnerable communities to meet urgent adaptation needs. Under the AF, WMO has recently received funding for a regional programme on agricultural climate resilience in East Africa which will improve adaptive capacity to current climate variability and change among farmers, agro-pastoralists and pastoralist communities through a better use of climate information.

5. *Guidance on the provisions and scale-up of climate services to the NAP*

WMO (2010) highlighted how only a small number of countries identified WMO, Regional Associations and Regional Meteorological/Climate Centres as key partners in delivering technical services for adaptation. This low result may reflect the current capacity and relationships of these organizations and NMHSs for contributing to the policy process for adaptation. Several measures can strengthen the role and contribution of NMHSs to the NAP process:

- Increase NMHS visibility and recognition within Government and national organizational structures engaged in national adaptation planning;
- Enhance an understanding of the value of NMHS services to the NAP process;
- Strengthen linkages with other organizations and sectors involved in NAPs;
- Enhance legislation or policies regarding the role of the NMHSs in adaptation.

Climate services require multi-disciplinary and multi-institutional collaboration across national institutions and sectoral stakeholders. To achieve this, National Frameworks for Climate Services (NFCS) are key to support the development and application of climate services. A NFCS is an institutional mechanism to coordinate, facilitate and strengthen

collaboration among national institutions to improve the co-production, tailoring, delivery and use of science-based climate predictions and services. NFCSs create the space for sustained dialogue between users from climate sensitive sectors and providers for the identification of gaps, needs and priorities to enable improvements and sustainable delivery of climate services.

Given the representation of providers and sectoral users of climate services, a NFCS could act as a vehicle for producing the necessary inputs for the NAP process. In particular, for example, NFCSs are the ideal place for assessing development needs and climate vulnerabilities (Element A) and identifying climate services as adaptation options at sectoral level as well as reviewing and appraising those options (Element B). NFCSs should be backed by legislative decrees which provide the political endorsement needed by the frameworks to operate.

As resource availability can be a key limitation on NMHSs' ability to provide climate-related products to interested stakeholders, partnering for scaling-up climate finance is strategic. NMHSs are encouraged to continue their active participation in the UNFCCC processes by consulting and partnering with national designated authorities and focal points through direct or designated in-house liaisons. Engagement in funded projects entails national and international collaboration with entities on preparation and implementation of project proposals.

WMO is source of targeted technical advice for integrating weather and climate information and services into project proposals submitted by Parties. Particularly under the new financial windows of the UNFCCC, there is an opportunity to strengthen the scientific and technical dimension of GCF project concepts that focus on issues such as agriculture and food security, water, energy, health and Disaster Risk Reduction (DRR).

By invitation of COP-17, international organizations and other relevant partners established the UNDP-UN Environment [NAP Global Support Programme](#) (NAP-GSP). The aim of this programme is to strengthen LDCs' institutional structures, knowledge and technical capacity for designing and implementing NAPs. Strengthened synergies across UN-supported initiatives (NAP-GSP, GFCS, etc.) will ensure the optimal use of the existing technical, financial and human capacity resources as to support the role of NMHSs in the NAP process.

Thanks to the unique access they provide to weather, water and climate information, NMHSs can offer significant value added to increase quality and impact potential of adaptation activities, which can promote private finance mobilization. The engagement with the private sector through public-private partnerships (PPP) will be crucial as to access innovative cost-effective technologies (e.g. dissemination of adaptation information through communication devices). At the same time, enhanced climate information services will incentivize enterprises to re-orient their investments to take account of climate risks so as to ensure business continuity and profitability in a changing climate.

6. Conclusions

The Paris Agreement will significantly increase demand on NMHSs for user-oriented weather, hydrological, climate and related environmental services. NMHSs are well positioned to back-stop and advance the NAP process in all vulnerable countries, as well as meet the evolving needs of governments, partners and other decision-makers to achieve sustainable development. NMHS engagement in NAP preparation and implementation will substantially enhance countries' abilities to address the risks associated with, and realize benefits from, climate variability and change.

7. *References*

- WMO (in draft), A Guide for Establishing National Frameworks for Climate Services;
- WMO (2017), Priority Needs for the Operationalization of the Global Framework for Climate Services (2016–2018);
- GIZ (2017), Climate Policy Brief: Linking National Adaptation Plan Processes and Nationally Determined Contributions;
- WMO (2016), Climate Services for Supporting Climate Change Adaptation: Supplement to the Technical Guidelines for the National Adaptation Plan Process;
- WMO (2016), Use of Climate Predictions to Manage Risks;
- WMO (2011), Guide to Climatological Practices;
- UNFCCC (2012), National Adaptation Plans: Technical Guidelines for the National Adaptation Plan Process;
- WMO (2010), Role of NMHSs in Adaptation to Climate Variability and Change
-