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Fort-de-France, Martinique, 15 to 17 July 2026

Agenda Item 4: Follow-up of the activities of the E/CAR/CATG
4.3 Progress report of the Air Traffic Management (ATM) Committee

ENHANCING AIR TRAFFIC FLOW MANAGEMENT (ATFM) AND COLLABORATIVE DECISION MAKING (CDM) IN THE PIARCO FIR AND EASTERN CARIBBEAN REGION

(Presented by Trinidad and Tobago)

EXECUTIVE SUMMARY	
This Working Paper (WP) presents ongoing initiatives by Trinidad and Tobago to strengthen Air Traffic Flow Management (ATFM) and Collaborative Decision Making (CDM) within the Piarco Flight Information Region (FIR) and the Eastern Caribbean (E/CAR). It highlights regional coordination efforts, emerging operational challenges, and system modernization initiatives, in alignment with ICAO guidance. The paper also summarizes Trinidad and Tobago's ATFM ongoing activities since the Ninth Eastern Caribbean Civil Aviation Technical Group meeting (E/CAR/CATG/9) held in Miami, United States, 28 to 31 July 2025.	
Action:	Suggested actions are detailed in section 6
<i>Strategic Objectives:</i>	• Every Flight is Safe and Secure • Aviation is Environmentally Sustainable • Aviation Delivers Seamless, Accessible, and Reliable Mobility for All • No Country Left Behind • The International Civil Aviation Convention and Other Treaties, Laws and Regulations Address All Challenges • The Economic Development of Air Transport Assures the Delivery of Economic Prosperity and Societal Well-Being for All
<i>References:</i>	• ATFM/TF/3 Final Report, Mexico City, Mexico, and online 17 to 19 May 2022 • Third GREPECAS-RASG-PA Joint Meeting and GREPECAS/21 Final Report, Santo Domingo, 14 to 17 November 2023 • E/CAR/CATG/7-WP17, Miami, United States, 26 to 28 July 2023 • AO/TF/4/ATFM/TF/6/CIIFRA/8-IP02, Havana, Cuba, 23 to 27 September 2024 • AO/TF/5/ATFM/TF/7/CIIFRA/9-SoD, Orlando, United States, 03 to 07 March 2025 • E/CAR/CATG/9-SoD, Miami, United States, 28 to 31 July 2025 • (Doc 9971): <i>Manual on Collaborative Air Traffic Flow Management</i>

1. Introduction

1.1 This paper provides an update to the E/CAR CATG meeting on Trinidad and Tobago's ATFM activities since the Ninth Eastern Caribbean Civil Aviation Technical Group (E/CAR/CATG/9) meeting.

1.2 The paper also presents proposals by Trinidad and Tobago to enhance CDM within the Piarco FIR.

2. Background

2.1 In the CAR Region, the interdependence of FIRs necessitates a regional and collaborative approach, particularly in managing traffic flows across adjacent airspaces. Trinidad and Tobago, through the Trinidad and Tobago Civil Aviation Authority (TTCAA) Air Navigation Services Division (ANSO), continues to advance ATFM and CDM processes within the E/CAR in alignment with ICAO provisions and regional agreements.

2.2 The ICAO NACC/WG ATFM Task Force (TF), through conclusion one (1) of the ATFM/TF/3 meeting in May 2022, established minimum ATFM requirements for the CAR Region, emphasizing the need for multilateral coordination and appropriate ATFM service provision at all Area Control Centres (ACCs).

2.3 Further, at the twenty-first Meeting of the CAR/SAM Regional Planning and Implementation Group (GREPECAS/21), held in Santo Domingo in November 2023, States and Territories agreed through conclusion eight (8), to prioritize resources for ATFM implementation including the allocation and training of human resources. This regional initiative is intended to strengthen and sustain an effective ATFM tactical coordination mechanism capable of providing continuous and timely (H24) responses to contingency situations or unforeseen events.

2.4 The Piarco FIR operates within a complex regional environment, coordinating with multiple FIRs and Terminal Control Areas (TMAs) within the E/CAR.

2.5 Accordingly, the interconnected nature of operations within the Piarco FIR, the E/CAR TMAs and adjacent FIRs, underscores the importance of maintaining an aligned and collaborative ATFM and CDM process. Such alignment supports coordinated Traffic Management Measures (TMMs), enhances situational awareness, facilitates timely information exchange and contributes to the safe, orderly and efficient flow of air traffic across the Region.

3. Overview of Trinidad and Tobago's ATFM and CDM Activities

3.1 Current ATFM and CDM Activities

- 3.1.1 Trinidad and Tobago actively participates in regional ATFM/CDM frameworks, including:
- a) Civil Air Navigation Services Organization (CANSO) ATFM Data Exchange Network for the Americas (CADENA);
 - b) ICAO NACC/WG Airspace Management & Capacity Balancing (AMCB) TF; and

- c) Regional contingency coordination mechanisms.

3.1.2 The Piarco ACC contributes to regional situational awareness through:

- a) Daily publication of ATFM Daily Plans (ADPs) on the CANSO Operational Messaging Platform for ATFM Sharing and Synchronisation (COMPASS) Operational Information System (OIS);
- b) Participation in scheduled and ad hoc teleconferences; and
- c) Near real-time sharing of operational information (CADENA planning web conferences, chat-groups).

3.1.3 Trinidad and Tobago is in the final stages of upgrading its ATFM software to a new Traffic Complexity Tool (TCT). The TCT supports the flow management process through the continuous processing of messages coming from external interfaces. The TCT provides functionalities that include, but are not limited to, the following:

- a) Monitoring demand within the Area of Responsibility (AOR), and providing users with alerts related to Demand and Capacity (DCB) imbalances;
- b) The computing and displaying of the traffic complexity through the application of algorithms that consider flight interactions; and
- c) Enabling users to perform “What-If” simulations to evaluate the impact of various sector configurations and/or the application of predefined ATFM measures (re-routes, level capping, departure delays) to manage or resolve DCB imbalances.

3.1.4 TCT functionalities supports enhanced situational awareness and enhanced decision making.

3.1.5 The ICAO encourages the use of advanced decision-support tools and data analytics to improve ATFM performance. Accordingly, the initiative to upgrade to TCT aligns with international best practices and supports the advancement of ATFM capabilities.

3.1.6 Trinidad and Tobago has also reintroduced its ATFM training program internally to strengthen the knowledge base and operational understanding of ATFM amongst Air Traffic Controllers (ATCOs), with the objective of supporting effective application of ATFM tools and concepts within Air Traffic Management (ATM) operations. Initiatives undertaken to date include:

- a) Update of the ATFM Manual;
- b) Update of an ATFM Training Programme and the delivery of training to Air Traffic Services (ATS) personnel; and
- c) Completion of Federal Aviation Administration (FAA) ATFM training for the relevant ANS personnel.

3.2 Strengthening ATFM and CDM Coordination with the French Antilles

3.2.1 Trinidad and Tobago conducted CDM and ATFM coordination meetings with the French Antilles Territories of Martinique, Guadeloupe and French Guiana from 20 to 22 May 2026.

3.2.2 The discussions focused on the following:

- a) Enhancing cross-boundary coordination amongst TMAs managed by the ECAR’s States and between the Piarco FIR and adjacent TMAs and FIRs;

- b) Improving CDM processes and operational information exchange;
- c) Harmonizing ATFM measures across Piarco FIR and French-controlled airspaces; and
- d) Supporting seamless traffic flow between TMAs and upper airspace.

3.3 Emerging Operational Considerations: Space Transport Operations

3.3.1 The CAR Region has experienced an increase in the frequency and complexity of space transport and rocket launch operations, resulting in evolving airspace management considerations and operational constraints that require enhanced regional coordination, planning and operational responsiveness.

3.3.2 In accordance with the applicable ICAO guidance, such operations require:

- a) Advanced strategic planning and coordination among affected stakeholders;
- b) Collaborative development, implementation and monitoring of TMMs; and
- c) Continuous operational information exchange among impacted stakeholders to promote situational awareness and to support safe and efficient airspace operations.

3.3.3 These operations have increased the importance and utilization of the CADENA ATFM/CDM platform in supporting:

- a) Regional coordination;
- b) Real-time situational awareness; and
- c) Coordinated and harmonized responses to large-scale operational disruptions.

3.3.4 This development reinforces the importance of regional CDM frameworks as prescribed in Doc 9971, particularly in supporting coordinated responses to non-routine and high-impact operational scenarios.

4. Identified Challenges

4.1 Trinidad and Tobago has identified several challenges that affect the effective implementation of ATFM/CDM within the Piarco FIR. These challenges include:

- a) Lack of harmonization of inter-regional ATFM and CDM procedures between E/CAR States and Territories, and Trinidad and Tobago;
- b) Operational Letters of Agreement (LoAs) between Piarco ACC and TMAs managed by the E/CAR States and Territories, as well as between the Piarco ACC and ATS units in adjacent FIRs, that do not incorporate ATFM coordination procedures and requirements;
- c) Gaps in sharing of real-time operational data;
- d) Absence of a formal tactical and operational CDM platform;
- e) Challenges associated with contingency management for Space Transport Operations; and
- f) Human resource and training limitations.

4.2 Proposed Regional Improvements

4.2.1 To mitigate the identified challenges Trinidad and Tobago proposes the following:

- a) The establishment of an E/CAR ATFM/CDM Operational Planning Group;
 - To support this initiative, a draft Terms of Reference (TORs) has been developed, and is presented as a basis for collaborative review and further development by participating States and Territories **(See Appendix 1)**.
- b) The development of an ATFM/CDM Procedures Manual for E/CAR region;
- c) Regular strategic and pre-tactical coordination teleconferences;
- d) Implementation of a common OIS; and
- e) Expanded use and participation in CADENA platforms.

4.2.2 Trinidad and Tobago proposes that TMAs complete and submit ADPs to Piarco in accordance with an agreed schedule. These submissions will be used by the Trinidad and Tobago ANS to develop and publish a coordinated ADP for the Piarco FIR, supporting regional situational awareness and CDM. **(See Appendix 2)**.

4.2.3 Trinidad and Tobago currently provides briefings to regional stakeholders on the following:

- a) COMPASS OIS functionalities;
- b) CDM processes to manage operations during hurricanes/severe weather/special events; and
- c) Processes to manage operations during Space Transport Operations.

4.2.4 Based on this experience, Trinidad and Tobago is capable of providing virtual briefings and/or collaborative workshops on ATFM and CDM, to E/CAR States and Territories.

4.2.5 These initiatives directly support recommendations for:

- a) Structured CDM frameworks;
- b) Development of a TORs for E/CAR ATFM Planning Group;
- c) Enhanced stakeholder collaboration;
- d) Improved information-sharing mechanisms; and
- e) Improved real-time decision making.

5. Conclusion

5.1 The continued development of ATFM and CDM within the Piarco FIR is essential to ensuring safe, efficient, and sustainable air navigation in the CAR Region.

5.2 Emerging operational demands, including increased frequency of rocket launch activities and multi-FIR coordination requirements, highlight the importance of fully implementing ICAO Doc 9971 principles.

5.3 Trinidad and Tobago remains committed to strengthening regional collaboration and advancing ATFM/CDM capabilities in alignment with ICAO global frameworks.

6. Suggested Actions

- 6.1 The meeting is invited to:
- a) Note the information presented in this WP;
 - b) Encourage E/CAR States/Territories/International organisations to continue working with the CATG ATM Committee, to implement harmonised procedures affecting the Region;
 - c) Support enhanced regional collaboration;
 - d) Recognize the operational impact of emerging activities such as rocket launches;
 - e) Promote the adoption of advanced ATFM tools and systems; and
 - f) Provide guidance on further advancing ATFM/CDM implementation within the CAR Region.

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APPENDIX A
Draft Terms of Reference (TOR)
E/CAR ATFM/CDM Operational Planning Group (E/CAR ATFM/OPG)

Draft Terms of Reference (TOR)

E/CAR ATFM/CDM Operational Planning Group (E/CAR ATFM/OPG)

1. Background

Recognizing the need for enhanced regional coordination in Air Traffic Flow Management (ATFM) and Collaborative Decision Making (CDM) across the Eastern Caribbean (E/CAR), and considering existing gaps in harmonized procedures, real-time information sharing, and structured CDM frameworks, the establishment of an E/CAR ATFM/CDM Operational Planning Group (OPG) is proposed.

The group will support the implementation of ICAO Doc 9971 principles and build upon ongoing regional initiatives, including CADENA participation, ATFM procedural development, and operational coordination practices demonstrated within the Piarco FIR.

2. Objective

The objective of the E/CAR ATFM/OPG is to enhance regional ATFM/CDM implementation through coordinated operational planning, harmonized procedures, and real-time information sharing, thereby improving safety, capacity, efficiency, and resilience of air navigation services across the E/CAR region.

3. Scope of Work

The Group shall focus on operational-level coordination and implementation, including strategic, pre-tactical, and tactical ATFM/CDM processes across participating States, FIRs, and stakeholders (ANSPs, airports, airspace users, and international organizations).

4. Primary Tasks

4.1 Development of a Regional ATFM/CDM Procedures Manual

The Group shall:

- a) Develop, maintain, and regularly update a regional ATFM/CDM Procedures Manual applicable to the E/CAR region;
- b) Ensure harmonization of:
 - i. ATFM measures and Traffic Management Initiatives (TMIs);
 - ii. CDM processes at strategic, pre-tactical, and tactical phases; and
 - iii. Demand-capacity balancing (DCB) procedures.
- c) Define:
 - i. Roles and responsibilities of stakeholders (ANSPs, ATC units, operators, airports); and
 - ii. Standardized processes for ATFM Daily Plans (ADPs), contingency procedures, and event management.
- d) Incorporate best practices from existing regional experiences; and

- e) Align with ICAO provisions and regional frameworks for collaborative ATFM.

4.2 Facilitation of Strategic and Pre-Tactical Coordination

The Group shall:

- a) Establish and coordinate regular regional ATFM/CDM teleconferences, including:
 - i. Strategic planning teleconferences (seasonal/event-based);
 - ii. Pre-tactical coordination calls (as necessary); and
 - iii. Ad-hoc coordination during significant disruptions (e.g., weather, major events, airspace closures).
- b) Develop standardized agendas and reporting formats for these teleconferences;
- c) Promote active participation of all stakeholders to ensure collaborative decision-making;
- d) Support dissemination and discussion of:
 - i. Traffic forecasts;
 - ii. Airspace constraints (weather, equipment outages, special operations); and
 - iii. Planned ATFM measures.
- e) Encourage use of existing collaboration mechanisms (e.g., CADENA WebEx, coordination chat groups).

4.3 Implementation of a Common Operational Information System (OIS)

The Group shall:

- a) Define operational requirements for a regional/common Operational Information System (OIS) to support ATFM/CDM;
- b) Promote adoption and integration of existing platforms (e.g., CADENA OIS) or future interoperable systems;
- c) Identify:
 - i. Minimum data sets for information exchange (e.g., ADPs, TMIs, aerodrome status, demand/capacity data); and
 - ii. Data standards and exchange protocols.
- d) Ensure the OIS supports:
 - i. Real-time situational awareness;
 - ii. Dissemination of ATFM measures and advisories; and
 - iii. Collaboration among stakeholders at all phases.
- e) Develop guidance on contingency or interim solutions where full system capability is not available, consistent with practices in other regions.

4.4 Regional ATFM Training and Capacity Development

The Group shall:

- a) Identify regional training needs for ATFM/CDM implementation;
- b) Promote development of a standardized ATFM training framework for:
 - i. ATCOs;
 - ii. Flow managers; and

- iii. Supervisors and operational personnel.
- c) Support:
 - i. Delivery of theoretical and practical ATFM training programmes; and
 - ii. Refresher training and simulation exercises.
- d) Encourage collaboration with ICAO, FAA, CANSO, and other partners for training opportunities.
- e) Share best practices from existing training initiatives within the region.

5. Working Methods

- a) The Group shall conduct its work primarily through:
 - i. Virtual meetings (teleconferences/webinars); and
 - ii. Electronic coordination platforms.
- b) Face-to-face meetings may be held in conjunction with existing regional meetings where feasible; and
- c) Collaborative work methods shall be adopted, consistent with other ICAO regional ATFM groups.

6. Composition

The Group shall comprise:

- a) Representatives from E/CAR States and Territories (ANSPs/ATFM units);
- b) Airport operators and airspace users (as appropriate);
- c) International and regional organizations (ICAO, CANSO, etc.); and
- d) Observers from adjacent FIRs and partnering regions.

Participation should reflect the multi-disciplinary nature of CDM.

7. Deliverables

The Group shall produce:

- a) Regional ATFM/CDM Procedures Manual;
- b) Standardized teleconference framework and coordination procedures;
- c) OIS operational requirements and implementation roadmap;
- d) Regional ATFM training strategy; and
- e) Periodic progress reports to the E/CAR CATG / relevant ICAO bodies.

8. Reporting

The E/CAR ATFM/OPG shall report to:

- a) The E/CAR Civil Aviation Technical Group (CATG); and/or
- b) The ICAO NACC/WG.

9. Review

These Terms of Reference shall be reviewed periodically to ensure continued relevance and alignment with regional operational needs and ICAO global developments.

APPENDIX B

Proposed ATFM Daily Plan (ADP)

*The following information is prepared by the T*** TMA, and provides an outlook for the T*** airspace and T*** Airport.*

The completed form is to be submitted to the Piarco Air Traffic Services, and will be incorporated into the Piarco FIR ATFM Daily Plan (PADP) report.

UNIT: T***

DATE: 7/20/2026

1 TIME PERIOD

This ADP covers the period from: 2100 - 2359

2 TRAFFIC PROJECTIONS

2.1 Traffic Description

Time Period	Traffic Level
1400 - 1630	Medium to High
1630 - 1730	Low to Medium
1800 - 2250	High
2300 - 0000	Low

3 WEATHER FORECAST

3.1. T*** Airspace

- No significant weather

3.2. T*** Airport

- No Significant weather

4 CONSTRAINTS, EQUIPMENT OUTAGES

-

5 TRAFFIC MANAGEMENT MEASURES (TMMS)

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6 OTHER INFORMATION

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