International Civil Aviation Organization

MIDANPIRG Meteorology Sub-Group
Twelfth Meeting (MET SG/12)

(Virtual, 12 – 13 November 2024)

Agenda Item 3: Global and Regional Developments

WMO ACTIVITIES OF RELEVANCE TO ICAO

(Presented by the World Meteorological Organization, WMO)

SUMMARY

This information paper provides an overview of some of the recent activities of the World Meteorological Organization (WMO) of relevance to ICAO, particularly in the context of WMO's latest organization structures, engagement with ICAO and other agencies at the global and regional levels, recent and upcoming events, and other noteworthy information, including links to WMO resources.

Action by the meeting is at paragraph 3.

REFERENCES

- *Technical Regulations,* (WMO-No. 49), Volume I, *General Meteorological Standards and Recommended Practices*
- *Technical Regulations* (WMO-No. 49), Volume II, *Meteorological Service for International Air Navigation*
- *Manual on Codes*, Volume I.3 – *International Codes*, Part D – *Representations derived from data models* (WMO-No. 306)
- *Manual on the Global Telecommunication System* (WMO-386)
- *Manual on the Global Data-processing and Forecasting System* (WMO-485)
- *Guide to Meteorological Observing and Information Distribution Systems for Aviation Weather Services* (WMO-No. 731)
- *Guide to Services for Aviation* (WMO-No. 732)
- *Aerodrome Reports and Forecasts: A User's Handbook to the Codes* (WMO-No. 782)
- *Guide to Aeronautical Meteorological Services Cost Recovery: Principles and Guidance* (WMO-No. 904)
- *Manual on the WMO Information System* (WMO-No. 1060)
- *Guide to the WMO Information System,* Volume I (WMO-No. 1061)
- *Guide to the Implementation of Education and Training*

Standards in Meteorology and Hydrology, Volume I – *Meteorology* (WMO-No. 1083)

- *Guide to the Implementation of Quality Management Systems for National Meteorological and Hydrological Services and Other Relevant Service Providers* (WMO-No. 1100)
- *WMO Strategy for Service Delivery* (WMO-No. 1129)
- *Manual on the WMO Integrated Global Observing System* (WMO-1160)
- *Guide to Competency* (WMO-No. 1205)
- *Compendium of WMO Competency Frameworks* (WMO-No. 1209)
- *Proceedings of the 2017 Aeronautical Meteorology Scientific Conference* (WMO AeM SERIES No. 2)
- *Long-term Plan for Aeronautical Meteorology* (WMO AeM SERIES No. 5)
- *Proceedings of the Eighth International Workshop on Volcanic Ash* (WMO AeM SERIES No. 8)
- ICAO Annex 3, *Meteorological Service for International Air Navigation*
- ICAO *Procedures for Air Navigation Services – Meteorology* (PANS-MET) (ICAO Doc 10145)
- IATA Safety Report 2023

1. INTRODUCTION

1.1 ICAO and the World Meteorological Organization (WMO) coordinate, collaborate and cooperate on international standards for aeronautical meteorological service provision, as contained in ICAO Annex 3/WMO Technical Regulations (WMO-No. 49), Volume II, *Meteorological Service for International Air Navigation* and supporting ICAO and WMO guidance material. Where resources allow, WMO continues to play an active role in supporting its Members and partners, including ICAO, in the establishment, maintenance and implementation of these international standards

1.2 This information paper provides an overview of some of the recent activities of WMO of relevance to ICAO, particularly in the context of WMO's latest organization structures, engagement with ICAO and other agencies at the global and regional levels, recent and upcoming events, and other noteworthy information, including links to WMO resources

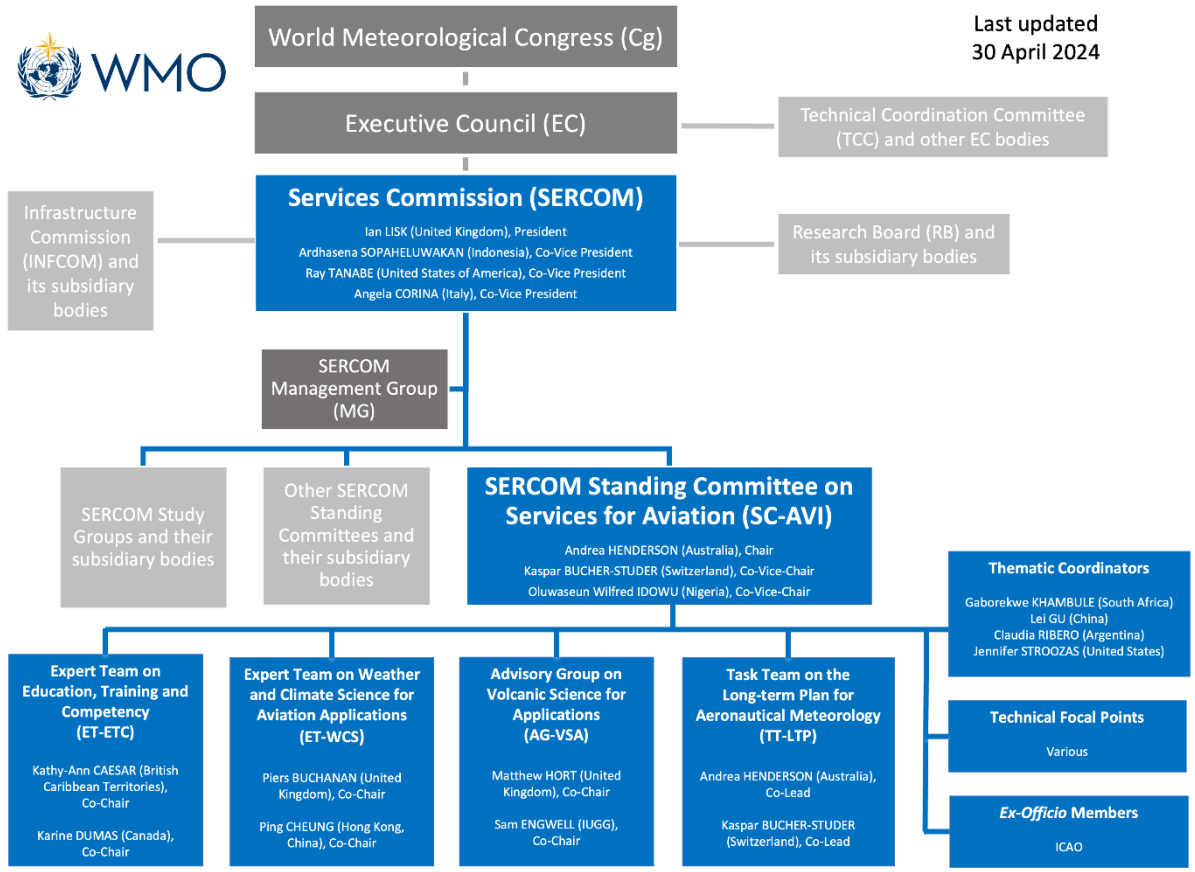
2. DISCUSSION

Latest organization structure in the WMO Services for Aviation activity area

2.1 As reported at recent MET SG meetings (for example, through MET SG/10-IP/03 and MET SG11/IP-03), in 2019 WMO embarked on a major reform of its governance structures. This reform was, to the greatest extent, completed in eighteenth financial period of WMO, 2020-2023. As part of the reform, a *non-governmental* Standing Committee on Services for Aviation (SC-AVI) was established under an *intergovernmental* Commission for Weather, Climate, Hydrological, Marine and Related Environmental Services and Applications (abbreviated to 'Services Commission' or

SERCOM). SC-AVI comprises approximately 15 experts, with representation from across all six WMO Regions. Its primary purpose is to contribute to furthering the standardized provision of meteorological services for international air navigation and to provide assistance to Members with aeronautical meteorological services to achieve compliance with those standards. ICAO is an ex-officio member of SC-AVI and, as such, is a key collaborator in all the Standing Committee's activities.

2.2 SERCOM convenes ordinary sessions approximately once every two years. The third session of the Services Commission (SERCOM-3) took place in March 2024. Outcomes of SERCOM-3 can be found at §2.19 and §2.20 below. Amongst other topics, the Commission addressed the SERCOM work programme and the Commission's subsidiary body structures and leadership for the commencing new intersessional period 2024-2027. In particular, a new Chair of the Standing Committee was elected, namely Ms Andrea Henderson from Australia, and two Co-Vice-Chairs, namely Mr Kaspar Bucher-Studer from Switzerland and Mr Oluwaseun Wilfred Idowu from Nigeria. The latest working structure and reporting-line of SC-AVI are as follows:



2.3 The SC-AVI structure has been modified only slightly for 2024-2027 compared with the last intersessional period (2020-2023), hence ensuring a high degree of continuity with the previous structure, expert composition and activities. As illustrated above, SC-AVI is currently supported by two expert teams (ET), one advisory group (AG) and one task team (TT). Information on these SC-AVI subsidiary bodies is available via the following links: ET-ETC, ET-WCS, AG-VSA and TT-LTP. In addition, several thematic coordinators and other technical focal points contribute to the work of the Standing Committee (more information available here).

2.4 Final reports, executive summaries and other information pertaining to the outcomes of meetings of SC-AVI and its subsidiary bodies are available here.

2.5 Insofar as the WMO Secretariat is concerned, the staffing of the Services for Aviation (AVI) Section, based at WMO headquarters in Geneva, Switzerland has remained unchanged recently. It comprises Mr Greg Brock, Head, Ms Stéphanie Wigniolle, Scientific Officer, and Ms Adriana

Oskarsson, Associate Programme Officer. The Secretariat of the AVI Division is contactable via email (aviation@wmo.int).

2024 update to the working arrangements between ICAO and WMO

2.6 ICAO and WMO have recently concluded a substantive update of their working arrangements, thereby helping to enhance the Organizations' coordination, collaboration and cooperation, at the global and regional levels, now and over the coming years in aeronautical meteorology, specifically, plus related fields such as the impact of aviation on the environment and the impact of climate change on aviation.

2.7 ICAO and WMO have possessed working arrangements since 1954. The latest (2024) update represents the first update since 1963.

2.8 After extensive work over several years, the 2024 update to the working arrangements was signed by the ICAO Secretary General, Mr Juan Carlos Salazar and the WMO Secretary-General, Prof. Celeste Saulo in June/July 2024. The working arrangements will now be reviewed every 5 years and updated as/when necessary.

WMO contribution to global initiatives (non-exhaustive)

WMO contribution to the ICAO Meteorology Panel (METP)

2.9 Within the available resources, WMO plays an active role in the activities of the ICAO Meteorology Panel (METP) and its working groups – presently WG-MRAD, WG-MIE, WG-MOG and WG-MCRGG[1] – addressing an array of topics including but not limited to:

- Hazardous weather information service (HWIS) concept;
- New aerodrome observation and forecast services requirements;
- ICAO meteorological information exchange model (IWXXM) requirements, IWXXM extensions and IWXXM documentation;
- MET in SWIM (system-wide information management);
- Operation and development of global MET systems, namely:
  - International airways volcano watch (IAVW);
  - World area forecast system (WAFS);
  - Secure aviation data information system (SADIS) and WAFS internet file service (WIFS);
- Space weather (SWx) information service.
- Cost recovery of aeronautical meteorological services.
- Use and re-use of aeronautical meteorological information.

2.10 In the context of IWXXM, WMO continues to be responsible, at the request of ICAO, for the development and the publication of the IWXXM schemas. The latest version of the IWXXM schema – namely version 2023-1 – was published by WMO in January 2023, updated in June 2023, and is available here. (Release Notes for version 2023-1 are available here.) This version was a minor release to address the SIGMET and AIRMET packages. Like its predecessor (2021-2), version 2023-1 supports the requirements of Amendments 79 and 80 to ICAO Annex 3. Technical specifications pertaining to IWXXM are included in the *Manual on Codes* (WMO-No. 306), International Codes, Volume I.3 – *Annex II to the WMO Technical Regulations*: Part D – *Representations derived from data models*. A WMO Task Team on Aviation Data (TT-AvData), under the Infrastructure Commission (INFCOM), has been working on a schema to support the next amendment (Amendment 82) of ICAO Annex 3 with intended applicability in November 2025. A first Release Candidate version of the updated IWXXM schema, namely 2025-2RC1, was made available in April 2024 for review and is available here.

2.11 In the context of system-wide information management (SWIM), the third session of the WMO Commission for Observation, Infrastructure and Information Systems (Infrastructure Commission) (INFCOM-3, 15-19 April 2024) approved the establishment by WMO, in consultation with ICAO, of a task team to address the interoperability needs between the WMO Information System (WIS) and ICAO SWIM. The task team, namely TT-WIS2-SWIM Interoperability, comprised experts from WMO INFCOM SC-IMT[1] and the above-mentioned ICAO METP WG-MIE. Having completed the development of guidelines on WIS2 and SWIM interoperability to be included in the *Guide to the WMO Information System* (WMO-No. 1061), the task team was dissolved.

2.12 Furthermore, the WMO Secretariat and ICAO Secretariat, in coordination with the chairs of SC-AVI and METP, have commenced, initially in a trial mode until December 2025, a 'Joint Aviation Forum' (JAF) between WMO (SC-AVI) and ICAO (METP MG). The JAF provides a venue for the parties concerned to periodically discuss, in an informal and online setting, matters of common interest or concern, particularly focusing on matter of strategic importance, thereby helping to facilitate inter-agency coordination that will be to the benefit of WMO Members and ICAO States. The JAF in no way bypasses or replaces existing WMO and ICAO structures such as SC-AVI and METP. Rather, the JAF is complementary and in the spirit of the working arrangements between the two Organizations. To date, two online JAF meetings have been convened – the first in December 2023 addressing the implications of service delivery transformation in aeronautical meteorology and the second in May 2024 addressing succession planning and the next generation of leaders in aeronautical meteorology. If the prevailing trial proves to be a success and ultimately worthwhile to both Organizations, the JAF may be continued after the trial period.

WMO contribution to other ICAO and non-ICAO initiatives at the global level

2.13 In addition to the above-mentioned METP-related activities, WMO actively contributes to ICAO's Committee on Aviation Environmental Protection (CAEP), most notably through CAEP Working Group 2, addressing airports and operations and CAEP ISG, addressing impacts and science. CAEP WG2 activities being supported by WMO include the updating of a climate adaptation synthesis report (through literature reviews and the re-running of a global survey on climate impacts) as well as the scoping of a cost impacts study. CAEP ISG activities being supported by WMO include matters relating to contrails and aviation-induced cirrus. WMO also contributes to ICAO's Airport Economics Panel and Air Navigation Services Economics Panel (AEP-ANSEP), particularly through AEP-ANSEP Working Group 4 (WG4), addressing guidance for the cost recovery of aeronautical meteorological services, with relevance of the updating of, inter alia, the *Manual on Air Navigation Services Economics* (ICAO Doc 9161) and *Guide to Aeronautical Meteorological Services Cost Recovery: Principles and Guidance* (WMO-No. 904).

2.14 In respect of the International Air Transport Association (IATA), WMO continues to actively contribute to its Accident Classification Task Force (ACTF). WMO is a key contributor to the preparation of the annual IATA Safety Report, which provides an in-depth review and essential insight into global and regional accident rates and contributing factors, including those relating to weather/meteorological conditions and/or the unnecessary penetration by flight crew into adverse weather/meteorological conditions. The latest (2023) IATA Safety Report, published in February 2024, is available here in an interactive format. In recent years WMO has also collaborated with IATA on the further expansion and enhancement of the WMO AMDAR (Aircraft Meteorological Data Relay) observing system, through a WICAP arrangement (WMO-IATA Collaborative AMDAR Programme). Further information on the AMDAR observing system and the WICAP is available here.

2.15 Recognizing growing interest in the impacts of climate change and variability on aviation, WMO has also periodically engaged, mostly informally or through existing bodies such as ICAO CAEP, with experts from IATA, Airports Council International (ACI) and the European Union

[1] Infrastructure Commission (INFCOM) Standing Committee on Information Management and Technology (SC-IMT).

Aviation Safety Agency (EASA) on matters of common interest, such as the downscaling of climate scenarios to the regional or local level, climate adaptation and resilience and extreme weather event preparedness and mitigation.

WMO contribution to regional initiatives (non-exhaustive)

2.16 Within the available resources, WMO has contributed to activities or developments at a regional level, such as the supply of advice to Members and their national meteorological and hydrological services on the establishment of cost recovery arrangements, the establishment of bilateral and/or multilateral SIGMET coordination arrangements, and updates to regional SIGMET guides.

2.17 Over the course of the past year, WMO has conducted several training events in several WMO Regional Associations, sometimes in collaboration with ICAO. For example, an online seminar on aeronautical meteorology was conducted in Regional Association III (South America) in November 2023 and an online workshop on quality management systems was conducted in Regional Association II (Asia) in May 2024.

2.18 Additionally, WMO participated in a Workshop on Meteorological Services for the Safety of Air Navigation, convened by the Cooperation Council for the Arab States of the Gulf (GCC) in Riyadh, Saudi Arabia on 21 and 22 May 2024. The aim of the workshop was to introduce current best practices of aeronautical meteorological services and to exchange expertise and experience in this field among the GCC countries. The workshop targeted observers, forecasters and service managers working at aeronautical meteorological services. Approximately 20 delegates attended the workshop in-person and online. WMO delivered a presentation on aeronautical meteorological services, which covered, inter alia, the role played by WMO in the regulatory framework of international civil aviation, the relevance of key service delivery enablers such as quality management, personnel competency and cost recovery, and the availability of resources to support NMSs and others involved in the implementation. Additional information on the workshop and its outcomes should be directed to the GCC Secretariat (met@gccsg.org).

Outcomes of the third session of the WMO Services Commission and the seventy-eighth session of the WMO Executive Council

2.19 As alluded at §2.2 above, the third session of the Services Commission (SERCOM-3) took place in Bali, Indonesia from 4 to 9 March 2024, including a one-day Gender Action Day on 7 March 2024 (the day immediately prior to International Women's Day). Insofar as aeronautical meteorology/services for aviation is concerned, the Commission established SC-AVI for another four years through Resolution 3 (SERCOM-3), with amended terms of reference approved accordingly.

2.20 In addition, and taking into account the recommendations arising from the third meeting of SC-AVI (SC-AVI-3) held in September 2023, SERCOM-3 endorsed: the recommendations and statement arising from the Eighth International Workshop on Volcanic Ash (IWVA-8) held in February 2023 and a proposed 2025 update to *Aerodrome Reports and Forecasts: A Users' Handbook to the Codes* (WMO-No. 782). Moreover, during SERCOM-3 a side-event was held addressing the impacts on Members of service delivery transformation in aeronautical meteorology. A summary of the outcomes of this side event is available here.

2.21 The seventy-eighth session of the Executive Council (EC-78) took place at WMO Headquarters in Geneva, Switzerland, from 10 to 14 June 2024. EC-78 adopted a resolution – namely Resolution 7 (EC-78) – on the recommendations and statement arising from IWVA-8 which, as alluded above, were endorsed previously at SC-AVI-3 and SERCOM-3. More information on EC-78 and its outcomes is available here for a limited time. The abridged final report of EC-78 will be available on the WMO e-Library in due course.

Other relevant developments/initiatives

WMO Aeronautical Meteorology Scientific Conference

2.22 WMO convened, under the auspices of the Services Commission, a 2024 Aeronautical Meteorology Scientific Conference (AeroMetSci-2024) at WMO Headquarters in Geneva, Switzerland from 21 to 25 October 2024.

2.23 Following the success of an AeroMetSci conference in November 2017 (AeroMetSci-2017) plus AeroMetSci webinars in June 2022 addressing severe convection and associated hazards (more information available here) and in December 2023 addressing turbulence and airframe icing (more information available here), the main objective of AeroMetSci-2024 was to showcase scientific and technological advances in meteorological observations and forecasts, expand focus on the integration of meteorological information decision-support services into the global air traffic management system, and deeply examine the impacts of climate change and variability on aviation.

2.24 The theme of the 2024 conference was: "*Aviation, weather and climate: scientific research and development for enhanced aeronautical meteorological services in a changing climate*". The conference programme included three thematic sessions as follows:

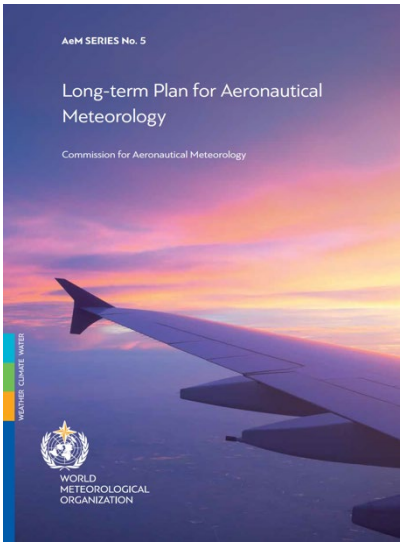
- Session 1 — *Science underpinning meteorological observations, nowcasting and deterministic and probabilistic forecasts.*
- Session 2 — *Impact-based information and decision support services for aviation.*
- Session 3 — *Science to understand the impacts of climate change on aviation and aviation environmental issues.*

2.25 The conference comprised a blend of plenary keynote presentations, national and regional case studies and panel discussions, taking into account leading scientific/academic research and aviation industry best practices and developments. Poster sessions also took place.

2.26 The outcome of the conference included a refinement of the common vision for scientific and technological research and development activities over the next 10 years or more aligned with the evolving needs and expectations of international civil aviation that are driving service delivery transformation, and a further raising of awareness of the impacts of climate change and variability on aviation operations now and into the future.

2.27 Outputs of the conference include a set of recommendations (in development at time of writing) to guide domestic, regional and/or global strategies on scientific and technological advancement in support of meteorological service for international civil aviation. The proceedings of the conference will be published as a WMO Publication comprising scientific articles, presentations, etc. to ensure outreach to all interested stakeholders.

WMO Long-term Plan for Aeronautical Meteorology



2.28 In 2019, WMO published its inaugural long-term plan for aeronautical meteorology – available here as WMO AeM SERIES No. 5 (English only). The long-term plan provides a framework upon which aeronautical meteorological service providers of Members/States in particular, and the broader meteorology and aviation communities in general, can plan a progressive transformation from a conventional "product-centric" approach to a modern "information-centric" approach to service provision for aviation through to 2030 and beyond.

2.29 SC-AVI, assisted by its aforementioned task team (TT-LTP), is working towards the development of an update to the long-term plan, with a publication timeframe expected to be between 2026 and 2028. The update will seek to elaborate upon some of the many factors influencing the current and future provision of aeronautical meteorological services, including the investment in the global weather enterprise, the recovery from the Coronavirus disease (COVID-19) pandemic, the aviation industry's demand for seamless, high-quality, georeferenced, digitized meteorological information on a worldwide basis, the advances in science and technology (for example high-resolution, ensemble prediction systems), environmental sustainability, and the future role of aeronautical meteorological personnel. TT-LTP convene a writing workshop in October 2024 to further mature ideas and narrative content for the next edition of the LTP-AeM. A final draft of the LTP-AeM is expected to be available in time for review at the SC-AVI-4 meeting scheduled for November 2025.

WMO Aviation Research and Development Project – Phase II (AvRDP2)

2.30 AvRDP2 is the second phase (2021-2025) of an Aviation Research and Development Project, a project of the World Weather Research Program (WWRP), led by the WMO Research Board (RB) with the support of SERCOM/SC-AVI. AvRDP2 focuses on scientific advancement and capacity development in observation, forecasting and warning of significant convection and associated hazards. It aims at demonstrating benefits of a gate-to-gate use of this advanced aeronautical meteorological information in the aviation operations environment. More information about AvRDP2 is available here, in particular the mid-term report (2021-2023) of the project.

2.31 The AvRDP2 Scientific Steering Committee (SSC) held its third meeting (AvRDP2-SSC-3) in September 2024. AvRDP2-SSC-3 was apprised on the most recent developments and results of a study conducted by the Hong Kong University of Science and Technology (HKUST) in collaboration with the Hong Kong Observatory on convection-induced turbulence (CIT) associated with significant convection.

2.32 The main focus of AvRDP2-SSC-3 was on monitoring work progress over the two air routes chosen by the SSC at its first meeting in 2022, namely London to Johannesburg and Hong Kong to Singapore. In addition to the already developed innovative products and applications, AvRDP2-SSC-3 reviewed progress made in terms of blending nowcast products for an end-to-end nowcast prototype product for the London-Johannesburg route and the use of ensemble systems and probabilistic forecast information for the Hong Kong-Singapore route.

2.33 The preparation for trials and experiments expected to be conducted over the coming year were investigated. For this purpose, SSC members explored effective engagement with several categories of aviation users, especially those directly involved in the safe conduct of flights such as pilots and air traffic controllers. Feedback from aviation users is considered beneficial for the verification and validation phase of the project that the SSC is preparing for both routes, and a plan for verification was considered at AvRDP2-SSC-3.

Recently updated WMO publications and on-going related activities

2.34 New or recently updated WMO publications of direct or indirect relevance to aeronautical meteorology include:

- *Technical Regulations,* (WMO-No. 49), Volume I, *General Meteorological Standards and Recommended Practices* (2023 edition).
- *Guide to Services for Aviation* (WMO-No. 732) (2023 edition), formerly the *Guide to Practices for Meteorological Offices Serving Aviation.*
- *Aerodrome Reports and Forecasts: A User's Handbook to the Codes* (WMO-No. 782) (2022 edition).
- *Guide to Aeronautical Meteorological Services Cost Recovery: Principles and Guidance* (WMO-No. 904) (2023 edition)
- *Manual on Codes*, Volume I.3 – *International Codes*, Part D – *Representations derived from data models* (WMO-No. 306) (2023 edition)
- *Manual on the Global Telecommunication System* (WMO-386) (2023 edition)
- *Manual on the Global Data-processing and Forecasting System* (WMO-485) (2023 edition)
- *Manual on the WMO Information System* (WMO-No. 1060) (2023 edition).
- *Guide to the WMO Information System,* Volume I (WMO-No. 1061) (2023 edition, updated in 2024).
- *Manual on the WMO Integrated Global Observing System* (WMO-1160) (2023 edition)
- *Guide to the Implementation of Education and Training Standards in Meteorology and Hydrology,* Volume I – *Meteorology* (WMO-No. 1083) (2023 edition).
- *WMO Strategy for Service Delivery* (WMO-No. 1129) (2023 edition).

2.35 These and many other WMO publications are available via the WMO e-Library. Pertinent publications in the aeronautical meteorology domain are also listed here.

2.36 SC-AVI has recently completed a high-level review of several other publications of direct or indirect relevance to aeronautical meteorology, with a view to determining whether updates are required in the coming years. The publications under review included the *Guide to Meteorological Observing and Information Distribution Systems for Aviation Weather Services* (WMO-No. 731), last updated in 2014, the *Guide to the Implementation of Quality Management Systems for National Meteorological and Hydrological Services and Other Relevant Service Providers* (WMO-No. 1100), last updated in 2017, and the *Guide to Competency* (WMO-No. 1205), last updated in 2018. These publications, and others, are expected to undergo updates in the coming several years.

Two-stage discontinuation of Technical Regulations (WMO-No. 49), Volume II

2.37 According to a two-stage plan of action endorsed by the nineteenth World Meteorological Congress (Cg-19) in 2023, the *Technical Regulations* (WMO-No. 49), Volume II, *Meteorological Service for International Air Navigation,* Parts I and II were discontinued on 31 December 2023 owing, essentially, to their duplication of ICAO Annex 3 (and upcoming *Procedures for Air Navigation Services – Meteorology*, PANS-MET). Meanwhile, Parts III and IV of WMO-No. 49, Volume II, which concern aeronautical climatology and the format and preparation of flight documentation, respectively, will be discontinued by WMO only when material of continuing relevance has been incorporated into ICAO PANS-MET (provisionally 2027). A comprehensive online communications package on the discontinuation of WMO-No. 49, Volume II is available here.

Amendment to qualification and competency requirements for aeronautical meteorological personnel

2.38 A comprehensive online communications package is available here pertaining to a forthcoming (2026) amendment to WMO's qualification and competency requirements for aeronautical meteorological personnel, as endorsed at Cg-19 in 2023. Updates to the *Technical Regulations,* (WMO-No. 49), Volume I, *General Meteorological Standards and Recommended Practices* and the *Compendium of WMO Competency Frameworks* (WMO-No. 1209) will be published by WMO in time for the applicability of the new/updated provisions on 1 January 2026.

Biannual Newsletters

2.39 WMO issues newsletters on a biannual basis to bring the community up to date on the latest global and regional developments in aeronautical meteorology, including national and regional case studies or good practice examples. The most recent WMO Services for Aviation Newsletter (Issue No. 1/2024) was published in June 2024 and is available here. Previous newsletters are available here. The next newsletter (Issue No 2/2024) will be published in December 2024. Anyone wishing to subscribe (for free) to future newsletters is invited to email a request to the WMO Secretariat (aviation@wmo.int).

Upcoming WMO meetings/events

2.40 The following provides an indication of upcoming global WMO meetings/events of relevance, together with weblinks where available. The information provided here is subject to change:

- Second Meeting of the Advisory Group on Volcanic Science for Aviation Applications (AG-VSA-2), 4 to 6 February 2024, Edinburgh, United Kingdom.
- Extraordinary Session of the Services Commission (SERCOM-Ext. (2025)), 18 to 20 March 2025, Online.
- Third Meeting of the Expert Team on Education, Training and Competency (ET-ETC-3), 24 to 26 March 2025, Montreal, Canada.
- Seventy-ninth Session of the Executive Council (EC-79), 16 to 20 June 2025, Geneva, Switzerland.
- Extraordinary Session of the World Meteorological Congress (Cg-Ext. (2025)), 20 to 24 October 2025, Online.

Available WMO resources and further information

2.41 WMO continues to maintain a Services for Aviation website, available here. This website contains information and resources associated with WMO's Services for Aviation activity area, including direct access to regulatory and guidance materials, meeting documentation and reports, survey findings, newsletters, capacity development training aids and more.

2.42 WMO also maintains a Services for Aviation Moodle training portal, available here. Supplementing the above-mentioned website, the Moodle training portal specifically provides aeronautical meteorology training and guidance material sourced from around the world, covering both operational and non-operational aspects of aeronautical meteorology. The portal's primary focus is the specialist needs of the aeronautical meteorological forecaster. To benefit from the full suite of materials hosted on the Moodle training portal, users are encouraged to register an account, for free, via this link.

3. ACTION BY THE MEETING

3.1 The meeting is invited to note the information contained in this paper.

- END -