



**GREPECAS Programmes and Projects Committee (PPRC) Fifth Virtual Meeting
 (ePPRC/05)
 Online, 20 – 21 April 2023**

Agenda Item 2: Review of the Programmes and Projects of the CAR/SAM Planning and Implementation Regional Group (GREPECAS)

2.1 Programs and projects reviewed by GREPECAS

AERONAUTICAL METEOROLOGY

(Presented by the Secretariat)

| EXECUTIVE SUMMARY | |
|--|---|
| This paper presents a summary of the activities developed in follow-up to the GREPECAS MET Programme in the Caribbean and South America regions. | |
| Action: | According to what is presented in numeral 3. |
| Strategic Objectives: | <ul style="list-style-type: none"> • Air navigation capacity and efficiency • Environmental protection |
| References: | <ul style="list-style-type: none"> • Annex 3 - Meteorological Service for International Air Navigation. • Report of the Twentieth Meeting of the CAR/SAM Regional Planning and Implementation Group (GREPECAS/20), Salvador, Brazil, 16 to 18 November 2022; • State Letter AN 10/1-23/1 dated 26 January 2023, Proposed amendments to Annex 3, the new Procedures of the Air Navigation Services for Aeronautical Meteorology (PANS-MET) and consequential amendments to other Annexes. |

1. Introduction

1.1 The Twentieth Meeting of GREPECAS reviewed the MET activities and recommended actions for the continuous improvement of the provision of meteorological services for international air navigation in the CAR/SAM Regions.

1.2 ICAO has communicated to States a new proposed amendment to ICAO Annex 3 and the introduction of the new PANS-MET.

1.3 The Secretariat has followed up on the recommendations of the aeronautical meteorology area through teleconferences and virtual meetings.

2. Activities in the Regions

2.1 In the CAR Region, the Seventh Meeting of the North America, Central America and Caribbean Working Group (NACC/WG/7) held in Mexico City between 29 August and 1 September 2022, called for the formation of the MET Task Force in order to promote the MET implementation initiatives in the NAM/CAR Regions and energize the assistance mechanism at the regional level. The First MET/TF Meeting was held online on 16 March 2023 with the participation of 20 representatives from 12 States/Territories and one International Organization, the Meeting agreed on the Terms of Reference and reviewed the MET/TF work program.

2.2 The status of the ICAO Weather Information Exchange Model (IWXXM) and the Quality Management System in the MET processes (QMS/MET) implementation is available to States on the NACC Dashboard iSTARS 4.0 site (<https://istars.icao.int/Sites>).

2.3 In the SAM Region, the Secretariat continues to follow up on the requirements of ICAO Annex 3. In this regard, the Secretariat has followed up on the implementation of:

- a) the exchange of Operational meteorological (OPMET) information in IWXXM format; the status of IWXXM implementation is presented in **Appendix A**;
- b) QMS/MET; the status of the implementation of QMS/MET is presented in **Appendix B**;
- c) review of MET area deficiencies, presented in **Appendix C**;
- d) correct and timely preparation of warning messages (Significant meteorological information [SIGMET], Area forecast for low-level flights [GAMET], Information concerning en-route weather phenomena which may affect the safety of low-level aircraft operations [AIRMET], Aerodrome Warnings);
- e) coordination of the harmonized provision of SIGMET messages between adjacent Flight Information Regions (FIR) Meteorological Watch Offices (MWO);
- f) efficiency in the issuance of OPMET messages other than warnings (Meteorological aerodrome report [METAR], Aeronautical special meteorological report [SPECI], Aerodrome forecast [TAF]).

Guide for the preparation and dissemination of SIGMET messages

2.4 The Secretariat is working on updating the reference Guide, taking into account the latest amendments to ICAO Annex 3, in collaboration with States and with the support of the aviation experts group of the Regional Association IV (RAIV ETAVI). The Guide is currently under final revision for publication.

2.5 In addition, a workshop on the preparation of SIGMET, AIRMET, GAMET and Aerodrome advisories messages was conducted with the support of Regional Projects RLA09801 (NACC)

and RLA/06/901 (SAM). The Workshop is supported by the Weather Prediction Center (WPC), National Centers for Environmental Prediction (NCEP) at the National Oceanic and Atmospheric Administration (NOAA) of United States and is based on case studies.

2.6 In addition, the Secretariat, together with the States, has been designing, as a follow-up to one of the Recommendations of the 2022 ATS/AIS/MET Coordination Workshop, and the April 2022 NAM/CAR Regional Meeting for Contingency and Emergency Planning and Response (NAM/CAR/CONT/02), a possible volcanic ash exercise (VOLCEX) involving all areas of Air Navigation, Volcanic Ash Advisory Centres (VAAC), State Volcano Observatories and operators.

Coordination for the delivery of SIGMET messages between adjacent FIRs

2.7 The Secretariat in conjunction with States is working on the creation of a platform to coordinate the harmonized delivery of SIGMET messages between MWOs of adjacent FIRs and/or Control Areas (CTA), in response to ICAO Recommendation 3.4.4 of Annex 3.

2.8 The Secretariat also encourages an addendum to the ATS Operational Letters of Agreement (ATS LOA) to include these coordination procedures between MWOs of adjacent FIRs and/or CTAs, or the determination of an appropriate instrument to allow the establishment of the bilateral or multilateral coordination mechanism between the MWOs of Contracting States.

Efficiencies in the issuance of OPMET messages

2.9 The Secretariat has received the OPMET message exchange control reports from the International OPMET Bank in Brasilia. The reports are currently being analyzed by the Secretariat to identify opportunities for improvement.

2.10 In addition to the assistance webinars for the implementation of the IWXXM developed in previous years, the tests carried out by Cuba, together with Brazil, United States and the Central American Corporation of Air Navigation Services (COCESNA) stand out to demonstrate the interoperability of the systems of all parties in the exchange of OPMET in accordance with the IWXXM on the Aeronautical Message Handling System (AMHS), which facilitates and streamlines the implementation of the IWXXM in the CAR/SAM Regions.

Support for the training of MET personnel

2.11 The Secretariat, with the support of Project RLA/06/901, carried out the Workshop on the preparation of SIGMET, AIRMET.GAMET Messages and Aerodrome Advisories; which took place from 21 to 25 November 2022.

2.12 Project RLA09801 approved the SIGMET Improvement Workshop, to increase the availability and quality of MET messages in the NAM/CAR/SAM States. In this sense, the ICAO NACC Regional Office extended an invitation to States to participate in the SIGMET Part 1 Workshop (SIGMET/Workshop/P1) – Analysis and forecasting techniques, to be held at the Regional Office facilities, in Mexico City, Mexico, from 29 May to 2 June 2023. Part 1 of the Workshop aims to provide MWO's Aviation Meteorological Personnel (AMP) with the knowledge and skills necessary to improve the diagnosis and forecast of en-route weather phenomena which may affect the safety regularity and efficiency of international air navigation, in preparation for a Part 2 of the workshop being scheduled for November 2023, in cooperation with Regional Association IV of the Organization World Meteorology (WMO).

2.13 In addition, the Secretariat will offer, with the support of Project RLA/06/901, the Lead Auditor course, certification of the International Registry of Certified Auditors (IRCA), of the ISO 9001:2015 Standard. The course will be instructed by a specialized company and will take place between July and August 2023.

Follow-up to the proposed amendment to Annex 3 and the new PANS-MET

2.14 The Secretariat followed up on the proposed amendment to Annex 3 and the introduction of the PANS-MET Document through teleconferences with the States.

2.15 The Meeting will recall that ICAO notified the States of the aforementioned amendment proposal on 26 January through reference letter AN 10/1-23/1. During the teleconferences, States requested the following:

- a) to hold a second teleconference in the first week of July, prior to the comment deadline for final coordination;
- b) that the Secretariat organize a Seminar – Workshop on PANS-MET for a greater dissemination of this document.

3. Suggested actions

- a) urge States that have not yet completed the process of implementing and certifying quality systems in the MET processes (QMS/MET), to streamline and finalize implementation;
- b) urge States to complete the process of implementing tools that allow for the exchange of OPMET messages in IWXXM format;
- c) urge States to review the proper implementation of the Meteorological Service for International Air Navigation and identify possible shortcomings, including the training of Aeronautical Meteorological Personnel (AMP);
- d) urge States to formalize bilateral or multilateral coordination between MWOs to ensure harmonized provision of SIGMET information between adjacent FIRs and/or CTAs;
- e) urge States and industry to support a volcanic ash exercise involving all areas of ATM, as well as industry, VAACs and State Volcano Observatories;
- f) indicate other actions deemed relevant.

APPENDIX A
FOLLOW-UP TO THE IMPLEMENTATION OF THE OPMET MESSAGE EXCHANGE IN IWXXM FORMAT

| IWXXM Implementation – SAM Region | | | |
|--|--------------------|---|--|
| STATES | Implemented | Current status of the Process | Date of probable implementation |
| Argentina | Implemented | Exchange tests | |
| Bolivia | No | No progress reported | Undated |
| Brazil | Implemented | Exchange tests with States of the SAM, CAR and EURNAT Regions | |
| Chile | No | No progress reported | 2023 -2024 |
| Colombia | No | A new OPMET Bank is planned to be installed | 2023-2024 |
| Ecuador | No | Exchange tests with the OPMET Bank – Has a module that converts from TAC format to IWXXM format No progress reported | First semester of 2022 via web-services until the process is completed by the AMHS (second semester of 2023) |
| Guyana | Implemented | Exchange tests with the OPMET Bank | |
| French Guyana | | | |
| Panama | No | A new OPMET Bank is planned to be installed | End of 2022 End of 2023 |
| Paraguay | No | Acquisition of the module to convert from TAC format to IWXXM Exchange tests with the Bank of Brasilia | March 2022 |
| Peru | No | Exchange tests with the OPMET Bank – Has a module that converts from TAC format to IWXXM format | End of 2022 End of 2023 |

| | | | |
|------------------|----|--|---|
| Suriname | No | In process of acquisition | End of 2022 |
| Uruguay | No | Has a module that converts from TAC format to IWXXM format. AMHS has been installed but no progress has been made on other tools | Second semester of 2022 via webservices until the process is completed by the AMHS End of 2023 |
| Venezuela | No | Exchange tests with the OPMET Bank – Has a module that converts from TAC format to IWXXM format | End of 2022 End of 2023 |

APPENDIX B
MONITORING OF THE IMPLEMENTATION AND CERTIFICATION OF THE QUALITY MANAGEMENT
SYSTEM IN MET PROCESSES (QMS/MET)

| QMS/MET Implementation – SAM Region | | | | |
|-------------------------------------|--|---|---|---|
| STATE | Implemented | Certified | In process of certification | Date of re-certification |
| ARGENTINA | Implemented by the SMN. EANA S.E. has started the process including a specialist in the team. The process of carrying out a Second Party Audit has been started | Certified | | November 2022 - SMN |
| Bolivia | Implemented When changing the company name, from A.A.S.A.N.A to NAABOL, the process must be started again. They will finish it in 2023 No progres reported | Certified Certification has been lost, but they would opt for it by 2023 | | |
| Brazil | Implemented, but not certified. They are carrying out internal audits, waiting for the Certification Audits. Implementation processes are in progress and expect to have certification by the end of 2023. | No | Yes | June 2023, End of 2023 |
| Chile | Implemented | Certified | Re-certification audit by the end of 2023 or beginning of 2024 | 2023 |
| Colombia | IDEAM – Implemented MET Group – UAEAC - Implemented Changes in the UAEAC imply a revision of the documentation | IDEAM- Certified UAEAC – No | The processes associated with MET should be certified and for this reason obtaining the certification has been extended | Second semester of 2023 |
| Ecuador | In the process of implementation The highest authority is not involved No progres reported | Not started | Not started | The issue should be escalated to the RD |

| QMS/MET Implementation – SAM Region | | | | |
|-------------------------------------|---|---|---|--|
| STATE | Implemented | Certified | In process of certification | Date of re-certification |
| Guyana | GAP Analysis to migrate to the 2015 version of the ISO 9001 Standard No progres reported | Not started | Not started | |
| French Guyana | | | | |
| Panama | Implemented | Certified but failed to re-certify - Dec/2021 – Re-certification audit (Second semester of 2022) | | Will be certified this year. Certified in December 2023 |
| Paraguay | Implemented | CERTIFIED BUT FAILED TO RE-CERTIFY - JUNE/2022 – RE-CERTIFICATION AUDIT SUBJECT TO BUDGET AVAILABILITY | Pre-Audit for July. Certification Audit by the end of August 2022 | Certified in February 2023 |
| Peru | IMPLEMENTED | CERTIFIED | Procedures are being carried out for the second re-certification. In the next few days they will have the re-certification date | |
| Suriname | There is already a Roadmap to complete the migration process to the 2015 version | Adapted to version 2015 with probable Recertification Audit for September/2022 Suriname, for budgetary reasons, will seek certification this year. | Internal Audit planned in August. The re-certification audit continues to be planned for the end of 2022 | |
| Uruguay | Implemented with reservation from DINACIA | Probable first Certification Audit in the first half of 2022 | | Second half of 2023 |
| Venezuela | No change but they are in the process of being updated Implementation by October 2022. | A Roadmap was prepared, and they are currently in Phase 3 of the Roadmap. Internal Audit has no defined date. The implementation documentation has been submitted to INAC for review. | Not started There is no defined date nor planning for it. | They will pass it in writing after completing the implementation process |

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| IDENTIFICATION | | | DEFICIENCY | | | | ACTION PLAN | | | |
|----------------------|---|--|---|---------------------|--|----------|--|---|--------------------|--|
| ID | Requirements | States/facilities | Description | Date first reported | Remarks | Priority | Description | Executing body | Date of completion | Remarks |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 |
| ARG Argentina | | | | | | | | | | |
| MET | 53 SAM Notify the RVR for CAT 1 operations (Annex 3, Part I, Chapter 4, Rec. 4.6.3.2) | Argentina / Aeronautical meteorological stations | The RVR of SAEZ, SACO, SAZM, SARE and SAME have not been implemented. | AUG/ 2006 | Plan the acquisition or repairment of the RVR. | A | Installation of RVR Integrated Systems, Nefobasimeter and Automatic Meteorological Station with visual presentations in MET and TWR. | FAA - CRA in coordination with Natl. MET Service. | 2007 | |
| MET | 76 SAM Notify the RVR for CAT 1 operations [(Annex 3, Part I, Chapter 4, Rec. 4.6.3.2)] | Argentina / Aeronautical meteorological stations | The RVR of SAZS, SARI y SAWH have not been implemented. | AUG/ 2006 | Plan the acquisition or repairment of the RVR. | A | Acquisition and installation of RVR Integrated Systems, Nefobasimeter and Automatic Meteorological Station with visual presentations in MET and TWR. | FAA - CRA in coordination with Natl. MET Service. | 2008 | Waiting for the assignment of the corresponding financial resources. |
| MET | 77 SAM Notify the RVR for CAT 1 operations [(Annex 3, Part I, Chapter 4, Rec. 4.6.3.2)] | Argentina / Aeronautical meteorological stations | The RVR of SASA, SAZN SARP have not been implemented. | AUG/ 2006 | Plan the acquisition or repairment of the RVR. | A | Acquisition and installation of RVR Integrated Systems, Nefobasimeter and Automatic Meteorological Station with visual presentations in MET and TWR. | FAA - CRA in coordination with Natl. MET Service. | 2009 | Waiting for the assignment of the corresponding financial resources. |
| MET | 78 SAM Notify the RVR for CAT 1 operations [(Annex 3, Part I, Chapter 4, Rec. 4.6.3.2)] | Argentina / Aeronautical meteorological stations | The RVR of SASJ, SAWG, SANT have not been implemented. | AUG/ 2006 | Plan the acquisition or repairment of the RVR. | A | Acquisition and installation of RVR Integrated Systems, Nefobasimeter and Automatic Meteorological Station with visual presentations in MET and TWR. | FAA - CRA in coordination with Natl. MET Service. | 2010 | Waiting for the assignment of the corresponding financial resources. |
| MET | 79 SAM Notify the RVR for CAT 1 operations [(Annex 3, Part I, Chapter 4, Rec. 4.6.3.2)] | Argentina / Aeronautical meteorological stations | The RVR of SAWE, SAVC, SARF have not been implemented. | AUG/ 2006 | Plan the acquisition or repairment of the RVR. | A | Acquisition and installation of RVR Integrated Systems, Nefobasimeter and Automatic Meteorological Station with visual presentations in MET and TWR. | FAA - CRA in coordination with Natl. MET Service. | 2011 | Waiting for the assignment of the corresponding financial resources. |

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| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | |
| ECU Ecuador | | | | | | | | | | | |
| MET 33 SAM | Compliance with the requirements of the World Meteorological Organization (WMO) with regard to qualifications and training of aeronautical meteorology (MET) personnel (Annex 3, Part I, Chapter 2, standard 2.1.5) | Ecuador/ Aerodrome meteorological offices and meteorological watch office (MWO) of Guayaquil | Not all MET personnel complies with the requirements related to qualifications and training of WMO Publication No. 49. | JUN/ 1996 | a) Review the functions and training of the aeronautical meteorologists; and b) Plan and carry out training and/or refreshment courses for aeronautical meteorological personnel requiring them. | U | Training programmes at national and international level are being carried out to have the specialized aeronautical meteorology personnel required. | DGAC | 2007 | | |
| MET 84 SAM | Observations and routine reports (annex 3, Part I, Chap. 4, Standard 4.3.2 a) | Ecuador, aerodrome meteorological Offices. | The standard has not been implemented. | MAY/ 2007 | Update personnel and implement the standard. | A | CORRECETED | DGCA | | | |

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| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 |

GUY Guyana

| | | | | | | | | | | |
|-----|--------|---|--|---|-----------|---|---|--|------------------|-----------|
| MET | 34 SAM | Compliance with the requirements of the World Meteorological Organization (WMO) with regard to qualifications and training of aeronautical meteorology (MET) personnel (Annex 3, Part I, Chapter 2, standard 2.1.5) | Guyana / Aerodrome meteorological office and meteorological watch office (MWO) of Georgetown | The MET Authority does not have available the minimum quantity of personnel to provide MET service. | NOV/ 2006 | a) Review the functions and training of the aeronautical meteorologists; and b) Plan and carry out training and/or refreshment courses for aeronautical meteorological personnel requiring them. | U | To train and retain qualified MET Personnel. Systems to be put in place to offer better numeration package to trained personnel. CORRECTED | Hydromet Service | DEC/ 2018 |
|-----|--------|---|--|---|-----------|---|---|--|------------------|-----------|

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| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 |

PAN Panama

| | | | | | | | | | | | |
|-----|--------|---|---|--|-----------|---|---|---|-----|-----------|--|
| MET | 35 SAM | Compliance with the requirements of the World Meteorological Organization (WMO) with regard to qualifications and training of aeronautical meteorology (MET) personnel (Annex 3, Chapter 2, Standard 2.1.5) | Panama / Aerodrome meteorological offices and meteorological watch offices (MWO) of Tocumen | Not all MET personnel complies with the requirements related to qualifications and training of WMO Publication No. 49. | NOV/ 2000 | a) Review the functions and training of the aeronautical meteorologists; and b) Plan and carry out training and/or refreshment courses for aeronautical meteorological personnel requiring them. | U | They are making efforts to use the resources of some projects to be implemented. Plans for the formation and update to start in 2009 and end in 2011. Coordination with the universities is being carried out to correct this deficiency. | CAA | DEC/ 2015 | Lack of Training Centres in the Region that provide licenses in this matter. Economic resources to train personnel abroad. Personnel from with University technical degree is being hired (gradually), as requirement. Training is expected to be provided to permanent and new hired personnel. |
|-----|--------|---|---|--|-----------|---|---|---|-----|-----------|--|

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| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 |

PRY Paraguay

| | | | | | | | | | | |
|-----|--------|--|---|-----------------------------------|-----------|--|---|---|-------|-----------|
| MET | 45 SAM | Notify the RVR for CAT 1 operations (Annex 3, Part I, Chapter 4, Recommendation 4.6.3.2) | Paraguay / aeronautical meteorological stations | The RVR SGES is not in operation. | OCT/ 2006 | In SGES, the equipment is out of service and the purchase of an Automatic Meteorological Station is planned, including an RVR equipment. | A | A project is being developed and is in the final process, through this project an Automatic Meteorological Station was acquired, including RVR for SGES. RVR operations are foreseen to start at Asunción and Ciudad del Este | DINAC | DEC/ 2014 |
|-----|--------|--|---|-----------------------------------|-----------|--|---|---|-------|-----------|

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| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 |
| SUR Suriname | | | | | | | | | | |
| MET 47 | SAM Report the RVR for CAT 1 operations (Annex 3, Part I, Chapter 4, Recommendation 6.3.2) | Suriname / Aeronautical meteorological stations | SMIP RVR of Zandery has not been implemented. | JUN/ 1996 | Plan the acquisition of RVR. | A | | NCAA in coordinatin with MET Service | OCT/ 2010 | |
| MET 59 | SAM Surface wind (Annex 3, Standard 4.1.2.1) | Suriname COM Dependency | Displays of surface wind in ATS units correspond to wind sensor installed at the top of the TWR | OCT/ 2004 | Surface wind display in the surface of ATS dependencies must corresponds to the sensors of the MET station | U | | NCAA in coordination with Meteorological Service | OCT/ 2010 | |

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| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 |
| URY Uruguay | | | | | | | | | | |
| MET 39 | SAM Compliance with the requirements of the World Meteorological Organization (WMO) with regard to qualifications and training of aeronautical meteorology (MET) personnel (Annex 3, Chapter 2, Standard 2.1.5) | Uruguay / Meteorological Watch Offices (MWO) and aerodrome | Not all MET personnel complies with the requirements related to qualifications and training of WMO Publication No. 49. | JUN/ 1996 | a) Review the functions and training of the aeronautical meteorologists; and b) Plan and carry out training and/or refreshment courses for aeronautical meteorological personnel requiring them. | U | | | | DNM |
| MET 102 | SAM Information for in flight aircraft- ATIS/VOLMET | Uruguay | | AUG/ 2011 | CNS unit should take actions | A | | | | DINACIA |
| MET 107 | SAM Windshear warnings. | Uruguay | They have not equipment. | AUG/ 2011 | Acquire the systems where required. | U | | | | DNM |
| MET 108 | SAM Aeronautical climatological information (Annex 3, Chap. 8, Standard 8.1.1) | Uruguay | Climatological tables and summaries are not prepared due to the lack of personnel. | AUG/ 2011 | Make efforts to count with the necessary personnel. | B | | | | DNM |
| MET 109 | SAM Special observations and repots (Annex 3, Chap. 4, Standard 4.4.2 a). | Uruguay | SPECIAL is not prepared. | AUG/ 2011 | CNS unit shoud take actions. | A | | | | DNM |
| MET 110 | SAM Routine observations and reports (Annex 3, Chap. 8, Standard 4.3.2 a.) | Uruguay | Do not prepare MET REPORT. | AUG/ 2011 | CNS unit should take actions. | A | | | | DNM |

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| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 |
| VEN Venezuela | | | | | | | | | | |
| MET 67 | SAM FASID Table AOP 1 (CAR/SAM III-AOP 1-39) | Caracas and Margarita | RVR assessments have not been implemented. | JUN/ 1996 | | A | Acquisition programmed. | INAC in coordination with the SMN | DEC/ 2009 | The RVR from Caracas and Margarita are in the installation phase. |
| MET 68 | SAM Exchange of OPMET information (CAR/SAM ANP Basic, paras. 35 to 39) | Caracas MWO and MET offices | MET offices do not have direct access to AFTN, except Maiquetia. | DEC/ 2004 | Implement COM Recommendations of SIP COM/MET for CAR/SAM Regions | A | Project for the modernization of the communications | INAC in coordination with the SMN | DEC/ 2010 | The meteorological watch office has direct accesses to the AFTN network. Regarding the other airports it is foreseen that direct access will be available in 2010. |
| MET 99 | SAM FASID AOP 1 Table (CAR/SAM III-AOP 1-39) | Barcelona and Maracaibo | RVR assessments have not been implemented. | JUN/ 1996 | | A | Acquisition programmed. | INAC in coordination with SMN | DEC/ 2010 | |