

**WMO OMM**

World Meteorological Organization  
Organisation météorologique mondiale  
Organización Meteorológica Mundial  
Всемирная метеорологическая организация  
المنظمة العالمية للأرصاد الجوية  
世界气象组织

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17 April 2024

Annex: 1 (available in English only)

Subject: Announcement and Call for Abstracts for the WMO Aeronautical Meteorology Scientific Conference (AeroMetSci-2024)

Action required: To distribute the announcement to interested parties and to submit abstracts of papers not later than **21 June 2024**

Dear Sir/Madam,

I am pleased to inform you that the World Meteorological Organization (WMO) Commission for Weather, Climate, Hydrological, Marine and Related Environmental Services and Applications (SERCOM) is organizing the Aeronautical Meteorology Scientific Conference (AeroMetSci-2024). The conference will be held at the WMO Headquarters in Geneva, Switzerland, from 21 to 25 October 2024.

The theme of the conference is: "Aviation, weather and climate: scientific research and development for enhanced aeronautical meteorological services in a changing climate".

The objective of the conference is to showcase scientific and technological advances in meteorological observations, forecasts, advisories and warnings, expand focus on the integration of meteorological information decision support services into the global air traffic management system, and examine further the impacts of climate change and variability on aviation. Further information, including the intended audience, is provided in the Concept Note in the [annex](https://community.wmo.int/activity-areas/aviation/meetings/aerometsci-2024) (also available on the conference website: <https://community.wmo.int/activity-areas/aviation/meetings/aerometsci-2024>).

The conference is an in-person only event and will be conducted entirely in English. It will comprise a blend of plenary keynote presentations, research paper presentations, national and regional case studies and panel discussions. Poster sessions will also take place. The session themes include:

- 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.

To: Permanent Representatives of Members of WMO  
International Civil Aviation Organization (ICAO)  
International Air Transport Association (IATA)  
Agence pour la Sécurité de la Navigation Aérienne en Afrique et à Madagascar (ASECNA)  
International Federation of Air Line Pilots' Associations (IFALPA)

cc: Hydrological Advisers  
President of the Commission for Observation, Infrastructure and Information Systems (INFCOM)  
President of the Commission for Weather, Climate, Hydrological, Marine and Related Environmental Services and Applications (SERCOM)  
Chair of the Research Board  
Presidents of Regional Associations

Registration for the Conference should be completed **not later than 20 September 2024** through the [Conference Registration Form](#) (also available on the [conference website](#)).

Through this announcement, I would like to invite the submission of short abstracts of papers not later than **21 June 2024** by completing the Abstract Submission Form available through the [conference website](#) or received via email after registering for the conference. A scientific committee will select papers for oral presentations and poster displays taking into account the abstracts received. WMO may consider providing limited financial support to cover travel and/or subsistence allowance for participants from developing countries who are selected to deliver oral presentations or posters. A request for financial support should be clearly indicated at the time of abstract submission.

Regarding insurance coverage for non-staff members, may I draw your attention to the following:

*Non-staff members of WMO who are authorized to travel at the Organization's expense and/or who are receiving a DSA from WMO must ensure they are fully responsible for expenses incurred in the event of death, illness or injury during official travel and attendance at meetings on behalf of the Organization. They are, therefore, fully responsible for arranging life, health, accident, as well as any other forms of insurance with an adequate level of coverage for the duration of such meetings and events.*

*WMO liability is limited to the performance of services or attendance at a meeting on behalf of the Organization, is covered by an injury and illness benefit insurance which provides a limited coverage for medical, emergency and supplementary official travel expenses.*

Enquiries to the WMO Secretariat concerning information about the Conference should be addressed to Ms Stéphanie Wigniolle, Scientific Officer of the Services for Aviation Division, WMO ([aviation@wmo.int](mailto:aviation@wmo.int)).

I should be grateful if you would make this announcement widely known within your respective Service and other relevant organizations engaged in research or service provision in the field of aeronautical meteorology in your country.

Yours faithfully,



Prof. Celeste Saulo  
Secretary-General

**WMO AERONAUTICAL METEOROLOGY SCIENTIFIC CONFERENCE 2024  
(AeroMetSci-2024)****Geneva, Switzerland****21 to 25 October 2024****CONCEPT NOTE****1. BACKGROUND AND RATIONALE**

1.1. In 2017, a WMO Aeronautical Meteorology Scientific Conference (AeroMetSci-2017) was held in Toulouse, France. The conference addressed: (1) science underpinning meteorological observations, forecasts, advisories and warnings; (2) integration, use cases and fit-for-purpose service delivery; and (3) the impacts of climate change and variability on aviation operations and associated science requirements.

1.2. Feedback obtained from participants of AeroMetSci-2017 clearly indicated that WMO should conduct a similar conference within 5 years. Due to the unforeseen and unprecedented impact of the COVID-19 pandemic, the Standing Committee on Services for Aviation (SC-AVI) of the WMO Services Commission (SERCOM) had to postpone the next (physical) AeroMetSci Conference from its initial target time frame, 2021, to 2024.

1.3. In the meantime, in order to maintain community interest and engagement, the SERCOM SC-AVI conducted a series of web-based seminars ('webinars') in 2022 and 2023 to showcase some of the latest state-of-the-art scientific and technological advances taking place in aeronautical meteorology. These webinars served to promote awareness within and stimulate collaboration across national meteorological services and others involved in the provision and use of meteorological service for international air navigation, with a particular focus on key meteorological hazards of concern to aviation. The SC-AVI, through its Expert Team on Weather and Climate Science for Aviation Applications (ET-WCS), the merger of its two former expert groups, were responsible for leading the planning, preparation and conducting of the two editions of the webinars and for reporting on the outcomes to SERCOM and others concerned.

1.4. SC-AVI, with the assistance of its subsidiary body ET-WCS and others as necessary, will assist WMO in the convening of AeroMetSci-2024. Outcomes of the 2022 and 2023 webinars will serve as a basis for the construction of AeroMetSci-2024 programme from a scientific and technological perspective aiming at prioritizing recommendations for the future development of the science of aeronautical meteorology.

**2. OBJECTIVE AND THEME**

2.1. Building on the success of AeroMetSci-2017 and 2022 and 2023 webinars and taking into account the current and foreseen modernization of meteorological service for international air navigation in line with the Global Air Navigation Plan (GANP) and aviation system block upgrades (ASBU) methodology of the International Civil Aviation Organization (ICAO), the objective of the AeroMetSci-2024 conference will be to further showcase scientific and technological advances in meteorological observations, forecasts, advisories and warnings, 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.

2.2 The theme (working title) of the conference will be: "Aviation, weather and climate: scientific research and development for enhanced aeronautical meteorological services in a changing climate".

### **3. EXPECTED OUTCOME AND OUTPUTS**

3.1. The expected outcome of the conference will be 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 have driven the 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.

3.2. The conference will also demonstrate how the science evolution would support but also has driven the major service delivery transformation that the aeronautical meteorology community has started and will continue facing with in the coming decade. Recommendations for the future meteorological information service to air navigation would be derived as outcomes from the conference and would assist the on-going updating of the WMO Long Term Plan for Aeronautical Meteorology.

3.3. Outputs of the conference will include a set of recommendations and a statement 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.

### **4. STAKEHOLDERS AND PARTNERS**

4.1. A broad array of internationally recognized scientific research partners, aviation stakeholders and other parties are expected to express interest in the conference, including:

- (a) WMO Member States and Territories, technical commissions and their subsidiary bodies, regional associations and other constituent bodies;
- (b) Scientific research institutes, universities and other academia;
- (c) International aviation organizations/associations such as the International Civil Aviation Organization (ICAO), the International Air Transport Association (IATA), International Federation of Air Line Pilots' Associations (IFALPA), the International Federation of Air Traffic Controllers' Associations (IFATCA), the Airports Council International (ACI) and the Civil Air Navigation Services Organization (CANSO) and others from the international aviation industry involved in national or multinational air traffic management modernization initiatives;
- (d) Meteorological instrumentation systems, data processing and display providers, including associate members of the HydroMeteorological and Environmental Industry (HMEI); and
- (e) Public and private meteorological service providers serving international civil aviation.

## 5. FORMAT AND RESPONSIBILITIES

5.1. The conference will comprise a blend of 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 will also take place.

5.2. The basic programme structure for the conference will focus on:

- (a) Session 1: Science underpinning meteorological observations, nowcasting and deterministic and probabilistic forecasts

This session will address research and scientific developments for enhanced 4-dimensional information of aviation weather hazards, such as convection and associated phenomena including ice crystals icing, turbulence of any type, low level wind shear, airframe icing, winter weather, fog and other reduced visibility conditions such as sandstorm or smoke, and other hazards.

It will consider meteorological information for all phases of flight as well as a diversity of aviation users including the new entrants such as unmanned aerial vehicles and urban air mobility.

- (b) Session 2: Impact-based information and decision support services for aviation

This session will address the challenges that the production of impact-based information and its integration into decision support systems pose to meteorological information service providers and to aviation stakeholders. It will also consider the availability of meteorological information and service delivery to support collaborative decision making (CDM) and trajectory-based operations (TBO) in the system-wide information management (SWIM) context.

- (c) Session 3: Science to understand the impacts of climate change on aviation and aviation environmental issues

The third session will be aiming at further investigating the impacts of climate change on aviation operations, from the surface to cruise flight levels. It will also consider the science and recent progress made in understanding some of the aviation environmental issues such as contrails.

5.3. A Scientific Organizing Committee (SOC) comprising SC-AVI ET-WCS members will assist WMO in the shortlisting and selection of oral and poster presentations for the conference taking into consideration the abstracts received. In addition, several WMO Secretariat departments and divisions will assist with logistics and outreach for the event such as funding, sponsorship, hospitality, agenda and programme schedule, invitations, communications and other related publicity.