



ICAO

International Civil Aviation Organization
North American, Central American and Caribbean Office

WORKING PAPER

NACC/WG/MET/TF/4 — WP/06
20/07/26

**Fourth Meeting of the North American, Central American and Caribbean Working Group
Implementation of Aeronautical Meteorology (MET) Task Force
(NACC/WG/MT/TF/4)**

Mexico City, Mexico, 28 to 31 July 2026

Agenda Item 3: Follow-up on valid conclusions and decisions from previous NACC/WG and MET/TF meetings

**DESIGNATION OF THE METEOROLOGICAL AUTHORITY AND METEOROLOGICAL SERVICE PROVIDER FOR
INTERNATIONAL AIR NAVIGATION**
(Presented by the Secretariat)

EXECUTIVE SUMMARY

This paper presents regional guidance material developed in support of Task T05 – Official Designation of MET Authorities/Providers of the MET/TF 2026 Work Programme. The material is intended to assist States in reviewing, designating and implementing the Meteorological Authority and the Meteorological Service Provider, in accordance with Annex 3 — Meteorological Service for International Air Navigation and the Procedures for Air Navigation Services — Meteorology (PANS-MET, Doc 10157). The clear designation of both entities enables the State to establish the necessary arrangements for the supply of meteorological service for international air navigation, as well as to define responsibilities for regulation, oversight and service provision. It also contributes to the fulfilment of State responsibilities related to safety management and safety oversight under Annex 19,

Action:	As stated in Paragraph 4
Strategic Objectives:	• Every Flight is Safe and Secure • Aviation is Environmentally Sustainable • No Country Left Behind
References:	• Convention on International Civil Aviation. • Annex 3 — Meteorological Service for International Air Navigation. • Annex 15 — Aeronautical Information Services. • Annex 19 — Safety Management. • Procedures for Air Navigation Services — Meteorology (PANS-MET, Doc 10157). • Manual of Aeronautical Meteorological Practice (Doc 8896). • Safety Oversight Manual (Doc 9734). • Procedures for Air Navigation Services — Aeronautical Information Management (PANS-AIM, Doc 10066). • MET/TF/3 Summary of Discussions and MET/TF 2026 Work Programme, Task T05.

1. Introduction

1.1 Amendment 82 to Annex 3 introduced an explicit distinction between the Meteorological Authority and the Meteorological Service Provider, with the purpose of clarifying State responsibilities regarding meteorological service for international air navigation.

1.2 In accordance with Annex 3, the Meteorological Authority is the entity arranging for the provision of meteorological service for international air navigation on behalf of a Contracting State and providing regulation and oversight of the meteorological service.

1.3 Likewise, the Meteorological Service Provider is the relevant entity designated to provide meteorological service for international air navigation on behalf of a Contracting State.

1.4 The PANS-MET complement the Standards and Recommended Practices (SARPs) contained in Annex 3 and specify, in greater detail, the procedures to be applied by meteorological service providers in supplying various meteorological services to aeronautical users.

1.5 The implementation of the procedures contained in the PANS-MET rests with Contracting States, and their application to actual operations takes place only after, and to the extent that, States have brought them into effect. Therefore, the clear designation of the Meteorological Authority and the Meteorological Service Provider is a necessary element to organize the implementation, oversight and supply of aeronautical meteorological services.

1.6 In the NAM/CAR Regions, different institutional arrangements exist for the supply of meteorological service for international air navigation, including national, regional, delegated or transitional models. This diversity makes it necessary to provide practical guidance to facilitate the harmonized application of the relevant provisions.

2. Discussion

2.1 The designation of the Meteorological Authority and the Meteorological Service Provider makes it possible to distinguish between the entity that arranges for the service to be supplied, regulates and oversees it, and the relevant entity designated to supply meteorological service for international air navigation.

2.2 This distinction is essential for the implementation of Annex 3 and the PANS-MET, as it allows institutional, regulatory, oversight and operational responsibilities associated with the supply of aeronautical meteorological services to be identified.

2.3 The supply of meteorological service for international air navigation comprises the applicable aeronautical meteorological services established within the framework of Annex 3 and the PANS-MET, including those associated with aerodrome meteorological offices, meteorological watch offices, global systems and support centres.

2.4 The identification of the Meteorological Authority and the Meteorological Service Provider also supports the relationship between essential air navigation services, the GANP Basic Building Blocks (BBB) framework, and the State's capability to oversee that services are supplied in accordance with ICAO provisions.

2.5 Institutional designation should not be considered merely as an administrative requirement. It also facilitates consistency among national regulations, aeronautical information publication, service supply or delegation arrangements, the eANP, notification of differences, and applicable oversight and monitoring mechanisms.

2.6 In particular, information related to the Meteorological Authority and the Meteorological Service Provider shall be published in the State AIP, in accordance with Annex 3, Annex 15 and the PANS-AIM. Likewise, the description of aeronautical meteorological services should remain consistent with the information published in the AIP, the eANP, EFOD and other applicable mechanisms.

2.7 The clear definition of responsibilities also contributes to the fulfilment of State responsibilities related to safety management and safety oversight under Annex 19. This relationship should not be understood exclusively as preparation for the ICAO USOAP-CMA Programme activities, but rather as part of the broader State oversight and continuous improvement framework for aeronautical meteorological services.

3. Guidance Material Included in this Paper

3.1 In fulfilment of Task T05 of the MET/TF 2026 Work Programme, this paper includes practical guidance material to support States in reviewing, designating and implementing the Meteorological Authority and the Meteorological Service Provider.

3.2 The guidance material is structured in three appendices, intended to facilitate a common understanding of institutional designations, associated aeronautical meteorological services, and mechanisms to demonstrate implementation, oversight and documentary consistency.

3.3 Appendix A provides guidance for reviewing, designating and implementing the Meteorological Authority and the Meteorological Service Provider, including the verification of existing arrangements, publication in the AIP, regional or delegated agreements, and consistency among applicable information sources.

3.4 Appendix B provides guidance on the roles, responsibilities and institutional arrangements associated with the provision of meteorological service for international air navigation. It describes the relationship between the Meteorological Authority and the Meteorological Service Provider, the functional organization of aeronautical meteorological services, including aerodrome meteorological offices, meteorological watch offices, meteorological stations, global systems and specialized centres, as well as quality management, competency, oversight and operational coordination considerations derived from Annex 3, the PANS-MET and the Manual of Aeronautical Meteorological Practice (Doc 8896).

3.5 Appendix C provides guidance on the implementation, documentation, verification, oversight and surveillance of aeronautical meteorological services. It describes the relationship between the institutional arrangements established for the provision of meteorological service, the applicable national regulatory framework, the Aeronautical Information Publication (AIP), the Electronic Air Navigation Plan (eANP), the State Aviation Activity Questionnaire (SAAQ), the Electronic Filing of Differences (EFOD), the State Safety Oversight System, including the provisions of Annex 19 — Safety Management and the Safety Oversight Manual (Doc 9734), as well as the role of the applicable Critical Elements in supporting the effective implementation and continuous oversight of aeronautical meteorological services.

4. Action by the Meeting

4.1 The Meeting is invited to:

- a) note the information presented in this paper;
- b) recognize the importance of the clear designation of the Meteorological Authority and the Meteorological Service Provider for the supply of meteorological service for international air navigation;
- c) use the guidance material included in the appendices to this paper as a reference for reviewing and implementing arrangements related to the Meteorological Authority and the Meteorological Service Provider; and
- d) consider the relationship of this task with discussions on State safety oversight, quality management systems and demonstration of the implementation of aeronautical meteorological services.

— — — — —

APPENDIX A

GUIDANCE FOR THE REVIEW, DESIGNATION AND IMPLEMENTATION OF THE METEOROLOGICAL AUTHORITY AND METEOROLOGICAL SERVICE PROVIDER

A.1 States should review their existing institutional arrangements to identify the entity that exercises or will exercise the functions of Meteorological Authority and the relevant entity designated or to be designated to supply meteorological service for international air navigation.

A.2 This review should consider whether the designations are supported by valid legal, regulatory or administrative instruments, and whether responsibilities for regulation, oversight and service provision are clearly defined.

A.3 Where regional, delegated or multinational arrangements exist for the supply of certain aeronautical meteorological services, States should verify that such arrangements are documented, accepted by the relevant parties and consistent with the information published and reported by the State.

A.4 Information related to the Meteorological Authority and the Meteorological Service Provider should remain consistent among:

- National regulations,
- The Aeronautical Information Publication (AIP), as applicable, GEN 1.1 (Designated Authorities) and GEN 3.5 (Meteorological Services)
- Relevant agreements,
- The Electronic Air Navigation Plan (eANP),
- In coordination with the National Continuous Monitoring Coordinator (NCMC):
 - the State Aviation Activity Questionnaire (SAAQ), particularly ANS-MET-1, ANS-MET-2 and ANS-MET-3, and
 - the Electronic Filing of Differences (EFOD) System
- Other applicable monitoring and implementation mechanisms.

A.5 Any inconsistency identified among these sources should be reviewed and resolved to ensure that the designation of the Meteorological Authority and the Meteorological Service Provider, together with their respective roles and responsibilities, are accurately reflected, maintained and reported by the State.

— — — — —

APPENDIX B

ROLES, RESPONSIBILITIES AND ORGANIZATION OF AERONAUTICAL METEOROLOGICAL SERVICES

B.1 Purpose

The designation of the Meteorological Authority and the Meteorological Service Provider establishes the institutional framework through which meteorological service for international air navigation is supplied.

Understanding these functions requires consideration not only of the entities responsible, but also of the organization of aeronautical meteorological services provided for in Annex 3 and the Procedures for Air Navigation Services — Meteorology (PANS-MET, Doc 10157).

B.2 Meteorological Authority and Meteorological Service Provider

In accordance with Annex 3, the Meteorological Authority is the entity that, on behalf of a Contracting State, arranges for the provision of meteorological service for international air navigation and has responsibility for the regulation and oversight of the meteorological service.

The Meteorological Service Provider is the competent entity designated to provide meteorological service for international air navigation.

The functions of both entities are complementary. While the Meteorological Authority is responsible for institutional, regulatory and oversight arrangements, the Meteorological Service Provider is responsible for the operational provision of aeronautical meteorological services.

B.3 General Principles for the Allocation of Responsibilities

Annex 3 and the PANS-MET provide a consistent separation between responsibilities related to the regulation and oversight of the meteorological service and those related to the operational provision of the service.

As a general reference, the allocation of responsibilities may be considered as follows:

Meteorological Authority	Meteorological Service Provider
High-level institutional coordination with the civil aviation authority	Day-to-day operational coordination with ATS
International coordination with neighboring States	Operational coordination with operators
Establishment of facilities and services subject to regional air navigation agreements	Operational coordination with aeronautical users
Establishment of facilities and services reflected in the eANPs	Provision of aeronautical meteorological services
Regulation and oversight of the meteorological service	Application of operational procedures contained in the PANS-MET implemented by the State

In general terms, most operational provisions contained in the PANS-MET are addressed to the Meteorological Service Provider, whereas provisions related to regulation, oversight, institutional coordination and establishment of services are assigned to the Meteorological Authority or to the State.

B.4 Functional Organization of Aeronautical Meteorological Services

Meteorological service for international air navigation is delivered through a network of offices, stations, global systems and specialized centres that provide meteorological information to various aeronautical users.

Depending on the arrangements established by the State, this organization may include the following components:

a) Aerodrome Meteorological Offices (AMOs)

Aerodrome Meteorological Offices provide meteorological services directly related to aerodrome operations. Their functions may include:

- ✓ meteorological observations and reports;
- ✓ aerodrome forecasts;
- ✓ trend forecasts;
- ✓ briefing service;
- ✓ flight documentation;
- ✓ aerodrome warnings;
- ✓ wind shear warnings;
- ✓ aeronautical climatological information; and
- ✓ the provision and exchange of OPMET information.

b) Meteorological Watch Offices (MWOs)

Meteorological Watch Offices maintain continuous watch over meteorological conditions that may affect the safety of aircraft operations within a FIR or CTA. Their functions may include:

- ✓ operational meteorological watch;
- ✓ issuance of SIGMET;
- ✓ issuance of AIRMET, where applicable;
- ✓ issuance of GAMET, where applicable;
- ✓ use of aircraft reports (AIREP);
- ✓ coordination with ATS; and
- ✓ regional and international exchange of operational meteorological information.

MWOs also provide support in situations involving volcanic ash, tropical cyclones, space weather phenomena and other hazards that may affect air navigation.

c) Aeronautical Meteorological Stations

Aeronautical Meteorological Stations carry out meteorological observations that support the provision of aeronautical meteorological services. The observations produced by these stations constitute one of the primary inputs for meteorological watch processes, forecasting activities and the preparation of operational meteorological information.

d) Global Systems and Specialized Centres

Aeronautical meteorological services also depend on specialized systems and centres designated by ICAO and WMO, including:

- ✓ the World Area Forecast System (WAFS);
- ✓ Tropical Cyclone Advisory Centres (TCACs);
- ✓ Volcanic Ash Advisory Centres (VAACs);
- ✓ Space Weather Centres (SWXCs); and
- ✓ other ICAO-recognized systems and centres.

B.5 Quality Management System and Competencies

The provision of aeronautical meteorological services should be carried out within the framework of an appropriate Quality Management System (QMS).

The Meteorological Service Provider should implement and maintain procedures, processes and resources that ensure the quality, consistency and continuous improvement of the services provided. It should also ensure that personnel involved in the provision of aeronautical meteorological services possess the appropriate competencies, qualifications, education and training in accordance with applicable WMO and ICAO requirements.

The Meteorological Authority should establish appropriate mechanisms for the oversight of the QMS and of the associated competency requirements.

B.6 Safety Oversight Inspectorate / Meteorological Inspectorate and Meteorological Regulator

Some States use additional terms within their safety oversight systems such as Meteorological Inspectorate and Meteorological Regulator.

The term Meteorological Regulator may generally be considered equivalent to the Meteorological Authority and is used to emphasize its regulatory and oversight functions.

The Meteorological Inspectorate, in turn, refers to the body of inspectors responsible for conducting safety oversight activities over meteorological service providers. The organization of these functions may differ from State to State and is not specifically prescribed in Annex 3.

B.7 Functional Separation and Prevention of Conflicts of Interest

Institutional arrangements adopted by States may vary significantly. The Meteorological Authority and the Meteorological Service Provider may belong to separate organizations, form part of the same organization, or operate within regional or multinational arrangements.

Regardless of the model adopted, appropriate mechanisms should exist to ensure that the regulation, oversight and supervision of the meteorological service are exercised objectively and effectively.

Where the Meteorological Service Provider forms part of the same organization responsible for regulatory or oversight functions, the State should consider appropriate measures to prevent potential conflicts of interest and to ensure the necessary independence of oversight functions.

B.8 Operational Coordination

The effective provision of aeronautical meteorological services requires continuous coordination between the Meteorological Service Provider and:

- a) Air Traffic Services (ATS);
- b) AIS/AIM services;
- c) aircraft operators;
- d) aerodrome operators;
- e) Search and Rescue (SAR) services; and
- f) other relevant aeronautical users.

Operational coordination constitutes one of the essential elements for ensuring that meteorological information is provided, issued or made available to users in accordance with the applicable provisions of Annex 3 and the PANS-MET.

— — — — —

APPENDIX C

IMPLEMENTATION, DOCUMENTATION, VERIFICATION, OVERSIGHT AND SURVEILLANCE OF AERONAUTICAL METEOROLOGICAL SERVICES

C.1 Purpose

The designation of the Meteorological Authority and the Meteorological Service Provider constitutes the starting point for the institutional organization of meteorological service for international air navigation.

However, the effective implementation of such arrangements requires the State to establish appropriate mechanisms to document, maintain, verify, oversee and monitor the continuous provision of aeronautical meteorological services in accordance with the applicable provisions of Annex 3 — Meteorological Service for International Air Navigation and the Procedures for Air Navigation Services — Meteorology (PANS-MET, Doc 10157).

C.2 Implementation within the National Framework

The implementation of the provisions contained in Annex 3 and the PANS-MET is the responsibility of Contracting States. In this context, the designation of the Meteorological Authority and the Meteorological Service Provider should be integrated within the national framework of legislation, regulations, procedures and applicable surveillance mechanisms.

As part of this process, States should consider the principles contained in:

- a) Article 12 of the Convention on International Civil Aviation, relating to the application and observance of rules and procedures;
- b) Article 37, relating to collaboration in securing the highest practicable degree of uniformity in regulations, standards, procedures and organization; and
- c) Article 38, relating to the notification of differences from international Standards.

C.3 Documentation and Publication of Institutional Arrangements

Information related to the Meteorological Authority, the Meteorological Service Provider and the aeronautical meteorological services provided should be maintained documented, updated and consistent across the various sources used by the State. Such sources may include:

- ✓ national regulations;
- ✓ administrative designation instruments;
- ✓ national, regional or delegated agreements;
- ✓ the Aeronautical Information Publication (AIP);
- ✓ the Electronic Air Navigation Plan (eANP);
- ✓ the State Aviation Activity Questionnaire (SAAQ); and
- ✓ the Electronic Filing of Differences (EFOD).

C.4 Publication and Consistency of Information

The Aeronautical Information Publication (AIP) constitutes one of the primary mechanisms through which the State publishes information related to aeronautical meteorological services. As applicable, States should maintain consistency among:

- ✓ AIP GEN 1.1 — Designated Authorities;
- ✓ AIP GEN 3.5 — Meteorological Services;
- ✓ applicable national regulations;
- ✓ agreements related to the provision of the service;
- ✓ information recorded in the State Aviation Activity Questionnaire (SAAQ), particularly questions ANS-MET-1, ANS-MET-2 and ANS-MET-3;
- ✓ information reflected in the Electronic Air Navigation Plan (eANP); and
- ✓ information notified through the Electronic Filing of Differences (EFOD).

Correlation among these sources contributes to ensuring information consistency and facilitates verification of the implementation of aeronautical meteorological services.

C.5 Verification of the Implementation of Aeronautical Meteorological Services

The Basic Building Block (BBB) framework identifies the essential services that constitute the foundation of a robust air navigation system.

Verification of these services allows confirmation that the aeronautical meteorological facilities, services and procedures established by the State are implemented and operational. Verification may consider, among other elements:

- ✓ Aerodrome Meteorological Offices (AMO);
- ✓ Meteorological Watch Offices (MWO);
- ✓ aeronautical meteorological stations;
- ✓ global systems and specialized centres;
- ✓ facilities, services and procedures reflected in the eANP; and
- ✓ aeronautical meteorological services provided directly or through national, regional or delegated arrangements.

The periodic application of verification cycles facilitates the identification of implementation gaps, the updating of available information and the continuous improvement of aeronautical meteorological services.

C.6 Relationship with the State Safety Oversight System

Oversight of aeronautical meteorological services forms part of the State's overall responsibilities for safety oversight.

In accordance with Annex 19 — Safety Management and the Safety Oversight Manual (Doc 9734), States should establish and maintain the elements necessary to exercise oversight of meteorological service providers and verify that they continue to provide services in accordance with established requirements. This may include:

- ✓ organizations responsible for oversight;
- ✓ appropriately qualified inspectors and technical personnel;
- ✓ initial training programmes, on-the-job training, recurrent training and specialized training for both meteorological service provider technical personnel and personnel responsible for State oversight;
- ✓ documented oversight procedures;
- ✓ appropriate guidance material, tools and technical resources; and
- ✓ mechanisms for collecting and maintaining evidence of oversight activities performed.

C.7 Relationship with the Critical Elements of the State Safety Oversight System

The implementation and oversight of aeronautical meteorological services are related to the Critical Elements (CEs) of the State Safety Oversight System established in Annex 19.

Critical Elements should be understood as an integrated set of capabilities that enables the State to establish, implement, maintain and oversee aeronautical meteorological services. In particular:

- ✓ Critical Element 1 (CE-1) provides the primary legislative framework enabling the State to exercise safety oversight functions;
- ✓ Critical Element 2 (CE-2) enables the establishment of specific operating regulations applicable to services, products, procedures, equipment and infrastructure;
- ✓ Critical Element 3 (CE-3) contributes to the establishment of the organization, functions, resources and responsibilities necessary to conduct oversight;
- ✓ Critical Element 4 (CE-4) contributes to the development and maintenance of the competencies of technical personnel responsible for the provision and oversight of aeronautical meteorological services;
- ✓ Critical Element 5 (CE-5) contributes to the availability of technical guidance, procedures, tools and means necessary to conduct oversight activities in a standardized manner;
- ✓ Critical Element 6 (CE-6) contributes to ensuring that organizations responsible for the provision of meteorological services meet established requirements before exercising privileges associated with their designation, authorization or approval;
- ✓ Critical Element 7 (CE-7) contributes to the continuous oversight of meteorological service providers through inspections, audits, surveillance and monitoring activities; and
- ✓ Critical Element 8 (CE-8) contributes to the effective resolution of safety issues or deficiencies identified through oversight activities.

Within the context of the Basic Building Blocks (BBB), the Critical Elements as a whole provide the framework that enables the State to ensure that essential air navigation services are established, implemented, maintained and overseen in accordance with applicable ICAO provisions.

In particular, Critical Elements 6 and 7 provide the mechanisms through which the State continuously verifies and oversees that meteorological service providers maintain compliance with applicable requirements and continue providing services in accordance with Annex 3 and the PANS-MET.

C.8 Continuous Oversight and Improvement of Aeronautical Meteorological Services

State oversight does not end with the designation of a Meteorological Service Provider.

The State should establish mechanisms that allow continuous oversight of aspects such as:

- ✓ agreements and coordination mechanisms between Air Traffic Services (ATS) and meteorological services;
- ✓ implementation and maintenance of the Quality Management System (QMS);
- ✓ competencies, qualifications, education and training of meteorological personnel;
- ✓ operation of aeronautical meteorological offices and stations;
- ✓ issuance and dissemination of aeronautical meteorological products;
- ✓ application of procedures established in Annex 3 and the PANS-MET; and
- ✓ maintenance of evidence related to inspections, audits, surveillance and follow-up activities.

In addition, mechanisms should exist for the identification, tracking and resolution of findings or deficiencies identified during oversight activities to support the continuous improvement of aeronautical meteorological services.

The Protocol Questions (PQs) of the Universal Safety Oversight Audit Programme — Continuous Monitoring Approach (USOAP CMA) may serve as an external reference for assessing the effective implementation of the Critical Elements. However, they do not replace the national oversight mechanisms that each State should establish, including its own procedures, checklists, surveillance programmes, records and evidence used to demonstrate the implementation and continuous oversight of aeronautical meteorological services.