



ICAO

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WORKING PAPER

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**Second Meeting of Rapporteurs of the North American, Central American and Caribbean Working Group (NACC/WG/RAP/02)**

ICAO NACC Regional Office, Mexico City, Mexico, 28 to 31 March 2023

**Agenda Item 5: Update of the Action Plans of the Task Groups of the NACC/WG, of the NACC/WG Action Plan and of the regional activities in the Development of the Projects of the CAR/SAM Regional Planning and Implementation Group (GREPECAS)**

**ADS-B REGULATION IN CENTRAL AMERICA AND SURVEILLANCE GROUP UPDATE STATUS REPORT AND WORK PLAN**

(Submitted by COCESNA)

**EXECUTIVE SUMMARY**

The present Working Paper gathers the actions carried out by COCESNA and the Central American States (Belize, Costa Rica, El Salvador, Guatemala, Honduras and Nicaragua) with the aim of improving air traffic services in the different airspace types of the Central American FIR, through the ADS-B implementation and ADS-B regulation establishment to ensure that aircraft are equipped with the required performance.

<b>Action:</b>	Refer to Section 3 for suggested actions.
<i>Strategic Objectives:</i>	<ul style="list-style-type: none"><li>• Strategic Objective 1 – Safety</li><li>• Strategic Objective 2 – Air Navigation Capacity and Efficiency</li><li>• Strategic Objective 4 – Economic Development of Air Transport</li><li>• Strategic Objective 5 – Environmental Protection</li></ul>
<i>References:</i>	<ul style="list-style-type: none"><li>• Project RLA09801 – Technical Assistance Mission Meeting of the Surveillance Task Force (SURV) of the Air Navigation Services (ANS), Mexico City, Mexico, 13 to 15 July 2022: <a href="https://www.icao.int/NACC/Pages/meetings-2022-tfm.aspx">https://www.icao.int/NACC/Pages/meetings-2022-tfm.aspx</a></li></ul>

**1. Introduction**

1.1 COCESNA, as part of its strategic and investment planning, modernised the aeronautical surveillance systems with ADS-B reception capacity and updated the ATS Control Centres both; en-Route (ACC CENAMER), approach (APP) and Control Towers (TWR) of all Central American States, to integrate ADS-B messages considering the processing of ADS-B Versions 0, 1 and 2, as well as using the latest versions of the Asterix surveillance data format.

1.2 ADS-B data currently provides an additional layer of surveillance over and above that provided by radars in the continental and oceanic part where coverage exists. This information is used by the Control Centres for surveillance purposes and to monitor aircraft capabilities within the Central American FIR.

1.3 In the Pacific oceanic airspace of the Central American FIR, where ground-based Radar and ADS-B coverage is not available, COCESNA has contracted ADS-B Satellite data, with the aim of improving surveillance and operational safety in this airspace, achieving a reduction of LHDs in this airspace.

1.4 As part of the initiatives, a performance assurance system was implemented to monitor the overall performance of the Radar and ADS-B sensors on a regular basis, and software was developed to use ADS-B data to monitor the ADS-B capabilities of the avionics and perform statistical analysis of the figures of merit reported by the aircraft in the ADS-B messages.

1.5 This system has allowed monitoring since 2019, as aircrafts have been equipped with version 2 (DO-260B), mainly due to the mandate established by the USA on 1st January 2020, a situation that has been beneficial in the Central American region.

1.6 Through the Multi-Regional Civil Aviation Assistance Programme (MCAAP), the Surveillance Task Group (NACC/WG/SURV ) Meeting on Air Navigation Services (ANS) was held at the ICAO NACC Regional Office in Mexico City, Mexico, from 13 to 15 July 2022 and COCESNA participated as an active member of the Surveillance Task Group.

1.7 The NACC/WG/SURV developed an analysis of the status of implementation of surveillance system data, including Automatic Dependent Surveillance - Broadcast (ADS-B). As part of this process, it was identified that the Central American sub-region with all its Member States already has the operational implementation of ADS-B, both ground and satellite, making important recommendations that have been considered by COCESNA and its Member States, including the following:

***Recommendation N. 3 "States should take advantage of the surveillance capabilities currently available on aircraft, primarily ADS-B, and adopt mandatory ADS-B as a regulation. States that have the necessary ADS-B infrastructure ready for operations should implement the necessary regulations to ensure their operations in the short term".***

1.8 By Decision GREPECAS/20/03 "Study on operational priorities for ADS-B implementation and on aspects of ADS-B use in ATC units", indicates that the Secretariat, in coordination with industry, shall conduct a study on operational priorities for ADS-B implementation and on aspects of ADS-B use in ATC units, based on the technical guidance documentation available for CAR/SAM Regions prior to GREPECAS/21, with the purpose of fostering the coherent and harmonized implementation of ADS-B in CAR/SAM Regions, in the framework of the ASUR module of the GANP, recognizing the priorities of airspace optimization and ATS service provision of the region.

1.9 For the operational use of ADS-B and to achieve all current and future benefits and capabilities set out in the Global Air Navigation Plan for providing ATS services in radar and non-radar airspaces, it is necessary to develop a regional regulation for the operational implementation of ADS-B and to promote that all aircraft are equipped and comply with the required performance for the different airspaces.

1.10 By means of a resolution of COCESNA's Board of Directors, a Working Group made up of specialists from each Central American State and COCESNA was formed to draw up a roadmap for the analysis and implementation of the ADS-B Regulation in the region.

## **2. Roadmap for ADS-B Regulation**

2.1 The Working Group, with the support of the ICAO NACC Regional Office and the Surveillance Task Group (NACC/WG/SURV), developed a roadmap for the purpose of the analysis and implementation of the ADS-B regulation:

- ✓ The roadmap considers an analysis of the avionics situation in terms of equipment including aircraft registration, a cost analysis of ADS-B implementation and certification, identification and participation of the industry.
- ✓ Review of ICAO regulations on ADS-B and the regulatory framework of each of the Central American States, supported by case studies of the implementation of regulations in other states, definition and review of the ADS-B operational concept.
- ✓ Conduct an assessment of safety aspects and definition of ADS-B performance requirements, in order to conclude the analysis and present a proposal for ADS-B regulation.

2.2 Data collection and compilation by the States is currently underway in order to proceed with the analysis of the information.

2.3 Progress and results will be reported in the next meetings.

## **3. Suggested actions.**

3.1 The Meeting is invited to:

- a) review the information provided in this working paper;
- b) to the Industry and the NACC/WG Task Forces to support, contribute to and collaborate with the ADS-B regulatory initiative in Central America; and
- c) any other matters it deems appropriate.