

Regional Association IV

Abridged Final Report of the Eighteenth Session

Virtual Session

8-11 February 2021



WORLD
METEOROLOGICAL
ORGANIZATION

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WMO-No. 1265

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ISBN 978-92-63-11265-1

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This report contains the text as adopted by Plenary and has been issued without formal editing. Acronyms used in this report may be found in METEOTERM, the WMO terminology database, at <https://public.wmo.int/en/meteoterm>.

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BACKGROUND INFORMATION SUPPORTING THE WORK OF THE SESSION

GENERAL SUMMARY OF THE WORK OF THE SESSION

1. The acting president of Regional Association IV (North America, Central America and the Caribbean), Mr Evan Thompson, opened the eighteenth session of RA IV on Monday, 8 February 2021 at 1400 UTC by videoconference. The acting president welcomed the Members of the Association and other participants, noting that this was the first time that the session was held virtually due to the COVID-19 pandemic. Mr Thompson expressed his expectation that the meeting would be fruitful, noting that it would focus on implementing the WMO reform and discussing new ways to working towards greater efficiency and more effective connection with the global activities of WMO and its technical commissions and Research Board.

The acting president mentioned the need to achieve increased cooperation and funding opportunities as well as partnerships, to better respond from the region to the global agendas on climate, water, disaster risk reduction, environment and development for the benefit of the National Meteorological and Hydrological Services. Proposals for a new working structure, regional priorities and an operation plan for the upcoming years were mentioned as some of the main decisions to be taken for the benefit of all the Members.

WMO Secretary-General, Professor Petteri Taalas, also welcomed the Members of the Association and other participants and highlighted how the effects of climate change are already visible in the region, causing a record number of hurricanes last year and evidencing the need for countries to commit to carbon neutrality and invest in Multi-hazard Early Warning Systems as a powerful way to adapt to climate change.

The Secretary-General mentioned the reform process that led to the establishment of two new technical commissions, stressing the importance of having more effective and decision-oriented meetings, and taking advantage of platforms such as the Hurricane Committee and the Ibero-American Conference of Directors of Meteorological and Hydrological Services to ensure Members continue to collaborate with each other.

Professor Taalas also mentioned public-private engagement, hydrology, research, capacity development, impact-based forecasting, the Global Basic Observing Network, WMO Global Multi-hazard Alert System, Systematic Observations Financing Facility, Global Framework for Climate Services, Climate Risk and Early Warning System Initiative, and ocean matters as other important issues for the region to address.

2. The agenda adopted by the RA IV is provided in [Appendix 1](#).

3. The session adopted 11 resolutions given in [Appendix 2](#) and 15 decisions given in [Appendix 3](#).

4. The list of participants is given in [Appendix 4](#). Out of a total of 148 participants, the ratio of female to male participants was 1:2.5 (42 women and 106 men).

5. The Association elected Mr Evan Thompson (Jamaica) as president and Ms Luz Graciela Morales de Calzadilla (Panama) as vice-president of RA IV.

6. The Association decided that its nineteenth session would be held in 2024.

7. The eighteenth session of Regional Association IV closed at 1534 UTC on Thursday, 11 February 2021.

APPENDIX 1

AGENDA

1. Organization of the session

- 1.1 Opening of the session
- 1.2 Adoption of the agenda
- 1.3 Methods of work for the online session
- 1.4 Information on the use of the videoconference platform
- 1.5 Consideration of the report on credentials
- 1.6 Establishment of committees

2. Reports

- 2.1 Report by the Acting President of the Association (including the work of the working groups, the hydrological adviser and the Regional Office for the Americas)

3. Strategic Priorities: Regional Aspects

- 3.1 Enhanced Services: GMAS implementation in the region (including MHEWS, etc.), Marine and Aeronautical Services
- 3.2 Annual Report on the State of Climate in LAC and RCC, RCOF and RHOF activities
- 3.3 Observations and data exchange
- 3.4 Hydrology and water resources
- 3.5 Research
- 3.6 Capacity development

4. Regional Association working structure in response to WMO Governance Reform

- 4.1 WMO Regional Concept
- 4.2 Working structure of Regional Association IV
- 4.3 WMO Strategic and Operating Plan: Regional Priorities

5. Regional and inter-regional cooperation – key initiatives

- 5.1 WMO engagement under the regional UN system, regional inter-governmental agencies and development partners, and JCB WMO-IOC activities
- 5.2 Development Partnership Flagship Initiatives: the Alliance for Hydromet Development, the Systematic Observations Financing Facility (SOFF) and the WMO Country Support Initiative
- 5.3 Public-Private Engagement: Action by the regional association

6. **Election of officers**
 7. **Review of previous resolutions and recommendations of the association**
 8. **Any other business**
 9. **Date and place of the nineteenth session**
 10. **Closure of the session**
-

APPENDIX 2. RESOLUTIONS ADOPTED BY THE SESSION

Resolution 1 (RA IV-18)

Regional activities in aeronautical meteorology

REGIONAL ASSOCIATION IV (NORTH AMERICA, CENTRAL AMERICA AND THE CARIBBEAN),

Recalling [Decision 16 \(RA IV-17\)](#) – Regional activities in aeronautical meteorology,

Convinced that the needs mentioned therein remain valid and that their importance has been elevated in view of the impacts of the coronavirus (COVID-19) pandemic on the international civil aviation and aeronautical meteorology sectors in particular,

Noting the continuing importance of components integral to aeronautical meteorological service provision, such as the qualification and competency of aeronautical meteorological personnel, the implementation of a properly organized quality management system and, where applicable, cost recovery mechanisms based on the International Civil Aviation Organization's (ICAO) four key charging principles of non-discrimination, cost-relatedness, transparency and consultation with users (ICAO Doc 9082),

Noting further, through a 2020 update to the WMO *Technical Regulations, Volume II – Meteorological Service for International Air Navigation (WMO-No. 49)* corresponding with Amendment 79 to ICAO Annex 3, Meteorological Service for International Air Navigation, that international standards and recommended practices applying to Members have been improved in respect of the implementation of the ICAO meteorological information exchange model (IWXXM), the upper-air forecasts supplied by the world area forecast centres and the bilateral and/or multilateral coordination of significant meteorological information (SIGMET) between meteorological watch offices,

Mindful that an aviation system block upgrades methodology within the ICAO Global Air Navigation Plan ([ICAO Doc 9750](#)) will contribute to a revolution in the air transport sector over the next decade and that service sectors that enable safe, efficient, economic, secure and environmentally responsible international civil aviation, including aeronautical meteorological services, are integral to these developments,

Appreciating the development, by the Commission for Aeronautical Meteorology, of a long-term plan for aeronautical meteorology, endorsed through [Resolution 28 \(Cg-18\)](#) and published by WMO as *Long-term Plan for Aeronautical Meteorology (AeM SERIES No. 5)*, which provides a framework upon which aeronautical meteorological service providers of Members and the broader meteorology and aviation communities can plan a progressive transformation from a conventional "product-centric" approach to a modern "information-centric" approach to service provision,

Encourages Members:

- (1) To continue their efforts to comply with WMO and ICAO requirements pertaining to the qualification and competency of aeronautical meteorological personnel and the implementation of a properly organized quality management system for aeronautical meteorological service provision, making effective use of cooperative mechanisms such as twinning, mentoring and sharing of expertise across Members wherever necessary;
- (2) To ensure the efficient and effective implementation of the international standards and recommended practices contained in the 2020 update to *Technical Regulations, Volume II – Meteorological Service for International Air Navigation* and Amendment 79

to ICAO Annex 3, Meteorological Service for International Air Navigation, wherever they apply to the responsibilities of the Member;

- (3) To review the Long-term Plan For Aeronautical Meteorology and the ICAO Global Air Navigation Plan with a view to proactively informing national plans for aeronautical meteorology service delivery;
- (4) To proactively respond to, and mitigate to the extent practicable, the impacts of the COVID-19 pandemic on aeronautical meteorological service delivery, taking note of preliminary guidelines available on the [WMO Services for Aviation website](#);

Requests the president of the Association to forward to the president of the Services Commission any feedback received from Members in respect of the foregoing, so that timely support can be provided to the Member(s) concerned.

Resolution 2 (RA IV-18)

Development of the Region IV AMDAR Programme under the WMO–International Air Transport Association Collaborative AMDAR Programme

REGIONAL ASSOCIATION IV (NORTH AMERICA, CENTRAL AMERICA AND THE CARIBBEAN),

Recalling [Resolution 39 \(Cg-18\)](#) – Establishment of collaboration between the International Air Transport Association and WMO on the development and operation of the Aircraft Meteorological Data Relay Programme, to enter into an updated working arrangement with the International Air Transport Association (IATA) encompassing the development and operation of the WMO–IATA Collaborative Aircraft Meteorological Data Relay (AMDAR) Programme (WICAP), based on the purpose and principles in Annex 1 to [Resolution 39 \(Cg-18\)](#), and also based on existing arrangements within the AMDAR Programme,

Noting that [Resolution 39 \(Cg-18\)](#) recommends that regional associations:

- (1) Develop regional AMDAR programmes under WICAP as proposed in the concept of operations in part I of Annex 1 to [Resolution 39 \(Cg-18\)](#) – WMO-IATA Collaborative AMDAR Programme purpose and principles; and according to the WICAP Implementation Plan as detailed in [INFCOM-1/INF. 4.1.1\(5\)](#),
- (2) Carry out further consultations of their Members on the financing mechanisms to enable the elaboration of cost-sharing schemes to ensure that financing options at global and regional levels are appropriate to support participation of all Members, in particular least developed and developing countries,

Noting further that:

- (1) A working arrangement on the establishment and operation of the AMDAR Programme was established between IATA and WMO in October 2020, which formalizes the agreement to develop WICAP, an extension of the AMDAR Programme and recognized as a key component of the WMO Integrated Global Observing System,
- (2) Regional Associations I, III, V and VI have already committed to developing regional AMDAR programmes under WICAP,

Having examined the purpose and principles for WICAP, which ensure that a data policy will be established under which data will continue to be available in line with [Resolution 40 \(Cg-XII\)](#) – WMO policy and practice for the exchange of meteorological and related data and products including guidelines on relationships in commercial meteorological activities, while respecting the ownership of the original data by participating airlines,

Having considered the implications of the concept of operations and the WICAP Implementation Plan as in [INFCOM-1/INF. 4.1.1\(5\)](#) in committing RA IV to coordinating the establishment and maintenance of national and regional requirements for AMDAR observations and the resources for their provision and management,

Having been informed that [Resolution 8 \(EC-72\)](#) – Collaboration with IATA on the development of the AMDAR Programme (WICAP), requested the Commission for Observation, Infrastructure and Information Systems, in relation to the establishment of WICAP:

- (1) To review and finalize the WICAP data policy and have it submitted to the Executive Council at its seventy-third session,
- (2) To take over the role and responsibility of coordinating the ongoing establishment of WICAP in accordance with the WICAP Implementation Plan and in collaboration with IATA and WMO regional associations, and to regularly report to the Executive Council on progress made on the implementation of WICAP,

Being convinced that the collaboration will lead to the expansion and enhancement of the WMO AMDAR observing system globally and, as a result, will bring increased and further benefits to meteorological applications and improvement to forecasting skills and services to aviation,

Decides that the Association will undertake the implementation of the RA IV AMDAR Programme under WICAP with a view to beginning development of the said Programme in January 2022, and with an aim to compile its requirements for AMDAR observations by March 2022, potentially beginning its operation of the Programme in April 2023.

Resolution 3 (RA IV-18)

Hydrology and water resources

REGIONAL ASSOCIATION IV (NORTH AMERICA, CENTRAL AMERICA AND THE CARIBBEAN),

Recalling [Resolution 24 \(Cg-18\)](#) – Vision, strategy and organizational arrangements for hydrology and water resources in WMO, and [Resolution 25 \(Cg-18\)](#) – Major hydrological initiatives,

Noting that the Eighteenth World Meteorological Congress defined, under Resolution 24 (Cg-18), the following eight long-term ambitions to address the global water challenge:

- (1) No one is surprised by a flood,
- (2) Everyone is prepared for drought,
- (3) Hydro-climate and meteorological data support the food security agenda,
- (4) High-quality data supports science,
- (5) Science provides a sound basis for operational hydrology,

- (6) We have a thorough knowledge of the water resources of our world,
- (7) Sustainable development is supported by information covering the full hydrological cycle,
- (8) Water quality is known,

Noting also that the Eighteenth World Meteorological Congress decided, under Resolution 25 (Cg-18), that the following ongoing hydrological activities and systems, in view of their relevance to the fulfilment of the long-term ambitions for the operational hydrological community, are fundamental pillars that support the WMO Strategic Plan and its further development:

- (1) Quality Management Framework – Hydrology,
- (2) Assessment of the performance of flow measurement instruments and techniques,
- (3) The Global Hydrometry Support Facility (HydroHub),
- (4) Hydrological data operations and management,
- (5) The WMO Flood Forecasting Initiative including development of the Sustainability Strategy for the Flash Flood Guidance System with Global Coverage, the strategic priority to develop a multi-hazard early warning system, and hydrological contributions to disaster risk management, including flooding (Associated Programme on Flood Management) and drought (Integrated Drought Management Programme),
- (6) The WMO Global Hydrological Status and Outlook System (HydroSOS),
- (7) Capacity building in hydrology and water resources management,
- (8) The World Water Data Initiative,

Noting further that the Executive Council at its seventy-first session asked the WMO Hydrological Coordination Panel to work “with regional associations to aid the preparation and implementation of the regional hydrological plans of action and ensure WMO support to Members in their development of new and enhanced capabilities in hydrology and water resources ...”,

Noting with satisfaction the recent initiative of the Secretariat to organize quarterly regional online forums between the Regional Hydrological Adviser and the National Hydrological Advisers, directors of National Hydrological Services and Permanent Representatives of RA IV, aimed at providing consistent hydrological regional input and requirements to the technical commissions, the Research Board, the WMO Hydrological Coordination Panel and the Hydrological Assembly,

Taking note that several hydrological experts from the region have been selected to become members of the different subsidiary bodies of the technical commissions and the Research Board, although from a limited number of Members,

Decides to entrust the Regional Hydrological Adviser, with the assistance of the RA IV Hydrological and Water Coordination Panel and support from the WMO Hydrological Coordination Panel, with the development of a road map for hydrology in RA IV (including the corresponding plan of action, as per the request of the Executive Council at its seventy-first session) as a contribution to the Operating Plan 2020–2023 for the Enhancement of National Meteorological and Hydrological Services in Regional Association IV (see Resolution 9 (RA IV-18)). In preparing the road map, due consideration should be given to regional priorities, [Resolution 24 \(Cg-18\)](#) and [Resolution 25 \(Cg-18\)](#);

Requests the Regional Hydrological Adviser and the president of RA IV to hold an information session with respect to the Water and Climate Coalition ([Decision 3 \(EC-72\)](#)) and to prepare regional input to Cg-Ext. (2021);

Requests the RA IV Hydrological and Water Coordination Panel:

- (1) To develop a regional implementation plan for HydroSOS and to present this plan to Congress at its extraordinary session in 2021, conditioned to the availability of the documents on results of the pilot phase of HydroSOS three months in advance of this extraordinary session;
- (2) To design, with the assistance of the Secretariat, capacity-building activities in hydrology and water resources of relevance to the less advanced National Meteorological and Hydrological Services of the region;
- (3) To coordinate within the RA IV management structure the integrated inclusion of hydrology to support the implementation of the WMO Strategic Plan for an Earth-system approach to weather, water and climate;

Requests the WMO Hydrological Coordination Panel to share its experience in developing the WMO Plan of Action for Hydrology, in particular the methodology, methods of consultation and planning approach used, and assist in their adaptation to the requirements of RA IV;

Requests the Secretary-General to continue facilitating the online Regional Hydrological Forums on a regular basis and support the regional and subregional hydrological outlook forums;

Invites Members that have not already done so to designate their National Hydrological Adviser in accordance with Regulation 5(b) of the General Regulations or request the assistance of the Secretariat should the procedure be unclear.

Resolution 4 (RA IV-18)

Regional Association IV Management Group

REGIONAL ASSOCIATION IV (NORTH AMERICA, CENTRAL AMERICA AND THE CARIBBEAN),

Recognizing the increased importance of effective management and oversight of the activities of the Association and the need for a mechanism to address cross-cutting issues and issues not managed by other subsidiary bodies, in particular activities related to WMO long-term goals (LTGs): LTG 4 – Close the capacity gap on weather, climate, hydrological and related environmental services: Enhancing service delivery capacity of developing countries to ensure availability of essential information and services needed by governments, economic sectors and citizens; and LTG 5 – Strategic realignment of WMO structure and programmes for effective policy- and decision-making and implementation,

Decides:

- (1) To re-establish an RA IV Management Group to advise the president and make recommendations on relevant matters with the following terms of reference:
 - (a) Act as the High-level Task Team on the Regional Concept;
 - (b) Establish and monitor the implementation of the Operating Plan 2020–2023 for the Enhancement of National Meteorological and Hydrological Services in Regional Association IV, and provide the Association’s input to the WMO Strategic and Operating Plans 2024–2027;
 - (c) Establish and guide the structure, work and recommendations of the subsidiary bodies of the Association and to disband or reorganize these bodies as needed;

- (e) Collaborate with the Secretariat on resource mobilization, advise on alignment of resources with regional priorities and implementation of the Operating Plan;
 - (f) Identify RA IV focal points for the following areas: disaster risk reduction, capacity development, education and training, and satellite data requirements; in order to ensure coordination with WMO programmes, regional associations and other organizations as appropriate, including strengthening of strategic partnerships with regional organizations, development agencies and other partners;
 - (g) Appoint an RA IV focal point on research and modelling to represent RA IV on the Research Board to ensure coordination between the research priorities in RA IV with the Research Board, and the WMO sponsored and co-sponsored research programmes, and liaise with the Standing Committee on Data Processing for Applied Earth System Modelling and Prediction;
- (2) To appoint a Regional Hydrological Adviser to serve as focal point on hydrological matters;
- (3) To designate the RA IV president as chair of the Management Group, which is composed of the president, vice-president, three permanent representatives (or their designated alternates) invited by the president, and RA IV Executive Council members. The Regional Hydrological Adviser and the chair of the RA IV Hurricane Committee will serve as ex officio members. The president may invite other permanent representatives and chairs of RA IV subsidiary bodies to participate in Management Group meetings, as needed;

Requests the president to ensure that the Management Group meets at least annually, or as needed, preferably in conjunction with other meetings or events;

Requests the Management Group, with input from RA IV permanent representatives, to set up and find members for the initial RA IV subsidiary bodies by no later than May 2021;

Authorizes the president to take the necessary decisions on behalf of the Association on important matters, after consultation with the Management Group, and to report to the Association during the intersessional period and at its next regular session on the activities of the Management Group and relevant decisions taken on behalf of the Association;

Requests the Secretary-General to support the work of the Management Group.

Note: This resolution replaces [Resolution 3 \(RA IV-17\)](#), which is no longer in force.

Resolution 5 (RA IV-18)**Regional Association IV Hydrological and Water Coordination Panel**

REGIONAL ASSOCIATION IV (NORTH AMERICA, CENTRAL AMERICA AND THE CARIBBEAN),

Decides:

- (1) To establish the RA IV Hydrological and Water Coordination Panel with the following terms of reference:
 - (a) Assist the president of RA IV in ensuring that the hydrological contributions to the Region's priority needs and activities are coordinated with weather and climate within the RA IV management structure;
 - (b) Track best practices in the operational activities of the National Hydrological Services in the Region, acting as a mechanism for the exchange of scientific and technical expertise;
 - (c) Develop a road map for the Region, implement the corresponding plan of action and contribute to its implementation at national level, based on Articles 9 and 18 of the WMO Convention;
 - (d) Undertake, under the guidance of the RA IV Management Group, activities that strengthen hydrological monitoring, service delivery and capacity-building; hydrological inputs on the priority issues of the Association; and ensure linkage with the relevant meteorological and climatological activities within the Region;
 - (e) Liaise with the WMO Hydrological Coordination Panel and establish coordination with other regional associations and committees and expert teams of RA IV;
 - (f) Promote regional projects and contribute to WMO initiatives and report on their progress to the RA IV Management Group;
 - (g) Promote the commitment of the public and private sectors in matters related to operational hydrology;
 - (h) Define the agenda of the online RA IV Hydrological Advisers forums, held every three months, to share experiences, maintain the engagement of the hydrological community and promote its linkage with other WMO communities;
 - (i) Identify education, training and research needs and inform the corresponding RA IV focal points in order to assure proper interactions with the Capacity Development Panel and the Research Board;
 - (j) Liaise and seek cooperation with appropriate scientific, technical and development organizations such as the International Hydrological Programme of the United Nations Educational, Scientific and Cultural Organization; the United Nations Environment Programme Latin America and the Caribbean Office; the Regional Committee for Water Resources; the Caribbean Institute for Meteorology and Hydrology; the Global Water Partnership – Central America and Caribbean regions; and the Water Resources Centre for Central America and the Caribbean;

- (k) Submit to the Management Group, no later than May 2021, a road map (and corresponding work plan) for 2021–2023, including proposals for the establishment of special teams and their mandate taking due account of the activities described in the RA IV Operating Plan, as well as an annual progress report;
- (2) That the Hydrological and Water Coordination Panel shall be composed of seven members: The Regional Hydrological Adviser (RHA), who will also serve as the chair, and six members appointed by the president of the Association in consultation with the RHA and the Association's Management Group. Of the six members, two should be from North America, two from Central America and two from the Caribbean, to ensure appropriate regional representation. The RHA may invite chairs (or their representatives) of other RA IV subsidiary bodies to participate in the Panel meetings as needed, subject to the availability of financial resources.

Note: This resolution replaces [Resolution 4 \(RA IV-17\)](#), which is no longer in force.

Resolution 6 (RA IV-18)

Regional Association IV Hurricane Committee

REGIONAL ASSOCIATION IV (NORTH AMERICA, CENTRAL AMERICA AND THE CARIBBEAN),

Noting:

- (1) [Resolution 23 \(Cg-XVI\)](#) – Tropical Cyclone Programme, and the reports of the sessions of the RA IV Hurricane Committee (hereafter the Committee),
- (2) United Nations General Assembly resolutions 68/211 – International Strategy for Disaster Reduction, and 69/15 – SIDS [small island developing States] Accelerated Modalities of Action (SAMOA) Pathway,

Considering:

- (1) The need for the countries affected by tropical cyclones to continue to work together and increase action to reduce the loss of human life and damage caused by tropical cyclones and associated storm surge and coastal inundation, floods and landslides,
- (2) The need for coordination in the implementation of the regional cooperation programme elaborated by the Committee,

Decides:

- (1) To re-establish the RA IV Hurricane Committee with the following terms of reference:
- (a) Coordinate tropical cyclone forecast and warning operational procedures;
- (b) Review annually the Hurricane Operational Plan and the Technical Plan and Implementation Programme for North America, Central America and the Caribbean and recommend any amendments to the president of the Association for approval;
- (c) Make recommendations on improvements in facilities and procedures to ensure efficient and effective early warning systems, including fit-for-purpose impact-based forecast and warning services;

- (d) Advise the Association on the possible sources of technical and financial support;
 - (e) Engage the appropriate experts in areas such as integrated observing systems, the WMO Information System, hydrology, disaster risk reduction and service delivery;
 - (f) Serve as a forum for exchange of information on new developments in the science and technology of tropical cyclone observation, tracking and forecasting and disaster prevention and preparedness activities appropriate to meteorological and hydrological services in close coordination with the Commission for Observation, Infrastructure and Information Systems, the Commission for Weather, Climate, Water and related Environmental Services and Applications, the Research Board and other relevant WMO bodies;
 - (g) Encourage Members to adopt measures to mitigate the potential harmful impacts of tropical cyclones;
 - (h) Foster cooperative efforts of WMO and other international bodies in those aspects of tropical cyclone disaster preparedness and prevention that can benefit from meteorological and hydrological assistance;
 - (i) Promote greater emphasis on training activities through the provision of appropriate facilities and financial support as necessary;
- (2) That the Committee will be composed of the following members:
- (a) Directors of meteorological, hydrological and hydrometeorological services, or those individuals responsible for tropical cyclone forecasting, from all Members of RA IV and Cabo Verde affected by the tropical cyclone systems and their associated hazards. The Regional Hydrological Adviser and chairs (or their representatives) of RA IV subsidiary bodies are ex officio members;
 - (b) In accordance with Regulation 3 of the General Regulations, the Director of the National Hurricane Center (United States of America) as chair;
 - (c) Two vice-chairs, one English-speaking and one Spanish-speaking;

Requests the Secretary-General:

- (1) To accord very high priority to the convening of an annual session of the Committee prior to the hurricane season;
- (2) To take the necessary steps to assist the Committee and ensure the provision of appropriate Secretariat support to its activities;
- (3) To ensure the necessary cooperation with the United Nations Office for Disaster Risk Reduction, the International Federation of Red Cross and Red Crescent Societies, the Caribbean Disaster Emergency Management Agency, the Coordination Centre for the Prevention of Natural Disasters in Central America, the Office of the United States Foreign Disaster Assistance, and other such organizations;
- (4) To promote strong links with the other regional tropical cyclone bodies under the Tropical Cyclone Programme and relevant scientific institutions.

Note: This resolution replaces [Resolution 5 \(RA IV-17\)](#), which is no longer in force.

Resolution 7 (RA IV-18)**Regional Association IV Infrastructure Committee**

REGIONAL ASSOCIATION IV (NORTH AMERICA, CENTRAL AMERICA AND THE CARIBBEAN),

Decides:

- (1) To establish the RA IV Infrastructure Committee with the following terms of reference:
 - (a) Coordinate and support the development and implementation of the operational implementation plans of integrated observing and information systems of RA IV members (including the Regional Basic Observing Network (RBON) and the hydrological observing and information systems, in accordance with the WMO Integrated Global Observing System (WIGOS) and the WMO Information System (WIS)), supporting and facilitating the effective application of the Earth system approach and exchange of data, products and information in a timely manner among the Members of RA IV and globally, including good practices of interoperability, quality, opportunity and security;
 - (b) Coordinate and oversee the integrated design of observation and information systems of members in terms of standardization, interoperability, technology, data management practices, to access and provide high-quality meteorological, climate, hydrological and environmental services that are cost-effective and adequate for identified users following regional and global guidelines;
 - (c) Oversee the promotion and implementation of strategies to strengthen the operational, technical, and infrastructure capacity of integrated observing and information systems and data management practices in areas with least coverage and for the under-represented domains;
 - (d) Liaise with the Commission for Observation, Infrastructure and Information Systems (INFCOM), establish effective coordination with other WMO and RA IV subsidiary bodies, and oversee the activities of the Regional WIGOS Centres (RWCs);
 - (e) Encourage the application and compliance with WMO guidelines on calibration and traceability of instruments, data processing, and observation methods, to improve the certification of the products and services of Members, in coordination with RA IV Regional Instrument Centres;
 - (f) Oversee the promotion, development and sustainable implementation of the regional plan of WIGOS and WIS;
 - (g) Coordinate and oversee establishment of RBON, promoting its contribution to the Global Basic Observing Network;
 - (h) Promote the implementation of the regional Aircraft Meteorological Data Relay based on the agreement between the International Air Transport Association and WMO, and other systems for acquiring meteorological data via aircraft;
 - (j) Coordinate regional activities in the field of radio frequencies, acting as liaison with the Steering Group for Radio Frequency Coordination of INFCOM and monitoring the related activities of the Inter-American Telecommunication Commission of the Organization of American States;

- (k) Identify the advanced education, research and professional training needs in the field of information and communication technologies, observation systems in conjunction with the RA IV Regional Training Centres (RTCs);
 - (l) Promote technical solutions to support the engagement of the private sector in the elements of the value chain connected to integrated information systems and observation of the Earth system;
 - (m) Prepare and submit to the RA IV Management Group, no later than May 2021, a work plan for 2021–2023 that advances regional implementation of WIGOS, WIS and the effective use of geostationary satellites, including proposals for the establishment of special teams and their mandates;
 - (n) Coordinate regional activities to enable Members to improve their own predictive capabilities benefiting from the Global Data-processing and Forecasting System;
- (2) That the Committee shall be comprised of a chair, a vice-chair, the chairs of other pertinent RA IV subsidiary bodies, a representative of the RWC, a representative of the RTCs, RA IV invited experts participating at relevant working bodies of INFCOM, the Commission for Weather, Climate, Water and related Environmental Services and Applications, and the Research Board, and three experts from other organizations in RA IV, including those in the academic and research institutions and the private sector. The experts should be registered in the WMO expert database and the selection process must ensure appropriate regional representation and gender balance;
- (3) To designate Mr Kerry Powery (British Caribbean Territories) as chair of the Committee, and Mr Avalon Porter (British Caribbean Territories) as vice-chair.

Resolution 8 (RA IV-18)

Regional Association IV Services Committee

REGIONAL ASSOCIATION IV (NORTH AMERICA, CENTRAL AMERICA AND THE CARIBBEAN),

Decides:

- (1) To establish the RA IV Services Committee with the following terms of reference:
- (a) Determine the needs for new and improved services, and analyse the capabilities of members to inform the development of the RA IV Integrated Services Operational Implementation Plan (including weather, climate, hydrological and relevant environmental services) for review and approval by the RA IV Management Group;
 - (b) Develop, promote and oversee the implementation of strategies to strengthen the capacity of RA IV Members to provide quality and adequate weather, climate and hydrological services tailored for the specific user and purposes;
 - (c) Provide guidance to Members for appropriate Global Framework for Climate Services user-interface actions with the relevant stakeholders, intended to address priorities and the need for an improved services provision in aviation, agriculture, hydrology, marine and oceanographic sector, disaster risk reduction and public services, health, energy and urban integrated services, in coordination with the RA IV Hurricane Committee and the RA IV Hydrological and Water Coordination Panel;

- (d) Promote and provide technical support strategies for the development and implementation of (public, private or joint) multi-hazard early warning systems at local, national and regional levels, as appropriate, keeping the exchange of products and experiences as the highest priority, in collaboration with the RA IV Hurricane Committee and the RA IV Hydrological and Water Coordination Panel;
 - (e) Liaise with the Commission for Weather, Climate, Water and related Environmental Services and Applications (SERCOM) and establish effective coordination with the other WMO Bodies, other regional associations, and the subsidiary bodies of RA IV;
 - (f) Encourage and follow international financing projects related to weather, climate and water services in the region (for example, Intra-ACP [African, Caribbean, Pacific Group of States], Weather-Ready Nation and EUROCLIMA);
 - (g) Promote collaboration and engagement of the public and private sectors in service delivery where appropriate;
 - (h) Prepare and submit to the Management Group, no later than May 2021, a work plan for 2021–2023 that advances towards the development of early warning systems and Global Framework for Climate Services activities, including proposals for the establishment of special teams and their mandate;
 - (i) Coordinate the implementation of the RA IV Disaster Risk Reduction Implementation Plan at national level;
- (2) That the Committee shall be comprised of a chair, vice-chair, the chairs of other pertinent RA IV subsidiary bodies, a representative of the Regional Climate Centres, a representative of the Regional Training Centres, RA IV invited experts participating at relevant working bodies of the Commission for Observation, Infrastructure and Information Systems, SERCOM, and the Research Board, including those from academic and research institutions and the private sector. The experts should be registered in the WMO expert database and the selection process must ensure appropriate regional representation and gender balance;
- (3) To designate Mr Glendell De Souza (British Caribbean Territories) as chair of the Committee, and Ms Arlene Aaron-Morrison (Trinidad and Tobago) as vice-chair.

Resolution 9 (RA IV-18)

Operating Plan 2020–2023 for the Enhancement of National Meteorological and Hydrological Services in Regional Association IV

REGIONAL ASSOCIATION IV (NORTH AMERICA, CENTRAL AMERICA AND THE CARIBBEAN),

Recalling the WMO Strategic Plan 2020–2023 ([WMO-No. 1225](#)),

Recognizing:

- (1) The usefulness of the Operating Plan 2020–2023 for the Enhancement of National Meteorological and Hydrological Services (NMHSs) in RA IV (hereafter referred to as the RA IV Operating Plan) as guidance for Members in formulating their own development plans to contribute to and support weather-, climate- and water-related disciplines, their connection and their applications,

- (2) The progress achieved in the implementation of the previous regional Operating Plan by members of RA IV during the period 2016–2019,

Decides:

- (1) To align the RA IV strategic, governance and financial cycles with WMO cycles;
- (2) To adopt the RA IV Operating Plan as provided in the [annex](#) to the present resolution, recognizing that this plan may be adjusted;

Urges Members to provide support for the execution of the RA IV Operating Plan and participate actively in its implementation in developing and carrying out their national programmes in meteorology, hydrology and related disciplines to better respond to the demand for a widening range of services;

Requests the president, in collaboration with the constituent bodies and relevant technical commissions:

- (1) To monitor, evaluate and report to Members on progress in implementation of the RA IV Operating Plan, at least annually;
- (2) To seek, in collaboration with the Secretary-General, partnerships with, and the cooperation of, relevant institutions and programmes within the United Nations system, multilateral donors, and international and regional agencies, particularly in the provision of technical and financial support for the implementation of the RA IV Operating Plan;

Requests the Secretary-General:

- (1) To assist Members by indicating the resources available through the remainder of the financial period for each activity described in the RA IV Operating Plan and to mobilize those resources necessary to implement the RA IV Operating Plan;
- (2) To arrange for the publication in English, French and Spanish of this RA IV Operating Plan and its dissemination to Members of the Association, the presidents of other regional associations and the presidents of technical commissions.

Note: This resolution replaces [Resolution 6 \(RA IV-17\)](#), which is no longer in force.

Resolution 10 (RA IV-18)

Regional Association IV and the ocean

REGIONAL ASSOCIATION IV (NORTH AMERICA, CENTRAL AMERICA AND THE CARIBBEAN),

Recalling:

- (1) The WMO Strategic Plan 2020–2023 ([WMO-No. 1225](#)),
- (2) The RA IV Operating Plan 2016–2019,
- (3) [Resolution 9 \(Cg-18\)](#) – Joint World Meteorological Organization–Intergovernmental Oceanographic Commission Collaborative Board,
- (4) [Resolution 65 \(Cg-18\)](#) – WMO and the ocean,
- (5) [Resolution 4 \(EC-72\)](#) – Strengthening marine services,

Considering the expanded collaboration between WMO and the United Nations Educational, Scientific and Cultural Organization Intergovernmental Oceanographic Commission (UNESCO–IOC) in marine meteorology, oceanography, cryology and marine climatology, including in services, observation and information management, research and capacity-building, and the mutual interest to strengthen regional connections as discussed by the Joint WMO–IOC Collaborative Board (JCB) at its the first session,

Considering also the outcomes of the ocean side event during the JCB first session,

Considering further the need for a coordinating mechanism in RA IV to support activities to address the priority ocean issues across the full region, and in the subregions,

Decides to develop a Regional Roadmap for marine meteorology and oceanography that builds on the JCB strategy across the entire value chain, to establish coastal and ocean priorities for RA IV, in consultation with the relevant WMO bodies, as well as relevant international and regional partners such as the IOC Sub-commission for the Caribbean and Adjacent Regions, the International Maritime Organization and the International Hydrographic Organization;

Encourages its Members:

- (1) To conduct consultations with relevant national stakeholders, including academia, to contribute to the development of the Regional Roadmap;
- (2) To align with “whole-of-government” marine interests in their countries through working closely with their national counterpart maritime safety and oceanographic agencies;
- (3) To consider national and regional ocean activities that may contribute to the United Nations Decade of Ocean Science for Sustainable Development;

Invites the JCB to consider the draft Regional Roadmap in the context of the draft WMO–IOC Joint Strategy that is currently under development;

Invites the leadership of the Commission for Observation, Infrastructure and Information Systems; the Commission for Weather, Climate, Water and related Environmental Services and Applications; the Research Board, and the Executive Council Capacity Development Panel and Climate Coordination Panel to consider how their respective activities can address the regional ocean priorities.

Resolution 11 (RA IV-18)**Review of previous resolutions and recommendations of the Association**

REGIONAL ASSOCIATION IV (NORTH AMERICA, CENTRAL AMERICA AND THE CARIBBEAN),

Taking note of paragraph 3.7.1 of the general summary of the *Ninth Session of the Executive Committee Abridged Report with Resolutions* (WMO-No. 67),

Considering:

- (1) That some of the resolutions adopted by the Association prior to its eighteenth session have been revised and incorporated into the eighteenth session resolutions (as contained in the [annex](#) to the present resolution),
- (2) That some of the previous resolutions have been incorporated into the appropriate publications of WMO or have become out of date,
- (3) The possibility of publishing the text of the resolutions that remain in force in the [annex](#) to the present resolution,

Decides to keep in force the resolutions in the [annex](#) to the present resolution.

Note: This resolution replaces [Resolution 7 \(RA IV-17\)](#) – Review of previous resolutions and recommendations of the Association, which is no longer in force.

Annex to Resolution 11 (RA IV-18)

List of previous resolutions and recommendations of Regional Association IV (North America, Central America and the Caribbean) in force at the time of the eighteenth session

(Reference: Abbreviated final report with resolutions of the seventeenth meeting of Regional Association IV (North America, Central America and the Caribbean), [Resolution 7 \(RA IV-17\)](#))

Resolution No.	Resolution Title	Proposed measure		
		It will remain in force	Will be replaced	It will not remain in force
25 (VI-RA IV)	Participation of National Meteorological Services in Planning and Development Bodies	X		
7 (VII-RA IV)	Interchange Visits of Personnel Engaged in Analysis and Prognosis Activities	X		
9 (VIII-RA IV)	Strengthening of National Meteorological Centres	X		

Resolution No.	Resolution Title	Proposed measure		
		It will remain in force	Will be replaced	It will not remain in force
16 (VIII-RA IV)	Increased Observations from Ships Operating in the Tropics and the Southern Oceans	X		
14 (IX-RA IV)	RA IV Hurricane Operational Plan	X		
4 (X-RA IV)	The Further Development of the Global Observing System	X		
8 (X-RA IV)	RA IV Hurricane Committee's Technical Plan and Implementation Programme	X		
4 (XII-RA IV)	Establishment of Regional Instrument Centres	X		
13 (XII-RA IV)	Participation of Women in the Work of the Region	X		
12 (XIII-RA IV)	Support for JCOMM	X		
3 (RA IV-16)	WMO Information System Implementation Plan	X		
8 (RA IV-16)	Steps to be Undertaken to Achieve Compliance with the Regulations of the World Meteorological Organization and the International Civil Aviation Organization	X		
1 (RA IV-17)	Regional WMO Integrated Global Observing System Implementation Plan 2017–2020			X
2 (RA IV-17)	Regional Basic Synoptic Network and Regional Basic Climatological Network in Region IV			X
3 (RA IV-17)	Regional Association IV Management Group		X	
4 (RA IV-17)	Regional Association IV Working Group on Hydrology		X	
5 (RA IV-17)	Regional Association IV Hurricane Committee		X	
6 (RA IV-17)	Operating Plan for the Enhancement of National Meteorological and Hydrological Services in Regional Association IV (North America, Central America and the Caribbean)		X	

Resolution No.	Resolution Title	Proposed measure		
		It will remain in force	Will be replaced	It will not remain in force
7 (RA IV-17)	Review of Previous Resolutions and Recommendations of the Association		X	

APPENDIX 3. DECISIONS ADOPTED BY THE SESSION

Decision 1 (RA IV-18)

Methods of work for conducting the session online

Regional Association IV (North America, Central America and the Caribbean) decides to adopt the methods of work for conducting the first session online.

See the [annex](#) to the present decision.

Decision justification: The present decision is based on [Decision 1 \(EC-72\)](#) – Methods of work for online sessions of the Executive Council and adapted appropriately for regional associations.

Annex to Decision 1 (RA IV-18)

Methods of work for conducting online sessions of the Regional Associations

1. Legal provisions

The Convention, General Regulations and the Rules of Procedure for Regional Associations shall continue to apply in full, subject to consideration of any online practice that would be exceptionally required to conduct the online session, as identified in the attached table.

2. Registration

2.1 Representatives of Members represented in regional associations, invited observers and representatives of other WMO Members shall notify the Secretary-General of the names of the persons who will participate in the session following the normal practice in accordance with the General Regulations and Rules of Procedure for Regional Associations.

2.2 Online registration will follow normal practice. Additional information is provided on the [RA IV-18 website](#).

2.3 Guidance for identification of participants of online sessions is provided in the attached table.

3. Attendance and quorum

3.1 Attendance by members of the regional association, invited observers, and representatives of WMO Members, shall be through a secured access to the videoconference.

3.2 The number of participants, besides the members of the regional association simultaneously connected, may be limited depending on the capacity of the selected videoconference system.

3.3 Online attendance by principal delegates (or their alternates) shall be checked and registered in each meeting of the session to ensure the quorum of the simple majority of Members who are represented in the association.

4. Documents

4.1 Documents for the session will be made available and managed following normal practice through the [RA IV-18 website](#).

4.2 To optimise discussions of documents in online sessions, members of the regional association are encouraged to submit comments on documents to plenary@wmo.int prior to the session, preferably one week before the opening of the session.

5. Interventions

5.1 During the online session, principal delegates or their alternates on their behalf shall be provided with the opportunity to take the floor. Individual statements are normally limited to three minutes.

5.2 Any member of the regional association wishing to take the floor should signal their wish to speak or to raise a point of order using the videoconference system, as indicated in [RA IV-18/INF. 1](#).

6. Recording of sessions

Pursuant to Regulation 95(c), audio recordings of plenary meetings shall be made and retained for record-keeping purposes.

7. Decision-making

All decisions of the session should as far as possible be taken by consensus. Should certain matters require substantive debate, the presiding officer may propose the establishment of drafting groups, which will meet separately and report back to the plenary.

For elections of the officers of the regional association, which would normally take place by consensus, if a vote is required, and an e-vote is not possible, the regional association may consider voting by correspondence (in accordance with the provisions of Rule 6.15.4).

8. Committees

All business shall be conducted in plenary except for the Nomination Committee or other committees that may be established, which shall meet separately, through an online platform that will be specified. All matters to be discussed by the committees shall be determined by the plenary.

9. Languages

General Regulation 97 shall continue to apply, whereby interventions made shall be interpreted into the other working languages of the session.

Explanatory note on online practices in conducting online sessions of a Constituent Body

Procedure	Physical session	Reference	Online session
Delegates registration and credentials	<p>(a) Prior to a session of a constituent body other than the Executive Council, each Member concerned shall communicate to the Secretary-General the names of the persons composing its delegation to that body, indicating which of these shall be regarded as its principal delegate;</p> <p>(b) Besides this communication, a letter giving these particulars and otherwise conforming with the provisions of the Convention and of the General Regulations and signed by, or on behalf of, an appropriate governmental authority of the Member shall be sent to the Secretary-General or handed to the representative at the session and shall be regarded as appropriate credentials for the participation of the individuals named therein in the session;</p> <p>(c) The same procedure shall apply as regards the credentials of observers representing non-Member countries;</p> <p>(d) The credentials of observers representing international organizations shall be signed by the competent authority of the organization concerned.</p>	GR 20	<p>Same</p> <p>Specific naming convention will be determined by the Secretariat to facilitate the online identification of RA IV participants, as follows:</p> <p>WMO Members within RA IV: Principal Delegate(s), Alternate(s), and Delegate(s)</p> <p>* Principal Delegate: RA IV/Country name/Principal Delegate/Surname (e.g. RA IV/Country/Principal Delegate/Smith)</p> <p>* Alternate: RA IV/Country name/Alternate/ Surname (e.g. RA IV/Country/Alternate/Martin)</p> <p>* Delegate: RA IV/Country name/Delegate/ Surname (e.g. RA IV/Country/Delegate/Brown)</p> <p>WMO Members outside RA IV: Principle Delegate(s), Alternate(s), and Delegate(s)</p> <p>* Principle Delegate: Country name/Principle Delegate/Surname (e.g. Country/Principle Delegate/Smith)</p>

Procedure	Physical session	Reference	Online session
			<p>* Alternate: Country name/Alternate/Surname (e.g. Country/Alternate/Martin)</p> <p>* Delegate: Country name/Delegate/Surname (e.g. Country/Delegate/Brown)</p> <p>President, vice-presidents of WMO</p> <p>* President of WMO: President of WMO</p> <p>* Vice-presidents of WMO: 1st Vice-President of WMO, 2nd Vice-President of WMO, 3rd Vice-President of WMO</p> <p>Presidents of regional associations, presidents and vice-presidents of technical commissions, regional hydrological advisers, and invited experts</p> <p>* Presidents of regional associations: P/RAIV (I, ..., VI)</p> <p>* Presidents of technical commissions: P/INFCOM, P/SERCOM</p> <p>* Vice-presidents of technical commissions: VP/INFCOM, VP/SERCOM</p> <p>* Regional Hydrological Advisers: HA/RAIV (I, ..., VI)</p> <p>* Invited experts: Expert/Surname (e.g. Expert/Johnson)</p> <p>Representatives of international organizations/Non-Members (observers)</p> <p>* International organizations: Name of organization/Surname (e.g. ADRC/Roy)</p> <p>*Name of Non-Member country/Surname (e.g. Country/Jones)</p> <p>WMO Secretariat</p> <p>* Secretariat/Surname (e.g. Secretariat/Jones)</p>

Procedure	Physical session	Reference	Online session
Delegates attendance and identification	<p>In addition, online registration takes place through the Event Registration System.</p> <p>One nameplate per Member regardless of the size of the delegation.</p> <p>The number of participants simultaneously present at the meetings is limited by the capacity of the Salle Obasi. If the meeting room proves to be insufficient to accommodate all regional association participants, the Secretariat arranges for video broadcasting in another room.</p>		<p>The number of participants simultaneously connected to the session may be limited depending on the capacity of the selected videoconference system (150 connections foreseen for RA IV-18). Conference Officer (system administrator) will optimize the number of connections and capacity of the system.</p>
Quorum	<p>Presence of Members represented in the regional association with voting rights confirmed through registration and credentials. Quorum of simple majority of RA Members is established at the beginning of the session and confirmed at each plenary meeting.</p> <p>If a quorum is not obtained at a meeting, the decisions, other than elections, adopted by a simple majority vote of those Members present shall be referred by correspondence to all Members of the Organization belonging to the association. Any such decision shall be considered a decision of the Association only when it has been approved by a simple majority of votes cast for and against within 90 days after it has been sent to the Members.</p>	GR 139 and 140	<p>Online presence shall be confirmed based on active connections. A quorum of the simple majority of the Members with voting rights belonging to the association will be established at the beginning of the session and confirmed at each plenary meeting.</p> <p>In the absence of a quorum, i.e. due to connectivity problems, the meeting could be:</p> <ul style="list-style-type: none"> (i) suspended until connectivity is restored, provided this is within the agreed working hours of the session, (ii) postponed until the following working day, (iii) continued with those present to further adopt the decision by correspondence.
Interventions and submission of written comments	<p>Request the floor by raising the nameplate.</p> <p>Members represented in the regional association (principal delegates or their alternates/advisers/delegates on their behalf) intervene first, followed by observers. Individual statements are normally limited to three minutes.</p> <p>Submit written comments on documents following the intervention to plenary@wmo.int.</p>		<p>Signal wish to speak using the videoconference system, as indicated in RA IV-18/INF. 1</p> <p>Same.</p> <p>In view of the limited time for online sessions and in order to optimize discussions during the meeting, Members are encouraged to submit comments on documents to plenary@wmo.int prior to the session, preferably one week before the start of the session.</p>

Procedure	Physical session	Reference	Online session
Recording of Sessions	Audio recordings of plenary meetings shall be made and retained for record-keeping purposes.	GR 95 (c)	Same
Conduct of business during sessions (i.e. points of order, motions, amendments)	A point of order may be raised by any delegation or member by means of a specific gesture from the floor. It shall be immediately addressed by the presiding officer in accordance with the regulations.	GR 79	A point of order may be raised by any delegation or member through the chat function, writing "Point of Order". It shall be immediately addressed by the presiding officer in accordance with the regulations.
Decision-making		Rule 6.15.1 and 6.15.4	Same For elections of the officers of the regional association, which would normally take place by consensus, if a vote is required, and e-voting is not possible, the regional association will consider voting by correspondence (in accordance with the provisions of Rule 6.15.4 of the Rules of Procedure for Regional Associations).
Committee (Nomination)	At each session of a constituent body holding elections, a Nomination Committee shall be established to prepare and submit to the body a list of nominees for each office or place for which an election is to be held. Any candidatures proposed and maintained in that committee by a minority shall be included in the list of nominees.	GR 25	Same
Languages	Interventions interpreted into the other working languages of the session. Participants select their desired language from the device at their seat.	GR 97	Same. Participants will be able to select their desired language option from the online menu.

Decision 2 (RA IV-18)**Report by the acting president of the Association****Regional Association IV (North America, Central America and the Caribbean) decides:**

- (1) To note with satisfaction the reports in [RA IV-18/INF. 2\(1\)](#) from the RA IV acting president, presidents of working groups and the WMO Representative Office for North America, Central America and the Caribbean, describing the achievements during the intersessional period,
- (2) To recognize the Members' contribution towards the implementation of the RA IV Regional Work Plan 2018-2020,
- (3) To encourage the Secretary-General, regional associations and technical commissions to engage further in the regional activities and launch new initiatives that would lead to closer regional cooperation.

Decision justification:

See [RA IV-18/INF. 2\(1\)](#).

Decision 3 (RA IV-18)**Providing Impact-based Forecast and Warning Services to stakeholders through the Common Alerting Protocol standard****Regional Association IV (North America, Central America and the Caribbean) decides:**

- (1) To endorse the implementation of Impact-based Forecast and Warning Services (IBFWS) by Members through formal engagement with Disaster Management and Civil Protection Authorities (DMCPAs) and other stakeholders;
- (2) To adopt the Common Alerting Protocol (CAP) standard for the dissemination of warnings to the stakeholders, as a significant step in the implementation of the Global Multi-hazard Alert System (GMAS) framework in the Region;
- (3) To encourage the Technical Commissions to progress on development of the GMAS framework implementation plan and the incorporation of CAP provisions in the WMO Technical Regulations.

Decision justification:

- (1) Impact-based forecasting turns forecasts and warnings from descriptions of what the weather will be into assessments of what the weather may do, enabling disaster response organizations and citizens to anticipate and take action to mitigate the impacts associated with hazardous events when they occur,

- (2) The CAP is a simple format for exchanging all-hazard emergency alerts and public warnings over all kinds of networks. CAP allows a consistent warning message to be disseminated simultaneously over many different warning systems, thus increasing warning effectiveness while simplifying the warning task,
 - (3) The combination of implementing both IBFWS and CAP greatly enhances the capacity of a National Meteorological and Hydrological Services (NMHS) to provide effective warning services, efficiently,
 - (4) [Resolution 26 \(Cg-18\)](#) – Provision of Impact-based Forecast and Warning Services in an Innovative and Integrated Way.
-

Decision 4 (RA IV-18)

Updating country pages of the WMO Register of Alerting Authorities

Regional Association IV (North America, Central America and the Caribbean) decides:

- (1) To recognize the importance of the function of the WMO Register of Alerting Authorities in enabling aggregators of warnings to automatically recognize warnings issued by official, authorized alerting sources and provide proper credit to these sources in line with the objectives of the GMAS framework initial concept;
- (2) To endorse that Members nominate editors for the Register and ensure that the editors update their country profile on the Register.

Decision justification:

- (1) By enabling warnings aggregators to automatically recognize official warnings provided by authorized country sources, the WMO Register of Alerting Authorities provides a means to ensure that the aggregators disseminate genuine warnings issued by NMHSs and other authorized authorities, thus providing an added means to increase the reach of warnings to their target audience. In order to ensure that the information on authorized sources is correct, an editor, nominated by the Permanent Representative with WMO, edits their country page of the Register. It is therefore essential for editors to be nominated, and for the editors to complete editing the Register. The WMO Register of Alerting Authorities may be accessed [here](#),
 - (2) [Resolution 13 \(Cg-18\)](#) -- WMO Global Multi-hazard Alert System
 - (2) Through [Paragraph 3.1.58 \(Cg-17\)](#) Congress noted that the online "International Register of Alerting Authorities", launched by the Public Weather Services (PWS) Programme, had continued to grow, and that there were now 124 Members that had assigned editors for their respective country pages of the Register. Congress emphasized the importance of the Register in achieving a "single official voice for dissemination of weather warnings". It requested Members to keep the Register updated, and to make reference to their membership in this Register when asserting their authoritative role in issuing national warnings.
-

Decision 5 (RA IV-18)**WMO World Weather Information Service platform****Regional Association IV (North America, Central America and the Caribbean)**

Noting the [current status of participation](#) in RA IV as described below:

- (a) From October 2020 to January 2021, the number of Members providing forecast information on WWIS in RA IV is 14 out of 25 Members.
- (b) 8 out of the 14 Members that participate in WWIS are providing forecasts for 25 to 30 days per month. The others are providing data at a lower frequency.
- (c) 4 Members are providing forecasts for at least 10 cities.
- (d) 7 of the participating Members provide forecasts within forecast ranges of less than 5 days.

Decides to strongly encourage Members to provide official city forecasts for display on the WMO World Weather Information Service (WWIS) platform and to ensure that city forecasts are provided for at least 10 cities (where possible), in at least the five-day forecast range, daily, without breaks.

Decision justification:

- (1) The WMO WWIS website presents official weather observations, weather forecasts and climatological information for selected cities supplied by NMHSs. WWIS enables NMHSs to increase the reach of the official forecasts that they produce. The following are the recommended levels of participation of Members in the WMO WWIS initiative:
 - (a) Members to participate in WWIS and provide city forecast information every day (to view the WWIS website click [here](#)),
 - (b) Members to submit forecasts for at least 10 cities. It is noted that some small Island states may not be able to meet this condition,
 - (2) Through Resolution 5 (Cg-17) – Public Weather Services Programme, Congress requested commissions to provide further guidance to Members in enhancing their city forecasts with longer lead times, higher spatial and temporal resolutions, and additional weather elements.
 - (3) To assist in Member participation and visibility on WWIS, the European Centre for Medium Range Weather Forecasts (ECMWF) has offered technical support in which it provides easy access to city forecast data for 10 cities, for any Member in need of such data.
-

Decision 6 (RA IV-18)**Annual report on the State of the Climate in Latin America and the Caribbean****Regional Association IV (North America, Central America and the Caribbean) decides:**

- (1) To establish a regular process for the publication of a report on the State of the Climate in Latin America and the Caribbean, availing of scientific and technical guidance of the Expert Team on Climate Monitoring and Assessment (ET-CMA) of the Standing Committee on Climate Services (SC-CLI) in the Commission for Weather, Climate, Water and related Environmental Services and Applications (SERCOM), using regional expertise and building on existing material from both RA III and RA IV regions, the data provided by Members and global data centres, the analysis performed by Regional Climate Centres and Regional Climate Outlook Forums and the approach taken in the annual WMO State of the Global Climate and State of Climate Services reports;
- (2) To invite the presidents of RA III, RA IV and INFCOM and SERCOM, with the chairperson of SC-CLI and the co-leads of ET-CMA, to liaise in order to establish a joint mechanism to support the production of such a report as a joint undertaking by both Regional Associations;
- (3) To entrust the Management Group together with RA IV working structure in charge of Climate Services and working closely with the relevant working structure of RA III to oversee the delivery of this report in a timely manner;
- (4) To establish close relationships with the regional entities of the United Nations System organizations and other relevant organizations, and to invite them to collaborate on this report, particularly on aspects regarding the climate impacts on socio-economic sectors, and on climate adaptation and mitigation policies and practices;
- (5) To request the Secretary-General to facilitate the WMO Secretariat's support for the review, publication, and the launch and communication of this report at the highest political levels.

Decision justification:

- (1) [Resolution 20 \(Cg-18\)](#) – WMO Contributions to The Provision of Climate Information and Services in Support of Policy and Decision-making,
- (2) [Resolution 2 \(EC-72\)](#) – Activities and Working Mechanisms of the Regional Associations.

Decision 7 (RA IV-18)**Coordination between Regional Climate Centres, Regional Climate Outlook Forums and Regional Hydrological Outlook Forums, and Drought Information Systems****Regional Association IV (North America, Central America and the Caribbean) decides:**

- (1) To increase collaboration and coordination mechanisms to ensure consistency, harmonization of operations and mutual support of the RCCs in RA IV, with the guidance of the RA IV Committee on Services;

- (2) To establish coordination and cooperation mechanisms between RCOFs and RHOFs in the region for the implementation of objective seasonal forecasts and tailored products on subregional scales (including country-level service delivery), as well as scientific discussion forums, in order to support progress towards sub-seasonal predictions;
- (3) To extend the experience of the North American Drought Monitor to other countries in the Region with the support of the RCCs, and to learn from other drought monitors in the Americas.

Decision justification:

- (1) [Resolution 20 \(Cg-18\)](#) – WMO Contributions to the Provision of Climate Information and Services in Support of Policy and Decision-making,
- (2) [Resolution 58 \(Cg-18\)](#) – Future Integrated Seamless Global Data-processing and Forecasting System Collaborative Framework,
- (3) [Decision 9 \(EC-72\)](#) – Operationalization of Objective Seasonal Forecasts and Tailored Products on Subregional Scales,
- (4) The WMO *Guidance on Operational Practices for Objective Seasonal Forecasting* (WMO-No. 1246).

Decision 8 (RA IV-18)

Regional Basic Observing Network design

Regional Association IV (North America, Central America and the Caribbean) decides:

- (1) To initiate the foundation of the Regional Basic Observing Network (RBON) by designating all selected observing stations from the Regional Basic Synoptic (RBSN) and Regional Basic Climatological Network (RBCN), as RBON stations, noting that the Global Basic Observing Network (GBON) stations will also form the core of RBON,
- (2) To request the RA IV Infrastructure Committee (hereafter the Committee) to undertake the following activities in support of the implementation of the RBON in the Region:
 - (a) defining prioritization of application areas addressed in the region, and definition of regional observational user requirements to be met by RBON,
 - (b) undertaking the initial RBON design that complements the GBON design, and defining specific criteria for the selection of RBON stations, in consideration of regional needs, priorities, and process to be defined by the Infrastructure Commission,
 - (c) defining the role of the Regional WIGOS Centre in the Region, in particular to provide the tools necessary for the design of RBON,
 - (d) developing the roadmap for the RBON implementation, in compliance with the RBON related regulations specified in the *Manual on the WMO Integrated Global Observing System* (WMO-No. 1160), including section 3.2.3 RBON and Appendix 2.1 Observing Network Design Principles,

- (3) To further request the Committee to explore the interest among members in establishing an RBON pilot activity on regional data exchange of certain types of observations, with an initial focus on radar observations and hydrological observations,
- (4) To request Members to make sure that all RBON stations are properly registered in OSCAR/Surface according to the *Manual on the WMO Integrated Global Observing System* (WMO-No. 1160),
- (5) To request the Committee to work closely with SC-ON and JET-EOSDE of the INFCOM on the implementation of RBON,
- (6) To request the Secretary-General to provide the necessary technical assistance and Secretariat support for the implementation of RBON in the region, and to facilitate the merging of RBSN and RBCN networks into RBON,
- (7) To invite regional partner organizations and programmes to participate in relevant implementation activities,
- (8) To invite the Infrastructure Commission to undertake the development of the process for the design of RBON, including relevant regulatory and guidance material, in consultation with the regional association.

Decision justification: [Resolution 2 \(RA IV-17\)](#) - Regional Basic Synoptic Network and Regional Basic Climatological Network in Region IV and [Decision 13 \(RA IV-17\)](#) - Regional Basic Observing Network Pilot in Regional Association IV, related to termination of RBSN and RBCN and establishing RBON in accordance with the *Manual on the WMO Integrated Global Observing System* (WMO-No. 1160).

Decision 9 (RA IV-18)

Regional Association IV research priorities

Regional Association IV (North America, Central America and the Caribbean) decides:

- (1) To promote convergence and integration between the WMO Research Programmes of interest to the Region, within and outside the WMO community;
- (2) To define the research priorities for the Region as listed in the [annex](#) to this decision;
- (3) To request the Management Group of the RA IV to review and align the research priorities for the Region as needed;
- (4) To engage with the Research Board to contribute to the execution of the WMO research programmes according to the priorities established for the Region and in relation to meteorological, climatic, hydrological and environmental research in close interaction;
- (5) To develop a road map, coordinated by the RA IV Focal Point on Research and Modelling, to address these research priorities with the active participation of WMO sponsored and co-sponsored research programmes (World Climate Research Programme (WCRP), World Weather Research Programme (WWRP) and The Global Atmosphere Watch (GAW) Programme), universities, research centres and scientific partner organizations;

- (6) To request the WMO Secretariat to establish appropriate coordination through the chair of the Research Board, in close collaboration with the WCRP Joint Scientific Committee and WWRP Scientific Committee, the Environmental Pollution and Atmospheric Chemistry Scientific Steering Committee, and the RA IV Focal Point on Research and Modelling to facilitate the interaction between the weather, climate and related environment scientific networks of WMO and the research community in the region.

See the [annex](#) to the present decision.

Decision justification:

[Resolution 6 \(Cg-18\)](#) – WMO Regional Associations,

[Resolution 8 \(Cg-18\)](#) – Research Board,

[Resolution 1 \(EC-72\)](#) – Effective Coordination Between Regional Associations, Technical Commissions and the Research Board.

Annex to Decision 9 (RA IV-18)

Regional Association IV research priorities

WMO Long-term Goals	Regional Priority Programme Areas	Regional Priority Activities
<p>Goal 3: Advance targeted research: Leveraging leadership in science to improve understanding of the Earth system for enhanced services</p>	<p>Research Programmes (WWRP, WCRP (co-sponsored), GAW, Regional Research Entities, academia, public and private sectors, foundations, etc.)</p>	<p><u>Synoptic, Mesoscale and Tropical Weather Prediction</u></p> <ul style="list-style-type: none"> Multi-hazard impacts and genesis/frequency/intensity of synoptic and mesoscale systems and tropical cyclones, taking into account sub-seasonal variability and a changing climate. Contribute to the development of high-resolution, sub-seasonal and seasonal numerical weather models (WRF-CLIMA) implemented in the Central American area and based on the outputs of the Global Forecast System (GFS). <p><u>Climate Change</u></p> <ul style="list-style-type: none"> Climate extremes, compound events and climate-change-related issues including impacts on agriculture, health, wildfires, water, etc. Tropical cyclones, monsoon weather, MJO, drought, floods, heat waves. Polar climate change and prediction, impacts on society, economy and ecology. Climate variability over different time and space scales (including stratosphere), in particular in the near- to medium-term (sub-seasonal to decadal). <p><u>Hydrology</u></p> <ul style="list-style-type: none"> Coastal and inland flooding, improve Quantitative Precipitation Estimation (QPE) and Quantitative Precipitation Forecasting (QPF), drought. <p><u>Marine</u></p>

WMO Long-term Goals	Regional Priority Programme Areas	Regional Priority Activities
		<ul style="list-style-type: none"> • Development of high-resolution probabilistic coastal inundation modelling guidance and products. <p><u>Atmospheric composition</u></p> <ul style="list-style-type: none"> • Greenhouse gases. • Air pollution and atmospheric deposition impacts on health, urban environments, biodiversity and food security. • Sand, dust and volcanic emissions. <p><u>Research</u></p> <ul style="list-style-type: none"> • Enhancing efforts to obtain funding for research and building partnerships with research institutions with the assistance of WMO. • Focus the transition of scientific knowledge to operations and services. • Co-occurring and cascading events and its interrelationship, impact of weather and climate extremes on services. • Embrace and empower decision makers through co-design and the incorporation of social science research. • Regional support for a precipitation prediction.

Decision 10 (RA IV-18)

Capacity development in Regional Association IV

Regional Association IV (North America, Central America and the Caribbean) decides:

- (1) To align the capacity development activities in the region with the key areas developed by the EC Capacity Development Panel considering identified regional priorities and current major capacity development projects, namely:
 - (a) Policy Development and Institutional Matters,
 - (b) Human Resources Development, Education and Training,
 - (c) Capacity Development through WMO Technical Departments,
 - (d) Capacity Development through Resource Mobilization, Partnerships and Development Assistance,
 - (e) Revision of WMO Capacity Development Strategy,
- (2) To establish a coordination mechanism between the Regional Training Centres including new approaches for collaboration with universities, donors, and research institutions,

- (3) To develop, under the coordination of the RA IV Focal Point on Capacity Development, a Regional Road Map for Long-term Capacity Development, within the framework of regional priorities recognizing current major projects, and considering available and emerging resources (including projects under implementation) to deliver on capacity development,
- (4) To request the WMO Representative Office for North America, Central America and the Caribbean to coordinate a meeting with the Director of the Regional Training Centre in Costa Rica to review its short-, medium- and long-term objectives, taking into account the needs of the region.

See for more information:

[RA IV-18/INF. 3.6\(1\)](#) – ETR Priorities and Identified Opportunities

[RA IV-18/INF. 3.6\(2\)](#) – Capacity Development Projects in RA IV

[EC-72/INF. 2.5\(8\)](#) – Report by the Chair of the Capacity Development Panel.

Decision justification: Taking into account [Resolution 7 \(EC-71\)](#) - Capacity Development Panel, on establishment of the Capacity Development Panel, [Decision 11 \(EC-72\)](#) - Scaling up effective partnerships and scope, scale and progress of WMO development, [Decision 12 \(EC-72\)](#) - Recommendations for revision of the WMO Capacity Development Strategy, [Decision 13 \(EC-72\)](#) - Developing and sustaining core competencies and expertise, as well as (1) the need of more interaction and cooperation among the RTCs in and outside the region and (2) the need to innovate in the way to provide education and training activities.

Decision 11 (RA IV-18)

Regional Association IV High-level Task Team on the Regional Concept

Regional Association IV (North America, Central America and the Caribbean) decides:

- (1) To establish a high-level task team on the regional concept under the RA IV Management Group, according to the Eighteenth World Meteorological Congress, [Resolution 11 \(Cg-18\)](#) - WMO Reform - Next phase, and [Resolution 6 \(Cg-18\)](#) - WMO Regional Associations, and Executive Council (EC) Resolution on Regional Associations to lead the comprehensive review of the WMO Regional Concept, and the further development of RA IV High Priority Areas,
- (2) That the RA IV Management Group serve in the role as the RA IV High-level Task Team, respecting, to the extent possible, geographical and gender balance, with the terms of reference as defined in the following [annex](#). The RA IV president may invite other permanent representatives to participate in the RA IV High-level Task Team on the Regional Concept, as needed;

Decision Justification:

- (1) [Resolution 11 \(Cg-18\)](#) - WMO Reform - Next phase,
- (2) [Resolution 6 \(Cg-18\)](#) - WMO Regional Associations,

- (3) [Resolution 1 \(EC-72\)](#) - Effective Coordination between Regional Associations, Technical Commissions and the Research Board,
 - (4) [Resolution 2 \(EC-72\)](#) - Activities and Working Mechanisms of the Regional Associations.
-

Annex to Decision 11 (RA IV-18)

Regional Association IV High-level Task Team on the Regional Concept – terms of reference

The Terms of Reference of the RA IV High-level Task Team on the Regional Concept are:

- (a) Consider all relevant high-level guidance by the WMO Congress and the Executive Council on how regional work could be conducted;
 - (b) Propose the way forward in the implementation of this guidance, bearing in mind the characteristics of the region, and capacity gaps among Member States (e.g. level of development, membership of different technical and political organizations, policy-relevant issues such as: data policy, relations with the private sector, cooperation and collaboration with academic institutions, etc.);
 - (c) Draft recommendations for the new regional working structure, harmonized to the degree possible with the WMO Technical Commissions' working bodies, taking into account the priorities of RA IV including the need to better connect working structures of RA IV.
 - (d) Submit its recommendations to the RA IV president and the Management Group, which will agree on further steps towards the implementation of the recommendations, keeping the RA IV Member States informed through the Regional Office for the Americas;
 - (e) Request the RA IV president to submit the agreed position of RA IV to the EC Task Force for the Comprehensive Review of the WMO Regional Concept and Approaches according to [Resolution 11 \(Cg-18\)](#) - WMO Reform - Next phase, and to keep the association abreast of deliberations of the EC Task Force.
-

Decision 12 (RA IV-18)

Regional priorities 2024–2027

**Regional Association IV (North America, Central America and the Caribbean)
decides:**

- (1) To adopt the proposed regional priorities 2024–2027 included in the Annex to this Decision,
- (2) To request the Management Group:
 - (a) To initiate the process to develop an Operating Plan 2024-2027 for the Region with clear actions, timelines and indicators for RAs, TCs and the Secretariat,
 - (b) To provide the regional priorities 2024-2027 into the WMO Strategic Plan 2024-2027,

- (c) To review the regional strategic priorities by the biennium of the intersessional period and adjust as necessary;
- (3) To request the Secretary-General use these priorities to inform the development of the WMO Strategic Plan for the financial period 2024-2027 and the WMO Operating Plan for the financial period 2024-2027.

See the [annex](#) to the present decision.

Decision justification:

[Resolution 6 \(Cg-18\)](#) – WMO Regional Associations,

[Resolution 11 \(Cg-18\)](#) – WMO Reform - Next Phase,

[Resolution 1 \(EC-72\)](#) – Effective coordination between regional associations, technical commissions and the Research Board,

[Resolution 2 \(EC-72\)](#) – Activities and working mechanisms of the regional associations.

Annex to Decision 12 (RA IV-18)**Proposed regional priorities for 2024–2027**

WMO Long-term Goals	Regional Priority Programme Areas	Regional Priority Activities
Goal 1: Better serve societal needs: delivering, authoritative, accessible, user-oriented and fit-for-purpose information and services	Tropical Cyclones	<ul style="list-style-type: none"> ● Hurricane Committee ● Ensure impact-based decision support services to reduce impacts of tropical cyclones
	Regional Coordination for Severe Weather Forecasting and Warning (outside of tropical cyclone wind and warning area)	<ul style="list-style-type: none"> ● Severe Weather Forecast-Programme-(SWFP) ● Further establishment of data formatted for marine and ice hazards, such as S-100 ● Coordinated follow-up by the Members for the monitoring and follow-up of severe events in the Region ● Regional collaboration on early warning systems for severe hydrometeorological events in order to provide the information needed to issue severe event warnings
	Climate Services	<ul style="list-style-type: none"> ● Coordination of the activities and products of the Regional Climate Centre ● North American Drought Monitor (NADM) ● Seasonal Forecast Course using International Research Institute's (IRI) NextGen ● Climate Outlook Forums, to include delivering products for Hydrological seasonal predictions (e.g. quantitative precipitation predictions) ● Development of regional Climate and Health Monitor and Outlook ● Wildfire Observations and Forecasting ● Regional collaboration on seasonal and sub-seasonal forecasting and modelling
	Climate Change Scenarios	<ul style="list-style-type: none"> ● Regional collaboration on climate change scenarios, particularly at subregional levels
	Hydrology	<ul style="list-style-type: none"> ● Status and Outlook Systems for Regional Climate/ Hydrology Outlook Forum: i.e. Central American Climate/ Hydrology Outlook Forum, Caribbean Climate Outlook Forum ● Forums, workshops and/or courses to reflect the entire Region, connecting institutions that have national services-with which we can cooperate with ● Flash Flood Guidance System (FFGS) ● Downscaling of global models in the basins of the Region

WMO Long-term Goals	Regional Priority Programme Areas	Regional Priority Activities
	Aviation	<ul style="list-style-type: none"> ● Follow-up to Quality Monitoring System (QMS) Compliance at international and domestic airports ● Improving the Provision of Aviation Hazardous Weather Information ● Offering training in internal audits
	Air Quality	<ul style="list-style-type: none"> ● Saharan Dust ● Guidance being provided by WMO Sand and Dust Storm Advisory Centres (CIMH is the Pan-American Centre); also NOAA ESRL ● Fires and Smoke ● Volcanic Ash (not routine but can be catastrophic)
	Marine Meteorology and Ocean Services	<ul style="list-style-type: none"> ● Coastal Inundation Forecasting Initiative (CIFI) ● Storm Surge ● Tsunami ● Enhanced Marine Meteorology Services (customer engagement) ● Support for other international activities (UN Decade of Ocean Science for Sustainable Development, SOLAS, Seabed 2030 (coastal bathymetric data), International Hydrographic Organization (IHO), etc.)
	Impact-based Forecast and Warning Services	<ul style="list-style-type: none"> ● Development of comprehensive services for multi-hazard early warning
Goal 2: Enhance Earth system observations and predictions: Strengthening the technical foundation for the future	Regional Compliance with WMO Integrated Global Observing System (WIGOS) Standards	<ul style="list-style-type: none"> ● Virtual Regional WIGOS Centre ● Initial Regional implementation of Global Basic Observing Network (GBON)
	Regional Compliance with new WMO Data Policy (Resolution 42)	<ul style="list-style-type: none"> ● To be determined, based on progress of WMO Data Policy to be adopted by WMO extraordinary Congress in 2021
	Global Data-processing and Forecasting System (GDPFS)	<ul style="list-style-type: none"> ● Develop or improve the predictive capabilities of members

WMO Long-term Goals	Regional Priority Programme Areas	Regional Priority Activities
<p>Goal 3: Advance targeted research: Leveraging leadership in science to improve understanding of the Earth system for enhanced services</p>	<p>Research Programme and Co-sponsored Programmes (WWRP, WCRP, Regional Research Entities, Public and Private Sectors, Foundations, etc)</p>	<p><u>Synoptic, Mesoscale, and Tropical Weather Prediction</u></p> <ul style="list-style-type: none"> • Multi-hazard impacts and frequency/intensity of synoptic and mesoscale systems and tropical cyclones, within sub-seasonal variability and a changing climate <p><u>Climate and Sub-seasonal Variability</u></p> <ul style="list-style-type: none"> • Climate Extremes and Climate-change related issues include impact on agriculture, health, water, etc. • Tropical cyclones, monsoon weather, MJO, drought, floods, heat waves • Climate variability and its relationship with time and medium-term climate <p><u>Hydrology</u></p> <ul style="list-style-type: none"> • Coastal and inland flooding <p><u>Marine</u></p> <ul style="list-style-type: none"> • Development of high-resolution probabilistic coastal inundation modelling guidance and products <p><u>Research</u></p> <ul style="list-style-type: none"> • Enhancing funding for research and building partnerships with research institutions with assistance from WMO. • Focus on science in service to society and transition of scientific knowledge to operations and services. Disseminate the information in order to present formidable projects. • Co-occurring and cascading events and its interrelationship, impact on weather/water/climate services. • Embrace and empower end users and stakeholders in a co-design approach. • Regional support for precipitation prediction grand challenge. • Generate a scientific research bank of the Region, in a Regional collection centre. <p><u>Agrometeorology</u></p> <ul style="list-style-type: none"> • Research on climate variability and climate change in the area of agrometeorology in order to forecast critical scenarios related to food security

WMO Long-term Goals	Regional Priority Programme Areas	Regional Priority Activities
<p>Goal 4: Close the capacity gap on weather, climate, hydrological and related environmental services: Enhancing service delivery capacity of developing countries to ensure availability of essential information and services needed by governments, economic sectors and citizens</p>	Tropical Cyclone Response	<ul style="list-style-type: none"> • Annual Hurricane Workshop • Provide specific next generation, and cascading, training courses for tropical cyclones and their impacts (e.g. coastal wind waves and storm surge, floods/heavy rains, tornadoes, etc.) for the entire Region • Continue with the Caribbean Hurricane Awareness Tour (CHAT) visits of the Hurricane Hunter to the Region, to help educate the populations on the subject • Ensure the availability of quality historical and current tropical cyclone databases for product generation
	Hydrology	<ul style="list-style-type: none"> • Regional training for data collection standards (equipment, operations) and processing of hydrologic data) • Indirect measurements of peak discharge and step-backwater studies for theoretical rating curve definition (high flows)
	Marine Meteorology	<ul style="list-style-type: none"> • Enhance and develop Marine Meteorology Service Delivery • Competence in marine meteorology forecasting
	Partnerships	<ul style="list-style-type: none"> • WMO Country Support Initiative (CSI) • Alliance for Hydromet Development • Systematic Observation Financing Facility (SOFF) • Intergovernmental Coordination Group for the Tsunami and Other Coastal Hazards Warning System for the Caribbean and Adjacent Regions (ICG/CARIBE EWS) • USAID (e.g., Weather Ready Nations)
	WMO Country Profile Database	
	WMO Regional Program	<ul style="list-style-type: none"> • Facilitation, through Regional Support, of regional activities and cooperation • Agreement on capacity building between Regional Centres/Members. Assessment of capacity building programs available in the Region
	Public Weather Services	<ul style="list-style-type: none"> • Implementation of Impact-based forecasting (IBF) in selected countries, such as International Weather Ready Nations (WRNs), which requires formalized national partnerships among agencies and sharing data (weather, water, climate, land use, population, etc.) and lessons learned in implementation and capacity building to expand IBF in the Region

WMO Long-term Goals	Regional Priority Programme Areas	Regional Priority Activities
		<ul style="list-style-type: none"> • Exploring innovative technical solutions to expand weather, climate, and hydrological measurements, such as 3D- printed Automated Weather and Water stations • Training on communication systems and risk communication for hazardous weather, climate, and hydrological events to both the public and private sectors • Targeted training with case studies from regional/local experts on important areas of interest like IBF and tropical cyclones • SWFP Training, Operational Plan, and regional collaboration on severe weather forecasts outside of tropical cyclone warning areas
<p>Goal 5: Strategic realignment of WMO structure and programmes for effective policy- and decision-making and implementation</p>	<p>Active participation on WMO governance reform, including coordination with the Technical Commission and Research Board to enhance regional collaboration mechanisms.</p>	<ul style="list-style-type: none"> • RA IV Management Group to work with RA IV president in engaging all RA IV members to ensure regional structures and processes support effective decision-making and implementation (e.g. identifying specific persons or a body to carry out coordination, implementation of Long-term Goals, etc.)
	<p>Focus on Central America and the Caribbean</p>	<ul style="list-style-type: none"> • Establish the differences in the political, cultural and operational capacities of the Region and the limitations and opportunities that these imply for decision-making and adoption of national policies

Decision 13 (RA IV-18)**WMO engagement with the regional United Nations system****Regional Association IV (North America, Central America and the Caribbean) decides:**

- (1) To note with satisfaction the participation of the WMO Representative Office for North America, Central America and the Caribbean in the regional cooperation with UN agencies such as for Disaster Risk Reduction (UNDRR), UNESCO-IOC, World Health Organization (WHO), United Nations Framework Convention on Climate Change (UNFCCC), Food and Agriculture Organization (FAO), United Nations Economic Commission for Latin America and the Caribbean (ECLAC) and the upcoming Platform for Climate Action in Agriculture (PLACA) initiative;
- (2) To recognize the potential of this cooperation and collaboration to enhance the visibility of the WMO community, including National Meteorological and Hydrological Services (NMHS) in the national context, by taking on a proactive role in the regional bodies of the UN system organizations and in cooperation and collaboration with ECLAC;
- (3) To invite members to support engagement of WMO with the regional bodies of the UN system organizations, through closer cooperation on disaster risk reduction, climate change, water, food security and sustainable food systems, health, and other relevant issue-based coalitions, as it may deem necessary, by engaging WMO Regional Specialized Meteorological Centres, e.g. RA IV Regional Climate Centres (RCC)-Network, and other regional bodies and experts, as appropriate;
- (4) To request its Management Group to:
 - (a) Coordinate this support, and to liaise with Member States and with the RA IV Working Groups, and support RA IV engagement in the Regional ECLAC Fora as relevant;
 - (b) Organize webinars for WMO Permanent Representatives in RA IV which are also members of ECLAC on their involvement in national implementations of Sustainable Development Goals (SDGs), and the distinct role of NMHSs and WMO to support economic development along with natural resources management.
- (5) To request the Secretary-General of WMO to conclude a Memorandum of Understanding with ECLAC for further collaboration on Sustainable Development of the Member States, as well as on contribution to the Regional Statement on Climate in LAC.

Decision justification: [Resolution 2 \(EC-72\)](#) – Activities and Working Mechanisms of the Regional Associations.

Decision 14 (RA IV-18)

WMO development partnership flagship initiatives

Regional Association IV (North America, Central America and the Caribbean) decides:

- (1) To invite RA IV Member States to contribute to the further development and prompt implementation of the Systematic Observations Financing Facility (SOFF); the Country Support Initiative (CSI) and the Country Hydromet Diagnostics (CHD),
- (2) To invite RA IV Member States to support the Secretariat in the mobilization of substantial resources through high-level engagement with the respective development and climate ministries and agencies,
- (3) To, as much as possible, contribute on a cost-recovery basis to the CSI as an advisory partner and to the CHD as a peer review partner,
- (4) To invite RA IV Member States to actively engage with the WMO Secretary General and RA IV president on the implementation of these WMO development partnership initiatives.

Decision justification:

- (1) [Resolution 74 \(Cg-18\)](#) - Closing the capacity gap: scaling up effective partnerships for investments in sustainable and cost-efficient infrastructure and service delivery;
- (2) [Decision 11 \(EC-72\)](#) - Scaling up effective partnerships and scope, scale and progress of WMO development.

Decision 15 (RA IV-18)

Public–private engagement

Regional Association IV (North America, Central America and the Caribbean) decides:

- (1) That the RA IV president and the Management Group should give due consideration to the Guidelines for Public-private Engagement in planning relevant regional activities, in particular those for raising mutual awareness and building trust between the sectors, and utilizing the potential of public-private engagement in bridging the capacity gap,
- (2) To encourage the RA IV Member States to use the guidelines in establishing cooperation and collaboration and partnership at national level across the public, private, academic and civil society sectors that pursue common goals for public good, and to consider appropriate mechanisms for engagement with the above-mentioned sectors when designing and implementing existing and future projects and initiatives in RA IV,

- (3) To further encourage Members to share cases of good national practices of cooperation and collaboration with the private and academic sectors, and provide those to the Secretariat for inclusion in the Compendium of Good Practices,
- (4) To consider organizing, in partnership with associations of the private sector, a Regional Forum on public-private engagement, linked to the Open Consultative Platform (OCP), to discuss region-specific issues, opportunities and initiatives for leveraging cooperation and collaboration between sectors that enhance socio-economic benefits.

Decision Justification:

- (1) [Resolution 11 \(EC-72\)](#) – Guidelines for Public-private Engagement (edition 2020);
 - (2) [Resolution 33 \(EC-70\)](#) – Public-private engagement;
 - (3) [Resolution 79 \(Cg-18\)](#) – Open Consultative Platform “Partnership and Innovation for the Next Generation of Weather and Climate Intelligence”;
 - (4) [Resolution 80 \(Cg-18\)](#) – Geneva Declaration – 2019: Building Community for Weather, Climate and Water Actions.
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APPENDIX 4. LIST OF PARTICIPANTS

1. Officers of the session

Evan THOMPSON Acting President of RA IV

2. WMO Members within RA

Antigua and Barbuda

Lorne SALMON Principal Delegate

Orvin PAIGE Alternate

Simone BARNES BROWN (Ms) Delegate

Bahamas

Trevor BASDEN Principal Delegate

Jeffrey SIMMONS Alternate

Mary BUTLER (Ms) Delegate

Basil DEAN Delegate

Geoffrey GREENE Delegate

Kaylinda WARD-FORBES (Ms) Delegate

Barbados

Brian MURRAY Principal Delegate

Belize

Ronald GORDON Principal Delegate

British Caribbean Territories

Arlene LAING (Ms) Principal Delegate

David FARRELL Alternate

Glendell DE SOUZA Delegate

John TIBBETTS Delegate

Canada

Diane CAMPBELL (Ms) Principal Delegate

Doris FORTIN (Ms) Alternate

Heather AUCOIN (Ms)	Delegate
Veronique BOUCHET (Ms)	Delegate
Shannon DEGRAAF (Ms)	Delegate
André GIGUÈRE	Delegate
Kent JOHNSON	Delegate
Jeffrey KARN	Delegate
Jason LEE	Delegate
Frederic LENORMAND	Delegate
Laura MEDEIROS (Ms)	Delegate
John PARKER	Delegate
Norm PAULSEN	Delegate
Jim YOUNG	Delegate

Colombia

Yolanda GONZALEZ HERNANDEZ (Ms)	Principal Delegate
Andres Felipe MARMOLEJO EGRED	Alternate
Milena ARIZA (Ms)	Delegate
Fabio Andres BERNAL QUIROGA	Delegate
Allison DEL RIO BAHAMON (Ms)	Delegate
Eliana FONSECA (Ms)	Delegate
Hector GONZALEZ	Delegate
Helmer GUZMAN	Delegate
Hugo SAAVEDRA	Delegate
Nelson Omar VARGAS	Delegate

Costa Rica

WERNER STOLZ	Principal Delegate
Eladio SOLANO	Alternate
Jose Alberto ZUNIGA MORA	Delegate

Cuba

Antonio Vladimir GUEVARA VELAZCO	Alternate
Eduardo PLANOS GUTIERREZ	Delegate
Jose Maria RUBIERA TORRES	Delegate
Liset VAZQUEZ BORGES (Ms)	Delegate

Curaçao and Sint Maarten

Albert Asinto Eleuterio MARTIS	Principal Delegate
Pedzi GIRIGORI (Ms)	Delegate
Joseph ISAAC	Delegate

Dominican Republic

Israel ACOSTA	Delegate
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France

Yves GREGORIS	Principal Delegate
Catherine BORRETTI (Ms)	Alternate
Jean-Noel DEGRACE	Delegate

Guatemala

Francisco Javier JUAREZ CACAO	Alternate
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Honduras

Francisco ARGENAL	Principal Delegate
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Jamaica

Evan THOMPSON	Principal Delegate
Peter CLARKE	Delegate

Mexico

Jorge ZAVALA HIDALGO	Principal Delegate
Fabian VAZQUEZ ROMANA	Alternate
Ricardo GONZALEZ PRIETO	Delegate

Netherlands

Jan ROZEMA	Principal Delegate
Hans ROOZEKRANS	Alternate

Nicaragua

Marcio BACA SALAZAR	Principal Delegate
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Panama

Luz CALZADILLA (Ms)	Principal Delegate
Adriana CALDERON (Ms)	Delegate
Nicole FRANCISCO (Ms)	Delegate
Jonathan GUERINI	Delegate
Celestino LAMBOGLIA	Delegate
Rene LOPEZ	Delegate
Erika TANG PORTER (Ms)	Delegate

United Kingdom of Great Britain and Northern Ireland

Sarah JACKSON (Ms)	Principal Delegate
Mark GUISHARD	Alternate
Harry DIXON	Delegate
Nyree PINDER (Ms)	Delegate
Holly SEALEY (Ms)	Delegate
Jane WARDLE (Ms)	Delegate

United States of America

Louis UCCELLINI	Principal Delegate
Courtney Jeanne DRAGGON (Ms)	Alternate
Fredrick BRANSKI	Delegate
Donald CLINE	Delegate
Youssef ELKEI	Delegate
Ken GRAHAM	Delegate
Thomas GRAZIANO	Delegate
Daniel MULLER	Delegate
Elizabeth PAGE (Ms)	Delegate
James PERONTO	Delegate
Jamie RHOME	Delegate
Richard BANDY	Observer
Monique BASKIN (Ms)	Observer
Kevin BERBERICH	Observer
William Carl BOLHOFER	Observer
Daniel BROWN	Observer

Alicia CHERIPKA (Ms)	Observer
Peter COLOHAN	Observer
Shanna COMBLEY (Ms)	Observer
Caroline CORVINGTON (Ms)	Observer
James CROCKER	Observer
Thomas CUFF	Observer
Albert DEGARMO	Observer
Hiram ESCABI	Observer
Darin FIGURSKEY	Observer
Mike GRAF	Observer
Paul KUCERA	Observer
Curtis MARSHALL	Observer
Mark MILLER	Observer
John NANGLE	Observer
John OGREN	Observer
AJ REISS	Observer
Alix ROLPH	Observer
Jessica SCHAUER (Ms)	Observer
Kevin SCHRAB	Observer
Kari SHEETS (Ms)	Observer
Susan WEST (Ms)	Observer

3. WMO Members outside RA

Bolivia, Plurinational State of

Hugo Cristobal MAMANI TICONA	Observer
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Chad

Gaya DJERGO	Observer
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Myanmar

Khin Win MAW (Ms)	Observer
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Spain

Jorge TAMAYO CARMONA	Observer
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4. Invited Experts

Marshall ALEXANDER

Curtis BARRETT

Andres CAMPUSANO

Roberto CERON

Marie Carmelle Valcourt CHERY (Ms)

Jan DANHELKA

Karolin EICHLER (Ms)

Marcelin ESTERLIN

Douglas FLORES

Andre JOYEUX

Johannes LINN

Luis A LOUREIRO

Luis MENJIVAR

Berta A. OLMEDO VERNAZA (Ms)

Eduardo PATINO

Juan SALDANA COLIN

Ezekiel SAMPSON

Mark SMITH

Jean-Marc TERRISSE

5. Representatives of international organizations and other bodies**IAEA**

Hal TURTON	Observer
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ICAO

Luis SANCHEZ	Observer
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ICESCO

Foued EL AYNi	Observer
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ICID

Marco ARCIERI	Observer
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IUCN

Milena BERROCAL (Ms)	Observer
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WFEO

Yvette RAMOS (Ms)	Observer
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6. Presidents of constituent bodies and Chairs of other bodies

Gerhard ADRIAN	Observer
Yolanda GONZALEZ HERNANDEZ (Ms)	President of RA III
Ian LISK	President of SERCOM
Andrea Celeste SAULO (Ms)	Chair of Research Board

7. Regional Hydrological Advisors

Jose ZUNIGA	Regional Hydrological Advisor
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For more information, please contact:

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