



Agenda Item 3: Implementation of air traffic flow management (ATFM)

- a) **Procedures for coordination between FMPs/FMPs**
- b) **Updating of the ATFM CONOPS**

FOLLOW UP TO ATFM IMPLEMENTATION

(Presented by the Secretariat)

SUMMARY	
This working paper presents the status of ATFM implementation in the Region, the work programme and information updating tasks to be fulfilled by the experts of SAM States.	
REFERENCES:	
<ul style="list-style-type: none">• Doc 9750, Global Air Navigation Plan.• Report of the GREPECAS/17 meeting (Cochabamba, Bolivia, 21-25 July 2014).• Report of the Fourth meeting of the Programmes and Projects Review Committee (PPRC/4) - (Lima, Peru, 12-14 July 2016).• SAM/IG meeting reports.	
ICAO strategic objectives:	<i>A - Safety</i> <i>B - Air navigation capacity and efficiency</i> <i>E - Environmental protection</i>

1. **Introduction**

1.1 The SAM/IG meetings have carried out activities for the implementation of Project B1 “Improve demand/capacity balancing”.

2. **Discussion**

GREPECAS Project B “ATFM implementation in the SAM Region”

2.1 In order to analyse the attainment of ATFM goals, the following indicators have been used:

- Percentage of States that have conducted runway capacity and ATC sector calculations.
- Percentage of States that have implemented ATFM in flow management units (FMUs) or flow management positions (FMPs).

2.2 **Appendix A** shows updated information on activities for ATFM implementation in the SAM Region through the GREPECAS project.

2.3 At present, 85% of the States of the Region have performed runway capacity calculations as a task prior to implementation, as shown in the following table:

May 2017	ARG	BOL	BRA	CHI	COL	ECU	FGY	GUY	PAN	PAR	PER	SUR	URU	VEN
85%	YES	YES	YES	YES	YES	YES	YES	NO	YES	YES	YES	NO	YES	YES

Percentage of States that have performed runway capacity calculations

2.4 Eight States of the Region, *i.e.* 57%, have performed ATC sector capacity calculations as a task prior to implementation, four have not carried out the task, and information is still pending to be received from two States, as shown in the following table:

September 2017	ARG	BOL	BRA	CHI	COL	ECU	FGY	GUY	PAN	PAR	PER	SUR	URU	VEN
57%	YES	NO	YES	YES	**	YES	NO	**	YES	NO	YES	NO	YES	YES

Percentage of States that have performed ATC sector capacity calculations

2.5 Regarding the metrics on implementation of flow units in the SAM Region, the Region still has 63% of ATFM implementation, according to the following table:

May 2017	ARG	BOL	BRA	CHI	COL	FGY	ECU	GUY	PAN	PAR	PER	SUR	URU	VEN
63%	NO	NO	YES	YES	YES	NO	YES	NO	YES	YES	YES	NO	YES	YES

Percentage of States that have implemented ATFM at flow management units (FMUs) or flow management positions (FMPs)

2.6 Argentina has developed the ATFM CONOPS document and basic manuals during the first semester of 2017, and is expected to implement an ATFM unit at the EZEIZA ACC by the end of 2018. The other States that still have activities pending have shown no progress this year.

2.7 At the SAM/IG/19 meeting, Suriname noted that its operational reality, with a single international airport and an FIR that shows no capacity/demand imbalances, did not warrant ATFM implementation.

2.8 The meeting recalled that, aside from attaining the objectives of the Declaration of Bogota, the States should focus on the implementation of at least one FMP or on having personnel assigned to the area control centre to perform these functions, with the necessary training and skills to coordinate with the ATFM services of adjacent States in cases that require the implementation of ATFM initiatives.

2.9 States must update **Appendix B** to this working paper, which contains a list of ATFM focal points. It should be noted that a significant number of email addresses listed there have been deactivated or have reception problems, thus hindering communication and coordination by the Secretariat.

2.10 As a task supplementary to follow-up, it is necessary to update the information of the survey on the status of ATFM activities in relation to **Appendix C** to this working paper. This survey monitors State activities, mainly runway, airspace, ATS, and apron capacity measurements.

Issuance of NOTAMs with flow control measures

2.11 In May 2017, the SAM/IG/19 analysed the persistent case of NOTAMs with unilateral flow control measures issued by the ACCs without prior coordination with their own FMPs/FMUs and/or the adjacent ACCs or FMPs/FMUs.

2.12 In this regard, Conclusion SAM/IG/19-01 was issued instructing States to strengthen FMP/FMU functions with resources and trained personnel, and powers to coordinate with ATS services, the implementation of ATFM initiatives (TMIs) to address air traffic capacity/demand imbalances due to scheduled or unforeseen events.

2.13 States are invited to inform the Meeting on the status of implementation of actions set forth in Conclusion SAM/IG/19-01 in their FMPs/FMUs, especially indicating:

- Location and basic organisation of the FMP/FMU;
- Working hours and number of staff engaged in the FMP/FMU;
- Status of implementation of procedural/operations manuals in the units;
- Status of implementation of ATFM letters of agreement or MoUs with adjacent States;
- Degree of coordination with adjacent ATS and/or ATFM units;
- Recent training activities for ATFM personnel;
- Application of ATFM initiatives (TMIs) in accordance with ICAO Doc 9971; and
- Other relevant aspects of ATFM provision.

This report does not impair the required update of the survey contained in **Appendix C** by States.

ATFM meeting/workshop to harmonise coordination procedures

2.14 The SAM/IG/19 meeting highlighted the need to hold the meeting/workshop to harmonise coordination procedures, scheduled for September 2017. This meeting had to be postponed for administrative reasons and is being rescheduled tentatively for March 2018.

2.15 As may be recalled, the purpose of the meeting will be the signing of Memoranda of Understanding (MOUs) between ATFM facilities of adjacent States. It was deemed advisable for this event to include a seminar to deal with the new edition of ICAO Doc 9971.

2.16 Furthermore, the activities of the scheduled meeting would include the conduction of apron capacity calculations and the analysis of the adoption of the MoU model agreed at the SAM/IG/19 meeting, shown in **Appendix D** to this paper, which is made available to one or more States that might wish to use the model for moving forward in their ATFM preliminary agreements or even for signing a new MoU during this Meeting.

Updating of the ATFM CONOPS

2.17 The SAM/IG/19 meeting noted that the material and reference material related to regional implementation (CAR-SAM) of ATFM required updating, taking into account the recent publication of ICAO Doc 9971, which now consisted of three sections, and the reference material issued in other ICAO Regions since 2013.

2.18 In this regard, the Secretariat has discussed the issue of the regional ATFM CONOPS with its counterpart of the CAR Region, and has developed a draft that is submitted to the consideration of the Meeting, as shown in **Appendix E** to this paper.

CADENA CDM sessions

2.19 The SAM/IG/19 meeting agreed on the importance of information exchange between stakeholders in support of an efficient air traffic flow management, and recognised that the CANSO CADENA initiative, once it reached maturity, could support this exchange of information in the SAM Region. It was also felt that CADENA could improve the flow of information for CDM between the CAR and SAM Regions.

2.20 It is noted that the ANSPs of Brazil and Argentina, being part of CANSO, participate in CADENA sessions every Friday at 1400 UTC. Likewise, the Secretariat has participated as an observer in six CADENA sessions, and it was arranged for the FMU expert of Lima to participate in one of the sessions.

2.21 CADENA teleconferences are showing the advantage of connecting ATFM units of member ANSPs, for example during the recent hurricanes that affected the Caribbean and North America. It is deemed advisable to continue participating as observers in CADENA, reasserting the possibility of inviting SAM ANSPs as observers to these CDM teleconferences.

3. Conclusion

3.1 Those States that have not yet implemented ATFM are required to implement at least one ATFM management position (FMP) for each FIR under their jurisdiction in order to balance the demand for aircraft operations with service capacity in international airspace and aerodromes, also taking into account the impact of meteorological events and/or temporary degradations in air navigation services.

3.2 In this regard, it is of extremely importance for States to take action as specified in Conclusion SAM/IG/19-01.

3.3 Support must be provided for the updating of regional manuals and the CAR and SAM ATFM CONOPS.

4. Suggested actions:

4.1 The Meeting is invited to:

- a) take note of the information provided in this working paper;
- b) request those States that have not yet done it to renew their efforts for the implementation of at least one ATFM position (FMP) for each FIR;
- c) request States to inform the Meeting about the implementation of Conclusion SAM/IG/19-01;
- d) update Appendix B, which contains the list of ATFM focal points;
- e) update the data of the survey on the progress made in ATFM activities, following the format shown in Appendix C;
- f) take into consideration Appendix D, containing the model ATFM MoU, if there is a need to move forward with preliminary agreements or sign an MoU;
- g) analyse and comment on the proposed draft content of the CAR and SAM ATFM CONOPS, in accordance with Appendix E; and
- h) recommend other actions it may deem appropriate.

APPENDIX A

PROJECT B1: IMPROVE DEMAND/CAPACITY BALANCING

SAM Region	PROJECT DESCRIPTION (DP)	DP N° B1	
Programme	Title of the Project	Start	End
<i>Air traffic flow management (ATFM)</i> (Programme Coordinator: Fernando Hermoza Hübner)	<i>Improve demand/capacity balancing</i> <i>Project Coordinator: Martha Soto Ansaldo</i>	2012	2016
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	<ul style="list-style-type: none"> • % 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	<ul style="list-style-type: none">• SAM States with experts trained in the calculation of runway capacity and airspace (ATC SECTOR) capacity of States' airspace regions.• ATFM system performance oversight plan.• CAR/SAM inter-regional coordination.
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	<ul style="list-style-type: none">• 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	B0-NOPS	Programme Coordinator		2016	Permanent Task
Calculation of airspace (ATC SECTOR) capacity.	B0-NOPS	Juarez Franklin Gouveia		SAM/IG/9	Brazil and Colombia submitted their studies.
List of airspace sectors subject to periods in which demand exceeds the existing capacity, including, if necessary, simulations by the States.	B0-NOPS	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.	B0-NOPS	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	B0-NOPS	Paulo Vila		2012	The States that exchange information are: Chile, Colombia, Paraguay and Venezuela.

Personnel trained in strategic ATFM measures for airspace	B0-NOPS	Project RLA/06/901		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	B0-NOPS	Programme Coordinator		2010	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 is involved in other functions.
Update the calculation of runway capacity	B0-NOPS	Programme Coordinator		November 2015	85% of States updated runway capacity calculations. Guyana and Suriname lack capacity calculation.
Update the calculation of airspace (ATC SECTOR) capacity and runway capacity.	B0-NOPS	Programme Coordinator		November 2015	6 States of the Region performed ATC sectors capacity calculations as a task prior to implementation. 5 of them have not performed this activity. Information from 3 States is still pending.

<p>Airspace monitoring processes. Air traffic demand analysis. ATFM standards and procedures of an FMU/FMP. Implementation of preliminary ATFM measures. Implementation of TMI. ATFM messaging. Coordination of special events. Civil/military coordination processes and ATFM exemption procedures.</p>	<p>B0-NOPS</p>	<p>CGNA Course Project RLA/06/901</p>		<p>November 2014</p>	<p>Completed on schedule</p>
<p>Replication of ATFM courses at national level</p>	<p>B0-NOPS</p>	<p>States</p>		<p>15/05/2015</p>	<p>FINALISED States replicated the ATFM courses at national level.</p>
<p>ATFM measures during the realization of Olympic and Paralympic Games Rio 2016 in Brazil</p>	<p>B0-NOPS</p>	<p>Brazil</p>		<p>13/05/2016</p>	<p>FINALISED Detail of Brazilian AIC can be found under following link on the internet: http://publicacoes.decea.gov.br/?i=publicacao&id=4339</p>
<p>ATFM Implementation Status</p>	<p>B0-NOPS</p>	<p>Programme Coordinator</p>		<p>31/10/2016</p>	<p>By May 2017, 63% of States implemented ATFM.</p>
<p>Resources required</p>	<p>Designation of experts in the execution of some of the deliverables.</p>				

*

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

Blue Task finalised

APPENDIX B / APÉNDICE B

LIST OF CONTACTS FOR OPERATIONAL ATFM FOCAL POINTS AND
ESTABLISHED ATFM UNITSLISTA DE CONTACTOS PARA PUNTOS FOCALES ATFM OPERACIONALES Y
UNIDADES ATFM ESTABLECIDAS

State/ Estado	STATE ATFM FOCAL POINTS PUNTOS FOCALES ATFM DEL ESTADO	OPERATIONAL ATFM FOCAL POINTS AND ESTABLISHED ATFM UNITS PUNTOS FOCALES ATFM OPERACIONALES Y UNIDADES ATFM ESTABLECIDAS
ARGENTINA*	Maria Estela Leban Jefe de Departamento Administración Nacional de Aviación Civil (ANAC) Tel: +54 911 58 338379 E-mail: mleban@anac.gob.ar	Nicolas Borovich Jefe de Departamento Planificación Tel: +5411 43203947 Cel.: +54911 31199377 Email: nborovich@eana.com.ar Juan Pablo Duval Jefe del Departamento Servicios de Tránsito Aéreo Tel.: +5411 5789 8400, Ext 68451 Cel. + 54 1 128 728 238 E-mail: dsna@faa.mil.ar
BOLIVIA (Plurinational State of) / BOLIVIA (Estado Plurinacional de)*	ATCO Jesús I. Villca Jiménez Inspector ATM/SAR Dirección General de Aeronáutica Civil (DGAC) Teléfono: +591 2 211-4465 Cel.: +591 72023263 E-mail: jvillca@dgac.gob.bo	ATCO. Marco Sergio Barrios Barzola Supervisor ACC La Paz Jefe Navegación Aérea Reg. La Paz Tel/Fax: +591 2 281-0203 (ACC/La Paz) Tel/Fax: +591 2 282-1717 (Nav. Aérea) Tel: +591 2 223-8339 (Home/domicilio) Cel.: +591 7 052-3884 E-mail: mbarrios@asana.bo masebarbar@hotmail.com

State/ Estado	STATE ATFM FOCAL POINTS PUNTOS FOCALES ATFM DEL ESTADO	OPERATIONAL ATFM FOCAL POINTS AND ESTABLISHED ATFM UNITS PUNTOS FOCALES ATFM OPERACIONALES Y UNIDADES ATFM ESTABLECIDAS
BRAZIL / BRASIL*	<p>Sidnei Nascimento De Souza Jefe de Operaciones del CGNA Centro de Gerenciamento e Navegação Aérea – CGNA. Tel.: +55 21 2101-6531 Cel.: +55 21 99499-1658</p> <p>Cap José Airton Patricio Centro de Gerenciamento e Navegação Aérea – CGNA Oficial ATM Tel.: +55 21 2101-6448 Cel.: +55 21 98554-4425 E-mail: patriciojap@cgna.gov.br</p>	<p>Gerente Nacional – GNAC Tel.: +55 21 2101-6409 E-mail: gnac@cgna.gov.br</p> <p>Gerente Nacional de Fluxo – GNAF Tel.: +55 21 2101-6546 E-mail: grt@cgna.gov.br</p> <p>Gerencias Regionais – GER Tel.: +55 21 9949-6492 / +55 21 2101 98554 3598 E-mail: gr1@cgna.gov.br / gr2@cgna.gov.br</p>
CHILE*	<p>Jorge Caro Gálvez Dirección General de Aeronáutica Civil Dirección de Aeródromos y Servicios Aeronáuticos (DASA) Sub Departamento de Servicios de Tránsito Oficina ATFM (FMU) Tel.: +56 2 2836-4022 E-mail: jcarog@dgac.gob.cl</p>	<p>FMP ACC Santiago Tel.: +56 22836-4017</p> <p>ACC Santiago Cel.: +56 99158-1865</p> <p>Supervisor ATC de turno E-mail: sup.accu@dgac.gob.cl</p>

State/ Estado	STATE ATFM FOCAL POINTS PUNTOS FOCALES ATFM DEL ESTADO	OPERATIONAL ATFM FOCAL POINTS AND ESTABLISHED ATFM UNITS PUNTOS FOCALES ATFM OPERACIONALES Y UNIDADES ATFM ESTABLECIDAS
COLOMBIA*	Mauricio José Corredor Monroy Unidad Administrativa Especial de Aeronáutica Civil (UAEAC) Jefe Grupo ATFCM Tel.: + 57 1 296-2628 E-mail: mauricio.corredor@aerocivil.gov.co Skype: mauricio.jose.corredor.monroy	Unidad de Gestión de Afluencia de Tránsito Aéreo y Capacidad – FCMU COL (DE 1100 A 0500 UTC) E-mail: cfmu.dsna@aerocivil.gov.co Please copy to / Favor copiar a: E-mail: cns.fmu@aerocivil.gov.co aga.fmu@aerocivil.gov.co Telefonos: MANAGER: +57 1 296-2656 CNS: +57 1 296-2100 AGA: +57 1 296-2200 DEPARTURE FLOW MANAGEMENT: : +571 296-24 06 Celular MANAGER: +57 317 517-10 46 AGA: +57 317 363- 88 11 CNS: +57 318 330-73 74

State/ Estado	STATE ATFM FOCAL POINTS PUNTOS FOCALES ATFM DEL ESTADO	OPERATIONAL ATFM FOCAL POINTS AND ESTABLISHED ATFM UNITS PUNTOS FOCALES ATFM OPERACIONALES Y UNIDADES ATFM ESTABLECIDAS
ECUADOR	<p>Marcelo Valencia Taco Responsable ATM Nacional Tel.Ofc: +593 2 2947400 ext 4521 Móvil: +593 979097292 E-mail: marcelo_valencia@aviacioncivil.gob.ec marcelovalencia_qa@gmail.com</p> <p>Vicente Navarrete Sarasti Tel: +593 2 294 7400, Ext. 4515 E-mail: vicente.navarrete@aviacioncivil.gob.ec</p>	<p>Clemente Pinargote Móvil : +593 994035543 E-mail: fmp-accgye@aviacioncivil.gob.ec clemente.pinargote@aviacioncivil.gob.ec clmntpinargote@gmail.com</p> <p>REDDIG: 5060</p> <p>Alejandro Coronado Móvil : +593 988969379 E-mail: fmp-accgye@aviacioncivil.gob.ec andres.coronado@aviacioncivil.gob.ec moruliano@hotmail.com</p> <p>REDDIG: 5060</p> <p>Supervisores Centro de Control E-mail: accgye.supervisor@aviacioncivil.gob.ec DDI: +593 4 2924219 REDDIG: 5060 / 5051 / 5052 / 5053</p>
FR. GUIANA / GUYANA FRANCESA	<p>Jean Michel Pubillier French West Indies and French Guiana Air Navigation Services Office: +596 596 42 24 88 GSM: +596 696 93 60 72 Email: jean-michel.pubillier@aviation-civile.gouv.fr</p>	<p>Hervé Thomas Head of ATC Services Cayenne Office: +596 594 35 93 04 GSM: +594 694 91 63 63 Email: hervé.thomas@aviation-civile.gouv.fr</p>

State/ Estado	STATE ATFM FOCAL POINTS PUNTOS FOCALES ATFM DEL ESTADO	OPERATIONAL ATFM FOCAL POINTS AND ESTABLISHED ATFM UNITS PUNTOS FOCALES ATFM OPERACIONALES Y UNIDADES ATFM ESTABLECIDAS
GUYANA		
PANAMA*	Flor Silvera Directora de Navegación Aérea Tel +507 315-9846 / +507 6982-1215 E-mail: fsilvera@ aeronautica.gob.pa	Supervisor de turno del Centro de Control Administración de Aeronáutica Civil Tel.: +507 315 9871 E-mail: cerap@ aeronautica.gob.pa Ivan Chesgter De Leon Sub Director de Navegación Aérea Tel. ofic: +507 3159802 Cel: +507 6686 3279 E-mail: ideleon@ aeronautica.gob.pa

State/ Estado	STATE ATFM FOCAL POINTS PUNTOS FOCALES ATFM DEL ESTADO	OPERATIONAL ATFM FOCAL POINTS AND ESTABLISHED ATFM UNITS PUNTOS FOCALES ATFM OPERACIONALES Y UNIDADES ATFM ESTABLECIDAS
PARAGUAY*	<p>ATCO. Delia Cristina Giménez Aranda Jefe Departamento Evaluación de Sistemas CNS/ATM Dirección Nacional de Aeronáutica Civil (DINAC) Mcal. Lopez /22 de setiembre Edif. Ministerio de Defensa Nacional Asunción Paraguay Tel./Fax: +595 21205365 Cel.: +595 981841794 Email: atm_gna@dinac.gov.py</p>	<p>1. Unidad de Flujo (SGAS) – FMU SGAS (Unidad Operativa) Current responsible / Responsable actual de dicha Unidad: ATCO. Alejandro Amarilla Tel./Fax: +595 21 758-5110 Tel.: +595 971180665 E-mail: fm.asu@gmail.com</p> <p>Mariano Roque Alonso-Paraguay Edificio Centro de Control de Área - Unificado</p> <p>2. Unidad de Flujo (SGES) – FMU SGES (Unidad Operativa) Current responsible / Responsable actual de dicha Unidad: Lic. ATCO. David Gavilán Tel./Fax: +595 615973144 Cel.: +595 983 830-404 E-mail: daga_978@hotmail.com</p> <p>Minga Guazú-Paraguay Aeropuerto Internacional Guaraní.</p>

State/ Estado	STATE ATFM FOCAL POINTS PUNTOS FOCALES ATFM DEL ESTADO	OPERATIONAL ATFM FOCAL POINTS AND ESTABLISHED ATFM UNITS PUNTOS FOCALES ATFM OPERACIONALES Y UNIDADES ATFM ESTABLECIDAS
PERU*	Martha Soto Ansaldi Dirección General de Aeronáutica Civil (DGAC) Inspector de Navegación Aérea Tel.: +51 1 615-7881 Cel.: +51 997367352 E-mail: msoto@mtc.gob.pe	Dante Samaniego Bilbao Puesto de Gestión de Flujo de Tránsito Aéreo (FMP LIMA) Teléfono: +511 630-1000 Ext.2482 - 2483 Dirección AFTN: SPIMZDZX e-mail: dsamaniego@corpac.gob.pe fm_lima@corpac.gob.pe
SURINAME	Mr. Soeknandan Andre Chief Air Traffic Services Tel.: +59 7 530-433 Cel.: +59 7 7 216-108 Fax: +59 7 491-743 E-mail : atmcnslvd@yahoo.com	Mr. Gaddum R Coordinator ATS Supervisor ATS unit Zanderij Phone: Operations : +597 032-5208 Cel: +597 853-1681 E-mail: g.rperez@hotmail.com
URUGUAY*	Dirección Nacional de Aeronáutica Civil (DINACIA) Tte Cnel. (Nav.) Gabriel Falco Sub- Director de Circulación Aérea Tel: +598 2 604 0408 Ext 5101 Cel: +598 9 804 6848 FAX +598 2 604 0408 E-mail: gfalco@dinacia.gub.uy	Dirección Nacional de Aeronáutica Civil (DINACIA) C.T.A. Luis A. Otheguy Director de Tránsito Aéreo (ATM) Tel.: +598 2 604-0408, Int. 5105 Cel: +598 99592113 E-mail: atfmuruguay@dinacia.gub.uy Email: dta@dinacia.gub.uy ACC Montevideo Tel.: +598 260 00619 REDDIG

State/ Estado	STATE ATFM FOCAL POINTS PUNTOS FOCALES ATFM DEL ESTADO	OPERATIONAL ATFM FOCAL POINTS AND ESTABLISHED ATFM UNITS PUNTOS FOCALES ATFM OPERACIONALES Y UNIDADES ATFM ESTABLECIDAS
<p>VENEZUELA (Bolivarian Republic of) /</p> <p>VENEZUELA (República Bolivariana de)*</p>	<p>Maribel Mayora Vallenilla Responsable ATFM Tel: +58 212 303-4532 (13:00 – 21:00 UTC) Cel: +58 416 611-0607 (H24) E-mail: atfm@inac.gob.ve m.mayora@inac.gob.ve</p> <p>Omar Enrique Linares Planificador de Espacios Aéreos Instituto Nacional de Aviación Civil – INAC Aeropuerto Internacional Simón Bolívar Edificio ATC, piso 1, Oficina AIS Maiquetía, Vargas República Bolivariana de Venezuela Tel: +58 212 355 2898 E-mail: o.linares@inac.gob.ve ollinaresomar2@gmail.com</p>	<p>Harrynson Salazar Jefe ACC-Maiquetía Tel: +58 212 355-2912 (13:00 – 21:00 UTC) Cel: +58 416 632-6204 (H24) E-mail: Ha.Salazar@inac.gob.ve</p> <p>ACC-Maiquetía Tel: +58 212 355-2216 (H24) Cel: +58 416 623-6427 (H24)</p>

State/ Estado	STATE ATFM FOCAL POINTS PUNTOS FOCALES ATFM DEL ESTADO	OPERATIONAL ATFM FOCAL POINTS AND ESTABLISHED ATFM UNITS PUNTOS FOCALES ATFM OPERACIONALES Y UNIDADES ATFM ESTABLECIDAS
Others / Otros	INTERNATIONAL ORGANIZATIONS / ORGANIZACIONES INTERNACIONALES	ICAO / OACI
	<p>Julio de Souza Pereira Assistant Director, Safety Flight Operations IATA Avda. Ibirapuera, 2332, cj 22 Torre I Sao Paulo, Brasil Tel: +55 11 21874236 Mob: +55 11 993800953 Email: pereiraj@iata.org</p>	<p>Fernando Hermoza Hübner RO/ATM/SAR Tel.: +511 611 8686, Ext. 106 E-mail: fhermoza@icao.int</p> <p>Roberto Sosa España RO/ANS & SFTY Tel.: +511 611 8686, Ext. 104 E-mail: rsosa@icao.int</p>

*Updated SAM/IG/19 / Actualizados en la SAM/IG/19

APPENDIX C

ATFM SURVEY

ATFM SURVEY	ARG	BOL	BRA	CHI	COL	ECU	FGY	GUY	PAN	PAR	PER	SUR	URU	VEN	REMARKS
1. Regarding the SAM ATFM implementation plan, confirm if FMUs/FMPs have been established. If YES, indicate which is the responsible unit. If the answer is NO, indicate what are your plans for ATFM implementation based on regional requirements.	NO	NO	YES	YES	YES	YES			YES	YES	YES		NO	YES	Panama: The responsible is the Control Centre Supervisor
2. Confirm if you have personnel trained in the ATFM implementation plan and if this staff is currently performing the corresponding functions according to the implementation plan.	YES	YES	YES	YES	YES	YES	YES	NO	YES	YES	YES	NO	YES	YES	Pending Guyana and Suriname.

ATFM SURVEY	ARG	BOL	BRA	CHI	COL	ECU	FGY	GUY	PAN	PAR	PER	SUR	URU	VEN	REMARKS
5. How many airports in your State/country have apron capacity calculations? List the main ones. If the answer is NONE, indicate which airports you think require such calculations.	0	0	1	0	0	0	1		1	0	17		0	0	<p>Brazil: Apron capacity calculations have been performed for one airport (Guarulhos international airport in São Paulo-SP). This information was provided by GRU- (Guarulhos Airport Administration).</p> <p>Chile: We believe that SCEL, SCIE, and Loa de Calama require this calculation.</p> <p>Colombia: None. It is required for several airports since airport capacity is not being managed to address growing demand.</p> <p>Ecuador: None of the airports in the country has apron capacity calculations. However, it is estimated that the airports of Quito, Guayaquil, require these calculations.</p> <p>Panama: MPTO.</p> <p>Paraguay: These calculations have not been performed due to lack of experts (specialists) duly trained for this purpose. Calculations are required for the two international airports mentioned above: “Silvio Pettrossi” in Asuncion and “Guarani” in Minga Guazú.</p> <p>Peru: Cusco 7 C/D and 4 A/B positions. Calculations has been performed in 17 airports in the country.</p> <p>Uruguay: SUMU and SULL.</p> <p>Venezuela: None. We still do not have personnel duly trained to conduct these calculations, and do we have airdromes to perform calculation: international airport of Maiquetía, Margarita and Barcelona</p>
6. Number of operations per hour at the airport considered to be the most important one:															<p>Chile: SCEL</p> <p>Peru: SPIM.</p>
Runway capacity	SAEZ SACO See Obs.	SLLP 16	SBGR 52	SCEL 40	SKBO 70	SEQU 29	6		MPTO 44	SGAS 23	SPJC 35		SUMU 25 SULL 18	SVMI 34	<p>Argentina:</p> <p>SAEZ: RWY: 11: 29 aircraft/hour 29: 27 aircraft/hour 35: 13 aircraft/hour 17: 15 aircraft/hour</p> <p>SACO: RWY: 18: 13 aircraft/hour 36: 21 aircraft/hour</p>

ATFM SURVEY	ARG	BOL	BRA	CHI	COL	ECU	FGY	GUY	PAN	PAR	PER	SUR	URU	VEN	REMARKS
Apron capacity	NO	NO	SBGR 90	NO	NO	NO	NO	NO	MPTO 49	NO	SPJC	NO	NO	NO	
7. For the airport considered to be the most important one, number of trained personnel capable of providing, in terms of operations per hour, calculations for:															
Runway capacity	20	12	18	15	4	1	3		2	1	8		5	2	
Apron capacity	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	3	NO	NO	NO	
ATS sector capacity	5	10	18	4	4	1	3		2	1	8		5	2	Argentina will train more staff in June 2017-

Updated SAM/IG/19

APPENDIX D

**MODEL MEMORANDUM OF UNDERSTANDING (MoU)
BETWEEN STATE “A” AND STATE “B”**

**TO PROMOTE THE ESTABLISHMENT OF A REGIONAL ATFM SYSTEM IN THE
SAM REGION**

State “A” and State “B”, hereinafter called “the Parties”:

RECOGNISING:

The importance of Air Traffic Flow Management for the safety of operations and sustained growth of aviation in the Region, as well as the significant volume of air traffic and its constant growth, highlighting its impact on social and economic development of the States;

WISHING to develop significant cooperation links among the Parties in order to promote the establishment of a regional ATFM system with a view to maintaining smooth traffic flows and achieving a safe, efficient and sustainable development in the Region;

AGREE to the following:

ARTICLE I

Objectives

1. The Parties agree to cooperate closely and to consult each other on matters of mutual interest in order to achieve their common objectives, which include:
 - a) To establish **coordination** procedures between units responsible for air traffic flow management or those acting on their behalf.
 - b) To establish **communication** procedures between units responsible for air traffic flow management or those acting of their behalf.
 - c) To establish **contingency plans** based on **ATFM initiatives** with a view to safeguarding the safety of operations and maintaining the efficiency of the ATM system.
 - d) To establish **quantifiable goals** for measuring the effectiveness of the implemented traffic management initiatives (TMIs).

2. The Parties agree to cooperate in good faith, through joint and concerted participation in accordance with the provisions of this Memorandum, with a view to attaining the aforementioned objectives.

ARTICLE 2

Scope of the Memorandum

1. This Memorandum establishes a framework for cooperation among the Parties and defines the conditions and modalities under which the Parties will collaborate to achieve their common objectives.
2. This Memorandum represents a comprehensive understanding among the Parties regarding their objectives.
3. This Memorandum in no case alters or modifies the Letters of Operational Agreement that already exist between the Parties.

ARTICLE 3

Responsibilities

1. The units in charge of providing the ATFM service (or those acting on their behalf) will be responsible for:
 - a) Coordinating with each other before implementing traffic management initiatives (TMIs) that might affect the safety and smoothness of operations.
 - b) Communicating flow management parameters and the duration of the measure to the other units responsible for the ATFM service before implementing TMIs.
 - c) Using ATFM messaging through the channels that the Parties deem appropriate (AFTN network, AMHS, e-mail, etc.) for communicating the implementation of TMIs.
 - d) Including the type of TMI in the ATFM plan of operations when there is a possibility for the counterpart to be affected by such measures.
 - e) Making sure that the counterpart is informed about the implementation of TMIs.

ARTICLE 4

Duration

This Memorandum of Understanding will remain valid, despite changes in the authorities of the Parties, until Letters of ATFM Operational Agreement are signed, which shall include the points set forth in this MoU, or until both Parties agree to its termination.

ARTICLE 5

Amendments

This Memorandum of Understanding may be amended or modified by mutual agreement of the Parties. Any of said amendments or modifications will be made in writing and must be duly signed by both Parties.

ARTICLE 6

Dispute settlement

Any conflict or dispute regarding the interpretation or application of this Memorandum of Understanding will be settled through negotiation between the Parties, through the agreed channels of communication.

ARTICLE 7

Entry into force

This Memorandum of Understanding will enter into force immediately after it is signed by the Parties.

Signed in *(city)*, *(date in clear text)*

Signed on behalf of "A"

Signed on behalf of "B"

ATFM coordinator of State "A"

ATFM coordinator of State "B"

APPENDIX E

DRAFT CONTENT OF THE CAR AND SAM ATFM CONCEPT OF OPERATIONS

1. ACRONYMS
2. REFERENCE DOCUMENTS
 - 2.1. Regional documentation
 - 2.2. ICAO documentation
 - 2.3. GREPECAS/SAM/IG activities
3. EXECUTIVE SUMMARY
4. GENERAL INTRODUCTION
 - 4.1. ICAO strategic objectives
 - 4.2. Regional and interregional ATFM-specific objectives
5. BACKGROUND AND CURRENT STATUS
 - 5.1.1. Statistics and growth
 - 5.1.2. Status of the Caribbean Region - CAR
 - ATFM in the State / ANSP 1
 - ATFM in the State / ANSP 2
 - 5.1.3. Status of the South American Region - SAM
 - ATFM in the State / ANSP 1
 - ATFM in the State / ANSP 2
6. CONCEPT OF OPERATIONS (CONOPS - ATFM)
 - 6.1. Fundamentals and theoretical assumptions
 - 6.2. ATFM enabling elements
 - 6.3. ATFM and CDM
 - 6.4. Responsibilities of users and stakeholders
 - 6.4.1. FMP/FMU units
 - 6.4.2. Aircraft operators
 - 6.4.3. Airport operators
 - 6.4.4. A-CDM interfaces
 - 6.4.5. Air traffic services

- 6.5. Implementation requirements
 - 6.5.1. Technological enhancements
 - 6.5.2. Policy enhancements
 - 6.5.3. Impact during the process
 - 6.5.4. Multi-nodal ATFM or network concept
 - 6.5.5. Performance metrics and post-implementation analysis
 - 6.5.6. Other medium- and long-term considerations
- 7. OPERATIONAL SCENARIO MODEL
 - 7.1. Model step-by-step procedures for addressing a capacity reduction event, following the ATFM concept
- 8. EXPECTED BENEFITS AND PERFORMANCE OF THE ATFM CONOPS

Attachment A: ATFM initiatives of Doc 9971

Attachment B: ATFM guide