Agenda Item 6: **Planning of new MET projects**

Implementation of a procedure and common coordination platform between adjacent MWOs for the emission of SIGMET

(Submitted by Chile and Argentina)

SUMMARY

There is a need to implement an operational Coordination strategy between adjacent Meteorological Watching Offices (MWOs), in line with what has been implemented and verified in other ICAO regions; with the objective of improving the consistency, continuity and quality of the content of SIGMET information in the SAM Region, in support of safe and efficient air navigation for the region.

References:

- Annex 3 – Meteorological Service for International Air Navigation
- Manual of aeronautical meteorological methods (Doc 8896)
- Guide for the Preparation, Dissemination and Use of SIGMET Messages in the CAR / SAM Regions
- Final report of the Meeting on Projects of the MET Program of GREPECAS (2017)
- WP / 07 "Implementation of a coordination procedure between adjacent MWOs" Presented by Ecuador at the SAM COM / MET 2019 Implementation Meeting

Strategic objectives of ICAO:	*A - Operational safety* *B - Capacity and efficiency of air navigation* *E - Protection of the environment*

1. Introduction

1.1 As stated in Annex 3 ICAO, specifically in item 3.4.1 where it is indicated that any Contracting State that has accepted the responsibility of providing air traffic services within a region of flight information (FIR) or a control area (CTA), will establish, in accordance with a regional air navigation agreement, one or more Office of Meteorological Watching. (MWO).

1.2 In conjunction with the above, ICAO Annex 3, item 3.4.2, adds that MWOs will maintain continuous monitoring of meteorological conditions that affect flight operations within their area of responsibility; and they will also prepare SIGMET information and other information related to their area of responsibility;

1.3 In item 7.1.1, of the Annex mentioned in the preceding paragraphs, it is indicated that the SIGMET information will be issued by an MWO and will give a concise description in abbreviated plain language of the actual and / or foreseen existence of certain meteorological phenomena during en route and

other phenomena in the atmosphere that may affect the safety of aircraft, and the evolution of these phenomena in time and space.

1.4 Meteorological phenomena present themselves at the atmosphere in a dynamic way without defined borders or limits, such as the Flight Information Regions (FIR). The different aviation users need uniform, constant and high quality information on weather conditions, both for operations and movements at airports and for airspaces (en route) where it contributes to safety and regularity, efficiency of international air navigation.

1.5 In the CAR / SAM SIGMET GUIDE, Ninth Edition (2010), item 2.1.3 indicates that the effectiveness of SIGMET information depends largely on the level of collaboration between MWOs, ATS units and pilots. For this reason, it is essential to establish close coordination among those involved, as well as a mutual understanding of their needs and responsibilities for the successful implementation of this information.

2. Discussion

2.1 In view of the Meteorological Watching Offices (MWOs) are associated (or limited) to a specific Flight Information Region (FIR), SIGMET reports are prepared to considering these limits, sometimes not taking into account the extent of the phenomenon itself. Meteorological event that occurs in the atmosphere and may cover several FIRs, it can generate a significant difference between the SIGMET messages that are prepared (or not) in the MWOs that are in charge of adjacent FIRs.

2.2 Likewise, in the final report of the Meeting on Projects of the MET Program of GREPECAS (2017) it is stated in point 1.10: "The Meeting considered the cases in which there are problems related to the surveillance of severe phenomena en route. In this sense, SIGMET messages issued for the same phenomenon but affecting several FIRs have been observed. The problems observed refer to inconsistencies in the information of affected areas, differences in the levels of caps and inconsistency in the information related to severe phenomena between the limits of the flight information region (FIR). The Meeting recognized the difficulty for the coordination among the States, but understood it necessary to establish coordination procedures using the currently available technological means (chat, teleconference, among others) in order to issue coherent reports among the Meteorological Watching Offices involved."

2.3 Considering that in the SAM Region it is not known that there are coordination procedures between adjacent LMOs, either within the same State (that has more than one (1) FIR) as well as between States with adjacent FIRs, the implementation of Coordination Procedures between neighboring LMOs (whether they are part of the same State or not) would provide an opportunity for States to exchange information based on standardized good practices. In addition, it would mean the possibility of having a possible communication exchange framework in operational situations in the event that the real and / or expected existence of certain en-route meteorological phenomena is detected, in order to reach a consensus on the development of cross-border SIGMETs messages in order to achieve spatio-temporal coherence of the same.

2.4 Considering that there are several multinational projects or SIGMET coordination alliances in the world. For example, in Europe, the Project "METAlliance SIGMET Coordination Project" conformed by: Germany, Austria, Belgium, France, Ireland, Luxembourg, the Netherlands and Switzerland. Likewise, NAMCon between Denmark and Sweden, PT-EAST Armenia, Azerbaijan, Belarus, Georgia, Kazakhstan, Kyrgyzstan, Moldova, Russian Federation, Tajikistan, Ukraine and Uzbekistan have made progress in their coordination efforts. In addition, several coordination projects have been developed in Asia, including the MWOs in Indonesia, Malaysia and Singapore. It is also important to note that Hong Kong Observatory developed a web tool to support SIGMET coordination in Southeast Asia. Finally, since

2016, the SIGMET Coordination between Japan, the Philippines and Vietnam has been implemented as Pilot Mode, which also has a common platform for operational interaction for the preparation of SIGMETs messages.

2.5 As a proposal for progress based on the preceding points, the Meeting is invited to consider the coordination between MWOs as a new MET project and the realization of a planning meeting to implement the tools, platforms and procedures in relation to SIGMET coordination between adjacent MWOs. The purpose will be to evaluate the different existing options and the feasibility of delineating implementation agreements between the States of the Region for communication coordination between adjacent MWOs, in the development of coherent and quality SIGMETs. It would also be an occasion to observe jointly the results of the various solutions offered by these practices and exercises, which have already been tested and / or are in development, including the platforms and technologies used, as well as the means of communication and protocols used. It should be noted that it is important that IT developers participate in conjunction with the aeronautical meteorologists of the States, in order to evaluate the technical aspects and the technological capabilities necessary for this Coordination.

3. Suggested action

The Meeting is invited to:

a) Take note of the information provided in this working paper;
b) Agree on the actions it is necessary, especially point 2.5, to determine an appropriate way to move forward in the formulation of a regional agreement.

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