

# **WMO Capacity Development Strategy**

(Approved by Cg-19, June 2023;  
aligned with the WMO Strategic Plan 2024-2027)

Draft 01 (version 03; 28-Aug-2022), August 2023

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# WCDS-2023 at a glance

<b>WCDS-2023 Purpose</b>	<b>Members:</b> Reduce the capacity gap, raise the performance of NMHSs in a sustainable way and their ability to deliver the needed services to their governments and society. Support the achievement of <b>WMO SP Goal 4</b>				<b>CDS Principles</b> P1: Integrated and holistic approach to capacity P2: Sustainability of CD actions P3: CD actions that bring tangible socio-economic benefits P4: CD actions based on efficiency and innovation P5: Build trust with partners and encourage equity and inclusion P6: Result-based CD actions
	<b>CD Actors:</b> Synchronize the CD actions throughout the WMO system				
<b>CD Dimensions</b>	<b>Institutional</b> (enabling environment at country level)	<b>Technological</b> (hard and soft infrastructure)	<b>Information and service provision capacity</b>	<b>Human capital</b>	
<b>WMO SP Strategic Objectives</b>	<b>SO 4.1</b> Needs and Gaps	<b>SO 4.2</b> Competencies and capabilities	<b>SO 4.3</b> Partnerships and Alliances		
<b>Strategic Approach/ CD Action Areas (2024-2027)</b>	<ul style="list-style-type: none"> <li>• Improve understanding of specific capacity needs;</li> <li>• Mobilize strategic resources involving development partners and national governments;</li> <li>• Increase visibility and sustainability of NMHSs in LDCs and SIDS</li> </ul>	<ul style="list-style-type: none"> <li>• Recruitment and retention of staff with appropriate qualifications and competencies;</li> <li>• Enhanced cooperation between developing and developed Members and full utilization of the WMO RTCs</li> </ul>	<ul style="list-style-type: none"> <li>• Strengthen partnerships and alliances;</li> <li>• Strategic partnerships and alliances with key UN, IGOs and NGOs, development agencies, private sector, and academia;</li> <li>• Promote basic principles of global collaboration and partnership</li> </ul>		

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## Part I - Introduction

The new version of the WMO Capacity Development Strategy (WCDS) to be approved by the 19<sup>th</sup> WMO Congress in 2023 (hereafter called WCDS-2023, or “the Strategy”) presents a next step in the continuous process of assisting Members’ NMHSs to acquire and sustain the needed capacity levels for fulfilling their national mandates and international commitments that could be followed throughout the whole history of the Organization.

Over the decades, various forms of assistance to Members have been deployed through dedicated WMO programmes, such as the Education and Training Programme, the Voluntary Cooperation Programme (VCP), the Technical Cooperation Programme (TCP), and through capacity building elements of many other programmes in all aspects of weather, water, climate and other environmental business areas of the WMO. A major characteristic of these efforts has been the cooperation with a number of partner organizations within the UN system, other international organizations, and national development agencies.

The concept and practices of supporting Members to develop their capacities have evolved over the years from being mostly related to education and training, through the provision of specific technical assistance and capacity building, to the current comprehensive concept of capacity development. Such transformation has happened across all development branches of the UN system and the other development partners.

### Brief historical review

Resolution 49 (Cg-16, 2011), entitled WMO Strategy for Capacity Development, was a turning point in the concept, structure and implementation of development activities by the Organization. It was the first time the Congress institutionalized the term “capacity development” and defined it as “*the process whereby people, organizations and society as a whole unleash, strengthen, create, adapt and maintain capacity over time*”<sup>1</sup>. The Resolution 49 called for the EC to develop a WMO CD Strategy with the understanding that the CD is a major cross-cutting Strategic Priority of the WMO Strategic Plan.

===== *Text Box – Evolving CD concept and strategy* =====

2011	Cg-16	Resolution 49 (Cg-16)	WMO CD Strategy – tasked EC to develop CDS
2012	EC-64	Resolution 18 (EC-64)	CDS - Adopted
2013	EC-65	Resolution 16 (EC-65)	CDS Implementation Plan adopted
2015			WMO-No. 1133, WMO CDS and Implementation Plan published
2015	Cg-17	Resolution 50 (Cg-17)	CD Programme established
2019	Cg-18	Resolution 74 (Cg-18)	Closing the capacity gap
		Resolution XX	WMO SP 2020-2023 adopted. LTG 4 on closing capacity gap – main area of CD
	EC-71	Resolution 7 (EC-71)	CD Panel established
2020	EC-72	Decision 12 (EC-72)	Revision of the CD Strategy
2021-2022			Follow up actions of the CDP on the revision of the WCDS
2023	Cg-19	Resolution XX	WMO CD Strategy 2023 (to be approved)

<sup>1</sup> This definition is based on the one provided by the Organization for Economic Co-operation and Development/Development Assistance Committee (OECD/DAC)

Following on the Resolution 49 (Cg-16), the first WMO Capacity Development Strategy, was approved by the Executive Council at its sixty-fourth session in 2012 (Resolution 18 (EC-64) refers). The Strategy (hereafter referred to as WCDS-2012) was seen as a framework manifesting a holistic approach to CD with a major goal to highlight how the WMO can best help Members' National Meteorological and Hydrological Services (NMHSs) develop and sustain their activities. The WCDS-2012 was a brief document focusing mostly on defining of six strategic objectives for CD; an expanded version of the Strategy was published as WMO-No.1133 (2015) which contained also a WCDS Implementation Plan for the period 2012-2015.

The strategic framework established by the WCDS-2012 contained the following main elements:

- Four distinct and yet interrelated dimensions of capacity: institutional, infrastructural, procedural, and human resources.
- Six strategic objectives and respective strategic approaches.
- An eight steps capacity development process.
- A system for categorization of the capacity of the NMHSs into four categories: basic, essential, full, advanced, and respective indicators/parameters for conducting the evaluation of the NMHS capacity.

The Strategy contained also an analysis of the roles of the CD stakeholders – internal and external, in the WMO context.

### Rationale of the update – the road from WCDS-2012 to WCDS-2023

The WCDS-2012 played an important role in transforming the WMO CD activities in several ways. It introduced the holistic view of the CD addressing the four main dimensions of capacity. It impacted the WMO CD activities planning and implementation in several ways as shown below:

- Among other impacts, WCDS-2012 put strong emphasis on the institutional capacity building, which led to special trainings for executive managers of the NMHSs with stress on legal aspects, leadership and strategic partnerships.
- The lack of sustainability of CD actions has been identified as one of the major shortcomings of the CD in the past. A major issue was linked to the design of development projects and the lack of national ownership, in particular, the lack of funding to keep infrastructure acquired through (largely international) development investments, operational after the completion of the project.
- The WCDS-2012 approach of categorization of NMHSs based on their accomplished capacity has been used in some cases (e.g., for the evaluation of Members' climate services capacity). However, there has not been a full-scale application of the approach to support better planning of the CD actions at regional and local scales to optimize the planning and utilization of the development interventions.
- The WCDS-2012 Implementation Plan was probably not fully utilized or not fully synchronized with the Organization-wide Strategic and Operating Plan. There has not been a thorough analysis of the achieved level of implementation through a common methodology.

Thus, the link with the WMO SP/OP, as well as other strategies and implementation plans, has not been fully functional.

The update of the WMO CDS is a decadal exercise and provides an opportunity to analyze the changing CD landscape, assess existing and future partnerships, and learn from others working in the same domain. WCDS-2023 will contribute to the success of the WMO reform process through introducing more innovation, accountability and coherence of the CD actions across all relevant stakeholders. It is intended to provide approaches and tools to enable significant improvements in the provision of critical information and services in the LDCs, SIDS and other developing countries, strongly affected by the climate change and extreme weather, water crisis and other environmental hazards.

The WCDS-2023 should be seen in a broader international context. It aligns the WMO CD concept with those developed within the UN Development Assistance Framework (UNDAF) and the UN Development Group (UNDG). It also incorporates experiences and recommendations by other development and partner organizations, such as UNDP, UNDRR, FAO, World Bank, OECD, as well as national development partners.

Once the WCDS-2023, has been adopted by the Congress in 2023, it will be a living document kept under review by the EC Capacity Development Panel (CDP). The CDP will have also a major role in monitoring the implementation of the strategy, analyzing information on CD actions through coordination with the Members, RAs, TCs, RB, other EC bodies (CCP, HCP, TCC and PAC) the Joint WMO-IOC Coordination Board, in their capacity of CD stakeholders. WCDS-2023 recognizes the key roles of the WMO Regional Centres in the capacity development, thus, a close coordination of the strategic approaches, their effectiveness and evolution need to be ensured with those centres. The Secretariat, through the Member Services and Development Department (MSD), will act as the main focal point on all aspects of the WCDS-2023 and will continue developing analytical tools for the monitoring and evaluation of its success.

The update of the WCDS comes at a time when several major development initiatives have been launched by WMO and its developing partners and gained speed in implementing innovative ways for CD (to mention here the AHMD, CSI and SOFF as such initiatives). Thus, a major goal of the WCDS-2023 will be to provide an all-inclusive framework of the CD activities to ensure their consistency and coherence and avoid potential duplications or other inefficiencies.

It is important to clarify the meaning of terms like capacity and capacity development in the WMO context. Most of the available conceptual and guidance material has been produced by 'purely' development organizations or groupings, such as UNSDG, UNDP, OECD, etc., or national development agencies. At the top level, the UN SDGs have established the global framework of sustainable development based on global political consensus and commitment for cooperative effort in addressing the global challenges. Downscaling from there, specialized organizations have established their own frameworks and strategies contributing to the global goals through subject-specific programmes and actions.

A key point to be clarified is the understanding of capacity and capacity development referring to a country (WMO Member) and in a narrower case to an organization (NMHS). For the purpose of this Strategy, Member's capacity could be defined on the basis of the availability of information and services, and their integration as decision-support elements at all levels of society – from government to individuals. In this regard, capacity development at country level is strongly impacted but not limited to the capacity of the NMHS. Other organizations partnering with the NMHS in the provision of information and services (e.g., typical cases are organizations engaged in hydrology,

aviation, education and research, civil protection) should also be considered in the capacity assessment and planning of CD interventions.

Nevertheless, the main objective of WMO's CD activities has traditionally been the CD for the NMHS. In such a case, the concepts of "organizational capacity" are easily applicable.

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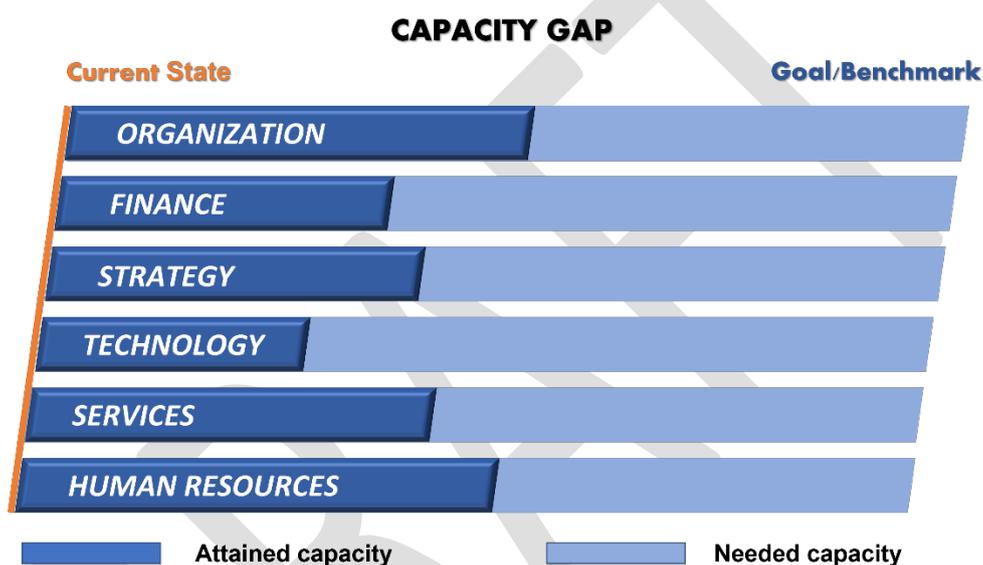
## Part II. WMO CDS-2023 Scope and Objectives

### 2.1 Scope of WCDS-2023

The scope of the WCDS-2023 covers all WMO activities envisaged to achieve the **WMO SP Long-term Goal 4: Close the capacity gap on weather, climate, hydrological and related environmental services.**

*Note: See the definition of “capacity gap” in Annex I.*

In case of a NMHS, the capacity gaps can be identified in several ways, e.g., along the value chain of operations, or looking at each of the four dimensions of capacity – institutional, technological, I/S delivery, human capital. It is also possible to use more detailed analysis, for instance the one suggested here:



Therefore, the full scope of the WCDS-2023 covers methodologies and activities aimed at identifying capacity gaps at Members and organizational levels, analytics of reasons, planning of remedy actions, applying strategic approaches, defining roles of the key CD stakeholders, assessment and impact analysis of CD actions, collecting feedback and ensuring coherence of CD actions by WMO constituent and other bodies across WMO programmes. As defined in the WCDS-2012, the holistic approach of the CD support actions is of primary importance since a patchy approach of filling just individual capacity gaps does not ensure sustainable performance results. The WCDS-2023 promotes further the need for partnerships at all levels in the planning and executing of CD support actions, with a new emphasis on the high potential of the PPE for effective CD projects and solutions.

While the primary target of the WCDS-2023 is the LTG4, it is clear that CD support actions are inherent in all other LTGs and SOs, with their related strategies, thus the WCDS-2023 should provide the framework for coherence and complementarity of all CD support efforts across the WMO SP and OP.

The timeline of the WCDS-2023 is synchronized with the WMO Strategic Plan 2024-2027 (to be adopted by Cg-19 in 2023). Thus, the next update of the WMO CD Strategy should be carried out before the next ordinary Congress in 2027,

## 2.2 Objectives of WCDS-2023

“The aim of capacity development support provided by the UN is to maximize effectiveness, efficiency, sustainability and country ownership of development by ensuring that country level stakeholders can effectively, efficiently, resiliently and self-sufficiently manage and deliver intended products and services to their target groups.” [UNDG]

The overarching objective of the WCDS-2023 is to ensure the successful achievement of the WMO SP [2024-2027] **Goal 4: Close the capacity gap on weather, climate, hydrological and related environmental services: Enhancing service delivery capacity of developing countries to ensure availability of essential information and services needed by governments, economic sectors and citizens.**

The key elements of the Strategy are linked to the WMO SP Goal 4 Strategic Objectives (SO) as follows:

- SO 4.1: Address the needs of developing countries to enable them to provide and utilize essential weather, climate, hydrological and related environmental services.
- SO 4.2: Develop and sustain core competencies and expertise.
- SO 4.3: Scale-up effective partnerships for investment in sustainable and cost-efficient infrastructure and service delivery.

The link between the WMO SP and the WCDS-2023 is further discussed in Part V.

In the context of the WMO reform process, the WCDS-2023 has the objective to fully mainstream the CD across all relevant stakeholders, programmes, strategies and initiatives, through building a common understanding of CD principles, modalities and methodologies, and coherent planning and implementation of CD activities for achieving cumulative effects and sustainable results.

The WCDS-2023 puts a particular emphasis on the role of national governments, especially in planning and sustaining the capabilities of NMHSs, in partnership with the regional and global community. The importance of NMHSs for public safety, security, national development and general socioeconomic benefits flowing from weather, climate and hydrological services is also emphasized. Correspondingly, the Strategy is designed to have its greatest impact at country level.

## 2.3 Target stakeholder groups of WCDS-2023

The WCDS-2023 targets three main stakeholder groups:

- **Recipients of CD support:** Members’ NMHSs with identified capacity development needs. The main target are the NMHSs of developing countries in particular least developed countries (LDC), small island developing states (SIDS) and Member island territories. The use of the WCDS-2023 by the NMHSs will result in improved capacity assessment and identification of gaps in the main capacity domains, and prioritization of relevant CD interventions. The Strategy will help in designing CD interventions with a balance of the institutional, organizational and individual outcomes, to ensure the full realization of the SEBs and sustainability of results.
- **WMO stakeholders:** This target group includes all WMO bodies carrying out CD support activities.
  - WMO Congress;

- The Executive Council and its subsidiary bodies;
- The Technical Commissions, the Research Board and related bodies
- The Regional Associations (including various regional centres and facilities)
- WMO Secretariat

**Capacity Development partners:** This group includes the whole spectrum of partner organizations and institutions participating in WMO CD support activities, including financing, expertise, technology and knowledge transfer, political support and advocacy. The recently established [Alliance for Hydromet Development](#) engages major partner development organizations like UN development and specialized agencies, development banks and funds. Many national development agencies are actively cooperating with the WMO and the Members in CD support for the NMHSs. Multi-lateral initiatives, such as the [Climate Risk and Early Warning Systems \(CREWS\)](#) provide CD support to LDCs and SIDS in enhancing their capabilities for the provision of key information and services on climate and weather hazards. Another key stakeholder group comes from the private sector, especially the hydromet industry represented by the [Association of Hydromet Equipment Industry \(HMEI\)](#). The need to engage better the private sector in the WMO CD support activities for providing efficient and sustainable technological solutions has been stressed in the Geneva Declaration-2019, which is in-line with the realization of the key role of the private sector in achieving the UN SDGs 2030.

## 2.4 WCDS-2023 relationship with other strategies and initiatives

There are a number of implementation plans and strategies developed in support of the WMO Strategic Plan and its LTGs and SOs, which contain CD support elements. One of the goals of the WCDS-2023 is to ensure consistency and complementarity of those CD elements as part of one common CD strategic framework. Plans, strategies, guidance, initiatives, etc., which need to be considered in the WCDS-2023 include:

- WIGOS, WIS and GDPFS – implementation plans (including GBON implementation)
- GFCS Implementation Plan and related Strategy
- Guidelines for Capacity Development for Climate Services
- Resolution 1 (Cg-Ext, 2021) on Unified Data Policy
- WMO Strategy for Service Delivery
- WMO Strategy on Capacity Development in Hydrology and Water Resources Management for the Period 2021-2024
- Alliance for Hydromet Development
- Country Support Initiative, SOFF
- Early Warning and Early Action initiative
- [add more, as necessary]

## Part III. WCDS-2023 Strategic Approach

The CDS 2023 proposes a strategic approach to be utilized by all stakeholders in planning of their CD actions. The main elements of the strategic approach are described below.

### 3.1 The four dimensions of capacity development (revised and updated)

**Note:** It will be useful to discuss the possibility to streamline this part with the common definition of the three main CD types (e.g., UNDG, UNDP, UNDRR, others): Institutional (enabling environment), Organizational (encompassing technological and service capacity, as well as various cooperations), individual (people, ETR, Q&C, working environment, carrier development, gender, age, etc.)

- Dimension 1: Institutional (enabling environment at country level)

Any CD action is conducted under an institutional umbrella specific for the country or region where the action takes place. The critical role of an enabling legal/institutional environment for the success and sustainability of the CD actions has been constantly emphasized by the WMO<sup>2,3</sup>. In general, in planning and design of any CD action, an analysis of the institutional situation should precede the technological stages in order to ensure that significant investments in technology will bring expected returns and the long-term operations of modernized infrastructure is guaranteed. The role of the NMHS executive management in this CD dimension is of key importance, thus appropriate education and training actions should be envisaged to raise the institutional capacity.

- Dimension 2: Technological – hard and soft infrastructure (NMHS-focused, accounting for leveraging other actors' capabilities)

In any country, regardless its current level of development, the operations along the weather, climate, water, and environmental services value chain fall into the category of knowledge and technology intensive business. It engages a substantial hard and soft<sup>4</sup> infrastructure, most of it owned and operated by the NMHS under public funding. Traditionally, the majority of CD interventions have addressed primarily the technological dimension of the CD with significant investment from international and national sources and in partnership with many development partners (e.g., the World Bank, UNDP, national development agencies). The usual form of “modernization projects” was aimed at resolving technical capacity gaps and enhancing the compliance with the WMO standards by replacing old equipment, automation, improved communications, and deploying modern digital technologies for data processing and forecasting. The expectation is that by raising the technical capacity, the performance of the NMHS will be radically improved with tangible SEBs for the country. The WCDS-2023 while re-instating the key importance of the technological dimension of the CD, emphasizes the holistic view that it is not sufficient for the success and sustainability of the CD investments. It should be well balanced with

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<sup>2</sup> [A list of reference documents should be provided here – the statements of the role and operations of NMHS, guidelines, declarations, etc.]

<sup>3</sup> A recent WMO OCP White Paper “Future of the NMS” provides an in-depth analysis of the institutional factors.

<sup>4</sup> Soft infrastructure is all the services which are required to maintain the economic, health, and cultural and social standards of a population, as opposed to the hard infrastructure which is the physical infrastructure of roads, bridges etc. [source: Wikipedia]

the other CD dimensions, e.g., to commensurate technology, and in particular the related operation and maintenance (OM) expenses, with the local institutional, human and market environment, to underpin long-term sustainability. Furthermore, the WCDS-2023 promotes the PPE approach in the technology dimension of the CD with the opportunities for significant capacity advancements through leveraging relevant stakeholders capacities (from the public, private, academic and civil sectors).

- Dimension 3: Information and service provision capacity (to replace the “procedural capacity” of WCDS-2012; based on the primary societal role of NMHS)

The capacity on the right-hand side of the value chain is of primary importance for the mission of NMHSs as providers of essential decision-support information and services with key socio-economic impacts. This is where the return on investment in the (usually more expensive) left-hand side of the value chain is realized. Therefore, CD actions of these two dimensions of the CD should go hand in hand, i.e., the “hard” and “soft” infrastructure actions should be planned and designed in an integral manner. Furthermore, the new digital technological solutions offer vast new modalities for the generation and delivery of services (e.g., cloud-based solution, web services, mobile apps) which may reduce both the capital and running (CAP and OPS) costs, and opens possibilities for investing more in the soft infrastructure and human resources development. This restructuring of the investments in the CD actions should be seen as a major transformational factor in the CD actions under the WCDS-2023.

- Dimension 4: Human capital.

NMHSs’ human resources development strategies and policies are fundamental to ensuring all staff meet the required levels of knowledge, skills and competency to carry out their tasks and to develop professionally. Failure to develop and implement such strategies are likely to result in many NMHSs being unable to fulfil their core mandate and functions. WCDS-2023 promotes CD actions that empower people in NMHSs and enhance management culture, processes and structure<sup>5</sup>. This will require a new view on NMHSs’ organizational design through change management and dedicated training programmes. CDS-2023 need to address specifically the rapidly changing requirements for the NMHS professionals in the times of the digital transformation. The highly competitive market for qualified and capable people will require NMHSs to establish themselves as attractive work places offering opportunities for career development appealing to young talent. Furthermore, improving the gender and age structure of NMHSs’ human capital needs to be a priority in their strategic plans. The WCDS-2023 will address the need to revisit the whole structure of education and training resources at national, regional, and global level, as well as stronger links with academia in addressing new knowledge and competence requirements.

Capacities across the four dimensions can be grouped into “hard” and “soft” areas. Hard capacities are tangible and visible, including organizational structures, systems, policies and procedures. “Soft” capacities are intangible and invisible, social and relational, including leadership, values, behaviours, commitment and accountability.

Capacities can also be grouped into “technical” and “functional” types. Technical capacities are specific to a particular sector or area, e.g., observations, modelling and forecasting, etc. Functional capacities are relatively common across sectors or areas such as planning, budgeting, policy-making, financial analysis, strategy formulation and communications.

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<sup>5</sup> See more details in the WMO OCP White Paper “Future of the NMS”.

## 3.2 Capacity development principles

The WCDS-2023 strategic approach engages a set of principles to be applied in the design and implementation phase of any CD support action/intervention to ensure consistency and effectiveness among the CD stakeholders.

- Principle 1: Integrated and holistic approach to capacity along the weather, climate, water and related environmental knowledge and services value-chain.

All segments of the value chain are important for the NMHSs in order to fulfil their national mandates and contribute to the international objectives. The capacity assessment should identify critical gaps in each segment with their linkages and interdependencies in order to ensure effective remedy actions. In addition, the four dimensions of capacity should be considered at each step. The ability of the NMHS to effectively utilize highly integrated modern technology and apply the Earth system approach for the generation of essential information and services will be a major CD success indicator.

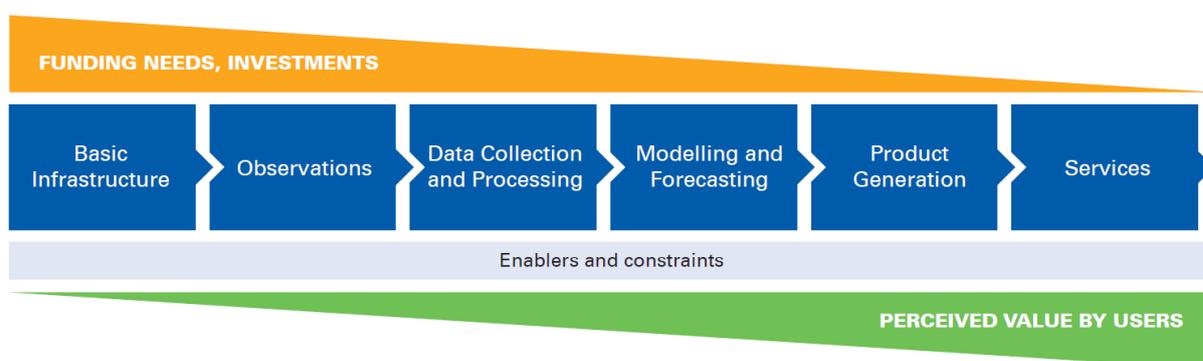


Figure 1. A value chain for the provision of weather, climate and water information and services  
Source: Based on Usher et al. (2018)

- Principle 2: Sustainability of CD actions – enabling factors (provide for country/local ownership and build upon existing capabilities).

CD actions in the past, be it modernization projects or trainings, have often been criticized for failing to achieve expected results due to a weak sustainability factor. Common cases include lack of OM funds for technical systems or inability to retain trained personnel. The WCDS-2023 raises the need for any CD action to ensure sustainable impacts on NMHS's capacity and the realization of the full potential in terms of socio-economic benefits (SEB). In other words, the return-on-investments in CD actions should be visible by all stakeholders and in particular by the major end-users of NMHSs' information and services – governments and citizens.

- Principle 3: Prioritization of CD actions to address the most critical capacity gaps and societal needs.

This principle implies that local priorities need to guide capacity development planning and implementation assigning urgency to capacity gaps impeding the provision of information and services related to safety of life, property and economic productivity. Early warning services integrated in national MHEWS are among the most critical outputs of the NMHSs operations, thus any deficiencies related to EWS should be a primary target for CD interventions. Deficiencies in the

monitoring capacity (meteorological, hydrological, environmental) and lack of internationally shared observing data are also critical at both national and international levels. Achieving quick results in these areas will require full utilization of existing local technical/human capacities supported by enabling institutional frameworks, focused international CD assistance, and appropriate leveraging of the capacity of other stakeholders (e.g., through PPE). In the domination environment of budget constraints, the right prioritization based on well-defined capacity gaps is a critical element of effective CD actions.

- Principle 4: CD actions based on efficiency and innovation.

In the era of digital transformation, the CD should present opportunities for deploying solutions based on state-of-art technology and latest innovations. Such solutions with high level of automation may be cost-effective and with lower OM costs in a long term. Implementing and operating modern systems should be underpinned by solid training of local staff. A modern working environment will bring higher motivation for qualified young people to look for jobs at NMHSs with the opportunities for research and career development. Among such solutions are the opportunities for better service delivery and communication with users and public through various social media channels which is currently a common capacity gap in developing countries.

- Principle 5: CD actions that build trust with local and international partners and encourage equity and inclusion (multi-sector, multi-stakeholder landscape).

With the development of the WMO concept of PPE and the adoption of the PPE policy expressed in the Geneva Declaration 2019, the CD actions should expand the participation of partners from public, private and academic sector stakeholders. Furthermore, partnerships and initiatives based on citizen science and volunteerism may bring cost-effective benefits. Engagement of users in the co-design and co-production of systems, products and services will ensure that the CD actions will meet the needs and will bring the expected benefits. Establishing functional platforms for discussion with the stakeholders from all sectors (based on the format of the WMO's Open Consultative Platform<sup>6</sup>) would help build various communities of practice coordinated by the NMHS, which will in turn enhance trust and visibility. WCDS-2023 also builds on the partnerships with international development partners which is crucial for bringing significant financial resources to support CD interventions. The Strategy should contribute to the effective implementation of relevant initiatives aimed at bridging the capacity gaps, such as the AHMD, CSI, SOFF, CREWS, etc.

- Principle 6: Result-based CD actions – establish/improve feedback mechanisms, evaluate and correct

An identified weakness of CD actions is the lack of analytics of their success and impact through systematic feedback mechanisms. The WCDS-2023 will strengthen this element which is of primary importance for the continuity of the CD process and sustainability of the CD results. This will require a thorough evaluation of any CD action through a common methodology (with appropriate success factors measures), highlighting strengths and weaknesses, lessons learnt, and needs for ensuring continuous improvement. As a strategy under the WMO umbrella, the WCDS-2023 should be supported by an information repository allowing such analytical work, as well as a platform<sup>7</sup> for sharing information and promoting good practices.

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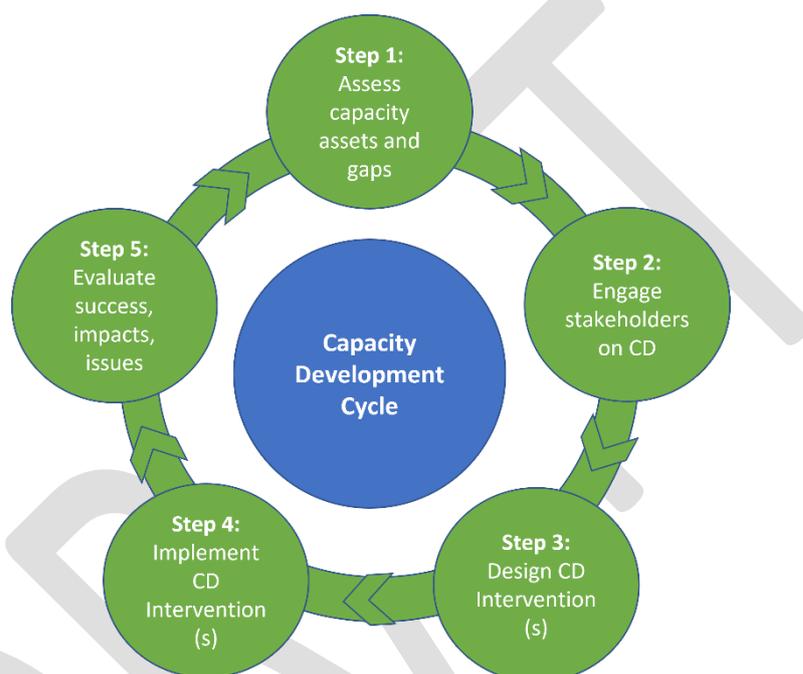
<sup>6</sup> <https://public.wmo.int/en/our-mandate/how-we-do-it/public-private-engagement-ppe/open-consultative-platform>

<sup>7</sup> A dedicated webpage on the WMO website should be allocated for the WCDS-2023 information sharing. Access to CD actions descriptions, current and in the past, conducted under various forms of CD and various partnership arrangements should be ensured.

### 3.3 Capacity Development Process

There are different ways to define the CD process with its stages. Just as capacity development needs to be context and case-specific, so also it needs to be viewed as an iterative process of assessment-design-application-learning-adjustment. The WMO CD-2012 described an 8-step CD process, while a generic 5-step process has been used in most of the CD guidance and practice of other organizations.

The WMO CD-2023 prescribes the 5-step CD process as a simpler approach with large practical experience across UN development system.



Care must be taken in the interpretation of these steps since they are not always carried out in a sequential or linear manner. The length of time it takes to complete each step will also vary from case to case. A great many factors are involved that impinge upon the effective completion of this process.

#### **Step 1. ASSESS capacity assets and needs, establish baseline**

A comprehensive capacity assessment will help determine which capacity investments to prioritize. Analyzing desired capacities against existing capacities offers a systematic way of gathering critical knowledge and information on capacity assets and needs. Its findings provide the basis for formulating a capacity development response that addresses those capacities that could be strengthened, or that optimizes existing capacities that are already strong and well placed. In the WMO context, the capacity analysis should encompass the institutional, organizational and individual capacities along all segments of the value chain. The assessment should be country-specific considering the mandate given to the NMHS by the government and should describe interfaces with external stakeholders playing role in the delivering of essential information and

services. Capacity assessment results should be as transparent as possible to help all stakeholders define better their level of engagement in the CD interventions.

*Note: The development of Capacity Assessment Methodology and Guidance is a very important parallel task. In the best case, such methodology should be an Annex to the Strategy. (Look, for example, at the UNDP, Capacity Assessment Practice Note, October 2008)*

## **Step 2. ENGAGE stakeholders**

“Ensuring an effective capacity development intervention requires the building of political commitment to and sponsorship of, the importance of capacity development among key stakeholders, and the embedding of capacity development in broader national development priorities.” [UNDP]

This step is crucial for the success of the CD action/intervention, in particular for large scale CD projects realized in a multi-sector, multi-stakeholder way. Mapping of all stakeholders (internal and external) with their respective roles, contributions, needs and expectations should be done at this step in order to secure long-term support of the CD action. For NMHSs, this includes relevant national ministries, agencies, institutes, as well as private sector stakeholders, including users. The engagement process should involve discussion and consensus-building on development priorities at political and technical levels.

At this stage, consider also the international requirements and obligations, including the WMO requirements, but also those posed by ICAO, IMO, or commitments to programmes and decisions of other organizations (UNFCCC, the COP process, FAO, WHO, etc.). The CD needed for ensuring that these international requirements and commitments are met, should be an important argument for establishing CD response actions.

## **Step 3. DESIGN capacity development response [action(s)/interventions/projects]**

In response to the assessment of capacity assets and needs, a response needs to be formulated with the active participation of those who were engaged in the assessment exercise. The response can be at the group, community, organizational, regional or national level. It will likely include a mix of actions, probably starting with some short-term interventions to generate some “quick wins” or that will enhance known capacity assets before addressing more complex or long-term capacity issues or needs. The response will identify evidence and indicators against which progress can be measured, outcomes signifying the desired changes in capacity. The capacity development response also needs to be costed to establish the realistic funding needed for implementation. An exit strategy also needs to be developed.

## **Step 4. IMPLEMENT a capacity development, monitor and take corrective actions as necessary**

Implementation will be part of that required for an overall programme or project. Experience shows that capacity development needs to be embedded in strategy formulation and programme planning and not added in as an afterthought or as a stand-alone measure. To ensure sustainability, the delivery of any capacity development assistance is best managed through already-established national systems and processes rather than through the creation of new or parallel implementation units. Implementation can be a mix of short-term measures in the form of performance or skills enhancement and more complex and long-term measures to address more challenging organizational or institutional issues. Developing a monitoring plan and respecting it allows to assess the implementation of the capacity development response against fixed targets. It also provides the opportunity to monitor where advances are slower than expected or faster, analyze the reasons and implement corrective measures where needed.

## **Step 5. EVALUATE results of CD action, communicate and recommend improvements**

To ensure that inputs are being transformed into capacity development outputs and to support effective “learning from doing”, implementation needs to be flexible and it needs to be monitored. This includes allowing processes to evolve and paying attention to unplanned consequences that may not have been anticipated and means having the necessary flexibility to adapt to those changes. To ensure that outputs are translating into outcomes (capacity development) and impact (development goals) an evaluation framework should be established to measure results. It should include well-designed KPIs and should be accompanied by a communication strategy to inform community of achievements, lessons learnt and any recommendations for future CD action.

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## Part IV. CD Actors and Landscape – WMO context

### 4.1 WMO CD Landscape

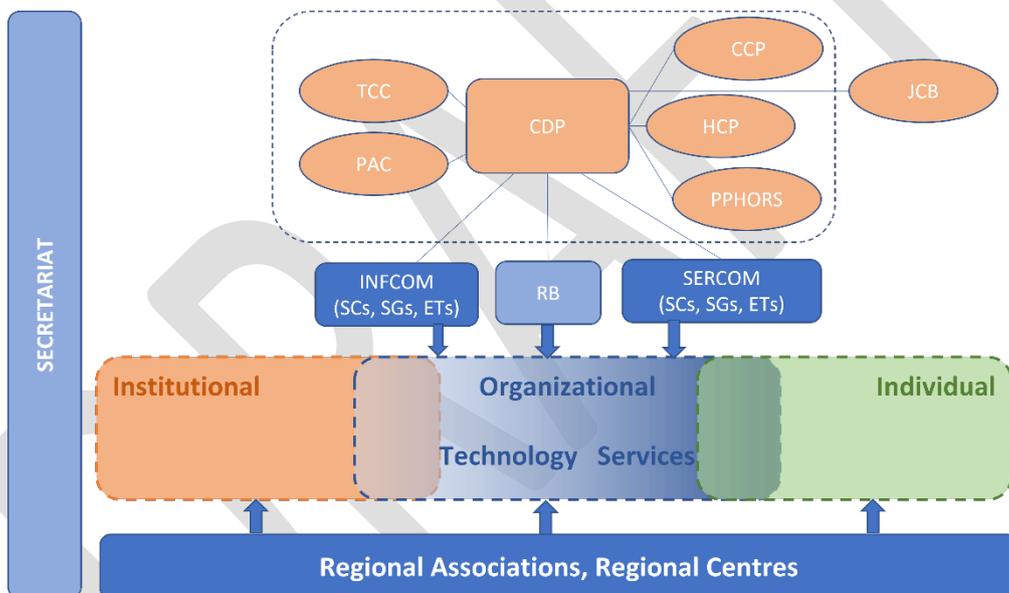
The overarching drive behind the updated WCDS-2023 is the need to adopt integrated approaches to capacity development that respond to the Members' needs and effectively address the complex and interconnected sides of capacity needed to meet the societal challenges and related increasing demand for high-quality weather, water, climate and related environmental information and services. Such integrated approach including many stakeholders – internal and external – requires a streamlined governance under the common strategic approach provided by the WCDS-2023.

The “internal” stakeholders of the CD Landscape include all WMO bodies engaged in CD support activities.

- At the top level, the WMO Congress provides policy and adopts strategies related to CD. The EC is responsible for the effective implementation of the policies and strategies, and the overall coordination of related activities. The EC Capacity Development Panel (CDP) is the central coordination body with the task to streamline all CD support activities under a CD Strategy. The CDP interacts with all other EC bodies (PAC, TCC, CCP, HyCP, SAP) on issues related to CD support activities.
- The Technical Commissions and the Research Board are engaged in the capacity development, in particular the development of technical capacities needed for successful implementation and sustainable operation of the requisite hard and soft infrastructure. TCs and RB are also fully engaged in the development of qualification and competence requirements and respective education and training courses and tools; they will intensify the provision of guidance and advice on innovative technologies and digital transformation.
- The Regional Associations are key CD stakeholders as they are best positioned to look at the capacity from a collective regional and sub-regional perspective. RAs need to lead the capacity assessment efforts of their Members and their NMHSs in a way that provides a full reliable regional picture of existing deficiencies and capacity gaps at any given moment. This will help to establish the focus and prioritize relevant CD interventions addressing the most critical gaps that impeded the collective performance of the RA's Members. Furthermore, the RAs are best informed of the regional partners landscape and the regional socio-economic agendas where the NMHSs could play a vital role. Thus, creating opportunities for CD interventions, including their financing, would be effective when looking through the regional lens and promoting proactively the benefits of state-of-the-art information and services made available by raising the capacity of the NMHSs.
  - WMO Regional Centres have proved over decades of active operation what could be achieved through multi-lateral cooperation among the WMO Members. All types of RCs are major contributors to CD and agents of technology and knowledge transfer between the developed and developing Members. It will be necessary during the time period of the WCDS-2023 to review the RCs' roles and operations from CD perspective and develop measures for enhancing their performance for the benefit of all Members. **[Note: Consider a separate Annex with more information on RCs].**

- WMO Secretariat. The Secretariat will play a key role in facilitating the implementation of the WCDS-2023. The CD support is a major task of all Departments and Units according to their specific business areas. The success of the CD support activities is crucially dependent on the provision of coordination and support along all the five stages of the CD cycle. CD activities of the Secretariat need also be guided by the understanding of the four dimension of the capacity development as established by this Strategy. Thus, the Infrastructure Department and the Services Department will be responsible for coordinating and guiding the advancement of Members’ capabilities and competencies in the technology and service delivery fields. The Member Services and Development Department will be the main coordinator and focal point of all CD support activities with primary role of ensuring consistency and leveraging resources both with internal and external CD stakeholders.

The success of the WCDS-2023 will be crucially dependent on the uptake of its main concepts and principles by the Secretariat stakeholders. In particular, the principles of “Results-based CD actions” and “Sustainable CD actions” will require integration of those actions in an unified Evaluation and Monitoring system providing reliable data and analytics to support an effective CD cycle and visibility of results.



As seen from above, the WMO CD Landscape is complex with stakeholders at different levels from the organizational hierarchy. Thus, there exists a risk of duplication and inefficiencies. The WCDS-2023 should lead to creating tools and facilities for sharing all relevant CD support information and streamlining the internal processes based on the CD cycle, dimensions and principles formulated in the Strategy. In this regard, the role of the CD Panel as the main focal point of the CD support activities across the programmes, constituent and other bodies, will be crucial. The CD Panel should strive to introduce innovative knowledge sharing and coordination mechanisms in order to raise the effectiveness and efficiency of the CD actions.

*Note: A reference list of WMO bodies with their respective CD-related TORs is provided in ANNEX XX.*

## 4.2 Development partners and Resource mobilization

In addition to regular budget funding, WMO mobilizes voluntary resources (extrabudgetary) through a range of funding modalities to support specific capacity development activities.

Financing mechanisms available to WMO and its Members include:

- Development banks

Financing provided by the World Bank (WB) and regional development banks, such as the Asian Development Bank (ADB), the African Development Bank (AfDB), the European Bank for Reconstruction and Development (EBRD) and the Inter-American Development Bank (IDB), is generally negotiated by the banks directly with ministries of foreign affairs and/or finance of the recipient countries and takes different forms (grants, soft loans, loans, etc.). Development banks predominantly provide loans with some grant support, generally on a bilateral basis. For this reason, WMO should focus on helping NMHSs access and engage in these mechanisms through national level processes.

- Climate funds

The key climate funds that countries can approach, with WMO assistance, to support the Global Framework for Climate Services (GFCS) are:

- [The Adaptation Fund](#)
- [The Green Climate Fund](#)
- [The Global Environment Facility](#)
- [The Climate Investment Funds](#)

- United Nations system bodies

The initiatives of United Nations agencies involved in direct country assistance and financing, such as the Food and Agriculture Organization of the United Nations (FAO), the International Fund for Agricultural Development (IFAD), the United Nations Development Programme (UNDP), the United Nations Environment Programme (UNEP), the World Food Programme (WFP), the United Nations Educational, Scientific and Cultural Organization (UNESCO), the UNDRR, and the World Health Organization (WHO), have for several decades supported the WMO's CD activities. The WCDS-2023 should encourage expansion of such support and closer coordination of relevant activities of those UN partners to leverage resources and collectively address the complex multi-disciplinary challenges of extreme weather, water scarcity, food security, and other climate change adaptation issues.

- Main CD-related initiatives
  - Alliance for Hydromet Development (AHMD) and Country Support Initiative (CSI)
    - SOFF
  - CREWS

**Note:** Consider what level of detail is needed to describe the above initiatives.

## 4.3 PPE for capacity development support

While stating that the WCDS-2023 is focused on capacity development of NMHSs, the new paradigm of multi-disciplinary, multi-sector, multi-stakeholder partnership promoted by the WMO Congress through the Geneva Declaration-2019, *Building Community for Weather, Climate and Water Actions*, should be integrated in the Strategy to result into concrete CD actions. The Declaration, inter alia, urged “all stakeholders from public, private and academic sectors to adhere to the UN Global Compact and WMO established principles for successful partnerships”, to enable “all countries to advance together through a coordinated approach for engaging the public, private and academic sectors, as well as civil society and investment partners, with special focus on bridging existing gaps in developing countries, Least Developed Countries (LDCs) and Small Island Developing States (SIDS)”. It also called on partner organizations and development agencies “to work closely with WMO to:

- Increase the impact of capacity development initiatives through strategic multi-stakeholder partnerships leveraging the investments, expertise and knowledge of all sectors;
- Ensure the best use of development funds to close the capacity gap, by exploiting financially viable business models that provide sustainable solutions for modernizing infrastructure and enhancing services in developing countries, LDCs and SIDS;
- Optimize national adaptation planning and disaster risk management to build resilience at all levels through a greater involvement of the expertise of the NMHSs in partnership with other public institutions, private and academic sectors, as well as civil society;
- Reinforce the capability of developing countries, LDCs and SIDS to contribute to the international exchange of data and products through WMO global systems, and to benefit from the global public goods produced collectively by the Members.

The practical approach to PPE in CD depends on many international and local factors. To help Members make informed choices, WMO has developed guidance material on PPE<sup>8</sup> which should be used along with this Strategy. The utilization of the PPE potential in CD will require cultural change at the level of NMHS to embrace the new opportunities for increasing the socio-economic benefits to society and, at the same time, reduce the financial burden to taxpayers, through innovative business solutions. In addition, partnerships with the academia and civil society will lead to faster closing the technological gap through innovation and integration of non-traditional resources.

WCDS-2023 should envisage raising awareness and building capabilities and competencies of CD practitioners to enable the broadening of the PPE in all forms of capacity development actions. This should be done through appropriate knowledge sharing, dialogues and promotion of good practices (as well as lessons learned). Analyzing the modalities of PPE models in the development projects supported by different stakeholders should be streamlined for more coherent and sustainable results without compromising the key responsibilities of the NMHSs, e.g., their function as single authoritative voice for early warning information and services.

#### 4.4 Special role of the ETR

Education and Training (ETR) activities have been among the most successful capacity building and capacity development endeavors of the WMO over its more than 60-years history. These activities are foundational for the Organization as promulgated by Article 2 of the Convention: “(f) To

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<sup>8</sup> WMO-No. 1294 (2022): OCP White Paper #2, Future of National Meteorological or Hydrometeorological Services, Evolving roles and responsibilities; WMO-No. 1258 (2021): Guidelines on Public-Private Engagement

*encourage research and training in meteorology and, as appropriate, in related fields and to assist in coordinating the international aspects of such research and training.”*

The role of ETR in the overall CD process encompass several areas including the development of core competencies for staff, enhancement of the training capabilities of institutions and experts, the development of leadership and management capabilities of NMHSs, the assessment of new and emerging learning needs and assessment of the capacity of NMHSs. WCDS-2023 will build upon established organizational forms, practices, guidelines and strategic directions related to ETR, which have been subject of constant review and updating over the years, as follows:

- WMO Strategic Plan

SO 4.2 of the WMO SP, entitled **Develop and sustain core competencies and expertise** highlights the main needs and tasks related to ETR. It recognizes a growing deficit in the capability and numbers of adequately educated and trained staff needed to provide weather, climate, hydrological and related environmental services in many countries and territories. Additionally, rapid advances in scientific innovation and technological developments and means for public communication require corresponding and continuous training of NMHS personnel.

To deal with these challenges, “WMO will increase its training and long-term education activities to help Members to obtain and maintain the competencies needed”.

- SYMET-14 Statement

Deliberating on the theme "Education and Training in a Period of Rapid Change", SYMET-14 noted that new advances in science, technology and meteorological, hydrological, and climate services, along with the impacts of the COVID-19 pandemic, have accelerated changes in the content and delivery of meteorological, hydrological and climate training, leading to the need for more development in new content areas, more defined new expected learning outcomes, the offer of new delivery modes, and the creation of new forms of instructional media and new pedagogical approaches.

SYMET-14 formulated a number of recommendations on the needed enhancement in the ETR approached and activities, based on the evolving technology, partnerships at national and international levels, and the demands for the provision of advanced information and services to meet the needs of decision-makers in dealing with the global, regional and local socio-economic challenges. It stressed on the need for innovative training approaches, advocacy to governments for ensuring adequate resources, and strengthening the cooperation with research and educational institutions. SYMET-14 detailed recommendations will underpin the WCDS-2023 in addressing the fourth dimension of the CD, Human Resources development.

- ETR initiatives
  - Global Campus
  - Competency Framework
  - Consortium of WMO Education and Training Collaborating Partners (CONNECT)

**Note: Decide to what extent to provide detail on the above initiatives as per expected development during the period 2024-2027**

- WMO Regional Training Centres (RTC)



and retention of the right people and their empowerment. Investment in the skills required to effectively leverage partnerships is becoming increasingly important as NMHSs seek to complement their own human resources by working with others

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## Part V. WCDS-2023 and WMO Strategic Plan – Priorities, Action Areas

### 5.1 Strategic priorities 2024-2027

Since Cg-15 in 2007, the WMO Strategic Plan adopted by the Congress is the main planning document of the Organization outlining goals, objectives and priorities for the forthcoming 4-year financial period. The Capacity Development has been a key cross-cutting element of the WMO Strategic Plan which guides CD support activities needed for achieving the goals and strategic objectives.

The WCDS-2023 is a supporting strategy to the WMO Strategic Plan 2024-2027 organically linked to the SP Goal 4 with its three Strategic Objectives:

**WMO SP 2024-2027 Goal 4:** Close the capacity gap on weather, climate, hydrological and related environmental services: Enhancing service delivery capacity of developing countries to ensure availability of essential information and services needed by governments, economic sectors and citizens

- **SO 4.1: Address the needs of developing countries to enable them to provide and utilize essential weather, climate, hydrological and related environmental services**

The increasing vulnerability of many societies and economies to natural hazards and extreme weather events and the gaps in the capabilities of NMHSs to deliver adequate services — particularly those of developing countries, least developed countries and small island developing States and Member island territories — require WMO to strengthen its capacity development efforts, building upon existing capacities in NMHSs, taking advantage of the capacity of developed country NMHSs in twinning and other arrangements, and leveraging the investments of the UN system and other development partners towards this goal.

- **SO 4.2: Develop and sustain core competencies and expertise**

There is a growing deficit in the capability and numbers of adequately educated and trained staff needed to provide weather, climate, hydrological and related environmental services in many countries and territories. Additionally, rapid advances in scientific innovation and technological developments and means for public communication require corresponding and continuous training of NMHS personnel. WMO will increase its training and long-term education activities to help Members to obtain and maintain the competencies needed.

- **SO 4.3: Scale up effective partnerships for investment in sustainable and cost-efficient infrastructure and service delivery**

Enhance the full spectrum of the weather, climate and hydrological services delivery to support the protection of life, property and the environment and the security of food production, energy and water resources. Scale up partnership investments to minimize cost and maximize the opportunity for the networks to be sustainable long beyond the lifetime of donor funded projects.

To ensure relevance, consistency and coherence of the CD interventions during the time period of the WCDS-2023, any such intervention should be clearly linked and contributing to at least one of the above SOs.

However, it should be understood that the CD activities are not limited to the WMO SP Goal 4 only; they are inherent to all LTGs and need to be properly streamlined through the lens of the LTG4.

### *Inter-relationships across the value cycle*

*There is the need to ensure that capacity development in various areas is attained through promotion of existing strategies in areas of technological infrastructure, service delivery, issues relating to research, science and innovation as an essential basis for attainment of desired objectives (LTG1 - 3). Key matters to address include those relating to policy and legislative measures, review of existing gaps and causal effects, facilitation of twinning arrangements and other innovative bilateral cooperation, resource mobilization and promotion of partnerships, Public-Private Engagement and multilateral and bi-lateral collaboration with development partners (LTG5). All these will be addressed through the means of education and training, support to development of leadership, enhancement of communications, outreach promotion, as well as advocacy efforts to governments, end-users, decision-makers on the socioeconomic benefits of investment in NMHSs.*

## 5.2 Priorities and focus areas of WMP SP 2024-2027 defining WCDS-2023 actions

SO	Focus areas 2024-2027	Top regional priorities	Indicative Outputs
4.1	<ul style="list-style-type: none"> <li>Improved understanding of the specific capacity needs with respect to technical, institutional and human resources</li> <li>NMHSs with strengthened capacities to develop long-term strategies, including science and ICT</li> <li>Increased relevance and effectiveness of NMHSs, more specifically in LDCs and SIDS</li> </ul>	<ul style="list-style-type: none"> <li>Prioritized attention to Members with capacity gaps identified by WMO monitoring</li> </ul>	<p><i>Capacity assessment:</i></p> <ul style="list-style-type: none"> <li>CPDB, with up-to-date, quality assured data, easily accessible for use</li> <li>Requirements for digital transformation of NMHSs understood</li> <li>Checklists of compliance to technical support developed (manuals, standards, guides and training material accompanied by refresher courses)</li> </ul> <p><i>Policy and planning:</i></p> <ul style="list-style-type: none"> <li>Members supported in the development of NMHS Strategic and Operational Plans</li> <li>Members supported in implementation of WMO strategies and policies</li> <li>Partnership networking and advocacy strengthened</li> <li>Best practices on harmonization of national policies and WMO recommended policies on Public-Private Engagement (PPE) adopted</li> <li>Capacity Development Strategy implemented</li> </ul> <p><i>Advocacy:</i></p> <ul style="list-style-type: none"> <li>Demonstrate, promote and communicate the societal-economic value of their weather, climate, water and related environmental observations, research, warnings and services</li> <li>Development of a cost-benefit analysis template to evaluate the cost (including opportunity costs) of WMO support to NMHSs and the contribution of NMHSs to national development</li> <li>Advocacy on the role and contribution of NMHSs to national policy and sustainable development</li> <li>Improve relations with media (including social media), national disaster management centres, etc. for greater awareness and enhanced societal preparedness to mitigate against weather-related disasters</li> </ul>
4.2	<ul style="list-style-type: none"> <li>Strengthened qualifications and competencies of NMHSs and related</li> </ul>	<ul style="list-style-type: none"> <li>Enhance the capacity of NMHSs to use GDPFS products (RA I)</li> </ul>	<p><i>Human resources development:</i></p> <ul style="list-style-type: none"> <li>Competency development promoted in RTCs and NMHSs and sustained through formal and continuing education and training</li> <li>Training conducted on infrastructure services related topics in accordance with regional needs</li> </ul>

	<p>institutions for effective service delivery</p> <ul style="list-style-type: none"> <li>• Regional and national training institutions reinforced, including through inter- and intra-regional cooperation</li> <li>• Talent development strategies at NMHSs nourished, including young professionals and women</li> </ul>	<ul style="list-style-type: none"> <li>• Enhance RTCs (all RAs) and support the establishment of RTCs for Members sharing common languages</li> <li>• Training on tropical cyclones (RA I and RA IV);</li> <li>• Training on data access, data assimilation and model verification (RA I)</li> <li>• Training on improvement of agricultural meteorological services using latest remote sensing tools (RA II)</li> <li>• Training on Numerical Weather Prediction (RA III)</li> <li>• Training on aeronautical meteorology, marine meteorology and hydrology (RA IV)</li> <li>• Impact-based forecasting and warnings services — formulate concrete requirements for availability of data to improve forecast quality; pilot projects for urban services and mega-cities (RA II)</li> </ul>	<ul style="list-style-type: none"> <li>• Leadership skills strengthened on policy development, planning, communications, legal awareness, advocacy, building partnerships, collaboration, financial management, and change management</li> <li>• Training course conducted on data exchange in BUFR to increase data availability</li> </ul> <p><i>Institutional capacity development:</i></p> <ul style="list-style-type: none"> <li>• Capacity of institutions and trainers enhanced to address evolving needs of WMO and NMHSs</li> <li>• Training curricula enhanced in light of new BIP-M and BIP-MT specifications</li> <li>• Physical, social and technical science fields integrated into training programmes</li> <li>• Strengthened skills in learning and competence assessment, evaluation of impacts of training</li> <li>• Language barriers to training development and delivery reduced through good practices and technology</li> <li>• Use of micro-credentials and credit-sharing promote</li> <li>• Institutional capacity to develop projects and mobilize resources enhanced</li> <li>• Effective approaches to distance learning applied following the whole training process</li> <li>• Partnerships strengthened (operational research, skills development and exchange) at national levels between national training structures and academia and, at international levels, through South-South cooperation, twinning (developed and developing Members), Global Campus Initiative and Consortium of WMO Education and Training Partners</li> </ul> <p><i>Succession management and sustainability:</i></p> <ul style="list-style-type: none"> <li>• Members assisted to use talent development strategies to incentivize young professionals and women</li> <li>• Members assisted to promote Science, Technology, Engineering and Maths (STEM) careers to young people and women</li> <li>• NMHSs supported through advocacy and policy enhancements to become more sustainable and attractive employers and retain workforce</li> </ul>
4.3	<ul style="list-style-type: none"> <li>• Cross-regional and Member-to-Member partnerships and alliances strengthened, including with the private sector and academia, to share knowledge, technology and expertise</li> <li>• Strategic, functional and mutually beneficial development</li> </ul>	<ul style="list-style-type: none"> <li>• Promote implementation of the Open Consultative Forum as a platform for dialogue to generate new ideas to improve the delivery and sustainability of weather, water and</li> </ul>	<ul style="list-style-type: none"> <li>• Inter-regional/Member-to-Member partnerships:</li> <li>• Twinning arrangements and peer-to-peer training</li> <li>• Mechanisms for bringing science from academia to meteorological services</li> <li>• Emergency assistance through voluntary cooperation</li> <li>• UN and multilateral partnerships:</li> <li>• WMO participation in regional collaborative platforms increased (issue-based coalitions, knowledge hubs)</li> </ul>

	<p>partnerships and alliances with key relevant UN, intergovernmental and nongovernmental organizations, development agencies, the private sector and academia</p> <ul style="list-style-type: none"> <li>• Leadership in promoting the principles on which global meteorology is built, emphasizing authoritative voice, common standards, data and product sharing</li> <li>• Effective resource mobilization for implementation of NMHS activities addressing all elements of weather, water and climate value cycle</li> </ul>	<p>climate services (RA VI)</p> <ul style="list-style-type: none"> <li>• Strengthening partnerships between NMHSs and academia in the area of research, capacity development and innovation (RA I)</li> </ul>	<ul style="list-style-type: none"> <li>• A closer relationship with UN resident coordinators and UN Country Teams nurtured</li> <li>• WMO contribution to SDGs showcased</li> <li>• Partners engaged through the Alliance for Hydromet Development</li> <li>• Country Support Initiative</li> <li>• Water and Climate Coalition</li> <li>• Advocacy (national &amp; global):</li> <li>• Advocacy conducted for NMHS recognition as an essential national institution providing public goods and services to all sectors \$</li> <li>• Advocacy conducted for sustainable financing \$</li> <li>• Advocacy conducted for the participation of Permanent Representatives (PRs) in official delegations</li> <li>• Accelerated implementation of Geneva Declaration, Water Declaration</li> <li>• WMO and NMHSs positioned as the authoritative voice on weather, water, climate</li> <li>• Resource mobilization:</li> <li>• Portfolio of financing partners increased</li> <li>• Direct support to Members, including relevant elements of the CD Strategy</li> </ul>
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*Note: This table is indicative only; it is based on the EC-75 document on the WMO SP 2024-2027, which will undergo future reductions*

### 5.3 Other CD Action Areas linked to top WMO Priorities (TBD, time-bounded with the WMO SP):

- CD Action Area 1: Observational Data – implementation of the WMO Unified Data Policy (Res 1) and GBON
- CD Action Area 2: EWS – UN Secretary-General Initiative
- CD Action Area 3: Climate knowledge and climate advice – furthering GFCS
- CD Action Area 4: Hydrology – water strategy
- CD Action Area 5: Food crisis
- CD Action Area 6: ETR, competence

*Note: To be further developed*

## ANNEX I. Terms and Definitions

### *Capacity*

1. Capacity is the ability of a human system to perform, sustain itself and self-renew. (Ubels et al., 2010)
2. Capacity is the ability of people, organizations and society as a whole to manage their affairs Successfully [UNDG]

### *Capacity assessment*

1. Analysis of desired capacities against existing capacities; this generates an understanding of capacity assets and needs, which informs the formulation of a capacity development response.
2. The identification of capacity assets and needs at national and local levels, equivalent to measuring baselines and the progress of (capacity) development indicators. [UNDG]

### *Capacity building*

The process of building capacities, based on the assumption that there are no capacities to start from. This approach can be relevant to crisis or immediate post-conflict situations but it is considered to be less comprehensive than capacity development.

### *Capacity development*

1. The process whereby people, organizations and society as a whole unleash, strengthen, create, adapt, and maintain capacity over time," in order to achieve development results. [UNDG]
2. The process of strengthening the abilities or capacities of individuals, organizations and societies to solve their problems and meet their objectives on a sustainable basis. The essential characteristics of capacity development can be described as follows:
  - It is an ongoing, continuous improvement process with feedback mechanisms rather than a short-term intervention;
  - It aims to augment capacity in a sustainable manner;
  - It includes the activities, approaches, strategies and methodologies that help organizations, groups and individuals improve their performance and generate development benefits;
  - It is an endogenous process driven by national mechanisms and facilitated by external agencies;
  - It should be evaluated in terms of the growth of capacity as a whole and over time.

In the WMO context, capacity development emphasizes a holistic and integrated approach to building the competencies and capabilities of NMHSs. It also stresses the role of NMHSs in all aspects of development to ensure long-term sustainability. This approach implies that NMHSs have strong linkages with national, regional and subregional planning and political processes to ensure coordination and cooperation in capacity development activities.

### *Capacity development support*

Efforts by external individuals or organizations to reinforce, facilitate, and catalyze capacity development. [UNDG]

### *Capacity gap*

A capacity gap can be defined as **a significant disparity between an organization's goals and objectives (as expressed in its vision and mission) and its actual or potential ability to achieve its vision and mission.** In other words, an organization with capacity gaps is lacking in key areas that are likely to prevent it from achieving its vision and mission. [source: <https://capincrouse.com/identifying-capacity-gaps-within-your-organization/#:~:text=A%20capacity%20gap%20can%20be,achieve%20its%20vision%20and%20mission>]

### *Community of practice*

People in the same profession can be grouped into communities of practice, such as networks of international advisers and informal planning meetings. A community of practice is a way for practitioners to share tips and best practices, ask questions of colleagues and support each other. It could also help build resources and skills for the development of the capacities of NMHSs, which reach beyond a single country or group of countries.

#### *SWOT analysis*

The SWOT analysis is a strategic planning method used to analyse strengths, weaknesses, opportunities and threats – hence the name SWOT – in a given situation.

#### *Sustainable development*

Sustainable development has been defined as development that meets the needs of the present without compromising the ability of future generations to meet their own needs. [source: <https://www.un.org/sustainabledevelopment/development-agenda/#:~:text=What%20is%20sustainable%20development%3F,to%20meet%20their%20own%20needs.>]

#### *Capacity components*

**Competencies** are the specific abilities of individuals. **Capabilities** are specific abilities of the organizational (sub-system) concerned. Both underpin and contribute to the overall capacity of a system. [Morgan (2006)]

## ANNEX II. WCDS-2023 Capacity Assessment Methodology

(To be developed in coordination with the WMO M&E)

Consider the use of the Country Diagnostics Tool developed for the Alliance for the Hydromet Development

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ANNEX III. WCDS-2023 Collection of National Good Practices of CD support

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## ANNEX IV. Reference List of WMO bodies with TORs related to Capacity Development support

WMO Body	CD support (as per body's TORs)	CD Cycle Stage contributions
INFCOM	<p>Assistance to Members to enhance systems capabilities and enable effective implementation and compliance:</p> <ul style="list-style-type: none"> <li>• Consult with regional associations and Members to identify needs for improvements in observing, data transmission and data management capabilities services and develop the required implementation strategies</li> <li>• Consult with regional associations to identify experts who can participate in technical commission teams, to facilitate implementation and uptake of evolving technical systems, standards and regulations at national and regional levels</li> <li>• Facilitate the regional and national implementation of systems under its remit by developing guidance material aligned with new and amended regulatory material</li> <li>• In consultation with the regional associations, identify needs for assistance to Members to improve their capabilities and provide relevant guidance and capacity building, including training</li> <li>• Propose pilot and demonstration projects as necessary</li> <li>• Facilitate transfer of knowledge by supporting relevant events and through communication and outreach activities</li> <li>• Providing standards and regulations for the basic measurement of variables characterising water quantity, quality and sediments; (pending CHy-Ext recommendations)</li> <li>• Support the technical aspects of the Hydrological Status and Outlook System and the state of the water report; (pending CHy-Ext recommendations)</li> </ul>	<p><i>Step 1 – Stakeholders' engagement</i></p> <p>Engage experts from developing countries</p> <p><i>Step 2 – Capacity Assessment</i></p> <p>Identify capacity gaps, Members' needs for assistance</p> <p><i>Step 3 – Design CD intervention</i></p> <p>Expert advice in design of programmes and projects; guidance, pilots</p> <p><i>Step 4 – Implement CD intervention</i></p> <p>Knowledge transfer, training</p>
SERCOM	<p>Assistance to Members to enhance service delivery capabilities and enable effective implementation and compliance – the Commission shall:</p> <ul style="list-style-type: none"> <li>• Consult with regional associations and Members to identify needs for new and improved services and analyse related capabilities, and best practices</li> <li>• Consult with regional associations to identify experts who can participate in technical commission teams, to facilitate implementation and uptake of evolving services and applications, standards and regulations at national and regional levels</li> <li>• Facilitate the implementation by developing guidance material aligned with the promulgation of new and amended regulatory material</li> <li>• In consultation with the regional associations, identify needs for assistance to Members and provide relevant guidance and capacity development activities including training</li> <li>• Propose pilot and demonstration projects as necessary</li> </ul>	

	<ul style="list-style-type: none"> <li>Facilitate transfer of knowledge and best practices by supporting relevant events and through communication and outreach activities</li> </ul>	
RB	<ul style="list-style-type: none"> <li>Promote the co-design of research initiatives aimed at strengthening the 'science-to-service' link between user needs and research project design and between research and operations, to benefit service delivery to Members</li> <li>Promote activities to strengthen scientific development in relevant areas for the benefit of all Members and particularly for developing countries and SIDS</li> </ul>	
EC-CDP	<p>The Panel will be responsible to the Executive Council through the Technical Coordination Committee and the Policy Advisory Committee. It will monitor the priorities of, and activities under, the WMO Strategic Plan, the WMO Capacity Development Strategy and WMO Gender Equality Policy, including institutional, infrastructural, procedural and human resources capacity development, specifically:</p> <ul style="list-style-type: none"> <li>Identify policy-related gaps in the capacity of NMHSs to exchange data, to deliver adequate services, to comply with WMO Standards and recommended practices, bearing in mind the Geneva Declaration 2019,</li> <li>Provide guidance and oversight regarding WMO efforts to strengthen assistance to the NMHSs of developing countries. Guidance could be along the lines enumerated in the annex to these Terms of Reference,</li> <li>Review education and training policies, qualification and competency standards, Regional Training Centre assessments, and WMO Global Campus activities,</li> <li>Identify training needs and give guidance on how to strengthen the capacity of training institutions, as well as recommend training activities to address gaps in formal and continuing education,</li> <li>Oversee and guide the implementation of the tasks of the Executive Council according to Resolution 8.3/1 (Cg-18). In particular, ensure that WMO activities that support capacity development, including the Country Support Initiative and VCP, as well as WMO-related CREWS activities, are complementary and take into consideration the unique national context of Members,</li> <li>Review and analyse gaps in the WMO Gender Equality Action Plan and provide guidance regarding WMO efforts in gender equality,</li> <li>Provide reports and recommendations on WMO capacity development to the Policy Advisory and Technical Coordination Committees for consideration by the EC,</li> <li>Take into account the work of the technical commissions and other subsidiary bodies of the Executive Council as it pertains to capacity development.</li> </ul>	<ul style="list-style-type: none"> <li>Mechanisms to enhance the collection and sharing of up-to-date information relating to the development of NMHSs (e.g. CPDB/Extranet, surveys, national assessments, ...);</li> <li>Actions taken to build on existing capacities of NMHSs in developing countries, such as: <ul style="list-style-type: none"> <li>The facilitation of twinning arrangements and other innovative bilateral cooperation,</li> <li>Strategies to leverage UN system and other development partner initiatives,</li> <li>Advocacy efforts to governments, end-users, decision-makers on the socioeconomic benefits of investments in NMHSs,</li> <li>Assistance to NMHSs to incorporate WMO and national requirements into national policy, legislative frameworks and national development plans,</li> <li>Efforts to increase training and long-term education for developing countries,</li> <li>Efforts to develop, implement, monitor and evaluate projects,</li> <li>Promotion of principles for global meteorology, hydrology and climatology including authoritative voice, common standards, data and product sharing,</li> <li>h) Review the activities of the technical commissions and regional associations aimed at developing, communicating and assisting NMHSs in developing countries to comply with WMO standards and recommended practices.</li> </ul> </li> </ul>
EC-HyCP	<ul style="list-style-type: none"> <li>Working with Regional Associations to aid the preparation and implementation of the regional Hydrological Plans of Action and ensure WMO support to Members in their development of new and enhanced capabilities in hydrology and water resources, including, but not limited to:</li> </ul>	

	<ul style="list-style-type: none"> <li>○ Hydrological observations, such as, but not limited to, those related to surface and sub-surface variables characterizing the quantity and quality of water and sediment;</li> <li>○ Hydrological status assessments and outlook services through the implementation of the Hydrological Status and Outlook System (HydroSOS) and the development of other water information and products;</li> <li>○ The application of water-related data, information and products to the assessment, effective management, and sustainable development of water resources and to the protection of society from hydrological hazards;</li> <li>○ The implementation of practices and procedures for the free and unrestricted exchange of hydrological data and products.</li> </ul>	
<p>Joint WMO- IOC Collaborative Board</p>	<p><b>The WMO-IOC JCB</b> will coordinate, through a quadrennial WMO-IOC collaborative strategy, the collaborative development, integration and implementation of the activities related to oceanographic and meteorological observation, data and information management, services, modeling and forecasting systems as well as research and capacity development carried out by WMO and IOC.</p>	

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ANNEX V. List of references

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