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Agenda Item 5: Toward More Effective Implementation Support

AIR NAVIGATION APPLICATION UPDATES (GREPECAS, NACC/WG, PROJECTS AND INITIATIVES)

(Presented by Secretariat)

EXECUTIVE SUMMARY	
This Working Paper reflects air navigation activities coordinated by the ICAO NACC Regional Office with the different Task Forces and Workplan of the North American, Central American and Caribbean Working Group (NACC/WG).	
<i>Strategic Objectives:</i>	<ul style="list-style-type: none">• Safety• Air Navigation Capacity and Efficiency• Economic Development of Air Transport• Environmental Protection
<i>References:</i>	<ul style="list-style-type: none">• Eighth North American, Central American and Caribbean Working Group Meeting (NACC/WG/8) https://www.icao.int/NACC/Pages/meetings-2023-naccwg8.aspx• Twenty-first Meeting of the Caribbean and South American Regions Planning and Implementation Group (GREPECAS/21) https://www.icao.int/NACC/Pages/meetings-2023-grepecas21.aspx

1. Introduction

1.1 The NACC/WG is the main implementation and coordinating body of the NAM/CAR Regions to support the States and aviation stakeholders for the implementation of air navigation matters. With the approval of Decision NACC/DCA/11/4 “Approval of North American, Central American and Caribbean Working Group (NACC/WG) Structure and 2023 Workplan” from Eleventh Meeting of the North American, Central American and Caribbean Directors of Civil Aviation (NACC/DCA/11), the States supported the organizational structure of the Technical Group of the NACC/WG.

2. Discussion

2.1 This Paper provides a summary of the activities carried out in the different air navigation areas (Air Traffic Management - ATM, Communications, Navigation and Surveillance - CNS, Aeronautical Information Management - AIM, Aeronautical Meteorology – MET-, and Aerodromes and ground aids - AGA) conducted by different Task Forces and the NACC/WG Work programme:

Search and rescue

2.2 The NACC/WG Search and Rescue Task Force continues implementing its work program with the Eastern Caribbean as its top priority. The ICAO NACC Regional Office supported an inter-regional Search and Rescue Exercise (SAREX) organized by France in the Eastern Caribbean subregion. The SAREX included two tabletop exercises that simulated aircraft accidents in different scenarios to evaluate search and rescue (SAR) operational procedures, Letters of Agreement (LoA), and SAR response, in which the Search and Rescue Regions (SRR) of Cayenne, Paramaribo, and Piarco and the associated Rescue Coordination Centres (RCC) and Rescue Subcentres (RSC) of the SRRs participated,

2.3 The main challenges for search and rescue in the Eastern Caribbean are the lack of fully operational SAR coordination units and the lack of SAR agreements:

- The CAR/SAM Regional Air Navigation Plan (RANP) establishes seven SAR Coordination Units in the Piarco SRR: Piarco RCC (Trinidad and Tobago), Antigua RSC (Antigua and Barbuda), Bridgetown RSC (Barbados), RSC of Fort-de-France and RSC of Pointe-a-Pitre (France), RSC of Pointe Salines (Grenada) and RSC of Saint Vincent and the Grenadines (Saint Vincent and the Grenadines). Of these seven SAR Coordination Units, only the Fort-de-France and Pointe-a-Pitre RSCs are fully operational, and the Antigua RSC is partially operational, as a maritime RSC.
- A SAR agreement for the Eastern Caribbean was initiated in 1997, which included the Organization of Eastern Caribbean States (OECS) Member States, Barbados, France, and Trinidad and Tobago. Only the signature of France is pending to complete all parts of this SAR agreement.

Planning and responses to contingencies

2.4 Recognizing that the nature of circumstances leading to contingencies in ATM rarely occur in isolation, the ICAO NACC Regional Office is working to expand the scope of its contingency planning and response strategy, providing an approach more holistic to contingency planning and response.

2.5 To comply with Decision GREPECAS/21/09 – ACTIONS TO STRENGTHEN CONTINGENCY PLANNING IN THE CAR/SAM REGIONS, and to strengthen the planning and preparation of States in contingency and crisis management, a Special Implementation Project (SIP) by the ICAO Air Navigation Directorate to develop guidance material for ATM contingency planning, to improve regional guidance for Level 1 (State internal plans dealing with internal/national coordination for the ANSP) and Level 2 (bilateral contingency plans that involve two or more States). To disseminate this guidance material, it is

proposed to hold a Workshop on ATM contingency management at the NACC Regional Office from ICAO in November 2024.

2.6 The ICAO NACC Regional Office organized the Fourth NAM/CAR Regional Meeting on Contingency and Emergency Planning and Response (NAM/CAR/CONT/4). The objectives of this meeting were to review and update the Air Traffic Services (ATS) contingency plan for the States and Territories of the CAR Region; report on the project to improve CAR regional guidance for contingency planning and response and make necessary arrangements to prepare for the 2024 hurricane season.

Air traffic flow management and airspace optimization

2.7 Air Traffic Flow Management (ATFM) has focused on several key tasks. These include planning major events such as the T20 Cricket World Cup, Copa America, FIFA Club World Cup in 2025, and the FIFA Men's World Cup in 2026. Efforts are also underway to improve the capacity of data collection and interpretation. A test of the Traffic Situation Display (TSD) is underway, with modifications to meet FAA/ATO/AJR-2 security requirements. The ATFM/TF is working on establishing more international data provider agreements to connect to Approved Training Organizations (ATO) on System wide information management (SWIM), in which Canada, USA, Mexico, Piarco and COCESNA already participate. Additionally, FAA/ATO/AJR-G is reviewing this data to assist Air Navigation Service Providers (ANSPs) in meeting ICAO requirements. Also, support for the AO TF (Airspace Optimization), improving the preparation and adaptability of ANSPs to events, and collaboration with CANSO Air Traffic Flow Management Data Exchange Network for the Americas (CADENA), the International Air Transport Association (IATA), ICAO, and the Civil Air Navigation Services Organization (CANSO) to advance ATFM in the region over the next five years are priorities.

2.8 The Optimized Airspace Concept is essential for transitioning to Free Route Airspace (FRA) in the CAR Region, offering a phased roadmap for ANSPs. Key measures include the implementation of Performance Based Navigation (PBN), the harmonization of separation rules, and the use of User Preferred Routes (UPR) and Strategic Direct Routes (SDR) as steps towards FRA. Collaborative efforts, including recent and upcoming meetings with the SAM Region, aim to harmonize airspace optimization strategies, align with the GANP, and incorporate these strategies into the CAR/SAM ANP with specific KPIs. Necessary actions include reviewing the roadmap, engaging in ongoing collaborations, and monitoring progress in the implementation of the UPR and SDR. Coordination with GREPECAS NEOSpace Project has been agreed to work a fully regional CAR/SAM Air space optimization deployment.

Communications, Navigation and Surveillance

2.9 In the area of communications, the bidding process for the new Caribbean communication network “CANSNET” was completed, with the company Frequentis being the winner of the process, which presented a good technical proposal, and the price of the new project was competitive and lower.

2.10 In the surveillance area, work is being done with the Ad hoc Group of the NACC/WG/SURV TF integrated by States ready to operationalize Automatic Dependent Surveillance - Broadcast (ADS-B), and the proposal to issue legislation with regional requirements that cover upper airspace operations.

2.11 Through CNS related regional projects and initiatives, the work is focused on:

- a) Development of the air navigation plans of the States.
- b) Implementation of the automated protocol (NAM/ICD) between Cuba and Jamaica.
- c) Management of aeronautical frequencies for the use of aeronautical services.
- d) Development of the operational concept for the air navigation aid systems implementation

Aerodromes and Ground Aids - AGA

2.12 In 2022, the NACC/WG approved the establishment of the AGA Task Force (AGA/TF) (<https://www.icao.int/NACC/Pages/regional-group-AGA.aspx>). The AGA/TF is the mechanism of coordination, elaboration, and implementation of projects, activities and development of guidance material in the region aiming to increase safety, capacity, and efficiency in air navigation in the AGA area.

2.13 The AGA/TF approved AGA Programme, which consists of the following activities and projects being carried out within 2023 and 2028:

- Runway Safety Teams (RST) Implementation;
- Global Reporting Format for Runway Surface Conditions (GRF) Implementation;
- Aerodromes Certification;
- Aerodromes Planning;
- Airport Collaborative Decision Making (A-CDM);
- Wildlife management;
- Airport Emergency Plan (AEP); and
- National and Regional Air Navigation Plan (NANPs and RANPs) in the AGA area.

2.14 The AGA indicators, along with the progress of these projects and activities in collaboration with States and aerodrome operators, are available on the NACC Dashboard, which can be found at the ICAO Portal on iSTARS 4.

Aeronautical Information Management – AIM

2.15 During the NACC/WG/08 Meeting, it was explained the framework of the AIM Basic Building Blocks (**AIM - BBBs**), with the fundamentals for air navigation, which define the essential services provided to international civil aviation. It was also explained the **D-AIM** from the Aviation System Block Upgrade (ASBU) describing the scalable implementation of operational improvements to be implemented after essential services defined as BBBs.

2.16 The provision of aeronautical data and information and the quality assurance implementation of the data are essential for all services in AIM and on the implementation of the System Wide Information Management (SWIM). The provision of Quality-Assured (QA) aeronautical Data and Information is included in the ASBU (D-AIM), so it is considered an operational improvement to be achieved (Ref. D-AIM-B1/1 Data provision and aeronautical information with quality assurance), once the BBBs framework is independent system of the ASBU, which considers a catalogue of performance objectives and a list of Key Performance Indicators (AIM/KPIs)

2.17 The Quality Management System (QMS) is essential in Aeronautical Information Management (AIM) and especially with the global requirement to implement the Aeronautical Information Exchange Model (AIXM, including Metadata), for the transference and reception of data and aeronautical information in System-wide Information Management (SWIM) environments, maintaining Quality Assurance (QA) from the originator in the supply or provision of data and information, which if altered or corrupted in the exchange processes, have a negative impact with high risks for safety.

2.18 States should take advantage of the implementation of BBBs through their national air navigation plans as a strategic part of their national aviation planning framework (Ref. Annex 15 and PANS AIM). This will also pave the way for the future implementation of air navigation improvements to increase the quality and safety of services and meet the performance expectations of the international aviation community.

Aeronautical Meteorology - MET

2.19 The ICAO NACC Regional Office organized the Second Meeting of the North American, Central American and Caribbean Working Group (NACC/WG) Aeronautical Meteorology (MET) Task Force (TF) (MET/TF/02), in Mexico City from 27 February to 1 March 2024. The meeting gathered representatives from both, the meteorological authorities in charge of meteorological services and the Civil Aviation Safety Inspectors.

2.20 The objectives of the MET/TF/02 were:

- To review and harmonize essential concepts of meteorological services, as provided in Annex 3, included in the Air Navigation Plans (ANP) and in accordance with the BBB and ASBU frameworks,
- To discuss the mechanisms to determine the status of implementation of the BBBs, the Advanced Meteorological Information (AMET) Blocks 0 and 1 of the ASBU and their interdependencies,

- To address the implementation of the Quality Management System (QMS/MET)
- To analyse the State's capability for safety oversight of the MET service providers, identify the qualification and competency requirements for national inspectors, and determine the mechanisms to identify and support the resolution of air navigation deficiencies.

2.21 Despite limited resources, the NAM CAR MET/TF continues implementing its work program and seeking financing opportunities under the ICAO financing mechanisms. In the meantime, some States have participated in the assistance activities developed by the ICAO SAM Regional Office, such as the recent Volcano Surveillance Workshop on International Airways, held in Peru from 17 to 20 June 2024. Attendance by ICAO SAM Regional Office to the Forty-Sixth Session of the RA IV Hurricane Committee is welcomed, and both activities will be reported during GREPECAS/22.

2.22 The main challenges for MET in the NAM and CAR Regions include: the intra- and interregional operational meteorological (OPMET) data exchange using IWXXM (ICAO Meteorological Information Exchange Model), the cyclical verification of the BBBs, the implementation of the QMS, and the verification of the accuracy of measurements, observations and forecasts to ensure operationally desirable accuracy. These challenges continue to threaten the successful implementation of the Optimized Airspace Concept.

2.23 The NACC Regional Office is committed to the MET program's implementation and is actively seeking resources. This includes requesting additional support from ICAO and States, encouraging subject matter expert contributions from NAM CAR States, and promoting stakeholder engagement throughout the projects' development and implementation. A MET QMS project for CAR States was submitted into the ICAO Implementation Support Platform to test the mechanism.

3. Conclusion

3.1 The Meeting is invited to:

- a) support the development activities of the contingency plan for the 2024 hurricane season;
- b) comply with the actions for the start-up of the CANSNET network according to the implementation schedule;
- c) ensure the provision of the framework of the AIM Basic Building Blocks (**AIM - BBBs**) and the provision of Quality-Assured (**QA**) aeronautical Data and Information;
- d) ensure that technical personnel are assigned for both local and regional management of aeronautical frequencies; and
- e) any other action that applies.