



ICAO

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WORKING PAPER

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**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

PROGRESS TOWARDS THE REGIONAL IMPLEMENTATION OF THE AIRCRAFT-BASED OBSERVATIONS (ABO) PROGRAMME THROUGH COLLABORATION BETWEEN ICAO, WMO AND THE NACC/WG SURVEILLANCE TASK FORCE (SURV/TF)

(Presented by the Rapporteur of the NACC/WG SURV/TF and the Secretariat)

EXECUTIVE SUMMARY

This Information Paper presents the progress achieved in the implementation of Task T02 – ABO (AMDAR/Other ABO) of the MET/TF 2026 Work Programme. In coordination with the World Meteorological Organization (WMO), the ABO Programme, the Expert Team on Aviation Services (ET-AVI) and the NACC/WG Surveillance Task Force (SURV/TF), the Secretariat promoted a work stream aimed at assessing regional implementation opportunities through the use of existing surveillance capabilities and aeronautical data exchange mechanisms. The results achieved with COCESNA, together with the activities initiated with SENEAM, represent a significant step forward in identifying potentially replicable approaches within the NAM/CAR Regions and demonstrate the benefits of collaboration among the technical groups involved.

Action:	As stated in Paragraph 5
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. • Procedures for Air Navigation Services — Meteorology (PANS-MET, Doc 10157). • MET/TF/3 Summary of Discussions and MET/TF 2026 Work Programme, Task T02 – ABO (AMDAR/Others). • Publications and activities of the WMO Aircraft-Based Observations (ABO) Programme and the Expert Team on Aviation Services (ET-AVI) and Expert Team on Aircraft-Based Observations (ET-ABO): WMO-No. 1160, WMO-No. 1200 and WMO-No. 49.

1. Introduction

1.1 The Tenth Meeting of the North American, Central American and Caribbean Working Group (NACC/WG/10) and the subsequent Third Meeting of the Aeronautical Meteorology Task Force (MET/TF/3) identified Aircraft-Based Observations (ABO) as a priority activity to support the evolution of aeronautical meteorological services in the NAM/CAR Regions. As a result, MET/TF/3 approved Task T02 – ABO (AMDAR/Others) as part of the MET/TF 2026 Work Programme.

1.2 During MET/TF/3, several States highlighted the importance of aircraft-based meteorological observations for strengthening atmospheric observing capabilities, supporting weather forecasting and enhancing services provided to international air navigation. The need to promote awareness-raising activities and explore emerging technologies to support their implementation was also recognized.

1.3 Aircraft-based meteorological observations constitute a recognized component within the framework established by Annex 3 and the PANS-MET, contributing to enhanced meteorological surveillance, numerical weather prediction and operational decision-making.

1.4 In follow-up to this mandate, the Secretariat initiated coordination activities with the WMO, including the ABO Programme, the Expert Team on Aircraft-Based Observations (ET-ABO) and the Expert Team on Aviation Services (ET-AVI), to identify practical implementation opportunities within the NAM/CAR Regions. In parallel, collaboration was promoted with the NACC/WG Surveillance Task Force (SURV/TF) to assess the potential use of regional surveillance and aeronautical data exchange capabilities. As a result, technical exchanges were established with COCESNA (Corporación Centroamericana de Servicios de Navegación Aérea) and exploratory activities were initiated with SENEAM (Servicios a la Navegación en el Espacio Aéreo Mexicano) to assess potential implementation opportunities.

2. Activities Undertaken

2.1 ICAO–WMO Coordination: The Secretariat conducted technical exchanges with WMO specialists to analyse the evolution of the ABO Programme and assess the regional applicability of initiatives related to AMDAR, Mode S Enhanced Surveillance (EHS) Radar, Meteorological Routine Air Reports (MRARs), ADS-C, and other emerging sources of aircraft-based meteorological observations.

2.2 The Secretariat established close coordination with the NACC/WG Surveillance Task Force (SURV/TF), which contributed its technical expertise to analyse the potential of regional surveillance and aeronautical data exchange capabilities in support of the ABO Programme. This collaboration incorporated specialized knowledge on ADS-B, ADS-C, Mode S Enhanced Surveillance (EHS), regional data exchange, and other relevant capabilities, facilitating a preliminary assessment of their potential contribution to the development of aircraft-derived meteorological observations within the NAM/CAR Regions. This activity constitutes an example of collaboration among NACC/WG task forces in support of cross-cutting regional implementation initiatives.

2.3 Technical Exchanges with COCESNA: A series of technical exchanges was conducted to undertake a preliminary assessment of the potential of selected operational and surveillance infrastructures in support of future ABO initiatives. Discussions included considerations related to:

- ADS-B;
- Enhanced Mode S (EHS) Surveillance Radar;
- Meteorological Routine Air Reports (MRARs);
- ADS-C;
- ASTERIX-based information exchange mechanisms; and
- Regional data exchange and data-sharing architectures.

2.4 Initial Coordination with SENEAM: In parallel, preliminary exchanges were initiated to explore similar opportunities within the Mexican context. Although these activities remain at an early stage, they confirmed the interest of Air Navigation Service Providers (ANSPs) in assessing how their existing capabilities could contribute to the future development of ABO initiatives.

3. Preliminary Observations

3.1 The activities carried out demonstrate that the ABO concept continues to evolve beyond traditional approaches based exclusively on AMDAR.

3.2 Information published by the WMO indicates growing international interest in leveraging surveillance capabilities, communications systems, and other aircraft-derived data sources to enhance the availability of meteorological observations, particularly in regions with limited observational coverage.

3.3 The exchanges conducted with the WMO, SURV/TF, MET/TF, COCESNA, and SENEAM demonstrate the potential of Air Navigation Service Providers (ANSPs) as strategic partners for future ABO initiatives. Although the assessment remains ongoing, the results achieved represent significant progress and could serve as a reference for similar future evaluations within the region.

4. Next Steps

4.1 The Secretariat will continue coordinating with the WMO, the SURV/TF, and interested stakeholders in order to:

- a) complete the technical assessments that have been initiated;
- b) identify new opportunities for cooperation and implementation;
- c) share experiences and lessons learned within the framework of the NACC/WG; and
- d) provide periodic updates on progress achieved.

5. Action by the Meeting

5.1 The meeting is invited to:

- a) note the information presented; and
- b) support the continuation of coordination activities among ICAO, WMO, the SURV/TF, ANSPs, and other interested organizations in order to further assess opportunities for the implementation of the ABO Programme in the NAM/CAR Regions.