



REPORT OF THE CHAIR OF THE POLICY ADVISORY COMMITTEE AND THE CHAIR OF THE TECHNICAL COORDINATION COMMITTEE

Introduction

1. In light of the joint session of the Technical Coordination Committee (TCC) and the Policy Advisory Committee (PAC) (22 April 2024), this report combines the reports of the respective Chairs.

PART I – TECHNICAL COORDINATION COMMITTEE

Period covered

2. Part I covers the period from the first session of TCC in October 2023 to the joint session with PAC, with the participation of the Capacity Development Panel (CDP), in 2024.

Membership

3. The membership of TCC is as determined by [Annex 3](#) to [Resolution 7 \(EC-77\)](#) – Subsidiary bodies of the Executive Council and includes: (a) the presidents of the technical commissions (2 members), (b) the presidents of regional associations (6 members), (c) the Chair of the Research Board (1 member) and (d) the Chairs of any other bodies established by Congress or the Executive Council, upon invitation by the Chair (Joint WMO-IOC Collaborative Board, 1 member; Hydrological Coordination Panel, 1 member; Panel on Polar and High-mountain Observations, Research and Services, 1 member; CDP, 1 member = 4 members). In total, TCC has 13 members plus the Second Vice-President as the Chair.

Sessions

4. TCC held the following sessions:

17–19 October 2023, Geneva ([website](#))

22 April 2024, Geneva, jointly with PAC

5. In addition, TCC held the following virtual meetings as a follow-up to or preparation for the sessions:

22 November 2023

15 December 2023

21 February 2024

22 March 2024

6. Throughout this period, the Chair has maintained contacts with the members and the supporting Secretariat.

Summary of topics discussed

7. Given the renewed mandate assigned to TCC by the Executive Council ([Annex 3 to Resolution 7 \(EC-77\)](#)), during the reported period TCC has exclusively focused on two subjects: (a) the coordinated contribution of WMO to the Early Warnings for All (EW4All) Initiative and (b) the revised description of the Major Programmes.

Early Warnings for All initiative

8. TCC considered the question of coordination among WMO bodies to provide an effective contribution to the EW4All Initiative, as requested by [Resolution 4 \(Cg-19\)](#) and [Resolution 1 \(EC-77\)](#). In this regard, TCC initially identified in a WMO-wide implementation plan, to be adopted by the Executive Council, and in regional plans, to be adopted by the regional associations, the best approach to ensure the coordination of the activities of the different bodies of the Organization contributing to the EW4All Initiative. Such priority activities would be categorized based on the priority hazards identified by Members in the different Regions.

9. Having considered a first draft of the implementation plan prepared by the Secretariat, TCC eventually agreed to proceed as a first step with the development of a vision for the WMO contribution to EW4All and a road map to guide technical commissions, the Research Board, regional associations and other subsidiary bodies of the Executive Council in the implementation of priority activities for the EW4All Initiative. The road map is organized into two parts:

- (a) Part I covering technical and scientific activities within the Terms of Reference of the Technical Coordination Committee, including activities of the technical commissions, Research Board, Regional Associations;
- (b) Part II covering the broader organizational activities which are managed on a day-to-day basis by the Secretariat, particularly coordination with other United Nations entities and capacity development at the regional, subregional and national levels.

10. This approach was considered at the joint session of TCC with PAC, which reviewed [EC-78/Doc. 3.1](#), [INF. 3.1\(1a\)](#) and [INF. 3.1\(2\)](#), highlighting the following points:

- (a) Coordination across all WMO programmes and between WMO and other United Nations organizations, as well as a gap analysis, is needed for effective implementation; this should contribute to resolve coordination challenges at the regional level. In this regard, the document should clarify how EC can discharge its coordination function through TCC;
- (b) The WMO advantage is in prediction and early warning (while the disaster risk reduction (DRR) work should be further enhanced in coordination with other agencies – readiness and response); in this regard WMO should assert its unique leadership role in supporting capacity development (one-to-one coordination activities increasing the batch of 30 countries), clarifying how other countries and governments can be involved in supporting the effort through extrabudgetary resources, while also avoiding the risk of duplication or non-coordination of efforts;

- (c) The road map should be presented as an annex and carefully examined by EC, while other materials can be presented as information documents. The relationship of activities in the road map and the action plan adopted by the Commission for Observation, Infrastructure and Information Systems (INFCOM-3) need to be clarified. The document should also clarify how TCC can lead the process for updating the road map in the intersessional period;
- (d) Project management, including risk management and monitoring of activities linked to the operating plan, should be factored in the initiative to enable EC to have a clear view of implementation, decide on the allocation of resources and the introduction of remedial actions where necessary;
- (e) Guidelines by WMO can support compatible or harmonized national audits on the performance of National Meteorological and Hydrological Services (NMHSs) in issuing warnings. The indicators used in the Rapid Assessment used in the 30 initial countries to be supported provide a good initial base that needs to be validated by regional associations and can be complemented by checklists for national assessments;
- (f) Communication from WMO should also be emphasized to raise the profile of NMHSs at the national level.

11. A full account of the process leading to the development of the road map is provided in the general considerations of document [EC-78/Doc. 3.1](#) – WMO Road map for implementation of the Early Warning for All Initiative.

Major Programmes

12. TCC reviewed the development, evolution and function of WMO scientific and technical programmes, as requested by [Resolution 62 \(Cg-19\)](#) and [Resolution 7 \(EC-77\)](#). It considered their role as groupings of activities for internal planning and management and relations with United Nations system organizations and other international organizations. In this regard, TCC also reviewed the responsibilities of WMO bodies and the Secretariat over programmes, the role of programmes in the planning, programming and budgeting processes of the Organization and their main characteristics as defined by Congress and the Executive Council.

13. Based on past practice, TCC provided guidance to WMO bodies and adopted a template programme description for use by the technical commissions and other bodies. As a result, TCC endorsed recommendations of the technical commissions, the Research Board, CDP and the Secretariat concerning the following Major Programmes: (a) Expanded World Weather Watch Programme; (b) Weather, Climate, Hydrological, Marine and Related Environmental Services Programme; (c) Global Atmosphere Watch Programme; (d) World Climate Research Programme; (e) World Weather Research Programme; (f) Capacity Development Programme (preliminary); and (g) Regional Programme (preliminary).

14. This approach was confirmed at the joint session of TCC with PAC, which reviewed [EC-78/Doc. 4.2](#). Comments provided by TCC and PAC members concerned the following points:

- (a) Expanded World Weather Watch Programme: The development and evolution of WIGOS, the WMO Information System (WIS) and the WMO Integrated Processing and Prediction System (WIPPS) should take place in a harmonized, coordinated and environmentally sustainable manner for them to work as one single big global infrastructure. The programme description should clarify the coordination of activities across all the components of WWW, not only within WMO community, but also with external stakeholders such as United Nations agencies.

- (b) Weather, Climate, Hydrological, Marine and Related Environmental Services Programme: The description of the Implementation Activities should be more specific, on the model of the expanded World Weather Watch programme, including providing additional information about the coordination of the Secretariat with other United Nations organizations. In addition, the implementation activity related to the WMO Coordination Mechanism should be updated to be consistent with the WMO Coordination Mechanism (WCM) implementation plan.
- (c) Global Atmospheric Watch: The collaborative and interactive relationship, with mutual contribution, of the Global Atmosphere Watch (GAW) and G3W should be clarified. GAW and G3W should evolve together in an interactive manner, with outcomes of G3W well reflected in the activities under GAW, and vice versa.
- (d) Regional Programme: The Regional Programme should highlight priorities as decided by the regional associations; these should be reflected in the scientific and technical programmes.
- (e) Coordination: crosscutting communication and connection across all the bodies and programmes should be assured, including to enhance the implementation of EW4All.

15. Such comments were addressed, to the extent possible, in Draft 2 of [EC-78/Doc. 4.2](#).

16. A full account of the process leading to the development of the descriptions of the Major Programmes is provided in the general considerations of document [EC-78/Doc. 4.2](#) – Major Programmes for the nineteenth financial period.

17. TCC further agreed to submit, through PAC, recommendations to EC-79 on the use of programme information in the planning, programming and budgeting processes of the Organization. This is to address the request of Congress to the Executive Council ([Resolution 42 \(Cg-19\)](#)) to review the respective authorities and relations among the constituent bodies, the additional bodies and their subsidiaries bodies, as well as the Secretariat, with regard to existing processes and mechanisms related to the technical and scientific activities of the Organization, including the process for identifying experts to the constituent and subsidiary bodies, the identification and programmatic inclusion of Members' needs and requirements.

18. The joint TCC-PAC session also requested the submission to EC-78 of a proposed approach for the development of Strategic Plan 2028–2031.

Recommendations

19. Recommendations of TCC to the Executive Council are submitted, jointly with PAC, through the following documents:

- (a) [EC-78/Doc. 3.1](#) WMO Road map for implementation of the Early Warning for All Initiative, with draft Resolution 3.1/1 (EC-78) – WMO Road map for implementation of the Early Warnings for All Initiative (Draft 2);
- (b) [EC-78/INF. 3.1\(1a\)](#) Draft zero World Meteorological Organization's Road map for the Early Warnings for All Initiative (revised);
- (c) [EC-78/Doc. 4.2](#) Major Programmes for the nineteenth financial period, with draft Resolution 4.2/1 (EC-78) – WMO Major Programmes for the nineteenth financial period (Draft 2).

PART II – POLICY ADVISORY COMMITTEE

Period covered

20. Part II covers the first session of PAC in 2024, including the joint session with TCC with the participation of CDP.

Membership

21. The membership of PAC is as determined by [Annex 2](#) to [Resolution 7 \(EC-77\)](#) – Subsidiary bodies of the Executive Council and includes: (a) the presidents of regional associations (6 members), (b) up to 12 members of the Executive Council appointed by the Council upon proposal by the President noting the need for the expertise in the focus areas of the mandate of the Committee and taking into consideration regional representation and gender equality factors (Mr Moegamat Ishaam ABADER, vacant [*to replace Ms Diane CAMPBELL*], Dr Zhenlin CHEN, Dr Garvin CUMMINGS, Prof. Penny ENDERSBY, Mr Kenneth GRAHAM, Dr Andrew JOHNSON, vacant [*to replace Prof. Mansur Bako MATAZU*], vacant [*to replace Mr Masanori OBAYASHI*], Ms Virginie SCHWARZ, Ms Chin Ling WONG = 12 members), (c) the presidents of the technical commissions, the Chair of the Research Board and the Chair of the Technical Coordination Committee as ex officio members (4 members). In total, PAC has 22 members plus the President as the Chair.

Sessions

22. PAC held the following sessions:

22 April 2024, Geneva, jointly with TCC

23 April 2024, Geneva

Summary of topics discussed

23. At the joint session with TCC with the participation of CDP, PAC discussed: (a) the coordinated contribution of WMO to the Early Warnings for All (EW4All) Initiative and (b) the revised description of the Major Programmes. For a summary of the discussion see Part I above, in particular paragraphs 10 and 14.

24. At its separate session PAC discussed the following matters: (a) emerging policy topics, (b) collaboration with the United Nations and other international organizations, (c) public-private engagement and (d) role of WMO in Antarctica.

Emerging policy topics

25. PAC supported the proposal presented by the Scientific Advisory Panel (SAP) in [EC-78/Doc. 6.4](#) Emerging policy topics to developing, for consideration of the Executive Council, topical papers on emerging challenges and opportunities, such as: (a) surprises in the climate system; (b) big data for addressing global environmental challenges; and (c) artificial intelligence (AI) for numerical weather prediction.

26. PAC highlighted that the recommendations of SAP should be purely scientific, visionary but practical, directly relevant to the needs of Members. In this regard, PAC underlined the importance of focusing on AI as a very important issue for NMHSs, involving Big

Tech and academia experts, and ensuring that the recently established INFCOM Study Group on Future Data Infrastructure (SG-FIT) work with SAP in a complementary way. AI could also support the assimilation of climate models and assist local and impact-based forecasting.

27. PAC noted that small NMHSs may be affected by the fast pace of AI and the provision of forecasting services provided by Big Tech. PAC recommended that WMO engage in a dialogue with private companies under the umbrella of public-private engagement framework and guide and support small NMHSs in their relations with the private sector.

Collaboration with the United Nations and other international organizations

28. PAC reviewed and supported the proposals presented in [EC-78/Doc. 5.1](#), containing five draft decisions relating with: (a) recent resolutions and outcomes of the United Nations General Assembly of relevance to the WMO; (b) outcomes of the United Nations Climate Change Conference COP28, the sixtieth session of the IPCC, and defining the strategic role at COP29; (c) WMO engagement in the United Nations Decade of Ocean Science; (d) follow-up on the WMO contribution to the International Year of Glacier Preservation; and (e) revised Global Climate Observing System (GCOS) Memorandum of Understanding.

29. PAC highlighted the following aspects to strengthen the WMO contribution to United Nations processes:

- (a) Enhanced coordination is required across the Secretariat to support United Nations processes as well as inter-agency coordination, including with the United Nations Educational, Scientific and Cultural Organization (UNESCO), on matters such as tsunami early warnings and hydrology;
- (b) WMO should support and advocate for NMHSs to position themselves in the global agendas of the United Nations, noting the challenges some NMHSs face in navigating their national government structures;
- (c) Clarification of the respective roles of the Secretariat and the technical commissions with regard to the contribution to global United Nations processes.

30. These and other comments were reflected in Draft 2 of EC-78/Doc. 5.1.

31. In relation to Annex 1 to [Recommendation 7.2/1 \(INFCOM-3\)](#) requesting PAC to examine the utility, terms of reference, and membership of the Climate Policy Advisers Group (CPAG) with regard to action GOV2 (governance) in the Global Greenhouse Gas Watch (G3W) implementation plan, PAC confirmed that the current terms of reference are general enough to enable the request, although the membership would need to be slightly adapted. Furthermore, PAC requested that future meetings of CPAG be schedule before PAC so that the Chair could provide a report.

Public-private engagement

Revised Guidelines for Public-Private Engagement

32. PAC reviewed [EC-78/Doc. 6\(1\)](#) with the revised Guidelines for Public-Private Engagement (PPE), containing a new annex on the legislative and institutional framework to promote PPE. PAC highlighted the importance for WMO and NMHSs to take a proactive approach to the engagement with the private sector. This will strengthen overall delivery of services to the public, noting however that some NMHSs have a commercial purpose and are also in competition with the private sector.

33. PAC welcomed the revised Guidelines as a valuable resource for the WMO Members facing various challenges in PPE. It endorsed the submitted document, including proposed changes related to the structure of the Annex as well as the categorization of a referenced practice. During the discussion, the importance of due diligence was highlighted, and the Secretary-General informed PAC that relevant internal work on due diligence is ongoing.

34. PAC noted the importance of the Guidelines for promoting engagement and coordination with the private sector at the national and local level. In this regard, it was noted that the Guidelines need to be revised from time to time to reflect new legislations and practices (to be presented in the same section). Additionally, a survey with private operators could be undertaken to ensure buy-in.

Code of ethics between WMO and the Hydro-Meteorological and Environmental Industry (HMEI)

35. PAC reviewed and supported [EC-78/Doc. 6\(2\)](#) with the Code of Ethics between WMO and HMEI, intended to help WMO Members and HMEI members properly manage their relationships, maximizing the mutual benefits of an inclusive approach. It was noted that HMEI does not necessarily represent all the private operators active in the weather enterprise, but that the focus on HMEI is a pragmatic starting point that can be expanded based on decisions of the Executive Council.

36. PAC welcomed the Code of Ethics and agreed to keep this document focused on HMEI at the current stage, allowing WMO to engage with the private sector through a collective body, HMEI. PAC endorsed the document, including the amendments proposed by PAC members, i.e., reemphasizing the authoritative voice of NMHSs and the sustainability of NMHSs' capabilities, as well as adjusting the order of the ethical principles to place the human rights and people-first principle at the top.

37. In the discussion, some PAC members also recommended that more in-depth discussions within PAC around deep issues and opportunities/disruptions caused by factors such as the lack of public funding and technological innovation such as AI should inform the future development of the Code of Ethics, thereby enabling it to guide engagement with the broader private sector beyond HMEI, including the matter of protecting proprietary information and intellectual property.

38. The revisions suggested by PAC were included in the Draft 2 of [EC-78/Doc. 6\(1\)](#) and [6\(2\)](#).

Role of WMO in Antarctica

39. PAC reviewed and supported the proposal presented in [EC-78/Doc. 6\(3\)](#) Role of WMO on the coordination of the implementation of meteorological programmes in the Antarctica, noting that at EC-78 the discussion on this item will be preceded by a side event on Antarctica and also have relevance in the context of the EW4All Initiative, as the ice sheet melting will have long-term impacts and that the adaptation strategies would require long-term planning and implementation.

40. PAC noted the WMO has a role to play regarding the access to observations and publication of data through WIS in support of furthering the understanding of climate impacts. These engagements will require careful considerations since the Antarctica observations are managed through research activities. In this regard, PAC highlighted the importance of the Antarctica Regional Climate Centre Network (AntrCC) activity in support of Members with an interest in the region and welcomed the proposed dialogue to ensure greater clarity for Members and of respective roles across WMO bodies.

41. PAC recommended to provide additional clarity to draft [Resolution 6\(3\)/1 \(EC-78\)](#) on the request to INFCOM *to incorporate the current recommendations on observations on Antarctica and the Southern Ocean in the [Manual on WMO Integrated Global Observing System \(WIGOS\)](#) (WMO-No. 1160) and in the [Guide to WIGOS](#) (WMO-No. 1165), as appropriate*, as well as include specific references to the links to the Global Cryosphere Watch observations and its core network CryoNet.

Any other business

Extraordinary session of Congress in 2025

42. PAC took note that [Resolution 63 \(Cg-19\)](#) deciding for an extraordinary session of Congress (Cg-Ext(2025)) tentatively from 16 to 20 June 2025.

43. PAC considered alternative options presented by the Secretariat for the organization of Cg-Ext(2025) and related session of the Executive Council in 2025.

- (a) The first option is to confirm Cg-Ext(2025) from 16 to 20 June 2025 at CICG, preceded by a virtual session of the Executive Council (EC-79) from 17 to 21 March to prepare it and FINAC-45 from 12 to 13 June and followed by a session of the Executive Council (EC-80) from 23 to 24 or 25 June to consider statutory items (financial matters, oversight, strategic planning etc.).
- (b) The second option is to organize a session of the Executive Council (EC-79) from 16 to 20 June 2025, preceded by FINAC-45 from 12 to 13 June, to both prepare Cg-Ext(2025) and consider statutory items, and postpone Cg-Ext(2025) to 20–24 October 2025, either at CICG or at WMO.

44. PAC did not have a defined opinion on the two options and deferred the discussion to EC-78, noting, however, the following points:

- (a) The agenda of the Cg-Ext(2025) should remain limited to EW4All and other urgent matters as decided by EC-78, including proposed amendments to elections and appointment procedures;
- (b) The items on the agenda are dependent on the maturity of the proposals submitted Congress for the decision of Members;
- (c) The Executive Council should be able to deal with all its statutory items;
- (d) Consideration should be given to the possible hosting of future extraordinary sessions of Congress outside Geneva for the visibility of WMO globally.

45. The considerations of PAC are reflected in [EC-78/Doc. 7.6](#) and [EC-78/Doc.12](#).

Task forces of the Executive Council

46. PAC took note with appreciation of the progress and initial outcomes of the Task Force on the Comprehensive Review of the WMO Regional Mechanisms and Approaches (TF-CRRMA) ([EC-78/INF. 2.5\(11\)](#)) and of the Task Force on Elections and Appointments (TF-EA) ([EC-78/INF. 2.5\(12\)](#)), including the proposed terms of reference, submitted to the Executive Council through [EC-78/Doc. 7.3\(1\)](#).

Recommendations

47. Recommendations of PAC jointly with TCC are provided in Part I. The recommendations of PAC are submitted through the following documents:

- (a) [EC-78/Doc. 5.1 \(Draft 2\)](#) Cooperation with the United Nations: common priorities:
 - Draft Decision 5.1/1 (EC-78) – Resolutions of the United Nations General Assembly addressed to specialized agencies and relevant to WMO;
 - Draft Decision 5.1/2 (EC-78) – Outcomes of the 2023 United Nations Climate Change Conference (UNFCCC-COP28) and the sixtieth session of the Intergovernmental Panel on Climate Change (IPCC-60) and define the strategic role of WMO in the UNFCCC-COP29;
 - Draft Decision 5.1/3 (EC-78) – Recommendations of the Joint WMO-IOC Collaborative Board (JCB) on the WMO engagement in the United Nations Decade of Ocean Science for Sustainable Development, including through the Global Ocean Observing System (GOOS);
 - Draft Decision 5.1/4 (EC-78) – Follow-up to the WMO contribution to the United Nations International Year of Glaciers’ Preservation 2025 (IYGP25);
draft Decision 5.1/5 (EC-78) – Revised memorandum of understanding on GCOS as requested by [Resolution 38 \(EC-76\)](#);
 - (b) [EC-78/Doc. 6\(1\) \(Draft 2\)](#) Revised guidelines for public-private engagement: draft Resolution 6(1)/1 – Revised guidelines for public-private engagement;
 - (c) [EC-78/Doc. 6\(2\) \(Draft 2\)](#) Code of Ethics to be established between the Association of the Hydro-Meteorological and Environmental Industry (HMEI) and WMO: draft Resolution 6(1)/2 – Code of Ethics to be established between the Association of HMEI and WMO;
 - (d) [EC-78/Doc. 6\(3\) \(Draft 2\)](#) Role of WMO on the coordination of the implementation of meteorological programmes in the Antarctica: draft Resolution 6(3)/1 – Role of WMO in Antarctica;
 - (e) [EC-78/Doc. 6\(4\) \(Draft 2\)](#) Scoping of emerging topics: draft Decision 6(4)/1 (EC-78) – Scoping of emerging topics;
 - (f) [EC-78/Doc. 7.6](#) Preparation for the extraordinary session of Congress in 2025: draft Decision 7.6/1 – Extraordinary session of Congress in 2025 (Cg-Ext(2025))
 - (g) [EC-78/Doc. 12](#) Date and place of next sessions of the Executive Council, provisional items on the agenda of the next session of the Council and tentative programme of sessions of additional bodies and subsidiary bodies of the Council.
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