GENERAL CONSIDERATIONS TO RESOLUTIONS, DECISIONS AND RECOMMENDATIONS ADOPTED BY THE SECOND SESSION OF THE COMMISSION FOR WEATHER, CLIMATE, WATER AND RELATED ENVIRONMENTAL SERVICES AND APPLICATIONS (SERCOM-2)

(Unedited)

17 to 21 October 2022, Geneva

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Updates to the *Manual on Global Data-processing and Forecasting System* (GDPFS) (WMO-No. 485) Proposed by SERCOM Standing Committees

Introduction

1. This document proposes a way forward for future changes to the Manual on Global Data-processing and Forecasting System (GDPFS) (WMO-No. 485) addressing requirements from the from SERCOM, in particular from the Standing Committee on Hydrological Services (SC-HYD), Standing Committee on Marine Meteorological Services (SC-MMO) and Standing Committee on Disaster Risk Reduction (SC-DRR), in accordance with their terms of reference (Resolution 1 (SERCOM-1) - Establishment of Standing Committees and Study Groups of the Commission for Weather, Climate, Water and Related Environmental Services and Applications (Services Commission)), and (Resolution 3 (SERCOM-1) - Workplan of the Commission for Weather, Climate, Water and Related Environmental Services and Applications (Services Commission) for the First Intersessional Period).

2. Resolution 8 (SERCOM-1) - Establishment of WMO Hydrological Centres in the Global Data-processing and Forecasting System, and Resolution 12 (INFCOM-1) - Concept of the Global Data-processing and Forecasting System (GDPFS) centres for hydrological services, requested to develop a plan for including Hydrological Centres in the Manual on GDPFS, therefore enabling the paradigm of a seamless GDPFS that goes beyond weather services by integrating hydrology within the Earth System Modelling approach.

3. The Hydrological Assembly (HA-2) endorsed including Hydrological Centres in the GDPFS Manual and recommendation to SERCOM and INFCOM to make necessary arrangements for their submission for approval to Cg-19 in 2023, as per Recommendation 7 of the Hydrological Assembly (Cg-Ext(2021)/INF 3.1(2), endorsed by Congress (Resolution 5 Cg-Ext(2021) - Advanced implementation of elements of the Plan of Action for Hydrology).

4. Resolution 18 (EC-69) - Revised *Manual on the Global Data-processing and Forecasting System* (WMO-No. 485), approved the publication of the full revised Manual, including the addition of new types of centres such as the marine-related Regional Specialized Meteorological Centres (RSMCs).

5. Resolution 1 (Cg-Ext-2021) - WMO Unified Policy for the International Exchange of Earth System Data, referred to the Manual on GDPFS System wherein Appendices 2.2.1, 2.2.3, 2.2.5, 2.2.7 indicate that "Tropical storm tracks (latitudinal/longitudinal locations, maximum sustained wind speed, MSLP)" are an "additional recommended product"

6. It should be noted how the large variety of services provided under the paradigm of the seamless GDPFS, going beyond weather and climate services, are not properly reflected under the name “Regional Specialized Meteorological Centres” (RSMCs) while acknowledging it has been familiar for a long time as a generic name of Centres providing valuable GDPFS products and services.

General considerations to Resolution 2 (SERCOM-2)

UN Global Early Warnings/Adaptation Initiative

1. The United Nations Secretary-General made an announcement on the occasion of World Meteorological Day 2022 (23 March 2022) that the United Nations will spearhead a new action to ensure every person on Earth is protected by early warning systems (Early Warnings For ALL – EW4A) within five years and the call on the World Meteorological Organization (WMO) to lead this effort and present an action plan to achieve this goal at the twenty-seventh session of the Conference of the Parties to the United Nations Framework Convention on Climate Change (UNFCCC/COP27).

2. The G7 Foreign Ministers issued a statement on Strengthening Anticipatory Action in Humanitarian Assistance explicitly that "We furthermore welcome and support the UN Secretary-General's target to have within the next five years, everyone on Earth protected by early warning systems against increasingly extreme weather and climate change".

3. On this basis, the Executive Council, in its Resolution 3 (EC-75) – UN Early Warnings/Adaptation Initiative, requested the Services Commission, in consultation with other WMO bodies and with the support of the Secretariat, to develop an initial action plan to respond to the UN Early Warning/Climate Adaptation Initiative.

4. The fundamental role of National Meteorological and Hydrological Services (NMHSs) as the official and authoritative providers of early warnings for hydrometeorological hazards should be emphasized as well as the unique coordination role played by WMO in this regard and also for related environmental hazards in the context of the United Nations system.

5. The vision of the WMO Strategic Plan 2020–2023 (WMO-No. 1225), that "by 2030, we see a world where all nations, especially the most vulnerable, are more resilient to the socioeconomic consequences of extreme weather, climate, water and other environmental events; and underpin their sustainable development through the best possible services, whether over land, at sea or in the air". And the associated strategic objective to "Strengthen national multi-hazard early warning/alert systems and extend reach to better enable effective responses to the associated risks".

6. It should be recognized that foundational elements exist based on which to pursue the global early warning goal, such as the WMO Integrated Global Observing System (WIGOS), the WMO Information System (WIS) and the Global Data-Processing and Forecasting System (GDPFS), the WMO Coordination Mechanism (WCM), the Global Multi-hazard Alert System (GMAS), the Climate Risk and Early Warning Systems initiative (CREWS), the Global Basic Observing Network (GBON), the Systematic Observation Financial Facility (SOFF), investments in hydrological infrastructure, developments in multi-hazard and impact-based early warning services, implementation of the WMO Vision and Strategy for Hydrology and its associated Plan of Action including flood and drought early warning initiatives, the Water and Climate Coalition, the Alliance for Hydromet Development and other partnerships with the World Bank, the Green Climate Fund (GCF), the United Nations Development Programme (UNDP), the private sector and other entities.

7. Based on the above, the Commission is invited to adopt Resolution 2 (SERCOM-2).

General considerations to Resolution 3 (SERCOM-2)

Hydrological services

Introduction

1. This document presents three deliverables from the Standing Committee on Hydrological Services (SC-HYD), in accordance with its terms of reference (Resolution 1 (SERCOM-1) - Establishment of Standing Committees and Study Groups of the Commission for Weather, Climate, Water and Related Environmental Services and Applications (Services Commission)) and workplan (Resolution 3 (SERCOM-1) - Workplan of the Commission for Weather, Climate, Water and Related Environmental Services and Applications (Services Commission) for the first intersessional period), to enrich WMO knowledge base on hydrological matters: (a) case studies on the application of the Common Alert Protocol (CAP) to hydrological hazards; (b) Water Resources Assessment (WRA) web portal; (c) inventory of models and platforms for flood forecasting under the Community of Practice on End-to-End Early Warning Systems for Flood Forecasting.

Case studies on application of the CAP to hydrological hazards

2. Resolution 7 (SERCOM-1) - Implementation of the Common Alerting Protocol for Hydrology, endorsed the use of CAP for hydrology, requesting the Standing Committee on Hydrological Services (SC-HYD) to collect case studies describing the experiences of those countries that have applied CAP to hydrology. SC-HYD has been working in coordination with the Standing Committee on Disaster Risk Reduction and Public Services/Expert Team on a Global Multi-Hazard Early Warning System (SC-DRR/ET-GMAS) to collect a number of case studies, to be hosted in future on the GMAS help desk. Noting the limited number of case studies, and in view of a future expansion of the application of CAP to hydrology in other countries and the potential creation of a community of practice on CAP, the compendium might benefit from other case studies provided by SERCOM Members.

Water Resources Assessment web portal

3. The WRA web portal, launched at SC-HYD-9, collects a considerable amount of guidance material and tools for water resources assessment. The next steps are the inclusion of the Joint Expert Team on hydrological monitoring (JET-HYDMON) input on water quality and data requirements in the context of WRA, the inclusion of case studies, additional materials and tools to enrich the website. For this purpose, SC-HYD-10 (Decision 18) agreed that SERCOM Members should be invited to share relevant "know-how", tools and case studies on WRA to complement the web portal.

Inventory of models and platforms for flood forecasting

4. One of the objectives of the Community of Practice (CoP) on flood forecasting is to provide access to interoperable technologies, including platforms and models, training and guidance material. An inventory of models and platforms for flood forecasting has been developed, based on criteria listed in the report on Interoperable Models and Platforms for use in flood forecasting and early warning systems, approved through Decision 7 SC-HYD-10, which provides background on the inventory and a comprehensive definition of each of the criteria that are being used to select and describe the models. The inventory has been

populated based on results of the Hydrology Survey carried out in 2019–2021, but only a limited number of models and platforms corresponding to the selection criteria were identified. Additional models and platforms could be pointed out by SERCOM Members to supplement the inventory.

Decision

5. Based on the above, the Commission is invited to adopt Resolution 3 (SERCOM-2).

General considerations to Resolution 4 (SERCOM-2)

Review of the work programme of the Commission

Introduction

1. The first session of the Commission adopted, through Resolution 3 (SERCOM-1), a work programme (titled "workplan")[1] for the intersessional period, covering a period with reporting deadlines at the seventy-second session of the Executive Council (EC-72 (2020)), the extraordinary session of the World Meteorological Congress (Cg-Ext(2021)) the seventy-third session of the Executive Council (EC-73 (2021)) and the nineteenth session of the World Meteorological Congress (Cg-19 (2023)). The work programme was reviewed and updated, as of February 2021, through Resolution 4 (SERCOM-1) - Review of the work programme and subsidiary bodies of the commission.[2] The same resolution tasked the Management Group "to maintain up to date, and to regularly review and reprioritize, the list of deliverables and responsibilities with the support of the Secretariat and to report on the status of implementation at the next session".

2. This document, prepared by the Management Group, presents an update to the work programme previously adopted and reviewed by the Commission based on the status of implementation, as of 31 August 2022, and the new directives received from Cg-Ext(2021), EC-73 and EC-75. In the interest of clarity on the approach, the characteristics of the work programme are recalled in the next session.

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[1] A variety of terms is used by different guidance documents about the subject of the present document: (a) General Regulations (WMO-No. 15), Annex III: "operating plan"; (b) Resolution 7 (Cg-18), establishing the technical commissions and adopting their terms of reference, Rules of Procedure for the Technical Commission (WMO-No. 1240), throughout, and Resolution 4 (SERCOM-1): "work programme"; (c) Resolution 3 (SERCOM-1): "workplan". Even if the *General Regulations* prevail on the *Rules of Procedure*, given the term "work programme" is used in the resolution establishing the Commission and throughout the rules of procedure it can be assumed that this is the correct term.

[2] The first session of the Commission was held in two segments: by correspondence in March–May 2020, adopting Resolution 3 (SERCOM-1) and virtually from 22 to 26 February 2021, adopting Resolution 4 (SERCOM-1).

Characteristics of the work programme of the technical commissions

3. The terms of reference (Resolution 7 (Cg-18) - Establishment of WMO Technical Commissions for the eighteenth financial period) and Rules of Procedure for Technical Commissions (WMO-No. 1240) provide guidance on the characteristics of the work programme.

Scope: adherence to the terms of reference

(a) Rule 2.4: Each commission, in deciding on its work programmes and activities, shall adhere to the general terms of reference and to its prescribed specific terms of reference.

Relations with WMO planning instruments

(b) Terms of Reference, Working Procedures: (c) […] work programme […] aligned with the WMO-wide Strategic and Operating Plans;

(c) Rules of Procedure, Rule 6.9.5: Work programmes should be prepared in coordination with the WMO Strategic and Operating Plans.

Consideration in session

(d) Rules of Procedure, Rule 6.10.1: The provisional agenda for an ordinary session of a commission should […] normally include: […] (j) Work programme and subsidiary bodies for the following intersessional period; […].

Key elements

(e) Terms of Reference, Working Procedures: The Commission shall: […] (c) Establish a work programme with concrete deliverables and timelines;

(f) Rules of Procedure, Rule 2.4: […] work programmes and activities […].

Temporal coverage

(g) Rules of Procedure, Rule 6.9.5: Each ordinary session of a commission should adopt a work programme for the period until the next session.

Execution through subsidiary bodies

(h) Rules of Procedure, Rule 5.1: Each commission may establish subsidiary bodies to carry out certain tasks of its work programme;

(i) Rules of Procedure, Rule 5.4.3(a): Expert teams may be established by a standing committee to work on a specific task from the standing committee’s work programme. The expert teams should have clearly defined deliverable(s) and should be time bound;

(j) Rules of Procedure, Rule 5.5: The president of a commission may, between sessions, establish any subsidiary body of the commission that may be deemed necessary for the accomplishment of the tasks in the work programme.

Coordination

(k) Rules of Procedure, Rule 5.4.5(d): The Management Group should coordinate all activities of the respective commission through a work programme adopted at the session of the commission with updates, as necessary, approved by the president.

Monitoring and reporting

(l) Terms of Reference, Working Procedures: (c) […] monitor progress regularly using appropriate performance indicators and targets for reporting to the Executive Council and Congress.

Structure and format of the work programme

4. Based on the above guidance, the structure and format of the updates to the work programme presented in this document is as in the example below.

Terms of reference	*Long-Term*	*Strategic Objective*	*Operating Plan Output*	*Directive*	*Activity area*	*Deliverable*	*Executing subsidiary body*	*Progress*	*Reporting*	
									EC-76	Cg-19

Expected action

5. The Commission is invited to adopt Resolution 4 (SERCOM-2).

General considerations to Resolution 5 (SERCOM-2)

Amendments to the terms of reference of standing committees and study groups of the commission

Introduction

1. This document presents proposed amendments to the terms of reference of some of the subsidiary bodies of the commission to align them with emerging needs, directives of governing bodies and changed timelines for delivery of outputs.

Standing Committee on Services for Aviation (SC-AVI)

2. Proposed amendments to the terms of reference are in respect of: (a) minor editorial and grammatical improvements; (b) addition of a reference to the discontinuation of the Technical Regulations (WMO-No. 49), Volume II, Meteorological Service for International Air Navigation; and (c) addition of a reference to an intent to increase the involvement of women within the aeronautical meteorology community. The proposed amendment corresponds to Recommendation 3 (SC-AVI-2) (March/April 2022).

Standing Committee on Climate Services (SC-CLI)

3. Proposed amendments to the terms of reference are intended to include reference to the Global Framework for Climate Change (GFCS), mitigation aspects of climate change, data and information related activities, climate related methodologies and tools and project proposal components on the different areas of the climate services value chain.

Standing Committee on Hydrological Services (SC-HYD)

4. Proposed amendments to the terms of reference are motivated by the updated work plan agreed upon by SC-HYD-10 Doc. 5 to better reflect the activities stemming from the WMO Vision and Strategy for Hydrology and its associated Plan of Action, Resolution 4 (Cg-Ext(2021)) for which SC-HYD has been assigned lead responsibilities.

Study Group on Integrated Health Services (SG-HEA)

5. Proposed amendments to the terms of reference include: (a) changing the time frame of the implementation plan under development from 2019–2023 to 2023–2033, given it is no longer timely to develop an implementation plan for the 2019–2023 Joint WHO-WMO workplan; (b) updating the cadence of review from annual, to biannual, (c) removing reference to the development of guidance or guidance materials from items (f), (h), and (j).

Study Group on Integrated Urban Services (SG-URB)

6. Proposed amendments to the terms of reference remove functions that may be outside the scope of the commission (guidance and regulatory material on an emerging area like integrated urban services) and some outputs (development of a collaborative framework and implementation plan), while focusing on developing best practices and

proposing guidance, and continuing the assessment of socioeconomic benefits to specific integrated urban services.

Additional study groups

7. A Joint Study Group on WMO Greenhouse Gas Monitoring (SG-GHG) between the Infrastructure Commission (lead), the Services Commission and the Research Board was established by the Executive Council through Resolution 4 (EC-75) – Development of a WMO-coordinated Global Greenhouse Gas Monitoring Infrastructure, with the terms of reference developed by the presidents of the technical commission as provided in Annex 2 to the draft resolution provided in this document.

8. A Study Group on the Early Warnings for All (SG-EWA) initiative is proposed in document SERCOM-2/Doc. 5.6(1) in close coordination with the Infrastructure Commission, the Research Board and other relevant bodies and including representation from external stakeholders as appropriate, with the terms of reference to be developed by the president of the Commission.

9. Following Resolution 1 (SERCOM-1) – Establishment of Standing Committees and study groups of the Commission for Weather, Climate, Water and Related Environmental Services and Applications (Services Commission), and Resolution 4 (SERCOM-1) – Review of the work programme and subsidiary bodies of the Commission, and as indicated in document SERCOM-2/Doc. 7.1, the establishment of a study group on services for land transportation will be considered as part of the overarching review of all SERCOM subsidiary bodies that will take place at its third session in 2024.

Expected action

10. The Commission is invited to adopt the following resolution.

General considerations to Decision 4 (SERCOM-2)

Review of resolutions of Congress and the Executive Council related to the Commission

Introduction

1. This document summarizes directives by Congress and the Executive Council to the Commission since SERCOM-1. Actions taken in response are reported in SERCOM-2/ INF. 4.

Data requirements and collection

2. Review of data requirements is requested for risk- and impact-based warning and decision support systems, and the identification of new requirements for the implementation of the unified data policy and climate activities. Another request concerns promoting the concept and highlighting the urgency of the collection of Members' Climatological Standard Normals.

Strategies, plans, road maps and priority actions

3. Directives concern the finalization of the Sustainability Strategy for the Flash Flood Guidance System with Global Coverage; compilation of strategic documents on climate services for urban, marine, aviation and national infrastructure applications; development of implementation plans for the Methodology for Cataloguing Hazardous Events, for testing an enhanced concept for the Global Drought Classification System and for the UN Global Early Warning / Adaptation Initiative; contribution to a road map for science-to-services from the Polar Prediction Project of World Weather Research Programme; and identification of priority implementation actions for a Draft WMO Ocean Implementation Plan.

Work programmes and workplans

4. The revision of the work programme of the Commission and the workplans of its subsidiary bodies is requested in relation to the adoption of the Strategy and Action Plan for Hydrology, the outputs of the quarterly regional forums of Hydrological Advisers, the recommendations of the Water and Climate Coalition and the technical, operational and research priorities and activities previously under the remit of EC-PHORS.

Concepts and approaches

5. Directives received concern the further development of the concept for the Global Drought Classification System, contribution to the development of the concept for WMO-coordinated greenhouse gases related activities (including the establishment of a joint INFCOM-SERCOM study group), collection of cases from Members to support the development of an approach to business continuity, and contributing knowledge and expertise to the assessment of socioeconomic benefits of services.

Legacy decisions from past technical commissions

6. SERCOM, in collaboration with INFCOM, is requested to review and take action on resolutions and recommendations of past technical commissions.

Expected action

7. The Commission is invited to adopt Decision 4 (SERCOM-2).

General considerations to Decision 5 (SERCOM-2)

Updates to Sea-ice Information and Services (WMO-No. 574)

Introduction

1. This document presents proposed amendments to regulatory material and updates to the guidance material on marine meteorological services in view of the workplan of the Standing Committee on Marine Meteorological and Oceanographic Services (SC-MMO), reflecting emerging needs, the modernization of the Global Maritime Distress and Safety System (GMDSS), amendments to the International Convention for the Safety of Life at Sea (SOLAS) and the new structures established by the WMO governance reform.

2. The publications involved include:

- *Manual on Marine Meteorological Services* (WMO-No. 558), Volume I, 2018
- *Guide to Marine Meteorological Services* (WMO-No. 471), 2018
- *Sea-ice Information and Services* (WMO-No. 574), 2021

3. In connection with this document and with the work of WMO to support the International Maritime Organization (IMO) with respect to maritime safety, WMO has been working in partnership with IMO on the WMO-IMO Symposium on Extreme Maritime Weather. For further information on the latest status of this progress in maritime safety, see SERCOM-2/INF. 5.1(7).

Expected action

4. Based on the above, the Commission is invited to adopt Recommendation 7, Recommendation 8 and Decision 7.

General considerations to Decision 7 (SERCOM-2)

El Niño/La Niña-Southern Oscillation information to support Members

Recalling:

(1) Resolution 15 (Cg-17) - World Climate Programme,

(2) Resolution 20 (Cg-18) - WMO Contributions to the Provision of Climate Information and Services in Support of Policy and Decision-Making,

(3) Decision 10 (EC-69) - Climate Services Information System Products to Support United Nations System Planning and WMO Members on Seasonal to Interannual Timescales,

Noting with appreciation that:

(1) WMO El Niño/La Niña Updates, released regularly under WMO coordination over the past two-and-half decades, synthesizing real-time El Niño/La Niña information and producing consensus-based quarterly statements on the current status and outlooks, have been widely recognized as critical inputs to Members as well as UN agencies to better anticipate and prepare for regional and local impacts,

(2) WMO has already attained a high-level of visibility as an authentic source of policy-relevant climate information within the United Nations Framework Convention on Climate Change (UNFCCC) through, inter alia, annual and multi-year statements on the state of the global climate and the El Niño/La Niña updates,

Expected action

Based on the above, the Commission may wish to adopt a decision along the following lines.

General considerations to Recommendation 1 (SERCOM-2)

Procedures for amending the Technical Regulations (WMO-No. 49), their annexes, Guides and other corresponding non-regulatory publications

Introduction

1. This document presents a recommendation to the Executive Council of the codification of unified procedures, in the *Rules of Procedure for Technical Commissions* (WMO-No. 1240), for producing, amending and publishing the *Technical Regulations* (WMO-No. 49), the manuals which are annexes to the *Technical Regulations*, WMO Guides and other guidance materials that correspond to the regulatory framework, and the removal of the Appendix "Procedures for amending WMO Manuals and Guides that are the responsibility of the Commission for Observation, Infrastructure and Information Systems" from relevant Manuals (publications WMO-No. 306, 386, 485, 1060, and 1160).

Rational for the recommended Appendix

2. This document is submitted to respond to:

(a) the request made by the seventy-fifth session of the Executive Council through Decision 15 (EC-75), which endorsed the changes on the designation of technical commissions for approval of non-regulatory publications, and requested the Secretary-General to develop and submit to the Executive Council at its seventy-sixth session (EC-76) required amendments to the General Provisions *[Secretariat]* of the *Technical Regulations* (WMO-No. 49) for consideration and recommendation to Congress.

(b) the request made by the first session of the Commission for Observation, Infrastructure and Information Systems (INFCOM) through Recommendation 11 (INFCOM-1) and Recommendation 17 (INFCOM-1), which requested its Management Group, with the support of the Secretariat, to coordinate the work of drafting unified amendments to "Appendix. Procedures for amending WMO manuals and guides that are the responsibility of the Commission for Observation, Infrastructure and Information Systems" of the General Provisions, which will be applied to all relevant manuals and guides, and to submit the draft amendments to the Commission's second session.

Current situation

3. Principles and high-level procedures for updating the *Technical Regulations* (WMO-No. 49), their Annexes, and WMO Guides are described in the General Provisions of the *Technical Regulations.*

4. Executive Council authorized (Resolution 12 (EC-68) and Resolution 9 (EC-69)) the use of a simple (fast track) procedure for updating of some components (designated as technical specifications) of the following manuals that were managed by the Commission for Basic Systems: *Manual on Codes* (WMO-No. 306), *Manual on the Global Telecommunication System* (WMO-No. 386), *Manual on the Global Data-processing and Forecasting System* (WMO-No. 485), *Manual on the WMO Information System* (WMO-No. 1060), and *Manual on*

the WMO Integrated Global Observing System (WMO-No. 1160). In these manuals, the General Provisions were reproduced, and a supplementary Appendix added containing detailed "*Procedures for amending WMO Manuals and Guides that are the responsibility of the Commission for Observation, Infrastructure and Information Systems*". Detailed procedures for updating guides and other guidance materials are not standardized.

Proposed unification

5. It is desirable to have a unified procedure, applicable to all regulatory and corresponding non-regulatory publications to be used by both technical commissions, generalizing the applicable procedures (standard and fast track) on the basis of the current Appendix "*Procedures for amending WMO Manuals and Guides that are the responsibility of the Commission for Observation, Infrastructure and Information Systems*" to the General Provisions. Such a unified procedure should be included in the *Rules of Procedure for Technical Commissions* (WMO-No. 1240).

Definition of WMO Guides and other guidance material

6. WMO Guides are defined in the General Provisions as follows: "In addition to the *Technical Regulations*, appropriate Guides are published by the Organization. They describe practices, procedures and specifications which Members are invited to follow or implement in establishing and conducting their arrangements for compliance with the Technical Regulations, and in otherwise developing meteorological and hydrological services in their respective countries."

7. WMO also publishes other guidance materials under various titles (e.g. guidelines, handbooks, compendiums) which are not clearly defined. It is proposed to apply the unified procedure applicable to guides to all such publications that correspond to the regulatory framework and contain practices, procedures or specifications addressed to Members. It is further required to clearly define the purpose of such other non-regulatory publications should they be distinguished from guides.

Amendments to General Regulations and Technical Regulations required for granting technical commissions the authority to approve non-regulatory publications

8. Pursuant to the Decision 15 (EC-75) to grant authority to technical commissions to approve non-regulatory publications (Guides and other guidance materials), the following amendment will be submitted to Congress:

(a) Technical Regulations General Provisions paragraph 18: "The technical commissions are responsible for the selection of material to be included in the Guides. These Guides and their subsequent amendments, as well as other guidance materials that correspond to the regulatory framework, shall be approved by technical commissions ~~considered by the Executive Council~~."

(b) General terms of reference of the technical commissions defined in Annex III of the *General Regulations* (WMO-No. 15): "2. Develop, for consideration by the Executive Council and Congress, proposed international standards for methods, procedures, techniques and practices in meteorology**,** climatology and operational hydrology including, in particular, the relevant parts of the Technical Regulations~~, Guides~~ and their annexes. Develop, approve and update, as

necessary, appropriate Guides and other guidance materials that correspond to the regulatory framework;

9. The *Guidelines on the Preparation and Promulgation of the WMO Technical Regulations* (WMO-No. 1127) will be updated accordingly.

Expected action

10. The Commission is invited to adopt Recommendation 1 (SERCOM-2).

General considerations to Recommendation 2 (SERCOM-2)

Proposed amendment to the *Technical Regulations, Volume I: General Meteorological Standards and Recommended Practices* (WMO-No. 49) and update to the *Compendium of WMO Competency Frameworks* (WMO-No. 1209) addressing aeronautical meteorological personnel competency and qualification

1. The Standing Committee on Services for Aviation (SC-AVI), with assistance from its Expert Team on Education, Training and Competency (ET-ETC), has determined that the existing aeronautical meteorological personnel (AMP) qualification and competency requirements defined in Technical Regulations, Volume I (WMO-No. 49)and, in the case of competency, elaborated by guidance in the Compendium of WMO Competency Frameworks (WMO-No. 1209), are not wholly suited to aeronautical meteorological specialisms such as volcanic ash, space weather, and tropical cyclones. Indeed, aeronautical meteorological service providers with the responsibility to maintain a continuous watch over such phenomena in their area of responsibility presently have little or no means to demonstrate how their specialist aeronautical meteorological forecasters (AMF) fully comply with WMO prevailing qualification and competency requirements.

2. Responding to International Civil Aviation Organization (ICAO) Annex 3 provisions, SC-AVI acknowledged that the qualification requirement for AMF, introduced by WMO in 2011, was introduced to serve as a 'safety net' in recognition that the introduction of a competency Standard was a new and big step for a majority of WMO Members. In the last decade, the competency frameworks for AMP have been further developed, matured and embraced by WMO Members. SC-AVI also acknowledged that implementation of a competency framework necessarily includes an assessment of underpinning knowledge and skills, therefore continuing with an additional qualification (i.e. evidence of knowledge) requirement is unnecessary. Moreover, with known transformation in service delivery through this decade and beyond, and the resultant changes anticipated to the roles and responsibilities of AMP, SC-AVI has determined that it is important to ensure that the aeronautical meteorology competency frameworks remain sufficiently agile and responsive to the foreseen changes rather than being restricted by the rigorous application of an academically-based qualification requirement.

3. Consequently, SC-AVI has prepared a proposed amendment to Part V of the Technical Regulations, Volume I, General Meteorological Standards and Recommended Practices (WMO-No. 49) and an update to Section 2.2 of the Compendium of WMO Competency Frameworks (WMO-No. 1209). SC-AVI considers that the proposed changes will provide a more pragmatic and flexible approach for WMO Members to demonstrate evidence of how the underpinning knowledge and skills required to attain the respective AMP

competency have been acquired. SC-AVI also recognizes that in the short term, successful completion of the Basic Instruction Package for Meteorologists (BIP-M) and Basic Instruction Package for Meteorological Technicians (BIP-MT) remains an effective way to demonstrate a candidate possesses the underpinning skills and knowledge described in the respective competency framework.

4. It is worthwhile to note that the proposed changes were consulted with and received broad support from the Capacity Development Panel (CDP) early in 2022. To assist WMO Members in their further understanding of the background and rationale for change, as well as of the benefits to be derived through the adoption of these changes, SC-AVI has prepared a communication package including 'frequently asked questions'.

5. Through Recommendation 4 (SC-AVI-2) the Standing Committee provided its endorsement of the proposed amendment to WMO-No. 49, Volume I and update to WMO-No. 1209 and formulated a draft recommendation for the Services Commission (SERCOM) and a draft resolution for the World Meteorological Congress (Cg) in this regard. [The Final Report of SC-AVI-2 and Addendum No. 1 to the Final Report of SC-AVI-2 refer.]

General considerations to Recommendation 3 (SERCOM-2)

Ice Forecasting Competency Framework

AND **General considerations to Recommendation 4 (SERCOM-2)**

Tropical Cyclone Forecaster Competency Framework

Introduction

This document is split into two parts, covering two areas of competency frameworks – for ice forecasting, and for tropical cyclones forecasting:

Ice Forecasting Competency Framework

1. The present observed increasing melt of ice areas – which is expected to increase under a changing climate – is creating more navigable transport routes, with partial ice conditions that pose further hazards, and therefore, accurate forecasting from authorized agencies such as the National Meteorological and Hydrological Services (NMHS), is imperative to support safe navigation in icy waters. Furthermore, the accurate forecasting of ice will improve research needed for climate projections. The proposed Ice Forecasting Competency Framework is new and will guide NMHS in terms of competency to generate sound forecast for ice areas and strengthen the delivery of NMHS services. Further information can be found in Recommendation 3 and its annex.

2. Related to this first part, the accompanying SERCOM-2/INF. 5.1(4) provides a status update on:

(a) Marine Weather Forecaster Competency Implementation Framework,

(b) WMO Marine Services Course, and

(c) International Maritime Organization (IMO) Mariners Training.

Tropical Cyclone Forecaster Competency Framework

3. Following the request made by the Sixteenth session of Congress (paragraph 4.3.3, Cg-16, 2011), each of the five Tropical Cyclone Programme (TCP) regional bodies developed a regional Tropical Cyclone Forecaster (TCF) Competency framework, each of which has then been approved by the respective Regional Association, where applicable.

4. The Advisory Group on Tropical Cyclones, through its parent body, the Standing Committee on Disaster Risk Reduction and Public Services (SC-DRR), is recommending that the opportunity be taken to include the five regional TCF competency frameworks in the *Compendium of WMO Competency Frameworks* (WMO-No. 1209), after final review by each regional tropical cyclone bodies.

General considerations to Recommendation 6 (SERCOM-2)

Plan of action for the discontinuation of the *Technical Regulations* (WMO-No. 49), Volume II, Meteorological Service for International Air Navigation

1. In April 2017, the Secretary-General of WMO and the Secretary-General of the International Civil Aviation Organization (ICAO) convened a bilateral meeting. One of the discussion points pertained to measures to increase efficiency and avoid duplication of efforts within and across the sister agencies of the United Nations. Recognizing that the Technical Regulations (WMO-No. 49), Volume II, *Meteorological Service for International Air Navigation* represents, to a great extent, a reproduction of ICAO Annex 3 to the Convention on International Civil Aviation, it was proposed to consider discontinuing WMO-No. 49, Volume II while maintaining ICAO Annex 3 as the main regulatory publication for all providers and users. The reproduction of regulatory material that is already produced by another agency of the United Nations was deemed to be incompatible with quality management system principles, since the parallel, asynchronous approval processes and publication pathways often result in divergent or out-of-sequence international standards and recommended practices, to the detriment of providers and users of aeronautical meteorological services. Furthermore, the regular reproduction (typically once every 2 or 3 years) of ICAO Annex 3 as WMO-No. 49, Volume II is editorially time-consuming and costly for WMO.

2. In January 2018, the Management Group of the Commission for Aeronautical Meteorology (CAeM-MG-2018) supported the proposed discontinuation of WMO-No. 49, Volume II. And, in July 2018, the Sixteenth Session of the Commission for Aeronautical Meteorology (CAeM-16), through Recommendation 5 (CAeM-16), called for the discontinuation of WMO-No. 49, Volume II with several enabling clauses to be actioned by WMO in coordination with ICAO. In June 2019, Recommendation 5 (CAeM-16) was endorsed at the Eighteenth World Meteorological Congress (Cg-18) through Resolution 27 (Cg-18).

3. With the assistance of a WMO consultant and the WMO and ICAO Secretariats, the Standing Committee on Services for Aviation (SC-AVI) has considered a wide range of issues and arrangements associated with the discontinuation of WMO-No. 49, Volume II,

taking into account, for example, that Parts I and II of WMO-No. 49, Volume II reproduce ICAO Annex 3 while Parts III and IV of WMO-No. 49, Volume II are unique to the WMO publication. SC-AVI has determined that WMO-No. 49, Volume II should be discontinued in two stages as follows:

(1) Discontinue Part I, *International Standards and Recommended Practices: Core Standards and Recommended Practices* and Part II, *International Standards and Recommended Practices: Appendices and Attachments* of WMO-No. 49, Volume II with effect 31 December 2023;

(2) Discontinue Part III, *Aeronautical Climatology* and Part IV, *Format and Preparation of Flight Documentation* of WMO-No. 49, Volume II upon the incorporation of material of continuing relevance into the ICAO *Procedures for Air Navigation Services — Meteorology* (PANS-MET) (Doc 10157), preferably as part of Amendment 1 to PANS-MET (provisionally 2026).

4. To assist WMO Members and others concerned in furthering their understanding of the discontinuation of WMO-No. 49, Volume II, SC-AVI has prepared a communication package including 'frequently asked questions'.

5. Through Recommendation 5 (SC-AVI-2), the Standing Committee provided its endorsement of the plan of action for the discontinuation of WMO-No. 49, Volume II and formulated a draft recommendation for the Services Commission (SERCOM) and a draft resolution for the World Meteorological Congress (Cg) in this regard. [The Final Report of SC-AVI-2 and Addendum No. 1 to the Final Report of SC-AVI-2 refer.]

General considerations to Recommendation 7 (SERCOM-2)

Amendments to the Manual on Marine Meteorological Services (WMO-No. 558), Volume I

AND **General considerations to Recommendation 8 (SERCOM-2)**

Updates to the Guide to Marine Meteorological Services (WMO-No. 471)

Introduction

1. This document presents proposed amendments to regulatory material and updates to the guidance material on marine meteorological services in view of the workplan of the Standing Committee on Marine Meteorological and Oceanographic Services (SC-MMO), reflecting emerging needs, the modernization of the Global Maritime Distress and Safety System (GMDSS), amendments to the International Convention for the Safety of Life at Sea (SOLAS) and the new structures established by the WMO governance reform.

2. The publications involved include:

- *Manual on Marine Meteorological Services* (WMO-No. 558), Volume I, 2018

- *Guide to Marine Meteorological Services* (WMO-No. 471), 2018
- *Sea-ice Information and Services* (WMO-No. 574), 2021

3. In connection with this document and with the work of WMO to support the International Maritime Organization (IMO) with respect to maritime safety, WMO has been working in partnership with IMO on the WMO-IMO Symposium on Extreme Maritime Weather. For further information on the latest status of this progress in maritime safety, see SERCOM-2/INF. 5.1(7).

Expected action

4. Based on the above, the Commission is invited to adopt Recommendation 7, Recommendation 8 and Decision 7.

General considerations to Recommendation 9 (SERCOM-2)

Proposed amendment to the Technical Regulations, Volume I, General Meteorological Standards and Recommended Practices (WMO-No. 49) Section 5.

1. The Standing Committee on Disaster Risk Reduction (SC-DRR), upon the recommendation from its Expert Team on the Global Multi-Hazard Alert System Framework (ET-GMAS), has determined, considering the summary report, paragraph 3.1.59 of the seventeenth session of the World Meteorological Congress (Cg-17 (2015)), "Congress stressed the need for further guidance to Members on their conversion of weather warnings into Common Alerting Protocol (CAP) format and for enhanced technical assistance to Members, as needed, for the implementation of the CAP standard" and the value of the format given its role as all-media and all-hazards, to propose changes to the Technical Regulations to include CAP as a recommended practice.

2. Consequently, SC-DRR has prepared a proposed amendment to *Technical Regulations, Volume I, General Meteorological Standards and Recommended Practices* (WMO-No. 49), Section 5. SC-DRR considers that the proposed changes will have an immediate positive impact on the GMAS strategy and implementation plan. It is worthwhile to note that the proposed changes were consulted with the Commission for Observation, Infrastructure and Information Systems (INFCOM) in mid-2022.

3. ET-GMAS provided its endorsement of the proposed amendment to WMO-No. 49, Volume I for the Services Commission (SERCOM) and a draft resolution for the World Meteorological Congress (Cg) in this regard.

General considerations to Recommendation 10 (SERCOM-2)

Updates to *WMO Strategy for service delivery and its implementation plan* (WMO-No. 1129) addressing General Service Delivery

Advances in Science, Technology, and a better understanding of the socioeconomic impacts of extreme events drive the need for new service delivery strategies

1. The *WMO Strategy for Service delivery and its Implementation Plan* (WMO-No. 1129) was last updated in 2014. The Standing Committee on Disaster Risk Reduction (SC-DRR) acknowledged that much of the content was outdated. With the assistance of a WMO consultant, SC-DRR has prepared a major update of WMO-No. 1129 in terms of its structure and content.

2. The proposed 2023 update (third edition) of WMO-No. 1129 provides a strategy to WMO Members and their National Meteorological and Hydrological Services (NMHSs) in the provision and continuous improvement of value services, identification of key stakeholders and partnerships, trends, socioeconomic benefits, and a Strategic Roadmap for the improvement of services at the national level highlighting the WMO support systems. WMO-No. 1129 complements other WMO Guides and Guidelines in Service Delivery, e.g. Guide to the Implementation of Quality Management Systems for National Meteorological and Hydrological Services and Other Relevant Services Providers (WMO-No. 1100), Step-by-step Guidelines for Establishing a National Framework for Climate Services (WMO-No. 1206), Compendium of WMO Competency Frameworks (WMO-No. 1209), WMO Guidelines on Multi-hazard Impact-based Forecast and Warning Services (WMO-No. 1150) and WMO Guidelines on Multi-hazard Impact-based Forecast and Warning Services (WMO-No. 1150), Part II: Putting Multi-Hazard IBFWS into Practice (WMO-No. 1150 Part II), Valuing Weather and Climate: Economic Assessment of Meteorological and Hydrological Services (WMO-No. 1153), Climate Indicators and Sustainable Development: Demonstrating the Interconnections (WMO-No. 1271) (WMO-No. 1271).

3. Through Resolution 7 (Cg-18) - Establishment of WMO Technical Commissions for the Eighteenth Financial Period, the Terms of Reference (TOR) for SERCOM, and Resolution 1 (SERCOM-1) - Establishment of Standing Committees and Study Groups of the Commission for Weather, Climate, Water and Related Environmental Services and Applications (Services Commission), under the outputs in the TOR for the SC-DRR, both constituent bodies provided its endorsement for the major update of WMO-No. 1129.

4. The Executive Council, in its Decision 22 (EC-75) included the consideration of The WMO Strategy for service delivery and its implementation plan (WMO-No. 1129) among the preliminary list of items to be on the agenda of EC-76, subject to revision based on the recommendations arising from sessions of WMO bodies. Given the importance for Members of the updated WMO Strategy for Service Delivery, the Commission recommends that it is considered by the World Meteorological Congress instead.

5. Based on the above, the Commission is invited to adopt Recommendation 10 (SERCOM-2).

General considerations to Recommendation 12 (SERCOM-2)

Update the *Guide to Practices for Meteorological Offices Serving Aviation* (WMO-No. 732)

AND **General considerations to Recommendation 13 (SERCOM-2)**

Update the *Guide to Aeronautical Meteorological Services Cost Recovery: Principles and guidance* (WMO-No. 904)

Update to WMO guides in aeronautical meteorology

WMO-No. 732 addressing service delivery

1. The *Guide to Practices for Meteorological Offices Serving Aviation* (WMO-No. 732) was last updated in 2003 (second edition). The Standing Committee on Services for Aviation (SC-AVI) acknowledged that much of the technical content of WMO-No. 732 was outdated or duplicated other existing publications. With the tremendous assistance of a WMO consultant, SC-AVI has prepared a major update to WMO-No. 732 in terms of its structure and its content as well as in its name where it is to be retitled as the *Guide to Services for Aviation*.

2. The proposed 2023 update (third edition) of WMO-No. 732 provides guidance to WMO Members and their service providers in the provision of aeronautical meteorological services across a range of topics such as governance and the production and delivery of observations, forecasts and other information. WMO-No. 732 complements other WMO guidance in aeronautical meteorology such as the *Guide to Meteorological Observing and Information Distribution Systems for Aviation Weather Services* (WMO-No. 731) as well as guidance maintained by the International Civil Aviation Organization (ICAO).

3. Through Recommendation 1 (SC-AVI-2), the Standing Committee provided its endorsement of the major update to and retitling of WMO-No. 732 and formulated a draft recommendation for the Services Commission (SERCOM) and a draft resolution for the Executive Council (EC) in this regard. [The Final Report of SC-AVI-2 refers.]

WMO-No. 904 addressing cost recovery

4. The *Guide to Aeronautical Meteorological Services Cost Recovery: Principles and guidance* (WMO-No. 904) was last updated in 2007 (second edition). SC-AVI acknowledged that the technical content of WMO-No. 904 needed a thorough review and, where necessary, update taking into account the fact that aeronautical meteorological services have evolved and the methods and practices of determining, allocating and recovering costs have in some instances advanced over the past 15 years. Consequently, with the tremendous assistance of a WMO consultant, SC-AVI has prepared a major update to (but not a wholesale replacement of) WMO-No. 904.

5. The proposed 2023 update (third edition) of WMO-No. 904 provides guidance to WMO Members and their service providers in the cost recovery of aeronautical meteorological services across a range of topics such as governance, general principles and procedures for appropriately allocating costs for various meteorological facilities and services, and examples of cost recovery arrangements (national case studies). WMO-No.

904 complements, in particular, guidance maintained by ICAO such as Doc 9082, *ICAO's Policies on Charges for Airport and Air Navigation Services* and Doc 9161, *Manual on Air Navigation Services Economics*.

6. Through Recommendation 2 (SC-AVI-2) the Standing Committee provided its endorsement of the update to WMO-No. 904 and formulated a draft recommendation for the SERCOM and a draft resolution for the EC in this regard. [The Final Report of SC-AVI-2 refers.]

7. During the next WMO financial period (2024–2027), SC-AVI intends to keep publications such as WMO-Nos. 732 and 904 under periodic review and, where necessary, update to ensure that they remain of utmost utility.

General considerations to Recommendation 14 (SERCOM-2)

Quality Management System for Climate Services

1. Annex to Resolution 1 (Cg-Ext. (2012)) – Implementation Plan of the Global Framework for Climate Services, Principle 4 — To ensure the application of a quality management framework, credentials and good practices for operational climate services should be defined and adhered to;

2. WMO Quality Policy is underpinned by relevant WMO regulatory and guidance material and sustained through compliance with national and international regulatory requirements and the practical application of the principles of quality management: *Customer focus, leadership, engagement of people, process approach, improvement, evidence-based decision-making, and relationship management;*

3. Resolution 20 (EC-69) - Amendment to Technical Regulations (WMO-No. 49), Volume I – General Meteorological Standards and Recommended Practices (Quality Management Provisions), identifies the need to enhance the WMO regulatory and guidance material on quality management in line with existing requirements and strategic directions, such as the *WMO Strategy for service delivery and its implementation plan* (WMO-No. 1129);

4. Data provided by Members through the Checklist for Climate Services Implementation, in pursuit of Decision 16 (EC-68) - Country-Focused Results-Based Framework and Mechanism for WMO Contributions to the Global Framework for Climate Services, also provides a basis for classifying Member climate services capacities as being at the basic, essential, full, or advanced level. These data are now being quality assured as per WMO technical regulations, which will allow Member capacity levels to be formally designated by WMO and will eventually assist Members that so wish to seek certification once climate services standards are established by WMO;

5. Resolution 2 (EC-75) - Recommendations from the Scientific Advisory Panel (SAP)- Referring to Recommendation 5 of the SAP Vision Paper: Further development of quality assurance methodologies for weather, water, climate, and environmental services;

6. WMO Strategic Plan 2020–2023 (WMO-No. 1225) and Vision 2030 – Particularly under Strategic Objective 1.2, which encourage National Meteorological and Hydrological

Services (NMHSs) to adopt a Quality Management approach, applying Quality Management Systems (QMSs) to climate and water services;

7. The WMO Checklist for Climate Services Implementation, as a fundamental component of the QMSs, provides evidence-based source of information for objectively determining the capacity levels of the climate services of NMHSs, including for documenting the efficacy of climate action investments.

General considerations to Recommendation 15 (SERCOM-2)

Endorsing the approval of the draft fourth edition of the Guide to Climatological Practices (WMO-No. 100)

Introduction

1. The Expert Team on Capacity Development for Climate Services and Communications (ET-CDC) in the composition of the Standing Committee on Climate Services (SC-CLI) has supervised the finalization of internal and external reviews of the Guide to Climatological Practices (WMO-No. 100), hereinafter called the Guide, in a timely manner.

2. The fourth edition of the Guide describes essential basic principles and modern practices in the development and implementation of all climate services, and outlines current best practices in climatology with a focus on climate services and communication. It also takes into account the WMO reform affecting technical commissions as well as technical updates, methodologies and the concept of a quality management system affecting the provision of climate services.

3. The draft fourth edition of the Guide includes five chapters and one annex, is available here.

4. The Guide plays a de facto technical standard at the national level in many countries. Since the release of the third edition, a process has been established for publishing interim updates of individual sections, as and when required, between full scale updates of the Guide.

5. The third edition of the Guide was published in 2011, following approval by the sixteenth session of the World Meteorological Congress (Cg-XVI) and it was partially updated in 2018 following the implementation of an oversight mechanism for its regular updates.

6. The Guide is the only mandatory publication of WMO under the SERCOM and provides a holistic approach to a full range of climate activities. It is used as an operational and training reference that facilitates capacity development in National Meteorological and Hydrological Services (NMHSs). The translation of the Guide into all official languages of WMO will broaden the outreach among user communities.

7. The third edition of the Guide was adopted by Cg-XVI, and had requested setting up an updated schedule to keep the publication current.

8. The Guide contributes to fostering capacity development, knowledge and know-how sharing, and quality management for climate services; as well as all components of the Global Framework for Climate Services (GFCS).

9. The Guide has been widely referenced in learning materials and has served as a successful example for capacity development and outreach in climatology, the Commission supports the translation of the Guide into all UN languages.

10. A group of selected experts within the Commission continue monitoring the content of the publication for regular updates in the nineteenth intersessional period.

11. SERCOM placed on records its gratitude to the coordinating author, all contributors and reviewers.

Summary of changes from the third edition

1. Chapter 1 now reflects the new WMO organization and emphasizes the climate services approach. The history of climatology has been updated to include international activities for the last decade. The information in the annex of the third edition has been modified and integrated into Chapter 1 of the fourth edition. Text is now included about climate indicators, indexes and applications to adaptation planning. The Global, Regional and National sections now reflect the goals and policies of GFCS and National Frameworks for Climate Services (NFCS).

2. Chapter 2 merges Chapters 2 and 3 of the third edition. The information has been updated and made more concise. It emphasizes goals and processes rather than detailed instructions.

3. Chapter 3 merges Chapters 4 and 5 of the third edition. The emphasis is on concepts and analytical considerations rather than detailed methodologies.

4. Chapter 4 has been restructured and made current.

5. Chapter 5 contains mostly new information.

6. The Annex of Acronyms is new.

7. All references now reflect the work of WMO and the climatology community over the last decade. Older or inappropriate references have been deleted. Internet links to references have been added and checked; they are working as of August 2022.

General considerations to Recommendation 16 (SERCOM-2)

Update of the mechanism for recognition of long-term observing stations

Introduction

Resolution 4 (EC-73) - WMO recognition mechanism for long-term observing stations, endorsed the roadmap to further develop the WMO recognition mechanism for long-term observing stations. The roadmap includes extensions of the mechanism to cover hydrological and marine observing stations as well as 75+ years stations, which do not yet meet the centennial station criterion.

The criteria and suggested mechanism for national recognition of 75+ years observing stations have been developed by the Secretariat in close collaboration with a consultant and evaluated by the Advisory Board for the Recognition of Long-Term Observing Stations (Advisory Board).

The criteria for the recognition of hydrological and marine observing stations have been developed by the Advisory Board in close collaboration with the hydrological and marine communities. A test phase has been conducted in early 2022 and its outcomes have been assessed by the Advisory Board. In its assessment report, the Advisory Board concludes that the applicability of the draft recognition criteria for centennial hydrological and land-based marine observing stations has been demonstrated successfully. The Advisory Board provided a couple of suggestions that have been reflected in improved recognition criteria, where appropriate and will be addressed in future WMO calls for candidate stations' nominations.

Expected action

Based on the above, the Commission is invited to adopt Recommendation 16 (SERCOM-2).

General considerations to Recommendation 17 (SERCOM-2)

Implementation Plan for the Methodology for Cataloguing Hazardous Events (WHO-CHE) with Annexes

Introduction

1. This document presents the draft CHE Implementation Plan in response to Resolution 12 (Cg-18) - WMO Methodology for Cataloguing Hazardous Weather, Climate, Water, and Space Weather Events, and Resolution 2 (EC-73) - Implementation Plan outline for the methodology for cataloguing hazardous events. The draft Implementation Plan includes a four-year demonstration project whereby the World Meteorological Organization (WMO) Members are requested to implement WMO Cataloguing of Hazardous Events (WMO-CHE) in coordination with their corresponding Regional Climate Centres (RCCs) and within two years recommendations will be made to SERCOM and the Commission for Observation, Infrastructure and Information Systems (INFCOM) on recommended changes to WMO technical regulations and/or guidelines to facilitate the national to global operationality of the WMO-CHE.

Expected action

2. Based on the above, the Commission may wish to adopt the recommendation to EC-75 to endorse the Implementation Plan through the adoption of the draft resolution contained in the annex to the present Recommendation

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General considerations to Recommendation 18 (SERCOM-2)

WMO Global Multi-Hazard Alert System Framework Implementation Plan Overview

1. The WMO Global Multi-Hazard Alert System (GMAS) Framework Implementation Plan attached as an *annex* to draft Resolution ##/1 (EC-76) was framed by Resolutions and Decisions of several WMO constituent body meetings. The following paragraphs summarize the main elements of these WMO Resolutions and Decisions over the years;

2. At the seventeenth session of the World Meteorological Congress (Cg-17) through Resolution 5 (Cg-17) - Public Weather Services Programme, the Secretary-General was requested to carry out the enhancement necessary to enable the Severe Weather Information Centre (SWIC) website to disseminate weather warnings that would be provided in Common Alerting Protocol (CAP) format by Members;

3. Following Cg-17, the sixty-eighth session of WMO Executive Council was held. During this session, *Decision 6 (EC-68)* – Implementation of the Common Alerting Protocol, was adopted, which requested the Secretary-General to enhance advocacy of CAP and accelerate the implementation of CAP especially in developing and least developed countries. Moreover, the former Commission for Basic Systems was requested to develop provisions on CAP utilization in the WMO Technical Regulations to assure harmonization of CAP-enabled alerting systems operated by Members and intensify CAP-related activities;

4. During the sixty-ninth session of WMO Executive Council, Decision 3 (EC-69) - WMO Global Multi-Hazard Alert System, endorsed the initial draft vision of the WMO GMAS 'To be recognized globally by decision makers as a resource of authoritative warnings and information related to high-impact weather, water, ocean and climate events'. It further requested the Executive Council Working Group on Disaster Risk Reduction to further advance the GMAS concept;

5. During the seventieth session of WMO Executive Council, Decision 4 (EC-70) - , Development of the Global Multi-hazard Alert System EC requested the Working Group on Disaster Risk Reduction to gather additional user requirements to inform the development of the WMO GMAS. Additional user requirements were gathered and presented at the eighteenth session of the World Meteorological Congress (Cg-18) and the development of the GMAS Framework Implementation Plan was agreed at the eighteenth session of the Cg-18, through Resolution 13 (Cg-18) - WMO Global Multi-Hazard Alert System;

6. Following Cg-18, the seventy-first session of WMO Executive Council was held. During this session, Resolution 1 (EC-71) **-** Development of the Global Multi-Hazard Alert System Framework and the WMO Coordination Mechanism Concept, requested the President of the Commission for Weather, Climate, Water and Related Environmental Services and Applications (SERCOM) to lead the development of the GMAS Framework and the WMO Coordination Mechanism Concept;

7. The first session of the Commission for Weather, Climate Water and Related Environmental Services and Applications, in Decision 8 (SERCOM-1) - WMO Revised Framework Concept and Implementation Plan Outline for the Global Multi-Hazard Alert System, requested the Standing Committee on Disaster Risk Reduction and Public Services (SC-DRR) to further refine the GMAS Framework Implementation Plan taking into account the initial GMAS Concept annexed to Resolution 13 (Cg-18) and regional consultations;

8. Accordingly, the Regional Associations guided the framing of the GMAS Framework Implementation Plan through the implementation of pilot projects and endorsement of GMAS related Resolutions and Decision, most notably: Resolution 1 (RA 1–17) - Enhancing multi-hazard and impact-based services for disaster risk reduction in Regional Association I; Resolution 12 (RA II-16) - Pilot project to enhance meteorological disaster risk reduction capabilities in Regional Association II; Decision 7 (RA III-17) - Enhancing international exchange of weather forecast and warning; Decision 4 (RA V-17) - Strengthening multi-hazard early warning services and contribution of Regional Association V (south-west Pacific) to a WMO GMAS; and Resolution 3 (RA VI-17) - WMO GMAS;

9. The importance of the GMAS Framework and the need to scale alerting capacities in Members was further stressed by United Nations Secretary-General Guterres in his call at World Meteorological Day in 2022 to ensure every person on Earth is protected by early warning systems (EWS) within 5 years. During the seventy-fifth session of WMO Executive Council, with the adoption of Resolution 3 (EC-75) - UN Global Early Warning / Adaptation Initiative, requested the Commission for Weather, Climate, Water and Related Environmental Services and Applications (SERCOM) to lead, in consultation with the Commission for Observation, Infrastructure and Information Systems (INFCOM) and the Research Board, the Capacity Development Panel, with support of the Secretariat, the development of an initial action plan, in alignment with the next Strategic Plan and based on needs of the most vulnerable Members who need support for establishing effective end-to-end early warning services, to respond to the "UN Global Early Warning/Adaptation Initiative";

10. Noting that the GMAS Framework Implementation Plan was developed in consultation with INFCOM, and the Research Board and describes the proposed activities required to establish a Framework that includes a repository of warnings and defined information flows and which builds on and leverages existing WMO standards and infrastructure to:

(a) Enhance the alerting capabilities of Members;

(b) Enhance the authoritative voice of Members' NMHSs in issuing official early warnings.

The Implementation Plan will be built on the following principles:

(a) Promotion of efforts to strengthen Members ability to issue alerts and warnings through national, regional and global capacity strengthening;

(b) Leveraging of existing WMO mechanisms and infrastructure (and their future enhancements), especially within the Global Data and Processing Forecasting System (GDPFS) and the WMO Information System (WIS);

(c) Respecting national mandates and data policies;

(d) Engagement and Outreach with WMO Constituent Bodies;

(e) Ensuring updates to appropriate documents such as in the Manual on the GDPFS;

(f) Recognition that some alerting information may be considered sensitive by Members or issuing institutions;

(g) Support Members to realize the aspirations set forward in WMO Unified Policy for the International Exchange of Earth System Data;

(h) Encourage Members to share products and analysis that may be of use to regional colleagues;

(i) Enhancement of attribution and acknowledgement of authoritative warnings (and other products) to increase visibility of Members at the National, Regional, and Global scales;

(j) Warning issued through authoritative sources are officially recognized, so that they may not be altered or amended by third parties.

World Weather Information Service (WWIS) and the Severe Weather Information Centre (SWIC)

The World Weather Information Service (WWIS) and the Severe Weather Information Centre (SWIC – as developed by Hong Kong Observatory (HKO)) are considered as core components of the GMAS Framework. HKO plan further development of SWIC, thereby providing the GMAS Framework with additional options through which to visual authoritative warnings.

General considerations to Recommendation 19 (SERCOM-2)

WMO Coordination Mechanism (WCM) Implementation Plan Overview

The WCM Implementation Plan attached as an *annex* to draft Resolution ##/1 (EC-76), describes the proposed activities required to create a sustainable capability through which WMO can coordinate enhanced support to the United Nations (UN) and Humanitarian Agencies. The development of the WCM Implementation Plan was agreed at the eighteenth session of the World Meteorological Congress (Cg-18), through Resolution 14 (Cg-18) - Development of the Initial Concept for the WMO Coordination Mechanism to Support the Humanitarian Activities of the United Nations and Other Organizations.

The Implementation Plan will be built on the following principles:

(1) Support Members in the development of knowledge and understanding of the UN system to facilitate enhanced bilateral support;

(2) Use authoritative information, expert advice and products from WMO Members, including via Global Multi-Hazard Alert System (GMAS) once operational and designated Global Data-Processing and Forecasting System (GDPFS) Centres as the foundation on which it will be built upon and will be shared;

(3) Serve as a coordination conduit in complex, multi-sectoral or multi-country requests for information with and via Members;

(4) Leverage existing WMO networks, partnerships and WMO initiatives;

(5) Contribute to the development of fit-for-purpose mechanisms to gather requirements;

(6) Integrate expertise from Members through work accomplished through other WMO bodies (Technical Commissions, Regional Associations, etc.);

(7) Provide support to NMHSs, if requested and if events hinder their fulfilment of humanitarian requirements;

(8) Work normal office hours and will utilize Members information and advice. The WCM will act as a 'landing point' to help support the coordination of requests from the UN and Humanitarian Agencies (HA) and coordinate responses using Members information.

Using these principles the Implementation Plan will describe:

(1) The development of a Coordination and Briefing Team (CBT) through which to coordinate WMO's support to the UN and HA. The CBT will be staffed by experts seconded from WMO Members and supported by the WMO Secretariat;

(2) A Feasibility Study to assess the benefits of developing a WMO network of regional experts tasked with providing dedicated support to UN and HA;

(3) Training support to both Members and the UN to improve the respective knowledge of WMO and UN / Humanitarian capability / operating procedures.

General considerations to Recommendation 20 (SERCOM-2)

Multi-Hazard Early Warning Services Interoperable Environment

Introduction

The Eighteenth World Meteorological Congress (2019) through its Resolution 15 (Cg-18) – Strengthening Multi-Hazard Early Warning Services in areas prone to all flooding types and severe weather, requested the technical commissions and related WMO bodies, in consultation with the regional associations, to prepare for consideration by the Executive Council a concept document that assesses the approaches, feasibility, cost and timelines of developing an interoperable Multi-Hazard Early Warning Services (MHEWS) environment, while taking into account the conclusions, findings and recommendations of the independent reviews of the Coastal Inundation Forecasting Demonstration Project (CIFDP), the Flash Flood Guidance System with Global Coverage (FFGS) and the Severe Weather Forecasting Demonstration Project (SWFDP) carried out in 2018, and the consolidated report; and requested the Executive Council to oversee the implementation of the above decision. The SERCOM-1 (2020), considering the multidisciplinary nature of work, tasked the development of a concept note on MHEWS Interoperable Environment to be led by the SC-DRR in collaboration with the other relevant SCs (SC-HYD, SC-MMO & INFCOM/SC-ESMP).

Development of the concept note

1. The development of a concept note on MHEWS Interoperable Environment (MIE) was initiated by SC-DRR with the establishment of an Expert Team on MHEWS Interoperable Environment (ET-MIE) in late 2020. From the outset in the development of this concept note, it was agreed to also include the Tropical Cyclone Programme (TCP) and riverine flood forecasting (in addition to Coastal Inundation Forecast Initiative (CIFI), FFGS and Severe Weather Forecasting Programme (SWFP)) as part of the consolidated MHEWS environment considering the integral role of these initiatives in disaster risk reduction activities. The concept note, prior to its finalization, was widely shared with the relevant WMO bodies including the Flood Forecasting Initiative Advisory Group (FFI-AG), Management Groups of both technical commissions and the relevant substructures of SERCOM and INFCOM and regional associations for their review.

2. The interoperability of existing programmes, systems and initiatives aims to enhance capacities of national MHEWS through regional collaboration and coordination. It should allow for the reliable and predictable transport of data, metadata, and information across system boundaries. The concept note recognizes WMO 2030 Vision as its rationale and also aims to contribute to the Action Plan on Early Warning Services for All as led by WMO in response to the UN Secretary-General's recent call that within the next 5 years everyone on Earth should be protected by early warning systems. The concept note highlights national and local requirements and capabilities in the context of MIE as well as the regional requirements and capabilities to support national and local early warning services. It also emphasizes the importance of institutional and technical aspects as part of the national requirements. Recognizing that MIE will not start from scratch, it has been requested in the concept note that an implementation plan for MIE may be developed. The MIE implementation plan should be a 'living document' with enough details to carry out specific actions to sustain MIE.

Expected action

3. Based on the above, the Commission may wish to adopt a Recommendation along the following lines.

General considerations to Recommendation 21 (SERCOM-2)

WMO Guide for National Meteorological and Hydrological Services in Support of National Multi-Hazard Early Warning Procedures, Coordination Mechanisms, Systems and Services

Guide No. 1 – Tropical Cyclones

1. The WMO Guide for NMHS in Support of National Multi-Hazard Early Warning Systems, Procedures, Coordination Mechanisms, and Services (hereafter the guide), was developed at the request of the World Meteorological Congress at its eighteenth session under Resolution 16 (Cg-18) - Guide(s) on the Support of National Meteorological and Hydrological Services (NMHSs) to their National Multi-hazard Early Warning procedures, Coordination Mechanisms, Systems and Service , which:

(a) Decided to task the Technical Commissions and other bodies with the development of guide(s) on procedures/mechanisms for effective support by NMHSs to their national disaster risk management, focusing on Multi-hazard Early Warning Systems (MHEWS) operations, legislation and policy making and leveraging existing guidance material and good practices related to the four elements of MHEWS;

(b) Requested the Executive Council to oversee the development of guide(s) on NMHSs support of their national MHEWS (possibly including a set of hazard-cluster guidelines);

(c) Requested the Technical Commissions and other bodies to start developing the guide(s) in collaboration with other relevant WMO bodies and Members; focusing on tropical cyclones;

(d) Requested Regional Associations to contribute to the development of the guide(s).

2. The guide has been developed by the Expert Team on MHEWS Technical Guidance (ET-MTG) of SERCOM Standing Committee on Disaster Risk Reduction and Public Services (SC-DRR) and reviewed by experts from members of Tropical Cyclone committees of Regional Associations I, IV and V and ESCAP/WMO Typhoon Committee and WMO/ESCAP Panel on Tropical Cyclones, members of the Advisory Group on Tropical Cyclones and members of the SERCOM Management Group.

3. The purpose of the guide is to bridge the gap between early warnings and early actions and to enable outreach to the last mile to support early actions, and coincidently to support Resolution 3 (EC-75) – UN Global Early Warning/Adaptation Initiative.

Expected action

Based on the above, the Commission is invited to adopt the Recommendation 21 (SERCOM-2).

General considerations to Recommendation 22 (SERCOM-2)

Proposed recommendations to the Executive Council with respect to cost options for WMO Members in the delivery of marine services

1. The World Meteorological Congress, at its seventeenth session (Cg-17, General Summary paragraph 3.1.132), requested the co-president of the Joint Commission on Oceanography and Marine Meteorology (JCOMM) and the WMO Secretary-General, in consultation with the International Maritime Organization (IMO), to consider cost recovery processes for marine services.

2. This work and investigation were reported to the eighteenth session of Congress (Cg-18) under Cg-18/INF. 5.4 – Strengthening Marine and Coastal Services. The subsequent discussions resulted in the adoption of Resolution 30 (Cg-18) - Exploring Costing Options For Marine Services in the Future. It was decided that further investigation was required, along with the provision of advice to Members, on cost option models that could be considered. Congress requested the Executive Council (EC) that consultations with relevant bodies would be undertaken, including with the IMO; and that a report would be presented for consideration at the nineteenth session of World Meteorological Congress (Cg-19).

3. Furthermore, a number of WMO Publications were identified as relevant to the investigation and supported the findings from the investigation; these include Guidelines on the Role, Operation and Management of National Meteorological and Hydrological Services (WMO-No. 1195), Guide to Marine Meteorological Services (WMO-No. 471), Weather Reporting, Vol. D, Information for Shipping (WMO-No. 9) and the Manual on Marine Meteorological Services Volume I – Global Aspects (WMO-No. 558). The WMO plays a critical role in promulgating standards for Marine Meteorological Services, in particular, through the International Convention for the Safety of Life at Sea (SOLAS) 1974, 2000 amendments, in particular Chapter V, regulation 5. IMO resolutions A.1051(27), amended by resolution MSC.470(101) - IMO/WMO Worldwide Met-Ocean Information and Warning Service – Guidance Document (14 June 2019) and A.707(17) - Charges for Distress, Urgency and Safety Messages through the Inmarsat System (6 November 1991) provide key elements to support safety of navigation in the implementation of SOLAS. It is from this position that the investigation of considerations of cost options for Members to deliver marine services has been undertaken.

4. As requested by Cg-18, the Marine Services Division (MAR) of the WMO undertook a survey of Members between January and February 2021. The results from the survey were analysed and utilized to formulate the interview questions. The survey was used to understand the basic profile of the Members with respect to their provision of marine services. The results of the survey are not directly discussed in this document for reasons of confidentiality as it contains Member sensitive information. In summary, this survey indicated that a number of coastal States considered their ability to provide Marine Meteorological Services (MMS) was under financial stress and that generating additional income would allow them to improve their current services and to expand beyond those presently provided. As elaborated in SERCOM-2/INF. 5.8(2), this concern has been indicated more strongly in certain regions but overall shared across all WMO regions. These observations demonstrated the need to further investigate the underlying causes of financial stress among WMO Members and to generate recommendations for the Members. It was identified that an extension of the 2021 survey should be undertaken to gain further details on how MMS were funded, what additional services were provided beyond basic SOLAS Maritime Safety Information (MSI), identification of customer demands, levels of

government [Hong Kong, China] legislation in place to facilitate charging for services, what cost recovery mechanisms were in place, and what proportion of the income was received by MMS. Using as a basis the MAR 2021 survey responses and analysis, a number of targeted case study interviews were conducted.

General considerations to Recommendation 23 (SERCOM-2)

WMO activities on extreme heat and health

Extreme heat events are the deadliest of extreme weather events worldwide. The Intergovernmental Panel on Climate Change (IPCC) findings indicate that due to climate change population exposures to longer, hotter, and more frequent extreme heat events are observed to be rapidly increasing every year.

Extreme heat amplifies risks of drought, fire, air quality, water quality, and damages to infrastructure, agriculture, and human and animal health.

IPCC recently found with high confidence that adaptation options for future extreme heat risks include heat action plans that incorporate early warning and response systems for urban and non-urban settings; tried, tested, and iteratively updated response strategies targeting both the general population and vulnerable groups such as older adults or outside workers; and effective stakeholder communication plans.

Recommendation 5.10(3) (SERCOM-2) - the Implementation Plan for Advancing Integrated Climate and Health Science and Services 2023–2033 notably calls for enhanced understanding, early warning, and risk management of the climate related cascading risks of extreme heat, wildfire, and air quality related health risks in urban areas.

Since 2015, requirements identified in the following WMO expert workshops are not being addressed through current WMO bodies and programmes, including: Workshop on the Development of Climate Information Systems for Heat Health Early Warning: Assessing Knowledge, Needs, and the Path Forward (Chicago, 2015); First South Asia Climate Services Forum for Health (Colombo 2016); First Global Forum on Heat and Health (Hong Kong, 2018); and South Asia Heat Health Summit (Pune, 2020).

Opportunities are available for current WMO programming to better support the understanding, prediction, and warnings related to the dynamic changes in extreme heat risks to populations; such as enhancing coverage of heat Early Warning System (EWS), increasing capacity for heat health impact-based forecasting, capitalizing on urban heat island and air quality research, supporting platforms for heatwave event and impact registry, advancing sub-seasonal predictions, and good practices in partnerships and risk communication.

The Commission is invited to adopt Decision 12 (SERCOM-2) and Recommendation 23 (SERCOM-2).

General considerations to Recommendation 25 (SERCOM-2)

Recommended amendments to the Rules of Procedure for Technical Commissions (WMO-No. 1240)

Introduction

1. This document presents recommended amendments to the Rules of Procedure for Technical Commissions (WMO-No. 1240), last amended by Resolution 5 (EC-75) - Amendments to the Rules of Procedure for Technical Commissions.

Proposals for amendments to the Rules of Procedure

2. It is recommended to specify under a new Rule 1.3 that when amendments to the Rules of Procedure are proposed by a commission or the president of a commission the agreement of the other commission or the other president is required.

Procedure for adopting documents without debate

3. A new Rule 3bis and Annex V are proposed to formally entrust the president together with the co-vice-presidents to recommend documents for adoption without debate.[3]

Remote Participation Regime

4. It is proposed to lay out in a new Rule 6.8bis and Annex VII general principles for the use of a Remote Participation Regime, to be decided by the president, when exceptional circumstances prevent all or one or more Members to be physically present at a session.

Review of resolutions of Congress and the Executive Council

5. Given directives are also provided to the commission by Congress, it is proposed to amend Rule 6.10(i) to include the review of Congress resolutions, as well as the review of decisions of the Executive Council, among the items normally included in the agenda of a session.

Voting

6. Rule 6.14.1 is modified to be less prescriptive concerning the use of consensus for decision-making, in line with the procedures laid out in the General Regulations, (*Basic documents No. 1* (WMO-No. 15)).

Expected action

7. The Commission is invited to adopt Recommendation 25 (SERCOM-2).

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[3] Since 2020, the Executive Council and the technical commissions have agreed on adopting by consensus without debate documents containing draft resolutions and decisions: Decision 8 (EC-72), Decision 6 (EC-73), Decision 3 (INFCOM-1), Decision 3 (SERCOM-1). For EC, such procedure is based on the recommendation of the Technical Coordination Committee and the Policy Advisory Committee and is reflected in the Rules of Procedure of the Executive Council (WMO-No. 1256, Rule 2.8). The commissions have used the procedure based on a recommendation of the president in consultation with the Management Group and provisional criteria, derived from the *General Regulations*.

General considerations to Recommendation 26 (SERCOM-2)

Engagement with Regional Associations

Introduction

1. This document presents a summary of key achievements, in line with the organizational reform process, to promote greater effectiveness and efficiency in delivering on the needs of Members. Furthermore, the document proposes recommendations for continued engagements with the Regional Associations into the 2024–2027 period.

2. Since its first session in 2020 and 2021, the Commission for Weather, Climate, Water and Related Environmental Services (SERCOM), in response to Resolution 1 (EC-72), to promote effective coordination between Regional Associations, technical commissions and the Research Board, decided on several actions to enhance engagements with Regional Associations.

3. The activities have culminated in the successful and aligned Regional Associations (RAs) Sessions where the new structures of the RAs Management Groups and regional association subsidiary bodies are now harmonized and closely resemble the structures of the new constituent bodies of the Organization, creating more synergy for enhanced engagement and implementation of regional priorities in alignment with Congress and Executive Council decisions and resolutions, while also taking into consideration the unique regional characteristics.

4. The Secretariat structure has also been strengthened through the recruitment of technical coordinators for both Services and Infrastructure, with the primary purpose to support the work and activities of the regional technological bodies relevant to Services and Infrastructure, including production of technical documents for regional meetings and organize and support expert group meetings, seminars, etc. The technical coordinators are placed in the RAF, RAF and RAM regional offices under the co-supervision of the regional directors and directors of Services and Infrastructure.

5. Further, meetings have been convened of the technical commissions (TCs) and presidents of Regional Associations (PRAs), on the side lines of the statutory body meetings to further improve on the coordination between the TCs and the Regional Associations. An additional meeting was also convened by the Assistant Secretary-General with PRAs on the side lines of EC-75 in June 2022, to further strengthen this cooperation.

6. The WMO Community Platform is being enhanced to capture and update Member information in order to identify capacity development needs and to track the implementation progress of Congress and Executive Council decisions and resolutions. Enhanced workflows, usability, security, and reliability to better identify the needs of Members and track progress in the implementation of capacity development initiatives would require an estimated investment of CHF 200 000 in the 2024–2027 Financial Period. Additional efforts have been put in place to make full use of the Regional Offices and technical coordinators to populate the TC Expert Teams/Working Groups with diverse experts from all the RAs, in order to form representative teams characterizing the needs and expertise of all regions.

7. The review of the Regional Training Centres (RTCs) has continued to take place in spite of the constraints presented by the COVID-19 pandemic. The review reports of the RTCs in Costa Rica, India and the Russian Federation are currently being finalized. The RTCs

in Italy and Türkiye were reviewed in early 2022 and reports are under preparation. Plans are now in place to carry out further reviews of RTCs in China, Indonesia, Israel, Peru, and the Republic of Korea during 2022–23. *[Republic of Korea]*

Expected action

8. Based on the above, the Commission is invited to adopt Recommendation 26 (SERCOM-2).

General considerations to Recommendation 27 (SERCOM-2)

Review of resolutions and recommendations of the previous commission structure

Introduction: consideration of the reports of previous technical commissions by Congress or the Executive Council

1. The eighteenth session of the World Meteorological Congress (Cg-18, 2019), which established the Services and Infrastructure Commissions through Resolution 7 (Cg-18) - Establishment of WMO Technical Commissions for the Eighteenth Financial Period, also took note of the reports of the sixteenth session of the Commission for Aeronautical Meteorology (CAeM-16) (Resolution 27 (Cg-18)), seventeenth session of the Commission for Agricultural Meteorology (CAgM-17) (Resolution 18 (Cg-18)), seventeenth session of the Commission for Climatology (CCl-17) (Resolution 20 (Cg-18)), extraordinary session of the Commission for Hydrology (CHy-Ext(2019)) (Resolution 24 (Cg-18)) and seventeenth session of the Commission for Instruments and Methods of Observation (CIMO-17) (Resolution 43 (Cg-18)), including the resolutions adopted at these sessions and the previous resolutions confirmed to be kept in force. Recommendations from the seventeenth session of the Commission from Atmospheric Sciences (CAS-17) were considered through individual resolutions.

2. Previously, the seventieth session of the Executive Council (EC-70, 2018) had considered the report of the fifth session of the Joint WMO-IOC Technical Commission for Oceanography and Marine Meteorology (JCOMM-5) (Resolution 10 (EC-70)), as well as the recommendations of CCl (Resolution 5 (EC-70)) and CAgM-17 (Resolution 14 (EC-70)). Recommendations from the sixteenth session of the Commission from Basic Systems (CBS-16) were considered through individual resolutions.

The Transition Team established by Congress and the transferring of functions and activities from the previous to the new technical commissions

3. Congress, through Resolution 7 (Cg-18), entrusted a Transition Team[4] to ensure, inter alia, the orderly transition of normative functions of the technical commissions active during the seventeenth financial period and effective incorporation of their work and

[4] The Transition Team was composed of the presidents and vice-presidents of existing and new technical commissions, the chairs and vice-chairs of the Research Board and the Hydrological Assembly and the presidents of regional associations, chaired by the presidents of the new commissions and the Chair of the Research Board. The Transition Team held a single meeting in Geneva on 27–29 November 2019. The report and recommendations of the Transition Team were considered by INFCOM-1 and SERCOM-1 to prepare their first work programme.

deliverables relevant to the priorities of the Strategic Plan into the new structures, however, without clarifying the status of the resolutions of the previous commissions still in force. The sanitary emergency caused by COVID-19 eventually impeded the completion of such detailed task by the Transition Team, also in light of the urgency to activate the new commissions and their substructures and develop and implement their work programme based on the Strategic Plan 2020–2023 and subsequent directives of Congress and the Executive Council.

The guidance from the Executive Council

4. The Executive Council, through Resolution 8 (EC-75) - Review of previous resolutions and decisions of the Executive Council, requested the technical commissions to undertake a review and consolidation of the resolutions of past technical commissions together with the regular review of their resolutions and decisions in force and report on progress to EC-76.

Declaring the resolutions and recommendations of the previous technical commissions no longer in force

5. In response to the Executive Council's request to the Commission to act on the resolutions of previous commissions relevant to it, document SERCOM-2/INF. 11.1, prepared by the Management Group of the Services Commission jointly with the Management Group of the Infrastructure Commission:

(a) Lists the resolutions and recommendations adopted by the last sessions of the previous commission structures, including past resolutions and recommendations kept in force, relevant to the present technical commissions;

(b) Identifies the resolutions fully implemented or superseded and the recommendations accepted;

(c) Identifies the resolutions fully or in part incorporated in a SERCOM or INFCOM instrument, or in an instrument of another WMO body;

(d) Identifies the resolutions that remain to be addressed, if any, including through incorporating their relevant content into consolidated resolutions of Congress to be considered at the nineteenth session (Cg-19).

6. Based on the above, this document provides a draft Recommendation to Congress through the Executive Council, to be agreed upon by a decision of INFCOM, declaring all the resolutions and recommendations from the previous commissions no longer in force.

Expected action

7. The Commission is invited to adopt Recommendation 27 (SERCOM-2).