

C A R I B B E A N

M E T E O R O L O G I C A L

O R G A N I Z A T I O N

**CARIBBEAN METEOROLOGICAL COUNCIL** **Doc. 5**

FIFTY-EIGHTH SESSION

Basseterre, ST. KITTS AND NEVIS, 15-16 NOVEMBER 2018

##### SPECIAL CMO AND WMO ISSUES

(Submitted by the Coordinating Director)

## Introduction

1. This document is designed to keep the Council informed on significant regional or international issues of special interest to the CMO. Some of these, particularly those emanating from the World Meteorological Organization (WMO) or other relevant organizations, will require decisions or actions by Council to ensure that CMO Member States understand their roles and adhere to commitments and requirements. Some other items will likely be presented verbally. The Agenda item covers primarily the following topics:

1. Outcome/Highlights of the 2018 Executive Council (EC) of the World Meteorological Organization
2. WMO Integrated Global Observing System – Pre-Operational Phase
3. Reception of new Geostationary Satellite Imagery in CMO Member States
4. The Global Framework for Climate Services (GFCS)
5. Issues emerging from the WMO Technical Commission sessions in 2018 (CCl, CAgM, CAeM)
6. Tropical Cyclone Programme
7. The World Meteorological Congress 2019.

## 5(A): Outcome/Highlights of the 2018 Executive Council (EC) of the World Meteorological Organization (WMO)

2. The 70th session of the WMO Executive Council was held at the Headquarters of the World Meteorological Organization in Geneva from 20 to 29 June2018. It was chaired by the President of WMO, *Mr David Grimes* of Canada. The Executive Council (EC) is the executive body of the Organization, which meets annually, implements decisions of the supreme body – the WMO Congress – coordinates the Programmes, decides on the allocation of budgetary resources, provides guidance and takes action on recommendations of Regional Associations and Technical Commissions and on matters affecting international meteorology and related activities.

3. The outgoing Coordinating Director of the CMO, *Mr Tyrone Sutherland*, has been a member of the WMO Executive Council for 19 years, having been first elected in 1999 and then serving as the Second Vice-President of the WMO for the maximum two terms between 2003 and 2011. The Coordinating Director was accompanied to this session by *Dr. Arlene Laing,* the Coordinating Director‑Designate of the CMO, along with advisers comprising the Principal of the CIMH, *Dr. David Farrell*, and the Science and Technology Officer at the CMO Headquarters, *Mr Glendell De Souza.*

4. As noted in Doc 3(a), a special feature of this 70th session for the CMO community was the transition from the retiring Coordinating Director of CMO, in his long-standing position as an elected member of the WMO Executive Council, to a role for the incoming Coordinating Director. At his request, the Government of the UK agreed to the naming of Dr. Arlene Laing as the new Permanent Representative of the British Caribbean Territories (BCT) with WMO with effect from 27 June 2018. The position of Permanent Representative with WMO is a requirement to be eligible for election to the WMO Executive Council. During an in-camera session of the Executive Council, Dr. Laing was elected as an acting EC member to replace Mr Sutherland from 27 June 2018. That decision therefore enabled Mr Sutherland to participate in the Council session as a member until 26 June.

5. This 2018 session of the Executive Council continued the implementation process for the seven priorities for the period 2016-2019. Those of particular relevance to the CMO Member States continued to be:

1. WMO’s ***Disaster Risk Reduction*** (DRR) programmes and activities to improve the accuracy and effectiveness of impact-based forecasts and multi-hazard early warnings of high-impact hazards;
2. Enhancing the implementation of the **Global Framework for Climate Services** GFCS, particularly for countries that lack adequate climate services;
3. Promoting the full and mandatory implementation of the **WMO Integrated Global Observing System** (WIGOS) and the ***WMO Information System*** (WIS) in order to strengthen the global observing systems;
4. Measures to improve the ability of National Meteorological Services to provide sustainable high-quality **Aviation Meteorological Services**;
5. ***Capacity Development*** for developing and least developed countries aimed at the delivery of improved weather, water and climate predictions;
6. Improving the **Governance of WMO** based on a strategic review of WMO structures, operating arrangements and budgeting practices.

6. Within its discussion on some of the above issues, the Executive Council had a focus on addressing high-impact weather, climate change and environmental challenges. It discussed evolving relationships with the rapidly growing private sector, as well as observations, satellites and data exchange. The Council also held a special dialogue on water, in which the feature speaker was the former Secretary-General of the United Nations, ***Mr Kofi Annan***.

7. Among the many tasks of this70th session of the Executive Council was the preparation for the next Session of the ***World Meteorological Congress*** (Cg-18) in 2019. The World Meteorological Congress is the supreme organ of the WMO, which decides on all global activities of the Organization. In this regard, the Executive Council spent considerable time discussing a major topic to be brought to the Congress - the reform of WMO’s structure to meet the rapidly growing need for weather, climate and water services and scientific know-how, in order to enhance the value of WMO activities for its Member States and relevant international organizations. The main part of these reform discussions concerned the number and structure of the WMO Technical Commissions, in which there have been proposals to merge some of the Commissions. The difficult discussions were essentially unresolved and will have to be resolved by the Congress itself. The current structure of the Technical Commissions is shown below:

* Commission for *Basic Systems* (**CBS)**
* Commission for *Instruments and Methods of Observation* (**CIMO)**
* Commission for *Aeronautical Meteorology* (**CAeM)**
* Commission for *Agricultural Meteorology* (**CAgM)**
* Commission for *Atmospheric Sciences* (**CAS)**
* Commission for *Climatology* (**CCl)**
* Commission for *Hydrology* (**CHy)**
* Joint WMO-IOC Commission for *Oceanography and Marine Meteorology* (**JCOMM).**

8. In discussing the financial matters of the WMO, the CMO team took a critical look at the state of the contributions of CMO Member States to the WMO budget. It must be recognized that, despite a country's size, all Member States form part of a global system under the umbrella of the WMO that is critical to the economies of all countries and to the safety and well-being of all their citizens. As all countries benefit significantly from WMO, it was therefore noted with concern that a few CMO Member States had arrears ranging from four (4) to 12 years. It was hoped that the CMO Member States with significant arrears to WMO make every effort to enter into an arrangement with WMO that would alleviate this situation.



## 5(B) WMO Integrated Global Observing System – Pre-Operational Phase (2016-2019)

9. Over the last several years, the Caribbean Meteorological Council has held significant discussions on the *WMO Integrated Global Observing System* (WIGOS), an all-encompassing approach to the improvement and evolution of WMO’s global observing systems, which is needed in all countries to consolidate progress in meteorological research, numerical modelling, and computer and communication technologies. Closely tied to WIGOS is the implementation of the *WMO Information System* (WIS)(see paragraph 5(iii) above). WIGOS, together with WIS, form the basis for the provision of accurate, reliable and timely weather, climate, water and related environmental observations and products by all Members and WMO Programmes, which would lead to improved service delivery. Both WIGOS and WIS are very essential to all technical and scientific activities of Meteorological Services in the Caribbean and worldwide.

10. Council will recall that WIGOS moved into its *Pre‑operational Phase* in 2016. This Phase will end in 2019, with WIGOS set to become fully operational from 2020. As with all Member States of WMO, CMO Member States should currently be in full preparation for implementation activities at the regional and national levels. The goal therefore is to have all Member States and their partners benefit from a fully operational system from 2020. In the Caribbean region, the focus has been on getting the Meteorological and Hydrometeorological Services fully ready in the first instance, while efforts continue to bring partner institutions and organizations on board as contributors to WIGOS.

11. The concept for *Regional WIGOS Centres* (RWCs), as endorsed by the WMO Executive Council, was still being discussed. The Executive Council has recognized the critical role that RWCs will play in advancing the implementation of WIGOS at the regional level by providing regional coordination, technical guidance, assistance and advice to Members and partner organizations, essentially through regional WIGOS performance monitoring and incident management. The CMO Headquarters and the Meteorological Service of Trinidad and Tobago indicated to the WMO Secretariat that they would investigate the possibility of collaborating as a joint RWC for the English-speaking Caribbean. The Caribbean Meteorological Council is encouraged to discuss this concept.

## 5(C) Reception of new Geostationary Satellite Imagery in CMO Member States

12. Council will recall that the new Geostationary Operational Environmental Satellite (**GOES-16**) was successfully launched in November 2016. GOES-16 is now the operational **GOES-East** weather satellite positioned at 75.2 degrees West, providing coverage over the Atlantic Ocean from the west coast of Africa, North and South America and the Caribbean (see image below). The sister satellite, **GOES-17**, was successfully launched in March 2017 and, on completion of its testing phase, will become operational as the **GOES-West** satellite at 137°W in late 2018. These satellites provide advanced imagery and atmospheric measurements of Earth from 22,300 miles (35,890 km) above the equator. GOES-16 and 17 are the new generation of geosynchronous environmental satellites that provide atmospheric and surface measurements of the Earth’s Western Hemisphere for weather forecasting, severe storm tracking, space weather monitoring and meteorological research.

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| [GeoColor - True Color daytime, multispectral IR at night - 05 Sep 2018 - 1445 UTC](https://cdn.star.nesdis.noaa.gov/GOES16/ABI/FD/GEOCOLOR/20182481445_GOES16-ABI-FD-GEOCOLOR-1808x1808.jpg) | 13. The GOES-16 and 17 mark a massive technological advance in geostationary observations. National Meteorological Services now have unprecedented new capabilities that allow for a wide range of forecast improvements. Compared to the outgoing GOES system, the advanced instruments and data processing provides:   * Three times more spectral information * Four times greater spatial resolution * Five times faster coverage * Real-time mapping of total lightning activity * Increased thunderstorm and tornado warning lead time * Improved hurricane track and intensity forecasts. |

14. The lightning mapping capability allows forecasters to track lightning over the entire hemisphere. This is important because intensification in lightning activity may indicate a storm is becoming increasingly severe.

15. Personnel from the CMO Headquarters and the CIMH continue to be directly involved with WMO and the US National Weather Service in coordinating the operational use of the GOES data among CMO Member States. Due to the vast data volume and faster satellite transmission than the previous systems, Meteorological Services in the region have either installed or are exploring their options among three pathways to receive the new satellite data and/or imagery, namely:

1. Direct readout from the GOES ReBroadcast (GRB);
2. Various commercial data services via the Internet;
3. Imagery via GEONETCast-Americas - the western hemisphere component of a near real‑time global network of satellite-based data dissemination systems.

16. In this regard, in 2018, the Cayman Islands installed a full GOES ReBroadcast (GRB) ground station, the first such system in the Caribbean, thereby receiving the primary relay of full resolution, calibrated, near-real-time direct broadcast and data from the Geostationary Lightning Mapper (GLM). The National Weather Service of the Cayman Islands indicated a willingness to share its GOES data with the NMHSs of other CMO Members. Therefore, the CMO HQ initiated discussions with regional and international network experts on optimal methods for transferring the data from the Cayman Islands to the other CMO Members.

## 5(D) The Global Framework for Climate Services (GFCS)

17. The Council will recall that the ***Global Framework for Climate Services*** (GFCS), a UN-led initiative spearheaded by WMO, is being implemented throughout the world to guide the development and application of science-based climate information and services in support of decision-making. The governing structure for the GFCS is an *Intergovernmental Board on Climate Services* (IBCS), which is accountable to the WMO Congress. The Management Committee of the IBCS is determined by the various WMO Regional Associations. Membership for North America, Central America and the Caribbean (WMO Region IV) is through the British Caribbean Territories (BCT), Canada, Costa Rica and the USA. *Dr. David Farrell* is the BCT/CMO representative on the Management Committee with *Mr**Adrian**Trotman* as the alternate.

18. As a framework with broad global participation and reach, GFCS enables the development and application of climate services to assist decision-making at all levels in support of addressing climate-related risks and outcomes at national, regional and global levels. The priority areas for the GFCS are (i) Agriculture and food security (ii) Disaster risk reduction, (iii) Energy (iv) Health and (v) Water. The GFCS is currently being implemented through eight global projects, many with an emphasis on developing countries and Small Island Developing States.

19. In this regard, several of the GFCS Projects involve or would involve the Caribbean Institute for Meteorology and Hydrology. For example, the "Programme for Implementing the Global Framework for Climate Services (GFCS) at Regional and National Scales" is funded by a grant from Canada to implement GFCS in the Pacific, the Caribbean, South Asia and the Arctic. The CMO Member States benefitting from this project are Antigua and Barbuda, Barbados, Belize, Dominica, Grenada, Guyana, Jamaica, St. Kitts and Nevis, Saint Lucia, St. Vincent and the Grenadines and Trinidad and Tobago.

20. In 2018, the 70th session of the WMO Executive Council endorsed a Mid-term Review of the GFCS undertaken by its Management Committee. This will be submitted to the 18th World Meteorological Organization Congress (Cg-18) in 2019 for its full review and recommendations.

## 5(E) Issues emerging from the WMO Technical Commission sessions in 2018

## (CCl, CAgM, CAeM)

21. The ***WMO Commission for Climatology*** (CCl) is the WMO Commission that guides the global activities of the *World Climate Programme.*  This is carried out particularly through the *World Climate Services Programme,* including *Climate Applications and Services* and *Climate Data and Monitoring.* CCl also plays a key role in implementation of the *Global Framework for Climate Services (GFCS)*(see section 5D above). The 17th session of the Commission was held at the WMO Headquarters in Geneva, Switzerland from 10-13 April 2018. CMO Member States that participated in CCl were Belize (*Mr Carlos Fuller*), Trinidad and Tobago (*Mr Kenneth Kerr*) and the British Caribbean Territories/CMO (*Mr Adrian Trotman and Dr.* *Cedric* *Van* *Meerbeeck* of the CIMH).

22. The session adopted a broad strategic direction for the Commission that focused on the expansion, strengthening and delivery of climate information and services at national, regional and global levels. The Commission endorsed a two-track approach – of enhancing NMHS’s climate observations, data management and forecasting systems necessary to provide climate services, and for supporting climate-related joint action and high-level policy processes within the United Nations system. Among the resolutions passed by the Commission was one on enhancing the operations of the network of WMO *Regional Climate Centres* (RCC). It will be recalled that the CIMH was officially designated as a WMO RCC for the Caribbean in 2017.

23. Integrated into the CCl session was a two-day Technical Conference (11-12 April) that highlighted the applications and utility of CCl outputs, as well as the strong links between the GFCS and the work of the Commission. As part of the Technical Conference, Mr Adrian Trotman delivered a presentation, entitled “*Enhancing the use of sector-specific climate indices: Lessons from the Caribbean*”. The presentation had been co-authored with *Dr. Roché Mahon* and *Dr. Cedric Van Meerbeeck*, both of the CIMH. CCl expanded its Management Group to include *Mr Carlos Fuller* as Special Advisor to the President on *High-level Science-Policy Climate Related Issues*. It also named *Mr Adrian Trotman*, *Dr. Cédric Van Meerbeeck* and *Dr. Tannecia Stephenson* of Jamaica as members of various Expert Teams of the Commission.

24. The 17th session of the ***WMO Commission for Agricultural Meteorology*** (CAgM) was held in Incheon, Republic of Korea, from 18 to 20 April 2018. CAgM is the WMO Commission that provides guidance to WMO Member States in the field of agricultural meteorology, by studying and reviewing the available science and technology to help develop sustainable and economically viable agricultural systems and in the use of climate information for long-term agricultural planning purposes.

25. The Commission session was preceded by a “*Women's Agro-Meteorology Leadership Workshop*" and a Technical Conference (TECO) on "*Future Challenges and Opportunities in Agricultural Meteorology*". The Women’s Workshop was aimed at building a cohort of female leaders in the agrometeorological community, who would contribute to the scientific work of CAgM. Three female staffers from CMO Member States participated in the Workshop; namely, *Mrs Shontelle Stoute* (BCT/CIMH), *Mrs Shanea Young* (Belize) and *Mrs Arlene Aaron-Morrison* (Trinidad and Tobago), while *Mr Adrian Trotman* of the BCT/CIMH joined the three Caribbean female representatives to attend the TECO and the CAgM session. During the Conference, *Mrs Young* made a presentation on the agrometeorological needs of Belize.

26. CAgM agreed on a number of priority areas for the 2018-2022 period, including:

* Advancing scientific research and its application, especially to address the global agricultural challenges of managing climate risks and adapting to climate variability and change;
* Improving service quality and delivery by, among other things (i) enhancing meteorological services for the agricultural, livestock, forestry, rangeland and fishery communities, (ii)encouraging knowledge-sharing between weather forecasters and scientists, extension services and the agricultural decision-makers;
* Building and enhancing partnerships and cooperation to support improved agricultural production and economic development.

27. All four representatives from the CMO Member States at the session were nominated to serve on CAgM Expert Teams representing WMO's North America, Central America and the Caribbean Area. The final selections would be made by the CAgM Management Group in a subsequent meeting.

28. WMO held the 16th session of its ***Commission for Aeronautical Meteorolog****y* (CAeM-16) in the United Kingdom from 24 to 27 July 2018. CAeM is the WMO Commission that guides its Aeronautical Meteorology Programme, recognizing that aeronautical meteorology is vital for the efficiency, safety and environmental sustainability of civil aviation and is a major or even prime focus for many Meteorological and Hydrometeorological Services around the world, including the Caribbean.

29. The involvement of the organs of the CMO in this area is thus fundamental to the region. In this regard, *Mr Glendell De Souza* of the CMO Headquarters and *Ms Kathy-Ann Caesar* of the CIMH participated in the Commission session, which was preceded by a Technical Conference (TECO) on 23 July 2018 on the theme *"The Future is now: Meteorology Enabling Decision Support"*.

30. Given the huge advances in meteorological science and underpinning technologies that have evolved in the last several decades, the Commission agreed that the relevant business rules need to evolve to better support the aviation industry’s increasing needs for risk-based decisions. It was also agreed that the validation and verification of meteorological forecasts and user services were becoming increasingly relevant if users are to trust and optimise the use of the meteorological information that they receive.

31. The Commission noted that there were several issues which face National Meteorological Services in the provision of aeronautical meteorology. These were being driven by the *International Civil Aviation Organization* (ICAO)'s Global Air Navigation Plan (GANP) and its aviation system block upgrades (ASBU) methodology, as well as the evolving needs of the aviation industry and advancement of technologies, namely:

(a) Ever-increasing aviation user demands for new and/or enhanced aeronautical meteorological services, globally harmonized services, seamless and more effective air traffic management in response to the rapid increase in air traffic in many parts of the world, as well as the more rapid (2‑year) amendment cycle of the ICAO **Annex 3** publication - "*Meteorological Service for International Air Navigation*";

(b) Trends for regionalization and globalization of aeronautical meteorological services, especially the ongoing deliberations on the most appropriate international system for provision of phenomena-based hazardous meteorological information to address long-standing **SIGMET** deficiencies;

(c) Technological drivers, such as the implementation of the ICAO system-wide information management (SWIM) system, including the development of the new aeronautical meteorological code IWXXM, availability of technologies to uplink weather information to the cockpit of aircraft-in-flight and availability of nowcasting techniques for high-impact weather, etc., mean that timely system upgrades by Meteorological Services will need to be pursued, which could be challenging to the developing world;

(d) The role of the private sector in public-private partnership (PPP) within the ‘Global Weather Enterprise’ and the challenges and opportunities this presents for NMHSs;

(e) Lack of effective cost-recovery mechanism for aeronautical meteorological services in some Member counties and the need to develop new mechanisms to support increased regionalization of service provision;

(f) Maintenance and updating of *Quality Management Systems* (QMS) and Aeronautical Meteorological Personnel (AMP) competency assessment frameworks.

32. **Ms Kathy-Ann Caesar**, who had been a core member of the *CAeM Expert Team - Education, Training and Competency* since 2014, was selected as the co-chair of the Expert Team at the session.

## 5(F) Tropical Cyclone Programme

33. The Caribbean Meteorological Council is aware that activities within the WMO *Tropical Cyclone Programme* (TCP) are among the most important to the Caribbean and other tropical basins. The TCP is essential to help reduce the disaster risk associated with the tropical cyclones. The most critical regional activity under the TCP is the WMO *Hurricane Committee*, serving the *North Atlantic and Caribbean Basin*. The Hurricane Committee has at its core, *the US National Hurricane Center*, which is one of WMO’s primary *Regional Specialized Meteorological Centres* (RSMCs) for tropical cyclones.

34. Most Meteorological Services in CMO States are represented on the Hurricane Committee which, along with the relevant regional and national disaster management community, work continuously towards the reduction of disaster risks by tropical cyclones, particularly in terms of loss of lives. The Hurricane Committee defines and routinely updates the entire warning system for tropical cyclones in the North America, Central America and the Caribbean region, including the areas of responsibility of the NMHSs in each Member State in the provision of tropical cyclone forecasts and warnings. The warning system includes back-up arrangements between Meteorological Services with warning responsibilities. The 2018 session of the Hurricane Committee met in Martinique in March, in which the devastating 2017 hurricane season was discussed in great detail. The CMO organized for special presentations to be made by *Ms Sharleen Dabreo* and *Dr. Virginia Clerveaux*, Directors of the Disaster Management Agencies of the British Virgin Islands and the Turks and Caicos Islands respectively, on the 2017 season’s impacts, primarily of Hurricanes Irma and Maria, on those islands. These presentations and associated discussions were very well received and highly appreciated.

35. The Hurricane Committee was given a briefing on the status of preparation by CMO and partners for the implementation of a WMO ***Severe Weather Forecasting Demonstration Project*** (SWFDP) in parts of the Caribbean, with an aim, among others, to foster greater collaboration among National Meteorological Services and Disaster Management Agencies. This SWFDP activity is discussed in more detail under Agenda item 12.

## 5(G): The World Meteorological Congress 2019

36. Every four years, the *World Meteorological Congress*, which is the highest body of the WMO, meets to review its Programmes and activities for the next Financial Period. All of the sections above, particularly Section 5A, refer to major issues to be brought to the next session of the *Congress* in 2019. The Programmes of the WMO affect all nations of the world - large and small. The 18th *World Meteorological Congress* is scheduled to be held in Geneva, Switzerland from June 5-14, 2019. At every session preceding a WMO Congress, the Caribbean Meteorological Council reviews or develops its positions on existing and emerging issues in preparation for the Congress.

37. A particularly contentious issue at the Congress, as noted in Section 5A, could be proposals on reforms to the WMO Technical Commissions. The same could be true to proposals for reforms to the structure and number of Regional Associations. Closely tied to the Congress decisions on structural reforms will be the *WMO Strategic Plan and Budget* for the period 2020-2023 and the Secretary‑General's budget proposals for that same period. Consideration will be given by the Congress to a Policy Act on Public–Private Engagement. Consideration will also be given to holding an Extraordinary Congress in 2021 as part of a proposal of regularly holding two Congress sessions in the 4-year period that would offer benefits of more frequent gathering of general assembly of Members.

38. A very critical activity of every Congress is the election and appointments of the Officers of the Organization. The 18th Congress will elect the President and three Vice-Presidents, along with 27 other members of the Executive Council. The Congress will then appoint or re-appoint the Secretary-General of the Organization. It is useful to note that the current President of WMO, *Mr David Grimes* of Canada, will complete his full period of two consecutive terms at this Congress, having been elected in 2009 and re-elected in 2015. He has served the Organization with great distinction as President. Therefore, a new President will be elected at this Congress.

39. As noted in CMC58 Doc 3(a) and in paragraph 4 above, it is the intention to seek the election at the Congress to the WMO Executive Council of the incoming Coordinating Director of CMO, as the Permanent Representative of the British Caribbean Territories with WMO. This position is very critical to all CMO Member States, as well as to the entire North America, Central America and the Caribbean Region of WMO (Region IV). It must be borne in mind that Officers of the WMO who are elected by the Congress serve in an individual capacity as representatives of the entire Organization and not as representatives of particular Member States. Recognizing that the Programmes of the WMO affect all nations of the world, Council may wish to emphasize the need for as many CMO Member States to be actively represented at the 18th WMO Congress by the appropriate level personnel.

**ACTION PROPOSED TO COUNCIL**

40. **Council** is asked to:

1. **Note** the key issues emanating from the 2018 session of the Executive Council (EC) of the **World Meteorological Organization**;
2. **Urge** CMO Member States to ensure that their NMHSs complete activities in preparation for the Operational Phase of WIGOS starting in 2020;
3. **Discuss** and **provide guidance** on the proposed concept of *Regional WIGOS Centres* (RWCs);
4. **Urge** Member States to **complete the process** for reception of the new GOES-16 weather satellite data and products;
5. **Continue** its strong support for the *Global Framework for Climate Services* and to urge Member States to actively participate in GFCS projects and activities;
6. **Note** the important issues emerging from the 2018 sessions of WMO Technical Commissions on Climate, Agricultural and Aeronautical Meteorology;
7. **Urge** Member States to review and complete any outstanding matters in their implementation of the ICAO-mandated *Quality Management System* (QMS) for meteorological services to aviation, taking particular note of deadlines set by the *International Civil Aviation Organization* (ICAO);
8. **Note** and **support** the important work of the regional Hurricane Committee;
9. **Urge** Member States to actively participate in the 18th World Meteorological Congress in 2019.

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CMO Headquarters, October 2018