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Implementation of Aeronautical Meteorology (MET) Task Force (MET/TF/3)**

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Agenda Item 4: Data Formats and Interoperability Standards for Data Exchange

ADVANCING IWXXM INTEGRATION BY CARIBBEAN NATIONAL METEOROLOGICAL SERVICES (NMSS)

(Presented by Caribbean Meteorological Organization, CMO)

EXECUTIVE SUMMARY

To advance the operationalization of IWXXM by Caribbean National Meteorological Services (NMSs) and ensure that aviation meteorological data/information (OPMET) provided by Caribbean NMSs are discoverable by AHMS and SWIM.

Strategic Objectives:

- Safety
- Air Navigation Capacity and Efficiency

1. Introduction

1.1. Strategic Objectives

1.1.1 To improve the quality and precision of meteorological information provided by the sub-region's National Meteorological Services (NMSs).

1.1.2 To improve the efficiency of aviation meteorological data exchange and safety of the regional and global civil aviation system by enabling more efficient machine-to-machine exchange of meteorological information by the sub-region NMSs.

2. Rationale

2.1 Currently, exchanging aviation meteorological data on the Global Telecommunication System (GTS) is a critical component for the Caribbean. Many Caribbean NMSs utilize the GTS to exchange and access aviation weather data in Traditional Alphanumeric Codes (TAC) and, in some instances, in ICAO's Meteorological Information Exchange Model (IWXXM) format, which are then distributed to ICAO's Aeronautical Message Handling System (AHMS).

2.2 Further, ICAO Annex 3 indicates that States are mandated to use the ICAO Meteorological Information Exchange Model (IWXXM) to exchange OPMET data. Therefore:

- It is imperative that Caribbean States NMS be provided with access to a translation (TAC to IWXXM) mechanism by the relevant/responsible regional OPTMET Centre with responsibility for these states to translate their OPMET to IWXXM, similar to what occurs with Europe's Regional OPMET Centres London and Vienna.
- It is essential to ensure that aviation meteorological data (TAC/IWXXM) from the Caribbean continue to be freely and unrestrictedly exchanged.
- It is critical that aviation meteorological data issued by Caribbean National Meteorological Services (NMS) is discoverable by ICAO's Aeronautical Message Handling System (AHMS) through gateways, which must be integrated with the emerging System-Wide Information Management (SWIM).
- It is highly important that there is testing and validation of aviation meteorological data and services sent outside of the AHMS and SWIM to ensure continuous service delivery and compliance with deadlines.
- It is crucial that there is collaboration between CMO members, NMHSs, and AHMS/SWIM stakeholders to ensure the data exchange mechanisms are interoperable.

3. Area of Concern

3.1 The ongoing WMO WIS 2.0 phased transition from GTS to WIS 2.0 requires migration of NMS **non-aviation weather data** from the old Global Telecommunication System (GTS) to the new WIS 2.0 platform, which began in January 2025 with completion expected by 2030, and decommissioning of the GTS by 2033.

3.2 During the 2025-2033 transition period, WMO has assured that there will be GTS-to-WIS2 and WIS2-to-GTS gateway services to ensure data is available through both systems. Therefore, during the transition, NMSs sharing data through the new Internet-based WIS 2.0 platform using a GTS-to-WIS2.0 gateway or vice versa, a WIS2.0-to-GTS gateway, will ensure continuity of service during the parallel operation of both systems. However, this transition does not mandate migration of aviation data exchange.

3.3 Regarding METAR, TAF, and other aviation messages, including the new format IWXXM, the main channel of aviation meteorological data exchange, access, and distribution by the NMSs is not through the WIS2.0, which is a WMO service and not an ICAO service.

3.4 This will leave a gap for some NMSs if the GTS service is removed.

3.5 Moreover, **METAR, SPECI, TAF, SIGMET**, etc. **can be shared via the WIS2.0** using a WMO-recommended (not core) topic, but there is a need to **make sure that if the NMS uses this mechanism for aviation data exchange, those messages are also shared through the ICAO channel (AHMS/SWIM) for aviation purposes.**

3.6 Caribbean NMSs need to be assured that there is direct aviation meteorological data exchange between them as providers and the aviation sector as consumers, using the WIS 2.0 framework to deliver aviation messages.

3.7 If this is not possible, then some assurance is needed for the free exchange of aviation data to the aviation sector.

3.8 It is important that the Caribbean NMS continue to have access to freely available platforms with routing like the GTS and the National Weather Service EDIS to exchange and access aviation meteorological information.

4. Conclusion

4. CMO suggests to:

- a) Provide Caribbean States National Meteorological Services with access to a translation (TAC to IWXXM) mechanism by the relevant regional OPTMET Center.
- b) Provide an assured mechanism for Caribbean OPMET data to be discovered by ICAO's AHMS/SWIM during the transition away from the GTS.