



**SECOND GREPECAS PROGRAMMES AND PROJECTS REVIEW COMMITTEE (PPRC)  
 VIRTUAL MEETING (ePPRC/02)  
 30 October 2020**

- Agenda Item 2: Follow-up to GREPECAS Programs and Projects**  
**2.5 Coordinated review of Projects H2, H3, H4 and H5: MET Projects**

**ACTIVITIES RELATED TO GREPECAS H PROJECTS**

(Presented by the Secretariat)

<b>EXECUTIVE SUMMARY</b>	
<p>The working paper (WP) reports the activities carried out under the MET Program Projects, its achievements and future challenges to be considered by the ePPRC/02 in the development of new projects.</p>	
<b>Action:</b>	The indicated in item 5.1
<b>Strategic Objectives:</b>	<ul style="list-style-type: none"> <li>• Air navigation capacity and efficiency</li> <li>• Safety</li> <li>• Environmental Protection</li> </ul>
<b>References:</b>	<ul style="list-style-type: none"> <li>• Annex 3 — <i>Meteorological Services for International Air Navigation</i></li> <li>• Doc 9750 - <i>Global Air Navigation Plan (GANP) - Sixth Edition</i></li> <li>• Report of the Fifth Meeting of the GREPECAS Programmes and Projects Review Committee (PPRC/5) and WP/28 - Projects under the Aeronautical Meteorology Programme (B0-AMET) for the CAR Region.</li> <li>• Report of the First Virtual GREPECAS Programmes and Projects Review Committee (ePPRC/01)</li> </ul>

**1. Introduction**

- 1.1 The PPRC/5 took note of the activities carried out by the MET Program Projects in the CAR and SAM Regions and decided to review the MET program and its projects in order to update and standardize them in both regions.

1.2 The Sixth Edition of the GANP included the multi-level structure (global-regional-national), the vision, the “efficiency ambitions” (“performance ambitions”), the restructuring of the Aviation System Block Upgrade (ASBU) framework and the Basic Building Blocks (BBB); it also redistributed some ASBU models within Blocks 2 and 3, amongst them, the System wide information management (SWIM).

1.3 The situation of the COVID-19 pandemic has made it necessary to rethink the activities of the projects planned for 2020, so the ePPRC/01 has requested an analysis of the continuity of the projects in the pandemic and post-pandemic contexts.

## **2. Analysis**

2.1 The Sixth Edition of the GANP and the analysis of the Meteorology Panel (METP) experts, implemented a restructuring of the thread of Advanced Meteorological Information (AMET), Blocks 0 and 1, including a different distribution and organization of the elements to highlight the planned transition from a product-centric environment to an information-centric environment, as well as the migration to include MET in the SWIM. In this context, the implementation of the ICAO Meteorological Information Exchange Model (IWXXM) is imperative.

2.2 The updates of the Sixth Edition of the GANP will require a detailed review of the MET tables in Volumes I and II of the CAR/SAM Electronic Air Navigation Plan (e-ANP), the start of the development of the MET Tables for the Volume III is also required. Additionally, verification of the effective implementation of national and regional essential MET services in accordance with the BBBs will be needed.

2.3 Due to the situation caused by the COVID-19 pandemic, the Secretariat carried out follow-up activities of the projects through virtual tools and with the development of teleconferences held with the MET focal points.

## **3. Activities of the Projects under the MET Programme (Projects H)**

### **CAR Region**

3.1 The most relevant activities to address MET program projects in the CAR region are listed below:

- IWXXM interoperability tests on the Aeronautical Message Handling System (AMHS) between Cuba and United States, led by the Improvements to the ATS Voice Link (MEVA) Working Group of the NAM/CAR Air Navigation Implementation Working Group (ANI/WG).
- Dissemination of: 1) the Guidelines for the implementation of Operational Meteorological Information (OPMET) data exchange in IWXXM format, 2) the Plan and Roadmap for Meteorology in SWIM and 3) the regional SIGMET Guide; the foregoing in accordance with the recommendations of the METP.

- Information message monitoring activities related to en-route meteorological phenomena that may affect the safety of aircraft operations (SIGMET) during the 2020 hurricane season.
- NAM/CAR/SAM Webinar on the Implementation of the IWXXM and updates from the Tropical Cyclone Advisory Centres (TCAC).
- Follow-up on the distribution of space weather advisory information.

3.2 The H2, H3 and H4 projects started in March 2018 and their completion date was September 2020. The following is a summary of its completion, based on the activities proposed and implemented, and the future challenges for States to be considered by the eCRPP/02 in the formulation of new projects are listed; (WP/28 from CRPP/5 includes reference material).

3.3 **Projecto H2** - *Implementation of meteorological watch for the monitoring of en-route severe phenomena, volcanic ash, tropical cyclones and release of radioactive material*: the objective was partially completed; 6 out of 9 proposed activities were completed and 3 were not completed. Future challenges for States are: a) to formulate protocols for cases with release of radioactive material or radioactive clouds in the Flight Information Regions (FIR); b) to implement agreement models associated with the previous protocols; and c) the preparation of homogeneous and continuous SIGMETs.

3.4 **Projecto H3** - *Implementation of the MET Information Quality Management System (QMS/MET)*: the objective was partially completed; 5 out of 9 proposed activities were completed and 4 were not completed. Future challenges for States are: a) ISO 9001:2015 certification; and b) to incorporate the qualification and competencies requirements of Aeronautical Meteorology personnel into the QMS.

3.5 **Projecto H4** - *OPMET exchange optimization, including SIGMET (WS, WV, WC), weather warnings and alerts*: the objective was partially completed; 6 out of 7 proposed activities were completed and 1 was not completed. Future challenges for States are: a) to finalize the implementation of the IWXXM; and b) the implementation of meteorological warnings and alerts.

### **SAM Region**

3.6 **Project H2** - Implementation of meteorological surveillance to monitor severe en route phenomena, volcanic ash, tropical cyclones and release of radioactive material.

3.7 The Secretariat has carried out follow-up activities on it, and the following has been observed:

- Review of Letters of Agreement between the Volcano Observatories and the MET service provider, currently in process, in Chile, in order to update the Volcano Observatory Notices to Aviation (VONA) issuance processes.
- Review of the Table of Volcanological Observatories of Vol. I of the CAR/SAM e-ANP. Update of the official name of the Volcano Observatories.

- Follow-up to the SIGMET on volcanic ash issued by the Aeronautical Meteorological Surveillance offices to verify the format.
- Follow-up to the implementation of Contingency Plans for the release of radioactive material.
- Follow-up of SIGMET issuance due to severe phenomena. Format correction of four States.
- Volcanic ash exercise planning.
- 2021 activities planning.

### 3.8 **Project H3**- Implementation of the Quality Management System of MET Information (QMS / MET)

3.9 Regarding the report for the PPRC/5, the significant progress is that the QMS/MET certification has been achieved in Argentina, Bolivia and Colombia. With these new certifications, there are now seven certified States, while implemented in five more States, but without certification. Brazil has completed the implementation and awaits the certification audit in October 2020.

3.10 With the situation of the pandemic, there is a risk of not being able to re-certify the QMS systems implemented in the States, due to budget cuts and the impossibility of on-site audits. However, the States that have been consulted indicated that, to date, no difficulties have arisen.

3.11 **Project H4** - OPMET exchange to introduce the point related to the implementation of IWXXM with completion by 2020 of this task.

3.12 Exchange controls demonstrate improvements in data availability. These controls have been carried out on a quarterly basis by the OPMET Data Bank of Brasilia.

3.13 In relation to the implementation of the IWXXM, progress has been observed in some States, which are listed below:

- Argentina, Ecuador, Uruguay and Venezuela have generated software to transform OPMET messages from TAC format to XML format;
- Brazil adapted the OPMET Regional Data Bank system and communicated in December 2017 that the OPMET Data Bank could receive and transmit OPMET messages in IWXXM format version 2.1. The OPMET Regional Data Bank can still provide support to TAC users.

3.14 Additionally, the Secretariat conducted a teleconference to follow up on the implementation of the IWXXM. The Information related to the current implementation status of the IWXXM can be seen in the **Appendix** to this working paper.

## 4. **Other actions implemented and activities planned for 2021**

4.1 The Secretariat, in preparation for the participation in the workshops for Volume III of the CAR/SAM e-ANP, has organized two sessions with the MET Focal Points, designed to use the GANP Portal and carry out a SWOT Analysis of MET services in the SAM Region.

4.2 Regarding the implementation of the Space Weather Advisory Information, the Secretariat has monitored the reception of the test messages made by the Space Weather Centres, in the Aeronautical Meteorological Offices of the States, during June and July.

4.3 Additionally, in preparation for the reevaluation required by the PPRC/5, the analysis of the continuity requested by the ePPRC/01 and the MET Tables review according to the Sixth Edition of the GANP, a teleconference was held to propose the main activities to be addressed during 2021 in the MET area. The list of recommended activities is:

- verification of the effective implementation of national and regional essential MET services in accordance with the BBBs;
- detailed review of the MET tables in Volumes I and II of the CAR/SAM e-ANP, as well as initiating the development of the MET Tables for Volume III;
- the preparation of SIGMET (homogeneous and continuous), Information concerning en-route weather phenomena which may affect the safety of low-level aircraft operations (AIRMET) and Aerodrome Warnings (including Wind Shear);
- incorporate the World Meteorological Organization (WMO) qualification and competencies requirements for the Aeronautical Meteorology personnel into the QMS;
- analyse the implementation of the QMS in light of the most recent provisions of Annex 3 and the costs related to ISO implementation;
- implementation of the IWXXM; and
- establish working mechanisms that allow addressing emerging issues such as new requirements; for example: aeronautical requirement for tropical cyclone advisory information for the Western South Atlantic.

#### **4 Suggested Actions**

4.9 The Meeting is invited to:

- a) take note of the information contained in the working paper;
- b) accelerate the implementation of the IWXXM;
- c) analyse and report on priority issues requiring assistance; and
- d) other actions that the Meeting deems appropriate.

**APPENDIX**  
**CURRENT IMPLEMENTATION STATUS OF THE IWXXM**

- Argentina: Progress has been made on the encoding capacity in the IWXXM format. They are coordinating with those responsible for the Communications, navigation and surveillance (CNS) systems to enable the exchange in the IWXXM format. They estimate they will not be ready by 5 November 2020.
- Bolivia: The ability to transmit in IWXXM format will not be ready until 5 November 2020.
- Brazil: Replacement of the OPMET International Data Bank system is underway, which is estimated to be implemented in March 2021, with the ability to transmit and receive in version 3.0 of the new format (IWWXM). The new system will also exchange information through a web-based service.
- Chile: Changes to the message exchange system are ongoing, in order to have the ability to exchange OPMET messages in this format. They estimate to be ready for the first quarter of 2021.
- Ecuador: They are updating the entire messaging system at AMHS. The contract has not yet been signed.
- Guyana: They will not be ready by 5 November 2020.
- Panama: They are registering progress, but estimate they will not have the ability to transmit in IWXXM format before 5 November 2020.
- Paraguay: They will not have the ability to broadcast in IWXXM format before 5 November 2020.
- Peru: They are able to receive and send attached messages. They are in the process of acquiring a new system for the first quarter of 2021. ETIC and Meteorology have been working for the conversion, only the decoding is missing. Venezuela will technically assist Peru with the encoding in IWXXM format. Peru's capacity for 5 November 2020 will be sending the OPMET message on IWXXM, as an attachment.
- Uruguay: The evaluation indicates that they will not be ready by 5 November 2020. The MET provider has the conditions for encoding in IWXXM format, but the AMHS system will not be in conditions to exchange in this format.
- Colombia, Suriname and Venezuela have not reported information in this regard.