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| WEATHER CLIMATE WATER | **World Meteorological Organization****WORLD METEOROLOGICAL CONGRESS****Nineteenth Session**22 May to 2 June 2023, Geneva | **Cg-19/Doc. 5(2)** |
| Submitted by:Secretary-General29.V.2023**DRAFT 3** |

**AGENDA ITEM 5: GOVERNANCE REFORM EVALUATION AND WORLD METEOROLOGICAL CONGRESS STRUCTURES**

# Constituent body structures for the nineteenth financial period

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| **Summary** |
| **Document presented by:** Secretary-General in relation to Articles 8(g), 8(h) and 19 of the WMO Convention ([*Basic Documents No. 1*](https://library.wmo.int/index.php?lvl=notice_display&id=14206) (WMO-No. 15))**Strategic objective 2020–2023:** 5.1 Optimize WMO constituent body structure for more effective decision-making**Financial and administrative implications:** will be reflected in the Strategic and Operational Plans 2024–2027**Key implementers:** Executive Council, Secretary-General**Time frame:** 2023–2027**Action expected:** adopt [Draft Resolution 5(2)/1](#_Draft_Resolution_5(2)/1) |

# GENERAL CONSIDERATIONS

### The technical commissions

1. Since its inception, WMO has been working with a set of technical commissions, established by the World Meteorological Congress to study and make recommendations to Congress and the Executive Council on any subject within the purpose of the Organization. Each Member has the right to be represented on the technical commissions, which are constituent bodies of the Organization.[[1]](#footnote-2) Such system is reviewed, and if necessary revised, at each ordinary session of Congress for a four-year financial period.
2. For almost seventy years – between 1951 and 2019 – eight technical commissions have been established at each four-year financial period to deal with specific aspects of meteorology, either related to the basic infrastructure (basic systems, instruments and methods of observation, atmospheric sciences, hydrology) or sectoral applications (agriculture, aviation, climatology, oceanography and marine meteorology).[[2]](#footnote-3)
3. In 2019, the constituent body reform (later referred to as the governance reform) terminated the eight commissions in existence during the seventeenth financial period (2016–2019) and for the eighteenth financial period (2020–2023) replaced them with two consolidated commissions, the Commission for Observation, Infrastructure and Information Systems (INFCOM) and the Commission for Weather, Climate, Water and Related Environmental Services and Applications (SERCOM), the Research Board replaced the Commission for Atmospheric Sciences, and other additional bodies have been established,[[3]](#footnote-4) described in paragraphs 8–10, supplemented by panels of the Executive Council,[[4]](#footnote-5) described in paragraphs 11–13.
4. The report of the external evaluation of WMO governance reform, [Cg-19/ INF. 5(1a)](https://meetings.wmo.int/Cg-19/InformationDocuments/Cg-19-INF05%281a%29-REPORT-EXTERNAL-EVALUATION-GOVERNANCE-REFORM_en.pdf?Web=1), and [Resolution 5(1)/1 (Cg-19)](https://meetings.wmo.int/Cg-19/_layouts/15/WopiFrame.aspx?sourcedoc=/Cg-19/English/1.%20DRAFTS%20FOR%20DISCUSSION/Cg-19-d05(1)-ACTIONS-EVALUATION-GOVERNANCE-REFORM-draft1_en.docx&action=default) – Actions emanating from the evaluation of the governance reform confirmed the effectiveness of the streamlining of the technical commissions.
5. The activities of SERCOM and INFCOM during the eighteenth financial period are reported in the reports of the respective presidents, [Cg-19/INF. 2.4(1)](https://meetings.wmo.int/Cg-19/InformationDocuments/Cg-19-INF02-4%281%29-REPORT-BY-THE-PRESIDENT-OF-SERCOM_en.docx?Web=1) and [Cg-19/INF. 2.4(2)](https://meetings.wmo.int/Cg-19/InformationDocuments/Forms/AllItems.aspx), and the report of the Chair of the Research Board, [Cg-19/INF. 2.4(3)](https://meetings.wmo.int/Cg-19/InformationDocuments/Forms/AllItems.aspx).

#### Proposed amendments to the terms of reference of the technical commissions

1. Draft Resolution 5(2)/1 (Cg-19) includes a decision for Members to continue the two technical commissions established by the Eighteenth Congress during the nineteenth financial period, based on the revised terms of reference given in the annexes to the resolution. Besides adjustments for better description of activities of the Commissions and for the consistency, proposed revisions common to both Commissions are intended to highlight the need to coordinate also with regional associations [Secretariat], when directed by Congress or the Executive Council, in addition to the Commission-specific changes described in following paragraphs.

##### Infrastructure Commission

1. To facilitate the understanding of the integrated approach to the Earth system, the revised terms of reference explicitly mention ‘weather, climate, hydrology, atmospheric composition, cryosphere, oceans and space weather’ as the disciplines/domains of the Earth system that the Infrastructure Commission’s activities cover. The environmental sustainability is added as a principle of systems development, in accordance with the new WMO Strategic Plan, which has the environmental sustainability as one of strategic objectives.

##### Services Commission

1. The slight amendment in the full title of the Services Commission has been requested by the Hydrological Coordination Panel due to the need to exert care in not misrepresenting the mandate of WMO in the domain of hydrology by using “water service” (normally referring to water supply and wastewater collection, treatment and disposal) as synonym of “hydrological services”. “Marine” is then added to differentiate marine services from [Hong Kong, China] hydrological services. Other changes proposed aim at lightening the description of the SERCOM general mandate, avoiding the description of its subsidiary bodies, which fall under the remit of SERCOM to decide at its sessions.

### The additional bodies

1. In addition to technical commissions – and regional associations – Congress may establish any additional bodies it may deem necessary.[[5]](#footnote-6) Congress has used such authority sparingly: (a) in 1975, Congress established a Financial Advisory Committee,[[6]](#footnote-7) also advising the Executive Council; (b) in 1991, Congress[[7]](#footnote-8) endorsed the Intergovernmental Panel on Climate Change established by the Executive Council[[8]](#footnote-9) in 1988; (c) in 2012, the very first extraordinary Congress established the Intergovernmental Board on Climate Services,[[9]](#footnote-10) which remained in existence only until 2019.
2. In 2019, Congress created three other additional bodies to complement the technical commissions: the Research Board,[[10]](#footnote-11) in replacement of the Commission for Atmospheric Sciences; the Joint WMO-IOC Collaborative Board,[[11]](#footnote-12) as an inter-agency collaboration mechanism to make up for [Secretariat] the termination of JCOMM; and the Scientific Advisory Panel,[[12]](#footnote-13) to provide the Organization with independent scientific advice.[[13]](#footnote-14)
3. The activities of the Research Board and the Scientific Advisory Panel during the eighteenth financial period are reported in the reports of the respective chairs, [Cg‑19/INF. 2.4(3)](https://meetings.wmo.int/Cg-19/InformationDocuments/Forms/AllItems.aspx) and [Cg‑19/INF. 2.8](https://meetings.wmo.int/Cg-19/InformationDocuments/Forms/AllItems.aspx).

### The complementary role of the Executive Council

1. Technical commissions and additional bodies are further supplemented by subsidiary bodies of the Executive Council such as committees, panels of experts and working groups. The role of such subsidiary bodies – of varied composition – is to advice the Executive Council in the exercise of its functions and its responsibilities towards Congress.
2. A review of the subsidiary bodies of the Executive Council in the last three financial periods (2012–2015, 2016–2019, 2020–2023) shows that during intersessional periods the Council has been operating between eight and ten subsidiary bodies (committees, working groups and panels), consistently covering technical matters not covered by other constituent bodies or requiring coordination across constituent bodies, such as climate,[[14]](#footnote-15) hydrology, the cryosphere[[15]](#footnote-16) and capacity development,[[16]](#footnote-17) in addition to advisory functions related to policy and strategic and operational planning, finances and oversight.[[17]](#footnote-18)
3. The activities of the Executive Council during the eighteenth financial period are reported in the report of the President, [Cg-19/INF. 2.1](https://meetings.wmo.int/Cg-19/InformationDocuments/Forms/AllItems.aspx).

### The role of the regional associations

1. Regional associations play a critical role with regard to the programme and the technical activities of the Organization, by coordinating and organizing Members’ activities related to the planning, implementation and evaluation of agreed programmes, strategies and activities and identifying requirements among Members and regional bodies and communicating them, together with any impediments to the timely implementation of planned programmes and activities, to the technical commissions.
2. To facilitate this process, the regional associations have recently established subsidiary bodies matching the scope of the current technical commissions and other technical bodies (services, infrastructure, research, hydrology, tropical cyclones).
3. Congress confirmed the regional associations[[18]](#footnote-19) and enhanced their working modalities and functions as a result of a comprehensive review of the regional concept and approaches.[[19]](#footnote-20)
4. The activities of the regional associations during the eighteenth financial period are reported in the reports of the respective presidents, [Cg-19/INF. 2.3](https://meetings.wmo.int/Cg-19/InformationDocuments/Forms/AllItems.aspx).

### Respective authorities of and relations among constituent bodies, the additional bodies and the subsidiaries bodies of the Executive Council

1. At present, as described above, the WMO bodies with a mandate on scientific and technical matters[[20]](#footnote-21) comprise a variety of structures that interact with each other as a system. To ensure that the Strategic Plan and the decisions of Congress are implemented effectively by all bodies, the Executive Council should continue keeping under review the respective authorities of and relations among the different bodies, as well as the Secretariat, with respect to programmatic, technical and scientific matters and ensuring the related coordination.
2. As a result of the review, the Executive Council may wish to formulate proposals concerning the most appropriate mechanisms to coordinate these processes in light of the established regulatory framework.

### Expected action

1. Based on the above, Congress is invited to adopt [draft Resolution 5(2)/1](#_Draft_Resolution_5(2)/1) – WMO technical commissions and additional bodies for the nineteenth financial period.

# DRAFT RESOLUTION

## Draft Resolution 5(2)/1 (Cg-19)

## WMO technical commissions and additional bodies for the nineteenth financial period

THE WORLD METEOROLOGICAL CONGRESS,

**Having regard to** [Articles 2](https://library.wmo.int/doc_num.php?explnum_id=11187/#page=12), [8(g)](https://library.wmo.int/doc_num.php?explnum_id=11187/#page=17) and [19](https://library.wmo.int/doc_num.php?explnum_id=11187/#page=22) of the WMO Convention (*Basic Documents No. 1* (WMO-No. 15)),

**Recalling:**

1. [Resolution 5 (Cg-18)](https://library.wmo.int/doc_num.php?explnum_id=9827/#page=36) – WMO Executive Council,
2. [Resolution 6 (Cg-18)](https://library.wmo.int/doc_num.php?explnum_id=9827/#page=37) – WMO Regional Associations,
3. [Resolution 7 (Cg-18)](https://library.wmo.int/doc_num.php?explnum_id=9827/#page=41) – Establishment of WMO technical commissions for the eighteenth financial period,
4. [Resolution 8 (Cg-18)](https://library.wmo.int/doc_num.php?explnum_id=9827/#page=53) – Research Board,
5. [Resolution 9 (Cg-18)](https://library.wmo.int/doc_num.php?explnum_id=9827/#page=58) – Joint World Meteorological Organization-Intergovernmental Oceanographic Commission Collaborative Board,
6. [Resolution 10 (Cg-18)](https://library.wmo.int/doc_num.php?explnum_id=9827/#page=61) – Scientific Advisory Panel,

**Recalling further** the report of the external evaluation of WMO governance reform, as provided in document [Cg-19/INF. 5(1a)](https://meetings.wmo.int/Cg-19/InformationDocuments/Cg-19-INF05%281a%29-REPORT-EXTERNAL-EVALUATION-GOVERNANCE-REFORM_en.pdf?Web=1) and [Resolution 5(1)/1 (Cg-19)](https://meetings.wmo.int/Cg-19/_layouts/15/WopiFrame.aspx?sourcedoc=/Cg-19/English/1.%20DRAFTS%20FOR%20DISCUSSION/Cg-19-d05(1)-ACTIONS-EVALUATION-GOVERNANCE-REFORM-draft1_en.docx&action=default) – Actions emanating from the evaluation of the governance reform,

**Considering**:

(1) That the two new WMO technical commissions established at the Eighteenth Congress have been working effectively,

(2) That the technical commissions performed in accordance with their terms of reference,

(3) That the long-term goals and strategic objectives defined in the Strategic Plan 2020–2023 are confirmed in the Strategic Plan 2024–2027,

(4) That, based on experience during the eighteenth financial period, to respond to recent developments and to implement the Strategic Plan 2024–2027 some adjustments to the terms of reference of the Infrastructure Commission and the Services Commission are desirable,

**Further considering**:

(1) That the regional associations aligned their subsidiary bodies with the main areas of the Strategic Plan, value cycle of the long-term goals and specific needs of the regions and play an irreplaceable role in the identification of the requirements and impediments of their respective Members with regard to the programme and the technical and scientific activities of the Organization,

(2) That the additional bodies established at the Eighteenth Congress – Research Board, Scientific Advisory Panel and Joint WMO-IOC Collaborative Board – as well as the Intergovernmental Panel on Climate Change have effectively complemented the work of the technical commissions, including by engaging expert communities and partner organizations beyond the scope of the technical commissions,

(3) That the technical commissions and additional bodies are supplemented by the committees and panels set up by the Executive Council, which once in every financial period, after Congress, renews, amends or terminates mandates of its subsidiary bodies to ensure the most effective and efficient implementation of Congress decisions,

(4) That the Financial Advisory Committee and the Audit and Oversight Committee have also performed their roles effectively and will incorporate additional functions,

(5) That a review would be beneficial about the evolution of the respective authorities of and relations among the constituent bodies, the additional bodies and the subsidiaries bodies of the Executive Council and the regional associations, as well as the Secretariat, with respect to programmatic, technical and scientific matters and related coordination,

**Decides**:

(1) To continue during the nineteenth financial period the technical commissions established by the Eighteenth Congress, with revised terms of reference as given in the annexes to this resolution:

(a) Commission for Observation, Infrastructure and Information Systems (INFCOM);

(b) Commission for Weather, Climate, Hydrological, Marine and Related Environmental Services and Applications (SERCOM);

(2) That the revised terms of reference of INFCOM and SERCOM shall enter into effect immediately;

(3) To continue during the nineteenth financial period the additional bodies established by the Congress:

(a) Research Board, with revised terms of reference as provided in the annex to [Resolution 4.3(3)/1 (Cg-19)](https://meetings.wmo.int/Cg-19/English/Forms/AllItems.aspx?RootFolder=%2FCg%2D19%2FEnglish%2F1%2E%20DRAFTS%20FOR%20DISCUSSION&FolderCTID=0x012000B201DF88DD6A2A41AD96184E1530A358&View=%7BA5F5A1D9%2DCDFC%2D4E69%2DB3FB%2D35146C93ECAB%7D);

(b) Scientific Advisory Panel, with terms of reference as may be revised by the Executive Council as requested in [Resolution 5(1)/1 (Cg-19)](https://meetings.wmo.int/Cg-19/_layouts/15/WopiFrame.aspx?sourcedoc=/Cg-19/English/1.%20DRAFTS%20FOR%20DISCUSSION/Cg-19-d05(1)-ACTIONS-EVALUATION-GOVERNANCE-REFORM-draft1_en.docx&action=default);

(c) Joint WMO-IOC Collaborative Board, with terms of reference as may be revised by the Executive Council in consultation with the Intergovernmental Oceanographic Commission of UNESCO as requested in [Resolution 5(1)/1 (Cg-19)](https://meetings.wmo.int/Cg-19/_layouts/15/WopiFrame.aspx?sourcedoc=/Cg-19/English/1.%20DRAFTS%20FOR%20DISCUSSION/Cg-19-d05(1)-ACTIONS-EVALUATION-GOVERNANCE-REFORM-draft1_en.docx&action=default);

(d) Financial Advisory Committee, as established by [Resolution 29 (Cg-X)](https://library.wmo.int/doc_num.php?explnum_id=6071#page=197), amended by [Resolution 5(3)/1 (Cg-19)](https://meetings.wmo.int/Cg-19/_layouts/15/WopiFrame.aspx?sourcedoc=/Cg-19/English/1.%20DRAFTS%20FOR%20DISCUSSION/Cg-19-d05(3)-AMENDMENTS-TORS-FINAC-draft1_en.docx&action=default);

(e) Intergovernmental Panel on Climate Change, as established by [Resolution 4 (EC‑XL)](https://library.wmo.int/doc_num.php?explnum_id=6063#page=89) and endorsed by [Resolution 11 (Cg-XI)](https://library.wmo.int/doc_num.php?explnum_id=5323#page=86);

**Requests**:

(1) The Executive Council:

(a) To continue reviewing the respective authorities and coordinating the relations among the constituent bodies, the additional bodies and their subsidiaries bodies, as well as the Secretariat, with regard to existing processes and mechanisms related to the technical and scientific activities of the Organization, including the identification and programmatic inclusion of Members’ needs and requirements;

(b) To submit recommendations for the twentieth financial period to Congress based on the next Strategic Plan and an external evaluation of the effectiveness and efficiency of WMO bodies;

(2) The presidents of regional associations, the presidents of technical commissions, the Chair of the Research Board and the chairs of the other relevant bodies established by Congress and the Executive Council to contribute to the above processes and provide recommendations through the appropriate mechanisms of the Executive Council;

(3) The Secretary-General:

(a) To incorporate the revised terms of reference of the technical commissions in the [*Rules of Procedure for Technical Commissions*](https://library.wmo.int/?lvl=notice_display&id=21534#.ZArv6XbMI2w) (WMO-No. 1240) and to inform all concerned; and

(b) To continue providing assistance to the constituent bodies and the additional bodies of the Organization as provided for in the *General Regulations* and the respective rules of procedure.

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[Annexes: 2](#Annex1)

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Note: This resolution replaces [Resolution 7 (Cg-18)](https://library.wmo.int/doc_num.php?explnum_id=9827/#page=41) – Establishment of WMO technical commissions for the eighteenth financial period, which is no longer in force.

## Annex 1 to draft Resolution 5(2)/1 (Cg-19)

## Revised terms of reference of the Commission for Observation, Infrastructure and Information Systems (INFCOM)

### 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.
([*Basic Documents No. 1*](https://library.wmo.int/index.php?lvl=notice_display&id=14206) (WMO-No. 15))

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 the Earth system[[21]](#footnote-22) disciplines/domains specified in the WMO Unified Data Policy (weather, climate, hydrology, atmospheric composition, cryosphere, oceans and space weather) and ~~all approved WMO~~relevant application areas, ~~as listed in the Rolling Review of Requirements,~~ as well as updated and emerging observing, information and infrastructure requirements.

The Commission shall support the implementation of the WMO Strategic Plan through ~~promote~~ the development of integrated systems to cover ~~all~~the Earth system disciplines/domains specified in the WMO Unified Data Policy and relevant 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 and consider innovative solutions and methodologies;

(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 and regional associations;

(h) Are building upon existing partnerships and networks among communities of practice within the service areas, which are beneficial for WMO Members;

(i) Are designed and operated with explicit consideration of the environmental footprint of WMO programmes, demonstrating environmental sustainability as a strategic objective of WMO.

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 integrated data processing and ~~forecast~~ prediction 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~~Ensure the currency of regulatory material ~~up to date~~ through regular amendments, as necessary, to include consideration of relevant developments in science, technology and infrastructure;

(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;~~

(v~~i~~) ~~Together with the Services Commission and the Research Board, coordinate linking science, infrastructure and services interactively~~Work interactively with the Services Commission and the Research Board to further enhance the linkages between science, infrastructure and services, including through the co-development of normative material and co-design of activities;

(vi~~i~~) 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 observation~~al~~s and other data products 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 of and compliance with the WMO Technical Regulations – 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 and arranging for the approval of 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~~ exchange 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~~ Earth system 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;

(v) In accordance with the Agreement between the United Nations and WMO, assist Congress, ~~and~~ the Executive Council and Secretary-General, upon request, in responding to the recommendations of and provide assistance to the United Nations, in the areas covered by these terms of reference, and in cooperating to make coordination of the specialized agencies and the United Nations fully effective~~;~~

###  [Secretariat]Composition

The composition of the Commission shall be in accordance with General Regulation 143. Participation of leading technical experts in the Earth system observations, information management and predictions ~~in the~~ ~~fields of meteorology, hydrology, climatology, oceanography, atmospheric environment and other fields~~ covered by these 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 mechanisms with another technical commission~~s~~, the Research Board, regional associations, 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, balance between developing and developed Members [China] and inclusiveness in all its management, working structures and workplans; [UK]

(i) Ensure adequate representation and consultation with communities of practice among the service and application areas.

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## Annex 2 to draft Resolution 5(2)/1 (Cg-19)

## Revised terms of reference of the Commission for Weather, Climate, ~~Water~~ Hydrological, Marine and Related Environmental Services and Applications (SERCOM)

### General mandate

The overall scope and specific terms of reference of the Commission for Weather, Climate, ~~Water~~ Hydrological, Marine 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 implementation of the WMO Strategic Plan through the development and implementation of globally harmonized services and applications covered by the WMO Service Delivery Strategy (weather~~-~~, climate~~-~~, ~~water~~ hydrological, ~~ocean-~~marine, cryosphere and environment-related services and applications).

In this regard, the Commission shall contribute to enable informed decision-making and the realization of socioeconomic benefits by all user communities and society as a whole~~.~~, including, but not limited to, the following socioeconomic sectors: disaster risk reduction, ~~and~~ public services, agriculture and food security, including fisheries, water supply and water resources management, transport (air, maritime, land), health, energy, urban, environment and natural resources, including forestry ~~and fisheries~~.

~~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 and related applications;

(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, services and related applications.

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

### Specific terms of reference

(a) Development and maintenance of WMO normative material related to the delivery of weather, climate, hydrological, marine and related environmental services ~~delivery~~, as specified in WMO Technical Regulations~~,~~ – the Commission shall for all service and application areas:

(i) Coordinate the development of new service-oriented regulatory material ~~in all application areas of its scope~~ based on the identified needs of Members;

(ii) ~~Keep the~~Ensure the currency of regulatory material ~~up to date~~ through regular amendments, as necessary, to include consideration of relevant developments in science, technology and infrastructure;

(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;~~

(v~~i~~) ~~Together with the Infrastructure Commission and the Research Board, coordinate linking science, infrastructure and services interactively~~Work interactively with the Infrastructure Commission and the Research Board to further enhance the linkages between science, infrastructure and services, including through the co-development of normative material and co-design of activities;

(vi~~i~~) 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~~ in line with quality management principles;

(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 and seek global and regional partnerships of benefit to WMO Members, including building upon existing partnerships and networks among communities of practice ~~among~~ in the service areas~~, which are beneficial for WMO Members~~.

(c) Assistance to Members to enhance service delivery capabilities and enable effective implementation of and compliance with the WMO Technical Regulations – 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 and arranging for the approval of 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~~ exchange 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~~ in each service and application area;

(ii) Establish consultative mechanisms with user organizations to receive feedback and advice on services and related applications;

(iii) Consider opportunities for leveraging resources through the establishment of joint, including inter-agency, bodies and/or projects addressing common areas of service delivery;

(iv) In accordance with the Agreement between the United Nations and WMO, assist Congress, ~~and~~ the Executive Council and Secretary-General, upon request, in responding to the recommendations of and provide assistance to the United Nations, in the areas covered by these terms of reference, and in cooperating to make coordination of the specialized agencies and the United Nations fully effective~~;~~

~~(v) Assist with the nomination of representatives of the Organization to serve on relevant bodies of other international organizations~~. [Secretariat]

### 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~~ the Earth system[[22]](#footnote-23) services and related application areas 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 mechanisms with another technical commission~~s~~, the Research Board, regional associations, 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, balance between developing and developed Members [China] and inclusiveness in all its management, working structures and work plans; [UK]

(i) Ensure adequate representation and consultation with communities of practice among the service and application areas.

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1. [WMO Convention, Arts. 1, 8(g)](https://library.wmo.int/doc_num.php?explnum_id=11187/#page=17) and [19](https://library.wmo.int/doc_num.php?explnum_id=11187/#page=22) (*Basic Documents No. 1* (WMO-No. 15)). [↑](#footnote-ref-2)
2. In addition, a Commission for Bibliography and Publications has been in existence only from 1951 to 1963, when a Commission for Hydrometeorology was established (renamed Commission for Hydrology in 1971). A Commission for Maritime Meteorology (renamed Commission for Marine Meteorology in 1971) was terminated in 1999 to give birth to the Joint WMO-IOC Technical Commission for Oceanography and Marine Meteorology (JCOMM), jointly with the Intergovernmental Oceanographic Commission of UNESCO. [↑](#footnote-ref-3)
3. Joint WMO-IOC Collaborative Board ([Resolution 9 (Cg-19)](https://library.wmo.int/doc_num.php?explnum_id=9827/#page=58)) and Scientific Advisory Panel
([Resolution 10 (Cg-19)](https://library.wmo.int/doc_num.php?explnum_id=9827/#page=61)). [↑](#footnote-ref-4)
4. Climate Coordination Panel ([Resolution 4 (EC-71)](https://library.wmo.int/doc_num.php?explnum_id=10248#page=12)), Hydrological Coordination Panel ([Resolution 5 (EC-71)](https://library.wmo.int/doc_num.php?explnum_id=10248#page=16)), Panel on Polar and High Mountain Observations, Research and Services ([Resolution 6 (EC-71)](https://library.wmo.int/doc_num.php?explnum_id=10248/#page=21), superseded by [Resolution 30 (EC-73)](https://library.wmo.int/doc_num.php?explnum_id=11008#page=495)), Capacity Development Panel ([Resolution 7 (EC-71)](https://library.wmo.int/doc_num.php?explnum_id=10248#page=28)). [↑](#footnote-ref-5)
5. [WMO Convention, Art. 8(h)](https://library.wmo.int/doc_num.php?explnum_id=11187/#page=17) (WMO-No. 15). [↑](#footnote-ref-6)
6. [Resolution 29 (Cg-X)](https://library.wmo.int/doc_num.php?explnum_id=6071#page=197) – Financial Advisory Committee. [↑](#footnote-ref-7)
7. [Resolution 11 (Cg-XI)](https://library.wmo.int/doc_num.php?explnum_id=5323#page=86) – Intergovernmental Panel on Climate Change. [↑](#footnote-ref-8)
8. [Resolution 4 (EC-XL)](https://library.wmo.int/doc_num.php?explnum_id=6063#page=89) – Intergovernmental Panel on Climate Change. [↑](#footnote-ref-9)
9. [Resolution 2 (Cg-Ext.(2012))](https://library.wmo.int/doc_num.php?explnum_id=5204#page=86) – Establishment of the Intergovernmental Board on Climate Services. [↑](#footnote-ref-10)
10. [Resolution 8 (Cg-19)](https://library.wmo.int/doc_num.php?explnum_id=9827/#page=53) – Research Board. [↑](#footnote-ref-11)
11. [Resolution 9 (Cg-18)](https://library.wmo.int/doc_num.php?explnum_id=9827/#page=58) – Joint World Meteorological Organization-Intergovernmental Oceanographic Commission Collaborative Board. [↑](#footnote-ref-12)
12. [Resolution 10 (Cg-18)](https://library.wmo.int/doc_num.php?explnum_id=9827/#page=61) – Scientific Advisory Panel. [↑](#footnote-ref-13)
13. Additionally, in light of the governance reform, Congress has reinterpreted the role of the in-session committee on hydrology, which became the WMO Hydrological Assembly ([Regulation 26](https://library.wmo.int/doc_num.php?explnum_id=11187/#page=50) of the General Regulations (*Basic Documents No. 1* ((WMO-No. 15)). [↑](#footnote-ref-14)
14. The Climate Coordination Panel has fulfilled its role and will retire as reflected in [Decision 6(1)/1 (EC-76)](https://meetings.wmo.int/EC-76/_layouts/15/WopiFrame.aspx?sourcedoc=/EC-76/English/2.%20PROVISIONAL%20REPORT%20(Approved%20documents)/EC-76-d06(1)-ACTIONS-EVALUATION-WMO-GOVERNANCE-REFORM-approved_en.docx&action=default) – Actions emanating from the External Evaluation of the WMO Governance Reform for termination by the seventy-seventh session of the Executive Council. [↑](#footnote-ref-15)
15. Covering polar (Arctic and Antarctica) and high-mountain regions. [↑](#footnote-ref-16)
16. Including education and training. [↑](#footnote-ref-17)
17. To deal with matters of limited scope the Executive Council also establishes temporary task forces, which are normally terminated once the tasks assigned to them are completed; see, for example, the recent Task Force on the Evaluation of the Reform and Task Force on JIU/REP/2020/1 Recommendation 7. [↑](#footnote-ref-18)
18. [Resolution 6 (Cg-18)](https://library.wmo.int/doc_num.php?explnum_id=9827/#page=37) – WMO regional associations. [↑](#footnote-ref-19)
19. [Resolution 8 (Cg-Ext(2021))](https://library.wmo.int/doc_num.php?explnum_id=11113#page=201) – Comprehensive review of the WMO regional concept and approaches. [↑](#footnote-ref-20)
20. The Policy Advisory Committee is not included in this list. [↑](#footnote-ref-21)
21. [Resolution 1 (Cg-Ext(2021))](https://library.wmo.int/doc_num.php?explnum_id=11113#page=9) - WMO Unified Policy for the International Exchange of Earth System Data, Annex 4: Earth system refers to the various interacting components, or “spheres”, of the overall geosphere and (often also to) the physical, chemical, biological and human-related processes through which these spheres interact. In the context of this resolution, the primary emphasis is on the Earth’s land surface, cryosphere, hydrosphere, atmosphere and exosphere and the physical and chemical processes taking place within these spheres and those through which they interact. [↑](#footnote-ref-22)
22. [Resolution 1 (Cg-Ext(2021))](https://library.wmo.int/doc_num.php?explnum_id=11113#page=9) - WMO Unified Policy for the International Exchange of Earth System Data, Annex 4: Earth system refers to the various interacting components, or “spheres”, of the overall geosphere and (often also to) the physical, chemical, biological and human-related processes through which these spheres interact. In the context of this resolution, the primary emphasis is on the Earth’s land surface, cryosphere, hydrosphere, atmosphere and exosphere and the physical and chemical processes taking place within these spheres and those through which they interact. [↑](#footnote-ref-23)