



Agenda Item 2: Analysis of Version 1 of the SAM ATS routes network

**IDENTIFICATION OF SPECIAL USE AREAS AND AIRSPACES
IN THE SOUTH AMERICAN REGION**

(Presented by the Secretariat)

Summary	
<p>This working paper presents information on the assessment of prohibited, restricted and danger areas that could potentially affect civil aviation operations in the Region.</p>	
References:	
<ul style="list-style-type: none">• Annex 11 to the ICAO Convention• Doc 4444 ATM, Procedures for Air Navigation Services• Doc 9426, Air Traffic Services Planning Manual• 37th ICAO Assembly (October 2010)• ICAO Circular 330 AN/189• Global Air Traffic Management Forum on Civil/Military Cooperation (Montreal, October 2009)• SAM/IG1 to SAM/IG4 meeting reports• Report of the Seminar/Workshop on the performance-based air navigation systems implementation plan (PBIP) (Lima, May 2011)	
ICAO Strategic Objectives:	<i>A - Safety C – Environmental protection and sustainable development of air transport</i>

1 Background

1.1 Tasks 3.1.2 and 3.1.3 of the action plan of Version 2 of the ATS route network are aimed at the establishment of civil/military coordination committees to assess the application of the flexible use of airspace (FUA) concept and to develop route implementation and/or realignment proposals based on the FUA. WP/3 addresses this concept in detail.

1.2 The attainment of an integrated ATS route network that responds to the interests of all users, including commercial, military, general, and sport aviation and unmanned aircraft systems, requires a very good civil/military cooperation system that permits the analysis of all restricted, prohibited and danger areas implemented in the South American Region.

1.3 This analysis is not only intended to eliminate or reduce special use airspaces but also, through the application of the collaborative decision-making concept, to identify the best options that may satisfy all airspace users and ensure that their needs are met, regardless of airspace restrictions.

1.4 On 9-13 May 2011, a seminar/workshop was held on the *SAM Performance-Based Air Navigation System Implementation Plan (SAM-PBIP)*, a document developed taking into account the Global Air Navigation Plan (Doc 9750) and aimed at the implementation of the Global Plan Initiatives (GPI) as stipulated in said document, in order to begin the migration to the ATM operational concept as envisioned by ICAO.

1.5 Likewise, this Plan seeks to establish an implementation strategy to derive benefits for the ATM community based on user requirements, ATM infrastructure, and available and foreseen aircraft capabilities, including unmanned aircraft systems (UAS). The document contains the vision of the Region for the air navigation system (AGA/AOP, AIS, ATM, CNS, MET, SAR, human resources and safety), and assigns high priority to environmental protection, training and safety, all aspects that are necessary for such evolution.

1.6 Chapter 4 of the PBIP, upon examining ATM system gaps in the SAM Region, identifies as one of the main deficiencies the lack of a policy and procedures for the flexible use of airspace, which hinders airspace design and management, preventing the application of an optimum airspace structure and the use of optimum flight paths (see PBIP, 4.3.1 c).

1.7 It also recognises that, although substantial improvement has been made in recent years, the limitations of the current ATM system persist in some sectors, leading to inefficient aircraft operations. Amongst the limitations identified were the existence of permanently reserved airspaces, mainly for military purposes, which somehow hindered appropriate airspace planning, not permitting direct flights between airports of origin and destination and/or city pairs, as well as operations at inappropriate flight levels and/or speeds that prevent aircraft from maintaining optimum flight profiles, a factor of significance in ground and/or en-route system-related delays.

2 Discussion

2.1 Also in Chapter 4, when analysing the aforementioned aspects, it was concluded that strategic coordination and dynamic interaction would facilitate the optimum, balanced, and equitable use of airspace by civil and military users, thus permitting the establishment of optimum flight paths while reducing operating costs for airspace users. To address this issue, the Region developed a performance objective concerning the flexible use of airspace.

2.2 In this sense, SAM States should establish policies on the use of temporarily or permanently reserved airspaces in order to avoid, inasmuch as possible, the adoption of airspace restrictions, and take into account and integrate the new component of the aeronautical system, unmanned aircraft systems (UAS), into their air navigation system.

2.3 The flexible use of airspace implementation process should start with an assessment of dangerous, restricted and prohibited airspaces that affect or could affect air traffic.

2.4 Consequently, the States of the Region were requested to provide information on their prohibited, restricted and danger areas in order to begin the aforementioned analysis.

2.5 Responses were received from all States. For further reference, the information obtained and summarised by the Secretariat is shown in **Appendix A** to this working paper.

2.6 A simple analysis of the information reveals that there is a high percentage of special use airspace that should be analysed within the context of civil/military cooperation in each State of the Region. There are 124 prohibited areas, 421 restricted areas, 41 danger areas and 83 special areas published in the Region, including the volcanic areas identified by Chile, and special areas for air sports and recreational activities identified by Panama. This information will be processed subsequently in order to define the percentage of special use airspace existing in the SAM Region, and how these areas could affect civil aviation operations in the Region. More information will be presented at the SAM/IG/8 meeting.

2.7 In the understanding that this could hinder airspace optimisation, ICAO deemed it advisable to conduct a Seminar/Workshop on Civil/Military Cooperation, to be held on 16-19 August 1022. This event is part of a global campaign of regional civil/military cooperation events recommended by the Global Air Traffic Management Forum on Civil/Military Cooperation (Montreal, October 2009), and endorsed by the 37th ICAO Assembly (October 2010), which formulated Resolution A37-15, Appendix 0: Coordination and Cooperation between Civil and Military Air Traffic. The seminar/workshop will consist of two days of a high-level seminar and two days of a workshop at which it is expected that participants will be presented with Circular AN/330 *Civil/Military Cooperation in Air Traffic Management*; civil/military cooperation and coordination will be improved, information will be shared between civil/military authorities, and the impact of modernisation efforts by States will be analysed.

2.8 It is expected that the event will help to establish good communication between the parties involved, in order to improve civil/military cooperation, coordination and joint operation.

3. **Suggested action**

3.1 The Meeting is invited to take note of the information, and:

- a) States are invited to participate in the Seminar/Workshop on Civil/Military Cooperation to be held on 16-19 August 2011, and to include air forces staff in their delegation.
- b) States are invited to start assessing dangerous, restricted and prohibited airspaces that affect or could affect traffic flow, so that they can be processed and subsequently submitted to the SAMI/IG/8 meeting.

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APPENDIX A

Prohibited, Restricted and Dangerous Areas in the SAM Region

State	ZP	ZR	ZD	Other	Comments
Argentina	15	50	1	N/A	
Bolivia	1	23	NIL	N/A	
Brazil	44	228	11	N/A	
Chile	12	32	9	78 areas of volcanic activity	Chile has defined the areas of balloon ascent (5) as prohibited areas.
Colombia	5	11	NIL		
Ecuador	2	11	1	N/A	Ecuador has designated as dangerous areas of the SANGAY volcano
French Guyana	1	4	9		
Guyana	1	NIL	NIL		
Panamá	4	2	4	4 and 1 ADIZ	Panama has designated other areas of air sports and recreational activities.
Paraguay	2	9	3	N/A	
Perú	14	22	NIL	N/A	
Suriname	2	1	NIL	N/A	
Uruguay	19	4	2	N/A	
Venezuela	6	36	2	N/A	
TOTAL	126	432	42	83	

ZP: Prohibited area

ZR: Restricted area

ZD: Dangerous area

N/A: Not applicable

NIL: Nothing