International Civil Aviation Organization
CAR/SAM Regional Planning and Implementation Group (GREPECAS)

WORKING PAPER

GREPECAS/22 — WP/07
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Fourth GREPECAS–RASG-PA Joint Meeting and
Twenty-second Meeting of the CAR/SAM Regional Planning and Implementation Group (GREPECAS/22)
Virtual Phase (Asynchronous, 16 September to 11 October 2024)
In-Person Phase (Lima, Peru, 20 to 22 November 2024)

Agenda Item 5: **CAR/SAM Air Navigation Services (ANS) Implementation**

5.1 Air Traffic Management (ATM), Airspace optimization, Air Traffic Flow Management (AFTM) and Search and Rescue (SAR)

PROGRESS OF PBN AND ATFM IN THE CAR/SAM REGIONS

(Presented by Secretariat)

EXECUTIVE SUMMARY

This paper comments on the evolution of the activities in the CAR/SAM Regions, referring to the implementation of performance-based air navigation (PBN) into the NEOSPACE Project, the GNSS Projects updates (Projects A2) as well as the projects of the GREPECAS ATFM Programme. ANSP providers should provide the required resources for their IFPDS services, to strengthen the quality assurance of flight procedure designs, particularly the five-year periodic review of designs. Omission of the review may affect safety.

Action:	Suggested actions are shown in Section 4
Strategic Objectives:	• Safety • Air Navigation Capacity and Efficiency • Economic Development of Air Transport • Environmental Protection
References:	• Doc 9613, Manual on Performance-Based navigation (PBN) • Doc 9750, Global air Navigation plan (GANP) • Doc 9971, Manual on ATFM. • GREPECAS, CRPP y e CRPP meetings reports.

1. Introduction

1.1 As a follow-up to GREPECAS Decision 16/45, the "Performance-Based Navigation (PBN)" Program was structured with the following associated projects:

1.1. PBN Implementation (A1), in CAR and SAM regions; and
1.2. Air navigation systems in support of PBN (A2) in the SAM Region.

1.2 The ICAO ISTARS 4.0 reporting system presents the “PBN implementation progress” for CAR/SAM Regions (Jeppesen data source), in the following link:

https://istars.icao.int/Sites/

1.3 The GREPECAS/21 Meeting (Santo Domingo, November 14-17, 2023) endorsed the Decision GREPECAS/21/07 approving the NEOSPACE-1 project, which replaced the A1 projects “PBN Implementation”, in order to develop in a harmonized, interoperable and comprehensive manner, and working with industry, the concepts for airspace optimization that encompass the APTA (Improve arrival and departure operations) and FRTO (Improved operations through enhanced en-route trajectories) modules/elements of the Global Plan of Air Navigation (GANP).

1.4 This project aims at greater efficiency, capacity, operational safety and care for the environment. The progress of Project NEOSPACE-1 over the past year is presented in the Working Paper “Status of airspace optimization programme and the NEOSPACE-1 project” (WP/19).

1.5 Following up on GREPECAS Decision 16/47, the ATFM Program was structured with the following associated projects:

a) Improving the balance between demand and capacity, in the CAR and SAM Regions (B1); and
b) Implementation of flexible use of airspace in the CAR Region (B2).

2. Analysis

2.1 CAR Region

Implementation of ATFM (Project B1)

2.1.1 In 2024, the CAR Region has achieved notable progress in improving Air Traffic Flow Management (ATFM) by working closely with the SAM Region and individual States.

2.1.2 The NACC/WG/ATFM Task Force is currently focused on assessing the ATFM services in the CAR Region by prioritizing the specific needs of each State. The Region is developing a more practical and actionable plan for ATFM improvements. Efforts have been directed towards understanding and streamlining the travel process from point A to point B, ensuring better coordination and efficiency. These initiatives involve making slight regional adjustments to align with state priorities, laying the groundwork for more effective ATFM services in 2025 and beyond.

Project A2 - Air Navigation Systems in Support to PBN

2.2.3 The NACC Office requests an extension of the deadline for another year to be able to meet the Decision GREPECAS/21/24 correlated to “Updates to Project GREPECAS A2 GNSS Augmentation” to CAR Region.

2.2 SAM Region

Implementation of PBN

2.2.1 According ISTARS, the SAM Region (13 states) has reached 93.2% average implementation for PBN approaches, as well as 71.0% on PBN departures (SID) and 55.7% on PBN arrivals (STAR).

2.2.2 Beyond the need of PBN procedures design and implementation to increase flight efficiency, the Quality Assurance matters are highly important. In the greater part of SAM states, the flight procedures design staff have been reduced, due to retirement or reassignment in operational functions. Then, training courses for designers at basic and advanced PBN level are being promoted, as well as refresher courses (recurring) through the RLA/06/901 project and the SAM/IG working groups. Flight Procedure Design Services (IFPDS) are focused on reinforcing quality assurance in their deliverables, which involves the proper qualification of the staff and the periodic examination of designs at maximum intervals of 5 years, among other requirements. The purpose is to validate that the flight procedure maintains adequate obstacle clearance, after the period. Otherwise, the lack of these examinations may affect the safety.

2.2.3 This Project A1 is included onwards under the Neospace Project - *please refer to WP/19*

Project A2 - Air Navigation Systems in Support to PBN

2.2.4 As an objective of this project, the improved version of the Receiver Autonomous Integrity Monitoring (RAIM) Availability Prediction Service (SATDIS) software was implemented in the Member States of Project RLA/06/901. In April 2024, for the renewal of the annual contract with the provider, consultations have been carried out with the States, resulting in different responses about the renewal of the service. The Project is still coordinating to define the situation.

2.2.5 Regarding the implementation of GBAS technology, another objective of the A2 Project is to develop a Practical Guide for the implementation of the system **GBAS (Ground Based Augmentation System),** however, no progress has been made since what was reported at the GREPECAS/20 Meeting.

2.2.6 Besides, endorsing the studies presented by Brazil, COCESNA and Thales Alenia Space regarding a system **SBAS (Satellite-based Augmentation System)** for the CAR/SAM Regions, the GREPECAS/21 approved the Decision 21/24, tasking the Secretariat to update project A2 with the available information on GNSS augmentation, and to include the CAR Region in this project.

Project B1 "Improving the balance between demand and capacity"

2.2.7 SAM/IG and its contributing bodies have been working since June 2021 on the development of an ATFM Operations Plan (OPSAM) with the aim of adjusting ATC capacity and Airport capacity to the gradual increase in demand and contributing to the post-COVID19 recovery, and the sustainability of the air transport system at the regional level.

2.2.8 The OPSAM includes a dashboard with a unique database format to allow the exchange and analysis of information on the demand for operations and trends in imbalances. The IATA Summer 24 season data dashboard presents the flight schedule for 10 SAM States, each month. As the post-operations information provided is analyzed, the management of GANP KPIs referring to punctuality, maximum capacity (performance), etc., is being initiated. See the SAM dashboard at the following link:

https://app.powerbi.com/view?r=eyJrIjoiOTc4YTZhMTQtZmE0YS00ZDUzLWI3NzgtNjIxYWZlYjU2OGI2IiwidCI6IjI2MjI4ZGNhLTcwZDMtNDkxNy04MjMzLTA4M2FjMzY1NWE5MSJ9

2.2.9 Two ATFM SAM (BRISA) Operational Teleconferences were established, a pre-tactical one every Tuesday and a Strategic/post-operations one on the last Thursday of each month. The data in the dashboard allows you to have a forecast of the weekly scenario and maintain the CDM and communication between the participating units in the Teleconference.

2.2.10 To date, 9 out of 11 OPSAM participating States issue an ATFM Daily Plan (ADP). In the last year, the Runway Capacity calculations at major international airports, including La Paz, Asunción, and Santiago, have been updated. At other airports, the update of the calculations is in progress, including Panama, Maiquetia, Lima, Pisco, and Arequipa. Activities are being initiated for ATC sector capacity calculations in ACC Centres.

2.2.11 Studies are progressing on cross-border ATFM, based on current collaborative practices among the services of Argentina, Brazil, Chile and Uruguay. A web portal is being developed to automate processes, and support coordination. For the Pacific Ocean Sectors, cross-border initiatives are being agreed from 2025 onwards, to increase efficiency in overflight flows among services in Panama, Colombia, Ecuador, Peru and Chile.

2.2.12 One aspect that affects the efficiency of the ATFM service and cross-border coordination is the limitation of FMP/FMU operating hours. Only Argentina, Colombia, and Brazil comply with H24 hours. At night, when ATFM services are closed, there have been difficulties in coordination, and the issuance of "flow control" NOTAM in the ACCs.

3. Conclusions

3.1 The approval of the revised CAR Region Airspace Concept Document represents a significant milestone in advancing the efficiency and safety of airspace management within the CAR Region. This crucial concept paves the way for future operational improvements, making it an essential regional development.

3.2 Furthermore, submitting ATS Surveillance Data Requirements guidelines to CAR States is critical in ensuring that data-sharing practices meet the necessary standards. These guidelines support a cohesive and integrated approach to regional airspace management, contributing to enhanced safety and efficiency.

3.3 A formal request has been initiated to work closely with all support implementation regional groups and Task Forces for ANS and Aerodromes and Ground Aids (AGA). This collaborative approach is not just important, but essential for shaping the future of ATM, identifying potential roadblocks, and fostering a comprehensive understanding of the challenges and opportunities ahead.

3.4 In the SAM Region, PBN is progressing under the auspices of Project RLA/06/901, assistance to States and joint work with industry for the implementation. ANSP providers should provide the required resources (personnel, training, procedures, etc.) for their IFPDS services, to strengthen the quality assurance of flight procedure designs, particularly the five-year periodic review of designs. Omission of the review may affect safety.

3.5 The implementation of the ATFM in the Region has been strengthened through activities, practices and deliverables on data management and demand-capacity analysis. Studies on cross-border ATFM and a tool to support the coordination and communication of ATFM measures at intraregional and interregional levels are being promoted. It is of utmost importance that the ANSPs direct the required resources (personnel, training, procedures, etc.) to the FMU/FMP, so that ATFM services are ensured H24 when required.

4. Suggested actions:

4.1 The Meeting is invited to:

a) Take note of the information in this paper;
b) Support the actions identified in the section 3; and
c) propose some other actions as needed.

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