



ICAO

International Civil Aviation Organization
North American, Central American and Caribbean Office

**Third North American, Central American and
Caribbean Working Group (NACC/WG)
Air Traffic Flow Management (ATFM)
Implementation Task Force Meeting**

ATFM/TF/3

Final Report

Mexico City, Mexico, and On-line 17 to 19 May 2022

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HISTORICAL

ii.1 Place and Date of the Meeting

The Third North American, Central American and Caribbean Working Group (NACC/WG) Air Traffic Flow Management (ATFM) Implementation Task Force Meeting (ATFM/TF/3) was held at the ICAO NACC Regional Office, Mexico City, Mexico and on-line, from 17 to 19 May 2022.

ii.2 Opening Ceremony

Mr. Eddian Méndez, Regional Officer, Air Traffic Management and Search and Rescue of the North American, Central American and Caribbean (NACC) Office of the International Civil Aviation Organization (ICAO) provided opening remarks, welcomed the participants and officially opened the meeting.

ii.3 Officers of the Meeting

The ATFM/TF/3 Meeting was held with the participation of Mr. Scott Farrow (United States), who chaired the meeting plenary. Mr. Méndez, Regional Officer, Air Traffic Management and Search and Rescue served as Secretary of the Meeting, assisted by Mr. Ernest Snyder, Regional Officer, Air Traffic Management and Search and Rescue, both from the ICAO NACC Regional Office.

ii.4 Working Languages

The working languages of the Meeting were English and Spanish. The working papers, information papers and report of the meeting were available to participants in both languages.

ii.5 Schedule and Working Arrangements

The Meeting agreed that the working hours for the sessions of the meeting would be from 09:00 to 15:30 hours daily with adequate breaks.

ii.6 Agenda

Agenda Item 1: Adoption of the Provisional Agenda and Schedule

Agenda Item 2: Air Traffic Flow Management (ATFM) Minimum Level of Services in the CAR Region

Agenda Item 3: ATFM Performance Framework

Agenda Item 4: ATFM Contingency Procedures

Agenda Item 5: Regional Traffic Recovery Planning

Agenda Item 6: ATFM Task Force (ATFM/TF) Report to the North American, Central American and Caribbean Working Group (NACC/WG)

Agenda Item 7: Other Business

ii.7 Attendance

The Meeting was attended by 16 States/Territories from the NAM/CAR Regions and 5 International Organizations, totalling 65 delegates as indicated in the list of participants.

ii.8 Draft Conclusions and Decisions

The Meeting recorded its activities as Draft Conclusions and Decisions as follows:

DRAFT

CONCLUSIONS: Activities requiring endorsement by the Directors of Civil Aviation of North America, Central America and Caribbean (NACC/DCA).

DECISIONS: Internal activities of the NACC Working Group (NACC/WG).

An executive summary of these conclusions/decisions is presented in **Appendix A** to this report.

List of Draft Conclusions and Decisions

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ii.9 List of Working and Information Papers and Presentations

Refer to the Meeting web page:

<https://www.icao.int/NACC/Pages/meetings-2022-atfm03.aspx>

WORKING PAPERS

Number	Agenda Item	Title	Date	Prepared and Presented by
WP/01	1	Provisional Agenda and Schedule	06/04/22	Secretariat
WP/02	2	Air Traffic Flow Management (ATFM) minimum Requirements for the CAR Region	04/05/22	Secretariat
WP/03	3	CAR Region Air Traffic Flow Management (ATFM) Performance	09/05/22	Secretariat

INFORMATION PAPERS

Number	Agenda Item	Title	Date	Prepared and Presented by
IP/01	1	List of Working, Information Papers and Presentations	13/04/22	Secretariat

PRESENTATIONS

Number	Agenda Item	Title	Presented by
1	2	CAR Region ATFM Minimum Requirements	Secretariat
2	3	CAR Region ATFM Performance	Secretariat
3	5	Trinidad and Tobago's Traffic Recovery and ATFM Update for the Piarco FIR	Trinidad and Tobago
4	5	Costa Rica Presentation	Costa Rica

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1. Twana Lockhart
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Agenda Item 1: Adoption of the Provisional Agenda and Schedule

1.1 The Meeting elected Mr. Scott Farrow (United States) as the Chairperson.

1.2 The Secretariat presented WP/01 and invited the Meeting to approve the Provisional Agenda and Schedule. The Meeting approved the Agenda and Schedule as presented.

Agenda Item 2: Air Traffic Flow Management (ATFM) Minimum Level of Services in the CAR Region

2.1 Under this Agenda item, the Secretariat presented WP/02 and P/01, with a proposal for Air Traffic Flow Management (ATFM) Minimum requirements for the Caribbean (CAR) Region to be included in the CAR/South American (SAM) Air Navigation Plan (ANP).

2.2 Annex 11 requires that ATFM be implemented for airspace where air traffic demand at times exceeds, or is expected to exceed the declared capacity of the Air Traffic Control (ATC) services concerned. The capacity of the ATC services concerned will normally be declared by the appropriate Air Traffic Services (ATS) authority.

2.3 The Meeting evaluated the impact of the minimum requirements for ATFM described in the Appendix of the WP/02(**Appendix B** to this report) and improvements were made to the proposal to appropriately specify the expectation regarding the provision of ATFM services and the need to establish agreements between the different airspaces, especially in those cases where different providers provide ATS. In that sense, it was recognized that the establishment of these requirements would better support ATFM implementation, specifying the expected level of involvement for each Air Navigation Service Provider (ANSP).

2.4 The Meeting recognized that, in order for the CAR Region ANSPs to be capable to provide minimum levels of ATFM service, it is necessary that all have the opportunity to access the acquisition of systems that allow them, in an automated manner, to create statistical databases, as well as connect to sources of updated and safe information that guarantee the calculation of the demand and its comparison with respect to the calculated ATC capacities, in such a way that the management measures that need to be applied affect, as little as possible, both the aircraft operators and the adjacent ANSPs.

2.5 The participants highlighted the challenges they face in order to apply an effective methodology for determining the capacity of their ATC system. Examples of the different methodologies frequently used in the region were provided and experience on the application of each of them was shared.

2.6 CANSO provided information regarding its material with a simplified method for capacity calculation and offered the Task Force the possibility of organizing a training session. CANSO emphasized that it has made available all the necessary tools for ATFM implementation to the region, such as the weekly ATFM web conferences, CADENA Operational Information System (OIS), and contingency procedures, which have been used effectively through CADENA for years. CANSO encouraged the participants to make use of the CADENA platform which is available free of charge.

2.7 Aiming at reducing duplication of efforts, enhance coordination, strengthen regional collaboration and comply with items related to ATFM requirements, CANSO requested the ATFM/TF to evaluate the incorporation and use of the CANSO CADENA initiative within its Work Plan.

2.8 CADENA will continue to conduct weekly ATFM planning web-conferences following Collaborative Decision Making (CDM) processes among regional ANSPs and stakeholders. CADENA will continue providing access to ANSPs/States to its online platform, the OIS to exchange information including ATFM Daily Plans, planned traffic management measures, constraints, volcanic ash plumes, special events, and runway closures. In addition, CADENA will support the region on communicating and coordinating operational information related to contingency events. CADENA will provide ATFM, contingency event training, and airport and sector capacity calculation training as requested and agreed within the CADENA Regional Implementation Group (RIG). All of the above is based on ICAO Doc 9971 and fully supports States/Territories/Organizations compliance with the ICAO requirements. Therefore, the following draft conclusion was formulated:

DRAFT CONCLUSION	
ATFM/TF/03/01	ATFM MINIMUM REQUIREMENTS FOR THE CAR REGION
<p>What:</p> <p>That, in order to enhance ATFM implementation in the CAR Region:</p> <p>a) the Secretariat present to GREPECAS the proposal included in the Appendix of WP/02 for Air Traffic Flow Management (ATFM) Minimum requirements for the CAR Region, requesting to be included in the CAR/SAM Air Navigation Plan (ANP);</p> <p>b) the Secretariat take the necessary measures to make available to the States, Territories and ANSPs of the CAR Region guidance material on the process for determining the capacity of the ATC sectors, as well as organize training activities taking into consideration the different methodologies available and used in the region in 2023; and</p> <p>c) the NACC/WG ATFM/TF approved the use of the CADENA (CANSO ATFM Data Exchange Network for the Americas) as a mechanism to facilitate data sharing, and promote a common situational awareness that is vital to the safe, efficient, and harmonized flow of air traffic.</p>	<p>Expected impact:</p> <p><input type="checkbox"/> Political / Global</p> <p><input type="checkbox"/> Inter-regional</p> <p><input type="checkbox"/> Economic</p> <p><input type="checkbox"/> Environmental</p> <p><input checked="" type="checkbox"/> Operational/Technical</p>
<p>Why:</p> <p>To identify adequate level of ATFM involvement from State/Territories/ANSPs of the CAR Region.</p>	
<p>When: GREPECAS/20</p>	<p>Status: <input checked="" type="checkbox"/> Valid / <input type="checkbox"/> Superseded / <input type="checkbox"/> Completed</p>
<p>Who: <input type="checkbox"/> States <input checked="" type="checkbox"/> ICAO <input checked="" type="checkbox"/> Other:</p>	

Agenda Item 3: ATFM Performance Framework

3.1 Under this Agenda Item the Secretariat presented WP/03, supported by P/02, with information regarding ATFM performance and a proposal to support the Regional ATFM performance decision making.

3.2 The evolution and enhancement of the ATM system will be directly related to the ATM community's ability to clearly define performance expectations, set a relevant performance framework, set achievable targets and implement change cost-effectively, based on capabilities at any particular time along the planning horizon. Like any other component of the ATM system, ATFM must be evaluated to ensure that the ATM community's expectations of it are being met. The ATFM programme performance may be generically evaluated, from three perspectives:

- ATFM programme effectiveness: How effective is the ATFM measure implemented in delivering the intended level of traffic?
- Compliance assessment: How well do stakeholders comply with the ATFM measure?
- Impact analysis: Who are impacted by the ATFM programme, and how?

3.3 The CAR and SAM Regions are working collaboratively to develop the CAR/SAM Electronic Air navigation plan (e-ANP) Vol. III. The CAR/SAM e-ANP Vol. III will have a performance based framework for ANS planning and implementation in the CAR/SAM Regions. As part of this process, the CAR/SAM Region identified three Key Performance Areas (KPA) to be addressed by the CAR/SAM ANP Vo. III: Capacity, Efficiency and Predictability.

3.4 Previously, the ATFM/TF identified the Global Air Navigation Plan (GANP) Key Performance Indicator (KPI) 07 *En-route ATFM delay*, as the mean to measure ATFM performance for the CAR Region. This KPI is linked to the KPA *Capacity*.

3.5 The Meeting recognized that the number of operations registered in the CAR Region establishes the need for ANSPs, in order to calculate ATFM performance indicators, and have automated systems that allow these values to be obtained quickly and accurately.

3.6 At the same time, the difference in capacities between adjacent airspaces imposes the need to evaluate performance in the CAR Region in a broader way, according to the context in which operations are carried out as a whole, and not only from an individual flight information region (FIR) point of view. For example, for KPI 07 *En-route ATFM delay*, restrictions imposed in other airspaces will cause the final result of this KPI in one FIR may not accurately reflect its full performance capabilities, despite having a high capacity due to the design of the airspace, human resources and equipment, the final result of the calculation of KPI07 will not be as accurate as expected.

3.7 The participants highlighted that the measurement of ATFM performance in the CAR Region requires greater interaction by the States/Territories and International Organizations that provide ATS services in the region. The Secretariat should intervene with more direct support and practical guidance on data collection and analysis mechanisms, recognizing the different capacities among service providers. Therefore, the following draft decision was adopted:

DRAFT DECISION	
ATFM/TF/03/02	INCREASED SUPPORT FOR ATFM PERFORMANCE MEASUREMENT
<p>What:</p> <p>That, to allow the implementation of the ANS performance framework in the CAR Region, the ATFM/TF:</p> <p>a) report to the NACC/WG and to the GREPECAS its considerations regarding the challenges for ATFM Performance measurement in the CAR/SAM Regions;</p> <p>b) share with the GREPECAS Data Analysis Working Group (DAWG) the importance of working together to evaluate the use of automated tools for data collection and analysis; and</p> <p>c) ICAO to provide more direct support and practical guidance on data collection and analysis mechanisms, recognizing the different capacities among service providers during 2023.</p>	<p>Expected impact:</p> <p><input type="checkbox"/> Political / Global</p> <p><input type="checkbox"/> Inter-regional</p> <p><input type="checkbox"/> Economic</p> <p><input type="checkbox"/> Environmental</p> <p><input checked="" type="checkbox"/> Operational/Technical</p>
<p>Why:</p> <p>To provide adequate support to States/Territories and ANSPs of the CAR Region</p>	
<p>When: NACC/WG/7</p>	<p>Status: <input checked="" type="checkbox"/> Valid / <input type="checkbox"/> Superseded / <input type="checkbox"/> Completed</p>
<p>Who: <input type="checkbox"/> States <input type="checkbox"/> ICAO <input checked="" type="checkbox"/> Other:</p>	

Agenda Item 4: ATFM Contingency Procedures

4.1 Under this Agenda item, the Meeting discussed the regional contingency procedures and presented examples of ATFM response to contingency situations. The Secretariat emphasized the importance of establishment and implementation of contingency procedures and encouraged sharing of ANS capabilities to enhance the resiliency of the regional ANS system. The harmonization of ATS contingency routes to allow different scenarios, including arrival and departure traffic within FIRs, was also discussed.

4.2 Participants highlighted the importance of regional coordination to address contingency situations, in particular those that occur without notice and require adapting operations planning. This raised the importance to be part of regional coordination groups as CADENA from CANSO, which include the main operators where all options are assessed and work in consequence.

4.3 The CANSO CADENA initiative created measures and actions such as the quarterly contingency training, Ad-hoc contingency web conferences, ANSP contingency form, continuous update of the CADENA ATFM-CDM Procedures Manual – Contingency Planning chapter, the live-chat mechanism within the CADENA OIS for communications between ANSP-ANSP/Airlines-ANSP-Airlines, among others. The measures and actions allowed the region to manage irregular operations caused by disruptive events, such as hurricanes or technology errors and maintain safe, seamless skies. CADENA members applied and activated the procedures when dealing with disruptions caused by lightning strikes, volcanoes, power outages resulting in the complete loss of communications, navigation and surveillance and earthquakes. The results of the actions reduced the operational impact through excellent coordination and collaborative efforts.

4.4 CANSO made the CADENA contingency best practice available to all ANSPs/States in the Latin America and Caribbean regions. Moreover, aiming to reduce duplication of efforts and information, CANSO called for the ATFM/TF to consider using the CADENA contingency protocol during contingency events. CADENA will train ANSPs/States wanting to take part of the initiative. Also, CADENA will make available its procedures, and tools for the Group's use.

Agenda Item 5: Regional Traffic Recovery Planning

5.1 Under this Agenda item, Trinidad and Tobago presented P/03, with an update for Traffic Recovery and ATFM implementation for the Piarco FIR.

5.2 Air traffic in the Piarco FIR at the beginning of 2022 second quarter (Q2) remained at approximately 80% of the pre-pandemic amount. The range of recovered traffic in, since January 2022 to the present time showed slight fluctuations, but was contained between 70% and 85% and followed historic seasonal trends. Most of the scheduled carriers had resumed operations in the FIR but with a reduced schedule in many cases. Since 2021 the contribution to weekly flight count had been significantly influenced by non-scheduled and general aviation operations. The number of long-haul flights through the Piarco oceanic sector was very close to what pertained before COVID-19. Several operators that were absent in the FIR during 2021 were seen to have resumed operation in their former Origen/Destination (O/D) market, as well as a few new entrants. Scheduled cargo flights maintained marked consistency over the preceding 12 months. Throughout the recovery, scheduled passenger flights were the greatest contributors towards daily flight operations. The trend in total flight numbers was observed to be on a slight decline over the four weeks leading up to May 16, 2022.

5.2 Costa Rica presented P/05, with updated information on its roadmap towards full ATFM implementation. To support their ATFM process, Costa Rica is using the DGCA deployment of Statistics and Forecasting Platform. Additionally, Costa Rica included information regarding their monthly air traffic volume comparison from 2019 to 2022, which shows that their traffic volume in 2022 is almost reaching similar numbers to 2019.

Agenda Item 6: ATFM Task Force (ATFM/TF) Report to the North American, Central American and Caribbean Working Group (NACC/WG)

6.1 Under this Agenda item, the Meeting discussed the items to be included in the ATFM/TF report to the NACC/WG. The Meeting considered necessary to include in the report the following:

- request the Secretariat to report the actions to make available to the States, Territories and ANSPs of the CAR Region, guidance material on the process for determining the capacity of the ATC sectors, as well as to organize training activities taking into consideration the different ATC capacity calculation methodologies available and used in the region;
- request the Secretariat more direct support and practical guidance on data collection and analysis mechanisms, recognizing the different capacities among service providers; and
- Inform the ATFM/TF approval of the use of the CADENA as a mechanism to facilitate data sharing, and promote a common situational awareness that is vital to the safe, efficient, and harmonized flow of air traffic.

6.2 Additionally, the Meeting recommended the following information to be presented to GREPECAS:

- the proposal for ATFM Minimum requirements for the CAR Region included in Appendix B to this report, requesting to be included in the CAR/SAM ANP;
- considerations regarding the challenges for ATFM Performance measurement in the CAR/SAM Regions; and
- share with the GREPECAS DAWG the importance of working together to evaluate the use of automated tools for data collection and analysis.

6.3 The Secretariat will proceed on include this in the NACCWG meeting discussion

Agenda Item 7: Other Business

7.1 No other items were discussed under this Agenda item.

**APPENDIX A
EXECUTIVE LIST OF CONCLUSIONS/DECISIONS**

Number	Conclusion/Decision	Responsible for action	Deadline
1	ATFM MINIMUM REQUIREMENTS FOR THE CAR REGION		
	That, in order to enhance ATFM implementation in the CAR Region:		
	a) the Secretariat present to GREPECAS the proposal included in the Appendix of WP/02 for Air Traffic Flow Management (ATFM) Minimum requirements for the CAR Region, requesting to be included in the CAR/SAM Air Navigation Plan (ANP);	ICAO	GREPECAS/20
	b) the Secretariat take the necessary measures to make available to the States, Territories and ANSPs of the CAR Region guidance material on the process for determining the capacity of the ATC sectors, as well as organize training activities taking into consideration the different methodologies available and used in the region in 2023; and		
c) the NACC/WG ATFM/TF approved the use of the CADENA (CANSO ATFM Data Exchange Network for the Americas) as a mechanism to facilitate data sharing, and promote a common situational awareness that is vital to the safe, efficient, and harmonized flow of air traffic.			
2	INCREASED SUPPORT FOR ATFM PERFORMANCE MEASUREMENT		
	That, to allow the implementation of the ANS performance framework in the CAR Region, the ATFM/TF:		
	a) report to the NACC/WG and to the GREPECAS its considerations regarding the challenges for ATFM Performance measurement in the CAR/SAM Regions;	NACC/WG, GREPECAS DAWG	NACC/WG/7
	b) share with the GREPECAS Data Analysis Working Group (DAWG) the importance of working together to evaluate the use of automated tools for data collection and analysis; and		
c) ICAO to provide more direct support and practical guidance on data collection and analysis mechanisms, recognizing the different capacities among service providers during 2023.			

APPENDIX B

ATFM MINIMUM REQUIREMENTS FOR THE CAR REGION

1. ATC Capacity determination

1.1 ATS Authorities of the CAR Region must assess, declare and periodically review the capacity of their ATC system, in order to safely provide services to aircraft during normal activities.

1.2 ATC capacity must be published as part of the State Aeronautical Information Publication (AIP).

2. Establishment of ATFM Services

2.1 ATFM service is considered a part of the ANS basic building block framework for the upper airspace in the CAR Region. ATFM services should be implemented on the basis of multilateral agreements that should make provision for common procedures, common methods of capacity determination and common methods of information exchange.

2.2 A specific ATFM unit is established for the purpose of providing ATFM services. An ATFM unit may be established as a separate unit or combined with an existing unit, such as an air traffic services (ATS) unit.

2.3 All Area Control Centres (ACCs) of the CAR Region must provide ATFM services appropriate to the level of air traffic and suitable to meet the objectives of multilateral agreements.

2.3.1 ATS providers responsible for more than one ACC can make internal operational arrangements for the establishment of ATFM units that serve multiple ACCs under their jurisdiction.

2.3.2 In cases of ACCs with limited automation, incapable to exercise traffic flow management functions, formal agreements must be established with neighbouring ATS providers related to receive traffic flow management functions and procedures.

2.3.3 Approach control offices and aerodrome control towers will establish Flow Management Positions if necessary, or coordinate flow management functions with the ATFM unit serving the ACC that handles their upper airspace. These agreements can be included as addendums to the already existing ATS Letters of Agreements.

2.3.4 In the cases of approach control offices and aerodrome control towers under the jurisdiction of a different ATS authority of the ACC that handles their upper airspace, formal agreements must be established.

3. ATFM service basic strategic and tactical functions

3.1 In airspaces where ATFM is considered a requirement, the following functions, as a minimum, should be carried out:

- a) collection and collation of data on the air navigation infrastructure and on the capacities of the ATC system and selected aerodromes within the “ATFM area”, including runway, taxiway and gates capacities. This embraces those areas in which traffic flow problems are likely to be encountered;
- b) collection and analysis of data for all planned controlled flight operations into, out of, within and through the ATFM area;
- c) determination of a coherent picture of expected traffic demand, including anticipated ad hoc traffic, comparison with available capacity and identification of areas and time periods of expected critical traffic loadings;
- d) co-ordination with the appropriate ATS authorities in order to make every possible attempt to increase the available ATC capacity where required; and
- e) where ATC capacity shortfalls cannot be eliminated, determination and implementation in good time of suitable tactical measures co-ordinated throughout the ATFM area as necessary and with aircraft/aerodrome operators concerned.

4. Actions Taken to Mitigate the Impact of ATFM Measures

4.1 ATC Units of the CAR Regions must work together and collaborate in order to reduce as possible the impact of traffic management measures imposed.

5. State Responsibility regarding ATFM provision and oversight

5.1 As part of ATM services, ATS Authorities of the CAR Region must address airspace capacity determination, including an assessment of the number of staff required to ensure the adequate provision of an ATS system, and ATFM functions in their oversight programs for ATS providers under their jurisdiction, according to ICAO Standards and Recommended Practices (SARPS), the CAR/SAM ANP and Regional Agreements.

— END —