



ICAO

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Asia and Pacific (APAC)

**Twenty-second Meeting of the Meteorological Information Exchange Working Group (MET/IE WG/22)**

Bangkok, Thailand, 18 to 21 March 2024

**Agenda Item 4: Meteorological information exchange in IWXXM form****LATEST DEVELOPMENT OF IWXXM AND PUBLICATION PLAN**

(Presented by Hong Kong, China)

**SUMMARY**

This paper highlights the latest development of the ICAO Meteorological Information Exchange Model (IWXXM) as well as the publication plan in connection with the proposed changes to ICAO Annex 3 from the 5<sup>th</sup> meeting of the ICAO Meteorological Panel (METP/5).

**1. INTRODUCTION**

1.1 [MET/IE WG/21 WP/06](#) mentioned activities in 2022 and early 2023 regarding IWXXM, including the submission of a release candidate of an updated version of IWXXM for approval via the WMO Fast Track approval procedure. This version of IWXXM (2023-1) received the final endorsement and was published in June 2023 for operational use.

1.2 Development work continued with a view to implementing the proposed changes to ICAO Annex 3 from METP/5, but as the Air Navigation Commission (ANC) has determined that the amendment proposals need further refinement and review, and intended applicability date has slipped from November 2024 to most likely November 2025. Consequently, the approval and publication of the corresponding changes to IWXXM will also have to be delayed.

**2. DISCUSSION****IWXXM Version 2023-1**

2.1 IWXXM Version 2023-1 is a maintenance release which fixed a number of issues discovered after the publication of Version 2021-2 in November 2021. The following provides a recap of the significant changes that had been made in this version:

- Fixed two schematron rules for SIGMET which will be incorrectly triggered when a SIGMET report is encapsulated by a COLLECT construct.

- Introduced the missing representation of the icing phenomenon in the World Area Forecast System (WAFS) Significant Weather (SIGWX) Forecast (F/C).
- Aligned documentation, revised examples regarding typos, incorrect representations and use of deprecated GML elements.

2.2 Since the changes made do not involve a change of schemas (except possibly for WAFS SIGWX F/C and these forecasts are yet to be available from the World Area Forecast Centres (WAFCs)), it is still possible to use software based on IWXXM Version 2021-2 for certain reports. Table 1 shows the compatibility table summarising changes of individual packages across IWXXM versions<sup>1</sup>. Packages highlighted in the same colours are compatible. In particular, if the version number of a package has not changed or only the patched number<sup>2</sup> has changed, the schemas for the package are fundamentally the same.

Table 1: Compatibility table showing IWXXM versions, associated report packages, and relevant ICAO Annex 3 requirements

IWXXM Version	METAR/SPECI	TAF	SIGMET	AIRMET	TCA	VAA	SWA	WAFS SIGWX F/C	VONA	QVA	Requirements
<a href="#">1.1</a>	1.1.0	1.1.0	1.1.0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Am76
<a href="#">2.1</a>	2.1.1	2.1.1	2.1.1	2.1.1	2.1.1	2.1.1	N/A	N/A	N/A	N/A	Am77
<a href="#">3.0</a>	3.0.0	3.0.0	3.0.0	3.0.0	3.0.0	3.0.0	3.0.0	N/A	N/A	N/A	Am78
<a href="#">2021-2</a>	3.1.0	3.0.1	4.0.0	3.1.0	3.1.0	3.1.0	3.0.1	1.0.0	N/A	N/A	Am79 + Am80
<a href="#">2023-1</a>	3.1.0	3.0.1	4.0.1	3.1.1	3.1.0	3.1.0	3.0.1	1.1.0	N/A	N/A	Am79 + Am80
<a href="#">2025-2</a>	3.2.0	3.0.1	4.0.1	3.1.1	3.1.0	3.2.0	3.1.0	1.1.1	1.0.0	1.0.0	Am82

#### Upcoming IWXXM Version 2025-2

2.3 Regarding the proposed changes to ICAO Annex 3 arising from METP/5 as mentioned in ICAO State letter AN 10/1-23/1 on 26 January 2023, since ANC has determined that these changes need further refinement and review in a review session in 2024, the new expected applicability date would most likely to be November 2025 and the amendment be rebranded as **Amendment 82**. This also means that submission of the next version of IWXXM for WMO Fast Track approval procedures can only be made by mid-2025 at the earliest. Having said that, WAFCs had indicated their wish to conduct trials on the implementation of Quantitative Volcanic Ash Concentration Information (QVACI) service. WMO Task Team on Aviation Data (TT-AvData), in response to WAFCs' request, has decided to publish a release candidate of the upcoming version of IWXXM (**IWXXM 2025-2RC1**) for public consultation and WAFCs' trials. The public consultation period is planned to be carried out **from March to September 2024**. An announcement on the public consultation will be made by the team closer to the time.

2.4 The followings are highlights of the changes in the upcoming IWXXM version:

- Package METAR/SPECI – Remove the provision of information on runway state. Allow more RVRs to be provided instead of 4 in TAC. Allow the provision of temperature and dew-point temperature in tenths of a degree Celsius.
- Package Volcanic Ash Advisory – Revise in accordance with changes of the corresponding TAC template.

<sup>1</sup> Reference for the existing IWXXM versions: <https://github.com/wmo-im/iwxxm/wiki/Package-Compatibility>

<sup>2</sup> IWXXM packages are identified by its version number in the form of MAJOR.MINOR.PATCH. See <https://github.com/wmo-im/iwxxm/wiki/Common-approaches-across-exchange-models#version-policy> for details.

- Package Space Weather Advisory – Revise in accordance with changes of the corresponding TAC template.
- Packages Quantitative Volcanic Ash Concentration Information (QVACI) and Volcano Observatory Notice for Aviation (VONA) – New additions.

### **3. ACTION BY THE MEETING**

3.1 The meeting is invited to

- a) note the information in this paper;
- b) consider reminding States to ensure systems developed or procured will work with current and upcoming versions of IWXXM; and
- c) discuss necessary follow-up actions arising from the activities mentioned in the paper.

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