

Rules of Procedure for Technical Commissions

2019 edition

WEATHER CLIMATE WATER



WORLD
METEOROLOGICAL
ORGANIZATION

WMO-No. 1240

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1. **GENERAL**

1.1 The rules of procedure for the technical commissions have been adopted in accordance with Regulation 3 of the General Regulations. Their goal is to ensure standardized procedural arrangements for all technical commissions and their subsidiary bodies.

Note: Hereinafter, references in this publication to numbered regulations indicate regulations in the General Regulations, unless otherwise stated.

1.2 The rules of procedure were adopted by the Executive Council at its seventy-first session under the authority of the Convention and General Regulations of the World Meteorological Organization (WMO). They may be amended by the Executive Council as needed. In the event of any conflict between the provisions of these rules of procedure and any provisions of the Convention or of the General Regulations, the text of the latter two documents shall prevail.

2. **PURPOSE AND TERMS OF REFERENCE OF TECHNICAL COMMISSIONS**

2.1 The main purpose of a commission is to study and make recommendations to Congress and the Executive Council on subjects within its terms of reference and in particular on matters directly referred to the commission by Congress and the Executive Council. Technical commissions are constituent bodies of the Organization.

Note: Technical commissions are defined in Articles 4 and 19 of the Convention. The General Regulations related specifically to the technical commissions are provided in Chapter V of the General Regulations.

2.2 The general terms of reference of the technical commissions, as adopted by Congress, are provided in Annex III of the General Regulations. Commissions may propose amendments to the general terms of reference to Congress.

Note: The general terms of reference are reproduced in Annex I to the present rules of procedure.

2.3 The specific terms of reference of the technical commissions, as approved by the Eighteenth Congress in Resolution 7 (Cg-18) that established the commissions, are provided in Annex II to the present rules of procedure.

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. Commissions should keep their specific terms of reference under review and may propose amendments to ensure that they are up to date. Such amendments should be submitted for approval by Congress or by Executive Council under delegated authority.

3. **OFFICERS**

3.1 Each commission shall elect its officers, president and co-vice-presidents, in accordance with Article 19 of the Convention. Elections should be conducted at ordinary sessions of the commission.

Note: In interpretation of Article 19 of the Convention, the office of vice-president of a multi-disciplinary commission can be shared by up to three co-vice-presidents.

3.2 Technical experts designated by Members with voting rights and represented on the commission in accordance with Regulation 143 shall be eligible for election as president or vice-president.

3.3 The term of office of the officers should be from the end of the ordinary session until the end of the next ordinary session at which an election of that officer is to be held. They can be re-elected in accordance with Regulation 10.

3.4 The duties of the president of the commission are provided in Regulation 145.

3.5 The commission may elect up to three co-vice-presidents who should normally cover the different subjects of the scientific and technical fields in the terms of reference of the commission, with due consideration of regional and gender balance. In case that the terms of reference of a commission include operational hydrology, at least one officer (president or a co-vice-president) should have a background in hydrology.

3.6 The duties of the co-vice-presidents should be:

- (a) To act on behalf of the president when delegated by the president or when the president is not available to carry out his/her duties;
- (b) To coordinate subject matters in a defined domain of expertise pertinent to the scope and terms of reference of the commission.

3.7 In case that the president or one of the co-vice-presidents of the commission resigns or is not able to carry out the functions of the office, a replacement should be arranged as soon as possible following relevant procedures in the General Regulations.

Note: Regulations 10 to 15 will be applied in the case that the commission has only one vice-president.

3.8 If the commission has elected more than one vice-president, the commission shall determine which of the co-vice-presidents should serve as acting president in accordance with Regulation 11.

4. **COMPOSITION**

4.1 A technical commission is composed of technical experts in the fields covered by the terms of reference of the commission nominated by Members represented on the commission, and selected to serve on any of the commission's subsidiary bodies. The United Nations and other relevant international organizations with which WMO has formal relationship may also nominate technical experts on the commission.

Note: The term "technical expert" is defined in the General Regulations, Definitions.

4.2 Technical experts selected to serve on a subsidiary body of a commission should participate in this subsidiary body in their personal, expert capacity and not acting as representatives of their nominators.

4.3 **Nomination of technical experts**

4.3.1 After the establishment of the technical commission by Congress, Members, the United Nations and relevant international organizations with which WMO has formal relationships (working arrangements or agreements, memorandums of understanding, or similar) should be invited to nominate experts to serve on the commission. The invitation for nominations should specify the type of expertise required of the nominees. The nominators should provide verifiable information on the nominated experts, including their current role, qualifications, competence, skills and experience in the specialized fields of work of the commission.

4.3.2 Technical experts from a Member should be nominated by the respective Permanent Representative. Nominations of experts in hydrology should be made in consultation with the respective Hydrological Adviser.

4.3.3 When nominating technical experts on the commissions, it is desirable that the Permanent Representatives endeavour to engage, as appropriate, additional technical experts from relevant public, private or academic entities based in the country or territory.

4.3.4 Executive heads of the United Nations and international organizations with which WMO has concluded arrangements or agreements that cover reciprocal participation in the work of the other organization may also nominate technical experts to the commission. Designations by the organizations shall be through the Secretariat, which shall validate designations and enter them into the WMO Community Platform.

4.3.5 When nominating experts to serve on a commission, the nominators should be required to state explicitly a commitment that these experts will be allowed to work at international level and that a certain part of their working time will be allocated to such type of work.

4.3.6 The president and co-vice-presidents, assisted by the Management Group of the commission or equivalent body and by the Secretariat, should review the received nominations and decide if they meet the established qualification requirements. The approved nominees should form the Expert Network from which its subsidiary bodies should be composed through a selection process (cf. rule 5.4.4).

5. **SUBSIDIARY BODIES**

5.1 Each commission may establish subsidiary bodies to carry out certain tasks of its work programme. As a principle, commissions should keep the number of subsidiary bodies to a necessary minimum with due consideration of the available financial and human resources. Technical commissions should endeavour to establish their structures in a coherent and coordinated manner with similar types of subsidiary bodies in each commission.

5.2 The terms of reference of each subsidiary body should be established by the commission and should be within the terms of reference of that commission. When a subsidiary body is established during a session, the commission may select its chair and, if necessary, a vice-chair or authorize its president to do so.

5.3 The number of experts in each subsidiary body should be kept to a necessary minimum with due consideration of the financial and human resources needed for the accomplishment of the tasks given to that body.

5.4 **Types of subsidiary bodies**

5.4.1 ***Standing committee***

(a) A standing committee may be established by a commission as an expert body to carry out tasks related to items 2 and 3 of the general terms of reference of technical commissions, (Annex III to the General Regulations) and the specific terms of reference of the commission concerned.

(b) Standing committees should have a limited scope and terms of reference defined by the parent commission. They should deal primarily with the required normative work in accordance with the specific terms of reference of the commission, in particular, with development of new or amended technical regulations and related implementation guidance material.

- (c) Standing committees should normally be established to act until the next ordinary session of the commission and can be re-established if necessary.
- (d) Technical experts to serve on a standing committee should be selected from the Expert Network by the president of the commission assisted by the Management Group and Secretariat.
- (e) Selected experts should be appropriately announced and, if necessary, an agreement from the relevant Permanent Representative should be requested if not already provided during the nomination process.
- (f) The size of the standing committees may vary depending on the subject area and volume of work, but it should not exceed a number agreed at the session of the commission.

Note: The 4-year budget allocated to the technical commissions is based on the assumption that the average size of the standing committees is 20 experts, including chair and vice-chair.

5.4.2 **Study group**

- (a) A study group should be established by the commission as an expert body to carry out tasks related to items 1 and 4 of the general terms of reference of technical commissions (Annex III to the General Regulations) and the specific terms of reference of the commission concerned.
- (b) Study groups should have a limited scope and terms of reference defined by the parent commission. They should deal primarily with studies on identified technical issues, develop respective proposals and assess the feasibility and necessity for the development of further guidance or technical regulations on the studied subject(s).
- (c) The study group should be established for a fixed time period with clearly defined deliverables.
- (d) Technical experts to serve on a study group should be selected from the Expert Network by the president of the commission assisted by the Management Group and Secretariat. Selected experts should be appropriately announced and, if necessary, an agreement from the relevant Permanent Representative should be requested if not already provided during the nomination process.
- (e) The size of the study groups may vary depending on the subject area and volume of work, but it should not exceed a number agreed at the session of the commission.

Note: The 4-year budget allocated to the study groups is based on the assumption that the average size of the study groups is 15 experts, including chair and vice-chair.

5.4.3 **Expert team**

- (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.
- (b) Expert teams should be composed of relevant subject experts selected from the Expert Network. The selection of experts on the expert team and its chair should be approved by the president of the commission on proposal by the chair of the standing committee.
- (c) The number of expert teams established by a standing committee should be kept to a minimum. Expert teams should work primarily through electronic means of communication; face-to-face meetings should be organized only if agreed by the parent standing committee.

5.4.4 ***Expert Network***

- (a) A data base for a common Expert Network should be established and maintained by the Secretariat.
- (b) Technical experts nominated in accordance with rule 4.3 above should be included in the Expert Network. The Secretariat should check and confirm that the qualifications and competence of the nominated experts meet the requirements announced to Members and international organizations. In case the qualifications or competence do not meet the requirements the nominating Permanent Representative or international organization should be informed accordingly.
- (c) Experts in the Expert Network should be grouped in communities of practice in accordance with their qualifications and competence.
- (d) Experts in the Expert Network may be selected to work on standing committees, study groups and expert teams. Such a selection should be notified to the respective Permanent Representative, Hydrological Adviser (if the work relates to hydrology) or head of the international organization to which the expert belongs.
- (e) Experts in the Expert Network may be requested to contribute to the work of a standing committee, study group and expert team as reviewers, or in another capacity. Their contribution to the work of the respective subsidiary body should be appropriately acknowledged.
- (f) The Management Group of the commission should periodically review the status of its supporting Expert Network. In the case that experts have been inactive for more than 12 months, such experts should be removed from the Expert Network.

5.4.5 ***Management Group***

- (a) Each commission should establish a Management Group with the following composition: the president, the co-vice-presidents, the chairs and vice-chairs of the standing committees, and, if necessary, the chairs and vice-chairs of relevant study groups. The president of the commission should preside on the Management Group.
- (b) The president of the commission may invite additional experts to the Management Group, as necessary.
- (c) The Management Group of the commission should have general terms of reference as provided in Annex III of the present rules of procedure. Each commission may decide on specific terms of reference.
- (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.

5.4.6 ***Joint subsidiary bodies***

- (a) Joint subsidiary bodies, standing committees or study groups, may be established on proposal by two or more commissions or in collaboration with other relevant bodies (for example, the Research Board) to work on cross-cutting subjects.
- (b) The establishment of joint subsidiary bodies should be approved by the Executive Council upon recommendation by the presidents of the bodies concerned.
- (c) Joint subsidiary bodies should elect co-chairs representing each of the collaborating parent bodies.

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 or to address an urgent issue. Establishment of a new standing committee or study group should be duly coordinated with the Secretariat with regard to the required financial and human resources, and authorization by the Executive Council.

5.6 If the chair of a subsidiary body resigns or is not able to carry out the functions of the chair for any cause, the vice-chair of the group, if any, should assume the chair. In the absence of a vice-chair, the president of the responsible commission shall designate a new chair, preferably from amongst the members of the subsidiary body.

5.7 The invitation to each expert – from among the technical experts specified in section 4 – to serve on a subsidiary body (according to the resolution of the commission) shall be issued by the Secretary-General as soon as possible after the closure of the session of the commission.

5.8 The subsidiary body shall be regarded as activated when acceptances have been received from a simple majority of the nominees (including the designated chair).

6. SESSIONS

Note: Upon decision of the president of the commission, in consultation and upon recommendation of the Management Group, the session of a commission may be divided into segments that include meetings of subsidiary bodies of the commission. Such meetings of subsidiary bodies before or during a session of the commission will not have intergovernmental status but will be on an expert level. All provisions in the General Regulations related to sessions of constituent bodies (Regulations 17 to 47) are applicable for the intergovernmental segment of sessions of technical commissions. This also applies, *mutatis mutandis*, to joint sessions of constituent bodies.

6.1 Ordinary sessions of technical commissions should normally be held at intervals not exceeding two years. Presidents of technical commissions should endeavour to establish the dates for the ordinary sessions of their commissions well in advance for each four-year financial period. Extraordinary sessions should only be held to address unforeseen developments that may require intergovernmental discussion and decision.

6.2 The Secretary-General should draw up a provisional programme of sessions of commissions in consultation with the presidents of the commissions for coordination by the Executive Council at its last session before an ordinary session of Congress. The coordinated programme of sessions should be sent to all Members prior to the ordinary session of Congress. The date and place of an ordinary or extraordinary session should be determined by the president of the commission following consultation with the Secretary-General.

6.3 The default venue for ordinary sessions of technical commissions should be the WMO headquarters in Geneva, Switzerland. However, if a Member expresses interest to host a session of a technical commission, such proposals should be treated in accordance with Regulation 17.

6.4 In the case where invitations are received from more than one Member to act as host Member for the same session of a commission, the Secretary-General should submit the matter to the President of the Organization for decision.

6.5 The Secretary-General should be responsible, in consultation with the convener, for making all arrangements for a session or joint session, utilizing any facilities that may be offered by a host Member.

6.6 Joint sessions of technical commissions may be held, subject to authorization by the President of the Organization, if the agenda covers items that can be better addressed in a coordinated manner. The date and place of a joint session should be determined by agreement between the presidents of the commissions concerned after consultation with the Secretary-General.

6.7 Joint sessions of technical commissions with other bodies, such as regional associations, may be held if necessary, subject to authorization by the President of the Organization. The date and place of such a joint session should be determined by agreement between the presidents of the bodies concerned after consultation with the Secretary-General.

6.8 Joint sessions of the commission with other bodies shall be conducted in accordance with those provisions of the General Regulations and the rules of procedure that are applicable to the constituent body to which the chair of the joint session belongs, and the chair of the joint session shall take such action following the joint session as normally follows a session of the constituent body to which the chair belongs, including reporting to Congress or the Executive Council upon the work of the joint session.

6.9 Documents

6.9.1 Notification of the date and place of a session of a commission or a joint session should be distributed by the Secretary-General at least 120 days before the opening meeting to the Members of the Organization, to the members of the commission, to the presidents of all the other constituent bodies, to the United Nations, all other international organizations with which the Organization has concluded arrangements or agreements and, in conformity with the provisions of Regulations 18 and 19, to other persons.

6.9.2 The provisional agenda and an explanatory memorandum summarizing the items to be discussed should also be sent to the addressees of the notification at least 120 days before the date of opening.

6.9.3 The documents for the session should be made available as soon as possible, and preferably not later than 30 days before the opening of the session.

6.9.4 Reports of sessions of technical commissions should be prepared in accordance with Regulation 95.

6.9.5 Each ordinary session of a commission should adopt a work programme for the period until the next session. Work programmes should be prepared in coordination with the WMO Strategic and Operating Plans.

6.10 Agenda

6.10.1 The provisional agenda for an ordinary session of a commission should be prepared by the president of the commission in consultation with the Secretary-General and should normally include (the exact order is to be determined by the president and submitted to the session for approval):

- (a) Consideration of the report on credentials;
- (b) Establishment of committees;
- (c) A report by the president of the commission;
- (d) Reports by chairs of subsidiary bodies established by the commission;
- (e) Consideration of the WMO Programmes relevant to the commission;
- (f) Consideration of strategic planning relevant to the commission;
- (g) Items submitted by the President of the Organization, the Executive Council, other commissions, associations, the United Nations, relevant international organizations, and Members;

- (h) Review of previous resolutions and recommendations of the commission and evaluation of implementation of relevant actions;
- (i) Review of the Executive Council resolutions related to the commission;
- (j) Work programme and subsidiary bodies for the following intersessional period;
- (k) Election of officers;
- (l) Optional – scientific lectures and discussions in the field of the commission.

6.10.2 The agenda for an extraordinary session of a commission shall contain only the following items:

- (a) Consideration of the report on credentials;
- (b) Establishment of committees;
- (c) Consideration of the question(s) for which the session was convened.

Note: In the case of a two-year cycle of ordinary sessions of commissions, extraordinary sessions may be called only as a response to exceptional circumstances.

6.10.3 Any Member may propose additional items to the provisional agenda for an ordinary session, but preferably not later than 30 days before the opening of the session; explanatory memorandums in respect of the additional items should accompany such proposals and be distributed by the Secretariat to the addressees of the notification referred to in rule 6.9.1.

6.10.4 Working papers submitted by Members on items on the provisional agenda should be submitted to the Secretariat as early as possible but preferably not later than 60 days before the opening of the session; they should similarly be made available by the Secretariat.

6.10.5 The provisional agenda for an ordinary session of a commission should be prepared by the president of the commission in consultation with the Secretary-General.

6.10.6 The agenda for an extraordinary session of a commission should contain only consideration of the question(s) for which the session was convened.

6.10.7 The provisional agenda should be submitted for approval by the commission as soon as possible after the opening of the session. In the course of the session the agenda may be amended at any time.

6.11 Sessions of the technical commissions should be conducted as intergovernmental meetings attended by delegations with one principle delegate per delegation. The name of the principle delegate and the delegate's alternate should be communicated by Members through a notification to the Secretary-General in response to the convening announcement for the session.

6.12 The president of the commission may decide to convene technical expert segment(s) of a session in which delegates may meet in breakout groups for discussion of technical issues that need clarification. Such technical segments should be conducted as non-intergovernmental with experts participating in personal capacity.

6.13 Experts nominated by international organizations should participate in the sessions as observers with no voting rights.

6.14 **Voting and quorum**

6.14.1 Decisions of technical commissions, including for the election of officers, should be determined preferably by consensus. If consensus cannot be achieved, a vote may be conducted in accordance with Regulations 40 to 61.

6.14.2 The quorum for decisions not related to the election of officers should be in accordance with Regulation 147. If a quorum is not obtained at a meeting Regulation 148 should be applied.

6.14.3 The quorum for election of officers should be in accordance with Regulation 147. If a quorum is not obtained at a meeting, the full list of candidates should be referred by correspondence to the Permanent Representatives of Members of the Organization represented on the commission with voting rights. Any candidate should be considered to be elected only when the candidate has received a majority of votes within 60 days after the list has been sent to the Permanent Representatives.

6.15 **Types of decisions by sessions**

6.15.1 Decisions of sessions of the commissions should be formulated in accordance with Regulation 94 in the form of a decision, a resolution, or a recommendation.

6.15.2 Decisions on the establishment of a subsidiary body of the commission should be in the form of a resolution.

6.15.3 Proposed changes to WMO Technical Regulations should be included in a recommendation to Executive Council or Congress. In submitting such recommendations, commissions should consider the requirements for notification to Members in Regulation 100.

7. **MEETINGS OF SUBSIDIARY BODIES**

7.1 After each session, the Management Group of the commission should prepare a schedule of meetings of standing committees and study groups established by the session. In the case of joint standing committees or study groups, their meetings should be coordinated with the Management Group of the other parent body.

7.2 The meetings of the subsidiary bodies should be kept to a necessary minimum. Standing committees should normally meet on a yearly basis.

7.3 The duration of a meeting of a standing committee or study group should normally be three working days. Exception to this rule may be granted by the president of the commission in case of highly complex issues that may need additional time for discussion.

7.4 The chair of the subsidiary body should prepare the agenda and work programme for the session, in consultation with the president and Management Group.

7.5 For the conduct of business in meetings of standing committees, study groups and other subsidiary bodies the Regulations 77 to 91 shall be applied where necessary.

7.6 Within 15 days after each meeting of a standing committee or a study group, the chair should submit a summary report to the president of the commission. Chairs of expert teams submit meeting summary reports to the chair of the parent standing committee.

8. ASSISTANCE BY THE SECRETARIAT

8.1 As required by the commission, the Secretariat should carry out the administrative work, including preparation of documents, and technical work to the extent compatible with its functions. Technical experts in the Secretariat shall be assigned by the Secretary-General to participate in a consultative capacity in the work of each commission and to carry out such technical studies as the commission may request.

ANNEX I. GENERAL TERMS OF REFERENCE OF TECHNICAL COMMISSIONS

(As defined in Annex III to the General Regulations)

Within its terms of responsibility as defined hereunder and within the provisions of the General Regulations, each technical commission shall:

- (1) Study and review advances in science and technology, keep Members informed and advise Congress, the Executive Council and other constituent bodies on these advances and their implications;
 - (2) Develop, for consideration by the Executive Council and Congress, proposed international standards for methods, procedures, techniques and practices in meteorology and operational hydrology including, in particular, the relevant parts of the Technical Regulations, Guides and Manuals;
 - (3) Under the general guidance of Congress and the Executive Council, carry out functions – with other bodies as necessary – relating to the planning, implementation and evaluation of the scientific and technical programme activities of the Organization;
 - (4) Provide a forum for the examination and resolution of relevant scientific and technical issues;
 - (5) Promote training by assisting in the organization of seminars and workshops and in the preparation of related material and the development of other suitable mechanisms for the transfer of knowledge and methodology, including the results of research, between Members;
 - (6) Promote international cooperation and maintain, through appropriate channels, close cooperation on scientific and technical matters with other relevant international organizations;
 - (7) Structure its work to address societal outcomes, in line with existing management processes by creating and maintaining an operating plan focusing on the areas identified within its specific terms of reference and addressing the WMO Strategic Plan;
 - (8) Make such recommendations as it may consider necessary.
-

ANNEX II. SPECIFIC TERMS OF REFERENCE OF TECHNICAL COMMISSIONS

(As defined in Resolution 7 (Cg-18))

A. COMMISSION FOR OBSERVATION, INFRASTRUCTURE AND INFORMATION SYSTEMS

General mandate

The overall scope and specific terms of reference for the Commission for Observation, Infrastructure and Information Systems (Infrastructure Commission) shall be in accordance with the purposes of the Organization defined in Article 2 of the Convention, in particular, items (a) through (c) and (e), and Regulations 141 to 148 of the General Regulations.

The Commission shall contribute to: the development and implementation of globally coordinated systems for acquiring, processing, transmitting and disseminating Earth system observations, and related standards; the coordination of the production and use of standardized analysis and model forecast fields; and the development and implementation of sound data and information management practices for all WMO Programmes and their associated application and services areas.

The work of the Commission shall encompass all approved WMO application areas, as listed in the Rolling Review of Requirements, as well as updated and emerging observing, information and infrastructure requirements.

The Commission shall promote the development of integrated systems to cover all application areas wherever possible, and shall ensure that these systems:

- (a) Are user driven and provide Earth system observations, processed data and relevant services, products and information to Members;
- (b) Are applicable, accessible and with life-cycle management across the full range of WMO Members;
- (c) Are built on a modular and scalable principle to the extent possible;
- (d) Make full use of existing WMO and other relevant standards and regulations;
- (e) Make use of and promote public-private engagement where advantageous;
- (f) Incorporate state-of-the-art optimal and fit-for-purpose technology;
- (g) Are based on user requirements developed in coordination with the Commission for Weather, Climate, Water and Related Environmental Services and Applications (Services Commission) and the Research Board;
- (h) Are building upon existing partnerships and networks among communities of practice within the service areas, which are beneficial for WMO Members.

The activities of the Commission shall be guided by the WMO Strategic Plan.

Specific terms of reference

- (a) Development and maintenance of WMO normative material related to integrated observing systems, data transmission and dissemination systems, data management systems, and data processing and forecast systems as specified in WMO Technical Regulations – the Commission shall:
 - (i) Coordinate the development of new systems and infrastructure-related regulatory material in all application areas of its scope;
 - (ii) Promote and pursue the integration of existing regulatory material;
 - (iii) Keep regulatory material up to date through regular amendments, as necessary;
 - (iv) Ensure the consistency of new and amended regulatory material across the application areas;
 - (v) Consider relevant scientific and technological developments to ensure the currency of the regulatory material;
 - (vi) Together with the Services Commission and the Research Board, coordinate linking science, infrastructure and services interactively;
 - (vii) Accompany each recommendation for new and amended regulatory material with its own impact, cost–benefit, and risk analysis;
- (b) Common infrastructure and systems attributes – the Commission shall:
 - (i) Promote a culture of compliance with standards and relevant regulatory material among all Members;
 - (ii) Further develop and promote the use of the Rolling Review of Requirements for the assessment of user requirements, the assessment of available capabilities, and the development of gap mitigation strategies in order to further improve the overall systems capabilities of WMO;
 - (iii) Develop and promote a unified approach to data management across all disciplines and WMO application areas;
 - (iv) Develop common methodologies for quality assurance of observations and other data products across all application areas;
 - (v) Actively seek engagement from Earth system observational data providers from all relevant government entities, international organizations, the private sector, and academia;
- (c) Assistance to Members to enhance systems capabilities and enable effective implementation and compliance – the Commission shall:
 - (i) Consult with regional associations and Members to identify need for improvement in observing, data transmission and data management capabilities services and develop the required implementation strategies;
 - (ii) Consult with regional associations to identify experts who can participate in technical commission teams, to facilitate the implementation and uptake of evolving technical systems, standards and regulations at national and regional levels;
 - (iii) Facilitate the regional and national implementation of systems under its remit by developing guidance material aligned with new and amended regulatory material;

- (iv) In consultation with the regional associations, identify Members' needs for assistance in improving their capabilities and providing relevant guidance and capacity building, including training;
 - (v) Propose pilot and demonstration projects as necessary;
 - (vi) Facilitate the transfer of knowledge by supporting relevant events and through communication and outreach activities;
 - (vii) Provide standards and regulations for the basic measurement of variables characterizing water quantity, quality and sediments;
 - (viii) Support the technical aspects of the Hydrological Status and Outlook System and the forthcoming State of the Water Report;
- (d) Cooperation and partnership – the Commission shall:
- (i) Establish close coordination and efficient working mechanisms with the Services Commission, relevant international organizations in the area of meteorological, hydrological, climatological and other environmental observations, information and infrastructure;
 - (ii) Establish and maintain close collaboration and coordination with WMO co-sponsored systems and programmes, and other major international observing programmes and initiatives;
 - (iii) Establish in collaboration with the Research Board consultative mechanisms with relevant scientific and operational user organizations to receive feedback and advice on systems capabilities;
 - (iv) Seek opportunities for leveraging resources through the establishment of joint, including inter-agency, bodies and projects addressing common areas of system development.

Composition

The composition of the Commission shall be in accordance with General Regulation 143.

Participation of leading technical experts in Earth system observations, information management and prediction in the fields of meteorology, hydrology, climatology, oceanography, atmospheric environment and other fields covered by the terms of reference shall be ensured by Members.

United Nations, international organization partners, and private partners of WMO may be invited to nominate technical experts in their areas of expertise to participate in the work of the Commission in accordance with General Regulation 143.

Working procedures

The Commission shall elect a president and up to three co-vice-presidents among the experts on the Commission and determine which of the co-vice-presidents should serve as acting president in accordance with General Regulation 11.

The Commission shall establish effective and efficient working mechanisms and related necessary time-limited subsidiary bodies:

- (a) Establish effective and efficient working mechanisms through an adequate number of subsidiary bodies;

- (b) Make an effective use of a broad community of practice encompassing Members' collective expertise, including the private and academia sectors;
- (c) Establish a work programme with concrete deliverables and timelines, aligned with the WMO-wide Strategic and Operating Plans and monitor progress regularly using appropriate performance indicators and targets for reporting to the Executive Council and Congress;
- (d) Use electronic forms of coordination and collaboration effectively;
- (e) Establish effective coordination with other technical commissions, the Research Board, the Joint WMO-IOC Collaborative Board and other relevant bodies in particular through the Executive Council's Technical Coordination Committee (TCC), as appropriate;
- (f) Organize effective communication and outreach to inform the WMO community of ongoing work, achievements and opportunities;
- (g) Apply a system for the recognition of achievements, promotion of innovation and the participation of young professionals;
- (h) Ensure regional and gender balance and inclusiveness in all its structures and work plans;
- (i) Ensure adequate representation and consultation with communities of practice among the service areas.

B. COMMISSION FOR WEATHER, CLIMATE, WATER AND RELATED ENVIRONMENTAL SERVICES AND APPLICATIONS

General mandate

The overall scope and specific terms of reference of the Commission for Weather, Climate, Water and Related Environmental Services and Applications (Services Commission) shall be in accordance with the purposes of the Organization defined in Article 2 of the Convention, in particular, items (d) and (e); and with Regulations 141 to 148 of the General Regulations.

The Commission shall contribute to the development and implementation of globally harmonized weather-, climate-, water-, ocean- and environment-related services and applications to enable informed decision-making and the realization of socioeconomic benefits by all user communities and society as a whole.

The Commission shall encompass application areas with substructures as needed to implement the WMO Strategic Plan including, but not limited to:

- (a) Regulated and existing meteorological services (covered by WMO *Technical Regulations* (WMO-No. 49), in accordance with General Terms of Reference item 2):
 - (i) Aeronautical meteorological services;
 - (ii) Marine and oceanographic meteorological services;
 - (iii) Agrometeorological services;
 - (iv) Public weather services;
 - (v) Climatological services;
 - (vi) Hydrological services;

- (b) Emerging services under development (currently the subject of studies and evaluation for possible inclusion in regulated services, in accordance with General Terms of Reference item 1):
- (i) Urban services;
 - (ii) Environmental services;
 - (iii) Multi-hazard early warning services;
 - (iv) Polar and high mountain area services;
 - (v) Health;
 - (vi) Energy;
 - (vii) Food security;
 - (viii) Water management;
 - (ix) Land transportation;
 - (x) Others, as may become necessary;
- (c) Potential category for hydrological services.

The Commission shall promote a holistic approach to services and service delivery and assist Members to apply:

- (a) Risk-based decision-making in support of disaster risk preparedness and reduction;
- (b) A service-oriented culture;
- (c) A strong user focus with “fit-for-purpose” services;
- (d) Quality management in service delivery;
- (e) Standards for competence and qualification of personnel;
- (f) Mutually beneficial public–private engagement providing optimized service delivery and added value to society;
- (g) Accelerated uptake of advanced technology for service delivery;
- (h) Systematic evaluation of socioeconomic benefits and other relevant market-oriented evaluations of products and services.

The activities of the Commission shall be guided by the WMO Strategic Plan and the Strategy for Service Delivery.

Specific terms of reference

- (a) Development and maintenance of WMO normative material related to service delivery, as specified in WMO Technical Regulations, the Commission shall:
 - (i) Coordinate the development of new service-oriented regulatory material in all application areas of its scope based on identified needs of Members;
 - (ii) Keep the regulatory material up to date through regular amendments, as necessary;

- (iii) Ensure the consistency of new and amended regulatory material across the application areas;
 - (iv) Enhance capacity for prediction and service delivery;
 - (v) Consider relevant scientific and technological developments to ensure the currency of the regulatory material;
 - (vi) Together with the Infrastructure Commission and the Research Board, coordinate linking science, infrastructure and services interactively;
 - (vii) Accompany each recommendation for new and amended regulatory material with its own impact, cost–benefit, and risk analysis.
- (b) Common service delivery attributes – the Commission shall:
- (i) Promote a service-oriented culture in all relevant application areas including customer focus and quality management, as well as an understanding of the value and socioeconomic benefits;
 - (ii) Share best practices and develop harmonized methodologies for user engagement including the identification of requirements and the establishment of feedback mechanisms with users necessary for the continuous improvement of services;
 - (iii) Develop methodologies for impact-based products and services in all application areas, innovative service delivery methods and integrated platforms;
 - (iv) Ensure the harmonization of requirements for the competencies and qualifications of personnel involved in service delivery;
 - (v) Develop a common methodology for the verification and validation of information and service delivery as part of quality management;
 - (vi) Build, through appropriate studies and projects, a better understanding of the economics of service delivery, cost-recovery mechanisms, commercial and market elements, and develop respective guidance for Members;
 - (vii) Seek the engagement of service providers from the private sector and academia;
 - (viii) Promote global and regional partnerships, including building upon existing partnerships and networks among communities of practice among the service areas, which are beneficial for WMO Members.
- (c) Assistance to Members to enhance service delivery capabilities and enable effective implementation and compliance – the Commission shall:
- (i) Consult with regional associations and Members to identify needs for new and improved services and analyse related capabilities, and best practices;
 - (ii) Consult with regional associations to identify experts who can participate in technical commission teams, to facilitate the implementation and uptake of evolving services and applications, standards and regulations at national and regional levels;
 - (iii) Facilitate implementation by developing guidance material aligned with the promulgation of new and amended regulatory material;
 - (iv) In consultation with the regional associations, identify Members’ needs for assistance in improving their capabilities and providing relevant guidance and capacity-development activities, including training;

- (v) Propose pilot and demonstration projects as necessary;
 - (vi) Facilitate the transfer of knowledge and best practices by supporting relevant events and through communication and outreach activities.
- (d) Cooperation and partnership – the Commission shall:
- (i) Establish close coordination and efficient working mechanisms with relevant international organizations such as the International Civil Aviation Organization, the International Maritime Organization and the Food and Agriculture Organization of the United Nations, in the area of service delivery;
 - (ii) Establish consultative mechanisms with user organizations to receive feedback and advice on services;
 - (iii) Consider opportunities for leveraging resources through the establishment of joint, including inter-agency, bodies and/or projects addressing common areas of service delivery.

Composition

The composition of the Commission shall be in accordance with General Regulation 143.

Participation of leading technical experts in services and applications in the field of meteorology, climatology, hydrology, ocean and the other fields covered by these terms of reference, shall be ensured by Members.

United Nations, international organizations and private sector partners of WMO may be invited to nominate technical experts in their areas of expertise to participate in the work of the Commission in accordance with General Regulation 143.

Working procedures

The Commission shall elect a president and up to three co-vice-presidents among the experts on the Commission and determine which of the co-vice-presidents should serve as acting president in accordance with General Regulation 11.

The Commission shall establish effective and efficient working mechanisms and related necessary time-limited subsidiary bodies:

- (a) Establish effective and efficient working mechanisms through an adequate number of subsidiary bodies;
- (b) Make an effective use of a broad community of practice encompassing Members' collective expertise, including the private and academia sectors;
- (c) Establish a work programme with concrete deliverables and timelines, aligned with the WMO-wide Strategic and Operating Plans and monitor progress regularly using appropriate performance indicators and targets for reporting to the Executive Council and Congress;
- (d) Use electronic forms of coordination and collaboration effectively;
- (e) Establish effective coordination with other technical commissions, the Research Board, the Joint WMO-IOC Collaborative Board and other relevant bodies, in particular through the Executive Council's TCC, as appropriate;

- (f) Organize effective communication and outreach to inform the WMO community of ongoing work, achievements and opportunities;
 - (g) Apply a system for the recognition of achievements, promotion of innovation and the participation of young professionals;
 - (h) Ensure regional and gender balance and inclusiveness in all its structures and work plans;
 - (i) Ensure adequate representation and consultation with communities of practice among the service areas.
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ANNEX III. GENERAL TERMS OF REFERENCE OF THE MANAGEMENT GROUPS OF TECHNICAL COMMISSIONS

(To be developed as part of the next phase of the reform of constituent bodies)

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