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

Ninth North American, Central American and Caribbean Working Group Meeting (NACC/WG/9)

Final Report

Mexico City, Mexico, 30 September to 4 October 2024

Prepared by the Secretariat

January 2025

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HISTORICAL

ii.1 Place and Date of the Meeting

The Ninth North American, Central American and Caribbean Working Group Meeting (NACC/WG/9) was held at the ICAO NACC Regional Office, Mexico City, Mexico, from 30 September to 4 October 2024.

ii.2 Opening Ceremony

ii.2.1 On behalf of the Regional Director of the ICAO NACC Regional Officer, Mr. Christhopher Barks, Mr. Luis Sanchez, Aeronautical Meteorology and Environment Reginal Officer of the North American, Central American and Caribbean Regional Office of the International Civil Aviation Organization (ICAO), provided the opening speech on behalf of the Regional Director of the ICAO NACC Regional Office, highlighting the challenges facing aviation in the region were highlighted, such as infrastructure, increased efficiency and growing demand for operations, with expectations of doubling by 2050.

Crucial issues such as the integration of unmanned aircraft, cybersecurity challenges and the impact of climate change were mentioned. Planning was identified as the most effective tool to overcome these challenges, with a focus on modernizing infrastructure, increasing airport capacity and improving operational efficiency. The importance of reducing aviation-related CO2 emissions was highlighted.

It was emphasized that the NACC/WG is aimed at supporting States with aviation planning and implementation, with a focus on regional air navigation coordination and collaboration. The objectives of the meeting included to follow-up on NAM/CAR regional air planning activities, integrate the performance of the activities of the different regional Task Forces into a single NACC/WG regional work plan, consolidate innovation activities into the air navigation, and update the Group's work plan for the 2024-2025 period. Also, the different Task Forces that are part of the NACC/WG (AIM, AGA, ATM, CNS, MET, E/CAR/CAT/WG and the ATS contingency meetings) would monitor the implementation progress based on indicators of the Regional Performance Dashboard.

ii.2. Mr. Rohan Garib from Trinidad and Tobago, Vice Chair of the NACC/WG, chaired the meeting in the absence of the NACC/WG Chairman, Mr. Julio Mejia, and welcomed the participants and acknowledged the work done to make this meeting possible, as well as the work done by Mr. Mejia.

ii.3 Officers of the Meeting

The NACC/WG/09 Meeting Secretariat was supported by Ms. Mayda Avila, Communications, Navigation and Surveillance Regional Officer, leading the Secretary of the Meeting, and Mr. Luis Sánchez, Aeronautical Meteorology and Environment Regional Officer Mr. Eddian Méndez, Air Traffic Management and Search and Rescue Regional Officer, Mrs. Fabiana Todesco, Aerodromes and Ground Aids Regional Officer, and Mr. Josue González, Air Traffic Management and Search and Rescue Regional Officer.

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 to hold its sessions from 08:30 to 16:00 30 hours, with required intermission periods.

ii.6 Agenda

Agenda Item 1: REVIEW AND APPROVAL OF THE MEETING AGENDA, WORK MODALITY AND SCHEDULE

Agenda Item 2: FOLLOW-UP TO THE CONCLUSIONS AND PREVIOUS AGREEMENTS OF THE NACC/WG, CAR/SAM PLANNING AND IMPLEMENTATION REGIONAL GROUP (GREPECAS) AND REGIONAL INITIATIVES RELATED TO AIR NAVIGATION

Agenda Item 3: ACTIONS FOR THE DEVELOPMENT OF THE AIR NAVIGATION PLANS OF THE STATES AND THE CAR/SAM PLAN AND PROGRESS IN REGIONAL PERFORMANCE DASHBOARDS

Agenda Item 4: FOLLOW-UP TO THE 2023-2024 NACC/WG WORK PLAN

Agenda Item 5: 2024-2025NACC/WG WORK PROGRAMME

Agenda Item 6: OTHER BUSINESS

ii.7 Attendance

The Meeting was attended by 8 States/Territories from the NAM/CAR Regions, and 2 International Organizations, totalling 28 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).

ii.8 List of Conclusions/Decisions

ii.8.1 Conclusions

Number	Title	Page
NACC/WG/09/01	***IMPROVE CAR REGION RVSM AIRSPACE TARGET LEVEL OF SAFETY***	2-3
NACC/WG/09/02	***ENHANCE ANS SAFETY PERFORMANCE MEASUREMENT IN THE NAM/CAR REGIONS***	2-5
NACC/WG/09/03	***SUPPORT THE IMPLEMENTATION OF PERFORMANCE-BASED METRICS FOR THE NAM/CAR REGIONS***	3-3
NACC/WG/09/05	***IMPLEMENTATION OF OPMET EXCHANGE UNDER IWXXM***	4-12
NACC/WG/09/08	***ACTION PLAN FOR THE IMPLEMENTATION OF THE ASBU FFI-CE MODULE***	5-4
NACC/WG/09/10	***CAR REGION PROJECTS AND ACTIVITIES IN GREPECAS***	5-8

ii.8.2 Decisions

NACC/WG/09/04	***APPROVAL OF THE OPTIMIZED AIRSPACE CONCEPT DOCUMENT FOR THE CAR REGION 2025-2030***	4-5
NACC/WG/09/06	***MET/TF 2025 WORK PROGRAM PRIORITIES***	4-16
NACC/WG/09/07	***STATUS OF IMPLEMENTATION IN COMMUNICATIONS, NAVIGATION, SURVEILLANCE AND FREQUENCIES OF THE CAR REGION***	5-3
NACC/WG/09/09	***ESTABLISH A MORE VERSATILE WORK AGENDA FOR THE NACC/WG MULTIDISCIPLINARY GROUP***	5-7
NACC/WG/09/11	***NACC/WG STRUCTURE UPDATE***	5-8

ii.9 List of Working and Information Papers and Presentations

Refer to the Meeting web page:
https://www.icao.int/NACC/Pages/meetings-2024-naccwg9.aspx

WORKING PAPERS

Number	Agenda Item	Title	Date	Prepared and Presented by
WP/01	1	Review and Approval of the Meeting Agenda	18/09/24	Secretariat
WP/02	2	Follow-up to the Conclusions and decision previous meetings	30/09/24	Secretariat
WP/03	2	CAR Region RVSM Airspace Safety Review	16/08/24	Secretariat
WP/04	2	ANS Safety Performance Measurement in the CAR Region	16/08/24	Secretariat
WP/05	4	Results of the Fourteenth Air Navigation Conference	02/10/24	Secretariat
WP/06		Changed to P/02		
WP/07	3	NACC ASBU Task Force Status Updates	25/09/24	United States
WP/08		Cancelled		
NE/09	3	Actualización de los Planes Nacionales de Navegación (NANP) de Centroamérica y COCESNA	25/09/24	COCESNA
WP/10	3	Progress report on the implementation of the CAR/SAM RANP Volume III	16/08/24	Secretariat
WP/11 Rev.	4	AIM Task Force Activities and Progress Report	25/09/24	AIM/TF Rapporteur
WP/12	4	AGA Task Force report	02/10/24	Secretariat
WP/13	4	Airspace Optimization Task Force Report to NACC WG meeting	05/09/24	AO/TF Rapporteur
WP/14	4	Progress report by the ATFM Task Force	02/09/24	ATFM Rapporteur.
WP/15	4	Search And Rescue Implementation Task Force (SAR/TF) Progress Report	16/08/24	SAR/TF Rapporteur
WP/16		Cancelled		
WP/17	4	COMM Task Force Activities in 2023-2024	17/09/24	COMM/TF Rapporteur

WORKING PAPERS

Number	Agenda Item	Title	Date	Prepared and Presented by
WP/18	4	Activities of the Frequency Task Force for 2023-2024	23/09/24	FREQ/TF Rapporteur.
WP/19	4	Progress Report on Surveillance Task Force Work Programme	30/09/24	United States
WP/20	4	ICAO Surveillance Panel Activities	30/09/24	United States
WP/21		Cancelled		
WP/22		Cancelled		
WP/23	4	Follow-Up on Conclusions, Decisions and Action Plan of Previous E/CAR/NTG/12 - E/CAR/RD/10 Meetings	17/09/24	E/CAR/NTG Rapporteur
WP/24		Cancelled		
WP/25	4	Compliance with ICAO SARPS and adoption of best international practices on AIM	24/09/24	IATA
WP/26	4	Interoperability Tests For The Exchange Of OPMET Data Over AMHS According To The IWXXM Model	23/09/24	COMM/TF Rapporteur

INFORMATION PAPERS

Number	Agenda Item	Title	Date	Prepared and Presented by
IP/01	--	List of Working, Information Papers and Presentations	04/10/24	Secretariat
IP/02	4	Report of the NAM/CAR Regional Contingency and Emergency Planning and Response Meeting (NAM/CAR/CONT/4)	16/08/24	Secretariat
IP/03	4	Caribbean Air Navigation Services Network (CANSNET)	17/09/24	COMM/TF Rapporteur
IP/04	4	Mitigating GNSS Jamming and Spoofing: Enhancing Aviation Safety and Resilience	17/09/24	United States
IP/05	4	Airspace Optimization Initiatives within the Piarco FIR	13/09/24	Trinidad and Tobago
IP/06	4	Trinidad and Tobago Update on ATFM Initiatives	13/09/24	Trinidad and Tobago
NI/07	3	Implementación del ADS-B satelital en el Espacio Aéreo Pacífico de Centroamérica	25/09/24	COCESNA.
IP/08	3	AIM implementation roadmap in the NAM/CAR region regarding States status: AIS to AIM transition steps	26/09/24	AIM/TF Rapporteur

INFORMATION PAPERS

Number	Agenda Item	Title	Date	Prepared and Presented by
IP/09	4	Basic Building Blocks (BBB) Framework In Aerodrome Operation Services	27/09/24	Secretariat
IP/10	3	Regional Guidance Material For Support States In The Cost-Benefit Analysis In Airports And Air Navigation Planning	27/09/2	Secretariat

PRESENTATIONS

Number	Agenda Item	Title	Presented by
1	--	Meeting objectives	Secretariat
2	2	ASBU Elements	Secretariat
3	3	AMHS-AIM Central American, Infrastructure	COCESNA
4	--	Basic Building Blocks (BBB)	Secretariat
5	3	GREPECAS/22	Secretariat
6	2	National Air Navigation Plan	Secretariat
7	6	AIM Competency Awareness	AIM/TF Rapporteur
8	4	Aeronautical Meteorology (MET) Task Force (TF) Report (MET/TF)	Secretariat
9	--	Compliance with ICAO SARPS and adoption of best international practices on AIM	IATA
10	4	Air Traffic Flow Management (ATFM) Task Force	ATFM/TF Rapporteur
11	--	Airspace Optimization Task Force (AOTF) Update – 02/10/2024	AOTF Rapporteur.
12	--	Proyecto actualización de los centros de control de Centroamérica	COCESNA
13	--	CNS Task Force	Secretariat.
14	--	Pathway to Advanced Air Mobility (AAM)	CANSO

LIST OF PARTICIPANTS

ARUBA
1. Anthony Kirchner

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2. Carlos Bolaños Mayorga

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Agenda Item 1 Review and Approval of the Meeting Agenda, Work Modality and Schedule

1.1 The Secretariat presented WP/01 inviting the Meeting to approve the draft Agenda, the schedule, and work method. The Meeting approved the agenda, work method, and schedule presented in the Historical of this report.

Agenda Item 2 **Follow-up to the Conclusions and Previous Agreements of the NACC/WG, CAR/SAM Planning and Implementation Regional Group (GREPECAS) and Regional Initiatives Related to Air Navigation**

Follow-up to the NACC/WG Previous Conclusions and Agreements

2.1 Under WP/02, the valid conclusions and decisions of the NACC/WG/08 meeting were followed up. This included the evaluation of their implementation, which impacts air navigation work across the region.

2.2 The document highlighted strategic objectives, including safety, air navigation capacity, economic development and environmental protection. Some of the key conclusions and decisions mentioned included the verification of Basic Building Blocks (BBB) of Meteorology (MET), prioritisation of the implementation of Air Traffic Services Inter-facility Data Communication (AIDC) protocols and the signing of an agreement with EUROCONTROL for the use of Base of Aircraft Data (BADA).

2.3 The importance of reviewing the status of the conclusions still in force and updating them, indicating the responsible parties and any necessary updates, was underlined. It was also recommended that any decisions that are no longer necessary be finalised during this NACC/WG/09 meeting. Meeting participants were encouraged to take any further actions necessary for future updates.

2.4 Following these discussions, it was concluded that five conclusions and four decisions from the previous NACC/WG meeting remained valid, and one was considered as complete – Decision NACC/WG/D/8/2. Conclusion NACC/WG/8/C/1 is expected to be completed at the GREPECAS/22 meeting in November 2024. It was agreed that the new deadline for these valid conclusions and decisions would be NACC/WG/10 in 2025. Thus, the conclusions and decisions from the previous NACC/WG meeting are as follows:

- Conclusions

Número	Título	Estado
NACC/WG/08/C/01	*VERIFYING PROCESS OF THE MET BBB*	Valid
NACC/WG/08/C/03	*VOLUME III OF THE CAR/SAM ELECTRONIC AIR NAVIGATION PLAN (EANP)*	Valid
NACC/WG/08/C/04	*PRIORITIZE THE IMPLEMENTATION OF AIDC PROTOCOLS IN THE REGION*	Valid
NACC/WG/08/C/06	*SIGNING OF AGREEMENT WITH EUROCONTROL FOR THE USE OF BADA*	Valid
NACC/WG/08/C/07	seguimiento a las iniciativas de mejora en la prestación de SAR	Valid

- Decisions

Número	Título	Estado
NACC/WG/08/D/02	*UPDATING OF BBB AND USOAP PQ DOCUMENTS*	Complete
NACC/WG/08/D/05	*STANDARDIZATION OF REJECTED AND (REJ) AND ACKNOWLEDGED (ACK) MESSAGES*	Valid
NACC/WG/08/D/08	*MULTIDISCIPLINARY GROUP ON THE OPERATION OF UNMANNED AIRCRAFT IN THE REGION*	Valid
NACC/WG/08/D/09	*UPDATE OR DEVELOPMENT OF THE AIR NAVIGATION PLANS OF THE CAR STATES*	Valid

Follow-up to the Conclusions and Previous Agreements of the NACC/WG, CAR/SAM Planning and Implementation Regional Group (GREPECAS) and Regional Initiatives Related to Air Navigation

2.5 Under WP/03, information was provided regarding the results of the safety performance analysis of the CAR Region Reduced Vertical Separation Minimum (RVSM) airspace presented to the CAR/SAM Planning and Implementation Regional Group (GREPECAS) Twenty Fourth Scrutiny Working Group Meeting (GTE/24), and the NACC/WG was requested to make recommendations to address the main identified issues.

2.6 During the GTE/24, held in Mexico City, Mexico, 5 to 9 August 2024, several issues were identified that are important to be brought to the attention of the NACC/WG Meeting.

2.7 The vertical collision risk assessment performed by the CAR/SAM monitoring agency (CARSAMMA) for 2023 showed that the Port-au-Prince, Curacao, and Santo Domingo Flight Information Regions (FIR) experienced risk above the "Target Level of Safety" (TLS), which is expressed as 5×10^{-9} fatal accidents per flight hour in the Reduced Vertical Separation Minimum (RVSM) airspace.

2.8 The CARSAMMA performed an analysis of the most reported transfer of control points (TCPs) in the CAR Region for Large height deviations (LHDs) since 2019. The table below shows the top 5 most reported TCPs for LHD per year:

RANKING	2019	2020	2021	2022	2023
01	ETBOD	BEROX	PALAS	PIGBI	ETBOD
02	PIGBI	DCR	KARUM	BEROX	NOSIS
03	PALAS	PALAS	KISAS	ETBOD	KARUM
04	BEROX	RETAK	BEROX	VESKA	PIGBI
05	DCR	PIGBI	PIGBI	ONPAD	VESKA

2.9 Using as a reference the most reported, the Secretariat identified the most reported FIRs for the CAR Region in the table below:

RANKING	2019	2020	2021	2022	2023
01	Port au Prince / Santo Domingo	Curaçao / Santo Domingo	Curaçao / Santo Domingo	Port au Prince / Santo Domingo	Port au Prince / Santo Domingo
02	Port au Prince / Santo Domingo	Port au Prince / Santo Domingo	Curacao / Santo Domingo	Curaçao / Santo Domingo	Kingston/ Port au Prince
03	Curaçao / Santo Domingo	Curaçao / Santo Domingo	Curaçao / Santo Domingo	Port au Prince / Santo Domingo	Curaçao / Santo Domingo
04	Curaçao / Santo Domingo	Port au Prince / Santo Domingo	Curaçao / Santo Domingo	Curaçao / Santo Domingo	Port au Prince / Santo Domingo
05	Port au Prince / Santo Domingo	Port au Prince / Santo Domingo	Port au Prince / Santo Domingo	Port au Prince / Santo Domingo	Curaçao / Santo Domingo

2.10 With the objective of exchanging information about each LHD event, validating it, and ensuring the implementation of immediate corrective actions that prevent its possible recurrence, the GTE established a procedure that requires coordination between the adjacent Air traffic services (ATS) units involved in each event before sending the report to the corresponding Regional Monitoring Agency. This procedure is carried out normally by the Points of Contact accredited to the CARSAMMA. It is recommended that ATC facilities communicate these reports with the adjacent ATC unit to ensure data retention has not expired.

2.11 The Meeting analyzed the information provided in this Working Paper and decided to approve the following Draft Conclusion:

CONCLUSION NACC/WG/09/01	**IMPROVE CAR REGION RVSM AIRSPACE TARGET LEVEL OF SAFETY**
What: That, to improve safety performance of the CAR Region RVSM airspace: a) Curacao, Dominican Republic and Haiti, in coordination with the Secretariat, develop and implement an action plan to reduce the Target Level of Safety (TLS) in their respective FIRs, no later than 15 December 2024; b) United States Air Traffic Control Centres (ATCC) notify adjacent facilities when a coordination error occurs;	**Expected impact:** ☐ Political / Global ☒ Inter-regional ☐ Economic ☐ Environmental ☒ Operational/Technical

c) the Secretariat analyse the link between the operational conditions of the FIRs that exceed the TLS and the lack of implementation of essential ANS elements; and d) the Secretariat report to the NACC/WG/10 meeting the results of these actions.	
Why: To enhance provision of ANS in the RVSM airspace of the CAR Region	
When: By NACC/WG/10 Meeting	**Status:** ☒ Valid / ☐ Superseded / ☐ Completed
Who: ☐ States ☒ ICAO ☒ Other:	

2.12 The Secretariat presented WP/04 with information regarding the requirements for safety performance measurement for the CAR/SAM Regional Air Navigation Plan Vol. III and request support to encourage the implementation of the Global Air Navigation Plan (GANP) safety performance indicators by the CAR Region Air Navigation Service Providers (ANSPs).

2.13 During the Third GREPECAS–RASG-PA Joint Meeting (RASGPA/GREPECAS/3), held in Santo Domingo, Dominican Republic, on 14 November 2023, a Working Session on Key Performance Indicators (KPIs) of the RASG-PA and GREPECAS was conducted, to discuss the sharing of information required for monitor the implementation of the GANP. At the end of this session, there was a consensus that safety indicators should be measured by RASG-PA, and air navigation indicators should be measured by GREPECAS.

2.14 The ICAO NACC Regional Office organized the Second CAR Workshop for the Implementation of the CAR/SAM Air Navigation Plan Vol. III (CAR/SAM/ANP-VOLIII/2), which was held in Mexico City, Mexico, from 13 to 15 February 2024. One of the objectives of the workshop was to continue with the management process of performance indicators approved in Table PMP III-3 – List of Key Performance Indicators (KPI) by Performance Objective and Performance Area of the CAR/SAM Regions. Following the results of the Working Session for the KPIs of the RASG-PA and GREPECAS, participants in the workshop reviewed the GANP safety related indicators and recommended GREPECAS should request RASG-PA to collect the following data regarding safety to be included in the CAR/SAM ANP Vol. III:

Key Performance Area (KPA)	Consider data collection of	Performance Objective	GANP Key Performance Indicator Number
Safety	Incidents	Maintain or Improve Safety	KPI20
Safety	Incidents	Maintain or Improve Safety	KPI21
Safety	Incidents	Maintain or Improve Safety	KPI22
Safety	Incidents	Maintain or Improve Safety	KPI23

2.15 For KPI23 Number of AIRPROX/Transponder Collision Avoidance System (TCAS) alert/loss of separation/near miss collisions/midair collisions (MAC), participants considered necessary for ANS purposes to gather data related to Variant 3 (loss of separation) considering this variant was more oriented to measure Air Traffic Management (ATM) safety performance.

2.16 The Secretariat presented a Working Paper to the Thirty Ninth Regional Aviation Safety Group — Pan America Executive Steering Committee Meeting (RASG-PA/ESC/39), held in Mexico City, Mexico, from 29 to 30 May 2024, explaining the need for the collection of safety data to comply with the needs of the RANP Vol. III. The Meeting noted the suggested safety performance indicators, considering that further analysis was warranted, and decided to create an Ad hoc Group, led by the Secretariat, to provide further guidance to RASG-PA on how to proceed with this request.

2.17 The Meeting reviewed the information provided by the Secretariat, while requesting clarification of the expectations set out in the Paper, to ensure that the NACC/WG's role in supporting air navigation implementation was preserved and that safety performance review activities were maintained with RASG-PA, as stated in GREPECAS/21 Meeting. The Secretariat clarified that the Working Paper's expectation was primarily to promote safety performance measurement, based on the KPIs established in the GANP.

2.18 The Meeting agreed that the NACC/WG should reiterate the request to GREPECAS to ensure that RASG-PA conducts performance measurement from the perspective of air navigation services.

2.19 Based on the discussion of this Paper, the following Conclusion was approved:

<table>
<tr><td colspan="3">CONCLUSION
NACC/WG/09/02 ENHANCE ANS SAFETY PERFORMANCE MEASUREMENT IN THE NAM/CAR REGIONS</td></tr>
<tr><td colspan="2">What:

That, to support the implementation of the performance measurement framework proposed by the CAR/SAM Regional Air Navigation Plan Volume III,

a) the NACC/WG reiterated to GREPECAS the request to coordinate with the RASG-PA the air navigation safety performance measurement in the NAM/CAR regions;
b) ICAO included in the training activities on KPIs information to support the measurement of safety performance using the GANP safety performance indicators; and
c) the Secretariat report to the NACC/WG/10 meeting the progress with the completion of these activities</td><td>Expected impact:

☐ Political / Global
☐ Inter-regional
☐ Economic
☐ Environmental
☒ Operational/Technical</td></tr>
<tr><td colspan="3">Why:

To enhance ANS safety performance in the NAM/CAR Regions</td></tr>
<tr><td>When:</td><td>By NACC/WG/10 meeting</td><td>Status: ☒ Valid / ☐ Superseded / ☐ Completed</td></tr>
<tr><td>Who:</td><td>☒ States ☒ ICAO ☐ Other:</td><td></td></tr>
</table>

2.20 Under P/2, a detailed explanation of the Aviation System Block Upgrade (ASBU) methodology was presented, a flexible and programmatic approach defined by ICAO under its GANP. This methodology aims to help all ICAO Member States improve their air navigation systems according to their specific operational needs.

2.21 Key elements of ASBU:

1. ASBU Thread: It is classified into three main sectors: Operational, Information and Technology.
2. ASBU Module: A set of elements related to the ASBU Thread, which are made available for implementation within a specific time frame.
3. ASBU Block: It refers to a timeline in which the element and its enablers are made available for operational use.
4. ASBU Element: It involves improving operational needs, resolving deficiencies and increasing efficiency and safety in air navigation systems.

2.22 Detailed components:

- ASBU Thread: Includes several components, such as Enhanced Meteorological Information (AMET), Aeronautical Electronic Information Management (DAIM), Flight and Flow Information for the Cooperative Environment (FF-ICE), and System-Wide Information Management (SWIM), surveillance systems (ASUR), and communication infrastructures (COMI, OMS).
- AMET: The document describes enhanced meteorological systems, covering meteorological observations, forecasts, historical data and disseminating this information.
- ASBU Maturity Levels: Each element of the ASBU has different maturity levels:
    - Ready for Implementation: The system is operationally ready.
    - Standardization: Focuses on defining the provisions necessary for system interoperability.
    - Validation: Involves research, validation and testing of the systems.
    - Concept: The research phase in which the basic principles are defined and explored.

2.23 Purpose and Benefits:

2.23.1 Each ASBU element contains functional descriptions, enablers, implementation applicability, and a performance impact assessment. The primary purpose of the ASBU methodology is to provide tools to improve the efficiency and safety of air navigation, while addressing operational efficiencies. The following elements are also addressed:

- capabilities: Describes what stakeholders can achieve with these improvements
- impact: Assesses how these implementations will impact performance and how they meet operational needs

- technological and operational enhancements
- specific technology upgrades such as:
    - FF-ICE (Flight Information)
    - ASUR (Automatic Dependent Surveillance over ADS-B Broadcast) for flight
    - tracking
- Airport Collaborative Decision Making (A-CDM) to improve operations at airports.
- Cooperative Separation (CSEP) during flight operations.
- elements related to operational information sharing, such as surface operations, improved runway sequencing and meteorological data integration.

2.24 The ASBU framework is designed to improve the performance of the global aviation system by providing States with flexible modules tailored to their unique needs, advancing both safety and efficiency. The purpose of each element is to enhance aviation capabilities in an increasingly interconnected and data-driven operational environment.

2.25 Under P/6 outlined the development of the National Air Navigation Plan (NANP), which is aligned with global and regional frameworks such as ICAO's GANP and regional Air Navigation Plans (ANPs). It ensures the provision of essential services for international civil aviation, with a focus on global harmonization and performance interoperability.

2.26 Key Sections:

1. Developing a NANP:

- Global and Regional Context: The NANP is connected to global frameworks like GANP and ensures alignment with minimum service provisions and global interoperability.
- National Context: links the NANP to national development plans and facilitates financing for sustainable aviation projects. It also connects with other national plans like maintenance, investment, training, NASP, SSP, SMS, and budget control.

2. Collaboration:

- Identifies key stakeholders, synchronizes deliverables, and defines committee roles for maintaining and approving the plan.
- Resources: Available both electronically and in print.

3. Structure:

- Multilayered approach, separating strategy from technical content, with a focus on system analysis and performance-driven planning. Performance analysis aligns with the GANP framework and AN-SPA (Air Navigation System Performance Analysis).

4. Choosing Optimal Solutions:

- Consider feasibility, operational safety, environmental assessments, human factors, and cost-

benefit analysis (CBA)

- Maximize benefits by accounting for dependencies and developing implementation plans.

5. Content of the NANP:

The NANP content is divided into multiple volumes, each addressing different areas of air navigation:

- Volume I:
  - General: Includes geographical approach, traffic forecasts, and regional priorities.
  - Aerodromes: Covers international and local aerodromes, military bases, helipads, and traffic forecasts.
  - Communications, Navigation, and Surveillance (CNS): Details air-ground communication systems (AFS, ATN, AMS), navigation systems (PBN, GBAS/SBAS), and surveillance systems.
  - Air Traffic Management (ATM): Describes FIRs, ATS routes, flexible airspace use, RVSM, and global ICARD database for aircraft identification.
  - Meteorology: Includes global forecast systems and volcanic ash and tropical cyclone advisories.
  - Search and Rescue (SAR): Defines SAR regions, rescue coordination centers (RCCs), and rescue sub-centers (RSCs).
  - Aeronautical Information Management (AIM): Specifies responsibilities for aeronautical information services.

- Volume II:
  - Focuses on homogeneous ATM areas, major traffic flows, and detailed aerodrome infrastructure (e.g., runway designations, RFF services, visual aids for low visibility operations).
  - CNS infrastructure details for communication, navigation, and surveillance systems, including air-to-ground links and IP-based network services.
  - ATM optimizes traffic flows, ATS routes, aircraft identification, and SSR code management.
  - Meteorology and SAR continue from Volume I, detailing weather reporting and SAR coordination.

- Volume III:
  - Emphasizes performance management planning (PMP), with six key steps:

    1. Define approach, context, and set ambitions.
    2. Analyze the air navigation system through SWOT analysis and align with regional objectives.
    3. Quantify objectives, set goals, and calculate needs.

4. Choose solutions.
5. Implement solutions.
6. Evaluate achievements.

2.27 This document is a comprehensive guide for creating a performance-based air navigation plan, with a clear structure and focus on interoperability, safety, and efficiency in aviation services.

Agenda Item 3 Actions for the development of the Air Navigation Plans of the States and the CAR/SAM Plan and Progress in Regional Performance Dashboards

3.1 Under WP/07, presented by the Secretariat, key accomplishments since the NACC/WG/08 meeting were highlighted, among which the most notable achievement is developing the NANP template, aligned with the 7th edition of the ASBU.

3.2 The ICAO NACC Regional Office successfully organized an NANP Workshop in August 2024 for Spanish-speaking States, where seven States—Belize, Cuba, Dominican Republic, El Salvador, Guatemala, Honduras, and Mexico—participated and updated their draft NANPs.

3.3 Looking ahead, preparations are underway for the ASBU 8th edition, with a workshop scheduled for March 2025 to support English-speaking States. The ICAO NACC RO continues to support States in aligning their NANPs with the latest ASBU edition.

3.4 The strategic objectives emphasized in this process include enhancing safety, air navigation capacity and efficiency, economic development of air transport, and environmental protection. The working group encouraged States to update their NANPs using the new templates and provide feedback to ICAO to support the development of the GREPECAS e-ANP Volume III. The efforts align with ICAO's broader frameworks, including the GANP and the ASBU framework.

3.5 Under WP/09, presented by COCESNA, the NANPs update of Central America and COCESNA was discussed. The development of the NANP, aligned with the seventh edition of the GANP and ICAO Resolution A41-6, requires a joint strategy between the Central American States and ICAO to ensure regional harmonization and global interoperability.

3.6 Between 2022 and 2023, key activities such as evaluating the Basic Building Blocks (BBB) and planning workshops were conducted to strengthen the technical capacities of the States and COCESNA.

3.7 In 2024, workshops on KPIs and NANP updates were held, identifying priorities and developing roadmaps with specific actions. Currently, weekly meetings are held with ICAO and COCESNA to ensure continuous progress and meet deadlines.

3.8 The strategic objectives of the plan include operational safety, air navigation capacity and efficiency, economic development of air transport, and environmental protection. Key references include ICAO Assembly Resolution A41-6 and the conclusions of GREPECAS/20 held in November 2022. Finally, it is suggested that the meeting take note of the information presented and support the pilot program carried out jointly by the Central American States and COCESNA to develop and update the NANP in accordance with the latest version of the GANP.

3.9 The Secretariat presented WP/10 with the progress report for the actions to support the implementation of the CAR/SAM Regional Air Navigation Plan Volume III and requested the approval of the KPIs to be measured by the Air Navigation Services Providers (ANSPs) of the CAR Region.

3.10 The ICAO NACC Regional Office organized the Second CAR Workshop to implement the CAR/SAM Air Navigation Plan Vol. III (CAR/SAM/ANP-VOLIII/2), held in Mexico City, Mexico, from 13 to 15 February 2024. One of the workshops´ s objectives was to continue with the management process of performance indicators approved in Table PMP III-3 – List of KPI by Performance Objective and Performance Area of the CAR/SAM Regions.

3.11 During the exercises carried out in the workshop, it was possible to identify that most States are still not measuring the KPIs presented in Table PMP-III-3 of Volume III. For priority reasons some States are only measuring safety-related performance indicators, such as loss of separation and Large Height Deviations (LHDs), and Some States are only measuring KPI09 at their main international airports as part of the steps for Air Traffic Flow Management (ATFM) implementation.

3.12 Participants in the workshop made the following recommendations to the NACC/WG:

I. The NACC/WG (Task forces and Plenary) should coordinate with the SAM Regional Implementation Group, which is addressing the Key Performance Areas (KPAs), Focus Areas, and Performance Objectives listed in the Table PMP III-2.
II. The NACC/WG should evaluate the proposal made by United States to develop and implement a regional data exchange strategy, as a viable means to support the Performance-Based Approach (PBA) outlined in the GANP.
III. The NACC/WG needs to clarify the role the Task Forces will play in supporting States for the updating of ANP Vol. III.
IV. The NACC/WG Aerodromes and Ground Aids (AGA) Task Force should analyse which international airports have a regional strategic impact to meet the regional ANS objectives. All NACC/WG Task Forces that should identify items in their work programme that have the same regional strategic Impact.

3.13 Taking as a reference the results of the Second CAR Workshop for the Implementation of the CAR/SAM Air Navigation Plan Vol. III and the Follow-up Workshop on the preparation of Vol. III of the Regional Air Navigation Plan (RANP) for the SAM Region, the NACC/WG should give priority to the measurement of the following KPIs:

Capacity	Efficiency	Safety
KPI 06 En-route airspace capacity KPI 09 Airport peak capacity	KPI 01 Departure punctuality KPI 05 Actual en-route extension KPI 08 Additional time in terminal airspace	KPI 23 Variant 3

3.14 The Meeting took note of the information and proposal presented by the Secretariat, recognizing the complexity of this process, to effectively meet the requirements of different levels of size and complexity of air navigation service providers and airports in the NAM/CAR Regions.

3.15 The Meeting recognized the GANP KPIs can be difficult to measure for many of the States/ANSPs, this is mostly due to the data elements needed to calculate the indicators. The Meeting requested the NACC/WG ATFM and Airspace Optimization (AO) Task Force Rapporteurs, along with the Secretariat, to establish an ad hoc group to address the following:

a) provide recommendations and guidance to ensure each State/Territory can effectively store and analyze the required data.
b) promote the development of capabilities to use traffic counts as the most commonly available data.
c) provide guidance to analyze the GANP KPIs to ensure they can be tailored to States'/Territories' capabilities, yet flexible enough to adapt to changing needs, and provide possible alternatives for measurement.

3.16 Based on the discussion and comments regarding WP/10, the Meeting approved the following Conclusion:

<table>
<tr><td colspan="3">CONCLUSION
NACC/WG/09/03 SUPPORT THE IMPLEMENTATION OF PERFORMANCE-BASED METRICS FOR THE NAM/CAR REGIONS</td></tr>
<tr><td colspan="2">What:

That, with the aim of providing greater support to the States and Territories of the NAM/CAR Regions in the implementation of efficient performance measurement mechanisms in the provision of air navigation and airport services

a) The Meeting approve the recommendations presented in Section 3.12 of this report;
b) the Secretariat monitor and report progress to the NACC/WG/10 Meeting;
c) the NACC/WG endorse the KPIs presented in Section 3.13 of this report, and
d) the NACC/WG Airspace Optimization (AO) and ATFM Task Force Rapporteurs work with the Secretariat to address the request of Section 3.15 of this report and inform the progress to the NACC/WG/10 Meeting.</td><td>Expected impact:

☐ Political / Global
☐ Inter-regional
☒ Economic
☒ Environmental
☒ Operational/Technical</td></tr>
<tr><td colspan="3">Why:

To support the implementation of GANP performance indicators in the NAM/CAR Regions</td></tr>
<tr><td>When: By the NACC/WG/10 Meeting</td><td colspan="2">Status: ☒ Valid / ☐ Superseded / ☐ Completed</td></tr>
<tr><td>Who: ☐ States ☒ ICAO ☒ Other:</td><td colspan="2">NACC/WG Airspace Optimization and ATFM Task Force Rapporteurs</td></tr>
</table>

3.17 Under WP/11 and IP/08 the fact that the transition from Aeronautical Information Services (AIS) to Aeronautical Information Management (AIM) in the NAM/CAR Regions has advanced since 2020, although there are significant differences in the pace of progress between States was highlighted. Some States have made considerable progress, while others have experienced delays, in part due to the financial impact of the COVID-19 pandemic, as well as the unrecognized value of AIM data management expertise requirements and lack of necessary training. The transition involves three phases and 21 interrelated steps that are tracked through the data submitted by each State.

3.18 A key factor in ensuring successful implementation is the collaborative effort, which involves shared planning, ongoing reviews, and active support from the ICAO Accra Regional Office and the AIM Task Force (AIM TF). The AIM TF has also developed tools, such as the AIS to AIM Transition Status Report Archive and is collaborating on the upcoming AIM Tracking Website, to assist States in updating and monitoring their progress. This will help ensure that all States are included in the development process and that digital information sharing through the System-Wide Information Management (SWIM) platform can be effectively implemented.

3.19 The overall objective is to improve aviation safety, efficiency and environmental sustainability, while aligning with global AIM standards. Despite challenges, the region is making steady progress and continued collaboration will contribute to a successful transition to AIM, paving the way for a more integrated and efficient air navigation system. The transition is part of a global initiative aimed at improving aviation safety, efficiency and economic development through better information management.

3.20 The IP/07, presented by COCESNA, indicated that the implementation of satellite Automatic dependent surveillance – broadcast (ADS-B) in the oceanic airspace of Central America is detailed, aligning with ICAO's objectives to enhance operational capacity and safety.

3.21 The implementation of satellite ADS-B technology optimized airspace control, which previously relied on manual procedures that posed higher risks and inefficient use of airspace.

3.22 Before ADS-B, communications were conducted via High Frequency (HF) and Very High Frequency (VHF), creating bottlenecks along routes such as UL203, UZ30, and UZ512, affecting traffic flow efficiency.

3.23 A feasibility and viability analysis confirmed that satellite ADS-B would reduce fuel consumption, improve air traffic, and comply with international regulations. This analysis included technical aspects, such as the availability of ADS-B transponders in aircraft and the supporting infrastructure.

3.24 Operationally, the existing and developing separation standards under the Advanced Surveillance Enhanced Procedural Separation (ASEPS) framework were reviewed. The economic analysis also justified the investment, as the benefits outweighed implementation and maintenance costs.

3.25 The safety case established that the integration of satellite ADS-B into CENAMER's ATM system was safe, meeting operational safety requirements. The use of the system improved surveillance and situational awareness in oceanic airspace, optimizing traffic management and enabling aircraft to reach optimal flight levels.

3.26 Currently, satellite ADS-B surveillance has increased operational safety by reducing incidents and minimizing the number of Large Height Deviations (LHDs), while also optimizing airspace use by decreasing longitudinal separation minima, thereby enhancing the efficiency and safety of air traffic in the region.

3.27 In addition, under IP/10, the Secretariat informed about the development of regional guidance material to assist States with conducting cost-benefit analyses (CBA) for airports and air navigation planning. The material follows ICAO's Six Steps Method for performance-based improvements in air navigation systems. Workshops have been held to enhance regional capacity, focusing on strategic planning, KPIs, and socioeconomic evaluations. The first version of the guidance material is expected by July 2025.

3.28 Under P/03, COCESNA outlined the Aeronautical message handling system (AMHS) – Aeronautical Information Management (AIM) system, a platform designed to disseminate aeronautical information to its six Member States. This system seamlessly integrates with the Aeronautical Fixed Telecommunication Network (AFTN) and other international networks in the region, ensuring efficient data exchange. COCESNA also provides a comprehensive suite of tools for office operators, including International NOTAM office (NOF), AIS ARO, and dedicated positions for managing electronic Aeronautical Information Publications (eAIPs).

3.29 COCESNA emphasized the critical role of strong business partnerships with its service providers, in fostering the sustainable and adaptable development of the AMHS-AIM infrastructure across Central American States

3.30 COCESNA informed as well on the COCESNA and Cuba series of interoperability tests to assess the exchange of the ICAO Weather Information Exchange Model (IWXXM) data over the AMHS network. The testing process was divided into two phases:

1. **AMHS Message Exchange Capacity Verification:** This phase focused on evaluating the AMHS network's ability to handle the exchange of messages in the IWXXM format.
2. **OPMET XML Data Generation and Transmission:** In this phase, OPMET data was converted into XML format and transmitted using the translation application.

3.31 In terms of compression requirements, COCESNA indicated:

- Gzip compression was adopted as a method for compressing IWXXM data.
- Compression is generally mandatory unless a specific agreement is established between the originating State and the relevant Network Operations Center (NOC) or Regional Operations Center (ROC) to handle compression on behalf of the originator.
- In cases were implementing the FTBP standard is challenging, basic AMHS might offer a possible alternative. This is possible when the link has sufficient capacity to handle uncompressed IWXXM data and an agreement is in place for the aggregator to manage compression and decompression.

3.32 The interoperability tests successfully demonstrated the feasibility of exchanging IWXXM data over the AMHS network between COCESNA and Cuba and COCESNA is now ready for the phase III testing procedures.

3.33 Under P/05, the Secretariat reported on the schedule and agenda for the Fourth GREPECAS–RASG-PA Joint Meeting and Twenty-second Meeting of the CAR/SAM Regional Planning and Implementation Group (GREPECAS/22). The virtual phase will occur from 16 September to 18 October 2024, and the in-person phase in Lima, Peru, from 20 to 22 November 2024. Key agenda items include reviewing GREPECAS-RASG-PA joint activities, updates on Air Navigation Services (ANS) implementation, and discussions on critical ANS areas such as ATM, Communications, Navigation and Surveillance (CNS), Aerodromes and Ground Aids (AGA), AIM, Aeronautical Meteorology (MET) and Environmental Protection (ENV). The meeting will culminate with a review of the GREPECAS Work Programme and Handbook.

Agenda Item 4 Follow-up to the NACC/WG 2023-2024 Work plan

Objectives and recommendations of the AN-Conf/14 Conference

4.1 Under WP/05 the results of the Fourteenth Air Navigation Conference (AN-Conf/14) and its impact on the work plan of the NACC/WG (North American, Central American, and Caribbean Working Group) were discussed.

4.2 The Conference's strategic objectives focused on safety, air navigation efficiency, economic development and environmental protection.

4.3 The conference aimed at improving aviation performance to address environmental challenges and ensure operational safety. Recommendations made during the conference include updating the ICAO Business Plan (2023-2025), improving the resilience of the air navigation system, harmonizing the Global Aviation Safety Plan (GASP) and the GANP, and optimizing airspace management.

4.4 Key recommendations were:

a) Implementation of technologies to improve aviation performance and achieve the goal of net zero emissions by 2050.
b) Strengthening security around new technologies and modernization of infrastructure.
c) Promoting safer connectivity between aircraft and ground systems, with a special focus on cybersecurity and system resilience.
d) Strategic Planning: The importance of aligning global navigation and aviation security plans is underlined, updating them to reflect future priorities and challenges.
e) Recommended Actions for States: Integrate the priorities of the ICAO 2023-2025 Business Plan and collaborate for the modernization of air navigation services, with a gradual transition to advanced technologies.
f) The conference strengthens global collaboration and consensus to address the challenges of sustainability and safety in aviation in a context of limited resources and accelerated technological growth

4.5 **Appendix A** of this report lists all the recommendations resulting from the Conference that the Secretariat recommends be taken up by the NACC/WG to define regional objectives and activities necessary to achieve these objectives within the NACC/WG work plan. Future actions and work by the NACC/WG were explained in greater detail in Agenda Item 5 of this report. The Secretariat will coordinate with GREPECAS so that the work of the NACC/WG is associated with CAR and SAM regional efforts.

NACC/WF Work plan by area

AERONAUTICAL INFORMATION MANAGEMENT

4.6 Areas of interest related to AIM, commented:

- Global Air Traffic Management (Doc 9854): Ongoing work related to updating the Global Air Traffic Management (ATM) Operational Concept, which will have implications for AIM systems.

- New Technologies and Safety Risks: AIM must support the safe integration of new technologies and concepts, such as unmanned aircraft systems (UAS) and advanced air mobility, by providing accurate and timely aeronautical information to stakeholders.

- System Modernization and Integration: Recommendations were made regarding phasing out legacy CNS systems (Communication, Navigation, Surveillance) and optimizing the airspace with trajectory-based operations and free route airspace. AIM systems must adapt to these changes by modernizing data services and enabling better data exchange between stakeholders.

- Human Performance in Aviation: Efforts are being made to improve human performance, which includes the accuracy and reliability of information provided by AIM personnel.

4.7 Under WP/11 and IP/08, presented by the AIM/TF Rapporteur, the fact that the transition from Aeronautical Information Services (AIS) to Aeronautical Information Management (AIM) in the NAM/CAR Regions has progressed since 2020, was underlined though there are significant differences in the rate of advancement among states. Some states have achieved considerable progress, while others have encountered delays, partly due to the financial impact of the COVID-19 pandemic as well as to the unrecognized value of AIM data management expertise requirements and the lack of needed training. The transition involves three phases and 21 interrelated steps that are tracked through data submitted by each state.

4.8 A key factor in ensuring successful implementation is the collaborative effort involving shared planning, ongoing reviews, and active support from ICAO NACC and the AIM Task Force (AIM/TF). The AIM/TF has also developed tools, such as AIS to AIM transition report status files, and collaborated on the upcoming AIM tracking website to assist states in updating and monitoring their progress. This will help ensure that all states are included in the development process and that digital information exchange through the System Wide Information Management (SWIM) platform can be effectively implemented.

4.9 The overall goal is to improve aviation safety, efficiency, and environmental sustainability while aligning with global AIM standards. Despite challenges, the region is making steady progress, and ongoing collaboration will contribute to a successful transition to AIM, paving the way for a more integrated and efficient air navigation system. The transition is part of a global initiative to enhance aviation safety, efficiency, and economic development through improved information management.

4.10 In WP/25 and P/09 critical issues in AIM affecting the safety and efficiency of air navigation in the CAR/SAM Regions were highlighted. Key points addressed include:

1. **Lack of publication of activation NOTAMs:** The absence of timely activation NOTAMs for AIP (Aeronautical Information Publication) supplements makes it difficult for airlines to ensure that they have the most up-to-date and accurate data for flight operations. This can compromise safety and efficiency as AIP supplements often do not adhere to the AIRAC cycle and are sometimes hidden on websites or only available in paper format. In addition, activation NOTAMs have a short duration of 14 days, while AIP supplements often have a longer duration, leading to a situation where relevant information may not be effectively communicated to users.

2. **Lack of English versions of AIPs:** In some States, the lack of English versions of essential aeronautical information, particularly AIPs, impacts flight planning and safety. Airport briefings, which are essential for pilots, often become incomplete or unavailable due to this issue, which can lead to significant risks during operations, especially in unfamiliar territories.

3. **Digital aeronautical information products:** There is a great need for digital aeronautical information as the aviation industry moves from paper to digital systems. The availability of free web-based digital products is crucial for effective air navigation and should not involve the payment of subscription fees.

4.11 The document emphasizes compliance with ICAO standards, which require the timely and accurate dissemination of aeronautical information. Suggested actions include urging States to improve their systems for the publication of trigger NOTAMs, ensuring that AIPs are available in English, and providing access to digital information without subscriptions.

AIRDROMES AND GROUND AIDS

4.12 Under WP/12, the Secretariat presented the results of the discussions held during the Second NACC/WG Aerodromes and Ground Aids (AGA) Implementation Task Force Meeting (NACC/WG/AGA/TF/2). Key points included:

1. **AGA Programme Update**: The Meeting approved the updates to the AGA Programme and discussed new activities for 2025, including webinars on Aircraft Classification Rating (ACR-PCR), aerodrome planning, and regulatory impact analysis.

2. **Runway Safety Teams (RST)**: Progress was reported in implementing RSTs in the CAR Region. Specific missions to Costa Rica, El Salvador and Honduras were highlighted, aiming to improve safety and promote the Global Reporting Format (GRF) for runway surface conditions.

3. **GRF**: Implementation remains low, with only 25% of international aerodromes in Central America adopting GRF. The meeting encouraged States to increase efforts and suggested creating documentation to aid the process.
4. **Aerodrome Certification**: Challenges were noted in increasing the number of certified aerodromes in the CAR region, with 65% of aerodromes currently certified. A framework project was recommended to support States to address these issues.

5. **Aerodrome Planning and Emergency Plan**: the Guide for Airport Consultative Committees[1], (approved by GREPECAS Conclusion 21/14) was encouraged to be implemented at international aerodromes in the NAM and CAR Region. Initiatives to improve disaster preparedness and response were proposed. Guidance materials for airport emergency planning were also discussed.

6. **Wildlife Hazard Management**: Efforts to mitigate wildlife-related aviation risks were presented by CARSAMPAF.

7. **Innovations and Sustainability**: The meeting discussed emerging technologies like vertiports for VTOL aircraft and the importance of the "Net Zero 2050" carbon footprint target for airports.

4.13 The Secretariat informed the meeting that the AGA/TF counts on the commitment of all representatives to the projects and activities of the AGA Programme and to collaboration between Member States.

4.14 The Meeting acknowledged and discussed the parallel existence of the AGA/TF and the Eastern Caribbean Civil Aviation Technical Group (E/CAR/CATWG) AGA Committee. It was clarified that the AGA/TF has a broader scope, encompassing relevant topics and representatives from the E/CAR/CATWG AGA Committee. As such, the AGA/TF should serve as the primary reference for discussions on AGA matters. However, it was noted that the AGA/TF can always provide information to other meetings with a vested interest in AGA topics.

4.15 Under IP/09, the Secretariat reported on the Basic Building Blocks (BBB) framework for aerodrome operation services in the CAR Region, highlighting its importance in providing essential services aligned with ICAO standards. CAR Region States and Territories comply with around 50% of the BBBs. A case study at Juan Santamaría airport in Costa Rica led to the development of a new BBB checklist to streamline assessments. The checklist will be reviewed in 2025 to improve aerodrome operations across the region.

[1] https://www.icao.int/NACC/Documents/eDOCS/AGA/240918-GUIDANCE%20MATERIAL%20AIRPORT%20CONSULTATIVE%20COMMITTEES%202023.pdf

ATM-Airspace optimization

4.16 Under WP/13 was presented an update of the work, and activities conducted by the Airspace Optimization Task Force (AO/TF). The AO/TF Rapporteur summarized the WP/13 in P/11. The AOTF informed the meeting on the tasks currently being conducted in relation to GREPECAS Decision 21/07, the Caribbean/South American Airspace Optimization Programme and the NEOSPACE -1 project. The AO/TF has had several meetings with the Slot Allocation Message (SAM)/IG and though it was acknowledged that although there are several differences that exist within both the CAR and SAM Regions, there is definitely an opportunity to agree on an overarching concept document "Harmonized Horizons: Airspace Optimization in CAR-SAM Regions"; which will serve to guide the airspace optimization efforts. The Task Force has provided the roadmap for the transition to Free Route Airspace (FRA) which includes more realistic milestones and promotes Collaborative Decision Making (CDM) with all stakeholders. An additional approach taken by the AO/TF is engagement with other regions to learn best practices which will increase the success for the airspace optimization efforts for the CAR Region.

4.17 The Meeting was asked to review and endorse the NEOSPACE-1 project overarching concept document "Harmonized Horizons: Airspace Optimization in CAR/SAM Regions" and to approve the Final AO Airspace Concept document. This information is included in **Appendix B** to support the use of data analysis for effective decision-making, and to utilize KPIs to keep track of implementation roadmaps and milestones within our own regions to measure progress.

4.18 This said, the Meeting agreed to the following Decision:

<table>
<tr><td colspan="3">DECISION
NACC/WG/09/04 APPROVAL OF THE OPTIMIZED AIRSPACE CONCEPT DOCUMENT FOR THE CAR REGION 2025-2030</td></tr>
<tr><td colspan="2">What:
That, the Optimized Airspace Concept Document for the CAR Region (2025–2030) included as Appendix A to NACC/WG/09 WP/13, which outlines a comprehensive framework for enhancing airspace management across the CAR region is approved.</td><td>Expected impact:
☐ Political / Global
☐ Inter-regional
☐ Economic
☐ Environmental
☒ Operational/Technical</td></tr>
<tr><td colspan="3">Why:
To meet growing regional aviation demands, reduce environmental impacts, and improve safety and efficiency.</td></tr>
<tr><td>When: Immediately</td><td colspan="2">Status: ☒ Valid / ☐ Superseded / ☐ Completed</td></tr>
<tr><td colspan="3">Who: ☒ States ☐ ICAO ☒ Other</td></tr>
</table>

4.19 IP/5 provided an update from Trinidad and Tobago on Airspace Optimization (AO) initiatives within the Piarco FIR. Trinidad and Tobago will continue its AO-oriented initiatives, with the goal of enhancing safety, increasing capacity and improving operational efficiency for all current and future airspace users.

4.20 Ongoing efforts will also focus on collaboration with all adjacent Air Traffic Services Units (ATSUs) to maintain a smooth flow of traffic in both the upper and lower airspace within the Piarco FIR. While some airspace optimization initiatives can be achieved through modifications to ATM procedures (e.g. letters of agreement, memoranda of understanding, training, etc.), more significant initiatives require investments in CNS and subject matter expertise on automated ATM system performance.

4.21 While some States may have in-house expertise, e.g. software designers, many States must rely on third-party information. While automated systems may theoretically have the capability to perform certain functions, if those modules or configurations are not included in the original RFP, there may be additional costs to acquire them.

ATM-ATFM

4.22 Under WP/14 the progress achieved by the ATFM Implementation Task Force (TF) since its previous progress report was presented. This paper discussed the previous year's work and request support for the revised work program, establishing future goals for the Task Force. Establishing a robust ATFM performance framework in the CAR Region is paramount to achieving strategic goals.

4.23 The task force's ongoing support in this area is vital for setting benchmarks and KPIs that will guide the region's progress. The emphasis on data-driven decision-making will ensure that the region continues to evolve and adapt to emerging challenges, leading to a more resilient and responsive ATM system.

4.24 Tailoring ATFM strategies to the specific requirements of each FIR is essential for achieving optimal air traffic management. The ATFM Task Force plays a critical role in this process by providing the expertise and guidance needed to adapt ATFM practices to the unique challenges of each airspace. This targeted approach will lead to more effective management of air traffic flows, reducing congestion and delays while maintaining safety and efficiency.

4.25 The adoption of the CANSO Air Traffic Flow Management Data Exchange Network for the Americas (CADENA) has been a pivotal step in advancing ATFM capabilities in the NAM/CAR Regions. The task force's endorsement of CADENA as a cornerstone of regional collaboration underscores the importance of shared information in optimizing air traffic flow. Continued utilization and development of CADENA will not only support current ATFM operations but also lay the groundwork for future innovations, ensuring that the region remains at the forefront of global air traffic management practices.

Status of the SAR provision in the NAM/CAR Regions

4.26 WP/15 presented the progress made by the Search and Rescue Implementation Task Force (SAR/TF) since its previous progress report.

4.27 The Fifth NACC/WG SAR/TF Meeting (NACC/WG/SAR/TF/5) was held at the ICAO NACC Regional Office from 23 to 27 September 2024.

4.28 During the NACC/WG/SAR/TF/5 Meeting, the Task Force assessed the status of SAR implementation in the NAM/CAR Regions, taking as a reference the results of the ICAO Universal Safety Oversight Audit Programme (USOAP). According to the USOAP, the Effective Implementation (EI) of the SAR area in the CAR Region is 54%. The Secretariat used this as a reference to identify the main challenges of SAR coordination in the CAR Region.

4.29 The last States audited in the NAM/CAR Regions were Canada (June 2023, SAR EI 81.25%), Belize (December 2023, SAR EI 6.25%), the Organization of Eastern Caribbean States (OECS) comprised by Antigua and Barbuda, Dominica, Grenada, Saint Lucia, Saint Kitts and Nevis, and Saint Vincent and the Grenadines (December 2023, SAR EI 37.25%), Mexico (February 2024, SAR EI 18.75%) and United States (July 2024, SAR EI 81.25%).

4.30 As for the assessment of the SAR service provision in the CAR Region, the main challenges identified are the following:

1. Lack of organization of SAR services in accordance with the requirements of Annex 12.
    - 9 States of the CAR Region have not made arrangements for the establishment and provision of SAR services in their territory or in the areas where these States have assumed responsibility for providing these services.
2. Lack of competent and experienced SAR personnel.
    - 9 States of the CAR Region do not ensure that each Rescue Coordination Centre (RCC) or Rescue Subcentre (RSC) employs sufficient competent personnel for SAR coordination and operations functions.
3. Lack of SAR operational procedures for RCCs and RSCs.
    - 8 CAR States have not established an RCC or RSC in each SAR Region, in accordance with the responsibility they have assumed through regional air navigation agreements.
4. Lack of SAR agreements.
    - 13 States in the CAR Region do not ensure that their SAR organizations coordinate their operations with the SAR organizations of neighbouring States.
5. Lack of SAR exercises.
    - 11 States in the CAR Region do not ensure that SAR personnel are regularly trained and that SAR exercises (SAREX) are periodically conducted.

Evaluation of the SAR Basic Building Blocks (BBBs)

4.31 The CAR/SAM Air Navigation Plan assigns the responsibility for the establishment of RCCs in the CAR Region to Cuba, Central American States through Curacao, Dominican Republic, Haiti, Jamaica, Trinidad and Tobago, United States and COCESNA. According to the USOAP Haiti, Mexico and Trinidad and Tobago, do not comply with the requirements for the establishment of the RCC. Some of these RCCs have never been visited by an outside entity. The Task Force requested the support of the United Kingdom Coast Guard and United States Coast Guard to visit all RCCs of the CAR Region to have an independent and objective assessment of the services being provided.

Implementation of the Global Aeronautical Distress and Safety System (GADSS)

4.32 The Task Force discussed the operational availability of the Location of an Aircraft in Distress Repository (LADR) and reminded air traffic services (ATS) units responsible for the management of a FIR or portion thereof and RCCs responsible for the coordination of search and rescue services to subscribe to the LADR following the guidelines of the State Letter ref. AN 11/1.1.29-24/16 dated 25 June 2024.

COMMUNICATIONS, NAVIGATION AND SURVEILLANCE

4.33 Under WP/17, it was discussed that the Communications Task Force (COMM/TF) for the period of 2023-2024 focused on supporting the bidding process for Project RLA22801, the Caribbean Air Navigation Services Network (CANSNET), while closely monitoring the performance of the Improvements to the ATS Voice Link (MEVA) III network.

4.34 During the 39 COMM/TF meeting, the performance of the MEVA III network over the past year was reviewed, identifying the need for improved service interruption procedures.

4.35 A notable issue was the discontinuation of the MEVA III node in Bogotá, Colombia, which impacted voice communications between Colombia and Caribbean States. A decision was made to explore alternatives for restoring these communications via nodes in Tegucigalpa, Honduras.

4.36 In the 40th meeting, the technical, operational, and financial criteria of the CANSNET project were finalized based on the winning company's proposal. Member States and organizations then confirmed their requirements for the implementation of the new network.

4.37 The COMM/TF also contributed to the regional analysis of Navigation Systems (NAVS) and supported the creation of a multidisciplinary group to address regulatory models for unmanned aircraft systems, which was in line with ICAO standards.

4.38 Key actions for the COMM/TF include maintaining MEVA III services until the transition to CANSNET, supporting the implementation of Annex 10, Volume VI, and completing the integration of the Aeronautical message handling system (AMHS).

4.39 The meeting concluded with suggested actions to review the presented information and continue supporting the regional implementation of these initiatives

FREQUENCIES

4.40 Under WP/18, the Frequency Task Force (FREQ/TF) activities were presented following up on its 2023-2024 work plan.

4.41 Strategic objectives were established, including creating a regional project and updating the aeronautical frequency assignment. During the meeting, the need to raise awareness about the

management of the aeronautical spectrum was emphasized, following the conclusions of the GREPECAS/21 meeting. The FREQ/TF completed the update of the ICAO COM Lists 2 and 3, and the states of the MEVA III network designated their Points of Contact for frequency management. The first official FREQ/TF meeting took place on May 22, 2024, where the results of World Radiocommunication Conference (WRC)-23 and preparations for WRC-27 were discussed.

4.42 Four steps for the preparation process were defined, and it was recommended that new software be studied to enhance frequency management. The FREQ/TF also proposed creating an Ad hoc Group to evaluate Annex 10 Vol. VI regarding communication systems in remotely piloted aircraft. The FREQ/TF action plan for 2024-2025 includes finalizing the Terms of Reference, following up on the Frequency Finder, and coordinating additional training.

4.43 Participants were invited to consider this information and suggest any necessary actions.

SURVEILLANCE

4.44 Under the WP/19 working paper, the document updates the Surveillance Task Force (Surv TF) developments. The task force has been working according to previously approved Terms of Reference, updating its action plan to focus on key areas aligned with GREPECAS and ICAO's GANP.

4.45 The paper highlights a virtual meeting held on May 24, 2024, for the ICAO NAM/CAR/SAM regions to discuss reviewing and implementing an Automatic Dependent Surveillance-Broadcast (ADS-B) regulation.

4.46 The meeting showcased the harmonized regulatory work done by COCESNA and its member states, which can serve as a model for other NACC member States.

4.47 Representatives from 11 States participated in the hybrid-format meeting. A follow-up meeting in Mexico City, Mexico, from 1-7 August 2024, addressed industry concerns and collaborated on surveillance regulation, with discussions on developing an ADS-B analysis tool.

4.48 The SURV/TF plans to leverage the work done by COCESNA to create a regional template for ADS-B regulation. The paper invites further discussions on these matters during the meeting

4.49 Under the WP/20, presented by United States, the document outlines the recent and upcoming activities of the ICAO Surveillance Panel. The panel's work, carried out through its Aeronautical and Airborne Surveillance Working Groups (ASWG and AIRBWG), aligns with the goals of safety and air navigation efficiency.

4.50 Key discussions include the development of performance-based surveillance requirements through the Performance-Based Surveillance Sub-Group (PBSSG), which updated a draft manual on surveillance systems. Meetings held in 2024, both in Ottawa and Montreal, further addressed technical specifications and regulations for surveillance technologies such as ADS-B and Mode-S systems.

4.51 The Surveillance Panel continues to work on updates to ICAO documentation, including proposals for amending Annex 10 Volume IV and preparing revisions to other documents. Collaborative efforts are ongoing, with participation from states and international organizations.

4.52 Future meetings are scheduled through 2027, focusing on refining surveillance systems and addressing compatibility issues with emerging technologies like LDACS.

E/CAR/NTG/12 - E/CAR/RD/10

4.53 Under WP/23, presented by Trinidad and Tobago, conclusions, decisions, and action plan of previous meetings (E/CAR/NTG/12 - E/CAR/RD/10) were tracked. The summary highlights key decisions regarding the improvement of maintenance processes and communication networks in the E/CAR region, offering specific recommendations and updates.

4.54 Several conclusions and decisions, such as enhancing communication networks, forming ad-hoc groups for project proposals, and updating monitoring mechanisms, were underscored. The group also addressed initiatives to improve regional air navigation efficiency, safety, and environmental sustainability.

4.55 Progress on the implementation of ADS-B/Wide Area Multilateration System (WAM) systems and upgrades to the regional VHF/AMS communications system was shared. The meeting participants were invited to review these developments and incorporate necessary activities into their work plans to ensure continued advancements in air traffic management and communication infrastructure across the region (WP/23).

4.56 Under WP/25 and P/09, critical issues in AIM that affect the safety and efficiency of air navigation in the CAR/SAM Regions were highlighted. Key points addressed include:

1. **Lack of Trigger NOTAM Publication:** The absence of timely Trigger NOTAMs for AIP (Aeronautical Information Publication) supplements makes it challenging for airlines to ensure they have the most current and accurate data for flight operations. This can compromise safety and efficiency as AIP supplements often do not adhere to the AIRAC cycle and are sometimes hidden on websites or only available in paper form. Additionally, Trigger NOTAMs have a short duration of 14 days, whereas AIP supplements typically have a longer duration, leading to a situation where relevant information may not be effectively communicated to users.

2. **Absence of English Versions of AIPs:** In some States, the lack of English versions of essential aeronautical information, particularly AIPs, affects flight planning and safety. Airport briefings, which are essential for pilots, often become incomplete or unavailable due to this issue, potentially leading to significant risks during operations, especially in unfamiliar territories.

3. **Digital Aeronautical Information Products:** There is a strong necessity for digital aeronautical information as the aviation industry shifts from paper-based to digital systems. The availability of free, web-based digital products is crucial for effective air navigation and should not involve subscription fees.

4.57 The document emphasizes compliance with ICAO standards, which mandate the timely and accurate dissemination of aeronautical information. Suggested actions include urging states to improve their systems for publishing trigger NOTAMs, ensure that AIPs are available in English, and provide access to digital information without subscriptions.

4.58 Under WP/26, the COMM/TF Rapporteur presented a summary of tests carried out by Cuba, jointly with other States/Organizations, to demonstrate the interoperability of the systems of all parties in the exchange of operational meteorological information (OPMET) data under the ICAO Weather Information Exchange Model (IWXXM) on the Aeronautical message handling system (AMHS).

4.59 The COMM/TF Rapporteur emphasized that the interoperability tests are crucial during the implementation process to check the capacity of the AMHS centres involved handling File Transfer Body Part (FTBP), as defined in the AMHS extended service level, and to identify errors in the validity and conformity of the XML exchanged with the IWXXM model.

4.60 The testing procedures were grouped into phases, defined by their objectives:

Phase	Objectives to comply
I	Demonstrate the ability of AMHS centres to successfully exchange messages containing a File Transfer Body Part (FTBP).
II	Demonstrate the ability to generate compressed XML files from OPMET TAC messages, which will be sent using the AMHS message FTBP under the profile for the exchange of meteorological data encoded according to the IWXXM model.
III	Demonstrate the validity and correct conformation, according to the IWXXM 3.0.0 model, of the generated XML files.

4.61 The Meeting centred around:

- The use of XML and GML formats in IWXXM allows for more efficient and comprehensive data sharing, improving safety and efficiency for both Aircraft Operators and Air Navigation Service Providers.
- The need to accelerate the implementation of OPMET exchange under IWXXM
- The best implementation is IWXXM generated at the source: Aerodrome meteorological offices (AMO), Meteorological Watch Offices (MWO), but IWXXM converted from TAC reports is better than no IWXXM.

4.62 Based on the deliberations, the Meeting formulated the following:

CONCLUSION **NACC/WG/09/05**	**IMPLEMENTATION OF OPMET EXCHANGE UNDER IWXXM**
What: That the COMM/TF prepare a report on: a) the AMHS FTBP capabilities of the NAM CAR States, and, b) the implementation capabilities for source-generated IWXXM by the NACC/WG/10 Meeting.	**Expected impact:** ☐ Political / Global ☐ Inter-regional ☐ Economic ☐ Environmental ☒ Operational/Technical
Why: Given the requirement for FTBP capabilities within AMHS systems to exchange under IWXXM, it is needed to assess the status and capabilities of States in the NAM CAR regions. This information will enable the development of the interoperability tests for the exchange of OPMET data over AMHS according to the IWXXM model to support States in meeting the IWXXM requirements.	
When: In the NACC/WG/10 Meeting	**Status:** ☒ Valid / ☐ Superseded / ☐ Completed
Who: ☐ States ☐ ICAO ☒ Other: COMM/TF	

ATM-Contingencies

4.63 The Secretariat presented IP/02 to provide information on the outcomes from the Fourth NAM/CAR Regional Contingency and Emergency Planning and Response Meeting (NAM/CAR/CONT/4) and the Special Implementation Project (SIP) to enhance the regional guidance material for ATM contingency planning.

4.64 The NAM/CAR/CONT/4 was held on-line, on 28 May 2024 to review the ICAO requirements for ATS contingency planning, and it provided information regarding regional agreements for contingency planning and updated the results of the Twenty-first Meeting of the Caribbean and South American Regions Planning and Implementation Group (GREPECAS/21), held in Santo Domingo, Dominican Republic, from 15 to 17 November 2023.

4.65 To comply with GREPECAS/21 Decision 09 – ACTIONS TO STRENGTHEN CONTINGENCY PLANNING IN THE CAR/SAM REGIONS, and to be able to strengthen the planning and preparation of States in contingency and crisis management, a SIP was approved by the ICAO Air Navigation Bureau to develop guidance material for ATM contingency planning, to enhance regional guidance for Level 1 (internal State plans dealing with internal/domestic coordination actions for the ANSPs) and Level 2 (bilateral contingency plans involving two or more States) contingency plans.

4.66 The first deliverable of the project is complete thanks to the support of the Air Navigation Cuban Company (Empresa Cubana de Navegación Aérea (ECNA)) and the coordination of the Civil Aeronautics Cuban Institute (Instituto de Aeronáutica Civil de Cuba (IACC)). The Central American Corporation of Air Navigation Services (COCESNA) provided additional support to enhance the content of the first deliverable.

4.67 This first deliverable includes recommendations to enhance the resiliency of ATS, addressing several key topics to ensure its availability, such as infrastructure, CNS, operational considerations, and other aspects (personnel availability, social unrest, etc.).

4.68 The second project deliverable addresses guidance material for contingency bilateral Letters of Agreement (LoAs) and complements some parts of the first deliverable. The project will be completed in November 2024, and the guidance material will be available to States and included in the GREPECAS Regional Guidance.

NAVIGATION

4.69 Under IP/04, presented by United States, an in-depth analysis of Global Navigation Satellite System (GNSS) interference events, specifically jamming and spoofing, was provided, which are emerging as serious threats to aviation safety and operational efficiency.

4.70 The paper began by highlighting the importance of GNSS, which includes systems like GPS, Galileo, GLONASS, and other providers for providing essential positioning, navigation, and timing services. It explains that intentional interference, whether through jamming (blocking GNSS signals) or spoofing (manipulating signals to provide false data), can severely compromise the safety of flight operations.

4.71 The document delves into such interference's symptoms and operational impacts, noting how aircraft can lose navigation accuracy and synchronization, leading to critical system failures. Key issues discussed include the immediate and noticeable effects of jamming, where aircraft lose GNSS signals, and the more insidious threat of spoofing, where false signals mislead the system while appearing valid, potentially compromising navigation without the crew's awareness. The note provides detailed examples of how both jamming and spoofing affect various avionics systems, causing cascading failures such as inaccurate ADS-B data, spurious alerts, or even loss of Airborne radio telephone communication via satellite (SATCOM) services.

4.72 The document emphasized the need for robust mitigation strategies, suggesting that aviation authorities, ANSPs, pilots, and equipment manufacturers collaborate to address these threats. Proactive measures such as strengthening non-GNSS navigation systems (e.g., Instrument Landing System - ILS, Distance Measuring Equipment DME, VHF omnidirectional radio range -VOR), issuing Notice to Airmen (NOTAMs)) for affected areas, and enhancing real-time reporting and detection mechanisms are critical. The establishment of regional cooperation agreements to share information on interference events is also stressed.

4.73 Furthermore, manufacturers like Boeing have already identified known impacts of GNSS interference on aircraft systems and are working to enhance avionics resilience. Boeing has reported that all its models have experienced some form of GNSS interference, and recovery from such events is not always guaranteed. The document also touches on the importance of updating procedures and improving recovery protocols post-interference.

4.74 In conclusion, the increasing frequency and sophistication of GNSS interference underscore the urgency of adopting comprehensive mitigation strategies and fostering collaborative decision-making processes among aviation stakeholders to safeguard the integrity and safety of aviation operations dependent on GNSS

4.75 Under IP/03, presented by the COMM/TF Rapporteur, the progress of the CANSNET acquisition process was presented. CANSNET was developed to support new data and voice telecommunications services across the Caribbean using an IP-based communication platform.

4.76 The note discusses the final Request for proposal (RFP) approval and the evaluation methodology during the July 2023 MEVA/TMG/38 meeting. The selection process included technical and financial evaluations, with Frequentis emerging as the winning bidder for the CANSNET project.

4.77 Members of CANSNET were invited to review the technical and financial reports, and a final meeting (NACC/WG/COMM/TF/40) confirmed the requested services and commercial terms for each participating State. The signing of contracts by December 2024 will mark the start of the implementation process.

4.78 IP/5 provided an update from Trinidad and Tobago on the Airspace Optimization initiatives within the Piarco FIR. Trinidad and Tobago will continue its initiatives geared towards AO to enhance safety, increase capacity, and improve operational efficiency for all current and future airspace users.

4.79 Ongoing efforts will also focus on collaboration with all adjacent Air Traffic System Units (ATSUs) to maintain a smooth traffic flow in both the upper and lower airspace within the Piarco FIR. Although some Airspace Optimization initiatives may be accomplished by amendments to ATM procedures (for example, LOAs, MoUs, training, etc.), more significant initiatives require CNS investments and subject matter expertise on automated ATM system performance.

4.80 While some States may have internal expertise, e.g., software designers, many States must rely on third-party information. While automated systems may theoretically have the capability to perform certain functions, if those modules or configurations are not included in the original RFP, there may be additional costs to acquire them.

4.81 IP/06 provided an update on the ATFM-related activities undertaken by Trinidad and Tobago within the Piarco FIR and summarized the ATFM activities related to the ICC Cricket World Cup 2024. Although Trinidad and Tobago had anticipated and planned for a significant increase in air traffic demand, a post-operational analysis revealed that air traffic demand was only 3.75% more than the normal (without any special event) traffic figure expected for June. Despite a lower traffic increase than originally projected, Trinidad and Tobago ensured that an Action Plan was in place and that its Air Navigation Services were fully prepared to safely and effectively manage any spikes in demand and/or contingency situations.

4.82 ATFM procedures and Airspace Optimization initiatives work hand in hand to ensure a smooth traffic flow during normal periods and provide a mechanism for continued operations during abnormal situations. The CADENA platform provides an excellent opportunity for CDM and benefits both ANSPs and airline operators. No action is needed or requested. More for awareness in the region to make sure Trinidad and Tobago is aligned with the goals of the region.

4.83 Under IP/09, the Secretariat informed about the Basic Building Blocks (BBB) framework for aerodrome operation services in the CAR Region, highlighting its importance in providing essential services aligned with ICAO standards. The States and Territories in CAR Region comply with around 50% of the BBB. A case study at Costa Rica's Juan Santamaria Airport led to the development of a new BBB checklist to streamline evaluations. The checklist will be reviewed in 2025 to improve aerodrome operations region-wide.

METEOROLOGY

4.84 Under P/08, the MET/TF Rapporteur, supported by the Secretariat, presented the MET/TF's 2023-2024 work plan and proposed work program for 2025. The presentation emphasized the MET/TF commitment to fostering collaboration among the NACC and SAM ICAO Regional Offices, the Expert-Team on Services for Aviation (ET-AVI) Group of the World Meteorological Organization's Regional Association IV, the States' MET Service Providers, and Civil Aviation Authorities (CAAs)-MET Inspectors. A list of key activities and their corresponding outcomes derived from this collaborative work was also presented.

4.85 The presentation highlighted the upcoming changes to the World Area Forecast System (WAFS), which will take effect in November 2024. Additionally, the continuous development of Quantitative Volcanic Ash (QVA) information, scheduled to become operational in November 2025, was emphasized. This information is available in both English and Spanish as part of GREPECAS/22 IP/08.

4.86 The Meeting addressed the guidance for ANS MET inspectors on Meteorological Service Providers' QMS implementation, developed by Costa Rica. It also discussed the verification process established by Cuba to assess compliance with Cuban Aeronautical Regulations and the accuracy and reliability of aeronautical forecasts. Additionally, the meeting reviewed the progress made on the BBBs verification process, designed to collect, process, and monitor the implementation of MET Services across the regions.

4.87 The ongoing coordination with the Volcanic Ash Advisory Centers (VAACs) in Buenos Aires and Washington was emphasized as crucial preparation for the Volcanic Ash Exercise (VOLCEX), scheduled to be held in November 2024 under the leadership of the South American Regional Office (SAM/RO.

4.88 The Meeting discussed the 2025 work program and made the following decision:

<table>
<tr><td colspan="2">DECISION
NACC/WG/09/06 MET/TF 2025 WORK PROGRAM PRIORITIES</td></tr>
<tr><td>What:
That, the following priorities guide the MET/TF' 2025 work programme:

a) Continuation of the MET BBB verification process based on collaboration between CAAs and MET Service Providers.
b) Implementation of a quality management system in MET processes, encompassing Qualifications, competencies, education, and training of meteorological personnel, and Evaluation of the operational accuracy of measurements or observations and forecasts.
c) Exchange of OPMET message information in IWXXM format.
d) Provision of harmonized SIGMET messages.
e) Conduct of a workshop on severe meteorological phenomena and aviation in June 23-27, 2025, in collaboration with the SAM RO and World Meteorological Organization.
f) Organization of the NAM CAR SAM Workshop on Amendment 82 to ICAO Annex 3 (August 26-28, 2025), addressing the implementation of ICAO Doc. 10157 Procedures on Air Navigation Services (PANS-MET).</td><td>Expected impact:
☐ Political / Global
☐ Inter-regional
☐ Economic
☐ Environmental
☒ Operational/Technical</td></tr>
<tr><td colspan="2">Why:
To promote the implementation of MET services as outlined in Annex 3 of the eANPs and within the BBBs and ASBU frameworks. To assess implementation status and monitor MET service performance, enhance States' capabilities for safety oversight of MET Service Providers and identify and address air navigation deficiencies in MET services.</td></tr>
<tr><td>When: NACC/WG/10</td><td>Status: ☒ Valid / ☐ Superseded / ☐ Completed</td></tr>
<tr><td colspan="2">Who: ☒ States ☒ ICAO ☐ Other:</td></tr>
</table>

4.89 Under P/10, valuable insights gleaned from the Cricket World Cup and Hurricane events and preparations for the FIFA World Cup 2026 in North America and the Olympics 2028 in Los Angeles were discussed. It was highlighted that the upcoming World Cup event will be the first ever to be hosted in three different countries, presenting both challenges and opportunities for ATFM duties spanning across Canada, the United States, and Mexico. We look forward to collaborating and leveraging the resources of organizations such as the FAA, CANSO, and CADENA to address these unique challenges.

Agenda Item 5 NACC/WG Work Programme 2024-2025

5.1 Under this Agenda Item, a discussion session was held to define next steps and establish how to proceed and present a final proposal, assign responsibilities, and determine what will be presented to the NACC/WG, especially how to improve operations in the region.

NACC/WG Work Programme

5.2 The discussion of the NACC/WG Work Plan was based on the various documents discussed during the meeting and the recommendations of the Fourteenth Air Navigation Conference, especially the following discussions per recommendation:

5.3 The Fourteenth Air Navigation Conference covered the topics of:

a) Airspace optimization
b) trajectory-based operations
c) airspace classification and promotion of airspace delegation opportunities
d) Special transport operations
e) Operations in upper airspace
f) Ground-based augmentation system and satellite-based augmentation system

5.4 **Recommendation 3.1/1** - Draft 30/10 - Optimized application of longitudinal separation minima. application of longitudinal separations of 55.5 km (30 NM) or less in oceanic and remote airspace, and 19 km (10 NM) or less in other locations.

a. Trinidad and Tobago stated that they have already achieved the reduction of separation to 18 nautical miles in some areas and that it is needed. They need a new analysis to determine where 10 nautical miles is not feasible and why, and work with States to reduce it to 10 nautical miles and see what the minimum separation can be.

b. The State mentioned that they need to define what they need as an Air Navigation Service Provider (ANSP) to move forward from where they are now. This is worth discussing between the CNS infrastructure implementation standpoint and the States to identify the needs of the States and improve the planning of the projects that need to be implemented. see what planning they need to get started.

c. The ATFM/TF Rapporteur mentioned that he fully agreed with the comments of the working group on space optimization and that the discussion would focus on similar topics.

5.5 **Recommendation 3.1/4** – Free route airspace. Collaboration between States to expedite this implementation.

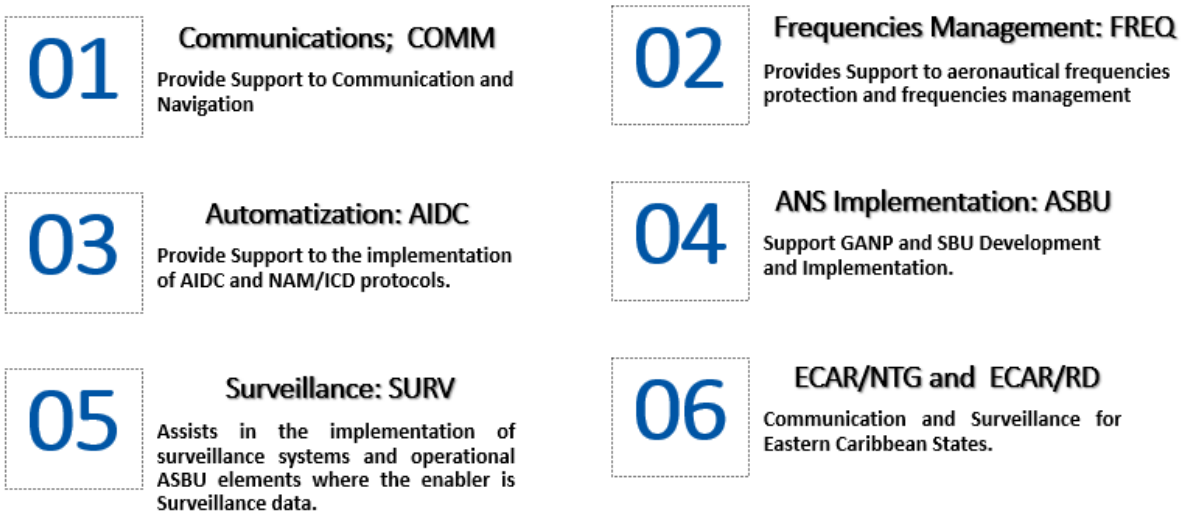
a) The States indicated that for the implementation of this recommendation it is necessary to obtain the results of a comprehensive analysis of the region to study the possibility of developing direct routes where possible.

b) The Secretariat through the AO/TF is working in this implementation.

5.6 **Recommendation 3.2/1** – Gradual retirement and/or optimization of the use of traditional systems. Migration to more modern CNS systems.

a) The Secretariat reported that the CNS Task Forces within the NACC/WG have already updated most of this information:

CNS Task Forces



b) Furthermore, the Secretariat reported that information on implementation in the area of surveillance and communications is already available, and that work is being done in the area of air navigation aid systems and regional frequency management.

c) The States indicated the need to have information on the status of implementation of the regional CNS infrastructure that will allow them to analyse operational improvements that can be implemented with the current infrastructure and define the implementation priorities for the States in future years. In this regard, the following draft conclusion was formulated:

<table>
<tr><td colspan="2">DECISION
NACC/WG/09/07</td><td colspan="2">STATUS OF IMPLEMENTATION IN COMMUNICATIONS, NAVIGATION, SURVEILLANCE AND FREQUENCIES OF THE CAR REGION</td></tr>
<tr><td colspan="3">What:
That, the CNS Task Forces of the NACC/WG develop the implementation status of the CAR infrastructure in operation that allows the NACC/WG to define priorities in terms of implementation and to develop the implementation and operational improvements necessary with the available infrastructure by the NACC/WG/10 as follows,

a) The NACC/WG/SURV and the Eastern Caribbean Radar Data Sharing Ad hoc Group (E/CAR/RD) develop an analysis of the coverage of the surveillance systems available in the region, integrating the technical characteristics and the coverage at different operational levels, and will also indicate the areas in which there is no surveillance data coverage;
b) the COMM/TF and the Eastern Caribbean Network Technical Group Meeting (E/CAR/NTG) present the status of the regional implementations and the capacity of the regional communication systems;
c) the COMM/TF present the information regarding the infrastructure of the air navigation systems; and
d) the NACC/WG/FREQ/TF present updated information on frequencies used in the region.</td><td>Expected impact:
☐ Political / Global
☐ Inter-regional
☐ Economic
☐ Environmental
☐ Operational/Technical</td></tr>
<tr><td colspan="4">Why:
Having the CNSS implementation level is important to define the operational improvements at the regional level that can be implemented at the moment and to identify the priorities.</td></tr>
<tr><td colspan="2">When: NACC/WG/10</td><td colspan="2">Status: ☐ Valid / ☐ Superseded / ☐ Completed</td></tr>
<tr><td colspan="2">Who: ☐ States ☐ ICAO ☒ Other:</td><td colspan="2">COMM/TF, SURV/TF, FREQ/TF, ECAR/NTG and ECAR/RD</td></tr>
</table>

5.7 **Recommendation 3.2/2** – Transition to flight and flow information services for the cooperative environment and cessation of the ICAO 2012 Flight Plan by 2034, requires States to begin working on the implementation of the Flight and Flow Information for a Collaborative Environment (FFI-CE) module.

a) The Secretariat indicated that this topic had been assigned to the AIDC Task Force at the NACC/WG/08 meeting, but that during the years 2023 and 2024 no progress has been made in the activities of this task, likewise the meeting and especially the AIM/TF indicated that this task should be addressed by this Group, which is responsible for the management of aeronautical information. In this regard, the meeting made the following draft Conclusion:

<table>
<tr><td colspan="3">CONCLUSION
NACC/WG/09/08 ACTION PLAN FOR THE IMPLEMENTATION OF THE ASBU FFI-CE MODULE</td></tr>
<tr><td colspan="2">What:
That, the AIM/TF develop an action plan for the implementation of the ASBU FFI-CE Module by the NACC/WG/10 to support the transition to flight and flow information services for the cooperative environment and cessation of the ICAO 2012 Flight Plan by 2034.</td><td>Expected impact:
☐ Political / Global
☐ Inter-regional
☐ Economic
☐ Environmental
☐ Operational/Technical</td></tr>
<tr><td colspan="3">Why:
It is important that the NAM/CAR region manage the steps necessary to successfully achieve the transition.</td></tr>
<tr><td>When: NACC/WG/10</td><td colspan="2">Status: ☐ Valid / ☐ Superseded / ☐ Completed</td></tr>
<tr><td>Who: ☐ States ☐ ICAO ☒ Other:</td><td colspan="2">AIM/TF</td></tr>
</table>

5.8 Recommendation 3.3/1 — Update of the global strategic level of the seventh edition of the Global Air Navigation Plan (GANP, Doc 9750). Approve the new version of the GANP.

a) In this regard, the Secretariat is working in coordination with the ASBU/TF and the Multi-Regional Civil Aviation Assistance Programme (MCAAP) is supporting a regional programme that assists its members in developing and/or updating their Air Navigation Plans.

b) Cuba reported that it has already made progress in updating its Air Navigation Plan, but that at this time there is no Task Force that focuses in a general manner on regional ATM issues.

Considerations to the NACC/WG performance

5.9 Additionally, Cuba indicated that specific projects for the ATM area are approved within the framework of GREPECAS, but these do not exhaustively cover the support required for the implementation of the requirements of Annex 11 – Air Traffic Services.

5.10 Trinidad and Tobago emphasized the need to resume the meetings of the Multidisciplinary Rapporteurs Group to establish regional objectives and establish the planning of the NACC/WG and to better update the NACC/WG work plan, adding that the main problems in the region have already been identified, including the need to harmonize standards of separation and classification of different airspaces as key issues.

5.11 Curacao emphasized the need for the NACC/WG Multidisciplinary Group to meet, to define objectives and work objectives, and to integrate into this Working Group not only the rapporteurs but also key personnel necessary to address air navigation issues.

5.12 United States shared:

a. recognition of the support being provided to regional initiatives led by the ICAO NACC Office.
b) concern about the low participation in this Meeting.
c) that GREPECAS covers projects that cover topics in a very broad and general way and do not necessarily effectively address the needs of the CAR region.
d) that in 2016 there were six task forces and now there are 13. That task forces are created when a problem arises. Some are active and others are not. There are many task forces and many objectives are not being met.
e) that States should not limit themselves to following what the United States says, since the region has different characteristics. He mentioned that we respect what Brazil is doing and how they have helped the region, but the solutions are specific to the states/region. For example, in AIM, smaller States have their KPIs.
f) that it recognizes that collaboration is essential, but not all States have the same capabilities. He added that we have airports with challenges in the airspace. Collaboration is key to moving traffic and people efficiently.

5.13 COCESNA acknowledged ICAO's efforts to unite the region and said that the Meeting should be aware of what it has and will have, that it is useful to have new faces involved and that supports the idea of having working groups. However, if more groups are added, it will be the same people with more work, that is why younger people are need. human resources are also lacking. The idea of more working groups does not help.

5.14 The Chairperson indicated that the region has issues that need to be better addressed, especially those related to regional air navigation deficiencies, but he stressed the need for greater human and financial resources to be able to work regionally on all air navigation issues.

5.15 The Meeting discussed:

a) the need to work more closely on the NAM/CAR regional issues to ensure that the projects approved by GREPECAS are integrated into the NACC/WG work programme. It was also considered necessary for the different NACC/WG task forces to carry out initial work on the operational needs of the CAR Region, to subsequently integrate them into the GREPECAS projects. The Secretariat took note of this task to harmonize the work between NACC/WG and GREPECAS and will take the pertinent actions.

b) that air navigation issues are not widely discussed at the annual NACC Directors' Meeting, so air navigation objectives and activities must be communicated in a manner that decision makers can best assimilate.

5.16 The Secretariat took note of the comments made by States and highlighted the need to establish a solid database, with the continued use of the NACC Dashboards to support regional group decision-making. It also expressed concern about:

a) the lack of capacity in the region to access technical staff in various areas of air navigation; and
b) the lack of input to meetings by States. Most documents, such as working papers and presentations, generally originate from the Secretariat and not from States.

5.17 Under P/08, the Secretariat reported that the MET/TF was created two years ago, which has allowed it to reach out to the States. It is intended to implement a project scheme, but this requires scope, time and resources, which GREPECAS lacks. The MET working group, for example, integrates security and implementation efforts while maintaining the structure of the working group. This should be done virtually or in person.

5.18 Trinidad and Tobago suggested that the NACC/WG should have a small manual so that all States and rapporteurs are on the same page. If a new rapporteur comes tomorrow, he/she will know what has been done and where we are.

5.19 For consideration by the NACC/WG multidisciplinary group:

a) The chair commented that there are things to mention in the conclusions. Some objectives are not included in the task groups, and the terms of reference need to be adjusted, especially the functions of the Multidisciplinary Group.
b) The rapporteurs are a group of leaders, a strategic group. One thing we have learned is that we operate at different levels. The working groups are temporary, with specific objectives. Once the objectives are met, progress can be made. The methodology has changed and the groups have continued to work. Perhaps larger teams are needed. It is a type of architecture that needs to be reviewed and perhaps renamed or redefined.
c) The United States indicated the need to strengthen the work of the multidisciplinary strategic group and identify unmet objectives, continue the process, restructure it and submit a report.
d) Aruba proposed that the multidisciplinary group be called the Multidisciplinary Rapporteur Management Group.

5.20 In this regard, the Secretariat indicated that consideration should be given to evaluating the Group's work plan and updating the terms of reference, the responsibilities of the NACC/WG and how the different Task Groups contribute to achieving regional objectives, taking actions such as:

a) Consolidating the CNS task groups into a single CNSS Group that handles the areas of communications, navigation, surveillance and aeronautical frequency management.

b) The AIDC Task Group has completed its tasks and can be disbanded/closed.

5.21 Based on what was discussed, the meeting agreed on the following decisions:

<table>
<tr><td colspan="3">DECISION
NACC/WG/09/09 ESTABLISH A MORE VERSATILE WORK AGENDA FOR THE NACC/WG MULTIDISCIPLINARY GROUP</td></tr>
<tr><td colspan="2">What:
That, as the need was identified to have periodic meetings of the NACC/WG Multidisciplinary Task Force, made up of the Chair of the Group and the rapporteurs of the different Task Groups, so that, in accordance with the NACC/WG work plan, face-to-face and virtual meetings are held to allow for continuous discussion, analysis of information and decision-making for the benefit of the region, the Secretariat coordinate :

a) a face-to-face meeting of the NACC/WG Multidisciplinary Group be held in 2025 to asses regional objectives and update the NACC/WG action plan prior to the NACC/WG/10 meeting; and

b) virtual meetings that are needed to follow up and provide feedback on the tasks of the different Task Forces.</td><td>Expected impact:
☐ Political / Global
☐ Inter-regional
☐ Economic
☐ Environmental
☐ Operational/Technical</td></tr>
<tr><td colspan="3">Why:
It is necessary to follow up on the NACC/WG work plan efficiently.</td></tr>
<tr><td>When: NACC/WG/10</td><td colspan="2">Status: ☒ Valid / ☐ Superseded / ☐ Completed</td></tr>
<tr><td>Who: ☒ States ☒ ICAO ☒ Other:</td><td colspan="2">The Secretariat, the NACC/WG</td></tr>
</table>

CONCLUSION **NACC/WG/09/10**	**CAR REGION PROJECTS AND ACTIVITIES IN GREPECAS**	
What: That, the NACC/WG Multidisciplinary Group and the Secretariat evaluate the current GREPECAS projects, the objectives defined and desired to be achieved in the projects, and establish the work areas of the NACC/WG that should be reflected in GREPECAS, establish priorities and identify which ones should be worked jointly with the SAM Region by the NACC/WG/10.		**Expected impact:** ☐ Political / Global ☐ Inter-regional ☐ Economic ☐ Environmental ☐ Operational/Technical
Why: The NACC/WG supports the programs and projects approved by GREPECAS, with a focus on the priorities and needs of the CAR Region and the NACC/WG work plan should reflect the objectives and priorities of the CAR Region.		
When:	NACC/WG 2025 Multidisciplinary Group Meeting	**Status:** ☒ Valid / ☐ Superseded / ☐ Completed
Who:	☐ States ☐ ICAO ☒ Other:	NACC/WG Multidisciplinary Group

DECISION **NACC/WG/09/11**	**NACC/WG STRUCTURE UPDATE**	
What: That, the NACC/WG approve that: a) all Task Forces (COM, SURV, FREQ CNS, etc.) be consolidated into a single Task Force, denoted as CNSS/TF, which will integrate all the tasks of these areas with an action plan; b) the AIDC Task Force be disbanded for having completed its work; c) the Secretariat present a new version of the NACC/WG structure for the next meeting of rapporteurs/Multidisciplinary Group in 2025.		**Expected impact:** ☐ Political / Global ☐ Inter-regional ☐ Economic ☐ Environmental ☐ Operational/Technical
Why: The NACC/WG structure must respond to the actions necessary to complete the regional objectives and must be updated according to the new challenges that arise.		
When:	NACC/WG 2025 Multidisciplinary Group Meeting	**Status:** ☐ Valid / ☐ Superseded / ☐ Completed
Who:	☐ States ☐ ICAO ☐ Other:	NACC/WG

5.22 The Chairperson thanked everyone for their contributions and feedback on the performance of the NACC/WG.

Agenda Item 6 Other Business

6.1 Under P/04, the BBBS were presented, which form the foundation of any solid air navigation system. According to ICAO standards, these elements identify the essential services that must be provided to international civil aviation, covering areas such as aerodromes, air traffic management, search and rescue, meteorology, and information management.

6.2 Key Elements and Evaluation:

- The BBBs establish the foundation to ensure a solid global air navigation system. The evaluation of these services is integrated into the methodology for identifying deficiencies in regional air navigation plans.
- Services Evaluated:

    1. Meteorological services
    2. Aeronautical information services
    3. Search and rescue services
    4. Air traffic management (ATM) services
    5. Aerodrome operation
    6. Necessary infrastructure (CNS) to provide all these services.

6.3 Regional Strategy:

- As part of the development of air navigation plans in CAR region states, it is crucial to identify the status of BBB implementation and prioritize regional deficiencies. These services are considered essential, and the lack of operation of any of them represents a deficiency that must be addressed.

6.4 Evaluation Results:

- The levels of implementation and deficiencies of the services are presented for countries such as Belize, Costa Rica, El Salvador, Guatemala, Honduras, Nicaragua, and COCESNA, detailing aspects such as:

    1. Aeronautical data: Most countries have implemented pre-flight, post-flight, and cartographic information services.
    2. Alert and INCERFA coordination services: All evaluated countries have correctly established competent authorities and procedures for coordination in emergency situations.

6.5 Conclusions:

- The Central American FIR has implemented 100% of the mandatory BBB services, but some areas for improvement were identified in:

1. Meteorological services
2. Aeronautical information services
3. Search and rescue services

- Additionally, ATM services show strengths, including the operation of ASBU elements from Blocks 0 and 1. The CNS infrastructure is also highlighted, although there are some weaknesses in managing aeronautical frequencies.

6.6 Under P/07 the AIM/TF Rapporteur emphasized the crucial role of AIM competencies in ensuring a safe and efficient aviation system. It accentuated that AIM personnel must possess the required knowledge, skills, and abilities as specified in ICAO documents, including Annex 15, Doc 8126, and PANS-AIM (Doc 10066). The discussion emphasized the need for Competency-Based Training and Assessment (CBTA), which focuses on performance standards and ensures that AIM professionals are adequately equipped for their tasks.

6.7 Additionally, the presentation presented a detailed overview of the competencies required across various functions related to or being supported by AIM, such as Flight Dispatchers, Air Traffic Controllers, Cartographers and ICT Specialists, emphasizing the interconnectedness of these roles. A significant concern raised was the absence of standardized competency requirements, which could compromise aviation safety and efficiency. The adoption of a global AIM competency framework is deemed vital for addressing these issues and ensuring the effective provision of aviation services.

6.8 The presentation concluded with a strong statement emphasizing that having skilled and competent AIM experts is not just a goal but a necessity for the safety and efficiency of the global aviation system.

6.9 Under P/12, COCESNA introduced and thoroughly discussed the Central American Air Traffic Control Centers Modernization Project. This ambitious project aims to modernize the region's ATM systems, thereby enhancing the efficiency, safety, and coordination of air operations. The project's objectives, scope, phases, and anticipated benefits were analyzed.

6.10 Regarding objectives and scope, COCESNA indicated that the project seeks to standardize ATM systems, implementing the latest technologies and functionalities to improve system performance and capabilities. Additionally, the project foresees training for technical and operational personnel to ensure the efficient and safe operation of the new systems. The project's scope includes updating ATM systems, voice communication systems, and voice recorders, with improvements in areas such as 4D trajectory-based operations, flexible use of airspace, cybersecurity, and data analysis tools.

6.11 Among the highlights, COCESNA emphasized that to ensure the project's success, constant communication among all stakeholders, fostering the participation of Member States, ensuring adequate staff training, and establishing mechanisms for monitoring and evaluating progress are essential. With proper planning and the commitment of all, the project is expected to significantly improve the safety and efficiency of air navigation in the Central American subregion.

6.12 The Meeting thanked COCESNA for the presentation and for sharing experiences and best practices. The need to analyze the feasibility of integrating relevant meteorological information into ATM systems was also mentioned.

6.13 Under P/13, the Secretariat introduced the different Task Forces within the ANS field and highlighted their work during 2024.

6.14 Under P/14, CANSO, as the Voice of Air Traffic Management, presented a comprehensive roadmap for the future of Advanced Air Mobility (AAM), outlining five key stages of development. The initial phase focuses on short-term applications in urban and remote areas, leveraging existing infrastructure. As AAM matures, dedicated airspace and advanced technologies will be introduced to support high-density operations.

6.15 The roadmap also addressed challenges such as deconfliction, public acceptance, and safety regulations. To ensure a successful transition to AAM, the industry must invest in research and development, cultivate a skilled workforce, and foster stakeholder collaboration. By proactively addressing these areas, the aviation industry can play a vital role in shaping the future of aviation and ensuring a safe, efficient, and sustainable AAM ecosystem.

6.16 The Meeting acknowledged the presentation and highlighted that CANSO, as a key member of ICAO, plays a pivotal role in shaping the future of AAM. By working collaboratively with industry stakeholders and regulatory bodies under the ICAO, CANSO can leverage the organization's global reach, expertise, and standards to promote the safe and efficient integration of AAM into the existing aviation system.

APPENDIX
Recommendations

Agenda Item 1: Update on the ICAO 2023-2025 Business Plan and long-term strategic planning

Realignment of the ICAO 2023-2025 Business Plan

1.1 **Recommendation 1.1/1** — Support the programmatic approach to ICAO business planning initiated with the 2023-2025 Business Plan, priority areas of interest. This recommendation invites States to include in their planning the priorities identified by ICAO Member States and ICAO itself. To work with the different stakeholders in the inclusion of these goals in their planning.

1.2 **Recommendation 1.1/2** — Resilience of the air navigation system.

- That States:

a) implement airspace optimization initiatives covered by ICAO provisions, such as air traffic flow management, flexible use of airspace and civil-military cooperation;

b) exchange information in advance on known and anticipated disruptions;

1.3 **Recommendation 1.2/1** — Work to improve the harmonization of the Global Aviation Safety Plan (GASP) and the Global Air Navigation Plan (GANP). That they review and incorporate changes to the GASP and GANP that will be integrated into the Assembly in 2025.

1.4 **Recommendation 1.3/1** — Evolution of the Technical Commission of the ICAO Assembly.

That States prepare their participation, including the submission of working papers to the Technical Committee of the 42nd session of the Assembly, focusing in particular on issues related to the Global Aviation Safety Plan, the Global Air Navigation Plan, new Assembly resolutions and amendments to existing resolutions.

Agenda Item 2: Timely and safe use of new technologies

Evolving aircraft technologies contributing to the LTAG (Long-Term Global Goal).

1.5 **Recommendation 2.1/1** - Evolving aircraft technologies contributing to the Long-Term Ambitious Goal. That States in collaboration with industry, assess the compatibility of existing aerodrome infrastructure and operational procedures with new aircraft technologies and identify changes required to achieve their full integration.

Safety risks associated with the evolution of evolving aviation technologies

1.6 **Recommendation 2.2/1** — Safety risks associated with new and evolving aviation technologies and concepts. Enhance the exchange of information, challenges, regulatory approaches and best practices with relevant ICAO expert groups, symposia and conferences regarding the safe introduction of new and evolving aviation technologies and concepts.

1.7 **Recommendation 2.2/2** – Interference to the global navigation satellite system and contingency planning. That States ensure that effective mitigation measures for radio frequency interference to the global navigation satellite system are implemented.

1.8 **Recommendation 2.3/1** – Draft 2026-2028 edition of the Global Aviation Safety Plan (GASP, Doc 10004). That States agree to include the proposed objectives and targets in the draft 2026-2028 edition of the Global Aviation Safety Plan (GASP).

1.9 **Recommendation 2.3/2** – Turbulence episodes as a global safety risk. That States exchange experiences and best practices in relation to turbulence episodes; and b) establish mechanisms to improve the availability of special Aero notifications.

Agenda Item 3: Air Navigation System Performance Improvements

Proposals to improve the efficiency of air navigation services contributing to the LTAG

1.10 Under this agenda the Fourteenth Air Navigation Conference covered the topics of:

a) Airspace optimization
b) Trajectory-based operations
c) Airspace classification and promotion of airspace delegation opportunities
d) Special transport operations
e) Upper airspace operations
f) Ground-based augmentation system and satellite-based augmentation system

And provided the following recommendations:

1.11 **Recommendation 3.1/1** - Draft 30/10 - Optimized application of longitudinal separation minima. Application of longitudinal separations of 55.5 km (30 NM) or less in oceanic and remote airspace, and 19 km (10 NM) or less elsewhere.

1.12 **Recommendation 3.1/2** - Study on the feasibility of establishing an ICAO air navigation efficiency programme.

1.13 **Recommendation 3.1/3** - Facilitate the successful deployment of trajectory-based operations. States and regions should facilitate this implementation.

1.14 **Recommendation 3.1/4** – Free route airspace. Collaboration between States to expedite this implementation.

1.15 **Recommendation 3.1/5** – Delegation of responsibility for the provision of air traffic services. That ICAO develop a framework to assist States considering delegating responsibility for the provision of air traffic services.

1.16 **Recommendation 3.1/6** – Safe integration of space transport operations into the airspace system. Collaborate with Member States and international organizations to identify, compile and publish best practices.

1.17 **Recommendation 3.1/7** – Upper airspace operations.

Phase-out of legacy systems

1.18 **Recommendation 3.2/1** – Phase-out and/or optimize the use of legacy systems. Migration to more modern CNS systems.

1.19 **Recommendation 3.2/2** – Transition to flight and flow information services for the cooperative environment and cessation of the ICAO 2012 Flight Plan by 2034.

Eighth edition of the Global Air Navigation Plan (GANP)

1.20 **Recommendation 3.3/1** — Update of the global strategic level of the seventh edition of the Global Air Navigation Plan (GANP, Doc 9750). Approve the new version of the GANP.

1.21 **Recommendation 3.3/2** — Update of the global technical level of the seventh edition of the Global Air Navigation Plan and its regional and national levels. Focus on reducing CO2 emissions.

APPENDIX B

ANS COMPONENT – TASK FORCE	GOAL	REMARKS	INITIATIVES	REQUEST
CNS – SURV, COMM, AIDC	Synchronize and harmonize Communication, Navigation & Surveillance systems across the NAM/CAR/SAM to support the transition to Free Route Airspace (FRA).	The CNS System is the backbone of the ANS system. It is a critical enabler to airspace optimization. A gap analysis of the CNS across the regions should be conducted. Use the analysis to determine the expected baseline for the achievement of regional objectives. Some ANSPs may have more advanced CNS systems, but the region should agree upon the minimum equipment that all ANSPs need to have. A plan can then be developed to help those ANSPs that are currently below the minimum.	• Surveillance data sharing/ redundancy for surveillance • Air/ground and ground/ground Communication back-up/redundancy (e.g. agreement with adjacent States to house transceivers etc.) • Exploration of alternative technologies i.e., Space-based VHF Harmonized ATM systems • Medium Term Conflict Detection (MTCD) capability • AIDC • CPDLC • Servicio automático de información terminal (ATIS) digital	AO/TF requests assistance to: • determine which ANSPs/FIRs have already tested and implemented acceptance of flights on random routes across common boundaries; • determine which ANSPs/FIRs have systems that may be capable of accepting flights on random routes across common boundaries; and • find short-term solutions which may mitigate against system inability to accept flights on random routes across common boundaries.
AIM	Harmonize the methodology for electronic information sharing across the region to support the transition to FRA. Improvements to availability, reliability and integrity.	Information is the blood that flows through the veins of the ANS system. FRA relies on real-time, high integrity data for quick decision making. AIM is very important for predictability. Real time information allows for more efficient decisions. Accuracy affects safety. Availability ensures that the information reaches all the stakeholders that affect the ANS system.	• Harmonization of AIP across the region • Standardizing or eliminating the cost of access to AIP • Reduction of duplicate Filed flight plans (FPLs). • Reduction in FPL errors • More digital information • Ensuring quality management of data • Sharing of digital data	The AO/TF requests assistance to: • agree on a common methodology to publish User Preferred Routes (UPRs) in the AIP; and • develop a common repository for a database on all approved UPRs across the NAM/CAR/SAM Regions so that all stakeholders can easily access the information.

ANS COMPONENT – TASK FORCE	GOAL	REMARKS	INITIATIVES	REQUEST
AGA	Guidelines for improved airport infrastructure and design which facilitate en-route/terminal airspace optimization efforts	Airport operations sometimes negate the efficiency gains provided by improved en-route/terminal airspace designs. Conduct an analysis of busy aerodromes in the region to determine choke spots and provide solutions aimed at improving efficiency.	• Greater collaboration between ANSP/Airlines and Airport operators re airport design, lighting, ground aids (approach) • Increased Airports Collaborative Decision Making (ACDM) • Up to date obstacle analysis	The AO/TF requests assistance to: • Identify the important aspects for connecting the construction impacts of terminal expansions and the closure of runways and taxiways to the infrastructure. • Understanding the priorities of AGA within each state will help the AO/TF fill in any missing milestones to establish a better plan.
MET	Improved harmonization and availability of all MET related data to support the transition to FRA. MET data available in a digital form.	Accurate/real-time MET information is important for both strategic and tactical flight planning. An analysis should be conducted across the region to determine where improvements can be made. Research other regions to determine if there are things that this region can follow. In some states, the absence of a dedicated meteorologist on staff leads to a reliance on non-meteorologists and internet sources for weather-related information. This can result in variations in weather reporting.	• Standardization of weather reports • Volcanic ash representations must be the same globally • Weather forecast and updates need to be given from an aviation perspective • Airline collaboration with ANSP on the acquisition of weather products • Special weather reports (SPECI) requirements. Should temperature change be included as a reason for SPECI issuance?	The AO/TF requests assistance to: • The AO/TF proposed standardization process is a collaborative effort that aims to understand and address the variations in weather reporting across states. It is planned to conduct a survey that will involve all stakeholders, ensuring a more uniform approach. The goal is to present a weather report in a consistent and easily understandable format.