International Civil Aviation Organization
CAR/SAM Regional Planning and Implementation Group (GREPECAS)
Seventeenth Meeting of the CAR/SAM Regional Planning and Implementation Group (GREPECAS/17)
(Cochabamba, Bolivia (Plurinational State of), 21 to 25 July 2014)

Agenda Item 4: Regional air navigation planning and implementation performance framework: Review of programmes and projects

4.2 Projects of the ATFM programme

Follow-up to the activities under Project B1 (improve demand-capacity balancing) and Project B2 (flexible use of airspace)

(Presented by the Secretariat)

SUMMARY

This working paper presents the regional implementation activities of programme "Air traffic flow management" and its associated projects, "Improve demand-capacity balancing" and "flexible use of airspace", approved by GREPECAS/16, since the Second Meeting of the Programmes and Projects Review Committee (PPRC/2) (Lima, Peru, 16 to 18 July 2013).

References:

- Doc 9750, Global Air Navigation Plan.
- Report of the SAM/IG/11 meeting.
- Report of the NACC/WG/4 meeting.
- Report of the Second Meeting of the Programmes and Projects Review Committee (PPRC/2)

ICAO Strategic Objectives	*A - Safety* *C - Environmental protection and sustainable development of air transport*

1. Introduction

1.1. During the meetings of the SAM Implementation Group (SAM/IG), topics related to ATFM implementation in the South American Region and all associated activities were analysed. It has been noted that States should have more human, material and economic resources available to expedite the ATFM implementation process in the SAM Region.

1.2. In the CAR Region, periodic regional teleconferences are carried out to coordinate demand-capacity balancing among the 12 FIRs, especially during periods of high demand for services. It has been noted that the lack of personnel is one of the main challenges for the medium term. The ICAO NACC Regional Office monitored these implementation activities.

2. **Discussion**

2.1. ***CAR Region***

Project B1"Improve demand-capacity balancing"

2.1.1. Within the ATFM implementation activities in the CAR Region, participation of responsible parties, representing 100% of CAR Region FIRs was achieved through the regional teleconferences programme conducted on a weekly basis or, if required, on a daily basis during the winter and hurricane season, using the methodology agreed regionally.

2.1.2. The coordination programme requires the implementation of a common methodology to perform a continuous analysis of ATS capacity and the airport acceptance rate (AAR). An analysis of additional requirements will be conducted in the short term to improve ATM situational awareness.

2.1.3. The regional catalogue containing all the ATS contingency plans of the CAR Region has been completed, including hurricane and volcanic ash coordination procedures. For the medium term, the establishment of a better coordination of emergencies in the event of natural disasters is foreseen, thus facilitating ATFM coordination with all the aerodromes of the Region, as necessary.

2.1.4. Some States do not have the requirement to implement ATFM dependencies, as they have not reached traffic levels at their airports and ATC sectors that warranted the implementation of the elements or functions of an air traffic flow management system. However, ATFM coordination is realized through Flow Management Units (FMU) established at the Area Control Centers (ACC) in the CAR Region FIRs.

2.1.5. Some airspaces previously affected as special use airspaces, have been made more flexible for the implementation of air navigation routes (RNAV). ATS route structure will continue to be revised in order to improve the optimization of airspaces with PBN applications, as the following ATFM phases are implemented.

2.1.6. An increase in service demand is foreseen for 2014-2016 due to world sport events that might seriously affect the capacity of ATC sectors and some airports of the CAR Region and of adjacent regions. During 2014, involved ATFM units have participated in regional teleconferences for the coordination of air traffic flows to Brazil.

2.1.7. For the implementation of regionally harmonized ATFM, a greater commitment by the States is required. In such sense, States have committed to implement 100% of Area Control Centers (ACC) within the Flight Information Regions (FIRs) with ATFM measures by December 2018. Additional requirements of ATM situational awareness will be defined in short term.

Project B2 "Flexible use of airspace"

2.1.8. Approximately 80 percent of CAR Region States have established units for civil/military coordination between civil ATS units and the appropriate air defense units. The Committees have made it possible to integrate civil and military aviation activities in CAR Region States, including the provision of SAR service.

2.1.9. States will review civil/military letters of agreement in order to detect improvements in the air traffic service management. A regional review of special use airspace is currently being carried out for aerial identification, scientific research, rockets and military maneuvers. A preliminary analysis allows the identification of 119 restricted areas, as follows:

Danger	Prohibited	Restricted	Total
34	47	38	119

2.1.10. Progress and results of the ATFM implementation and flexible use of airspace (FUA), which have been reported to ICAO Headquarters in Montreal for the corresponding dashboards, are shown in **Appendix A**.

2.2. ***SAM Region***

Project B1 "Improve demand-capacity balancing"

2.2.1. SAM/IG/13 meeting noted that in the SAM Region, in 2013, 57% of States have made the corresponding runway capacity calculations. In 2014, Ecuador performed runway capacity calculations corresponding to Quito and Guayaquil and French Guiana presented information regarding runway capacity calculations in Cayenne, remaining Guyana, Panama, Suriname and Uruguay pending to complete these calculations. The progress registered to date is of 14% compared to 2013.

2.2.2. Regarding the implementation of flow management units or positions, in 2013 36% of States comply with this goal. No progress has been registered in the implementation of flow management units during 2014.

Percentage of States that have implemented ATFM at flow management units (FMU) or flow management positions (FMP)

2012 14%	**ARG**	**BOL**	**BRA**	**CHI**	**COL**	**ECU**	**FGY**	**GUY**	**PAN**	**PAR**	**PER**	**SUR**	**URU**	**VEN**
	NO	NO	**YES**	NO	**YES**	NO	N/A	NO	NO	NO	NO	NO	NO	NO
2013 36%	**ARG**	**BOL**	**BRA**	**CHI**	**COL**	**ECU**	**FGY**	**GUY**	**PAN**	**PAR**	**PER**	**SUR**	**URU**	**VEN**
	NO	NO	**YES**	**YES**	**YES**	NO	N/A	NO	NO	**YES**	NO	NO	NO	**YES**

2.2.3. Out of the total of 99 international airports in the SAM Region, the ATFM service is provided at 51 airports (27 in Brazil, 8 in Colombia, 1 in Chile, 2 in Paraguay and 7 in Venezuela), accounting for 45% of the total number of airports in the Region. This percentage does not include airports in States that are in process of implementation. See table below:

Total number of airports	Airports with ATFM service	% airports with ATFM service
99	50	**45 %**

2.2.4. SAM/IG/13 meeting noted that during RAAC/13 meeting (Colombia, December 2013), Civil Aviation Authorities of the Region committed, by the Bogota Declaration, to achieve the goal of having at least one FMU or FMP implemented at ACC by maximum 2016. In such sense, best efforts should be made to fulfill the implementation in order to be on time to achieve the goal.

Implementation of airport collaborative decision-making (A-CDM)

2.2.5. SAM/IG/13 meeting was informed that the A-CDM concept is a work philosophy for airports, based on joint decision-making through sharing of information amongst the various parties involved in air operations. The SAM initiative would consist in working in the Region on the basis of the experience gained at airports throughout the world that have successfully implemented A-CDM and available documentation. In such sense, the meeting agreed that the first step would be to know the current situation of the Region. To this end, 10 SAM States have completed an A-CDM survey.

Inter-relation between ATFM and PBN

2.2.6. SAM/IG/13 meeting discussed on the relationship between PBN and ATFM. The meeting deemed it convenient that ATFM Action Plan should be updated so as to include activities to facilitate the integration between PBN and ATFM, containing as well ATFM strategic pre-tactic and tactic practical measures to facilitate the application of PBN airspace concepts.

Soccer World Cup FIFA Brazil 2014

2.2.7. Following a detailed analysis of the information provided by the Brazilian delegation on the Soccer World Cup FIFA Brazil 2014, SAM/IG/13 meeting concluded that several actions were needed to allow SAM States and ICAO to contribute to an adequate air traffic flow management during the FIFA 2014 World Cup in Brazil.

2.2.8. In order to provide States with a forecast of air traffic demand, SAM/IG/13 meeting requested the Brazilian delegation to send information on the flights to be conducted during the World Cup.

2.2.9. SAM/IG/13 meeting urged SAM States to establish a Basic Action Plan containing the necessary measures for proper flow management, including *inter alia*: preventive and corrective maintenance of navigation and communication equipment, strengthening of operational and maintenance staff, establishment of daily operational briefings for air traffic controllers, etc. Such plan should be developed based on air traffic demand and taking into account the critical dates to be defined by DECEA/CGNA.

2.2.10. SAM/IG/13 meeting agreed on the need for SAM States to disseminate AIC A05/14 and AIC A08/14, and other relevant information within their States, in order to inform users on the rules applicable to the entry and operation of aircraft in Brazilian airspace.

2.2.11. SAM/IG/13 meeting assigned the highest priority to the adoption of measures to avoid unilateral flow-restricting measures by States, especially those based on time and which did not take into account the possibility of vertical separation, such as for example, accepting the transfer of only one aircraft every 10 minutes, regardless of flight level.

2.2.12. In order to provide close coordination amongst South American ATC units, SAM/IG/13 meeting agreed that SAM States should participate in daily teleconferences with CGNA, in order to coordinate operational actions and any ATFM measures needed during the day.

Draft proposal on Second Part of ICAO Doc. 9971

2.2.13. SAM/IG/13 meeting noted the draft that should become a complementary part, as Part II of ICAO Doc 9971, referring to Air Traffic Flow Management in a Collaborative form. This Manual contains information on how ATFM should be implemented and applied by using collaborative decision-making processes, in order to balance capacity and demand within different volumes of airspace and airport environments.

2.2.14. The meeting requested SAM States to send comments on draft proposal on Second Part of ICAO Doc 9971, aiming to provide required information for the optimization of the Manual, as deemed appropriate.

RLA/06/901 Project ATFM Work Plan for 2014

2.2.15. SAM/IG/13 meeting considered it necessary to conduct a theoretical/practical course on ATFM procedures to be performed by qualified personnel of States, with duration of 10 days at CGNA Brazil, during the second half of 2014.

3. Conclusion

3.1. Although slight progress has been made in some States, issues with human and material resources have been identified in ATFM implementation. A greater commitment by the States would be required to have at least one flow control unit or ATFM position in Area Control Centers.

3.2. An increase in demand is foreseen in the SAM Region in the near future (2014-2016) due to world sport events that might seriously affect the capacity of ATC sectors and some airports of the Region and of adjacent regions. Furthermore, events such as volcanic eruptions or other major meteorological events force many States to take ATFM measures and activate their Contingency Plans without having the appropriate ATFM organization, thus affecting other Flight Information Regions.

3.3. From the point of view of the Secretariat, there has been no positive impact on FUA implementation yet. Despite the fact that regional guides were approved in October 2012, the implementation of civil/military committees or bodies has been a request to the States since more than 30 years ago. The fact that civil aviation authorities in some Administrations are from the military may be a factor for those States to believe that such an implementation is not necessary. In regions where that is not the case, civil/military coordination for the flexible use of airspace is well organized and an operational procedural handbook or letters of agreement are in place to facilitate cooperation and coordination.

3.4. Activity details may be found in **Appendix A** for CAR Projects and in **Appendix B** for SAM Projects.

4. Suggested action

4.1. The Meeting is invited to:

a) take note of the information contained in this working paper;

b) analyse and formulate any actions it may deem appropriate regarding the project activities described in Appendices A and B.

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APPENDIX A / APÉNDICE A

PROJECT B1: IMPROVE DEMAND AND CAPACITY BALANCING
PROYECTO B1: MEJORAR EL EQUILIBRIO ENTRE LA DEMANDA Y LA CAPACIDAD

CAR Region / Región CAR	**PROJECT DESCRIPTION / DESCRIPCION DEL PROYECTO (DP)**	**DP N° B1**	
Programme/ Programa	**Project Title /Titulo del Proyecto**	**Start / Fecha inicio**	**End / Fecha término**
Improve demand and capacity balancing (DCB) / Mejorar el equilibrio entre demanda y capacidad (DCB) (Programme Coordinator / Coordinador del Programa: Victor Hernandez)	*Improve demand and capacity balancing (DCB) / Mejorar el equilibrio entre demanda y capacidad (DCB)* Project Coordinator / Coordinador del Proyecto: Frank Macintosh (United States) Agustin Rolon (México) Julio Mejia (Dominican Republic) TBD (COCESNA)	2008	2016
Objective / Objetivo	Support the implementation of ATFM based on regional performance objectives of the Performance Based Implementation Plan for the NAM/CAR Regions (RPBANIP NAM/CAR) / Apoyar la implementación ATFM en base a los Objetivos regionales de performance del Plan de implementación basada en la Performance para las regiones NAM/CAR (RPBANIP NAM/CAR)		
Scope / Alcance	Progressive implementation of ATFM service in the CAR Region to assure balancing between demand and capacity (DCB) / Implantación progresiva del servicio ATFM en la Región CAR para asegurar un equilibrio entre demanda y capacidad (DCB)		
Metrics / Métricas	• % of States with ATFM coordination procedures implemented / % de Estados con procedimientos de coordinación ATFM implementados • % of States with Flow Management Units (FMU) or Flow Management Posts (FMP) implemented / % de Estados con unidades de Gestión de Flujo (FMU) o Puestos de Gestión de Flujo (FMP) implementadas		

Strategy / Estrategia	The implementation of activities will be coordinated between members of the Project, the Project Coordinator and the Programme Coordinator. The Programme Coordinator will coordinate with the Project Coordinator requirements of other projects and NAM/CAR implementation working groups. Experts nominated by States, Territories and International Organizations will be incorporated as required / La ejecución de las actividades será coordinada entre miembros del proyecto, el Coordinador del Proyecto y el Coordinador del Programa. El Coordinador del Programa coordinará con el Coordinador del Proyecto los requerimientos de otros proyectos y Grupos de trabajo de implementación NAM/CAR. Se incorporarán expertos nominados por los Estados, Territorios y Organizaciones Internacionales, según sea requerido
Goals / Metas	• 100% of Area Control Centers (ACC) in Flight Information Regions (FIR) with ATFM measures available by December 2018 / • 100% de los Centros de control de área (ACC) dentro de las Regiones de información de vuelo (FIR) con medidas ATFM disponibles a más tardar en diciembre de 2018
Justification / Justificación	GREPECAS supported the implementation of ATFM to ensure optimum air traffic during periods when demand exceeds or is expected to exceed the available ATS system capacity / El GREPECAS apoyó la implantación de la ATFM para garantizar una afluencia óptima de tránsito aéreo durante períodos en los cuales la demanda excede o se espera exceda la capacidad disponible del sistema ATS.
Related Projects / Proyectos relacionados	• Implement Performance Based Navigation (PBN) • Flexible use of airspace • Improve ATM Situational Awareness • Implement the new ICAO Flight Plan Form / • Implementar la Navegación Basada en la Performance (PBN) • Uso flexible del espacio aéreo • Mejorar la Conciencia Situacional ATM • Implementación del Nuevo Formato de Plan de Vuelo de la OACI

Project deliverables / Entregables del Proyecto	Relationship with RPB-ANIP NAM/CAR / Relación con el RPB-ANIP NAM/CAR	Responsible / Responsable	Status of implementation / Estado de Implantación*	Delivery date / Fecha entrega	Comments / Comentarios
Establish ATFM coordination procedures / Establecer procedimientos de coordinación ATFM	RPOs 2, 3	Ron Fisher		Completed / Finalizado	Developed regional ATFM Manual / Manual ATFM regional elaborado
Identify key stakeholders for purposes of coordination and cooperation, using a CDM process / Identificar las partes interesadas clave para coordinación y cooperación mediante un proceso CDM	RPOs 2, 3	States, Territories, International Organizations / Estados, Territorios, Organizaciones Internacionales		Completed / Finalizado	Regional participation between all parties concerned has been established with 100% of the FIRs in CAR Region attending the regional teleconferences programme / Se ha establecido la participación de todas las partes involucradas con el 100% de los FIR de la Región CAR atendiendo el programa de teleconferencias regional.
Develop regional procedures for efficient use of aerodrome and runway capacity / Desarrollar procedimientos regionales para un uso eficiente de la capacidad de aeródromo y de pista	RPOs 2, 3, 4, 5, 7	States, Territories, International Organizations / Estados, Territorios, Organizaciones Internacionales		Completed / Finalizado	Developed Airport Acceptance Rate (AAR) regional procedures / Procedimientos regionales elaborados para el régimen de aceptación de aeropuerto (AAR)
Develop methods to establish demand/capacity forecasting / Elaborar métodos para establecer pronósticos de demanda/ capacidad	RPOs 3	Ron Fisher		Completed / Finalizado	Based on regional ATFM procedures, major demand of services has been identified during winter and hurricane seasons / En base a los procedimientos regionales ATFM, se ha identificado una mayor demanda de servicios durante la temporada invernal y de huracanes.

Identify and analyse traffic flows and develop methods for improving efficiencies on gradual basis, through enhancements in: • airspace organization and management (AOM) and unidirectional routes structure • communication, navigation and surveillance systems / Identificar y analizar las corrientes de tránsito y elaborar métodos para mejorar la eficiencia de manera gradual, mediante mejoras en: • la organización y gestión del espacio aéreo (AOM) y estructura de rutas unidireccionales, • sistemas de comunicación, navegación y vigilancia	RPOs 1, 2, 3, 9	Ron Fisher		Completed / Finalizado	Developed a PBN airspace concept in CAR Region to improve airspace organization and management (AOM) / Se desarrolló un concepto de espacio aéreo PBN en la Región CAR para mejorar la organización y gestión del espacio aéreo (AOM)
Define common elements of ATM situational awareness between FMUs; ▪ common traffic displays, ▪ common weather displays (Internet), communications (teleconferences, web), and ▪ regular teleconference/ messages methodology advisories / Definir los elementos comunes de conciencia situacional ATM; ▪ visualización común de tránsito,	RPOs 1, 2, 3, 9	States, Territories, International Organizations / Estados, Territorios, Organizaciones Internacionales		2016	Regional Teleconferences are carried out on weekly basis through agreed methodology. Additional situational awareness requirements will be defined in the short term / Teleconferencias regionales se llevan a cabo semanalmente con la metodología acordada. Requisitos adicionales de conciencia situacional ATM serán definidos en el corto plazo.

▪ visualización común de condiciones meteorológicas (Internet), ▪ comunicaciones (conferencias telefónicas, web), y ▪ metodología de asesorías regulares mediante conferencias telefónicas					
Identify training needs and develop corresponding guidelines / Identificar necesidades de entrenamiento y desarrollar lineamientos correspondientes	RPOs 3	States, Territories, International Organizations / Estados, Territorios, Organizaciones Internacionales		Completed / Finalizado	Some ANSPs developed training plans, as needed. Regional ATS Capacity workshop was held in Mexico City in 2011 / Algunos ANSPs han desarrollado planes de capacitación, según sus necesidades. Se llevo a cabo un Taller sobre Capacidad ATS en 2011 en la Ciudad de México
Development of ATS contingency plans and determination of operational/ technical considerations / Desarrollar planes de contingencia ATS y determinar consideraciones operacionales/técnicas	RPOs 1, 2, 3	States, Territories, International Organizations / Estados, Territorios, Organizaciones Internacionales		Completed / Finalizado	Developed Catalogue with 100% of the ATS contingency plan of CAR Region, including hurricane and volcanic ash coordination procedures / Catálogo completado con el 100 % de los planes de contingencia ATS de la Región CAR, incluyendo procedimientos de coordinación para huracanes y cenizas volcánicas.
Develop a regional strategy and framework for the implementation of ATFM units / Desarrollar una estrategia y marco de referencia para la implantación de unidades ATFM	RPOs 3	States, Territories, International Organizations / Estados, Territorios, Organizaciones Internacionales		Completed / Finalizado	Mexico and COCESNA have established ATFM Units (FMUs). Flow management units are used by the other States / México y COCESNA han establecido Unidades ATFM. Otros Estados utilizan puestos de gestión de Flujo (FMP).

Develop a performance measurement programme / Desarrollar un programa de medidas de la performance	RPOs 1, 2, 3	ICAO		Completed / Finalizado	Implementation achievements are submitted to the NACC/DCA Meetings / Los resultados de implementación se presentarán a las Reuniones NACC/DCA.
Monitor System Performance / Monitorear la performance del sistema	RPOs 1, 2, 3	ICAO		2016	ICAO NACC Regional Office conducts this activity / La Oficina Regional NACC de la OACI lleva a cabo esta actividad.
Required Resources / Recursos necesarios	CAR Regional Project with the participation of States to support ATFM training aspects / Proyecto Regional CAR con la participación de los Estados para apoyar los asuntos de capacitación ATFM				

Gris	Tarea no iniciada;
Verde	Actividad en progreso de acuerdo con el cronograma;
Amarillo	Actividad iniciada con cierto retardo pero estaría llegando a tiempo en su implantación;
Rojo	No se ha logrado la implantación de la actividad en el lapso de tiempo estimado se requiere adoptar medidas mitigatorias.

ATFM NAM/CAR

NOM_COMP	REGION	KIND	ICAOCODE	RESP	FIRname	ATM units use ATFM measures
ALBUQUERQUE	NAM	FIR	KZAB	MEXICO	FIR ALBUQUERQUE	1
CHICAGO	NAM	FIR	KZAU	MEXICO	FIR CHICAGO	1
BOSTON	NAM	FIR	KZBW	MEXICO	FIR BOSTON	1
WASHINGTON	NAM	FIR	KZDC	MEXICO	FIR WASHINGTON	1
DENVER	NAM	FIR	KZDV	MEXICO	FIR DENVER	1
FT WORTH	NAM	FIR	KZFW	MEXICO	FIR FT WORTH	1
HOUSTON	NAM	FIR	KZHU	MEXICO	FIR HOUSTON	1
INDIANAPOLIS	NAM	FIR	KZID	MEXICO	FIR INDIANAPOLIS	1
JACKSONVILLE	NAM	FIR	KZJX	MEXICO	FIR JACKSONVILLE	1
KANSAS CITY	NAM	FIR	KZKC	MEXICO	FIR KANSAS CITY	1
LOS ANGELES	NAM	FIR	KZLA	MEXICO	FIR LOS ANGELES	1
SALT LAKE	NAM	FIR	KZLC	MEXICO	FIR SALT LAKE	1
MIAMI	NAM	FIR	KZMA	MEXICO	FIR MIAMI	1
MINNEAPOLIS	NAM	FIR	KZMP	MEXICO	FIR MINNEAPOLIS	1
NEW YORK	NAM	FIR	KZWY	MEXICO	FIR NEW YORK	1
OAKLAND	NAM	FIR	KZAK	MEXICO	FIR OAKLAND	1
CLEVELAND	NAM	FIR	KZOB	MEXICO	FIR CLEVELAND	1
SEATTLE	NAM	FIR	KZSE	MEXICO	FIR SEATTLE	1
ATLANTA	NAM	FIR	KZTL	MEXICO	FIR ATLANTA	1
ANCHORAGE ARCTIC	NAM	FIR	PAZA	MEXICO	FIR ANCHORAGE ARCTIC	1
MONCTON	NAM	FIR	CZQM	MEXICO	FIR MONCTON SOUTHERN	1
GANDER DOMESTIC	NAM	FIR	CZQX	MEXICO	FIR GANDER DOMESTIC	1
MONTREAL	NAM	FIR	CZUL	MEXICO	FIR MONTREAL	1
VANCOUVER	NAM	FIR	CZVR	MEXICO	FIR VANCOUVER	1
WINNIPEG	NAM	FIR	CZWG	MEXICO	FIR WINNIPEG	1
TORONTO	NAM	FIR	CZYZ	MEXICO	FIR TORONTO	1
MEMPHIS	NAM	FIR	KZME	MEXICO	FIR MEMPHIS	1
EDMONTON	NAM	FIR	CZEG	MEXICO	FIR EDMONTON	1
ANCHORAGE CONTINENTAL	NAM	FIR	PAZA	MEXICO	FIR ANCHORAGE CONTINENTAL	1
CENTRAL AMERICAN	CARSAM	FIR	MHTG	MEXICO	FIR CENTRAL AMERICAN	1
PIARCO	CARSAM	FIR	TTZP	MEXICO	FIR PIARCO	1
SAN JUAN	CARSAM	FIR	TJZS	MEXICO	FIR SAN JUAN	1
HABANA	CARSAM	FIR	MUFH	MEXICO	FIR HABANA	1
NASSAU	CARSAM	FIR	MYNA	MEXICO	FIR NASSAU	1
MIAMI OCEANIC	CARSAM	FIR	KZMA	MEXICO	FIR MIAMI OCEANIC	1

PROJECT B2: IMPLEMENTATION OF FLEXIBLE USE OF AIRSPACE (FUA) /
PROYECTO B2: IMPLEMENTACIÓN DEL USO FLEXIBLE DEL ESPACIO AÉREO (FUA)

CAR Region / Región CAR	**PROJECT DESCRIPTION / DESCRIPCION DEL PROYECTO (DP)**	**DP N° B2**	
Programme/ Programa	**Project Title / Titulo del Proyecto**	**Start / Fecha inicio**	**End / Fecha término**
Implementation of flexible use of airspace (FUA) / Implementación del uso flexible del espacio aéreo (FUA) (Programme Coordinator / Coordinador del Programa: Victor Hernández)	*Implementation of flexible use of airspace (FUA) / Implementación del uso flexible del espacio aéreo (FUA)* Project Coordinator / Coordinador del Proyecto: Ron Fisher (United States) Agustin Rolon (México) Julio Mejia (Dominican Republic) Carlos Carbajal (COCESNA)	2008	2016
Objective / Objetivo	Support the implementation for the optimization, balance and equity in the use of airspace between different users and achieve a better civil/military coordination and cooperation, reinforcing air safety based on regional performance objectives of the Performance based Implementation Plan for NAM/CAR Regions (NAM/CAR RPBANIP) / Apoyar la implementación para la optimización, equilibrio y equidad en el uso del espacio aéreo entre los diferentes usuarios y lograr una mejor coordinación y cooperación civil/militar reforzando la seguridad operacional, en base a los objetivos regionales de performance del Plan de implementación basada en la Performance para las regiones NAM/CAR (RPBANIP NAM/CAR)		
Scope / Alcance	Development of guides for the implementation of flexible use of airspace (FUA) / Elaboración de guías para la implantación del uso flexible del espacio aéreo (FUA).		
Metrics / Métricas	• % of States with civil/military Coordination Committees • % of reduction in number of permanent reserved airspace • Reduction in number of permanent reserved airspace / • % de Estados con Comités de Coordinación Civil/Militar • % de reducción del número de espacios aéreos reservados de carácter permanente • Reducción del número de espacios aéreos reservados de carácter permanente		

Strategy / Estrategia	The implementation of activities will be coordinated between members of the Project, the Project Coordinator and the Programme Coordinator. The Programme Coordinator will coordinate with the Project Coordinator the requirements of other projects and NAM/CAR implementation working groups. Experts nominated by States, Territories and International Organizations will be incorporated to develop tasks as required / La ejecución de las actividades será coordinada entre miembros del proyecto, el Coordinador del Proyecto y el Coordinador del Programa. El Coordinador del Programa coordinará con el Coordinador del Proyecto los requerimientos de otros proyectos y Grupos de trabajo de implementación NAM/CAR. Se incorporarán expertos nominados por los Estados, Territorios y Organizaciones Internacionales para desarrollar las tareas, según se requiera
Goals / Metas	• 80% of CAR Region States with Civil/Military Coordination Committees implemented for the flexible use of airspace (FUA) / • 80% de los Estados de la Región CAR con Comités de Coordinación Civil/Militar implantados para el uso flexible del espacio aéreo (FUA)
Justification / Justificación	GREPECAS supported the implementation of flexible use of airspace (FUA) for the optimization of ATS airspace and air traffic flow management (ATFM) efficiency / El GREPECAS apoyó la implantación del uso flexible del espacio aéreo (FUA) para optimizar la eficiencia del espacio aéreo ATS y la gestión de la afluencia del tránsito aéreo (ATFM).
Related Projects / Proyectos relacionados	• Implement PBN • Improve balance between demand and capacity • Improve ATM Situational Awareness / • Implementar la PBN • Mejorar el equilibrio entre la demanda y capacidad • Mejorar la Conciencia Situacional ATM

Project deliverables / Entregables del Proyecto	Relationship with RPB-ANIP NAM/CAR / Relación con el RPB-ANIP NAM/CAR	Responsible / Responsable	Status of Implementation / Estado de Implantación*	Delivery date / Fecha entrega	Comments / Comentarios
Regional Guidance material / Material Regional Guia	RPOs 2	States, Territories, International Organizations / Estados, Territorios, Organizaciones Internacionales		Completed / Finalizado	ICAO has developed guidance material on civil/military coordination to be used by States/Territories to develop national policies, procedures and rules / La OACI ha desarrollado material de orientación sobre coordinación civil/militar a utilizar por parte de los Estados/Territorios para elaborar políticas, procedimientos y normas nacionales
Establish civil-military coordination bodies / Establecer cuerpos de coordinación civil/militar	RPOs 2	States, Territories, International Organizations / Estados, Territorios, Organizaciones Internacionales		2014	About 80% of States have established civil/ military coordination bodies. Revision of agreements will be carried out in 2014. / Aproximadamente el 80% de los Estados han establecido cuerpos de coordinación civil/militar. La revisión de acuerdos se llevará a cabo en 2014.
Conduct a regional review of special use of airspace / Llevar a cabo una revisión regional del espacio aéreo de uso especial.	RPOs 1, 2, 3	Ron Fisher		2014	Revision of the special use of airspace will be carried out in 2014 / La revisión del espacio aéreo de uso especial se llevará a cabo en 2014
Monitor System Performance / Monitorear la performance del sistema	RPOs 2	ICAO		2016	ICAO NACC Regional Office conducts this activity / La Oficina Regional NACC de la OACI lleva a cabo esta actividad

Required Resources / Recursos necesarios	CAR Regional Project with the participation of States to support civil/military coordination for the flexible use of airspace (FUA) / Proyecto Regional CAR con la participación de los Estados para apoyar la coordinación civil/militar para el uso flexible del espacio aéreo (FUA)

Gris	Tarea no iniciada;
Verde	Actividad en progreso de acuerdo con el cronograma;
Amarillo	Actividad iniciada con cierto retardo pero estaría llegando a tiempo en su implantación;
Rojo	No se ha logrado la implantación de la actividad en el lapso de tiempo estimado se requiere adoptar medidas mitigatorias.

END - FIN

APPENDIX B

PROJECT B1: IMPROVE DEMAND/CAPACITY BALANCING

PROJECT DESCRIPTION (DP)		DP N° B1	
Programme	**Title of the Project**	**Start**	**End**
Air traffic flow management (ATFM) *(Programme Coordinator: Julio Pereira)*	*Improve demand/capacity balancing* *Project Coordinator: There is no coordinator*	2012	2014
Objective	Avoid overloading the ATC and airport systems, while strengthening safety, taking into account the reduction in the number of delays caused by meteorological and traffic conditions, thus reducing fuel consumption and contaminating emissions. Likewise, improve prediction and management of surplus demand for services in ATC sectors and aerodromes.		
Scope	The scope of this project establishes that ATFM implementation should start with airport and airspace monitoring in order to identify significant increases in ground delays and in-flight holding, as well as bottlenecks (ATC sector, runway, apron, and airport facilities). Furthermore, capacity calculation and air traffic demand analysis are important elements to improve demand/capacity balancing.		
Metrics	• % of States that have calculated runway and ATC sector capacity. • % of States that have implemented ATFM in flow management units (FMU) or flow management positions (FMP).		

Strategy	Project execution defines ATFM implementation in the SAM Region through an airspace demand and capacity analysis, taking into account that States that are in the process of implementation shall coordinate with the ATM community to define the actions required for ATFM implementation. The infrastructure and the database, as well as the policy, standards, and procedures, are important components for the execution of this Project.
Goals	• 100% of Area Control Centers (ACC) providing air traffic flow management service (ATFM). • 100% of international airports with runway capacity calculated. • 100% of ATC Sectors of ACC and of TMA covering international airports with calculated Sector capacity.
Rationale	GREPECAS considered that early ATFM implementation should ensure optimum air traffic flow to or through certain areas during periods in which demand exceeded or was expected to exceed the available capacity of the ATC system. Therefore, the ATFM system should reduce aircraft delays, both in flight as on the ground, and avoid system overload.
Related projects	• Automation.

Project deliverables	Relationship with the performance-based regional plan (PFF)	Responsible party	Status of implementation*	Delivery date	Comments
Assess the progress made in the ATFM implementation work programme.	PFF SAM ATM 05	TBD		2013	---
Calculation of airspace (ATC SECTOR) capacity of States airspace regions.	PFF SAM ATM 05	States		SAM/IG/18	Brazil and Colombia submitted their studies.
Calculation of runway capacity of international airports.	PFF SAM ATM 05	States		SAM/IG/18	Argentina, Bolivia, Brazil, Chile, Ecuador, French Guiana, Paraguay, Peru and Venezuela submitted their studies.
List of airspace sectors subject to periods in which demand exceeds the existing capacity, including, if necessary, simulations by the States.	PFF SAM ATM 05	Juarez Franklin Gouveia		SAM/IG/9 SAM/IG/10	Brazil and Colombia submitted their studies.

List of operational factors affecting demand and airspace capacity for the optimisation of the existing capacity, including simulations, if necessary.	PFF SAM ATM 05	Juarez Franklin Gouveia		SAM/IG/9	Brazil and Colombia submitted their studies. Brazil, Paraguay, and Peru presented data at the SAM/IG/11 meeting.
Definition of the common elements of situational awareness.	PFF SAM ATM 06	Paulo Vila		2012	The States that exchange information are: Chile, Colombia, Paraguay, and Venezuela.
Personnel trained in strategic ATFM measures for airspace.	PFF SAM ATM 05	Juarez Franklin Gouveia		2010	In 2010, an ATFM/CDM course was conducted in Brazil with the participation of several States. In March 2009, a course on runway and ATC sector capacity calculation was conducted in Brazil. In 2012, a course for training instructors on runway and ATC sector capacity calculation was conducted in Lima.
List of factors affecting the implementation decision.	PFF SAM ATM 05	Programme Coordinator		SAM/IG/9	The following causes were identified at the SAM/IG/11 meeting: - States that do not have the requirement or the need to implement ATFM; - Budgetary and organisational reasons; - Lack of personnel specifically devoted to ATFM activities; - The personnel responsible for ATFM are involved in other functions.

Determination of air traffic demand expected for 2014 FIFA Soccer World Cup.	PFF SAM ATM 05	CGNA/Brazil		May 2014	**Finalized**
Establishment of ATFM critical days for FIFA 2014 Soccer World Cup.	PFF SAM ATM 05	CGNA/Brazil		May 2014	**Finalized**
Basic Action Plan for the FIFA 2014 Soccer Wold Cup (strategy of preventive and corrective maintenance of navigation and communication equipment; reinforcement of operational and maintenance personnel; establishment of daily operational briefings to air traffic controllers, etc.).	PFF SAM ATM 05	SAM States		May 2014	**Finalized**
Teleconferences for the consolidation of air traffic flow management strategy developed by Brazil.	PFF SAM ATM 05	SAM Regional Office		09 May 30 May 05 June	**Finalized**
Disseminate AIC A05/14 and AIC A08/14, as well as other relevant information, in order to give knowledge to users about the rules that should be observed for entry and operation in Brazilian airspace.	PFFSAM ATM 05	States		May 2014	**Finalized**

Evaluate restrictive flow measures currently adopted (must be based on well founded ATC sector capacity studies and coordinated in advance with ATC units responsible for the ATC provision in adjacent FIRs, as well as, during the soccer World Cup, with the CGNA).	PFF SAM ATM 05	States		05 June 2014	**Finalized**
Daily teleconferences between CGNA and SAM States' ATFM/ ATC units (coordination of operational actions and eventual ATFM measures that would be required during the day).	PFF SAM ATM 05	States/CGNA		From 10 June to 14 July 2014	**Finalized**
Plan for ATFM system performance oversight.	PFF SAM ATM 05	TBD		November 2014	---
Implementation of FMP/FMU	PFF SAM ATM 05	States		December 2016	
Resources required	Designation of experts in the execution of some of the deliverables.				

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Grey *Task not started*
Green *Activity underway as scheduled*
Yellow *Activity started with some delay but expected to be completed on time*
Red *It has not been possible to implement this activity as scheduled; mitigating measures are required*