



**International Civil Aviation Organization  
UNDP/ICAO Regional Project RLA/98/003  
Transition to CNS/ATM Systems in the CAR and SAM Regions**

**Tenth Meeting/Workshop of ATM Authorities and Planners  
of the CAR/SAM Regions (AP/ATM/10)**

(Lima, Perú, from 10 to 14 May 2005)

**Subject 5: ATFM Implementation in the CAR/SAM Regions**

**ATFM IMPLEMENTATION IN THE CENTRAL AMERICA FIR**

(Presented by COCESNA)

**Summary**

This paper shows the COCESNA's interest in achieve the implementation of the ATFM in the Central America FIR, considering the projection of the operations growth, the current aeronautical infrastructure and the technological and management level achieved by COCESNA and the States of the region, also considering the projects that will be developed by COCESNA in the near future.

**References**

- Doc 9426-Air Transit Services Planning Manual
- Eleventh Air navigation Conference (ANC/11)
- Third Meeting of the Subgroup ATM/CNS –GREPECAS (ATM/CNS/SG/3)
- Twelfth GREPECAS Meeting (GREPECAS/12)

**1. Introduction**

1.1 Due to the growing air operations wide world, some areas and airports of the CAR/SAM regions are having important air transit concentrations in some periods of the year, and it has repercussions in air traffic management given by the ATS providers, in the activity of the air operators and in airport systems.

1.2 This situation is not exclusive for a specific country; it is affecting small and big countries, both having a significative aviation growing level. The situation could get worse if no adequate foresight is taken, based on the indicators that show an important growth in the near and mid-term future.

1.3 Due to the geographical location of the CAR region, located near important poles of industrial, commercial and tourist development, Central America is experimenting a continuous growth in commercial aviation, which brings, besides economic benefits, a strong impact in the efficiency of the ATS services, also in services and airports facilities, this is more evident during certain months, days and hours, in specific geographical areas, routes and airports of the Central America FIR.

## **2. Analysis**

2.1 The need for ATFM implementation in the CAR/SAM regions has been dealt with in different forums in ICAO. In the same way some countries of the region have developed important works about the subject with the objective of establish a national system that can handle their current and future needs to achieve an adequate ATM and related airport services.

2.2 Under this optic and considering the outline established in the Eleventh Air Navigation Conference (ANC/11) and the Twelfth GREPECAS Meeting (GREPECAS/12), COCESNA considers a convenience the implementation of an ATFM system in the Central America FIR.

## **3. ATFM Implementation Resources**

3.1 The ATFM implementation in the Central America Region demands, among other resources, economic resources, ATM/CNS infrastructure and project managements capacity, also an adequate environment where the collaboration of air operators, ATS providers and other similar entities is necessary.

3.2 COCESNA considers to be in an advantageous situation, due to available resources in COCESNA and the Central American States, and projects that are currently being developed by COCESNA, could give the necessary support to achieve the ATFM operation in a short period, considering the horizon established in the ATM Evolution Tables for the CAR/SAM regions approved by GREPECAS.

3.3 Among these resources, the following can be mentioned:

- Economic resources for the execution of the project
- Support to COCESNA from the Central America States.
- ATC Automated systems in the entire region and in COCESNA.
- Implementation and operation of a PRE-ATN network in Central America.
- Central America Satellite network to support ATC, radar and AFTN services.
- Satellite links with others CAR ATC centres using the MEVA network with voice, radar data and AFTN capability (radar data, AFTN, etc).
- Agreements and current operative systems for the sharing and exchange of Radar data among Central America countries and COCESNA, and between COCESNA and USA.
- Enough highly qualified personnel in the ATM/CNS Fields.
- Solid office automation infrastructure with wide experience in the development of similar projects.
- Collaboration of air operators outside Central America, ICAO and other similar organizations.

#### **4. Implementation Strategies**

4.1 The AFTM implementation in the Central America FIR involves several considerations to achieve the objective in the time limit, with the consequent benefits to all parties related with the same.

4.2 Some of the considerations are as follows:

- a. To develop the project in an integral way, involving the Central America States, COCESNA, ICAO, operators and states outside the region.
- b. To establish the Terms of Reference for the execution of the project complying with the ICAO's guidelines and regional agreements, in such a way that guarantees the achievement of a product compatible with the actions that are carried out in the CAR/SAM regions.
- c. Exploitation of available technological means in the marked, oriented towards aeronautical field and other areas,, in order to develop and implement a ATFM system, not limited to the needs of the Central American FIR, but able to enlarge its action field of action and of service to the CAR Region.
- d. Establishment of bilateral or multilateral cooperation agreements with countries or organizations with experience in similar systems, in order to achieve the implementation of an efficient, reliable and dynamic and evolutionary system, based in a state-of-the art technology, supporting the current demand at short, mid and long-term.
- e. Clearly identify the negative points that can affect the development of the project in order to correct them. These points could be related with ATC strategies to get an optimal flow of the air traffic, incompetence of the ATC system to manage an excessive flight volume, due to exceed the declared capacity, airport congestion due limited infrastructure, etc.

#### **5. Suggested Action**

5.1 The Meeting is invited to analyze the information provided by COCESNA in this paper and take it as a reference to decide about the AFTM implementation in the CAR/SAM Regions.

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