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WORKING PAPER

NACC/WG/5 — WP/09  
21/04/17

**Fifth North American, Central American and Caribbean Working Group Meeting (NACC/WG/5)**  
Port of Spain, Trinidad and Tobago, 22-26 May 2017

**Agenda Item 3: Implementation on Air Navigation Matters**  
**3.3 ANI/WG Progress on AIM, ATM and CNS**

**PROGRESS OF THE NAM/CAR AIR NAVIGATION IMPLEMENTATION WORKING GROUP (ANI/WG)**

(Presented by ANI/WG Chairman)

<b>EXECUTIVE SUMMARY</b>	
This working paper presents the progress achieved by the NAM/CAR Air Navigation Implementation Working Group (ANI/WG) since their Third Meeting (ANI/WG/3), including the approved action plans.	
<b>Action:</b>	Suggested action under Section 3.
<i>Strategic Objectives:</i>	<ul style="list-style-type: none"><li>• Safety</li><li>• Air Navigation Capacity and Efficiency</li><li>• Security &amp; Facilitation</li><li>• Economic Development of Air Transport</li><li>• Environmental Protection</li></ul>
<i>References:</i>	<ul style="list-style-type: none"><li>• NAM/CAR Regional Performance-Based Air Navigation Implementation Plan (NAM/CAR RPBANIP), Version 3.1</li><li>• Third NAM/CAR Air Navigation Implementation Working Group Meeting (ANI/WG/3)</li><li>• ANI/WG Teleconferences</li></ul>

**1. Introduction**

1.1 The NAM/CAR Air Navigation Implementation Working Group (ANI/WG) was established by Conclusion 4/9 - *Consolidation of Sub-Regional Working Groups in the CAR Region* of the Fourth Meeting of North American, Central American and Caribbean Directors of Civil Aviation (NACC/DCA/4), and approved by the NAM/CAR Directors in 2012, through their respective sub-regional DCA meetings.

1.2 The objective of the ANI/WG is to consolidate the existing sub-regional working groups, reduce the number of meetings, avoid duplication, expedite work progress and improve regional harmonization focused on the air navigation fields of Air Traffic Management (ATM), Communications, Navigation and Surveillance (CNS) and Aeronautical Information Management (AIM).

## 2. Progress of the ANI/WG

2.1 The ANI/WG in accordance with its terms of reference works with all the implementation sub-regional groups.

2.2 During the ANI/WG/03 Meeting, a review of the implementation activities and their follow-up was carried out and the update of the ANI/WG Task Forces respective action plans was approved, and delays and inconveniences faced for the execution of said plans were identified.

2.3 Since the ANI/WG/03 Meeting, the following concerns and planned activities were identified:

- a) **ADS-B:** The last meeting was held last year where the Ad hoc groups on Concept Operational Documents (CONOPS) and Automatic dependent surveillance – broadcast (ADS-B) technical specification, concluded the final versions of both documents. The status of the region with a view to ADS-B implementation, is summarized in the table *State Compliance Task Force ADS-B*, presented in the Working Paper/11 of the ANI/WG/3 Meeting concerning the ADS-B TF progress report.

The ADS-B Task Force (rapporteur) indicated that many States are improving progress in the ADS-B implementation, some of them like, Cuba, Jamaica, Trinidad and Tobago and COCESNA are conducting testing, survey and statistical analysis of the use of ADS-B and the capability of the regional fleet. Other States like Canada, Mexico and United States, are already implementing operational ADS-B in large parts of its airspace.

- b) **AMHS:** The Aeronautical Message Handling System (AMHS) TF updated the Matrix for Implementation of AMHS in the CAR Region and urged the member States to continue updating the Matrix accurately and as soon as possible in order to better schedule testing and implementation. The AMHS TF recalled the amendment to the IPv4 addressing scheme for the Caribbean as Version 1.1. States such as Cuba, Sint Marteen and Trinidad and Tobago have been conducting AMHS interoperability testing. Trinidad and Tobago will only be using the IPv4 Version 1.1 between PIARCO and San Juan.

The TF discussed the establishment of a new working group formed by members from Brazil, Dominican Republic, United States and the CAR/SAM Planning and Implementation Regional Group (GREPECAS) Programme D - *ATN infrastructure in the CAR Region and its ground-ground and ground-air applications*, identifying coordinators for the CAR/SAM Regions in order to explore AMHS potentials and take advantage of its operational use. The new group will work through virtual meetings, will prepare a strategy to ensure AMHS operational use and provide it to the Region as soon as possible. The representative from Brazil needs to be identified; in the meantime, Dominican Republic and United States agreed to start preliminary work for the proposed test plan.

Based on the AMHS TF progress reported in the ANI/WG/3, Draft Conclusion ANI/WG/3/6-*AMHS Implementation Process in the CAR Region* was agreed (see the ANI/WG/3 Meeting Final Report).

- c) **AIDC:** The Air Traffic Services Inter-facility Data Communication (AIDC) TF updated the AIDC Regional Plan and the AIDC Points of Contact (PoCs). The ANI/WG/3 Meeting recognized the importance of keeping the information in the regional plan up to date, as it is the guide to plan testing and implementation between Flight Information Regions (FIRs), as well as to how to concentrate efforts, assign priorities and identify possible conflicts between systems.

The AIDC Task Force activated an Ad hoc Group in order to solve/mitigate problems concerning the Filed Flight Plan (FPL). The group recalled the change of strategy since the last ANI/WG/2 meeting, in which the efforts would be concentrated to one error at a time, beginning with duplication.

Since the last ANI/WG/3 Meeting in April 2016, the AIDC Task Force and the FPL Monitoring Group had a face to face meeting and a teleconference early this year.

Several AIDC implementations were carried out since the last meeting, including Class II interphases between Canada and United States, and Class I between entre Cuba, Nicaragua and COCESNA, others are in the trial phase. Flight plans errors were gathered during the year, which showed a reduction in the duplication of flight plans.

A update of the activities and work programme related to this group will be presented in the corresponding working paper presented by the rapporteur.

- d) **PBN:** The ICAO/IATA/CANSO Performance-Based Navigation (PBN) Harmonization, Modernization and Implementation Meeting for the Caribbean (CAR) Region held from 28 March to 1 April 2016, in Fort Lauderdale, Florida, United States, served as a catalyst to show the progress in understanding and commitment to using PBN and other possible technologies, so the States may harmonize and modernize their air navigation systems.

A Second ICAO/IATA/CANSO Performance-Based Navigation (PBN) Harmonization, Modernization and Implementation Meeting for the Caribbean (CAR) Region (ICAO/IATA/CANSO/PBN/2) was held from 7 to 9 December 2016 in San Jose, Costa Rica to follow-up implementation of PBN routes as agreed in the ANI/WG/3 Meeting. In accordance with the Draft Conclusion ANI/WG/3/4 - *Development of a Proposal for Amendment (PfA) to Doc 8733 – Air Navigation Plan — Caribbean and South American Regions*, presentations from Costa Rica, Cuba, Curacao, Dominican Republic, El Salvador, Guatemala, Mexico, Nicaragua, Trinidad and Tobago, United States and COCESNA were shown. A third meeting is tentatively programmed in July 2017.

The Meeting updated information for the Proposal for Amendment (PfA-1) development to Doc 8733, as included in the ICAO/IATA/CANSO/PBN/2 Final Report, available on the ICAO NACC Regiona Office web page.

- e) **AIM:** Under WP/12, WP/23 and DP/05 of ANI/WG/3 Meeting, the Aeronautical Information Management AIM Task Force presented the progress achieved. Taking into consideration the ANI/WG/1 and ANI/WG/2 meetings, as well as the Fourth North American, Central American and Caribbean Working Group Meeting (NACC/WG/4), and based on the Terms of Reference (ToRs) and the different activities of the AIM Task Force work programme, it was informed on the implementation continuity of the AIM transition by the States and International Organizations.

It was suggested to update information in accordance with the progress reports, outcomes of Seminars/Workshops held by the States and ICAO, as well as the possibility of updating the membership and the AIM Task Force Rapporteur.

The AIM TF discussed on training needs and priorities for the AIM personnel, considering the turnover or retirement of the staff, as well as the technological progress in this area, knowing that courses through the regional instruction centres are available. Therefore, the Draft Conclusion ANI/WG/3/5 - *AIM Training Programmes Update* was proposed. CANSO and IATA representatives suggestion of considering the standardization of PBN chart format and the need for developing reference guidance for the States, for the presentation of the Instrument Approach Chart (IAC) PBN, due to the different versions and information content that is currently published by States (that initially take into account ICAO Cir 336 - *Area Navigation (RNAV) to Required Navigation Performance (RNP) Instrument Approach Chart Depiction* guidelines).

Regarding the updated ToRs and the revised work programme revision, the incorporation of new members, the request to update the membership and review the rapporteur election. Several participant States and with support of the Secretariat proposed Curacao delegate, Mrs. Natasha Leonora-Belefanti, as the new AIM TF rapporteur.

In this regard, a collective appreciation was provided to the outgoing rapporteur, Mr. J. Alfredo Mondragón, COCESNA, who developed an important work on regional transition progress to AIM.

- f) **ATFM:** The Air Traffic Flow Management (ATFM) Task Force focused its activities to emphasize best practices, balancing demand and capacity methodology, and developing a region-wide pre-tactical web conference for all Air Navigation Services Providers (ANSPs) and stakeholders to participate in order to ensure that important information is shared. The TF has held many web meetings to discuss topics such as ATFM Progress in Central America, and an ATFM contingency plan by Trinidad and Tobago, as well as other subjects of interest. These teleconferences have also tried to encourage participation by TF ANSPs.

Cuba, Dominican Republic, Panama and Trinidad and Tobago are participating in many ATFM workshops providing the opportunities to participate in briefings and discuss best practices for ATFM and Collaborative Decision Making (CDM).

An operational teleconference is being held three times a week for the States of the CAR Region. The recommendation is that all States participate in these teleconferences, which would result in valuable information sharing, as well as support CDM practices.

An ATFM survey was conducted, requesting from the Caribbean States information and developing a regional baseline of the current ATFM initiatives in the NAM/CAR Regions. The survey also requested the future ATFM planning activities from the ANSPs. The results of such survey are detailed in the Final Report of ANI/WG3.

A regional implementation group that will focus on the implementation of ATFM capabilities using CDM principles has been established under the umbrella of an agreement signed on 5 March 2016 with the support of United States and CANSO. The purpose of this group is to expedite ATFM/CDM implementation in the CAR Region, FIRs managed by CANSO Latin America and Caribbean members.

2.4 Progress concerning the implementation of the actions plans of the ANI/WG is presented in the ANI/WG webpage. During the meeting, the progress of implementation in accordance with the NAM/CAR Regional Performance-Based Air Navigation Implementation Plan (RPBANIP) will be consolidated and reported through the Air Navigation Report Forms (ANRFs), specifically on the regional targets of each Block 0 ASBU Module to be reviewed by the ANI/WG ASBU Ad Hoc Group.

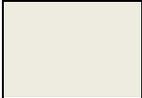
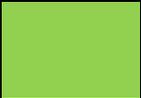
2.5 The ANI/WG website provides further information and details of its third meeting at: <http://www.icao.int/NACC/Pages/nacc-regionalgroups-aniwg.aspx>

### 3. Suggested Actions

3.1 The Meeting is invited to:

- a) note the information presented in this working paper on the progress of the ANI/WG;
- b) update the ANI/WG action plans shown in the **Appendix** to this paper considering the comments and progress presented (including the webpage and the Appendix to this working paper); and
- c) take actions as deemed appropriate.

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Status	Not started/ no iniciado		Lack of progress/ falta de avance		Behind scheduled/ retrasada		Ongoing- as scheduled/ Ok segun programa	
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Revision: June / Junio 2015

## ACTION PLAN FOR PBN IMPLEMENTATION

Task Name/ Tarea	Start/ Inicio	Finish/ Final	Deliverables/ Resultados	Follow-up/ Seguimiento	Responsible/ Responsables	Observations/ Comments- Observaciones/ Comentarios
a) Implement Collaborative Decision-Making (CDM) process in coordination with stakeholders	Abril 2008	Dec 2016	CDM implementation	ATFM/CDM Workshop conducted in 2015. Completed	PBN TF States, Territories, Int. Orgs	
b) Implement PBN Airspace Redesign Project for oceanic, continental and terminal areas in of CAR Region in accordance with the ICAO PBN Manual Doc 9613 and Doc 9992	Abril 2015	Dec 2017	Up-to-date the regional PBN Airspace concept with implementation activities for the period 2015-2017	PBN Workshop conducted in 2015 to update the Regional PBN Airspace Concept	PBN TF States, Territories, Int. Orgs	States to develop a PBN Airspace Redesign Project including: a) revision of regional ATS Route network, b) implementation of CDOs/CCOs c) TMA redesign d) Implementation of PBN approach procedures
c) Analyze GNSS implementation in accordance with PBN airspace concept requirements	Abril 2016	Dec 2018	SACSA Project completed a feasibility study (2015) on the use of GNSS Introduction of GNSS (GBAS and SBAS-Ionosphere matters)	GNSS workshop agreed for 2016	SACCSA Project support / WAAS States, Territories, Int. Orgs	
d) GNSS mitigations Plannings	April 2016	Dec 2018	Mitigation means	GNSS workshop agreed for 2016 RAIM Prediction topic presented in ANI/WG/02 Meeting DW Presentation	States, Territories, Int. Orgs	
e) Develop and implement PBN training programme for pilots, ATCOs, operators and regulators	Abril 2014	Dec 2018	PBN training programme	ICAO PBN Manual includes guidelines to develop training programmes	States, Territories, Int. Orgs	PBN TF to support Training Centers WG to develop PBN training programmes for pilots and controllers
f) Optimize the ATS route structure through implementation of RNAV routes between major city pairs with navigation specification RNAV-5 /2 for en-route operations	Abril 2015	Dec 2017	Develop a proposal for amendment (PFA) to Doc 8733 in Dec 2015	A Workshop on Regional Implementation on Performance-Based Navigation PBN Airspace Redesign was conducted on May 2015 States will submit proposals not later than 31 <sup>st</sup> August 2015	PBN TF States, Territories, Int. Orgs	On-going revision of ATS route network States to send proposals to ICAO NACC Regional Office by 31 <sup>st</sup> August 2015
g) Implement CDOs/CCOs for SIDs/STARS in terminal areas based on RNAV 1-2 and RNP 1-2 navigation specification, as required	Abril 2015	Dec 2016	Implement CDOs/CCOs in TMAs	States continue implementation of CDOs and CCOs	PBN TF States, Territories, Int. Org	
h) Design and implement PBN APV in accordance with Assembly Resolution A37-11	2008	Dec 2016	PBN Instrument Approach Procedures implementations (APV, etc.)	Completed	PBN TF States, Territories, Int. Orgs	
i) Efficient application of longitudinal separation across the NAM/CAR/SAM regions.	Abril 2014	Dec 2017	Analysis of applicable separation minima for transfer traffic between FIRs	ANSPs of States, Territories, Int. Orgs to update existing Letters of Agreement (LOAs) between ATC units	ANSPs of States, Territories, Int. Orgs	PBN TF to support ANSPs While some FIRs were using as low as 5NM in their own airspace, based on existing procedures and LOAs, in most

Task Name/ Tarea	Start/ Inicio	Finish/ Final	Deliverables/ Resultados	Follow-up/ Seguimiento	Responsible/ Responsables	Observations/ Comments- Observaciones/ Comentarios
						cases, ten (10) minutes (80NM) were required for transfer from one FIR to the next.
j) Conduct PBN safety assessment based ATC simulations (fast time and/or real time), live trials, etc., as required	Abril 2014	Dec 2016	States to conduct PBN safety assessment	Completed	PBN TF States, Territories, Int. Orgs	
k) Develop performance measurement programme	2008	Dec 2016	performance measurement programme	PBN Targets have been defined in the RPBANIP and the Port of Spain Declaration as Performance metrics. Completed	States, Territories, Int. Orgs	Reviewed by the NACC/DCA Meetings
l) Develop post-implementation PBN Safety Assessment Programme	2010	Dec 2016	States to conduct post-implementation PBN Safety Assessment	Permanent On going activity conducted by States	States, Territories, Int. Orgs	
m) Monitor implementation progress	2008	Dec 2018	Annual review of PBN implementation	On-going activity conducted by ICAO	ICAO, States, Territories, Int. Orgs	

**ACTION PLAN FOR DEMAND AND CAPACITY MANAGEMENT/  
PLAN DE ACCION PARA DEMANDA Y GESTION DE LA CAPACIDAD**

Task Name/ Tarea	Start/ Inicio	Finish/ Final	Deliverables/ Resultados	Follow-up/ Seguimiento	Responsible/ Responsables	Observations/ Comments- Observaciones/ Comentarios
a) Identify key stakeholders (ATC service providers and users, military authorities, airport authorities, aircraft operators and relevant organizations) for purposes of coordination and cooperation - using a CDM process	Apr 2014	Dec 2016	CDM implementation	completed	ATFM TF States, Territories, Int. Orgs	Coordination with PBN
b) Analyze traffic flow problems	Apr 2014	Dec 2016	Analysis of traffic flows	A Workshop on Air Traffic Flow Management (ATFM) Implementation for the CAR and SAM Regions was conducted in May, 2015. Completed	ATFM TF States, Territories, Int. Orgs	Established 3 traffic flows in CAR Region in coordination with PBN TF
c) Define common elements of situational awareness between FMUs: i. Common traffic displays ii. Common weather displays iii. Communications (teleconferences, web) iv. Daily teleconference/messages methodology advisories	Apr 2014	Dec 2016	Identify common elements of ATM situational awareness between FMUs	To be reviewed by ATFM TF and report progress	ATFM TF States, Territories, Int. Orgs	Being Follow-up by AIDC TF
d) Develop methods to establish demand/capacity forecasting	Apr 2014	Dec 2016	Identify electronic tools to establish demand/capacity forecasting	To be reviewed by ATFM TF and report progress	ATFM TF States, Territories, Int. Orgs	
e) Define common electronic information and databases required for decision support and alerting systems for interoperable situational awareness between centralized ATFM units	Apr 2014	Dec 2016	ATFM common electronic information and databases and alerting systems required	To be reviewed by ATFM TF and report progress	ATFM TF States, Territories, Int. Orgs	Being Follow-up by AIDC TF
f) Develop regional procedures for efficient and optimum use of aerodrome and runway capacity	Apr 2014	Dec 2016	Develop regional procedures for efficient and optimum use of aerodrome and runway capacity	To be reviewed by ATFM TF and report progress	ATFM TF States, Territories, Int. Orgs	
g) Develop a national ATFM Procedures Manual to manage demand/capacity balancing	Apr 2014	Dec 2016	States to publish their national ATFM Manual	ATFM Manual available	GREPECAS	
h) Develop operational agreements between ATFM units for interregional demand/capacity balancing	Apr 2014	Dec 2016	Develop a model of ATFM LOAs	The ICAO Doc 9971 includes a Model of ATFM LOA. Completed	States, Territories, Int. Orgs	
i) Monitor implementation progress	Apr 2014	Dec 2016	Annual review of ATFM implementation	On-going activity conducted by ICAO	ICAO	

**ACTION PLAN FOR FLEXIBLE USE OF AIRSPACE/  
PLAN DE ACCION PARA USO FLEXIBLE DEL ESPACIO AEREO**

Task Name/ Tarea	Start/ Inicio	Finish/ Final	Deliverables/ Resultados	Follow-up/ Seguimiento	Responsible/ Responsables	Observations/ Comments- Observaciones/ Comentarios
a) Establish civil/military coordination bodies	Apr 2014	Dec 2016	civil/military coordination bodies	On-going activity	States, Territories	
b) Arrange for permanent liaison and close cooperation between civil ATS units and appropriate air defence units	Apr 2014	Dec 2016	Permanent liasons	On-going activity	States, Territories	
c) Conduct a regional review of Special Use Airspace: i. assess use of airspace management processes; ii. improve current national airspace management to adjust dynamic changes in tactical stage to traffic flows; and iii. introduce improvements in ground support systems and associated procedures for the extension of FUA with dynamic airspace management processes	Apr 2014	Dec 2016	Special use of Aispace review	A NAM/CAR/SAM Meeting/Workshop to Improve Regional Search and Rescue (SAR) System and Civil/Military Coordination was conducted in Havana, Cuba, 13 to 17 April 2015, several Presentations about FUA were discussed. On-going activity	States, Territories, Int. Orgs, ICAO	
d) implement dynamic ATC sectorization in order to provide the best balance between demand and capacity to respond in real-time to changing situations in traffic flows and to accommodate the preferred routes of users in short-term	Apr 2014	Dec 2018	dynamic ATC sectorization	On-going activity	States, Territories, Int. Orgs, ICAO	
e) Develop performance measurement programme	Apr 2014	Dec 2016	performance measurement programme	On-going activity	States, Territories, Int. Orgs	
f) Monitor implementation progress	Apr 2014	Dec 2016	Annual review of FUA implementation	On-going activity conducted by ICAO	ICAO	

**ACTION PLAN FOR SITUATIONAL AWARENESS IMPROVEMENTS/  
PLAN DE ACCION PARA MEJORAS A LA CONSCIENCIA SITUACIONAL**

Task Name/ Tarea	Start/ Inicio	Finish/ Final	Deliverables/ Resultados	Follow-up/ Seguimiento	Responsible/ Responsables	Observations/ Comments- Observaciones/ Comentarios
a) Identify the automation level required according to the ATM service provided in airspace and international aerodromes, assessing: <ul style="list-style-type: none"> <li>i. Operational architecture design</li> <li>ii. Characteristics and attributes for interoperability</li> <li>iii. Data bases and software</li> <li>iv. Technical requirements</li> </ul>	Abril 2014	Dic 2018	Review status of automation	ongoing	States, Territories, Int. Orgs	
b) Implement flight plan data processing systems and electronic transmission tools	Abril 2014	Dic 2018	Full FPL2012 processing/ no converters Reduced lack/duplicate FPLs	Being Follow-up by AIDC TF	AIDC TF States, Territories, Int. Orgs	ICAO Model 2012 FPL – converters removal plan  Lack/duplicate FPL Action Plan
c) Implement radar data sharing programmes where benefits can be obtained	Abril 2014	Dic 2017	Radar Data Sharing in all continental areas	Radar data sharing Cuba-Jamaica- COCESNA  Radar Data sharing on going in E/CAR	States, Territories, Int. Orgs	Bilateral agreements ECAR Radar Data Sharing Project
d) Develop situational awareness training programmes	Abril 2014	Dic 2018	Identify and inform of training needs	To be reviewed by ADS-B TF and report progress	Training Centers Working Group States, Territories	
e) Identify and implement additional ATM surveillance systems to improve accuracy and coverage of traffic situational information (ADS-B, MLAT, etc.) and associated procedures	Abril 2014	Dic 2018	MLAT implementation  ADS-B Implementation	Progress reported by ADS-B TF Report	ADS-B TF States, Territories	ADS-B Implementation Plan
f) Implement ATS automated message exchanges as required (FPL, CPL, CNL, DLA, etc.)	Abril 2014	Dic 2015	AIDC implementation-initial phase	Progress reported by AIDC TF Report	AIDC TF States, Territories, Int. Orgs	AIDC TF to review target date  Regional AIDC Plan
g) Implement automated radar handoffs where possible	Enero 2016	Dic 2017	AIDC implementation-second phase	Being Follow-up by AIDC TF: currently only phase 1	AIDC TF States, Territories, Int. Orgs	AIDC TF to review target date  Regional AIDC Plan
h) Implement ground and air electronic warnings as needed: <ul style="list-style-type: none"> <li>i. Conflict prediction</li> <li>ii. Terrain proximity</li> <li>iii. MSAW</li> <li>iv. DAIW</li> <li>v. Surveillance system for surface movement</li> </ul>	Abril 2014	Dic 2017	Improvement in electronic alarms / warnings	Need to be reviewed by ADS-B TF and GREPECAS C Project	GREPECAS C Project  States, Territories, Int. Orgs	
i) Implement data link surveillance technologies and applications as required: ADS , CPDLC, AIDC	Abril 2014	Dic 2018	CPDLC/ ADS-C Implementation	Being Follow-up by AIDC TF and ANI/WG RLA/09/801 TEAMS	GOLD TF States, Territories	CPDLC implementation Plan  (IDEM COM g)
j) Implement additional/ advanced automation support tools to increase aeronautical information sharing <ul style="list-style-type: none"> <li>i. ETMS or similar</li> <li>ii. MET information</li> <li>iii. AIS/NOTAM dissemination</li> <li>iv. Surveillance tools to identify airspace sector constraints</li> </ul>	Abril 2014	Dic 2018	Increase Automation applications	Needs from ATFM, MET and AIS to be defined	States, Territories, Int. Orgs	
k) Training in the application and implementation of automated surveillance technologies and ATS	Abril 2014	Dic 2018	Identify and inform of training needs	ADS-B and AIDC TFs to coordinate with CATC/WG	States, Territories	

Task Name/ Tarea	Start/ Inicio	Finish/ Final	Deliverables/ Resultados	Follow-up/ Seguimiento	Responsible/ Responsables	Observations/ Comments- Observaciones/ Comentarios
system automation						
l) Enhance the training infrastructure of the region and the training programmes related to surveillance and automated systems	Abril 2014	Dic 2018	Support training centers and Train Air Plus	ADS-B and AIDC TFs to coordinate with CATC/WG	Training Centers Working Group States, Territories	
m) Implement ACAS 7.1	Abril 2014	Dic 2018	ACAS 7.1 implementation	Not started	States, Territories	
n) Monitor implementation progress	Abril 2014	Dic 2018		ADS-B/ AIDC TFs	ICAO	

**AERONAUTICAL COMMUNICATION ACTION PLAN**  
**PLAN DE ACCION PARA COMUNICACIONES AERONAUTICAS**

Task Name/ Tarea	Start/ Inicio	Finish/ Final	Deliverables/ Resultados	Follow-up/ Seguimiento	Responsible/ Responsables	Observations/ Comments- Observaciones/ Comentarios
a) Review the performance status of current AFS services and identify deficiencies or improvements (AFTN, oral ATS services, A/G communications)	April 2014	Dec 2015	Improvements to A/G Communications Plan	To follow-up Regional AMS Communication Improvement Plan	States, Territories in Plan (Mexico, Jamaica and Haiti)	Identify improvements into Regional AMS Communication Improvement Plan
b) Implement communication service improvements as required to support current and planned Air Navigation applications, including Required Communication Performance (RCPs).	April 2014	Dec 2018	Improvements to A/G Communications Plan RCP application- 2015	No RCP has been implemented	States, Territories	Follow-up Regional AMS Communication Improvement Plan
c) Develop regional ATN planning documents	April 2014	Dec 2015	ATN and applications documents	Completed	GREPECAS Project D AMHS TF	
d) Coordinate and test ATN G-G application implementation aspects (AMHS, AIDC, etc.)	April 2014	Dec 2018	Test G-G Applications	Being track by AMHS and AIDC TFs	AMHS TF AIDC TF States, Territories	Regional AMHS Plan Regional AIDC Plan
e) Conduct planning, trial and implementation activities for A-G data applications (DCL, D-ATIS, etc.)	April 2014	Dec 2018	Update regional plan D-ATIS implementation	Lack of progress	GREPECAS Project D States, Territories	CAR/SAM ANP CNS TABLE 1Bc
f) Carry out technical review of regional telecommunication networks for ATN implementation	April 2014	Dec 2015	MEVA III implementation	Completed	MEVA TMG States, Territories	
g) Implement available technologies in order to facilitate ground and airborne applications (CPDLC, ADS-C, ADS-B)	April 2014	Dec 2018	CPDLC/ ADS-C Implementation	Completed	States, Territories	CPDLC implementation Plan This Task has been concluded by GOLD TF.
h) Implement the necessary communications network for ACDM	April 2015	Dec 2018	Communications for ACDM	Need to be defined by AGA	States, Territories	
i) Support ICAO position during the ITU WRC and ensure regional coordination for the protection of the aviation spectrum	April 2014	Dec 2018	WRC-2015 support WRC-2018 support Support for C- Band	Ongoing work	States, Territories	
j) Ensure participation of civil aviation experts in State delegations to ITU WRC meetings	April 2014	Dec 2018	Participation by States	Ongoing work	States, Territories	
k) Disseminate ICAO policy statements on aeronautical radio frequency spectrum requirements	April 2014	Dec 2018	CAA and National Spectrum Authority coordination	Ongoing work	States, Territories	
l) Implement frequency spectrum management for protection and new services	April 2014	Dec 2018	•Optimum use of frequencies •No interferences	Ongoing work	States, Territories	COM Lists
m) Support training on the application and implementation of advanced communication related technologies and ATN	April 2014	Dec 2018	Identify and inform of training needs	AMHS TF reported training needs, this information was passed to the CATC/WG	States, Territories	
n) Enhance the regional training infrastructure and training programmes related to communications	April 2014	Dec 2018	Support training centers and Train Air Plus	ongoing	Training Centers Working Group States, Territories	
o) Monitor implementation and improvement of telecommunications and ATN application issues	April 2014	Dec 2018	ATN implementation	MEVA TMG	ICAO	

**ACTION PLAN FOR IMPLEMENTATION OF AERONAUTICAL INFORMATION MANAGEMENT (AIM)/  
PLAN DE ACCION PARA LA GESTION DE LA INFORMACION AERONAUTICA (AIM)**

Task Name/ Tarea	Start/ Inicio	Finish/ Final	Deliverables/ Resultados	Follow-up/ Seguimiento	Responsible/ Responsables	Observations/ Comments- Observaciones/ Comentarios
a) Comply with the process to introduce and implement Annex 15 and 4 amendments to the Chicago Convention	April 2014	Dec 2015	Implementation of the Annexes referred AIS and MAP Standards and Requirements	AIM TF to report progress	States / Territories	Comply with all Steps from Phase 1 for the transition to AIM according with ICAO Roadmap for the transition to AIM
b) Periodically report on the generation and distribution of Integrated IAP aeronautical information that improves the safety of ATS in the Region to the ICAO NACC Office	April 2014	Dec 2016	Provide the proper Report requested	Lack of progress	States / Territories	Implement AIM QMS
c) Develop a method to measure the performance and outcomes from States, Territories and international organizations with distribution of quality aeronautical information to improve recognition of ATM requirements, safety, and effectiveness related to the electronic distribution of information	April 2014	Dec 2016	Survey to States / Territories	AIXM defined from NACC/WG AIM TF to report progress	ICAO, GREPECAS	Consider AIXM implementation as basic requirement
d) Assist States, Territories and international organizations to improve decision making related to their transition to AIM	April 2014	Dec 2016	Provide respective guidance material on AIM issues	AIM TF to report progress	ICAO	ANConf/12 Rec 3/6
e) Assist States, Territories and international organizations with the AIM, in order to implement ICAO Standards for aeronautical information products, services, and technologies in electronic format, as required	April 2014	Dec 2018	Identify training needs and Support training centers and Train Air Plus	AIM TF to report progress	ICAO, GREPECAS	Development and implementation of AUTO AIS/AIM project
f) Support AIM developments to achieve the ATM system improvements in the Global Air Traffic Management Operational Concept; including NOTAM contingency plans	April 2014	Dec 2018	Complete implementation of all AIM Transition phases (1 to 3)	AIM TF to report progress	States / Territories	Including all AIM developments associated with SWIM for ASBU Block 1 module B-31
g) Ensure that AIM requirements harmonize and integrate at a regional and international level, on-board electronic management of aeronautical information for the requirements or the use of ground systems	April 2014	Dec 2018	Complete implementation of all AIM Transition phases (1 to 3)	AIM TF to report progress	ICAO States / Territories	Including all AIM developments associated with SWIM for ASBU Block 1 module B-31
h) Share experience and resources with implementation of e-TOD through establishment of an e-TOD regional working group	April 2014	Dec 2018	Prepare and Establish LoAs	AIM TF to report progress	GREPECAS States / Territories	-----
i) Implement ICAO Doc 9881 technical requirements as required	April 2014	Dec 2018	Identify personnel and training needs and prepare a Report to ICAO for assistance	AIM TF to report progress	States / Territories	-----
j) Report requirements to the ICAO NACC Regional Office and monitor implementation status of e-TOD using electronic media	April 2014	Dec 2018		AIM TF to report progress	States / Territories	-----
k) Develop a high-level agreement for the management of a national e-TOD programme	April 2014	Dec 2018	Establish permanent liasons and coordination among all bodies involved	AIM TF to report progress	States / Territories	-----