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

WORKING PAPER

GREPECAS/22 — WP/46
30/09/24

**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)

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**Agenda Item 5:** **CAR/SAM Air Navigation Services (ANS) Implementation**
**5.2 Communications, Navigation and Surveillance (CNS)**

# CNS PROGRAMS AND PROJECTS – CAR REGION

(Presented by the Secretariat)


**EXECUTIVE SUMMARY**

This working paper summarizes the activities carried out in the CAR region to follow up on GREPECAS C and D projects, as well as the CNS activities related to the implementation of CNS to support air navigation activities.


| | |
|---|---|
| **Action:** | Suggested actions in item 4 of this working paper. |
| *Strategic Objectives:* | • Safety<br>• Air Navigation Capacity and Efficiency<br>• Economic Development of Air Transport |
| *References:* | • Twentieth Meeting of the Caribbean and South American Regional Planning and Implementation Group (GREPECAS/20), November 2022 https://www.icao.int/NACC/Documents/Meetings/2022/GREPECAS20/GREPECAS20-FinalReport.pdf<br>• Twenty-first Meeting of the CAR/SAM Regional Planning and Implementation Group (GREPECAS/21), November 23 https://www.icao.int/NACC/Documents/Meetings/2023/GREPECAS21/00-GREPECAS21-FinalReport.pdf |

## 1. Introduction

1.1 Within the framework of Projects C – Situational Automation and Compression and D – Ground-to-Earth and Ground-to-Air Communications Infrastructure of GREPECAS, the main activities developed in the CAR Regions are presented in this working paper, following up on the CNS initiatives and the work carried out by the region to the decisions and conclusions of previous meetings of GREPECAS and the North American Working Group. Central America and the Caribbean (NACC/WG).

## 2. CNS Activities linked to GREPECAS Conclusions/Decisions.

2.1 The following table summarizes the activities of the CAR Region in follow-up to the previous decisions and conclusions of the GREPECAS meetings:

| Conclusions | Description | State |
|---|---|---|
| CONCLUSION GREPECAS/21/06 | "Update of Part III (CNS) of Volume II of the ANP CAR/SAM", | The CAR States have made progress in updating the information, however, there are States that are in the process of updating the information. |
| CONCLUSION GREPECAS/21/10 | "Strengthen frequency management for the use of air navigation services" | Through the NACC/WG/FREQ, an action plan has been created that is under development to strengthen frequency protection for aeronautical services. |
| CONCLUSION GREPECAS/21/11 | "Development of a Terms of Reference document for a tool for the evaluation of surveillance data from the CAR and SAM States" | The NACC/WG/SURV Group has created the project profile, and the CAR region supported by the Multi-Regional Civil Aviation Assistance Programme (MCAAP) (RLA09801) supported project has already allocated the initial financial resources.<br>The project is being led by the FAA and COCESNA and the participation, in addition to including the States of Brazil, Colombia and Uruguay, will extend to the benefit of all CAR/SAM States. |
| CONCLUSION GREPECAS/21/12 | "Use of the Frequency Finder 2023 Application as a management tool for VHF NV and VHF COM frequencies used in the aeronautical context" | This action has not been implemented in the CAR region. |
| GREPECAS/21/13 | "Actions to advance the implementation of D-ATIS and DCL" | The CAR region is working on the completion through the NACC/WG/AIDC Task Force. |
| CONCLUSION GREPECAS/21/21 | "Development of an Action Plan for the Implementation of ADS-B", | The CAR region has developed an Action Plan for the implementation of ADS-B for the FIRs of Mexico and Central America. The mandatory implementation will begin on January 1, 2025.<br>IP16 presents more information on this. |
| GREPECAS/21/24 | "Updates to the GREPECAS A2 GNSS Augmentation Project" | It has not yet been initiated. |

2.2 The Task Forces that are leading the activities described above will coordinate with the Task Forces of the SAM region to integrate as much as possible the benefits that will be achieved with the work that is being developed through the CAR activities.

## 3. CNS Implementation Activities in the CAR Region

***Caribbean Communications Network (CANSNET)***

3.1 Through a bidding process through the ICAO, after a long process and carrying out the technical and operational evaluation of the Project, it was awarded to the company FREQUENTIS. The new network is expected to come into operation in the first half of 2026.

3.2 CANSNET is a redundant network with a terrestrial mains and satellite redundancy. In this sense, the CANSNET members with communications requirements with the SAM States will be carrying out the necessary coordinations to establish redundant connections between CANSNET and REDDIG.

***Pilot Project for the Development of Air Navigation Plans (NANPs) of the CAR States.***

3.3 During the first workshop on the Development of Air Navigation Plans (XXX), several Spanish-speaking CAR States developed drafts of their NANP plans. The Workshop was supported by the Multi-Regional Civil Aviation Assistance Programme (MCAAP) (RLA09801), the ASBU Task Force (NACC/WG/ASBU) and the European Union Aviation Safety Agency (EASA).

3.4 The pilot project for the Development of Air Navigation Plans has several phases of development:

- Establishment of the ANS implementation status: through the assessment of the level of implementation of the Basic Building Blocks (BBB) and the assessment of the current implementation of the ASBU elements.
- Mapping the information available in the ANS systems of the participating States.
- Identification of individual and regional objectives
- And the feeding of the draft of the national air navigation plan.
- With this project, in parallel, the electronic air navigation plans are being fed up/updated in their three volumes.

3.5 One of the recommendations of this first workshop was that States, as part of their personnel in the area of planning, integrate personnel responsible for developing and maintaining the NANPs of each of the States in order to ensure their correct management and validity.

***Implementation of automated protocols.***

3.6 The Appendix to this working paper presents the level of regional implementation of the AIDC and NAM/ICD automated protocols at the regional NAM/CAR level, which is 48.76%. This percentage is the result of the measurement mechanisms proposed by the NACC/WG/AIDC Task Force and approved by the NAM/CAR States, where the implementation mechanisms vary depending on whether the protocol is AIDC or NAM/ICD. Implementation table in the Appendix to this working paper.

***Work in the Frequencies areas***

3.7 As a result of the meetings of the NACC/WG/FREQ Group, it was agreed to create an Ad Hoc Group whose main task will be to evaluate the Frequency Finder application and specify the requirements for an updated and more powerful version of it or new software for better assignment and management of the aeronautical frequency spectrum.

3.8 The Group is also working on the establishment of contact points for the entities of the different CAR States that manage the radio spectrum, with the aim of ensuring that the issues of frequency management for the aviation service are protected on a regional basis, in order to work on the WRC-27 agenda items.

| STATE | Organisation | POC | email | Spectrum Authority | COM list 1 | COM List 2 | COM List 3 |
|---|---|---|---|---|---|---|---|
| Aruba | ANSA | Joselito Correia de Andrade | joselito.correiadeandrade@ansa.aw | | N/A | Updated | Updated |
| Cayman | Cayman Islands Airport Authority | Cleavy A. Scott | Cleavy.Scott@caymanairports.com | | Updated | Updated | Updated |
| COCESNA | COCESNA | Manuel Flores | manuel.flores@cocesna.org | | Updated | Updated | Updated |
| El Salvador | COCESNA | Miguel Angel Ramos Suria | mramos@aac.gob.sv | SIGET | | | |
| Cuba | IACC | Lizet Toirac González | lizet.toirac@iacc.avianet.cu | MINCOM | Updated | Updated | Updated |
| Curacao | DC-ANSP | Stephen (Steve) Hunt | s.hunt@dc-ansp.org | | No Changes | No Changes | Updated |
| Dom Rep | IDAC | Elvis A. Collado | ecollado@idac.gov.do | INDOTEL | No changes | No changes | Updated |
| Freeport | BANSA | Calvin McIntosh | calvin.mcintosh@bansabahamas.com | URCA | Updated | Updated | Updated |
| Haiti | OFNAC | Nadia Leopold | nleopold@hotmail.com | CONATEL | N/A | Updated | Updated |
| Jamaica | JCAA | Derrick Grant | derrick.grant@jcaa.gov.jm | | Updated | Updated | Updated |
| Mexico | SENEAM | Daniel Castañeda Cruz | daniel.castaneda.seneam@gmail.com | | Updated | Updated | Updated |
| Nassau | BANSA | Earl A. Rahming<br>Elton Joseph | earl.rahming@bansabahamas.com<br>elton.joseph@bansabahamas.com | URCA | Updated | Updated | Updated |
| Panama | AACP | Daniel De Avila | daniel.deavila@aeronautica.gob.pa | ASEP | | | Updated |
| Puerto Rico | FAA | | | | | | |
| St Maarten | SXM | Richard Hazel | rhazel@sxmairport.com | | N/A | Updated | Updated |

Other Projects supported by the MCAAP.

1. 3.8 The CAR States, through the Multi-Regional Civil Aviation Assistance Programme (MCAAP) (RLA09801), are implementing a series of projects that aim to support the CAR States in other issues of cybersecurity assessment in ANS and development of aeronautical Frequency Management applications and the surveillance system monitoring system.

3.9 The MCAAP is a programme of enormous benefit to the region.

## 4. Suggested Actions

4.1 States are invited to:

a) To participate actively in the execution of the action plan of the different NACC/WG Task Forces and Projects detailed in this note; and

b) Provide recommendations on how to integrate joint CAR/SAM activities to better benefit from the initiatives of both regions.

— END —

| No | Interface | State/ Organization | Adjacent State or | Bilateral Agreement or ICD | Status | Notificación | Coordinación | Transferencia | % Implementación |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | NAM/ICD | 30 | 40 | 30 | |
| 1 | Belize-Merida | Belize | Mexico | NAM-ICD Version D | Implementing | 0.00% | 0.00% | 0.00% | 0.00% |
| 2 | Boston-Toronto | Canada | United States | NAM-ICD Version F | Operational | 100.00% | 100.00% | 100.00% | 100.00% |
| 3 | Cleveland-Montreal | Canada | United States | NAM-ICD Version F | Operational | 100.00% | 100.00% | 100.00% | 100.00% |
| 4 | Edmonton-Reykjavik | Canada | Iceland | NAT ICD | Operational | 0.00% | 0.00% | 0.00% | 0.00% |
| 5 | Edmonton-Salt Lake City | Canada | United States | NAM-ICD Version E | Operational/ | 100.00% | 100.00% | 100.00% | 100.00% |
| 6 | Edmonton-Seattle | Canada | United States | NAM-ICD Version E | Operational | 100.00% | 100.00% | 100.00% | 100.00% |
| 7 | Gander-New York | Canada | United States | NAT ICD | Operational | 100.00% | 100.00% | 100.00% | 100.00% |
| 8 | Gander-Prestwick | Canada | SD | NAT ICD | Operational | 100.00% | 100.00% | 100.00% | 100.00% |
| 9 | Gander-Reykjavik | Canada | Iceland | NAT ICD | Operational | 100.00% | 100.00% | 100.00% | 100.00% |
| 10 | Gander-Santa Maria | Canada | SD | NAT ICD | Operational | 100.00% | 100.00% | 100.00% | 100.00% |
| 11 | Moncton-New York | Canada | United States | NAM-ICD Version E | Testing | 100.00% | 100.00% | 100.00% | 100.00% |
| 12 | Salt Lake City-Vancouver | Canada | United States | NAM-ICD Version E | Operational | 100.00% | 100.00% | 100.00% | 100.00% |
| 13 | Belize-CENAMER | COCESNA | Belize | PAC ICD | Testing | 0.00% | 0.00% | 0.00% | 0.00% |
| 14 | Bogota-CENAMER | COCESNA | Colombia | PAC ICD | Testing | 0.00% | 0.00% | 0.00% | 0.00% |
| 15 | CENAMER-Costa Rica | COCESNA | Costa Rica | PAC ICD | Testing | 0.00% | 0.00% | 0.00% | 0.00% |
| 16 | CENAMER-El Salvador | COCESNA | El Salvador | PAC ICD | Operational | 100.00% | 100.00% | 0.00% | 66.67% |
| 17 | CENAMER-Guatemala | COCESNA | Guatemala | PAC ICD | Operational | 100.00% | 100.00% | 0.00% | 66.67% |
| 18 | CENAMER-Guayaquil | COCESNA | Ecuador | PAC ICD | Testing | 100.00% | 100.00% | 100.00% | 100.00% |
| 19 | CENAMER-Havana | COCESNA | Cuba | NAM-ICD Version E | Operational | 100.00% | 100.00% | 0.00% | 66.67% |
| 20 | CENAMER-Kingston | COCESNA | Jamaica | NAM-ICD Version E | Planned | 0.00% | 0.00% | 0.00% | 0.00% |
| 21 | CENAMER-Merida | COCESNA | Mexico | NAM-ICD Version E | Operational | 100.00% | 100.00% | 0.00% | 66.67% |
| 22 | CENAMER-MAZATLAN | COCESNA | Mexico | NAM-ICD Version E | Planned | 0.00% | 0.00% | 0.00% | 0.00% |
| 23 | CENAMER-Nicaragua | COCESNA | Nicaragua | PAC ICD | Operational | 100.00% | 100.00% | 0.00% | 66.67% |
| 24 | CENAMER-Panama | COCESNA | Panama | PAC ICD | Operational | 100.00% | 100.00% | 0.00% | 66.67% |
| 25 | Panama-San José | Costa Rica | Panama | PAC ICD | Testing | 0.00% | 0.00% | 0.00% | 0.00% |
| 26 | Havana-Kingston | Cuba | Jamaica | NAM-ICD Version E | Testing | 0.00% | 0.00% | 0.00% | 0.00% |
| 27 | Havana-Merida | Cuba | Mexico | NAM-ICD Version E | Operational | 100.00% | 100.00% | 0.00% | 66.67% |
| 28 | Havana-Miami | Cuba | United States | NAM-ICD Version E | Operational | 100.00% | 100.00% | 0.00% | 66.67% |
| 29 | Havana-Port au Prince | Cuba | Haiti | 0 | Not planned | 0.00% | 0.00% | 0.00% | 0.00% |
| 30 | Curacao-Maiquetia | Curacao | Venezuela | 0 | Planned | 0.00% | 0.00% | 0.00% | 0.00% |
| 31 | Santo Domingo | Dominican Republic | Haiti | 0 | Not planned | 0.00% | 0.00% | 0.00% | 0.00% |
| 32 | El Salvador-Guatemala | El Salvador | Guatemala | PAC ICD | Planned | 0.00% | 0.00% | 0.00% | 0.00% |
| 33 | El Salvador-Nicaragua | El Salvador | Nicaragua | PAC ICD | Planned | 0.00% | 0.00% | 0.00% | 0.00% |
| 34 | Belize-Guatemala | Guatemala | Belize | PAC ICD | Planned | 0.00% | 0.00% | 0.00% | 0.00% |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 35 | Barranquilla-Kingston | Jamaica | Colombia | PAC ICD | Testing | 0.00% | 0.00% | 0.00% | 0.00% |
| 36 | Curacao-Kingston | Jamaica | Curacao | PAN | Planned | 0.00% | 0.00% | 0.00% | 0.00% |
| 37 | Kingston-Panama | Jamaica | Panama | PAN ICD V.1 | Testing | 0.00% | 0.00% | 0.00% | 0.00% |
| 38 | Albuquerque-Mazatlán | Mexico | United States | NAM-ICD Version E | Operational | 100.00% | 100.00% | 0.00% | 66.67% |
| 39 | Mazatlan-México | Mexico | Mexico | LOA | Operational | 100.00% | 100.00% | 0.00% | 66.67% |
| 40 | Mazatlán-Monterrey | Mexico | Mexico | LOA | Operational | 100.00% | 100.00% | 0.00% | 66.67% |
| 41 | Mazatlán-Oakland | Mexico | United States | PAN ICD V.1 | Operational | 100.00% | 100.00% | 0.00% | 66.67% |
| 42 | Mérida-México | Mexico | Mexico | LOA | Operational | 100.00% | 100.00% | 0.00% | 66.67% |
| 43 | Mérida-Monterrey | Mexico | Mexico | LOA | Operational | 100.00% | 100.00% | 0.00% | 66.67% |
| 44 | México-Monterrey | Mexico | Mexico | LOA | Operational | 100.00% | 100.00% | 0.00% | 66.67% |
| 45 | Nicaragua-San José | Nicaragua | Costa Rica | PAC ICD | Planned | 0.00% | 0.00% | 0.00% | 0.00% |
| 46 | Curacao-Santo Domingo | Republic | Curacao | PAN ICD V.1 | Planned | 0.00% | 0.00% | 0.00% | 0.00% |
| 47 | Maiquetia-PIARCO | Tobago | Venezuela | 0 | Planned | 0.00% | 0.00% | 0.00% | 0.00% |
| 48 | New York-PIARCO | Tobago | United States | PAC ICD | Testing | 0.00% | 0.00% | 0.00% | 0.00% |
| 49 | PIARCO-San Juan/Miami | Trinidad and Tobago | United States | NAM-ICD Version D | Testing | 0.00% | 0.00% | 0.00% | 0.00% |
| 50 | French Guyanne- PIARCO | Trinidad and Tobago | French Guyanne | PAC ICD | Planned | 0.00% | 0.00% | 0.00% | 0.00% |
| 51 | Albuquerque-Monterrey | United States | Mexico | NAM-ICD Version E | Operational | 0.00% | 0.00% | 0.00% | 0.00% |
| 52 | Anchorage-Edmonton | United States | Canada | NAM-ICD Version E | Operational | 100.00% | 100.00% | 0.00% | 66.67% |
| 53 | Anchorage-Vancouver | United States | Canada | NAM-ICD Version E | Operational | 100.00% | 100.00% | 0.00% | 66.67% |
| 54 | Boston-Moncton | United States | Canada | NAM-ICD Version E | Operational | 100.00% | 100.00% | 0.00% | 66.67% |
| 55 | Boston-Montreal | United States | Canada | NAM-ICD Version E | Operational | 100.00% | 100.00% | 0.00% | 66.67% |
| 56 | Cleveland-Toronto | United States | Canada | NAM-ICD Version E | Operational | 100.00% | 100.00% | 0.00% | 66.67% |
| 57 | Houston-Merida | United States | Mexico | NAM-ICD Version E | Operational | 100.00% | 100.00% | 0.00% | 66.67% |
| 58 | Houston-Monterrey | United States | Mexico | NAM-ICD Version E | Operational | 100.00% | 100.00% | 0.00% | 66.67% |
| 59 | Los Angeles-Mazatlan | United States | Mexico | NAM-ICD Version E | Operational | 100.00% | 100.00% | 0.00% | 66.67% |
| 60 | Miami-Nassau | United States | Bahamas | NAM-ICD Version E | Planned | 0.00% | 0.00% | 0.00% | 0.00% |
| 61 | Miami-Santo Domingo | United States | Republic | NAM-ICD Version E | Operational | 100.00% | 0.00% | 0.00% | 33.33% |
| 62 | Minneapolis-Toronto | United States | Canada | NAM-ICD Version E | Operational | 100.00% | 100.00% | 100.00% | 100.00% |
| 63 | Minneapolis-Winnipeg | United States | Canada | NAM-ICD Version E | Operational | 100.00% | 100.00% | 100.00% | 100.00% |
| 64 | Oakland-Vancouver | United States | Canada | NAM-ICD Version E | Operational | 100.00% | 100.00% | 100.00% | 100.00% |
| 65 | Salt Lake City-Winnipeg | United States | Canada | NAM-ICD Version E | Operational | 100.00% | 100.00% | 100.00% | 100.00% |
| 66 | San Juan-Santo Domingo | United States | Republic | NAM-ICD Version E | Operational | 100.00% | 100.00% | 100.00% | 100.00% |
| 67 | Seattle-Vancouver | United States | Canada | NAM-ICD Version E | Operational | 100.00% | 100.00% | 100.00% | 100.00% |
| | | | | | | | | | 48.76% |