



Agenda Item 2: Review of air navigation matters
2.2 NAM/CAR Regional Air Navigation Implementation Plan

**SUMMARY OF THE NORTH AMERICAN, CENTRAL AMERICAN
AND CARIBBEAN WORKING GROUP (NACC/WG)
DEVELOPMENT AND RESULTS**

(Presented by the Secretariat)

SUMMARY	
This paper presents a summary of activities being carried out in the NAM/CAR Regions as part of the work and actions of the North American, Central American and Caribbean Working Group (NACC/WG) for the implementation of air navigation systems.	
References: <ul style="list-style-type: none">• CAR/WG/1 Meeting Report (later renamed NACC/WG) (Port-of-Spain, Trinidad and Tobago, June 2007)• NACC/WG/2 Meeting Report (Ocho Rios, Jamaica, May 2008)• ALLPIRG/5 Meeting Report (Montreal, March 2006)• GREPECAS/14 Meeting Report (Costa Rica, April 2007)• NACC/DCA/3 Meeting Report (Punta Cana, Dominican Republic, September 2009)	
Strategic Objectives	<i>This information paper is related to Strategic Objectives A and D.</i>

1. Introduction

1.1 The Fifth Meeting of the ALLPIRG/Advisory Group (ALLPIRG/5) held in Montreal from 23 to 24 March 2006, agreed to adopt an approach based on the development of their work and take steps to guarantee the harmonization of regional and national work with the ATM Operational Concept, while supporting the ICAO planning and implementation processes and the guidelines set by the ICAO Council. The GREPECAS/14 Meeting, through Conclusion 14/51, adopted the approach of the ALLPIRG/5 Meeting to harmonize the ATM regional work programme.

1.2 In this sense, and in accordance with the guidelines set by different meetings of CAR Region Directors of Civil Aviation, the need to harmonize work programmes for air navigation services infrastructure implementation in the NAM and CAR Regions through a regional working group was identified.

1.3 In order to harmonize work programmes for air navigation services infrastructure implementation in the NAM and CAR Regions, the North American, Central American and Caribbean Working Group (NACC/WG) was established in 2007.

1.4 As a result from the analysis of the summary of activities carried out in the NAM/CAR Regions by the NACC/WG during its two meetings, regarding the implementation of air navigation systems, the Third Meeting of North American, Central American and Caribbean Directors of Civil Aviation (NACC/DCA/3) approved through Decision NACC/DCA/3/2 – *Approval of the North American, Central American and Caribbean Working Group (NACC/WG)* the terms of reference, work programme and conclusions proposed for this working group.

1.5 In this regard, a summary and results of the NACC/WG/2 Meeting are presented for the consideration of the subregional working groups.

2. Meetings of the NAM/CAR Regions Working Group

2.1 The First Meeting of the Caribbean Working Group (CAR/WG/1) was held in Port-of-Spain, Trinidad and Tobago, from 21 to 23 June 2007. The Meeting was attended by 42 participants from 12 States/Territories of the CAR Region, 1 State from the SAM Region and 3 International Organizations.

2.2 The Twenty First Meeting of Directors of Civil Aviation of the Eastern Caribbean (E/CAR DCA/21) and the Ninth Meeting of Directors of Civil Aviation of the Central Caribbean (C/CAR/DCA/9) approved CAR/WG/1 Conclusion 1/1 and agreed to prepare an air navigation system regional implementation action plan that will be periodically assessed and will include the possible resource allocation and budgetary adjustments for all parties involved. The E/CAR DCA/21 Meeting, through its Conclusion 21/7, also requested ICAO to develop a rotational list for NACC Working Group Meetings.

2.3 The Meeting noted that in spite of the fact that some States have initiated preparation of their national plans, such as NextGen of the United States, these have been prepared in different implementation formats. It is therefore necessary to harmonize the plans that contain medium and long term tasks to facilitate implementation of interoperable air navigation services (ANS) in the NAM/CAR Regions. The long term tasks would be progressively incorporated in accordance with the guidelines contained in ICAO Doc 9750 – *Global Air Navigation Plan*.

2.4 With these guidelines, the CAR/WG/1 Meeting initiated the task to harmonize the work programme for implementation of air navigation services infrastructure in the NAM and CAR Regions. **Appendix A** includes a summary of the work and issues addressed at this Meeting. The status of outstanding conclusions of the CAR/WG/1 Meeting is contained in Appendix B to WP/17 of this Meeting.

2.5 It was also agreed to change the name of the working group to reflect the integral participation of both NAM and CAR Regions; therefore, the name of the group was changed from CAR/WG to NACC/WG.

2.6 The Second Meeting of the North American, Central American and Caribbean Working Group (NACC/WG/2) was held in Ocho Rios, Jamaica from 12 to 16 May 2008. The Meeting was attended by 54 participants of 14 States/Territories of the NAM/CAR Regions, 1 State from the SAM Region and 3 International Organizations. **Appendix B** includes a summary of the work and issues dealt by this Meeting. The status of outstanding conclusions of the NACC/WG/2 Meeting is contained in Appendix B to WP/17 of this Meeting.

2.7 The relevant conclusions and considerations of the NACC/WG will be dealt with under the agenda items related to the NAM/CAR Regional Implementation Plan and the follow-up on the relevant outstanding conclusions.

APPENDIX A

CAR WG/1 MEETING SUMMARY

Agenda Item 1: General Matters

1.1 Valid Conclusions/Decisions of Previous DGCA CAP C/CAR WG, C/CAR DCA, E/CAR WG, E/CAR DCA Meetings

1.1.1 Under this Agenda Item, the Meeting reviewed the status of compliance of outstanding conclusions of previous meetings of Central and Eastern Caribbean Working Groups, Directors of Civil Aviation. Regarding the Conclusions from the 92nd Meeting of Directors of Civil Aviation of Central America and Panama, the Meeting was unable to review these Conclusions due to the fact that Central American States and COCESNA were not represented at the Meeting.

1.2 Review of the Status of Air Navigation Deficiencies

1.2.1 The Meeting took note that:

- not all States have provided their action plans to resolve air navigation deficiencies to the Regional Offices, thus resulting in a lack of updates by States/Territories in the GANDD
- the potential of the GREPECAS database on air navigation deficiencies (GANDD), which is available electronically on the NACC website, has not been taken advantage by the majority of States, in some cases, this is due to lack of staff responsible for coordinating this issue in States/Territories. The Meeting recalled GREPECAS Conclusion 14/59, which states the requirement to have a National Coordinator responsible for updating the GREPECAS Air Navigation Deficiencies Database (GANDD).
- since the ICAO Council approved the implementation of the Uniform Methodology for the identification, assessment and reporting of air navigation deficiencies in 2001, several changes have been introduced that impact the regional process for the reporting and resolution of air navigation deficiencies. Therefore, it is necessary to promote new measures aimed at supporting States in resolving their deficiencies and establishing dates for solution implementation.

1.3 Analysis of ICAO and GREPECAS Guidance on Global, Inter and Intra-Regional Air Navigation Activities

1.3.1 The Meeting took note that in accordance with GREPECAS guidelines, from now on each state and working group in the CAR Region will be required to develop an action plan to exercise their conclusions. This action plan will be evaluated, including corresponding budgetary adjustments and resource allocation, according to the action plan adopted by GREPECAS conclusions. In reassessing the terms of reference for all the working groups in the CAR Region, the ICAO NACC Office is developing a common approach in order to align their work programmes with the Strategic Objectives of the Organisation, and has programmed a comprehensive regional consultation with the Civil Aviation Authorities to conclude the review of the terms of reference for all the aforementioned groups by mid-2008. Considering the above, the Meeting adopted *Draft Conclusion 1/1 – Implementation of Air Navigation Systems in the CAR Region*.

1.3.2 The Secretariat presented information on the Worldwide Symposium on Performance of the Air Navigation System held at ICAO Headquarters from 26 to 30 March 2007, which dealt with issues related to safety, fiscal and management efficiency; it also covered technical aspects of the air navigation system. In this respect, States should, at a minimum, encourage their ANSPs to measure performance in the areas of safety, quality of service, productivity and cost-effectiveness based on the optional guidelines included in guidance material included in the *Performance Management and Measurement for Air Navigation Services Providers*, available on the Symposium's website.

Agenda Item 2

ATM Developments

2.1 Follow-Up on the Implementation Strategies and Activities Related to the ATM Performance Objectives of the Second Amendment of the Global Plan (Doc 9750) and the Corresponding Initiatives

2.1.1 The Meeting was presented with the ATM performance objectives approved by the GREPECAS/14 Meeting for States, Territories and International Organisations to develop their own national action plans or work programmes. Each performance objective describes expected benefits and their connection to ICAO strategic objectives, tasks designated in accordance with ICAO Doc 9854, and regional activities of the work programme to be completed in the short and medium-term. This includes a description of strategic tasks and their relationship with the GPIs. The performance objectives will be used as the foundation to organise work, ensuring that the activities undertaken in the CAR Region will be harmonised with the NAT, NAM, and SAM regional work programmes, in order to implement a seamless global ATM system.

2.1.2 The Meeting created a regional ATM Task Force in the CAR Region with the purpose of analysing the optimisation of the airspace and ATS route structure. The group is based on operational requirements and customer needs, reviewing and assessing the current ATM structure, identifying the roadmap related areas of improvement and development, and aimed at achieving a seamless ATM system in the CAR Region. To this effect, the meeting adopted *Draft Conclusion 1/2 – Creation of a CAR ATM Task Force*.

2.2 Follow-up on regional activities and implementation relating to airspace organisation and management (AOM)

2.2.1 It was determined that the Caribbean Region still requires improvement with current airspace fragmentation; it also requires harmonisation of the diverse national system and improvement with airspace segregation for military use, which often prevents optimum use of airspace, thus limiting the system's capability to meet operational demand. It was also considered that States should increase their efforts to optimise and redesign route structures and airspace to accommodate current systems, while ensuring that emerging systems and new technological solutions can be integrated into the air navigation infrastructure. The goal is to achieve transparent functions, procedures and operations in different airspaces.

2.2.2 Considering ICAO's goal as the basis to limit or reduce fuel emissions, States were reminded of the responsibility to analyse the impact that air transport has on global climate. This entails firm actions in order to review and improve ATS areas and routes structures, airspace operational management, and airports with a promotion of flight planning and flexible tracks, RNAV and RNP continental airspace implementation, continuous descent approach implementation, delay and airport noise reduction, etc.

2.2.3 The Meeting was informed on the activities of the WATRS Plus Project and the RNP 10 implementation with 50 NM of lateral separation and ATS route redesign in the WATRS airspace is foreseen for 5 June 2008. The meeting agreed on ***Draft Conclusion 1/3 – Endorsement of WATRS Plus Project.***

2.2.4 It is evident that with the implementation of RNP, there is a close connection between the criteria for the design of en-route and terminal area operational procedures and airspace and the assurance that only those aircraft, systems, and operators with certified performance be authorised to conduct such operations. When operational risk assessment requirements, as well as national regulations for PBN approval of aircraft and operators are being developed, it is advisable to consider the guidance and operational criteria developed by ICAO. Also, it is important that States/Territories/International Organisations use all possible resources for training air traffic controllers and pilots, bearing in mind future implementation of this concept in the CAR/SAM Regions and in accordance with the PBN Roadmap approved by GREPECAS/14, which establish short-term (until 2010) and medium-term (2011-2015) to prepare their own action plan implementation.

2.3 Follow-up on activities relating to Air Traffic Flow Management implementation (ATFM)

2.3.1 Based on the strategy and work programme approved by the GREPECAS/14 Meeting for ATFM service implementation, an action plan was presented so that States, Territories and International Organisations can develop their ATFM implementation plan in the CAR Region. The Meeting took note that in order to ensure capacity, ATS providers are required to develop a 5-year plan that includes sufficient competent staff in order to provide safe, regular and efficient services. ATS capacity analysis should be mainly focused on workload studies caused by air operations, as well as on necessary measures to balance the demand of these operations and the service provided.

2.3.2 The Meeting dealt with the Collaborative Decision Making (CDM) concept and issues related with ATFM operations, indicating that the stakeholders should use all possible means and electronic instruments available that will allow them to analyse different scenarios presented, and they should coordinate initiatives agreed upon in order to balance demand and capacity. Teleconferences have proven to be an excellent media to ensure the participation of all parties involved.

Regional Contingency Procedures: The Meeting was informed of the activities undertaken by the *Hurricane Hunters – Aircraft Flight Operations* under the call signs TEAL & NOAA. As the Hurricane Hunters area of operation includes the Caribbean, Gulf of Mexico, Central and Eastern Pacific, and Western Atlantic, coordination is expected with North American, Central American, and Caribbean States.

2.4 Follow-up on implementation programmes related to Air Traffic Management (ATM) safety management

2.4.1 The Meeting took note that within the implementation activities related to Air Traffic Management (ATM) safety management, the SMS Course stands out. The course is being carried out by ICAO for all the States, Territories and International Organisations who require so for the SMS implementation.

2.5 Follow-up on progress achieved in Search and Rescue

2.5.1 States should adopt solid cooperation measures to provide SAR services from other locations to satisfy sufficient air coverage requirements in the appropriate areas. For the effectiveness of this process, it is of vital importance to ratify and/or develop bilateral and multilateral agreements in order to provide SAR services. The Meeting was of the opinion that this should be reviewed by a specific SAR experts meeting and agreed on *Draft Conclusion 1/4 – Review of the Multilateral SAR Agreement Model*.

Agenda Item 3: CNS Developments

3.1 Follow-up on the status of the E/CAR AFS and MEVA II digital networks and their related inter and intra-regional interconnection/integration

3.1.1 The Meeting took note of some guidelines prepared by ICAO on VSAT networks to establish a basis for planning and basic system design of such network in support of aeronautical ground-ground communications and it followed-up on the development and interconnection/integration status of the Caribbean sub-regional and regional digital networks, namely the MEVA II VSAT Network and the E/CAR Digital Network

3.2 Development of voice and data air-ground communication

3.3 Development of ground-ground communications

Regional Plan for the implementation of air-ground data links

3.3.1 The Meeting took note of the Activities Plan and Regional Programme for the implementation of air – ground data links, which were adopted through GREPECAS Conclusion 13/72. Also, based on Table CNS 2A – *CAR/SAM Regional Plan of the Aeronautical Mobile Service (AMS) and Aeronautical Mobile Satellite Service (AMSS)* of the FASID, recently reviewed by the GREPECAS/14 Meeting. Therefore, the Meeting agreed on *Draft Conclusion 1/5 – Proposal for Amendment to the FASID Table CNS 2A*.

3.3.2 The Meeting took note of the latest status of the ATN SARPs and ICAO guidance material; of the ATN deployment completion in the CAR Region, which should take place after 2015; of the implementation initiatives for ATN ground-ground applications (Table CNS 1BB – *ATN Ground-Ground Applications Plan*); of the AMHS implementation National Plans and the preliminary regional approach for the implementation of the AMHS Internet Protocol, with IPS version IPv4 and IPv6. To this end the meeting agreed on *Draft Conclusion 1/6 – Preliminary Regional Approach for the Implementation of the Internet Protocol for AMHS*.

3.3.3 The establishment and implementation of the Action Plan for the implementation of voice communications and ground-ground and air-ground data was agreed through ***Draft Conclusion 1/7 – Establishment and Implementation of an Action Plan for the Implementation of Required Ground-Ground and Air-Ground Voice and Data Communications.***

3.4 GNSS Implementation

3.4.1 The Meeting took note of the SARPs, amendments to the new SARPs and ICAO guidelines for the progressive implementation of GNSS elements, the Conclusions of the study of cost-allocation for global navigation satellite systems (GNSS) and reviewed FASID, Table CNS 3 that represents the regional plan for navigation systems. For this end, ***Draft Conclusion 1/9 – E/CAR Point-of-Contact for Updating FASID Table CNS 3*** was formulated. Considering GREPECAS Conclusion 14/56 – *Progressive Deactivation of NDB Stations*, the meeting agreed on ***Draft Conclusion 1/8 – Deactivation of NDB Stations in the Eastern Caribbean.*** Follow-up was given to the studies, trials and results of the regional projects related with the GNSS, RLA/00/009 and RLA/03/902 and ***Draft Conclusion 1/10 – Follow-up on GNSS Activities – Cycle 2007-2008*** was formulated.

3.4.2 The Meeting adopted an Action Plan for the follow-up of the GNSS implementation in accordance with ***Draft Conclusion 1/11 – Establishment and Implementation of an Action Plan for GNSS Implementation.***

3.5 Review of the planning and implementation of surveillance systems.

3.6 Radar data sharing among neighbouring ATS units

3.6.1 The Meeting noted Global Air Navigation Plan on data-based surveillance and ICAO SARPs and guidance, the Preliminary Regional strategy for the ADS-C and ADS-B deployment and ADS-B, ADS-C and other surveillance systems Implementation Initiatives was followed-up on by formulating ***Draft Conclusions 1/12 – ADS-C Trials in the CAR Region*** and ***1/13 – Application of Multilateral System as a Surveillance Option.***

Radar data sharing

3.6.2 The Meeting was informed about some considerations on radar data sharing and adopted an Action Plan for the Implementation of Surveillance Systems through ***Draft Conclusion 1/15 – Establishment and Implementation of an Action Plan for Surveillance Systems Implementation.***

3.6.3 The support for the ICAO position for the ITU WRC-2007 was agreed through ***Draft Conclusion 1/16 – Finalising the Regional Preparation and Support to the Updated ICAO Position for the WRC-2007.***

Agenda Item 4: Establishment of interfaces for ATM automated systems between adjacent ATS units

4.1 The Meeting noted that there is at present a high automation level in the control centres; therefore, the States/Territories/International Organisations should continue working according to the Regional Strategy for the Integration of Automated Systems including related activities such as: the integration of automation systems, use of an Interface Control Document (ICD), encouraging the planning and development of human resources and establishing coordination between States / Territories / International Organisations. In this sense the Meeting agreed on ***Draft Conclusion 1/17 – Establishment of an Action Plan for Interface Implementation to Establish ATM Automated Systems among ATS Adjacent Units.***

Agenda Item 5 Other air navigation matters

5.1 The human resources and training planning was analyzed that it was concluded that the lack of personnel affects service capability; therefore, having an adverse impact on safety and efficiency.

5.2 A review of the AIS/MAP – AIM activities was made regarding the main tasks that are still pending and the importance of training AIS/MAP experts from States/Territories/International Organisations. As a result of the follow-up to these AIS/MAP issues, the Meeting formulated ***Draft Conclusion 1/18 - Implementation of an AIS/MAP AIM Action Plan and Participation of Officers in the Seminar on Terrain and Obstacles Electronic Data (e-TOD) and the Follow-up Meeting.***

APPENDIX B

NACC WG/2 MEETING SUMMARY

Agenda Item 1: General Matters

1.1 Valid Conclusions/Decisions of the Previous CAR WG/1 (renamed as the NACC/WG), C/CAR DCA, E/CAR WG, E/CAR DCA and CAP/DCA Meetings

1.1.1 The Meeting reviewed the Conclusions and Decisions in order to update them and keep their number at a minimum consistent with progress achieved.

1.2 Review of the Status of Air Navigation Deficiencies

1.2.1 The Meeting took note that based on the uniform methodology for the identification, assessment and reporting of air navigation deficiencies formulated and updated by the ICAO Council and of the problems to access and update the information contained in the GANDD database posted on the ICAO website. The Secretariat informed that the GANDD is being upgraded to be more user-friendly and easy to use in accordance with GREPECAS recommendations. The Meeting concluded that States should use the GANDD and provide updated information to the ICAO NACC Office.

1.3 Analysis of ICAO and GREPECAS Guidance on Global, Inter and Intra-Regional Air Navigation Activities

1.3.1 The Meeting noted that the objective of the planning tools is to harmonise work programmes, improve report presentation processes and ensure interoperability and transparency among the Regions, as well as ensure the development and measurement of performance objectives.

1.3.2 As follow-up to action plans proposed by the CAR/WG/1 Meeting for States/Territories to develop their national implementation plan, it was recognized that the latter represents a more effective vision for the implementation of infrastructure and air navigation services using resources more efficiently, while orienting action plans towards performance measurement during the implementation process. The objective is to prevent costly data collection and analysis processes. Performance measurement should focus on proactive results from air navigation improvements and environmental benefits that result from work programmes.

Agenda Item 2: ATM Developments

2.1 Follow-up on the Implementation Strategies and Activities Related to the ATM Performance Objectives Approved by GREPECAS

2.1.1 The Meeting reviewed the ATM system planning requirements according to regional action plans for a seamless ATM system, taking into account the work carried out by the C/CAR WG, E/CAR WG and Central America. It was recognized that airspace capacity is still the primary concern for the aviation community as there is increasing demand on capacity and performance of airspace management as traffic growth increases.

2.1.2 It was recognized that achievement of performance of expectations is made possible by:

- services and procedures
- human resources
- physical infrastructure
- systems and technology
- regulation and standardization

2.1.3 Doc 9882 - *Manual on Air Traffic Management System Requirements* reflects the current reality and identifies requirements where a significant change to operating practices will be required. The set of foregoing requirements should be compared with other sources of requirement documentation across the spectrum of operations envisioned in Doc 9854. These requirements should be used by working groups as well as States when developing implementation strategies and plans at regional and national levels. These requirements may be reproduced directly or used in specific component areas to qualify as specific requirements of a particular component.

2.1.4 The Meeting was of the view that States/Territories/International Organizations should consider the development of ATS communication requirements in line with aircraft COM capabilities and identify other traffic flows for similar requirements in conjunction with ATM capabilities.

2.1.5 The Meeting deemed appropriate to foster an initiative to analyze airport capacity as one of the major elements that adversely affects the ATM system and airline operators. Infrastructure in many airports needs to be upgraded in order to meet growing demand with the aim of achieving enhanced handling capacity and reducing frequency congestion. Some initial steps to increase airport capacity are to minimize runway occupancy times and recommend improvements to airport infrastructure and departure procedures. Moreover, close parallel runways and crossing runways at CAR airports, as well as ATC training requirements for these operations, should be developed.

2.2 Follow-up on Regional Activities and Implementation Relating to Airspace Organization and Management (AOM)

2.2.1 The Meeting recognized that CAR Region airspace has a very strategic geographical location at the confluence of ATS routes connecting major destinations and serves as a vital link to smooth traffic flow between major airspaces in NAM and CAR Regions.

2.2.2 Civil commercial, military, general aviation, space research flights, hobby and adventure flying, training flights, and helicopter flights have experienced continuous growth thereby increasing airspace congestion day by day (average annual rate of 3.3%). Available technological innovations provide simpler and more flexible solutions not only for transportation needs, but also for national security and economic development.

2.2.3 It was also recognized that the evolution of ATM tools and procedures has been at a much slower rate in comparison to current day aircraft equipment. In addition, there are many radar and VHF facilities installed that do not always cover a complete area, which reduces their effectiveness in reducing spacing between aircraft in accordance with ICAO standards.

2.2.4 Regarding the improvements to Airspace and Organization Management (AOM), excellent initiatives have been implemented to improve the ATM system such as the WATRS Plus Project, ATM automation and improvements to the network route system to and from the NAM, CAR and SAM Regions (implementation of RNP in the Gulf of Mexico, harmonization of transition altitudes in the Eastern Caribbean, harmonization of airspace classification between adjacent airspaces, and civil-military coordination for flexible use of airspace implementation). With RVSM implementation, NAM and CAR Regions are aligned to cruising levels for IFR/VFR flights in accordance with Appendix 3 to ICAO Annex 2.

2.2.5 Information was provided regarding the progress of the WATRS Plus Project and that a CD of lessons learned will be distributed soon regarding the implementation of this project. Final information for WATRS Plus implementation on 5 June 2008, will be posted on FAA webpage:

http://www.faa.gov/about/office_org/headquarters_offices/ato/service_units/enroute/oceanic/

2.2.6 During the Meeting, several States provided information on actions carried out by them: Mexico informed of its activities with United States to develop a PBN implementation plan in the Gulf of Mexico and invited other States, IATA and COCESNA to join these activities in order to expand the benefits of this implementation to other areas of the Caribbean. Colombia, Haiti, Jamaica and Netherlands Antilles analyzed, in the short term, other options for improving airspace structure and ATS route network; as well as other related FIRs under their jurisdiction.

2.3 Follow-up on Activities Relating to Air Traffic Flow Management Implementation (ATFM)

2.3.1 The Meeting noted ATFM work and coordination accomplished to date between Piarco ACC, Mexico Flow Control Centre (CCFMEX), NAV CANADA National Operations Centre (NOC), and the Federal Aviation Administration Air Traffic Control System Command Center (FAA ATCSCC).

2.3.2 The Meeting identified the necessary elements to include in a regional handbook for the implementation of an ATFM system, such as a regional model for determining: 1) operational procedures; 2) aerodrome acceptance rate (AAR); and 3) enroute sector capacity. Also recommended was the development of a proposal for amendment to Doc 7030 and a regional database including: 1) en-route capacity; 2) apron/parking capacity at aerodromes; 3) AAR (aerodrome acceptance rate); 4) city pair route alternatives for customer use; and 5) identification of regional facilities to serve as host of the daily 1315 UTC Caribbean ATFM telcon. In this sense, ***Draft Conclusion 2/1 – Adoption of a NAM/CAR ATFM Operational Procedures Handbook*** was formulated.

2.4 Follow-up on Implementation Programmes Related to Air Traffic Services (ATS) Safety Management

2.4.1 The Meeting took note of the ICAO SMS training programme, which has detected the necessity to implement other programs such as runway safety (incursions), bird hazard prevention, language proficiency, Normal Operations Safety Surveys (NOSS), and safety performance monitoring and measurement as well as the use of the electronic Accident and Incident Reporting System (ECCAIRS) to verify that the defined level of safety is met and to continue improvements of the safety system.

2.4.2 It was concluded that States should participate in activities organized by the NACC Office for harmonized implementation of SMS with ATS Quality Assurance Programmes developed by the States/Territories/International Organizations of the CAR Region.

2.5 Follow-up on the Progress Achieved in Search and Rescue

2.5.1 The Meeting concluded on the importance to establish a SAR Quality Assurance Programme and adopted *Draft Conclusion 2/2 – Development of National SAR Services Quality Assurance Programme*.

2.6 Follow-up on ATS Contingency Plans

2.6.1 It was considered necessary to have coordination measures for hurricanes and volcanic ash procedures be disseminated among pilots and controllers for homogeneous application in the CAR Region. The Meeting also considered it necessary that these procedures be included as an attachment to contingency plans, and that they should be provided to ATFM units, ATS units and other units/agencies, as applicable, within the coordination agreements. Therefore, *Draft Conclusion 2/3 – Implementation of Additional Coordination Procedures for Hurricanes and Volcanic Ash* was adopted.

2.6.2 Follow-up was given to contingency plans and the importance of their coordination with all parties involved in order to apply proper contingency measures and that they be prepared in accordance with the format approved by GREPECAS and to coordinate them together with the ICAO NACC Office in order to have the ATS Contingency Plans Catalogue duly updated and harmonised between adjacent FIRs.

Agenda Item 3: CNS Developments

3.1 Follow-up on the Status of the Eastern Caribbean (E/CAR) Aeronautical Fixed Service (AFS) and MEVA II Digital Networks and their Related Inter and Intra-Regional Interconnection/Integration

3.1.1 The use of digital networks, both in the implementation of new networks and updating of existing ones, must consider the use of technology available in the industry, offering greater efficiency and providing the desired services with the required performance and interoperability to keep adequate safety levels at minimum cost, as expressed in GPI-22 of the Global Air Navigation Plan – *Communication Network Infrastructure*.

3.1.2 The Meeting was informed that after the first year of the MEVA Network upgrade, the results achieved were found highly satisfactory; the progress of the Action Plan for the Implementation of MEVA II and REDDIG Interconnection was also informed.

3.2 Follow-up on the Action Plan for the Implementation of Voice and Data Air-Ground Communication

3.3 Follow-up Activities for the Implementation of Ground-Ground Communications

3.2.1 The Secretariat informed the Meeting regarding the SARPs development status and ICAO guidance material related to voice and data ground-air and ground-ground communications.

3.2.2 Note was taken of the proposal for amendment to the ANP FASID: *Aeronautical Mobile Service and AMSS* (Table CNS 2A), the *AFTN Plan* (Table CNS 1A), the *ATS Direct Speech Circuits Plan* (Table CNS 1C), and the *CAR/SAM Regional Plan of Ground-Ground Applications* (Table CNS 1Bb). Based on the update of the Aeronautical Mobile Service Plan and AMSS, and in accordance with the agreements made by the CAR/WG/1, the Meeting anticipated that the air-ground data links would be implemented after 2015.

3.2.3 Information was provided of the work of ATN Task Force, where several aspects regarding the AMHS, the transition from IPv4 to IPv6 and the updating of the *CAR/SAM regional Plan of ATN routers* (Table CNS 1Ba) will be addressed. In addition, it was informed that the CAR/SAM Regional Plan of air-ground applications (Table CNS 1Bc) would be completed at a later date.

3.2.4 As part of the regional planning for the AMHS system implementation in the region, the Meeting reviewed and took note of the ICAO registry for the addresses and management domain identifiers that will be used in the air traffic services message handling system (ATSMHS), which are based on the guidelines and instructions sent by the Secretary General State Letter Ref. SP 54/1-03/39, dated 30 May 2003.

3.4 Follow up to GNSS Implementation and Action Plan

3.4.1 The Meeting took note of the considerations, the amendments to the SARPs and references for the GNSS Implementation Action Plan.

3.4.2 It was mentioned that based on CAR/WG/1 Conclusion 1/9, ICAO requested States, though letter Ref. EMX0102 dated 31 January 2008, to designate a point-of-contact to update Table CNS3 and provide comments and amendments.

3.4.3 Addressing GREPECAS Conclusion 14/56 – *Progressive Deactivation of NDB Stations*, the Secretariat presented, for review by the Meeting, an inventory of existing NDB equipment within the Region (Appendix to WP/15); information was obtained from:

- List No. 1 – List of Facilities operating on Frequencies in the LF/MF Band (190-1750 KHz);
- available information of Table CNS 3 of the ANP, VOL II (FASID), Doc 8733; and
- information published by States in their AIPs and other aeronautical publications.

3.4.4 Therefore, the Meeting took note that the ICAO NACC Regional Office expects to obtain information and comments related to the inventory of existing NDB equipment for the progressive deactivation of NDB stations no later than **20 June 2008**. Dominican Republic, Haiti, Jamaica and Netherlands Antilles provided some comments on inventory.

3.4.5 The Meeting followed-up on the activities and results of regional GNSS projects - RLA/00/009 and RLA/03/902.

3.5 Review of the Planning and Implementation of Surveillance Systems and Follow-up to their Respective Action Plan(s)

3.5.1 The Secretariat informed the Meeting regarding the ICAO SARPs and guidance material and references for the Surveillance Systems Implementation Action Plan.

3.5.2 The Surveillance Task Force Rapporteur informed the Meeting about the progress accomplished with the unified regional strategy for implementation of surveillance systems and the list of activities that States/Territories/International Organizations have to consider for the implementation of ADS-B trials. Likewise, several States provided information regarding their surveillance systems activities and trials such as the United States who informed of the benefits from future use of ADS-B, and that they can assist CAR/SAM States by providing both technical expertise and a contract vehicle for procuring turn-key surveillance services; Trinidad and Tobago with their future MLAT/ADS-C/ADS-B; implementation plans; Cuba informed that they concluded the ADS-B data collection phase and their plans to renew their radars and COCESNA, who informed of their ADS-B data collection activities, as well as the current capabilities in the CENAMER Control Centre for ADS-C and CPDLC functionalities.

3.6 Surveillance Data Exchange and Sharing

3.6.1 The Meeting noted the coverage of current radar systems operating in the region. The Meeting was informed of radar data sharing activities being carried out by States/Territories/International Organizations:

- Mexico and COCESNA have signed a technical co-operation agreement for radar data exchange, especially the Belize and Cancun radar systems. Likewise, information was received on radar data sharing coordination carried out between Cayman Islands and COCESNA as part of the existing co-operation agreement between both administrations.
- Data sharing between Bahamas, Bermuda, Canada and United States.
- Radar data exchange in Central America among the States and COCESNA: Niktun (Guatemala) radar, Managua and Bluefields (Nicaragua) radar, Monte Crudo (Honduras) radar and Mata de Caña (Costa Rica) radar, as well as radar data sharing for operational use (radar data from Monte Crudo at the Toncontin Airport in Honduras and radar data from Mata de Caña at the Juan Santa Maria airport in Costa Rica).
- Radar data sharing between COCESNA and Cayman Islands, as well as between COCESNA (Puerto Cabezas radar) and Panama.
- The beginning of a project for the exchange of radar data between Cuba, Jamaica and COCESNA.
- Coordination for radar data exchange between Trinidad and Tobago and French Antilles and Barbados.
- The modernization of the radar system installed in San Jose, Costa Rica.

3.6.2 Based on radar coverage and the information provided during the Meeting, the participants identified several radar data sharing arrangements that could be carried out including Dominican Republic with Haiti, Colombia/Venezuela with Netherlands Antilles, among others. Likewise, the Meeting noted the existence of communication means and capabilities for this radar data exchange through the regional digital networks.

3.6.3 Currently, several CAR Region States/Territories/International Organizations have achieved significant progress with ATM automation, including considerable processing capacity and several available automated functionalities, which together with surveillance data sharing would result in operational safety and efficiency benefits, airspace optimization and mutual backup between adjacent ATS units, significantly improving airspace management harmonization.

3.6.4 The Meeting was informed that other regions have experience with both radar data and ADS-B data surveillance data sharing as is the case of Australia and Singapore, who have developed a letter of agreement sample; and it was agreed to take into consideration this information for ADS-B related activities.

3.7 Other Communications Matters

3.7.1 The satisfactory results accomplished at the WRC-2007 regarding the ICAO position were noted. Likewise, the Meeting was informed that ICAO, through its Aeronautical Communications Panel (ACP), is working on the preparation of aspects and considerations for the forthcoming WRC-2011 Meeting, urging States/Territories/International Organizations to support and take action once the position for WRC-2011 is informed.

3.7.2 It was also informed that the update of the following radio frequency lists, *List N° 1 – List of Facilities Operating on Frequencies in the LF/MF Band (190-1750 kHz)*; *List N° 2 – Record of VHF Frequency Assignments to Caribbean VOR and ILS Radio Navigation Aids*; and *List N° 3 – Record of VHF Frequency Assignments in the Band 117.975-137.000 MHz*. The lists are available for reference on the ICAO NACC Office website (<http://www.icao.int/nacc/>) under the **Radio Frequency Assignment Lists** link. The Meeting agreed to notify the NACC Regional Office of any discrepancies and update or confirm the information contained in the lists before **20 June 2008**.

Agenda Item 4: Establishment of Interfaces for ATM Automated Systems between Adjacent ATS Units

4.1 In this regard, the *Strategy for the Integration of ATM Automated Systems*, and that GREPECAS Conclusion 14/43 – *Agreements for ATM Automated Systems Interface*, was noted by the Meeting. Also considered were:

- guidelines contained in Doc 4444 on procedures related to coordination to be carried out by air traffic service units, between control positions within such units, between such units and associated aeronautical telecommunication stations, and the types of messages and their contents to be used for operational communications between ATS unit computer systems. The current flight plan (CPL) is referred to within the coordination messages.
- the capabilities of current digital networks and the number of control centres and ATS units in the Region that have been modernized allowing for greater data processing capacity with the implementation of flight data processing systems (FDPS), radar processing (RDP), support systems, message display systems, message switching, and prevention and enhanced safety tools (MSAW, DAIW, MTCA, etc.).
- The availability of surveillance data from radar and non radar data sources could be useful in improving service accuracy, availability and safety in the Region.

4.2 Information was provided about the problems caused by multiple/duplicate flight plans for ATS service providers. It was agreed that this problem is global and that the active participation of all parties involved as well as increased ATM automation will reduce this problem, therefore, the Meeting adopted ***Draft Conclusion 2/4 – Actions to Avoid Duplication of Flight Plans.***

4.3 The Secretariat provided information related to a new proposal for amendment to the ICAO flight plan provisions contained in the *Procedures for Air Navigation Services - Air Traffic Management* (PANS-ATM, Doc 4444). The proposal was sent on 25 May 2007, by the Secretary General to Contracting States and appropriate International Organizations through State Letter AN 13/2.5-07/35. Expectations are that the proposal will be in force November 2012. The amendment provides new information on the ICAO model flight plan format and associated operational practices to meet future aircraft needs with advanced capabilities and the evolving requirements of automated air traffic management systems, while taking into account compatibility with existing systems, human factors, training, cost and transition aspects.

4.4 It was acknowledged that in many cases, the current organizational structure of ANS in several States neither allows specialized personnel to carry out the functions in dispatch positions and flight control nor supervise safety oversight of operators and service providers. For this reason, it was considered that human resource planning and training is needed for dispatch officers to properly perform their functions.

4.5 The United States informed the Meeting on the assignment of preferential routes based on flight plan information in preparation for the implementation of the En Route Automation Modernization (ERAM) system, as well as implementation benefits of AIDC application.

Agenda Item 5: AIS (AIM) Developments and Follow-up

5.1 Follow-Up to Activities and Regional Implementation Related to the Objectives of Aeronautical Information Services AIS/MAP (AIM)

5.1.1 The Meeting reviewed the main outstanding tasks from the GREPECAS AIS/MAP/SG/10 Work Programme and several updates and comments were provided by States:

- a) Trinidad and Tobago asked for ICAO support to coordinate with Venezuela regarding Task 1;
- b) the AIS/MAP meeting has been rescheduled to be held in Trinidad and Tobago in the second quarter of 2009; and
- c) COCESNA informed the Meeting on progress related to AIS/MAP (AIM) aspects and development including:
 - RNAV / RNP Procedures, Central American AIP
 - COCESNA AIS Quality Certification
 - Central American AIS Automation
 - e-TOD Seminar
 - AIS/MAP Training
 - Planning of future AIM training

5.1.2 Se invitó a la revisión de las Conclusiones del GREPECAS afines al AIM y a actualizaciones a las tablas AIS del FASID.

5.2 Implementation of e-TOD

5.2.1 The Meeting took note of the need to provide appropriate follow-up to the requirements of ICAO Annex 15, Chapter 10, concerning State provision of electronic terrain and obstacle data within the deadline established in GREPECAS Conclusion 14/40. The Secretariat informed that ICAO is developing a technical co-operation project to develop AIS and MET fields, in accordance with GREPECAS conclusions and Directors General Meetings in the CAR Region. This project is expected to be presented at the NACC/DCA/3 Meeting in September 2008, in Dominican Republic.

5.2.2 The Meeting unanimously considered that an integrated technical co-operation project for the entire CAR Region was highly important in order to assist States with the development and implementation of state-of-the-art air navigation systems for the aerodrome and safety fields in line with the needs of global aviation. The Meeting identified that the project should include:

- a) an analysis to determine CNS/ATM elements required by each involved State/Territory/International Organization;
- b) a study to improve the air navigation services fee collection process; and
- c) the implementation of specific action plans in line with ANP requirements and resolving deficiencies.

5.2.3 Furthermore, considering that there are significant needs in the CAR Region, the Meeting requested that the Secretariat include human resources, training and cost-benefit analysis planning aspects in the technical co-operation project. Likewise, the Meeting considered that participation in the project should be extended to all CAR Region States/Territories as participating members of the project as opposed to individual States/Territories.

Agenda Item 6: AGA Developments and Follow-up

6.1 Follow-up to Activities and Regional Implementation Related to Emergency Plans and Emergency Operations Centres

6.1.1 Information was provided on the Seminar/Workshop on Emergency Plans and Emergency Operations Centres (EOCs) for English speaking States/Territories scheduled for the last quarter of 2008.

6.2 Follow-up to Activities and Implementation Related to Airport Certification and Safety Management Systems (SMS)

6.1.2 The Secretariat informed the Meeting of the minimal reply to surveys on aerodrome certification and safety management systems, and the importance of replying to the surveys for proper analysis by the GREPECAS AGA/AOP/SG urging to complete and submit the information requested to the ICAO NACC Regional Office by **30 August 2008**.

6.3 Follow-up to Activities on the Analysis of Runway End Safety Areas (RESAs) and Runway Strips

6.3.1 The lack of response to the surveys sent to States/Territories on the analysis of runway end safety areas (RESA), and runway strips deficiencies and the importance of responses for proper analysis by the task forces of the AGA/AOP/SG was noted. In this regard, the Meeting urged States/Territories that have not yet replied to the survey to send their information to the ICAO NACC Regional Office.

Agenda Item 7: Terms of Reference and Work Programme

7.1 In view of the foregoing, the Meeting reviewed the NACC/WG terms of reference. It was concluded that tasks and action plans agreed to by the CAR/WG/1 should be incorporated into a single format designated as the NAM/CAR Implementation Plan that will serve as a guide for the North American, Central American and Caribbean working groups. It was also concluded that these groups should continue their own implementation tasks in line with the particular needs of the involved FIRs. The Meeting requested that the Secretariat present this work for approval by the NACC/DCA/3 Meeting. Therefore, *Draft Conclusion 2/5 – Terms of Reference and Work Programme of the North American, Central American and Caribbean Working Group (NACC/WG) and NAM/CAR Implementation Plan* was formulated.

Agenda Item 8: Other Air Navigation Matters

8.1 The Secretariat presented information on ICAO electronic tools, which will facilitate the coordination and implementation of regional air navigation plans and support the Global Air Navigation Plan with an electronic version of the Air Navigation Plan (eANP).

8.2 The Meeting recalled the amendment to ICAO Annex 6 (4.3.4.3), which details the implementation of international flight operations without having to include an alternate aerodrome. Currently, several airlines are authorized by their civil aviation authorities to function with no destination alternate airport.