



**GREPECAS Programmes and Projects Committee (PPRC) Fourth Virtual Meeting
(ePPRC/04)
Online, 21 – 22 April 2022**

**Agenda Item 2: Follow-up on the CAR/SAM Planning and Implementation Regional Group
(GREPECAS) Programmes and Projects**

CAR Region MET Programme

(Presented by the Secretariat)

EXECUTIVE SUMMARY	
The working paper presents the most relevant technical assistance activities developed by the MET Programme under the NACC Regional Office (RO) Systemic Assistance Programme (SAP).	
Action:	As indicated at 3.1.
<i>Strategic Objectives:</i>	<ul style="list-style-type: none"> • Air Navigation Capacity and Efficiency • Environmental Protection
<i>References:</i>	<ul style="list-style-type: none"> • ICAO Annex 3 – Meteorological Services for the International Air Navigation • Nineteenth Meeting of the GREPECAS (GREPECAS/19) • NACC Regional Office (RO) Systemic Assistance Programme (SAP)

1. Introduction

1.1 GREPECAS Conclusion 19/02 “Implementation of the Standards and Recommended Practices (SARPS) of ICAO Annex 3” required contracting States to ensure an adequate organization of the Air Navigation Services (ANS), particularly that of the Meteorological Service for International Air Navigation.

1.2 The Global Air Navigation Plan (GANP, Doc 9750) is the highest-level document for the air navigation strategy and the dynamics of its revisions implies continuous monitoring and subsequent follow-up of its guidelines to facilitate the implementation.

1.3 CAR States have been receiving technical assistance under the Systemic Assistance Program (SAP) of the ICAO NACC Regional Office to promote the effective implementation of ICAO SARPs, specifically those corresponding to the Meteorological Service for international air navigation.

1.4 The ICAO NACC Regional Office, through the SAM Regional Office, extended invitations to SAM States to participate in the implementation events and related activities developed with the collaboration of United States:

- a) Webinar on the Implementation of the ICAO Meteorological Information Exchange Model (IWXXM) and Updates to the Tropical Cyclone Advisory Center (TCAC) held On-line on 17 June 2020 ([event website](#))
- b) Webinar on mechanisms to improve the coordination of information concerning en-route weather phenomena and updates from the Volcanic Ash Warning Center (VAAC) (VAAC/COORD/Webinar) held Online on 7 December 2021 ([event website](#))

2. Discussion

2.1 Continuous upgrades in the GANP to highlight the foreseen transition from a product-centric environment to an information-centric environment will require a detailed review of the CAR/SAM electronic Air Navigation Plan (e-ANP) Volumes I and II, similarly the Regional development of the CAR/SAM Volume III will require specific implementation efforts.

2.2 The interaction with CAR States under the SAP framework has allowed the identification of the main assistance needs for the MET area, and have been incorporated into the MET Programme presented in the **Appendix A** to this working paper.

2.3 The ePPRC/04 WP/13 “Verification of the Basic Building Blocks (BBB) for MET in the CAR Region”, presents the progress and a prototype of the forms needed to report, monitor and follow up on the implementation of air navigation BBB of the Meteorological Services for the International Air Navigation as part of the CAR/SAM Regional Dashboard.

2.4 The NACC Regional Office, with Cuba’s support, is formulating a project to assist with the implementation of Quality management systems (QMS) as presented in **Appendix B** to this paper. The experience and results obtained by Cuba through the QMS implementation process will help pending States to promote the establishment of a QMS in compliance with ICAO SARPS.

2.5 The NACC Regional Office received the invitation from the World Meteorological Organization Representative for North America, Central America, and the Caribbean - Regional Association IV to cooperate with the Expert Team on Services for Aviation (ET-AVI), and has participated in the monthly meetings looking for support to develop joint activities in common and in line with the MET Programme.

3. Suggested Actions

3.1 The meeting is invited to:

- a) Take note of the information presented at the WP and the MET Program and its activities;
- b) Continue supporting and participating in the activities proposed at the MET Program and the QMS implementation project;
- c) Analyse any other related matter that the Meeting consider necessary.

APPENDIX A CAR REGION MET PROGRAMME

1. Background

As part of the technical assistance activities performed by the ICAO NACC Regional Office under the Systemic Assistance Programme (SAP) and to assist States to improve the effective implementation of the Standards and Recommended Practices (SARPs) contained in the Annex 3 to the Chicago Convention, the ICAO NACC Regional Office is executing the following MET Programme in cooperation with accredited States:

2. Objectives

1. Promote the implementation of MET Service for international air navigation as provided by Annex 3, included in the e-ANPs and under the BBBs and ASBU Frameworks.
2. Ensure the continuous and coherent development of the MET component of the NAM and CAR/SAM e-ANPs and its harmonized implementation within adjacent regions.
3. Develop effective methods to determine the implementation status of the ASBU Block-0 and Block-1 elements and BBBs, to monitor the performance of the MET Services on a cyclical annual basis.
4. Enhance the State's capabilities for the safety oversight of Meteorological Service providers.
5. Identify and support the resolution of air navigation deficiencies in the aeronautical meteorological (MET) services.

3. Stakeholders

The MET Programme benefits from experts provided by States, meteorological authorities and services providers and bodies having experience in the provision of aeronautical meteorological services for international air navigation.

4. Work methods

The MET Programme will coordinate tasks to maximize efficiency and reduce costs via electronic means including emails, telephone and teleconference calls.

Subject Matter Experts (SMEs) will be convened for the development of short-term tasks (maximum 5 days) based on the financing support to be required to the RLA/09/801 - Multi-Regional Civil Aviation Assistance Programme (MCAAP).

5. Work Plan

Reference	Description of the deliverable	Duration
Annex 3 GANP e-ANP	Regional webinar on the foundational cores of Meteorological Service for International Air Navigation and its evolution	2 hours
Annex 3 ICAO Guidance Material	Regional webinar on provisions related to the implementation of OPMET Data Exchange under IWXXM	3 hours

Annex 3 GANP e-ANP ICAO Guidance Material	Regional webinar on provisions related to meteorological authority, quality assurance, State safety oversight responsibilities and functions, and competency training and qualifications for aeronautical meteorological personnel	4 hours
Annex 3 e-ANP	Review of current CAR/SAM provisions on SIGMET.	4 hours
Annex 3 e-ANP ICAO Guidance Material	CAR Regional SIGMET test analysis and report	1 week
Annex 3 ICAO Guidance Material	Dissemination and analysis of the MET-SWIM Plan and the MET-SWIM Roadmap	4 horas
Annex 3 GANP e-ANP BBB / ASBU Frameworks	Webinar for the review of the national and regional MET systems and essential services	2 horas
GANP e-ANP	Review of the e-ANP Vol I and Vol II MET Tables and draft the corresponding Proposal for Amendment	2 weeks
GANP ASBU Framework	Development of e-ANP Vol III MET component	8 weeks
Annex 3 Anne 19 USOAP CMA	Technical assistance to enhance the State's capability for the safety oversight of aeronautical meteorology	1 day

APPENDIX B**PROJECT INITIATIVE FOR THE IMPLEMENTATION OF THE QUALITY MANAGEMENT SYSTEM FOR THE PROVISION OF THE METEOROLOGICAL SERVICE FOR INTERNATIONAL AIR NAVIGATION (QMS/MET)****1. Objective**

Assist States in the implementation of the QMS/MET and certification, where applicable, establish guidelines for the transition to the standard ISO 9001:2015 and projected to the interoperability of meteorological information in compliance with the provisions of Annex 3.

2. Scope

Establishment and application of a Quality Management System in compliance with the standards and recommended practices of Annex 3 and the CAR/SAM e-ANP, Vol. I and Vol. II.

3. Metrics

Number of States certified under ISO 9001:2015

4. Work methods

100% of CAR States apply and certify QMS/MET in accordance with standard ISO 9001:2015 by December 2025.

5. Context

Annex 3 and related guidance material. It is necessary to ensure the establishment and implementation of a properly organized quality system that contribute towards the safety, regularity and efficiency of international air navigation.

6. Work Plan

1. ICAO / WMO Regional level coordination to determine the CAR region QMS/MET implementation status ensuring reliable and verifiable information.
2. Assessment of ISO 9001:2015 QMS implementation status, identification of areas for improvement, and the recommendation of corrective actions to be taken.
3. Integration of CAR States into the WMO quality management forum.
4. Dissemination of the Guide to the implementation of a Quality Management System for National Meteorological and Hydrological Services - WMO-No 1100
5. Webinar for the interpretation of the ISO 9001: 2015 Standard and an implementation strategy.
6. Analysis of Human Resource Management processes to incorporate competency and qualification requirements of Aeronautical Meteorology Personnel, retraining and policies for continuous professional development.
7. Plan for the evaluation of competences and qualification of aeronautical meteorological personnel.