



**Twenty-first Meeting of the CAR/SAM Regional Planning and Implementation Group
 (GREPECAS/21)**

Santo Domingo, Dominican Republic, 15 to 17 November 2023

Agenda Item 3.3: CAR/SAM Air Navigation Services (ANS) Implementation Level

PROGRESS REPORT OF THE MET PROGRAMME

(Presented by the Secretariat)

EXECUTIVE SUMMARY	
This Working Paper presents to GREPECAS/21 the most relevant results in the implementation of the MET Programme for the CAR and SAM Regions.	
Action:	Described in section 4.
<i>Strategic Objectives:</i>	<ul style="list-style-type: none"> • Safety • Air Navigation Capacity and Efficiency • Economic Development of Air Transport • Environmental Protection
<i>References:</i>	<ul style="list-style-type: none"> • Annex 3 – <i>Meteorological Service for International Air Navigation</i> Twentieth edition, July 2018 – Amendment 80 and the proposed amendment 81 in progress. • Twentieth Meeting of the CAR/SAM Planning and Implementation Regional Group (GREPECAS/20), Salvador, Brazil 15-18 November 2022.

1. Introduction

1.1 The Secretariat has been assisting States and Territories to strengthen and improve the implementation of the Standards and Recommended Practices (SARPS) contained in ICAO Annex 3, through the implementation groups: North American, Central American and Caribbean Working Group (NACC/WG) and SAM/MET Coordination. Virtual and remote mechanisms have been prioritized to reduce costs.

1.2 The Secretariat continues actively participating in the Aviation Services activities deployed by the World Meteorological Organization (WMO), through the WMO Office for the Americas and the Office for North America, Central America and the Caribbean, in which the Expert Team on Aviation Services (ET-AVI) conducts monthly meetings and supports common activities in accordance with the terms of reference presented to GREPECAS/20.

1.3 The Secretariat has also supported training for the implementation of the Quality Management System as well as coordination activities to support Contingency Plans.

2. Analysis

2.1. The Secretariat in coordination with contracting States, has been working for the implementation of the provisions introduced by Amendments 79 and 80 to ICAO Annex 3, specifically regarding the issuance of homogeneous Significant Meteorological Information (SIGMET) messages, exchange of Operational Meteorological (OPMET) messages in ICAO Weather Information Exchange Model (IWXXM) format, among other topics. Two common projects are under development:

- a) SIGMET Coordination Project between Meteorological Watch Offices (MWOs) covering adjacent Flight Information Regions (FIRs);
- b) Regional implementation of the IWXXM.

SIGMET Coordination Project

2.2 Regarding the SIGMET Coordination project and in cooperation with the WMO ET-AVI and other entities, the following activities have been satisfactorily conducted:

2.2.1 SIGMET Workshop Part 1, held in Mexico from 29 May to 2 June 2023, with the participation of 45 representatives from the Meteorological Authorities and Civil Aviation Authorities of 19 NAM/CAR/SAM States and 3 International Organizations, including speakers from Ecuador, Mexico, the United States, and the Caribbean Meteorological Organization. Special recognition was presented to the National Weather Service, Weather Prediction Centre (WPC) of the United States, represented by Dr. José Galvéz, for providing the training and sharing the material, available in English and Spanish on the event website.

2.2.2 The CAR/SAM SIGMET Regional Guide has been formulated, updated and is being disseminated among CAR/SAM States to compile final adjustments and update operational information. The main objective of this regional document is to provide guidance for the standardization and harmonization of the procedures and formats for the preparation and issuance of SIGMET messages.

2.2.3 The SIGMET workshop Part 2 to be held in San José, Costa Rica, from 27 November to 1 December 2023, aims to improve the availability and accuracy of SIGMET by reviewing current practices, learning new techniques and strengthening collaboration and coordination between the National Meteorological and Hydrological Services (NMHS), promoting the standardization and harmonization of procedures and formats for the preparation and dissemination of SIGMET information.

2.2.4 SIGMET Workshop was held in Lima, Peru from 21 to 25 November 2022, with the support of a specialist from the National Meteorological Service-Weather Prediction Center (WPC) of the United States and two specialists from the Meteorological Directorate and Hydrology of Paraguay.

2.2.5 In coordination with the ICAO Regional Office for Asia Pacific (APAC), on November 8, 15 and 23, 2023, the Volcanic Ash Advisory Centre (VAAC) in Washington, the Tropical Cyclone Advisory Centre (TCAC) in Miami and Honolulu, and the World Area Forecast Centre (WAFC) in Washington, will participate in the annual APAC SIGMET test, in a continued effort to improve SIGMET dissemination and exchange benefiting as well the procedures for the CAR Region.

2.2.6 Additionally, a volcanic ash exercise (VOLCEX) is planned for 2024, for which virtual meetings initiated to coordinate all involved entities (ATS, AIS, MET, VAAC, State Volcano Observatories, Aerodrome Operators, Air Operators, etc.).

Regional implementation of the IWXXM

2.3 Regarding the regional implementation of the IWXXM:

2.3.1 Cuba, jointly with States and Organizations, including Brazil, United States and COCESNA, conducted tests to demonstrate the interoperability of the exchange of meteorological information related to operations (OPMET) according to the IWXXM on the Aeronautical Message Handling System (AMHS).

2.3.2 CAR SAM States have been invited to participate in interoperability tests in accordance with the developed protocols, as this constitutes a proper scenario to verify the capacity to manage the File Transfer Body Part (FTBP) as defined in the service level extended of the Aeronautical message handling system (AMHS).

2.3.3 Paraguay and Uruguay already have the capacity to exchange messages in IWXXM format. Paraguay carried out exchange tests with the OPMET International Bank of Brasilia while Uruguay is making the corresponding adjustments. These States join Argentina, Brazil and Guyana who already have this functionality.

Amendment 81 to the ICAO Anexo 3 and Document 10157 - PANS MET

2.4 Additionally, the Secretariat supported by members of the Panel of Experts on Meteorology of the NAM CAR SAM Regions, is organizing the Workshop on amendment 81 to ICAO Annex 3 and the proposal for the PANS MET Document - Procedures for Air Navigation Services - Meteorology (Document 10157), held in Lima, Peru, from 30 October to 1 November 2023.

Verification of the MET Basic Building Blocks (MET)

2.5 The Secretariat continues working to promote the verification of essential services contained in the basic building blocks (BBB). The reference framework, the mapping between essential MET services and the Protocol Questions (PQ) of the ICAO Universal Safety Oversight Audit Programme USOAP and other procedures associated with national regulatory processes is being analyzed, with a view to recommend an effective and efficient verification procedure.

Quality Management Systems (QMS/MET)

2.5 Regarding the implementation of the QMS the SAM Region reports:

2.5.1 Panama has certified its QMS/MET this year.

2.5.2 Bolivia and Paraguay have passed the Certification Audit, with reports that recommend certification, but have not yet received the certification document. Brazil has planned the certification audit for December of this year.

2.5.3 With the certification of Panama, there are five States that have certified their QMS/MET (Argentina, Chile, Colombia, Panama and Peru). By the end of 2023, eight States could be certified.

2.5.4 The Secretariat has contracted a Lead Auditor course for the SAM Region, with IRCA certification, for the ISO 9001:2015 Standard. Thirteen Lead Auditors have been trained in 11 States of the SAM Region.

2.6 Regarding the implementation of the QMS the NAM/CAR Regions report:

2.6.1 Despite the NACC Regional Office have been unable to assign resources to assist the QMS implementation, the efforts to allocate resources continue as well as the collaborative work with the Expert Team on Services for Aviation (ET-AVI) of the World Meteorological Association - Regional Association IV to assist common States.

2.6.2 A survey on the QMS has been prepared to help meteorological authorities in determining States and regional needs, as well as to plan future assistance activities. 21 MET services completed the questionnaire, 11 have fully implemented QMS, however only 7 are certified, 4 have no QMS and 5 Partially implemented the QMS.

2.6.3 Based on the States' challenges compiled by the survey as presented in the graphic below, the NACC Regional Office and the ET-AVI are working to determine 2024 assistance activities.

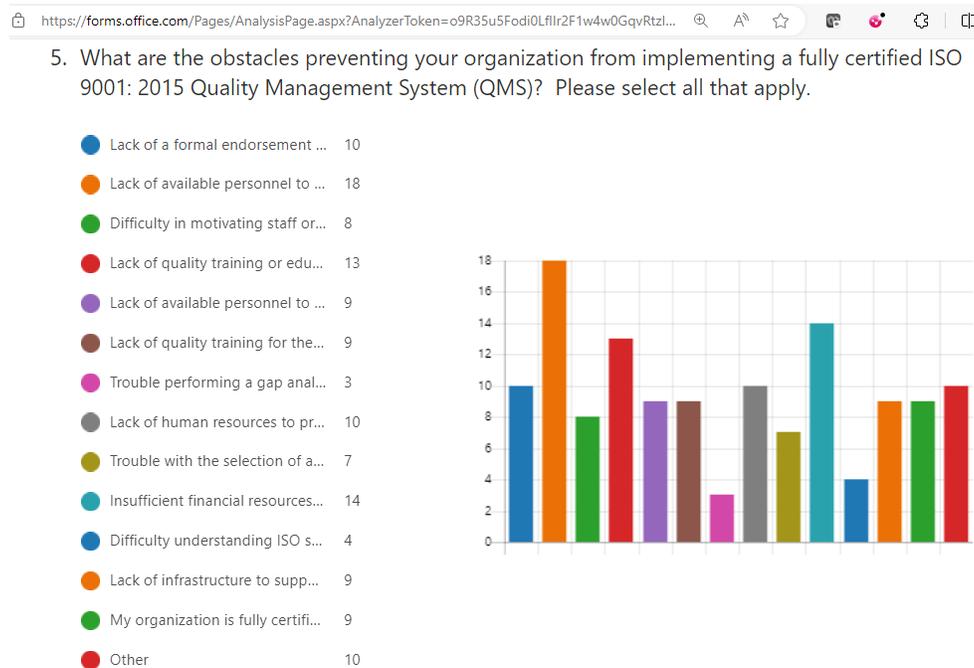


Figure 1. Expert Team on Services for Aviation QMS Survey extract

3. Discussion

3.1 In accordance with this progress report of the MET Programme and considering that it is necessary for the States to observe the implementation of the MET Basic Building Blocks (BBBs), it is requested that the meeting adopt the following conclusion:

DRAFT CONCLUSION GREPECAS/21/XX		IMPLEMENTATION OF ICAO ANNEX 3 STANDARDS AND RECOMMENDED PRACTICES (SARPs)
What: That 1) a) the CAR/SAM States: a) disseminate the new requirements included in amendment 81 to the ICAO Annex 3 and Doc. 10157 – PANSMET, and promote their implementation; b) verify the effective implementation of the Basic Building Blocks (BBBs) corresponding to the Meteorological Service for International air navigation and notify their implementation; c) expedite the implementation process for the exchange of Operational Meteorological Information Messages (OPMET) in the ICAO Weather Information Exchange Model (IWXXM) format; d) finalize the implementation process of the quality management system for the meteorological service QMS/MET and consider its certification. 2) The Secretariat: a) organize dissemination activities for the new requirements included in amendment 81 to the ICAO Annex 3 and Doc. 10157 – PANSMET; and b) continue the verification of the MET Basic Building Blocks (BBBs) corresponding to the Meteorological Service for International Air Navigation.	Expected impact: <input type="checkbox"/> Political / Global <input checked="" type="checkbox"/> Inter-regional <input type="checkbox"/> Economic <input type="checkbox"/> Environmental <input checked="" type="checkbox"/> Operational/ Technical	
Why: Contracting States are required to ensure an adequate organization of the Air Navigation Services (ANS), particularly the Meteorological service for international air navigation and to properly implement the ICAO Annex 3 SARPs		
When: GREPECAS/22	Estado: <input checked="" type="checkbox"/> Válida / <input type="checkbox"/> Invalidada / <input type="checkbox"/> Finalizada	
Who: <input checked="" type="checkbox"/> States <input checked="" type="checkbox"/> ICAO <input checked="" type="checkbox"/> Other:	Air Navigation Commission (ANC)	

4. Suggested actions

4.1 The Meeting is invited to:

- a) note the information contained in this working paper;
- b) approve the proposed conclusion included in item 3;
- c) promote interregional cooperation activities; and,
- d) propose other assistance needs that the meeting considers relevant.