



Capacity
Development
Panel

**World Meteorological Organization
Executive Council
Capacity Development Panel**

Report of the 4th Meeting (CDP-4)

**15 and 16 February 2022
(videoconference)**

TABLE OF CONTENTS

EXECUTIVE SUMMARY	3
FULL REPORT	5
1. Opening of CDP-4 and Adoption of the Agenda	7
2. Update on implementation of recommendations by the 3 rd meeting	8
3. Report on Fourteenth WMO Symposium on Education and Training (SYMET-14) and discussion of its relevant outcomes	9
4. Discussion on the concept of Board of Education and Training Collaborating Partners .	11
5. EC-75 preparation and updates on Basic Instructional Packages (BIPs)	12
6. Conclusion of Capacity Development Strategy (CDS)	13
7. Presentation on current survey conducted on resource mobilization	15
8. Update on preparation of Business Continuity and Contingency Planning Guidance Document for Members	16
9. Future activities of the Panel, next meeting (CDP-5) and Any Other Business.....	17
9.1. Collaboration between CDP and HCP	17
9.2. Proposal of SERCOM Standing Committee on Services for Aviation (SC-on amendments to WMO-No. 49).....	17
9.3. A new publication on Public Policy and Management with Focus on NMHSs	17
10. Closure of CDP-4.....	18
ANNEXES	19
Annex-I : List of Participants	20
Annex-II : Adopted Agenda and Workplan of the 4th Meeting of the CDP	23
Annex-III : Update on implementation of CDP-3 recommendations	24
Annex-IV : Report on Fourteenth WMO Symposium on Education and Training.....	26
Annex-V : Education and Training Collaborating Partners	35
Annex-VI : Update on Basic Instructional Packages (BIPs).....	41
Annex-VII : Update on Capacity Development Strategy (CDS)	45
Annex-VIII : Presentation on current survey conducted on resource mobilization	50
Annex-IX : WMO Response to Global Crises	58
Annex-X : Collaboration between CDP and HCP	62
Annex-XI : Proposal of SERCOM Standing Committee on Services for Aviation	64
Annex-XII : A new publication on Public Policy and Management with Focus on NMHSs....	69

EXECUTIVE SUMMARY

The fourth meeting of the Capacity Development Panel (CDP-4) was held through videoconferencing on 15 and 16 February 2022. The meeting commenced at 12:00 UTC on 15 February 2022, and was opened by Evan Thompson, the Representative of the Presidents of the WMO Regional Associations (RAs) in CDP, President of RA IV, and the Permanent Representative (PR) of Jamaica with WMO, who had kindly agreed to chair the first day of the CDP-4 due to unavailability of Dr Agnes Kijazi, the Chair of CDP, who chaired the second day of the meeting.

CDP was briefed on the outcomes of the Fourteenth WMO Symposium on Education and Training (SYMET-14) and status of the review of Basic Instructional Packages (BIPs), for which further coordination with Technical Commissions (TCs) will be made before presenting to the following EC for approval.

The new concept on Education and Training Collaborating Partners was widely discussed by the Panel. The concept will be further improved by considering all comments and interventions and sent to the Panel for final review before moving ahead.

Another important discussion was on the review of the WMO Capacity Development Strategy (CDS), where Panel members and Executive Management expressed their views on the first draft and their support on finalizing the draft before WMO Congress in 2023 for approval in connection with the WMO Strategic Plan.

The Panel was also informed about several activities including: the results of a recent survey conducted by ET-RMPDA on resource mobilization, the collaborations between CDP and HCP, the preparation of Business Continuity and Contingency Planning Guidance Document for Members by Services Department, a proposal by SERCOM (ET-ETC) regarding suggested changes to the Part V of Volume 1 of the Technical Regulations (WMO-No. 49), and the preparation of a new publication titled as "A Primer on Public Policy and Management with a Focus on Meteorological Services".

The following key recommendations and suggested actions emerged from the meeting:

- **Recommendation-1 (CDP-4):** The Secretariat will consider all comments and interventions made, and further improve the concept of Board of Education and Training Collaborating Partners with a suggested new name for the group. The revised version will be circulated to the Panel for final comments and approval to proceed.

- **Recommendation-2 (CDP-4):** Secretariat to draft and share the Resolution to be submitted to the next EC for approval of the updated WMO-No. 1083.
- **Recommendation-3 (CDP-4):** CDP-TT-WCDS to give a brief presentation to provide updates on the writing of the new WMO Capacity Development Strategy in the next meeting of the Policy Advisory Committee (PAC) in April 2022.
- **Recommendation-4 (CDP-4):** Secretariat to contract a senior expert, who has experience in writing high-level strategy documents, and to engage a senior WMO officer to assist finalizing the writing of the WMO Capacity Development Strategy.
- **Recommendation-5 (CDP-4):** Secretariat to organize a 2 to 3-day face to face workshop for CDP members to finalize the documents on the Capacity Development Strategy when appropriate.
- **Recommendation-6 (CDP-4):** To include the findings of the survey conducted on resource mobilization into the Country Profile Data Base (CPDB) and Community Platform, and to share the presentation of the surveys' results with the WMO Project Management Board.

Following the closing remarks of the Assistant Secretary-General (ASG), Dr Wenjian Zhang, the Chair, Dr Agnes Kijazi declared the fourth meeting of Panel (CDP-4) closed at 15:00 UTC on 16 February 2022.

FULL REPORT

1. Opening of CDP-4 and Adoption of the Agenda

The Fourth Meeting of the WMO Executive Council Capacity Development Panel (CDP-4) was held through videoconferencing, commencing at 12:00 UTC on 15 February 2022. The meeting was opened by Mr Evan THOMPSON, the Representative of the Presidents of the WMO Regional Associations (RAs) in CDP, President of RA IV, and the PR of Jamaica with WMO, who had kindly agreed to chair the first day of CDP-4 due to unavailability of Dr Agnes Kijazi, the Chair of the Capacity Development Panel (see list of participants in the Annex-I).

In his opening remarks, the Secretary-General (SG) Professor Petteri Taalas welcomed members to the 4th meeting of the Panel and thanked the Panel for the effectiveness of their work and close coordination with the Secretariat. Professor Taalas emphasized that capacity development is an essential part of the work of WMO, even though we are not a development agency. He also highlighted that the WMO Congress in its extraordinary session held in October 2021, approved a comprehensive review of the WMO regional concept and approaches. As part of the Secretariat Reform, infrastructure, observation, and services coordinators are being placed in the WMO Regional Offices to serve as linkage between regional offices and headquarters.

The SG also introduced Mr Filipe Lúcio, who took over the Member Services and Development Department Director position from Ms Mary Power a couple of weeks prior the meeting.

Professor Taalas highlighted that WMO has recently been able to allocate very large amounts of financial resources for capacity development. He mentioned that 60 countries have been supported by the Climate Risk & Early Warning Systems funding mechanism (CREWS), and that more funding will be mobilized. He also communicated that an excess of 50 million USD is expected to be received through the Systematic Observations Financing Facility (SOFF), which was approved in the last Congress. The Secretary-General also thanked Dr Yinka Adebayo, the Director of WMO Education and Training Office (ETR), for successfully managing the WMO Education and Training Programme, despite the challenges resulting from the Covid-19 pandemic.

The Chair invited the Panel to review the agenda, for which three additional items were proposed from the floor as follows:

- Dr Carla Gulizia requested to present an initiative of cooperation between Hydrological Coordination Panel (HCP) and Capacity Development Panel (CDP). This was to be included under AOB (Agenda item 9).

- Secretariat requested to present a proposal of SERCOM Standing Committee on Services for Aviation to amend WMO-No. 49. This was to be included under AOB (Agenda item 9).
- Prof. Dwikorita Karnawati requested to present the results of a survey conducted on resource mobilization. This was to be added as a new agenda item after Capacity Development Strategy discussion (Agenda item 6).
- Secretariat requested a sub-agenda item to be added under AOB (Agenda item 9), regarding a new publication on “Public Policy and Management with Focus on NMHSs”.

The Panel agreed on the inclusions, and the agenda was adopted as presented in the attached Annex-II to this report.

2. Update on the implementation of recommendations by the 3rd meeting

The Secretariat updated the Panel on the status of implementation of recommendations made by CDP-3. As regards the Recommendation-1 of CDP-3 on implementation of Decision 9 (EC-73) decides (10) it is confirmed by Secretariat that it will be mainly implemented by the Member Services and Development Department as part of the WMO Reform process and promoting intra and inter regional cooperation. Regarding decides (7), Ms Karen McCourt reminded that it will be led by CDP-ET-RMPDA as agreed in CDP-3. Prof. Dwikorita Karnawati informed the Panel about the survey conducted on resource mobilization. As regards to decides (2) the Deputy Secretary-General (DSG), Dr Elena Manaenkova, highlighted there were extensive discussions on the normative work of the Organization. She informed it was agreed that when the competencies become requirements they should land to the relevant parts of the technical regulations, and it is necessary to pay attention that the competency requirements should be recommended by the Technical Commissions (TCs). The Assistant Secretary-General (ASG), Dr Wenjian Zhang, also added to decides (2), suggesting the Panel that the coordination between the TCs on competency frameworks should be highlighted in the next meeting of the Technical Coordination Committee (TCC) in April 2022.

Regarding the remaining recommendations of CDP-3, from Recommendation-2 to Recommendation-8, a summary of updates is provided in Annex-III.

3. Report on Fourteenth WMO Symposium on Education and Training (SYMET-14) and discussion of its relevant outcomes

The Fourteenth WMO Symposium on Education and Training (SYMET-14) was held online for the first time, due to COVID-19 travel restrictions. The Symposium took place from 22 to 25 November 2021 with the theme "Education and Training in a Period of Rapid Change". The theme was chosen to emphasize the challenges we all face in confronting the rapidly progressing technology, service delivery expectations, globalization of the meteorological enterprise, growth in urban environments, and impacts of climate change, among others. The Symposium was attended by 280 registered participants from 61 countries from all WMO Regions. WMO Members, representing developed, developing and least developed countries, and all WMO languages. Plenary sessions saw over 160 attendees at many times during the four-day event.

Dr Anna Timofeeva presented the Panel the main programme of SYMET-14 (see Annex-IV), highlighting the importance of the four opening keynotes that set the scene for the discussions during the symposium. She informed the Panel the recorded keynotes are available in all WMO languages (as per request), and the English versions are accessible as follows:

- **Keynote 1:** "*Preparing the Earth System Scientist of 2040*", Dr Louis Uccellini, Permanent Representative of United States (<https://vimeo.com/656032993>)
- **Keynote 2:** "*The increasing importance of education and training in promoting the paradigm shift to multi hazard early warning systems for NMHSs*", Prof. Dwikorita Karnawati, Permanent Representative of Indonesia, (<https://vimeo.com/656033662>)
- **Keynote 3:** "*A Look at the Future of International Meteorological and Hydrological Education*", Acad. Markku Kulmala, University of Helsinki (<https://vimeo.com/656034328>)
- **Keynote 4:** "*Preparing for the rapid changes required in the operations of hydrological and climate services*", Prof. Komi Sélom Klassou, University of Lomé, Former Prime-Minister of Togo (<https://vimeo.com/656034793>)

Also mentioned by Dr Timofeeva, the discussions taken during SYMET-14 provided ground to identify challenges and successes, but most importantly, opportunities for the global Earth system science research and operations communities to move forward within this climate of rapid change. These important discussions led to drawing several recommendations, some for general application, others specific to policymakers and

governments, to the World Meteorological Organization and other international organizations, and to the education and training community. The recommendations were captured in the SYMET-14 Statement, which was translated into all WMO official languages and sent by the SG to all Member countries.

Further information about SYMET-14 is available through the links below.

- [SYMET-14 Website](#)
- [SYMET-14 Statement](#)
- [SYMET-14 - Virtual Poster Session](#)
- [WMO News](#)

Dr Yinka Adebayo reminded that the Symposium is organized every 4 years to drive competences. He congratulated the Co-chairs and members of the International Advisory Committee for SYMET-14 (IAC) for their valuable contribution to the organization of the symposium. Dr Adebayo informed the Panel that the proceedings of SYMET-14 will be published by WMO in the coming months. The Panel was reminded that the draft of the manuscript was shared as part of the documents provided in preparation for the 4th Meeting of CDP. He also informed that the Education and Training Programme has been the first consumer of the recommendations made by SYMET-14 as the Secretariat are benefiting from it in the planning of activities for 2022 and beyond.

Prof. Dwikorita Karnawati also congratulated the organizers of the Symposium and its report. She suggested that "media" and "social media" should also be considered in education and training needs.

ASG congratulated the organizers on the quality of the SYMET-14 Statement, which he considered a very comprehensive document. He also highlighted that there have been requests made by Members, for WMO and partners to focus on the implementation of SYMET-14 Statement.

Mr Filipe Lúcio commented that as we develop education and training concepts, we need to think of ways to bridge the gap between what is available and how this is used. He used recent events in Madagascar as an example, where resources were available to forecast what was to come, but there were less resources to make use of this knowledge to prepare for the situation.

4. Discussion on the concept of Board of Education and Training Collaborating Partners

Since the concept of the Board of Education and Training Collaborating Partners was presented and discussed at CDP-3, the concept was also shared with WMO technical departments and Regional Offices, and it was discussed during SYMET-14. Major outcomes expressed in the SYMET-14 Statement were presented by Dr Anna Timofeeva, who highlighted two activities already recommended to be under the responsibility of the Board (see Annex-V). Participants of SYMET-14 have strongly endorsed the “Board of Education and Training Collaborating Partners” as a formal mechanism to achieve the goals of the WMO Global Campus initiative.

Following Dr Timofeeva’s presentation of main changes made to the initial concept after SYMET-14, several members of CDP took the floor to support the concept and make additional comments and contributions.

The adviser of Prof. Dwikorita Karnawati strongly supported the concept and highlighted that it is a way to support the WMO Global Campus initiative. She also suggested the Board to give particular attention to supporting distance learning as this not only supports the development of staff competencies, but also contributes to the development of the NMHSs. In this regard, she also requested ETR to provide training to implement coaching strategies in NMHSs.

Dr Carla Gulizia expressed that the concept has been very much improved and consolidated since its first presentation in CDP-3. She stated it is clearer now that the Board intends to include the voices of a wide community. Nevertheless, Dr Gulizia expressed some concerns, drawing attention to the lack of clarity still existing regarding the selection process and maximum number of members to participate in the Board. She also asked for clarifications on how the board will interact with CDP and other bodies.

ASG appreciated the presentation made by Dr Timofeeva and expressed the board should be incorporated with Global Campus, which includes resourceful universities. He suggested a rotation of Board chair and co-chairs to create more collaboration and ownership. Dr Zhang also suggested that representatives of WMO technical departments could join the ETR Office team in refining the concept.

Dr Yinka Adebayo clarified the board is not intended to have legislative power, but function more like a forum for a consortium of WMO partners with experience, expertise and interest in education and training. Responding the question on the number of members, he expressed that it is widely open, as far as the universities and institutions are

recognized by Permanent Representatives and international organizations and institutions recognized by the Secretary-General.

Dr Zhiqiang Wang supported the statements made by ASG and suggested the Board to be formed by as many partners as possible, including RTCs and universities. He added to the point made by representatives of Indonesia, supporting that special attention should be given to supporting and further developing online training.

Prof. Christophe Cudennec highlighted the importance of including universities as well as learned societies, training networks, NMHSs, and all the WMO education and training partners. This should be included and reflected in the written concept note.

Prof. Mary Scholes expressed that in terms of governance terminology, the entity should not be called a Board. If not directly involved in governance where the terms are defined, then the title should more clearly reflect the purpose of the "Group".

Dr Agnes Kijazi agreed that the group should be open to wider membership. She also supported that another name for the group should be considered, as this is not going to be a governing body.

Mr Filipe Lúcio proposed the scope of the Board to be reviewed to include partners beyond training institutions, but that have intimate relations with users. He mentioned disaster risk reduction as an example, where having representatives of this community could help identifying training needs of users.

Recommendation-1 (CDP-4): The Secretariat will consider all comments and interventions made, and further improve the concept of Board of Education and Training Collaborating Partners with a suggested new name for the group. The revised version will be circulated to the Panel for final comments and approval to proceed.

5. EC-75 preparation and updates on Basic Instructional Packages (BIPs)

An update on the review of the Basic Instruction Packages for Meteorologists (BIP-M) and Meteorological Technicians (BIP-MT) was provided by Dr Winifred Jordaan. She reminded that Resolution 32 (EC-70) in 2018 requested the Secretary-General to review BIP-M and BIP-MT with particular attention to scientific advancements, skills requirements for identifying and communicating user impacts, utilization of upstream seamless data and

products, management development, and socioeconomic and other relevant societal issues. Full presentation is provided in Annex-VI.

Following Dr Winifred Jordaan, the Secretariat provided a short presentation showing the entire journey of the Guide to the implementation of education and training standards in meteorology and hydrology (WMO-No. 1083), and informing the Panel that following the review and agreement of the Technical Commissions (TCs), the revised version of the WMO-No. 1083 will need to be approved by EC. In addition, due to correlated content, the Technical Regulations (WMO-No. 49) Part-VI and associated Appendix A, will also need to be reviewed by CDP and TCs before being presented to Congress for adoption of the suggested amendments. The Chair of CDP, Dr Agnes Kijazi highlighted that the draft amendments should come to CDP for its agreement before it is taken to the EC.

Recommendation-2 (CDP-4): Secretariat to draft and share the Resolution to be submitted to the next EC for approval of the updated WMO-No. 1083.

6. Conclusion of the WMO Capacity Development Strategy (CDS)

The agenda item was discussed on the second day of the meeting on 16 February 2022, which was led by the Chair of CDP, Dr Agnes Kijazi. Upon call by the Chair, the Vice-Chair of CDP, and Co-lead of the Task Team on Revision of the WMO Capacity Development Strategy (CDS), Mr John Ogren, presented a comprehensive update on the review of the Strategy (see Annex-VII). Mr Ogren reminded the Panel this review was requested by Decision 12 (EC-72) in 2020. The Task Team assisted by a subject matter expert (SME) Dr Michael Smith, spent extensive time and effort preparing the first draft of the CDS, which was submitted in December 2021. The draft of the manuscript was shared as part of the documents provided in preparation for the 4th Meeting of CDP.

The Panel was informed that dozens of comments and suggestions were received from CDP Members, Technical Departments, Technical Commissions, SYMET-14, HCP, and Member Services and Development Department. The main advice received was to make the Strategy less theoretical, focusing more on strategy and forward looking, while keeping the content at high-level. The document should also be shorter and emphasize the reasons the Strategy is needed now.

A number of challenges experienced by the Task Team were highlighted by Mr Ogren, including delays in receiving feedback and input, balancing high-level strategy with detailed information, lack of dedicated time and effort to complete the document and, most importantly, the fact that Dr Michael Smith is no longer fully available to assist the

Team due to a career advancement. Potential solutions with their pros and cons were presented and can be seen in Annex-VII.

The Chair acknowledged the great work of the Task Team and appreciated hearing about the challenges but also possible solutions.

The DSG expressed that she is impressed with the work done so far. She informed the Panel that the policy advisors will soon be discussing the WMO strategy for 2024-2027, which states that the main need is closing the gap between Members. She also suggested a brief presentation from Mr John Ogren or Dr Agnes Kijazi into the next meeting of the Policy Advisory Committee (PAC) to explain what the WMO CDS end product is intended to be. She advised the Task Team not to rush the writing of this important document, suggesting that a high-level draft could be presented to EC-75, allowing the work to be continued afterwards, preparing a final draft to be presented to the WMO Congress in 2023.

Ms Karen McCourt also expressed appreciation to the great work done so far. She pointed out that taking a step back and making sure that we are all clear on the objectives and the audience that will be using the WMO Capacity Development Strategy, could provide good support moving forward with the final stages of writing the document. She also expressed that coordination with other bodies is very important and highlighted that we should look at how we can support closing the gap between the Members.

ASG also expressed his high appreciation for the very comprehensive draft of CDS. He mentioned that the writing of the Strategy is very timely as we are working on the next WMO Strategic Plan for 2024-2027. He reminded that this should be kept as a high-level document and highlighted that capacity development leadership is also an essential element to be included. Regarding the challenges presented by Mr Ogren, the ASG suggested engaging a senior internal staff who knows WMO very well, to aid finalizing the writing of the document.

Recommendation-3 (CDP-4): CDP-TT-WCDS to give a brief presentation to provide updates on the writing of the new WMO Capacity Development Strategy in the next meeting of the Policy Advisory Committee (PAC) in April 2022.

Recommendation-4 (CDP-4): Secretariat to contract a senior expert, who has experience in writing high-level strategy documents, and to engage a senior WMO officer

to assist finalizing the writing of the WMO Capacity Development Strategy.

Recommendation-5 (CDP-4): Secretariat to organize a 2 to 3-day face to face workshop for CDP members to finalize the documents on the Capacity Development Strategy when appropriate.

7. Presentation on results of a survey conducted on resource mobilization

A presentation was delivered by Prof. Dwikorita Karnawati on the results of a survey conducted on resource mobilization. The survey aimed to identify ways of improving resources mobilization amongst WMO members and donors, gaining further information on how the resource mobilization activities were being conducted, and identifying what has worked well or not so well.

Prof. Karnawati informed that 36 responses were received from coordinators, managers, directors, and principals from all 6 WMO Regions.



Most respondents indicated they need to mobilize resources in the form of technical assistance, training, facilities, equipment, and funding. More than 90% of the responses indicated that the most frequent need for resource mobilization is training, including fees, scholarships, and funding to conduct training courses.

Survey results showed that the most effective scheme for resource mobilization is bilateral, which has more specific goals and budgets, simpler procedures, and fewer parties to coordinate with.

Another important finding of the survey was the identification local procedures and policies as the most common obstacle to effective resource mobilization. These included local government policies and rules, complicated authorizations, heavy bureaucracy in moving money, and the lack of legal frameworks to facilitate resource mobilization.

More details about the preliminary findings of the survey are available in the presentation made by Prof. Karnawati (see Annex-VIII).

Ms Karen McCourt thanked Prof. Karnawati and the team for conducting the survey and communicating the results to CDP. She also highlighted that the work was part of the activities of CDP-ET-RMPDA and carried out for the Decides (7) of the [Decision 9 \(EC-73\)](#).

DSG expressed it would be very useful to include the results of the survey in the resources linked to the Country Profile Data Base (CPDB) and Community Platform, as this helps understanding resources needs and challenges of Members. Having noticed that the main obstacles to effective resources mobilization are policies and procedures, she highlighted that WMO's mandate is to develop standards and technical regulations, but it is also very important to develop guides, manuals, and best practices that can support Members.

ASG highlighted that one of largest needs for resource mobilization is training, and that this is in line with what was discussed under agenda item 4 on education and training collaborating partners. He requested this presentation to be shared with the WMO Project Management Board, which is led by ASG.

Recommendation-6 (CDP-4): To include the findings of the survey conducted on resource mobilization into the Country Profile Data Base (CPDB) and Community Platform, and to share the presentation of the surveys' results with the WMO Project Management Board.

8. Update on preparation of Business Continuity and Contingency Planning Guidance Document for Members

Mr Cyrille Honoré briefed the Panel on a document presented to Congress-Ext (2021) on the WMO Response to Global Crises, which received early contributions from the Presidents of Technical Commissions, Mr Ian Lisk (SERCOM) and Mr Michel Jean (INFCOM). This document, which was based on results of a survey conducted by WMO in 2020, reported the main difficulties and concerns of Members in maintaining their operations and sustaining the delivery of services during the COVID-19 pandemic.

In addition to that a survey was issued in November 2021, asking for case studies of Business Continuity and Contingency Planning of NMHS of Members. 12 responses were received to this survey with different levels of details (classified information), several referring to the measures adopted in the COVID-19 pandemic. Full presentation on both surveys is available in Annex-IX.

9. Future activities of the Panel, next meeting (CDP-5) and Any Other Business

The agenda of CDP-4 was adopted with the inclusion of several topics under AOB. These are presented below:

9.1. Collaboration between CDP and HCP

Dr Carla Gulizia informed the Panel about a collaboration between the Capacity Development Panel (CDP) and the Hydrological Coordination Panel (HCP). She provided detailed information on two informal meetings held with HCP and Secretariat to discuss the "Assessment Guidelines for End-to-End Flood Forecasting and Early Warning Systems (E2E FFEWS)". The Guidelines were finalized by SC-HYD, and the development of training material is about to start in collaboration with FICH-UNL (WMO RTC Hydrological component in Argentina). Training materials and events will be delivered in English. Dr Gulizia also informed the Panel that there is a similar plan for Flash Flood Guidance System (FFGS).

In addition, Dr Gulizia took the opportunity to inform the Panel that the University of Buenos Aires (DCAO/FCEN-UBA), which is a component of RTC Argentina, expressed interest in collaborations to build training capacity on Space Weather. Full presentation of Dr Carla Gulizia is available in Annex-X.

9.2. Proposal of SERCOM Standing Committee on Services for Aviation (SC-on amendments to WMO-No. 49

This agenda item was presented by Ms Kathy-Ann Caesar on behalf of the Expert Team on Education, Training and Competency (ET-ETC). This is a subsidiary body of the Standing Committee on Services for Aviation (SC-AVI), under the WMO Services Commission (SERCOM). Following a request by Secretariat (made by Mr Greg Brock via Forum Post in the CDP Moodle site), Ms Caesar presented the changes suggested by ET-ETC on Part V of Volume 1 of the Technical Regulations (WMO-No. 49) and reminded the Panel comments and suggestions would be welcome until 28 February 2022. Full presentation is available in Annex-XI.

9.3. A new publication on Public Policy and Management with Focus on NMHSs

Dr Yinka Adebayo informed the Panel that a new publication is being finalized jointly between WMO, Lee Kuan Yew School of Public Policy (LKYSPP), and the Meteorological Service Singapore (MSS). He informed CDP that the Secretary-General has tasked the Secretariat to give priority to Decision 49 (EC-70) – Governance of education and training (2018). The latter requested the Secretary-General to strengthen the Organization's

support to fellowships and continuing education, and to capacity development overall, to provide a strong basis for strengthening the capacity of Members and, in particular, to focus also on leadership and management skills as well as technical skills.

Following an MoU signed between WMO and MSS, close collaboration between WMO and MSS resulted in the delivery of three training programmes for senior managers of NMHSs. The material developed for the training programmes was collected for this new publication under the title "A Primer on Public Policy and Management with a Focus on Meteorological Services," and it is expected to be published in early 2022. Full presentation is available in Annex-XII.

10. Closure of CDP-4

Following the closing remarks of the Assistant Secretary-General (ASG), Dr Wenjian Zhang, the Chair, Dr Agnes Kijazi declared the fourth meeting of Panel (CDP-4) closed at 15:00 UTC on 16 February 2022.

ANNEXES

Annex-I : List of Participants

CDP Members:

Dr Agnes Kijazi (Chair)
Mr John Ogren (Vice-chair)
Prof. Christophe Cudennec
Dr Somenath Dutta
Dr Carla Gulizia
Dr Winifred Jordaan
Prof. Dwikorita Karnawati
Ms Karen McCourt
Ms Jennifer Milton
Prof. Odjugo Peter
Prof. Mary Scholes
Mr Evan Thompson
Dr Anna Timofeeva
Dr Zhiqiang Wang

Advisors and Observers:

Ms Hekima Jozania (Adviser to Dr Kijazi)
Mr Wilbert Muruki (Adviser to Dr Kijazi)
Mr Mathew Ndaki (Adviser to Dr Kijazi)
Dr Elizabeth Page (Adviser to Mr Ogren)
Ms Neng Alia (Adviser to Prof. Karnawati)
Ms Anni Arumsari (Adviser to Prof. Karnawati)
Ms Noer Nurhayati (Adviser to Prof. Karnawati)
Mr Mulyano R. Prabowo (Adviser to Prof. Karnawati)
Ms Roro Yuliana Purwanti (Adviser to Prof. Karnawati)
Ms Bagus Rachmat Rievan (Adviser to Prof. Karnawati)
Ms Evi R. S. Sinaga (Adviser to Prof. Karnawati)
Mr Maman Sudarisman (Adviser to Prof. Karnawati)
Mr Eduard Podgaiskii (Adviser to Dr Timofeeva)
Ms Kathy-Ann Caesar (Observer)
Ms Karina Hernandez Espinoza (Observer)
Ms Jimin Kim (Observer)

WMO Secretariat:

Prof. Petteri Taalas

Dr Elena Manaenkova

Dr Wenjian Zhang

Dr Yinka Adebayo

Mr Mustafa Adiguzel

Mr Ernest Afiesimama

Mr Julian Baez

Ms Natalia Berghi

Dr Paul Bugeac

Ms Xiaoxia Chen

Mr Ben Churchill

Dr Maxx Dilley

Ms Hong Fan

Mr Bernard Gomez

Mr Cyrille Honoré

Ms Georgina Kahama

Ms Han Seul Lee

Ms Li-Sha Lim

Mr Filipe Lúcio

Mr Mark Majodina

Mr Amos Makarau

Mr Rodney Martínez

Mr Joseph R. Mukabana

Mr K.J. Park

Mr Markus Repnik

Mr Zablon Shilenje

Dr Johan Stander

Mr Yoshiro Tanaka

Ms Barbara Tapia

Ms Luciane Veeck

Mr Daniel Vila

Mr Ryuji Yamada

Ms Leah Yeddes

Mr Jun Yu

Annex-II : Adopted Agenda and Workplan of the 4th Meeting of the CDP

Tuesday, 15 February 2022 (Day-1)

No	Agenda Item	Lead Department/Presenter	Presentation/Report	Time (UTC)	Duration
1	Opening of CDP-4 and adoption of the agenda	Secretary-General & Chair of CDP	Opening Remarks	12:00 - 12:15	15'
2	Update on implementation of recommendations by the third meeting of CDP	MS/ETR	Presentation	12:15 - 12:30	15'
3	Report on Fourteenth WMO Symposium on Education and Training (SYMET-14) and discussion of its relevant outcomes	Facilitator, Task Team on HRDET, Dr Anna Timofeeva	Report & Discussions	12:30 - 13:15	45'
<i>Break</i>				13:15 – 13:45	30'
4	Discussion on the concept of Board of Education and Training Collaborating Partners	Facilitator, Task Team on HRDET, Dr Anna Timofeeva	Presentation & Discussions	13:45 – 14:30	45'
5	EC-75 preparation and updates on Basic Instructional Packages (BIPs)	MS/ETR & Dr Winifred Jordaan	Update	14:30 – 15:00	30'

Wednesday, 16 February 2022 (Day-2)

No	Agenda Item	Lead Department/Presenter	Presentation/Report	Time (UTC)	Duration
6	Conclusion of Capacity Development Strategy	Vice-Chair of CDP, Mr John Ogren	Presentation & Discussions	12:00 – 13:00	60'
7	Presentation on current survey conducted on resource mobilization	Prof. Dwikorita Karnawati	Presentation	13:00 – 13:15	15'
8	Update on preparation of Business Continuity and Contingency Planning Guidance Document for Members	Services Department	Presentation & Discussions	13:15 – 14:00	45'
<i>Break</i>				14:00 – 14:15	15'
4 (cont'd)	Discussion on the concept of Board of Education and Training Collaborating Partners	Secretariat	Presentation	14:15 – 14:30	15'
9	Future activities of the Panel, next meeting (CDP-5) and Any Other Business	Chair of CDP	Discussions	14:30 – 14:55	40'
9.1	Collaboration between CDP and HCP	Dr Carla Gulizia	Presentation	14:30 – 14:40	10'
9.2	Proposal of SERCOM Standing Committee on Services for Aviation on amendments to WMO-No. 49	Ms Kathy-Ann Cesar	Presentation	14:40 – 14:50	10'
9.3	A new publication on Public Policy and Management with Focus on NMHSs	Secretariat	Presentation	14:50 – 14:55	5'
10	Closure of CDP-4	Secretary-General & Chair of CDP	Closing Remarks	14:55 – 15:00	5'

Annex-III : Update on implementation of CDP-3 recommendations

Recommendation	Update
<p>Recommendation-1: As regards its future activities, the Panel will give priority to the implementation of Decision 9 (EC-73) and in this connection the Task Teams will contribute to the implementation of various aspects of the Decision, as contained in the report, in close coordination with the appropriate WMO Secretariat departments. It is also noted that there are other tasks from EC-72, including supporting of the independent evaluation of WMO projects, where the CDP-ET-RMPDA have been feeding into them.</p>	<p>Discussions are ongoing between the Expert Teams.</p>
<p>Recommendation-2: Expert Teams and Task Team will continue with their respective work plans with the aim of formulating recommendations to EC-75 on issues that are germane to capacity development in WMO.</p>	<p>CDP-4 will discuss status of preparation of the Capacity Development Strategy, vis-a-vis the contributions of the Task Teams.</p>
<p>Recommendation-3: Conclusion of the review process of the WMO Capacity Development Strategy.</p>	<p>CDP-4 will discuss</p>
<p>Recommendation-4: Deliberate on the outcome of the Fourteenth WMO Symposium on Education and Training as an item on the agenda of the fourth meeting of the Panel.</p>	<p>CDP-4 will discuss</p>

<p>Recommendation-5: Review the proposed WMO concept on Education and Training Board and formulate appropriate recommendation for consideration by EC-75.</p>	<p>SYMET-14 has recommended to rename it as “Board of Education and Training Collaborating Partners”, and CDP-4 will further discuss it.</p>
<p>Recommendation-6: Contribute to the review of various publications under preparation by the Education and Training Office.</p>	<p>Several publications have already been shared with CDP for their reviews namely, WMO-No.1083, “A Primer on Public Policy and Management with a Focus on NMHSs”, proposal for amendment of WMO-No.49, more to come like RTC Review Reports, etc.</p>
<p>Recommendation-7: On the invitation of the WMO Secretariat, take part in review of WMO projects and assessment of WMO Regional Training Centres (RTCs).</p>	<ul style="list-style-type: none"> • Review of the RTC in Russian Federation is being concluded and the report will be submitted to CDP together with the reflection of the PR of RF. • Review of RTCs in Costa Rica and India are close to final stage. • Review of RTCs in China, Italy, Turkey, Indonesia, and Israel have been initiated. The RTCs in China, Italy, and Turkey have agreed on the review and further actions are being taken. • Review of RTCs in Indonesia and Israel will be considered.
<p>Recommendation-8: Convey fourth meeting of the Panel which should focus on finalization of recommendation for EC-75.</p>	<p>Ongoing.</p>

Annex-IV : Report on Fourteenth WMO Symposium on Education and Training

**4th meeting of the EC Capacity
Development Panel**

**Report on Fourteenth WMO Symposium
on Education and Training (SYMET-14)
and discussion of
its relevant outcomes**

Dr Anna Timofeeva,
Director,
Institute for Continuing Education,
RSHU,
WMO RTC in Russia

4th Meeting of the Capacity Development Panel (CDP)
15 - 17 February 2022 (Videoconference)

**Fourteenth WMO Education and Training
Symposium (SYMET-14)**

and

**Meeting of Directors of
Regional Training Centres
and Education and Training
Collaborators**

Date: 22 – 26 November 2021

**Theme: “Education and Training During
a Period of Rapid Change”**

Members of International Advisory Committee:

Co-Chairs: Dr Anna Timofeeva
Professor Andrew Charlton-Perez

1. Dr Anna Timofeeva, Russian Federation
2. Mr Omar Chafki , Morocco
3. Prof Andrew Charlton-Perez, UK
4. Mr Christophe Cudennec, Professor, France
5. Dr Somenath Dutta, India
6. Dr David Farrell, British Caribbean Territories
7. Dr Winifred Jordaan, South Africa
8. Ms Jennifer Milton, Canada
9. Prof Christoph Mueller, Germany
10. Prof Peter Odjugo, Professor, Nigeria
11. Mr John Ogren ,USA
12. Dr Mary Scholes, Professor, South Africa
13. Mr Roger Stone, Australia
14. Dr Zhiqiang Wang ,China
15. Mr Christopher Webster, New Zealand

Symposium participants

The Symposium was attended by 280 registered participants from 65 WMO Members, representing developed, developing and least developed countries, all WMO languages, with a gender ratio of 53% female and 47% male.

Participants actively engaged in the presentations and discussions, and over the four days developed conclusions and recommendations which are included in the symposium statement.

Plenary Sessions saw over 160 attendees at many times during the four-day event.

SYMET-14 Programme

The first day of the symposium was full of plenary sessions. They included 4 introductory keynote presentations:

Keynote 1: “Preparing the Earth System Scientist of 2040”, Dr Louis Uccellini, Permanent Representative of United States

Keynote 2: “The increasing importance of education and training in promoting the paradigm shift to multi hazard early warning systems for NMHSs”, Prof. Dwikorita Karnawati, Permanent Representative of Indonesia

Keynote 3: “A Look at the Future of International Meteorological and Hydrological Education”, Acad. Markku Kulmala, University of Helsinki

Keynote 4: “Preparing for the rapid changes required in the operations of hydrological and climate services”, Prof. Komi Sélom Klassou, University of Lomé, Former Prime-Minister of Togo

SYMET-14 Programme

The keynotes presented on Day 1 of SYMET-14 were recorded and are available in the WMO Vimeo channel (English version). Links to watch each keynote are available at the SYMET-14 website at

<https://etrp.wmo.int/course/view.php?id=220>

and one panel discussion on the theme “WMO Global Campus: Next Areas of Collaboration”.

Days 2 and 3 were devoted to discussions in thematic working groups, as well as discussions in regional and language working groups.

SYMET-14 Programme

Thematic Working Groups:

Theme #1: Securing institutional commitment to share learning resources (Chair; Dr. Elizabeth Page, Director, The COMET Program)

Theme #2: Newly proposed WMO ETR Education and Training Board (Chair: Anna Timofeeva, RSHU, WMO RTC Russia, EC Capacity Development Panel)

Theme #3: Micro-credentials and credit transfer, how could we proceed (Chair: Yan Ma, Chair of Reading-NUIST Academy)

Theme #4: Considering new pedagogical approaches and assessment methods, including the future uses of blended learning (Co-Chairs: Bernie Connell, CIRA, WMO-CGMS VLab, and Noer Nurhayati, BMKG)

Theme #5: Technological barriers to online learning, and using partnerships between online education providers to overcome them (Chairs: Sarah Keeley (ECMWF))

SYMET-14 Programme

Theme #6: Supporting the lifecycle of professionals: From the decision to enter the discipline, to continuous learning, to maintaining job satisfaction and competency. (Chair, Dr. Winifred Jordann, SAWS)

Theme #7: What are the content area expertise gaps within our academic teaching staff members? How do we identify and fill these? (Chairs: Victoria Sinclair (Univ. of Helsinki))

Theme #8: Update to the WMO Capacity Development Strategy (Chair: John Ogren, USA, and David Farrell, BB. Members: Michael Smith, USA, NOAA, EC Capacity Development Panel)

Theme #9: How do we identify the critical regional needs for the professional development of operational staff? How do we ensure that appropriately qualified participants attend our training events? Chair: Jim Poole (NOAA/NWS)

The discussion took place in eight regional and language working groups

SYMET-14 Programme

The last day was mainly devoted to discussing and agreeing on recommendations and adopting the Statement of the Symposium SYMET-14.

The results of the poster session were also summed up

All the recommendations produced by working groups (thematic and regional) were captured and are included in the draft report. These recommendations were analyzed before being incorporated into the SYMET-14 Statement.

Poster sessions

31 posters were presented at SYMET-14. Each poster had its own discussion forum, where the participants of the symposium could write comments and questions to the authors. On Day 4, there was also a plenary discussion of the topics of the posters, and the 5 best posters were selected by voting of the participants.

All posters are available for viewing at

<https://symet-14.virtualpostersession.org/>

Poster sessions

1st place

How to break the Ice in Online International Training (CHEN J., ZHANG Y., CMATC)

2nd shared place

- Reaction of the WMO RTC Network to the Required Rapid Changes in Education and Training (Mustafa A., Patrick P., WMO)
- Action Learning (Noer N., Adityawarman, Roro Y.P., Ratih P., WMO RTC Indonesia)
- Eumetcal (Eumetcal Network)

5th place

Responding to a pandemic – ECMWF's move to virtual training (Sarah K., Becky H., Chris S., ECMWF)

Symposium Statement (key points)

New advances in the provision of scientific and technical knowledge and meteorological, hydrological and climate services, and the impact of the COVID-19 pandemic has accelerated changes in content and providing training services.

Various international and national initiatives and commitments to address global environmental issues necessitate for WMO to make a significant contribution to the United Nations Agenda that stimulate changes in the WMO community, such as new requirements for WMO data, mechanisms and policies for sharing data within the Earth System Strategy, and initiatives and issues that drive change in the broader education and training sector across world economy

Symposium Statement (key points)

1. Observations and conclusions

- The COVID-19 pandemic has brought significant and rapid changes, has revealed many innovative approaches to online and blended learning that can be more widely adopted.
- The workforce is becoming increasingly interdisciplinary, and accelerating progress in research and development each year opens up new opportunities to improve service
- The WMO EC Capacity Development Panel that was established by Resolution 7 (EC-71) is providing an effective means of driving forward innovation in capacity development.
- Collaboration between universities, NMHS training centres, WMO Regional Training Centres, WMO/CGMS VLab, CALMET and international education and training partners lays a solid foundation for enhancing the exchange of teaching and learning resources and approaches
- The decision to establish and promote the WMO Global Campus initiative has helped education and training providers and has proven to be effective.

Symposium Statement (key points)

General recommendations:

- The WMO Secretariat is requested to play an active role in supporting and promoting the development and ongoing activities that comprise the WMO Global Campus initiative.
- The participants of SIMET-14 strongly endorse the benefits of organizing a joint discussion of the future of education and training and suggest holding interim meetings between the symposiums.

To policy makers and governments:

- More funding needed to support initial and continuing education and training for NMHS staff, new funding models needed education and training, including loans and work-study schemes.
- A priority in attracting the best students to our field of work is to inform about careers in our field from early childhood education to vocational training.
- To retain highly qualified staff, it is necessary to ensure that they are adequately paid, rewarded and recognized for their contributions, especially in those where the development of skills makes them more attractive to work in other sectors

Symposium Statement (key points)

To the World Meteorological Organisation and other international organisations:

- The WMO Global Campus initiative is strongly endorsed. WMO encourages relevant international programs to participate in the WMO Global Campus on the principles of mutual benefit for all.
- A new sustainable technology solution should be developed and supported to achieve the goal of the Global Campus, partnerships or sponsorships should be explored through wider collaboration with the private and philanthropic sectors
- The Board of Education and Training Collaborating Partners as a formal mechanism to achieve the goals of the WMO Global Campus initiative is also strongly endorsed. The proposed Board of Education and Training Collaborating Partners is called upon to develop a pilot system to support the adoption of micro-credentials through the use of open badges and a mutual credit-sharing system that can be tested by a subset of institutions on a voluntary basis.

Symposium Statement (key points)

- WMO to re-consider the competencies required of trainers operating within a WMO Global Campus, which are broader than those traditionally acknowledged. There is a need to revise the Guidelines for Trainers in Meteorological, Hydrological and Climate Services (WMO-No. 1114) and the Compendium of WMO Competency Frameworks (WMO-No. 1209) to reflect the evolving needs of WMO.
- Ensure the WMO Capacity Development Strategy makes appropriate reference to education and training. This should be future looking and collaborative in nature to promote innovation in training development and delivery.

To the education and training community:

- The community is recommended to review the continuing professional development needs of their staff in light of the rapid changes in Earth system science and education and training practices. The community is encouraged to carry out a review of their curricula in light of the new BIP-M and BIP-MT specifications and future Basic Instructional Packages and competency frameworks.

Symposium Statement (key points)

-The community is encouraged to advocate for increased collaboration whenever possible, especially between NMHSs and universities, including work-based learning

-The community is encouraged to commit the time of their staff to participating in the WMO Global Campus initiatives identified above, including the proposed Board of Education and Training Collaborating Partners. They should communicate this commitment to the ETR office, in return for the new recognition of their collaborating status. As part of this commitment, a set of institutions are invited to partner with WMO for the trial of micro-credentials and credit sharing.

**SYMET-14 Statement is available in all WMO Official Languages.
CDP is invited to note the recommendations.**

The WMO Education and Training Office is using the recommendations to inform activities taking place in 2022 as well as planning for the years ahead. This includes continued and increased support for the WMO Global Campus initiative through a variety of mechanisms.

**Thank you
for your
attention!**



Dr Anna Timofeeva,
annatimofeeva1002@gmail.com

Highlights of the reviewed concept of the Board of Education and Training Collaborating Partners

Dr Anna Timofeeva,
Director,
Institute for Continuous Education, RSHU

4th Meeting of the Capacity Development Panel (CDP)
15 - 17 February 2022 (Videoconference)

Board of Education and Training Collaborating Partners

Consultation and Milestones

1. The initial concept was presented to ETCOM, which recommended sharing with Technical Departments and Regional Offices, EC Capacity Development Panel (CDP) and SYMET-14. Positive feedback was received from Marine Services Division.
2. The concept describing the proposal for establishing a "Board of Education and Training Collaborating Partners" was first presented to CDP during the Third meeting (September 2021), under the name "WMO Board of Education and Training". Feedback provided by CDP helped to refine the concept, particularly to clarify that the Board is not intended to have legislative authority.
3. The concept was presented and discussed in SYMET-14 (November 2021), receiving more recommendations that helped to refine the concept. Note that the change in the name of the Board was part of the recommendations.
4. Participants of SYMET-14 have strongly endorsed the "Board of Education and Training Collaborating Partners" as a formal mechanism to achieve the goals of the WMO Global Campus initiative.

The following slides highlight the main changes that helped to bring more clarity to the concept.

Objective of the Board of Education and Training Collaborating Partners

The overall objective of the Board of Education and Training Collaborating Partners is to strengthen coordination and sustainability of education and training efforts by providers on meteorology, hydrology and related environmental disciplines, being a formal mechanism to achieve the goals of the WMO Global Campus initiative.

The Board of Education and Training Collaborating Partners is not intended to have legislative authority, but rather be a sounding entity formed by education and training providers, with the view of having a structured platform for discussion and sharing of ideas that can contribute to improving capacity development.

Composition of the Board

The Board shall be composed of experienced representatives (**Board members**) from education and training providers worldwide on meteorology, hydrology and related environmental disciplines (**Education and Training Collaborating Partners**), taking into account geographical balance and reflecting the WMO gender equality policy.

The members of the Board will be invited to collaborate on a voluntary basis, in the discussions of education and training matters, which could then be brought to the attention of EC-CDP.

Invitation to propose representatives to participate as members of the Board will be distributed by WMO Secretariat to Permanent Representatives (PRs), WMO RTCs, training partners and networks, and collaborators of the Global Campus, through contacting focal points.

Composition of the Board



Invitation to propose representatives to participate as members of the Board will be distributed by WMO Secretariat to Permanent Representatives (PRs), WMO RTCs, training partners and networks, and collaborators of the Global Campus, through contacting focal points.

Composition of the Board Management Group

Board members shall elect a Chair and two vice-chairs to manage the Board in collaboration with additional fifteen members of the Board as follows:

- Chair
- Two vice-chairs
- Two representatives elected from each WMO Regional Association: one representing a WMO training centers of the region (WMO-RTC), and one representing other regional training institution (outside of NMHSs)
- Three representatives from INFCOM, SERCOM and Research Board

The term of engagement for the Board Management Group shall be two years, eligible for a second term.

It will be the responsibility of the Board Management Group to ensure coordination of work in the Board of Education and Training Collaborating Partners.

Composition of the Board Management Group



Responsibilities of participating entities

Key responsibilities of All participating entities

- Share their annual education and training plans, with the aim to aid coordination and collaboration between training providers to meet education and training needs of WMO Members;
- Participate in the discussion of training priorities with the aim to enhance collaboration for the provision of a well-balanced subject coverage and geographical distribution of education and training

Contributions from Education and Training Collaborating Partners

- Based on identified priority areas from WMO Strategic Plan, review and assess WMO training requirements; plan, deliver, and evaluate training events and activities in subject areas relevant to meteorology, hydrology, and related environmental disciplines.
- Evaluate the suitability of training events proposed by Member countries.
- Collect data on events and activities implemented and share via a common database information on needs.
- Share relevant information related to the organization and implementation of the training events and activities for information.
- For WMO-organized co-sponsored training events and activities, prepare and share with ETR, within a reasonable period after the completion of the training event or activity, a post-event evaluation report. For WMO co-sponsored events organized by other entities, encourage the organizer to prepare and deliver a completion evaluation report.

Responsibilities of participating entities

Contributions from Board members

- a. Serve as liaison with WMO Secretariat ETR office, representing the Education and Training Collaborating Partner.
- b. Coordinate and share information on the implementation of new training approaches to help developing knowledge on their efficacy and impacts.
- c. Provide required inputs to meetings of the Board.
- d. Actively engage on the discussion and development of guidelines on educational practices to be recommended to collaborating partners as means to achieving the goals of the WMO Global Campus.
- e. Advocate for the adoption of shared practices recommended by the WMO Global Campus.

WMO Secretariat support

- a. Provide advice and suggestions on education and training priority areas after due consultation with scientific and technical departments and according to outcome of survey of Members' priorities and the implementation plans.
- b. Coordinate meetings of representatives of the Board, with the aim of garnering updates, reviewing approaches and developing strategies on delivery of education and training activities.
- c. Publicize through Website and its Community Platform the themes and foci of training events and activities that have a high probability of being held in the coming year(s) based on communication from stakeholders (Members, RTCs and partners).
- d. Provide reports on the planning and implementation of training events and activities.
- e. Assist in fostering cooperation and establishing partnerships between education and training providers.

Working procedures

- a. The Board shall elect a Chair and two vice-chairs at their first session. The Chair of the Board has the responsibility to ensure coordination of the work in the Board with the Board management group.
- b. The Board shall meet in principle once per year, with the support of WMO secretariat. The meetings shall be held on rotational basis by WMO regions. An online communication platform shall be established by the Secretariat.
- c. The Board shall ensure regional and gender balance and inclusiveness in all its structures and work plans.
- d. The Board shall refine these Terms of Reference upon their first meeting.

Major outcomes expressed in the SYMET-14 Statement

The Board of Education and Training Collaborating Partners as a formal mechanism to achieve the goals of the Global Campus initiative is strongly endorsed.

Two activities were already recommended to be under the responsibility of the Board:

1. The proposed Board of Education and Training Collaborating Partners to develop a pilot scheme to support the adoption of micro-credentials through the use of open badges and a mutual credit sharing scheme that can be tested by a small number of institutions
2. Consideration of the local context for developing new training approaches should be paramount. This includes training in appropriate technologies, the technological constraints and appropriate localization of case studies and examples. The proposed Board of Education and Training Collaborating Partners should produce guidelines for the community on ensuring the appropriate local context

Following the revision of the initial concept and the endorsement by SYMET-14, the EC Capacity Development Panel is asked to consider the recommendation of the Board of Education and Training Collaborating Partners to EC-75

Thank you for your attention!

Please address your questions/remarks in the chat



**Dr Anna Timofeeva,
annatimofeeva1002@gmail.com**

Annex-VI : Update on Basic Instructional Packages (BIPs)

Updates on the Review of the Basic Instruction Package for Meteorologists and Meteorological Technicians

Dr. Winifred Jordaan

WEATHER CLIMATE WATER
TEMPS CLIMAT EAU



WMO OMM

World Meteorological Organization
Organisation météorologique mondiale

Review Process of the Basic Instruction Package for Meteorologists and Meteorological Technicians

BIP-M and BIP-MT



Initial Survey

Following an Executive Council decision (EC-70) to review the Basic Instruction Package for Meteorologists and Meteorological Technicians (BIP-M and BIP-MT), a global survey was conducted during 2018 to provide initial input to the review process.



BIPs Review Meeting

The results of this survey were presented and discussed during a meeting held in Geneva 27-28 November 2018. The meeting agreed that review teams should be formed to examine and update the BIPs. Chris Webster (New Zealand) and Winifred Jordaan (South Africa) were appointed to co-chair the review process, which started by setting up 2 working groups to review the BIP-M and the BIP-MT.



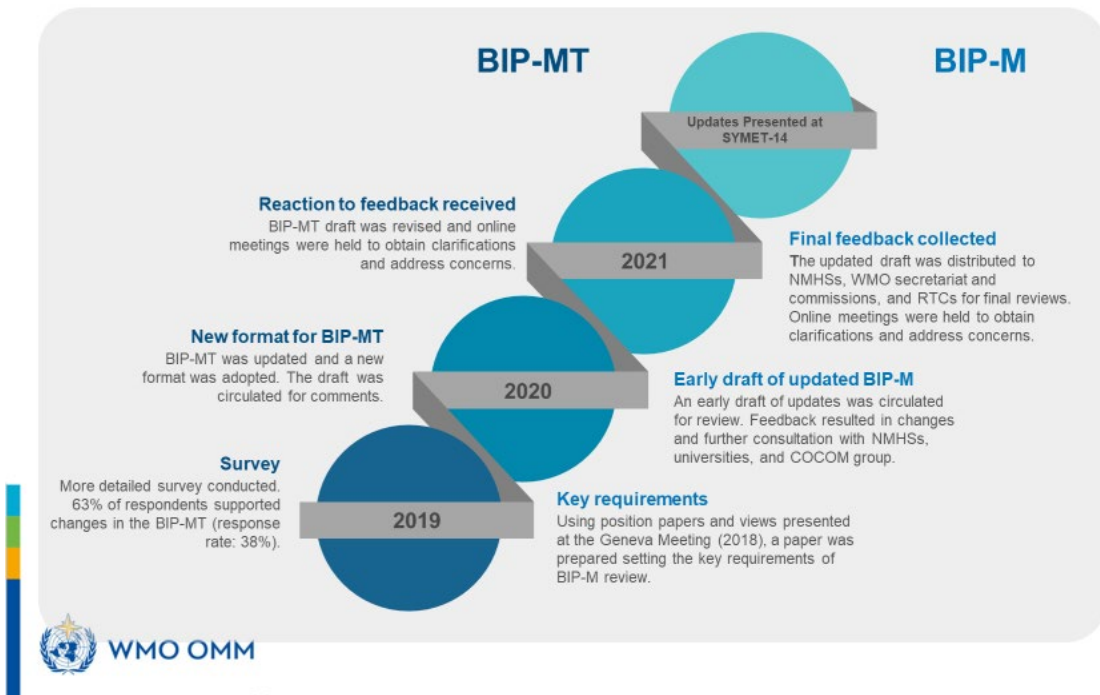
Consultation

From 2019 to 2021 Working Groups lead by Steven Callaghan (United Kingdom) and Coleen Rae (South Africa) reviewed and updated BIP-M and BIP-MT (respectively) in consultation with Members, through additional survey, feedback requests, and online meetings to procure clarifications and address concerns. Final draft of updated BIPs was presented at SYMET-14.



WMO OMM

Milestones of the Review Process



Stages of BIPs Review Process

What stage are we now?



Stages of BIPs Review Process

What stage are we now?



Publication is the start of a new journey

The adoption of the BIPs is what will bring rewards!



Annex-VII : Update on Capacity Development Strategy (CDS)

CDP-4

Task Team on
Capacity Development Strategy

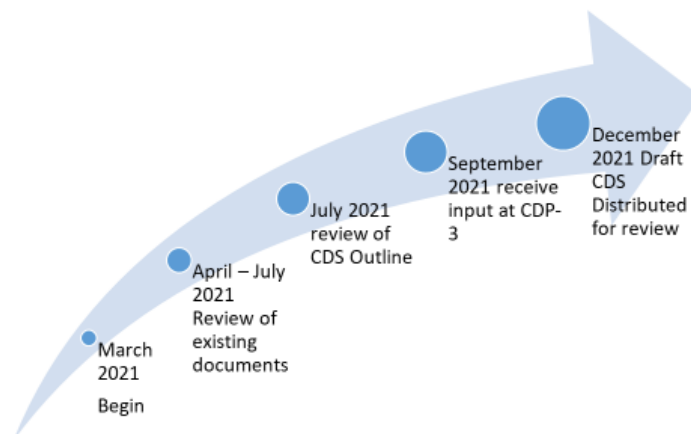
EC 72 Request

- ✓ Review the WMO Capacity Development Strategy, 2015
- ✓ Take into account the WMO Community Platform for coordination of information and cooperation to better understand the capacity development needs of NMHS in all areas of service delivery
- ✓ Ensure that the strategy takes into account ways in which the WMO Regional Training Centres, WMO training partners and WMO specialized Centres

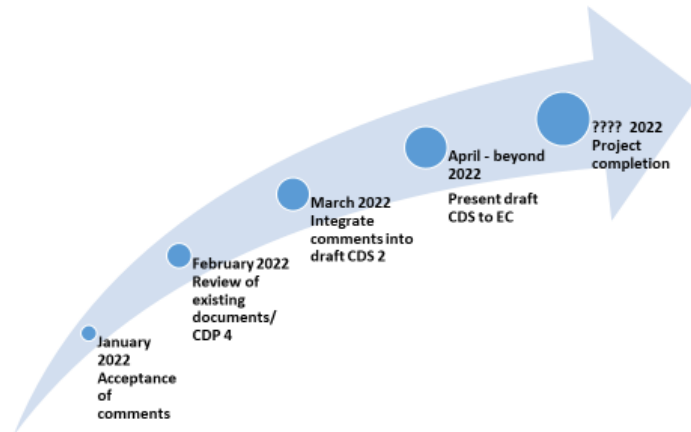
Executive Council 73 Request

- ✓ Co-opt other experts from WMO and development partners in support of its activities
- ✓ Work towards a conclusion of this exercise and prepare a report for consideration by the EC-74
- ✓ Taking into account the concepts of Hydromet Alliance, CSI, SOFF initiatives for their implementation.
- ✓ Encourage training institutions to embrace online training where possible

Timeline – The Past



Timeline – The Present and Future



Thank You!!

- Dozens of comments and suggestions
 - Capacity Development Panel Teams
 - SOFF
 - Science and Innovation Dept.
 - Atmospheric Environment Research Div.
 - INFCOM
 - SYMET
 - Hydrologic Coordination Panel
 - Member Services and Development Dept.

Sample Feedback

- Document is too theoretical
- Needs more focus on strategy and forward looking
- Explain “Why now”
- Shorten by half

Challenges

- Delays in receiving feedback/input
- Balancing high level strategy with detailed information
- Lack of dedicated time/effort to complete the document
- Dr. Smith rotating off the team (Career advancement)

Potential solutions

1. Recruiting a new NOAA rotational assignment to complete the CDS
 - Pro – Close contact with project co-lead/continuity
 - Con – Time to identify and spin-up time
2. Recruiting someone from another country to complete the CDS
 - Pro – Broader world view of capacity development
 - Con - Time
3. Identify an short term contractor with WMO experience to complete the CDS
 - Pro – Previous knowledge of WMO and associates structures/experience writing high level documents/time
 - Con - Cost

Questions??

- Open discussion.....

Annex-VIII: Presentation on a survey conducted on resource mobilization

Resources Mobilization, Partnerships and Development Assistance



WORLD
METEOROLOGICAL
ORGANIZATION

Report On RMPDA SURVEY

WMO Capacity Development Panel



WORLD
METEOROLOGICAL
ORGANIZATION

Survey on Resources Mobilization, Partnerships and Development
Assistance

02

Goals

To identify ways to improve resources mobilization amongst WMO members and donors

Objectives

- To gain further information on how the resource mobilization activities were being conducted
- To identify what has worked well or not so well



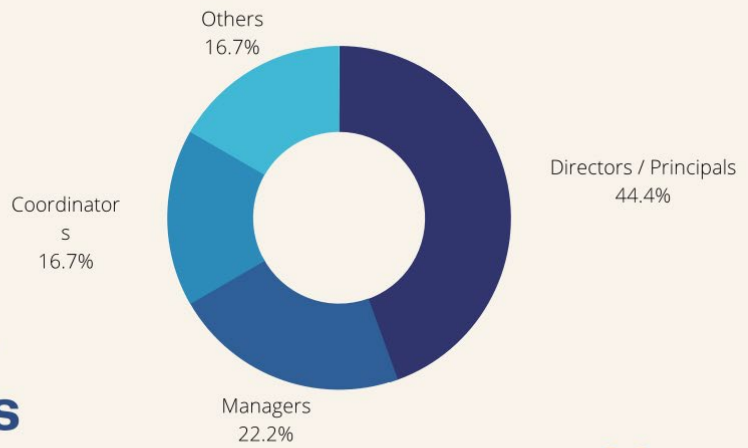


Respondents Distribution

36 Respondents



Respondent Designations

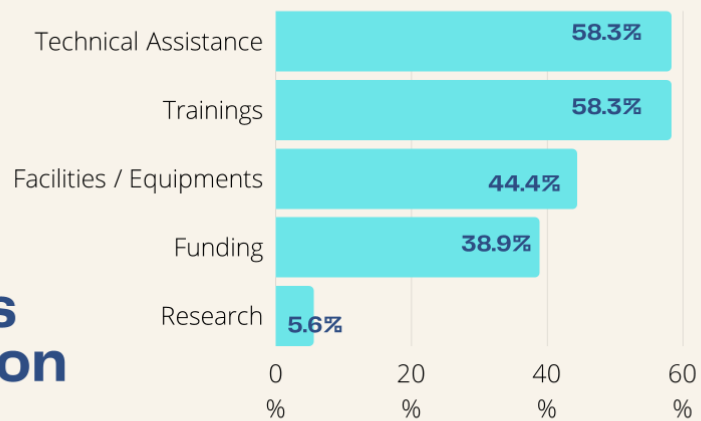




Survey Result



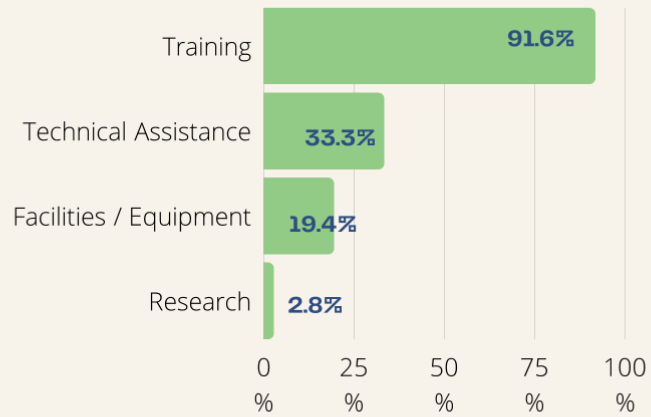
Forms of Resources Mobilization





WORLD
METEOROLOGICAL
ORGANIZATION

Most Frequent Needs for Resource Mobilization

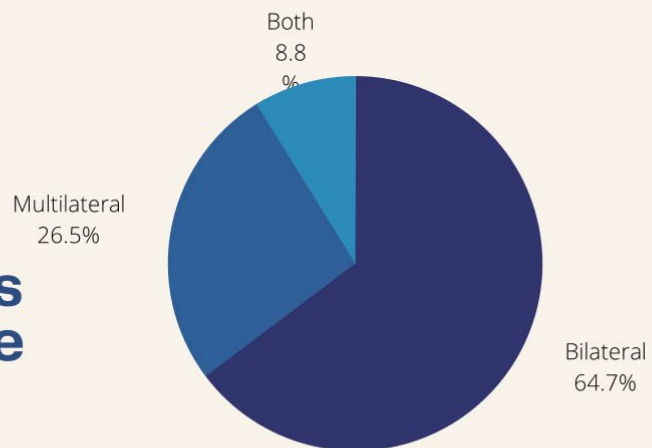


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WORLD
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ORGANIZATION

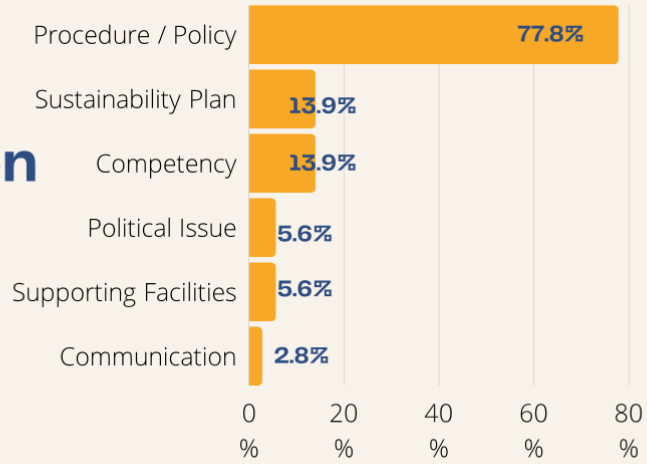
Considered As Most Effective Scheme



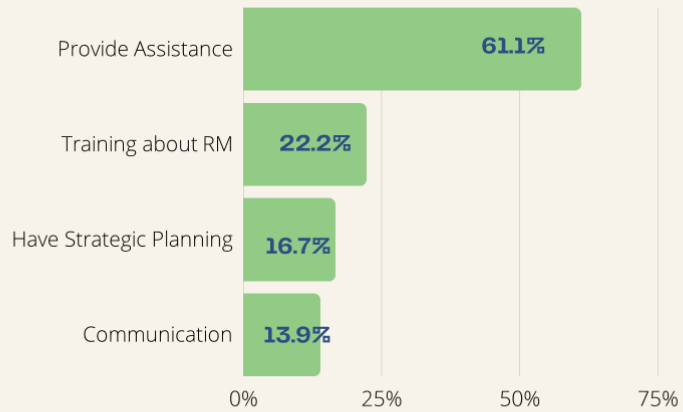
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Most Common Obstacles

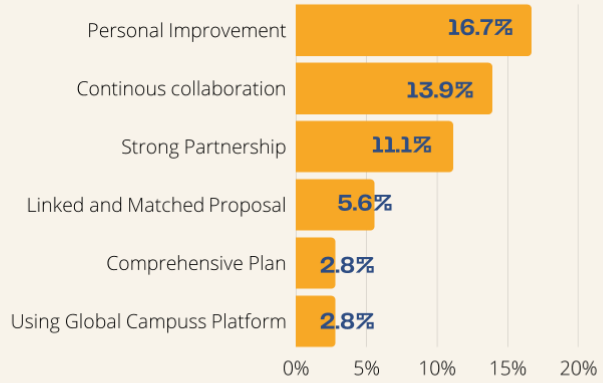


Ways To Overcome Obstacles





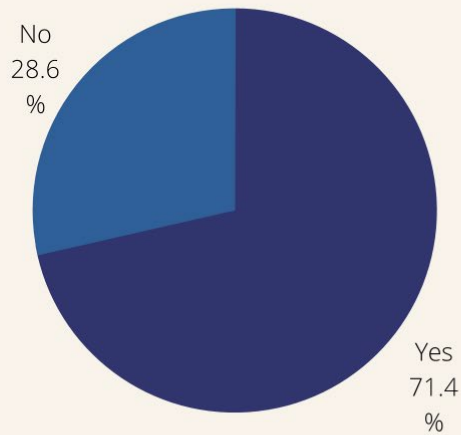
Best Practices of Resources Mobilization



11



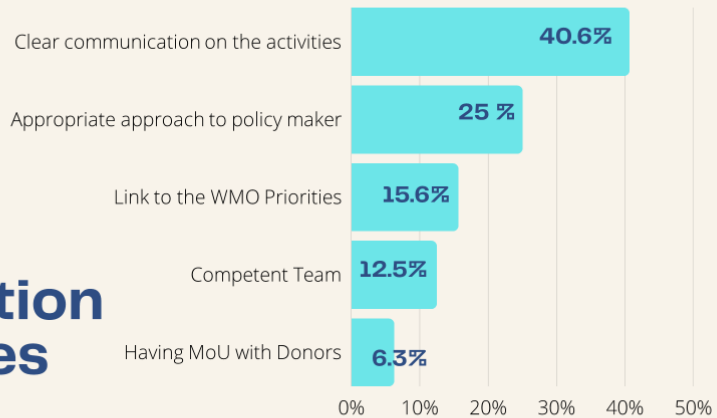
Resource Mobilization in Strategic Planning



12



Recomendation for Resources Mobilization



Conclusion

- Generally, existing resource mobilization, partnership and development (RMPDA) program and activities works well and had met the need of the recipients. However, there are still some aspects need to be improved.
- To improve the effectiveness of the RMPDA program, **DONOR** should provide RMPDA related trainings and technical assistance
- To get wider opportunities, **RECIPIENT** is suggested to make appropriate approach with policy maker, to build the clear communication on the program and activities, to have the strategic planning and sustainable plans, as well as to ensure their linked and matched with the priorities of Donor/ WMO
- Bilateral mechanism is preferable to multilateral one due to its friendship spirit, simple procedure and fewer parties to coordinate with.



Recommen dation

15

- This survey result could enhance the revised Capacity Development Strategy (CDS) especially related to the resource mobilization (**objective 4** : reinforce resource mobilization and project management), through providing the technical assistance and training on proposal/ plan development, initiating RM programs in strategic planning, and strengthening communication among partners
- A guideline on resource mobilization procedure is needed to ensure the effectiveness of the programs and activities



16

Thank You

Annex-IX : WMO Response to Global Crises

Capacity Development Panel (Virtual Session), 15-16 February 2022

Cg-Ext. (2021)/Doc 4.3 and INF. 4.3(2)
WMO Response to Global Crises

Cyrille Honoré and colleagues from WMO Secretariat
Earlier contributions by Ian Lisk, SERCOM President and Michel Jean, INFCOM President



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COVID-19 pandemic :
an eye-opener

Members started to report difficulties and concerns in maintaining their operations and sustaining their service delivery shortly after the pandemic global development
WMO SG's survey was launched in April 2020 and received responses by more than 150 services of Members,

- Constraints by international and national pandemic containment measures :
- travel and movement restrictions, confinement, reduction of staff in the office, health recommendations in the office space
- Teleworking challenges : hardware availability, network connectivity, software suitability and IT security
- Human resource management

• NO critical issues reported though thanks to Members efforts in adapting to the situation

Can we be satisfied ?
or
Should we take the opportunity to consider areas where a structured approach could facilitate overall business continuity in the eventuality of potential other large scale crisis development ?



EC-73, Decision 5

{The Executive Council ...}

Having considered the report on COVID-19, **decides** :

- (11) to request the Secretary General to submit to the seventy-fourth session of the Executive Council (EC-74) for its consideration:
 - (d) Guidance for the Members on how to maintain the operation and maintenance of systems, in line with health and safety protocols which could help members sustain the quality performance of the system.



Cg-Ext (2021) draft Document 4.3 and INF 4.3

The INF document provides :

- some background information,
- A short review of challenges identified under the pandemic situation
- A summary of existing practices and arrangements already in place that support business continuity and contingency planning



Cg-Ext (2021) draft Document 4.3 and INF 4.3

(continued)

The document 4.3 :

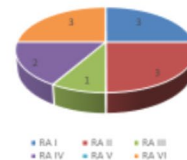
- Recognizes national responsibilities together with the role of Regional Associations;
- Decides to review aspects of business continuity and contingency planning that would facilitate a more structured and coordinated WMO approach for preparing for, responding to and recovering from major crises;
- Requests the Technical Commissions to lead this review and develop a WMO business continuity and contingency planning framework, based on Members' needs and including proposals for implementation activities;
- Invites capacity development partners to include business continuity and contingency planning in their project plans and activities.



Current status with Members

A survey was issued in November, asking for case studies of Business Continuity and Contingency Planning NMHS of Members:

- 12 contributions received
(RA I :3, RA II : 3, RA III 1, RA IV : 2, RA VI : 3)
- Different levels of details (classified information)
- several refer to the measures adopted in the COVID-19 pandemic
- Some are more generic



First hints and remarks

- Activity prioritization
- Back up systems or even centers
- Limited staff onsite, teleworking
- Training and drills
- Management key role
- Several members indicate they are now working on establishing BCPs



Way forward

A small group combining expertise from infrastructures and services areas will analyse the available material, develop proposals for EC-75 un June 2022

- A significant rise in interest was noted after the Tonga eruption
- Several members indicate they are now working on establishing BCPs



Annex-X : Collaboration between CDP and HCP

Initial ideas for CDP-HCP collaboration

- Several activities of the Plan of Action* (AP) for Hydrology have associated capacity development components.
- Initial discussions with Claudio Caponi and myself on how CDP can contribute to the implementation of the Plan of Action.
- Many activities of AP have not started yet, but some are in an advanced status of implementation (continuation of Chy activities).
- In particular, SC-HYD has finalized the "Assessment Guidelines for End-to-End Flood Forecasting and Early Warning Systems (E2E FFEWS)" and is about to start the development of training material.

* WMO VISION AND STRATEGY FOR HYDROLOGY AND ITS ASSOCIATED PLAN OF ACTION

[https://meetings.wmo.int/Cg-Ext-2021/_layouts/15/WopiFrame.aspx?sourcedoc=/Cg-Ext-2021/English/2.%20PROVISIONAL%20REPORT%20\(Appeared%20documents\)/Cg-Ext\(2021\)-d03-1-VISION-AND-STRATEGY-FOR-HYDROLOGY-approved_en.docx&action=default](https://meetings.wmo.int/Cg-Ext-2021/_layouts/15/WopiFrame.aspx?sourcedoc=/Cg-Ext-2021/English/2.%20PROVISIONAL%20REPORT%20(Appeared%20documents)/Cg-Ext(2021)-d03-1-VISION-AND-STRATEGY-FOR-HYDROLOGY-approved_en.docx&action=default)

Dr. Carla Gulizia

Recent updates on the CDP-HCP collaboration

- FICH-UNL (WMO RTC Hydrological component in Argentina) will contribute with HCP in the development of the training material which will be used in the training for the Assessment Guidelines for End-to-End Flood Forecasting and Early Warning Systems (E2E FFEWS).
- Currently there is no deadline defined for the development of the material/activities but the preparation has already started. Material and training activity will be held in English.
- FICH-UNL RTC will proportionate its capacities for the development of the material which will be used for the actual training.
- Once material is ready, the training course will be convened.

Website links to minutes of the two informal meetings between WMO Capacity Development Panel and Hydrological Coordination Panel:

<https://community.wmo.int/activity-areas/hydrology-and-water-resources/meetings/second-informal-meeting-between-wmo-capacity-development-panel-and-hydrological-coordination-panel>

<https://community.wmo.int/activity-areas/hydrology-and-water-resources/meetings/first-informal-meeting-between-wmo-capacity-development-panel-and-hydrological-coordination-panel>

Dr. Carla Gulizia

Future potential collaboration initiatives

Mid-to-long term CDP-HCP cooperation

- Interest expressed by Joint Expert Team on Hydrological monitoring (JET-HYDMON) and Flash Flood Guidance System (FFGS) project management to follow a similar approach to the one we have been discussing.

Possible replication of cooperation initiatives with support of other Technical Departments

- Example: Space Weather

Provision of real-time and worldwide space weather updates for commercial and general aviation. Identified training needs on this topic for the staff in charge of receiving or re-transmitting this information, how to interpret the reports or proceed with the warnings.

From Argentinean RTC component at the University of Buenos Aires (DCAO/FCEN-UBA) there is an interest in building training capacities on this direction.

Dr. Carla Gulizia

Annex-XI : Proposal of SERCOM Standing Committee on Services for Aviation



Summary Report

Services Committee (SERCOM)
Standing Committee on Services for Aviation (SC-AVI)
Expert Team on Education, Training and Competency (ET-ETC)
First Meeting (ET-ETC-1)
6, 7 and 8 December 2021
(Video/teleconference)

ET-ETC-1/PPT. xx

Agenda item x.x

Submitted by
xxxx



Services Committee (SERCOM)
Standing Committee on Services for Aviation (SC-AVI)
Expert Team on Education, Training and Competency (ET-ETC)

Proposed Amendments to WMO-No. 49

World Meteorological Organization EC-CDP-4
Executive Council (EC)

February 16th 2022

WMO Capacity Development Program and ET-ETC

- The Expert Team on Education, Training and Competency (ET-ETC) is a subsidiary body under the Standing Committee on Services for Aviation (SC-AVI), which in turn falls under the WMO and the Services Commission (SERCOM)
- Co-Chairs of ET-ETC. - Ms Kathy-Ann Caesar and Ms Andrea Henderson,

The ET-ETC's role in providing capacity development for LDC/SIDS

- The role of the ET-ETC in supporting capacity development efforts, particularly those that target least developed countries (LDC) and small island developing States (SIDS).
- **ET - ETC Operating Plan (2020-2023) – Objective B**
- *To assist the Capacity Development Panel (CDP) in the development and maintenance of competency and qualification standards of aeronautical meteorological personnel for inclusion in WMO Technical Regulations (WMO-No. 49), Volume I, and other regulatory documentation).*



Proposed amendment to Technical Regulations (WMO-No. 49), Volume I and WMO-No. 1209 concerning AMP competency and qualification

ET-ETC acknowledging the recent work of core experts, with the assistance of volcanic ash advisory centre (VAAC) focal points, to prepare draft second-level competencies for VAAC forecasters.

It was agreed that progression of the VAAC competency framework would be postponed whilst this overarching update on the following was undertaken:

- *Technical Regulations (WMO-No. 49), Volume I, General Meteorological Standards and Recommended Practices, Part V, Qualifications and Competencies of Personnel Involved in the Provision of Meteorological (Weather and Climate) and Hydrological Services; and*
- *WMO-No. 1209, Section 2, Competency Standards for Aeronautical Meteorological Personnel.*



ET-ETC reviewed proposed amendments to WMO-No. 49, Volume I, Part V and WMO-No. 1209, Section 2

WMO-No. 49, Volume I, Part V: QUALIFICATIONS:

- **Removal** of a **Recommendation** that WMO Members should decide, in light of their national circumstances, whether higher or more specific qualification requirements to those currently prescribed in WMO-No. 49, Volume I, Part V should be established for certain categories of operational personnel.
- **Addition** of a **Recommendation** that the necessary level of qualification(s) required for each category of operational personnel, including for aeronautical meteorological personnel (AMP), should be determined by the WMO Member based on relevant national, regional and/or global requirements.
- **Removal** of a **Standard** that requires an aeronautical meteorological forecaster (AMF) to possess the Basic Instruction Package for Meteorologists (BIP-M).
- **Addition** of a **Note** that the Basic Instruction Package for Meteorologists (BIP-M) and the Basic Instruction Package for Meteorological Technicians (BIP-MT) provide essential guidance on the pre-requisite educational frameworks, background skills, and knowledge necessary to underpin the required competencies for AMP.

COMPETENCIES (TOP-LEVEL):

- **Introduction** of the term "other relevant environmental" for the competencies associated with aeronautical meteorological forecasters (AMF) and aeronautical meteorological observers (AMO) in order to provide greater flexibility when/if competency frameworks are developed for other aeronautical meteorological specialisms.



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ET-ETC reviewed proposed amendments to WMO-No. 49, Volume I, Part V and WMO-No. 1209, Section 2

WMO-No. 1209, Section 2

COMPETENCIES (SECOND-LEVEL):

- **Removal** of reference [in the regional variations section] that an aeronautical meteorological forecaster (AMF) is required to possess the Basic Instruction Package for Meteorologists (BIP-M).
- **Addition** of reference [in the regional variations section] that the Basic Instruction Package for Meteorologists (BIP-M) and the Basic Instruction Package for Meteorological Technicians (BIP-MT) provide essential guidance on the pre-requisite educational frameworks, background skills, and knowledge necessary to underpin the required competencies for AMP.
- **Introduction** of the term "other relevant environmental" for the competencies associated with aeronautical meteorological forecasters (AMF) and aeronautical meteorological observers (AMO) in order to provide greater flexibility when/if competency frameworks are developed for other aeronautical meteorological specialisms.



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ET-ETC reviewed proposed amendments to WMO-No. 49, Volume I, Part V and WMO-No. 1209, Section 2

- **Action 5 (ET-ETC-1):**

- a) Socialize the proposed amendments to WMO-No. 49, Volume I and WMO-No. 1209 addressing aeronautical meteorological personnel (AMP) qualification and competency with the Capacity Development Panel (CDP) for feedback; and
- b) Upon completion of a), forward the proposed amendments to the Second Meeting of the Standing Committee on Services for Aviation (SC-AVI-2) for review and recommendation.

- Subject to

- i. a satisfactory (positive) review by the Capacity Development Panel (CDP) and
- ii. a (positive) recommendation by the Standing Committee on Services for Aviation (SC-AVI),

The proposed amendments to WMO-No. 49, Volume I and WMO-No. 1209 would consequently be subject to review and recommendation by the Services Commission (tentatively October 2022) prior to adoption by Congress or Executive Council 75 (June-2023).



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Benefits of the proposed changes

- Benefits to be realized by making these amendments to WMO-No.49 Vol 1:
- Allows for a greater degree of **flexibility in prerequisite qualifications**, spanning a range of scientific specialisms outside of traditional meteorology, including but not limited to volcanology, astrophysics, computer science and modelling.
- Recognizes **the ability of a person to acquire the relevant background skills and knowledge to support competency** through other means such as on-the-job experience and field work. The result of which is expected to diversify entry pathways for NMHSs onboarding candidates into aeronautical 'meteorological' forecasting specialisms.
- **Anticipates future skill requirements** in consideration of the changing role of AMP linked to service delivery transformation, including an increased emphasis on communication, customer relationships, and quality assurance, which are skills not readily acquired by formal academic means. Thus, reducing the administrative burden on WMO to define and redefine prerequisite qualifications at the pace of service delivery transformation.
- **Increased focus on competency-based training**, creating more targeted and cost-effective training program, potentially reducing the amount of time in classroom training.
- Enables the **NMHS to determine the level of academic rigour appropriate for the background skills and knowledge** in support of the AMP functions specific for their national needs.



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Annex-XII : A new publication on Public Policy and Management with Focus on NMHSs



WEATHER CLIMATE WATER
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4th Meeting of Capacity Development Panel
(CDP-4)
(15-16 February 2022)

**Agenda Item-9.3:
New Publication**

**“A Primer on Public Policy and
Management with a Focus on
Meteorological Services”**

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Leadership and Management Programme with MSS and LKYSPP

- An MoU was signed between WMO and MSS (Meteorological Service Singapore)
- WMO has organized, in collaboration with MSS, three programmes for the senior managers of NMHSs
- Three runs of the programme put together a product of feedbacks as well to enable other potential beneficiaries have the benefit of the training activities

**1st Leadership and Management Programme for
Senior Management of NMHSs
(10-14 September 2018)**



**2nd Leadership and Management Programme
for Senior Management of NMHSs
(26-30 August 2019)**



3rd Leadership and Management Programme for Senior Management of NMHSs (ONLINE) (3-13 August 2021)

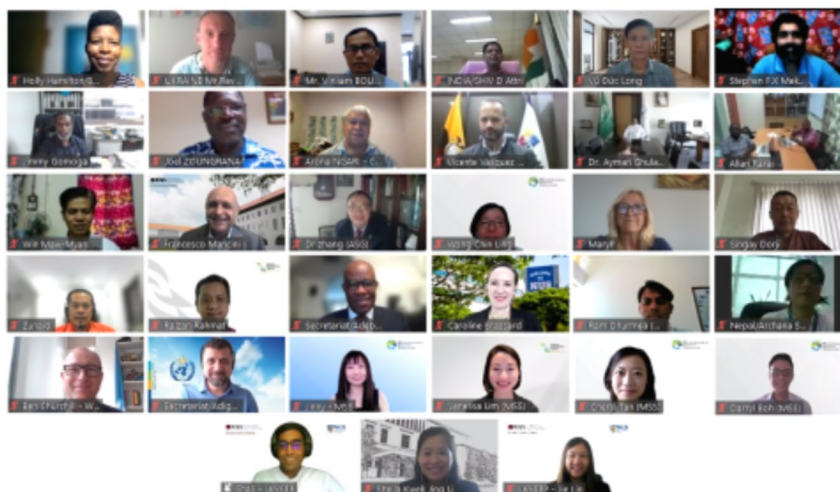


Table of Contents

PART-1: PUBLIC MANAGEMENT

1. Leadership in a VUCA World – Lim Siong Guan
2. A Primer on Public Management with reference to Meteorological Services - Zeger Van der Wal

PART-2: RESULTS AND EVIDENCE BASED PUBLIC MANAGEMENT

3. Results-Based Management at the World Meteorological Organization (WMO) - Assia Alexieva
4. Addressing the Challenges in Evidence Based Decision Making: The Role of Meteorological Services in Low and Middle Income Countries - Caroline Brassard
5. Strategic Foresight and Managing Complexity in Public Policy – Adrian Kuah

PART-3: ECONOMICS AND PUBLIC MANAGEMENT

6. Organizing, Costing and Pricing of Meteorological Services: Key Considerations - Mukul Asher
7. Behavioural Economics and lessons towards gleaning the best public response – Donald Low and Alvin Li
8. Systems Thinking and Public Policy: Perspectives from Economics of sustainability - Dodo J Thampapillai

PART-4: COMMUNICATION AND CONCLUSION

9. Communication and Public Policy with reference to Meteorological Services – Dodo J Thampapillai



Conclusion

- The Draft Manuscript was shared with Capacity Development Panel on [25 January 2022](#) for comments and feedback with a deadline of 15 February 2022
- The Secretariat (ETR Office) will be putting together all comments and subject the publication to professional editing by WMO conference services



Thank you

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